



# BUILDING A **SUSTAINABLE** FUTURE

2021 SUSTAINABILITY REPORT



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Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
 White Sands National Park, Alamogordo, New Mexico, U.S.





# BUILDING A SUSTAINABLE FUTURE

Thank you for your interest in Owens Corning and the sustainability efforts that are at the heart of our operations. This is our 16th annual report, and we hope you find it to be a valuable resource in understanding our all-encompassing approach to sustainability.

Our theme this year is inspired by Owens Corning's refreshed mission statement, which was adopted in 2021:

**Building a sustainable future through material innovation.**

Throughout this report, we demonstrate how we are working to fulfill that mission, as well as the many ways our people and our products are helping make the world a better place. Our emphasis on a sustainable future is especially appropriate this year, as this is the first report to be completely focused on our 2030 sustainability goals. This ambitious slate of objectives underscores our aspiration to be a net-positive company, one whose positive impacts far outweigh any negative impacts.

Our sustainability goals are built on three key pillars:

- **Expanding our product handprint.**  
We endeavor to increase the positive impacts our products have on the world.
- **Reducing our environmental footprint.** We seek to limit the negative impact our operations have on the environment.
- **Increasing our social handprint.**  
We work to safeguard people's safety and help ensure that they live with health, happiness, and human dignity.

The report is structured around 16 Sustainability Materiality Topics, which our stakeholders have indicated are most meaningful to them, and we have arranged the topics based on their relevance to these three pillars. We have prepared this report in accordance with the Global Reporting Initiatives (GRI) Comprehensive option. This is the more extensive option for GRI reporting, requiring additional disclosure related to our strategy, ethics and integrity, and governance. This report has been independently verified, including data and descriptions of all the ways our commitment to sustainability manifests itself.

The chapters include explanations of our overall approach to each material topic, descriptions of the various initiatives we have in place to achieve our goals, and overviews of our progress to date. Additional supporting data can be found in the appendices at the end of the report, as well as indices reflecting information in response to the GRI standards, the United Nations Global Compacts (UNGC), Advanced-Level Communication on Progress, the Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) reporting requirements.

Throughout the report, we also spotlight some of the employees who are helping to drive our efforts in each of our material topics. These Speaking of Sustainability interviews reveal the personal side of our endeavors and underscore the idea that our work in general — and our sustainability goals in particular — are global in scope and human in scale.

Owens Corning is building a more sustainable future on a solid foundation, one that is based on years of successful innovation and dedication to our goals. As we continue to make progress on a new slate of goals — our most ambitious to date — we hope you will be inspired to join us on our sustainability journey.

Photo submitted by:  
**Yana Liu | Shanghai, China**  
A view of Century Park, Shanghai.





# A MESSAGE FROM OUR CEO AND CSO

The foundation for our sustainability aspirations and our growth strategy is our mission — to build a sustainable future through material innovation. In 2021, our people thrived while persevering through continuing challenges and crises around the world that are changing social, political, and economic landscapes everywhere. We are extremely proud of our global Owens Corning team for their resolve and resiliency, which has enabled enduring sustainability progress in another demanding year.

As we communicate each year, our aspiration is to be a net-positive company. In the pages of this document, our 16th annual sustainability reports, it's our privilege to provide some highlights of our goals and approach, the progress we've made to date, and our work ahead. This 2021 report covers our efforts to double our products' handprint and halve our environmental footprint, while concurrently working to eliminate injuries and lifestyle-induced diseases, advance inclusion and diversity, and collaborate to make a positive difference in the communities where we work and live.

We began our sustainability journey nearly two decades ago, and along the way our goals have evolved, guided by the best available science. With the latest report from the International Panel on Climate Change affirming the need for urgent action, our science-based targets continue to inform our strategies and tactics from today to next week, next month, next year, and to 2030 and beyond.

Like many companies around the world, Owens Corning faced headwinds in 2021. The continuing pandemic, supply chain disruption, inflation, and other headline-grabbing events and influences all required innovation and adaptability for our business to succeed. At the same time, many of our manufacturing facilities were running at full capacity to continue to serve our customers.

In 2021, as in any business environment, our 2030 sustainability goals helped us stay focused on the future while we navigated the present. We have established roadmaps to help our teams understand what's needed to meet our environmental footprint reduction goals. These roadmaps guide our short-, mid-, and long-term strategies, and help ensure that sustainability remains our priority as we innovate to serve our customers while addressing both the challenges and the opportunities within the relevant secular trends.

Among the trends that affect our markets, we see growth opportunities for Owens Corning in the increased premium of living spaces; changing construction practices due to labor shortages; demand for sustainable solutions for decarbonization and circularity; and investment in durable infrastructure. In fact, approximately 60% of our revenue comes from our portfolio of products that save energy or reduce emissions. These products have a role in energy efficiency improvements, housing renovation and construction, and increased renewable energy penetration — so the more we reduce our environmental footprint, the faster we achieve our net-positive aspiration.

This dynamic drives our 2030 goal to cut our GHG emissions in half; this target has been verified by the Science Based Target initiative to be in line with the Intergovernmental Panel on Climate Change's pathway to limit global warming to 1.5° Celsius maximum above pre-industrial levels. Concurrently, we have a science-based target of 30% reduction across our Scope 3 emissions that is also verified by SBTi.

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Photo submitted by:  
**Kristin Bell | Toledo, Ohio, U.S.**  
Rocky Mountain State Park, Colorado, U.S.



To achieve these goals, our roadmap for progress in climate change includes raw materials and processes with lower greenhouse gas emissions; increased recycled content/circularity; energy and process efficiency improvements; more renewable energy use; and fuel switching from on-site fossil fuel use to low- or no-carbon solutions. Long-term, we'll be working to develop and implement last-mile solutions for operational emissions through innovation and exploration of still-emerging renewable fuel technologies.

In 2021, we completed two power purchase agreements that add to our existing renewable electricity commitments. Sourcing 100% renewable electricity, another goal for 2030, is an important step toward our ambition to fully decarbonize. At the same time, we're improving the efficiency of our operations to reduce energy use and working to reduce greenhouse gas emissions throughout the value chain of our products. Lowering the embodied carbon of our products further shortens the time it takes for them to save more GHG emissions in-use than are emitted to manufacture them.

This is an example of the way trends, goals, and roadmaps for sustainability inform our business. Beyond environmental footprint reduction "within" our plants, we are working to refine our understanding and set measurable goals for our impact on biodiversity and the circular economy, as well as continually seeking better ways to measure our progress on social impact priorities like inclusion and diversity. In this report, you'll find examples, data, and perspectives that represent our results and our plans.

We are proud to have received external recognition for our sustainability commitments and results – including being the first company ever to earn the No. 1 spot on the 100 Corporate Best Citizens list from 3BL Media for three years in a row. In 2021, we were named to the Dow Jones Sustainability World Index for the 12th consecutive year, and we are also listed on the DJSI North America Index, with industry-leading assessment scores. Inclusion on these lists indicates that our overall approach to environment, social, and governance aspects of our business is aligned with stakeholder expectations. Other awards, such as our 17th consecutive perfect score for LGBTQ workplace equality on the Human Rights Campaign Foundation's Corporate Equality Index, and our placement on CDP's Water Security A List, help us gauge our progress on specific topics.

Such accolades are an honor and acknowledge the work we've done, but they also spur us to do more. Our network of stakeholders has expanded rapidly in recent years, and we know that more people than ever are curious about our goals and interested in our results. Not long ago, ESG-labeled funds held 9% of our shares; today, that is 14%. As we grow, we also can have a larger effect on the communities and lives we touch. The progress we've made so far reflects our purpose: our people and products make the world a better place.

Our 2021 results, detailed in this report, speak to the dedication and commitment of our people, and give us reason for optimism despite the challenges ahead. Sharing our results and aspirations is an important part of our commitment to all our stakeholders, and we are grateful for the many people who have inspired our work and pushed us to continually do more.



A handwritten signature in black ink, appearing to read "Brian Chambers".

**Brian Chambers**  
Chairman and Chief Executive Officer



A handwritten signature in black ink, appearing to read "Frank O'Brien-Bernini".

**Frank O'Brien-Bernini**  
Senior Vice President and  
Chief Sustainability Officer



# ABOUT OWENS CORNING

Owens Corning is a global building and construction materials leader committed to building a sustainable future through material innovation. Our three integrated businesses – Composites, Insulation, and Roofing – provide durable, sustainable, energy-efficient solutions that leverage our unique material science, manufacturing, and market knowledge to help our customers win and grow.

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Photo submitted by:  
**Julie Pope | Toledo, Ohio, U.S.**  
Owens Corning world headquarters.

## THE OWENS CORNING STORY

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### OUR MISSION

To build a sustainable future through material innovation.

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### OUR PURPOSE

Our people and products make the world a better place.

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### OUR VALUES

Global in scope, human in scale.

#### Caring:

- We keep each other safe and healthy.
- We offer an inclusive environment where diverse perspectives are valued and appreciated.
- We actively support our communities and protect our environment.

#### Curious:

- We challenge the status quo for greater impact and innovation.
- We listen and learn from one another's different skill sets and experiences.
- We relentlessly pursue solutions that exceed customer expectations.

#### Collaborative:

- We work together in an open, transparent and respectful way.
- We foster highly connected teams across the global enterprise.
- We partner with our customers and other stakeholders to drive the best outcomes.

#### Committed:

- We are accountable to deliver financial and operational results that outperform the market.
- We empower our people to make decisions and act like owners.
- We remain resilient to achieve our goals and best serve our purpose.





## Insulation

**Insulation products conserve energy while improving acoustics and fire resistance in the places where we work, live, and play.**

Our Insulation segment includes a diverse portfolio of high-, mid-, and low-temperature products; a market mix of residential, commercial, industrial, and other markets; and a channel mix of retail, contractor, and distribution.

Our products in the residential channel — sold under well-recognized such well-known brand names and trademarks as Owens Corning® PINK® Fiberglas™ Insulation — include thermal and acoustical batts, loosefill insulation, and foam sheathing and accessories. In the commercial and industrial channel, our products are sold under well-recognized brand names and trademarks such as Thermafiber®, FOAMGLAS®, and PAROC® insulation. They include glass fiber pipe insulation, energy efficient flexible duct media, bonded and granulated mineral wool insulation, cellular glass insulation and foam insulation used in above- and below-grade construction applications.

We sell our insulation products primarily to insulation installers, home centers, lumberyards, retailers, and distributors in the U.S., Canada, Europe, Asia Pacific, and Latin America.

Photos:  
Owens Corning® products:  
PINK® Next Gen™ Fiberglas™ Insulation (left)  
ProEdge® Hip & Ridge Shingle (center)  
Fiberglas™ Rebar (right)

## Roofing

**Roofing products and systems protect and preserve homes and commercial buildings while enhancing curb appeal.**

Our primary products in the Roofing segment are laminate and strip asphalt roofing shingles. Other products in this segment include roofing components, synthetic packaging materials, and oxidized asphalt.

Owens Corning® shingles and roofing components are sold mainly through distributors, home centers, lumberyards, retailers, and contractors in the U.S., while our synthetic packaging materials are mainly used in the construction industry for lumber and metal packaging. Oxidized asphalt is a significant input used in the production of our roofing shingles.

We are vertically integrated and have manufacturing facilities that process asphalt for use in our roofing shingle manufacturing. In addition, we sell processed asphalt to other shingle manufacturers, to roofing contractors for built-up roofing asphalt systems, and to manufacturers in other industries such as automotive, chemical, rubber, and construction.

## Composites

**Composite materials make products lighter, so less energy is needed to transport and operate them. They also help make products stronger and more durable, which reduces the need to repair or replace them.**

Our Composites business facilitates the manufacturing of a wide range of glass fiber and downstream products such as fabrics, nonwovens, and other specialized products. Composites are used in more than 40,000 end-use applications.

We serve a range of market segments: building and construction, power and energy, industrial, and consumer products. Examples of end-use applications include pipe, roofing shingles, ladders, sporting goods, telecommunications cables, boat hulls, RV side panels, and wind energy blades.

**Owens Corning products are designed and engineered to provide a material difference for our customers and ultimately make the world a better place.**



Owens Corning has manufacturing and research and development facilities around the world.

Our world headquarters are located at One Owens Corning Parkway, Toledo, Ohio, 43659, U.S.

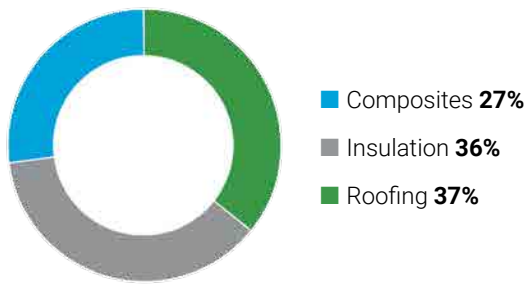


We aim to capitalize on our market-leading positions and innovative technologies to deliver substantial free cash flow and sustainable shareholder value. The business is global in scope, with operations in 33 countries, and human in scale, with approximately 20,000 employees and long-standing, local relationships with its customers and communities.

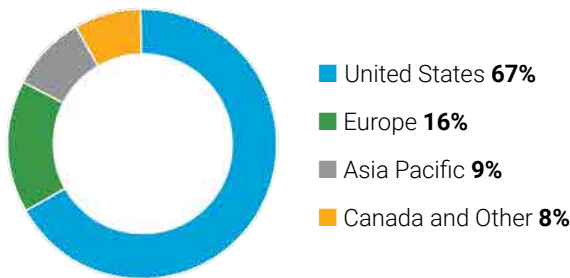
Based in Toledo, Ohio, U.S., Owens Corning posted 2021 net sales of \$8.5 billion. It has been a Fortune 500® company for 67 consecutive years. Owens Corning is a publicly traded company on the New York Stock Exchange. As of December 31, 2021, beneficial ownership includes: Blackrock, Inc. (11.5%) and The Vanguard Group (9.73%).

Read more about our businesses in the Owens Corning Annual Report on Form 10-K, available at <http://investor.owenscorning.com>.

2021 Revenue by Segment



2021 Revenue by Region





# CORPORATE AWARDS AND DISTINCTIONS

Owens Corning continues to be a leader in corporate responsibility, and we are very proud of the recognition we receive along the way. It also provides inspiration for our people as we seek out new ways to build a more sustainable company. The following are some of the awards and distinctions we received throughout 2021.

## Best Corporate Citizens List

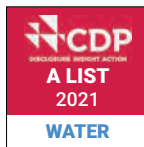
For an unprecedented third year in a row, Owens Corning was ranked number one on 3BL Media's list of the 100 Best Corporate Citizens.

The list, previously published by Corporate Responsibility Magazine, recognizes outstanding global ESG (environmental, social, and governance) performance among the 1,000 largest U.S.-based public companies. This is the seventh year Owens Corning has been named to the list. The companies are ranked based on a blend of performance and disclosure.



## CDP

Owens Corning earned a place on the CDP A List for Water Security for the third year in a row. The company also scored an A- for CDP Climate Change in 2021, which represents the sixth consecutive year of earning a score at the Leadership Level.



Formerly known as Carbon Disclosure Project, the U.K.-based CDP works with investors, companies, and policymakers to reduce GHG emissions and safeguard water resources and forests. By including Owens Corning on these lists, CDP recognizes us for our corporate sustainability leadership, through scoring that "measures comprehensiveness of disclosure, awareness, and management of environmental risks, and best practices associated with environmental leadership, such as setting ambitious and meaningful targets."

## Responsible CEO of the Year from 3BL Media

CEO Brian Chambers was named 2021 Responsible CEO of the Year for ESG Transparency. The award recognizes chief executives with proven records of bold and innovative leadership on environmental, social and governance (ESG) commitments.



## Computerworld's 2021 Best Places to Work in IT

In 2021, Owens Corning returned to the No. 1 spot on Computerworld's ranking of the best places to work in information technology. The ranking is based on such factors as benefits, diversity, career development, training, retention, and the results of an employee survey. This is the eighth consecutive year that Owens Corning has appeared on this list. In 2020, Owens Corning ranked No. 2 on the list, and was No. 1 in 2019.



## Corporate Equality Index

Owens Corning received a perfect score on the 2021 Corporate Equality Index, a key benchmarking survey that evaluates corporate policies and practices related to LGBTQ workplace equality. This marks the 17th consecutive year we have received 100% on this survey, established by the Human Rights Campaign Foundation.



## DiversityInc 2021 Companies for Diversity

Owens Corning was named a 2021 Noteworthy Company by DiversityInc, an organization that annually ranks U.S. companies for diversity, equity, and inclusion, for the second consecutive year. The rankings measure performance based on six key areas of diversity and inclusion management: human capital diversity metrics, leadership accountability, talent programs, workplace practices, supplier diversity, and philanthropy.



## Dow Jones Sustainability Indices

In 2021, for the 12th year in a row, Owens Corning earned placement in the Dow Jones Sustainability World Index in recognition of its sustainability initiatives. The DJSI World Index is an elite listing of the world's largest companies based on long-term economic, environmental, and social criteria. Our score places us in the 100th percentile for the building products industry. In addition, we earned a perfect score for the criteria related to materiality, environmental reporting, and social reporting. The company is also on the DJSI North America list for the 4th consecutive year.



## EcoVadis

Owens Corning earned a Platinum certificate with EcoVadis, a company that provides holistic sustainability ratings for businesses worldwide. The rating comes after analyzing our responses to an extensive questionnaire in comparison with over 65,000 other companies. Owens Corning was ranked among the top 1% of all companies rated by EcoVadis.



## ENERGY STAR

Owens Corning's world headquarters in Toledo, Ohio, U.S., earned the Environmental Protection Agency's ENERGY STAR rating for 2021.



## Ethisphere Institute: World's Most Ethical Companies

For the fourth consecutive year, the Ethisphere Institute, a global leader in defining and advancing the standards of ethical business practices, has recognized Owens Corning as one of the world's most ethical companies. Owens Corning is one of two businesses in the construction and building materials industry to earn this distinction.



The Ethisphere Institute honors companies that demonstrate a commitment to improving communities, building capable and empowered workforces, and fostering corporate cultures that are focused on ethics and a strong sense of purpose. In 2021, the Ethisphere Institute honored 135 companies from 22 countries and 47 industries.

## Fortune 500®

As of 2021, Owens Corning has been recognized as a Fortune 500® company for 67 consecutive years. This year, Owens Corning moved up 18 places on the list to No. 413.

## Global Knights 100 Most Sustainable Corporations

In 2021, Owens Corning earned the top spot for the Building Materials Industry Group, and we were ranked 15th overall. The ranking is based on publicly disclosed data spanning 24 key performance indicators for corporate ESG results. Based on the same data, the company also earned a place on the 2021 Clean200 list (published by Corporate Knights in partnership with As You Sow), which recognizes the world's most significant publicly traded firms according to the size of clean revenue from products and services that provide solutions for the planet and define the future of clean energy.

## S&P Global Gold Class Distinction

Owens Corning earned Gold Class distinction from S&P Global, the organization's highest honor for excellence in sustainability performance, for the eighth consecutive year. Owens Corning was the sole Gold Class awardee in the Building Products category. S&P Global is a leading provider of credit ratings, benchmarks and analytics in the global capital and commodity markets.

The S&P Sustainability Yearbook looks at performance across such factors as volunteerism, energy and emissions reduction, production efficiency, customer and supplier collaboration, and talent development.



## Green Power Partnership – National Top 100

In 2021, Owens Corning debuted at No.16 on the U.S. Environmental Protection Agency's (EPA's) National Top 100 List of the largest green power users from the Green Power Partnership. The company was also No. 11 on the list of Green Power Partners from the Fortune 500®.



## ISS QualityScore

Institutional Shareholder Services (ISS) awards QualityScore ratings based on a range of criteria related to environmental, social, and governance performance.



A lower score, on a scale from one to ten, indicates lower risk and/or better disclosure on the part of the company. In 2021, Owens Corning's ISS QualityScore ratings were 1 in environmental, 1 in social, and 2 in governance.

## JUST Capital

Owens Corning was ranked Industry Leader for Building Materials and Packaging for 2021. We were also No. 69 in the Just 100. Companies are rated based on their performance across a range of categories, including the treatment of employees and customers, product quality, sustainability, jobs, and community support, as well as company leadership.

## Science Based Targets Initiative

Our 2030 goal to reduce Scope 1 and 2 greenhouse gas emissions by 50% is in line with standards set to hold global warming to 1.5° Celsius. The Science Based Targets initiative, which set these standards, has approved our goal.



In addition, Owens Corning's commitment to reducing Scope 3 greenhouse gas emissions by 30% by 2030 has been approved by the Science Based Targets initiative.

## WSJ Management Top 250

Owens Corning ranked No. 54 in 2021, up from No. 99 in 2020 and No. 188 in 2019. This ranking, developed by the Drucker Institute, measures corporate effectiveness by examining performance in five areas: customer satisfaction, employee engagement and development, innovation, social responsibility, and financial strength. The ranking is based on an analysis of 34 data inputs provided by 14 third-party sources.





# OWENS CORNING AND THE FIGHT AGAINST CLIMATE CHANGE

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## THOUGHTS FROM CSO FRANK O'BRIEN-BERNINI

Having been part of Owens Corning's sustainability journey for over 20 years, I have seen firsthand the incredible progress that we, and other dedicated companies, have made toward building a better future. While we, as corporations and as a society, have made great gains in reducing our environmental impact, our collective actions are not achieving the magnitude, scale, and urgency needed.

Severe weather phenomena, from droughts and wildfires to storms and floods, are occurring with greater frequency and greater severity than ever before. Global climate change, linked to human behavior, is now a scientifically recognized driver of these localized weather events. To help stem the devastation that is occurring as a result, the International Panel on Climate Change (IPCC) has issued recommendations aimed at limiting warming to 1.5° C. Their latest reports have made clear the need to act decisively:

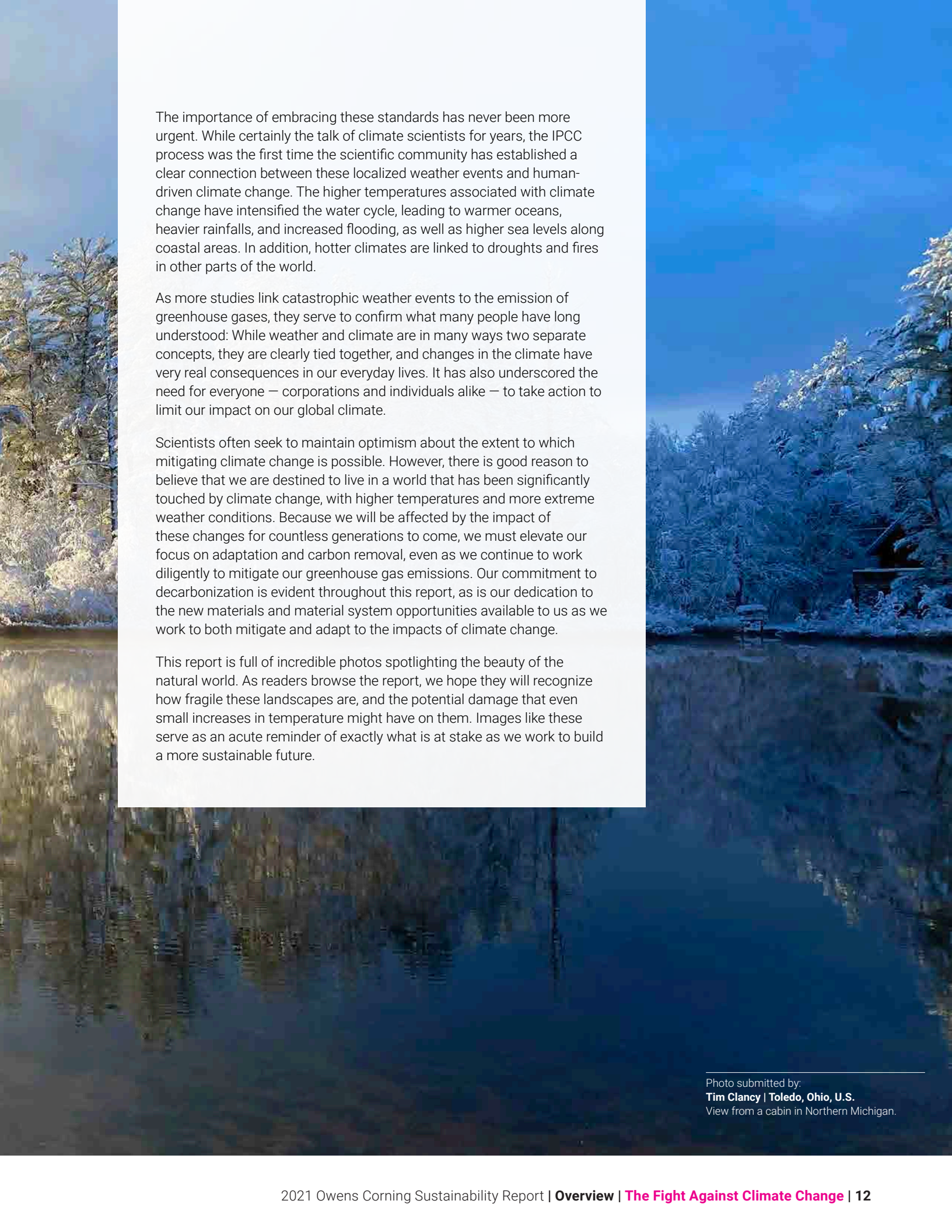
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*The planet's air, oceans, and ice are pushing relentlessly into new territory. Unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5° C will be beyond reach.*

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Consistent with this call to action, Owens Corning is committed to a decarbonized future. Our 2030 goal for reducing Scope 1 and 2 greenhouse gas emissions by 50% has been approved by the Science-Based Targets initiative (SBTi) as being in alignment with the IPCC's 1.5° C maximum global warming pathway. Concurrently, our Scope 3 greenhouse gas reduction goal of 30% has been approved by the SBTi as being in alignment with the IPCC's well below 2.0° C pathway. Our definition of total value chain decarbonization is also consistent with the new SBTi guidance. More information about our work on this front can be found in the [Combating Climate Change chapter](#) in this report.





The importance of embracing these standards has never been more urgent. While certainly the talk of climate scientists for years, the IPCC process was the first time the scientific community has established a clear connection between these localized weather events and human-driven climate change. The higher temperatures associated with climate change have intensified the water cycle, leading to warmer oceans, heavier rainfalls, and increased flooding, as well as higher sea levels along coastal areas. In addition, hotter climates are linked to droughts and fires in other parts of the world.

As more studies link catastrophic weather events to the emission of greenhouse gases, they serve to confirm what many people have long understood: While weather and climate are in many ways two separate concepts, they are clearly tied together, and changes in the climate have very real consequences in our everyday lives. It has also underscored the need for everyone — corporations and individuals alike — to take action to limit our impact on our global climate.

Scientists often seek to maintain optimism about the extent to which mitigating climate change is possible. However, there is good reason to believe that we are destined to live in a world that has been significantly touched by climate change, with higher temperatures and more extreme weather conditions. Because we will be affected by the impact of these changes for countless generations to come, we must elevate our focus on adaptation and carbon removal, even as we continue to work diligently to mitigate our greenhouse gas emissions. Our commitment to decarbonization is evident throughout this report, as is our dedication to the new materials and material system opportunities available to us as we work to both mitigate and adapt to the impacts of climate change.

This report is full of incredible photos spotlighting the beauty of the natural world. As readers browse the report, we hope they will recognize how fragile these landscapes are, and the potential damage that even small increases in temperature might have on them. Images like these serve as an acute reminder of exactly what is at stake as we work to build a more sustainable future.

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Photo submitted by:  
**Tim Clancy | Toledo, Ohio, U.S.**  
View from a cabin in Northern Michigan.



# OUR SUSTAINABILITY ASPIRATIONS

Owens Corning has established itself as a global leader in corporate citizenship, and over the years our efforts have been rewarded with some very prestigious accolades. While that recognition has been gratifying, the true driver behind our sustainability efforts has been an understanding that our planet simply cannot continue to sustain life (as we know it) if we remain on the path we are on. Resources are diminishing, temperatures are rising, and people everywhere are feeling the impact.

All of this is reflected in the sustainability aspirations we have set for ourselves as a company. They are ambitious by design, because we believe true sustainability is based not on what is easy for us to accomplish, but on what the science tells us is needed to preserve our planet. In addition, our sustainability journey has consistently reminded us that as we achieve more, we realize how much more can be done. Every accomplishment points us toward new opportunities to fulfill our ultimate ambition — ensuring that our people and our products make the world a better place.

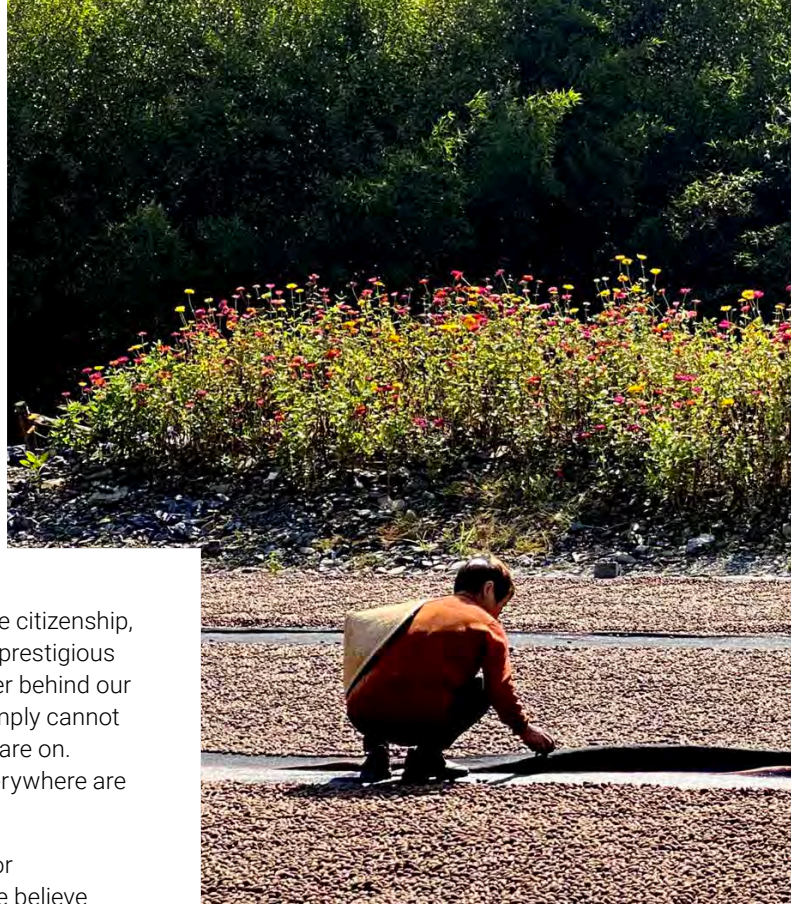


Photo submitted by:

**Yana Liu | Shanghai, China**

Sun-drying Chinese torreyia, a special local product, near our Guangde plant.

## 2030 GUIDING ASPIRATIONS



**DOUBLE** the positive impact of our products



**HALVE THE NEGATIVE IMPACT** of our operations



Eliminate injuries and  
**IMPROVE THE QUALITY OF LIFE** for our employees and their families



**ADVANCE** our inclusion and diversity



Have a  
**POSITIVE IMPACT** on our communities

These are the principles that will inform our actions as we work toward our goals. They represent our understanding of the ways Owens Corning's work can benefit individuals, communities, and the planet — and how valuing one requires that we value all three.

By 2030, we expect the world will be a very different place. Increasing demands on the earth's resources will continue to create challenges. By taking the stance we are taking today — leading the way with an ambitious, holistic approach to sustainability — Owens Corning believes we can help make the world of 2030 a better place.

## A Holistic Approach to Sustainability

We believe that sustainability efforts should improve people's quality of life. That view informs our aspirations to contribute to the health, safety, and well-being of people — and all living things — everywhere.

It's our goal to be a net-positive company, one whose handprint is greater than our footprint. In other words, we aim to continually increase the good that our people and products do while also reducing the negative environmental impact of our operations. These aspirations are closely connected. For example, when we design insulation products that help save energy, that's part of our handprint, as those products help our customers and end-users meet their sustainability goals. When we design those same products with higher recycled content, or to be easy to recycle or repurpose as part of the circular economy, that expands our handprint further. And when we design our manufacturing processes to use less energy or other natural resources, we reduce our footprint.

Over time, our definition of sustainability has also come to include expanding our social handprint, and so we work to help ensure that people can live with health, happiness, and human dignity. Our safety commitments are one pillar of this, as we aspire to eliminate all injuries, at work and at home. Our health and wellness programs aim to help our employees and their families thrive while eliminating all lifestyle-induced disease. In our workplaces and our communities, we seek to foster a spirit of inclusion and create a culture of appreciation. We want to see a society where people feel valued not despite their differences, but because of them. Above all, we understand that achieving these ambitions will depend on the actions we take today.

## Data-Driven Solutions for Sustainability

Each step on our sustainability journey is measured against a set of quantifiable metrics and specific targets. As our journey has progressed, we have worked to develop data-driven methods that provide quantifiable measures of our improvement. The following examples demonstrate this commitment across all three of our key pillars:

### Expanding Our Product Handprint:

- Life Cycle Assessments (LCAs) enable us to comprehensively measure a product's footprint through all its stages, from the extraction of raw materials, through transportation, processing and manufacturing, to its end of life disposition. By performing LCAs, we can identify opportunities for improvement and work collaboratively with suppliers and customers to ensure we are making continuous progress toward doubling the positive impact of our products.

### Reducing Our Environmental Footprint:

- In our 2030 goals, we seek to reduce our greenhouse gas emissions from our operations by half, in line with what's needed to limit global warming to 1.5° C. Our target has been validated and approved by the Science Based Targets initiative.
- To understand how water stress is affecting an area, we refer to the Aqueduct Water Risk Atlas, a resource developed by the World Resources Institute (WRI). With this global water risk mapping tool, we screen our sites for high baseline water supply stress and see projections for the levels of stress these sites may be under in years to come. Understanding the areas where water is limited in quantity or quality is essential to our water goals, and this tool provides us with the insights needed to achieve them.
- As we work toward the establishment of our biodiversity goals, we use the Integrated Biodiversity Assessment Tool (IBAT), a web-based mapping and reporting instrument. IBAT enables us to upload site coordinates and receive information about the area's status as a protected site and the presence of endangered or threatened species in the vicinity. When our goals are established in 2025, the IBAT will continue to guide our biodiversity efforts.
- The Ecodesign Strategy Wheel is a brainstorming tool that empowers product designers to integrate the principles of sustainability into the development of new products and the significant modification of existing products. More sustainable product design can help us contribute to the circular economy, as well as meet the goals we have set for both waste management and air quality management.

### Increasing Our Social Handprint:

- Our health and wellness initiatives are increasingly guided by our use of the Healthy Living platform, which employs an algorithm that considers illnesses, medication usage, demographics, and other factors to calculate health risks for our employees and empowers them to make better choices.
- Historical data, current data, and key performance indicators provide our safety teams with the insights needed to track performance, identify trends, and tap into real-time metrics. We also continue to use safety dashboards and databases to further our efforts in that area.

Learn more about Owens Corning's sustainability goals and targets in the [Summary & Highlights](#) of this report.



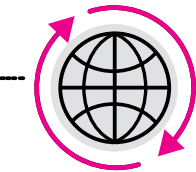
## Top Areas of Focus

The work we're doing toward our 2030 sustainability goals is described in more detail in the chapters of this report. There are several key areas of work that will support the goals. In some cases, multiple goals will be affected by one focus area. Accountability for progress on these critical priorities rests with our top business executives, ensuring broad engagement across the company in our sustainability work.

**Renewable energy sourcing.** Further reduce demand through energy efficiency and concurrently expand our renewable energy investments and purchases globally, establishing programs in China, India, Mexico, Brazil, Europe, and Canada to reduce the footprint of both our operations and our products.

**Fuel switching.** Develop affordable technology to enable conversion from fossil fuel to carbon-neutral and renewable energy to power our processes.

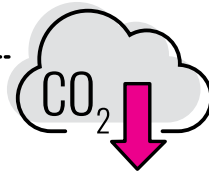
**Blowing agent.** Solve the technical, business, and commercial puzzles in both our global foam insulation operations and our products to eliminate blowing agents that have high global warming potential.



**Inclusion and diversity.** Identify and close gaps, measure progress, enable success with business impact, and evolve our leadership voice, while fostering a culture where our individual differences are truly appreciated.

**Supplier sustainability.** Inspire our suppliers to engage with us around sustainability priorities while increasing transparency, such as reducing our Scope 3 greenhouse gas emissions and ensuring certainty of compliance with our human rights policy.

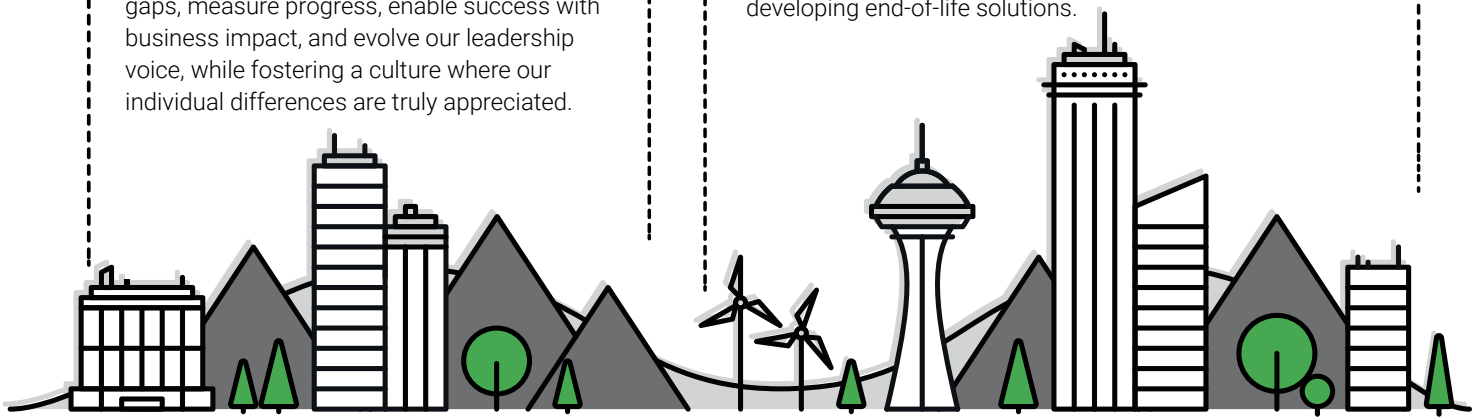
**Expand our offering of formaldehyde-free insulation products.** Convert to formaldehyde-free binders for global production of our technical insulation and mineral wool products.



**Embodied carbon.** Reduce the amount of carbon released throughout the entire life cycle of our products by making our manufacturing processes more energy-efficient, improving our supply chain logistics, increasing recycled content, innovating low/no/positive carbon products, and developing end-of-life solutions.



**Safety.** Advance in our journey to zero injuries by understanding, learning, innovating, and executing the right safety-related leadership, processes, and investments.



**Healthy living innovation.** Develop strategies and tactics to inspire and engage all U.S. employees who are not yet enrolled in our wellness initiatives, and expand the participation of our employees outside the U.S.



**Circular economy.** Develop business models and technical solutions to recycle Owens Corning® roofing, composites, and insulation products to advance the circular economy, reduce waste-to-landfill, and enable us to take back scrap material from our customers' processes.



**Recycling into our processes.** Increase the amount of recycled materials and production waste we use in our products and processes, tapping into waste-streams throughout our entire value chain, while eliminating waste-to-landfill.

**These 11 areas represent a wide range of projects, initiatives, and opportunities for Owens Corning — our progress toward these priorities is chronicled in this report.**



# 2021 IN REVIEW

## SUMMARY & HIGHLIGHTS

**Owens Corning is making great progress toward our 2030 goals — and toward our mission of building a more sustainable future.**

Photo submitted by:  
**Scott Campen | Knoxville, Tennessee, U.S.**  
Coconino National Forest, Arizona, U.S.

## INTRODUCTION

Having closed the books on our 2020 sustainability goals, we are now looking ahead to the next decade with great optimism. Our slate of 2030 sustainability goals are our most ambitious to date, because we recognize that every past achievement is a platform upon which to build.

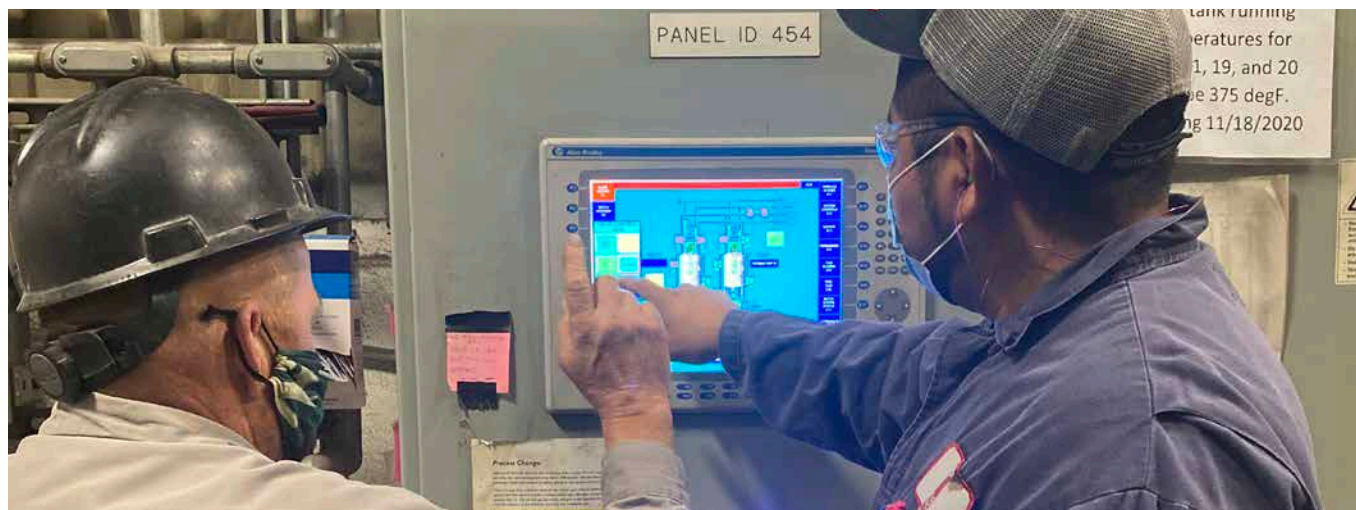
In 2021, we saw encouraging advancements across all three of our sustainability pillars, giving us reason to believe that we are on the right track toward our aspirations.

Each of the topics discussed here has a corresponding chapter in this report, offering a closer look at our progress against our goals, as well as the drivers that inform our approach, the initiatives we're taking throughout our operations, and the progress we've already made. The following is a brief look at some recent highlights.



## EXPANDING OUR PRODUCT HANDPRINT

Owens Corning works to ensure our products have a positive impact on the world. We believe that by innovating in ways that benefit the planet, we can also help our customers — and strengthen our own business. It's a principle that requires us to act intentionally, and it informs everything we do as a company.



### Our Circular Economy Goal

By 2030, we will establish viable circular economy business models involving our materials and how they are used. We can accomplish this by:

- Increasing recycled content and decreasing virgin raw materials used in our products.
- Developing technical solutions and practical business models for our product materials and packaging, so they can be used for beneficial purposes even after they are no longer used for the original purpose.
- Collaborating up and down the supply chain, with customers, suppliers, communities, academics, policy makers, government entities, and other organizations.

#### Our circular economy efforts are focused in two areas:

##### ■ Manufacturing

This work focuses on meeting our 2030 waste management goals — reducing the intensity of waste generated by our processes by 50%, and then finding ways to reuse or recycle the rest — as well as our efforts to expand the use of recycled materials in our manufacturing operations and our products, across all businesses.

##### ■ End-of-life solutions

We are seeking innovative technologies and business models for our products and materials to be reused and repurposed indefinitely. This work includes internal partnerships among R&D, commercial, and corporate development to shape the vision and execution in this area. We also engage with external partners to develop end-of-life solutions for our products, as well as the products where our materials are used.

#### Our most recent initiatives toward establishing circular economy models include the following:

- **The circular economy team**, established in 2020, defines goals and prioritizes projects that accelerate our circular economy ambitions. The team also partners with subject matter experts and teams across our company, as well as other stakeholders in the industry.
- **Take-back models** encourage manufacturers to accept responsibility for downstream waste from customers using their products. For Owens Corning, this can include waste generated during construction, subsequent fabrication, installation, or protective packaging. Owens Corning Paroc has established take-back models in Sweden and Finland, as well as in our metals packaging products.
- **Shingle recycling** efforts are in place, as our Specialty Asphalt paving business is working with state departments of transportation, roofing contractors, and other stakeholders to create a circular economy model for roofing shingles.
- Owens Corning is a partner in the **ZEBRA** (Zero Waste Blade ReseArch) project in Europe, a cross-sector consortium launched in 2020 to develop the first 100% recyclable wind turbine blade.

Photo submitted by:

**Houston Plant | Houston, Texas, U.S.**

Rodney Ivy (left) and Margarito Barreto at the Houston plant.



## Product Innovation & Stewardship

**By 2030, we intend to offer the most recognized and preferred products for sustainability.**

- To meet this ambitious goal, we are striving to implement strategies that deliver the lowest impact with respect to embodied carbon among all available options.
- We will design our products for recycling or reuse at their end of life while using Life Cycle Assessments as our guide. We will ensure our products contain a high percentage of recycled and renewable materials.

In addition, we will collaborate with our suppliers to increase transparency regarding the raw materials we use in our products. This helps us understand and control the full impact of our products — and enables us to share that information with our customers so they can do the same.

- **Product innovation** is essential to all three of our core businesses — Composites, Insulation, and Roofing — as we develop new products and applications across a growing range of key market segments. This innovation is inspired by the needs of our customers and addresses growing global trends. By collaborating closely with stakeholders, we can deliver sustainable solutions that meet the demands of the marketplace.
- **Product stewardship** is a driving force behind our approach to innovation. As we develop new products or improve existing products, everyone involved understands that they share the responsibility for reducing those products' environmental footprint and increasing its product handprint.

At every point in a product's life cycle, we must consider its potential environmental impact — and demonstrate transparency regarding the sustainability of our products. To mitigate that impact, we work to ensure our products are sustainably made, using our stringent stewardship process to evaluate 100% of our new and significantly modified products for EHS impacts and our gated innovation process to evaluate potential life cycle impacts.

**Recent innovations in our portfolio include the following:**

- **PINK Next Gen™ Fiberglas™ insulation**, launched in 2021, offers the highest recycled content in the industry, and it is certified made with 100% renewable electricity through the use of power purchase agreements. In addition, it has earned Underwriter Laboratories GREENGUARD® Gold certification for low volatile organic compounds.
- **PAROC® Natura** insulation is a carbon-neutral line of stone wool insulation that uses low-carbon melting technology, green electricity, recycled waste materials, new technologies, and purchased carbon offsets to minimize the amount of CO<sub>2</sub>e emitted during the manufacturing process.
- **FOAMULAR® NGX™** insulation, introduced in 2020, features a proprietary blowing agent that is optimized to demonstrate greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products. The product meets and exceeds stringent regulations going into effect in 2021.
- **WindStrand®** allows wind blade manufacturers to use 30% fewer layers of material in the blade molds, while delivering the same quality and performance as standard fabrics. This in turn represents a 50% savings in labor and production time for the blades. In March 2021, we introduced WindStrand® 4000, as well as Ultrablade® 2 and Ultraspar™ 2, three high-performance materials that help wind blade manufacturers develop longer, stiffer, stronger blades, which helps make wind energy more cost-effective.
- **Trumbull® Asphalt** has made significant strides over the last five years to reduce the number of oxidized products we produce for external asphalt markets. In 2015, 8% of our products were non-oxidized. Today, approximately 50% of the products we produce for the external asphalt business are non-oxidized, requiring less energy, lower temperatures, and fewer emissions. This has resulted in a 3% improvement in material efficiency across the 12 asphalt plants in the network.





## Sustainable Growth

**By 2030, we will design our products for recycling or reuse to optimize the impact of our products over their entire life cycle, from raw materials to disposal.**

Over the next nine years, Owens Corning expects that the importance of balancing growth with sustainability will become increasingly evident. We will be there to meet the demand for products that deliver performance while minimizing negative impacts. In particular, we recognize the growing demand for reduced embodied carbon, which is already shaping our approach to innovation throughout our operations. Among the other specific areas of focus Owens Corning has prioritized for the immediate future is the need to expand the number of products that are free of formaldehyde and fluorocarbons.

One way Owens Corning gauges our performance toward our sustainable growth goals is the extent to which we are addressing the trends that are shaping our industry. As we look to the future, we are also cognizant of these trends as significant opportunities to grow while at the same time meeting our 2030 sustainability goals.

**Currently, we see four primary trends that represent opportunities for sustainable growth over the next decade.**

■ **Increased premium on living spaces.**

The global pandemic has changed how we think about our homes, both in terms of functionality and comfort. This new emphasis on living spaces will continue to drive investments in new residential housing and renovation in the U.S. and abroad. Insulation is one of the best ways to improve energy efficiency and indoor comfort, including sound reduction.

■ **Changing construction practices.**

Even before the pandemic, we saw how labor shortages were impacting construction practices and cycles. Since early 2020, the trend has accelerated, creating the need for multi-material and prefabricated construction solutions that can drive efficiencies. Owens Corning PINK Next Gen™ Fiberglas™ enables 23% faster installation. Fiberglas™ rebar, which is seven times lighter than steel, improves ease of handling for 50% faster installation.

■ **Demand for sustainable solutions.**

Reduction of greenhouse gases, improvements in energy efficiency, and the development of more renewable energy sources are increasingly prioritized by homeowners. Governments at all levels are also requiring increasingly stringent standards. Both factors are driving specifications throughout the industry. For example, the European Green Deal Commission proposed that by 2030, all new buildings in the European Union be zero-emission, and Owens Corning products could be part of meeting that goal.

■ **Investment in infrastructure.**

We expect to see upgrades to roads and bridges to continue around the world over the next decade. We also expect that this investment will prioritize more durable solutions, which will help ensure that investments will be more sustainable over time.

We will capitalize on these opportunities by focusing on our unique combination of material science knowledge, commercial strength, and manufacturing expertise to develop and commercialize additional product and system solutions.

Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Little Rock, Arkansas, U.S.



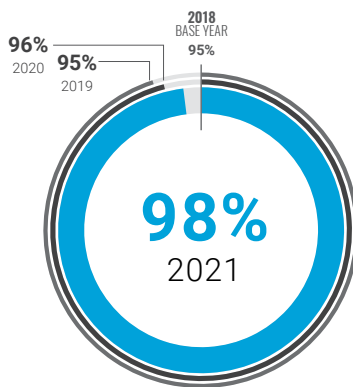
## Supply Chain Sustainability

**By 2030, 100% of our suppliers will meet our Supplier Code of Conduct requirements, with special attention to human rights issues such as safety and forced labor.**

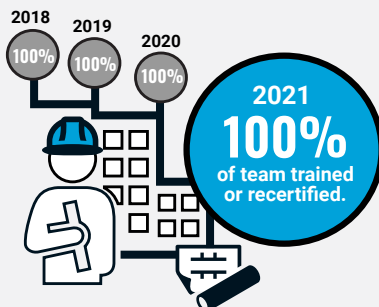
We will continue to prioritize supply chain partners that share our commitment to sustainability in all its forms.

### Supplier Code of Conduct Compliance

GOAL: 100%



**In addition, 100% of our global sourcing team will be trained and recertified annually on sustainability.** A standardized process has been implemented across global sourcing and will be used in category strategies going forward.



In line with the Supplier Code of Conduct, in 2021, 100% of new suppliers were evaluated for a range of criteria, including environmental and social factors (e.g., human rights and labor practices).

In 2021, Owens Corning enhanced our approach to prioritizing suppliers, empowering us to further emphasize the importance of sustainability throughout our value chain. This approach provides additional consideration of our suppliers' environmental, social, and governance (ESG) risk exposures. The environmental, social, and governance risk scoring framework is based on S&P Global Rating's ESG Risk Atlas.

A sector risk score, which encompasses associated environmental and social risk rationales, is assigned based on the supplier's commodity. A regional risk score, which embodies governance rationales, is assigned to a supplier's country. The overall ESG Risk Score is then tallied for each supplier by adding the 3 E, S, and G risk scores. For suppliers who provide multiple commodities to Owens Corning, and therefore potentially have multiple ESG risk scores, we selected the highest ESG risk score to conservatively represent these suppliers.

Photo submitted by:  
**Felicia Feng | Yantai, China**  
FOAMGLAS® insulation ready to be shipped.



# REDUCING OUR ENVIRONMENTAL FOOTPRINT

Throughout our operations, Owens Corning is working to conserve energy, reduce emissions, cut waste, and use water responsibly. Through these efforts — which will require a great deal of dedication and collaboration among our employees — Owens Corning is actively working to mitigate our negative impact around the world.



## Energy Efficiency & Sourcing Renewable Energy

**By 2030, we will be sourcing 100% renewable electricity.**

Purchasing electricity only from renewable sources is a key part of our effort to halve our greenhouse gas emissions. We'll also work to reduce the emissions from our processes and improve energy efficiency.

**We will also reduce energy use by 20% over our baseline year.**

Over our goal cycle, we will work to reduce energy use from both renewable and non-renewable electricity, as well as other forms of non-renewable energy by 20% from our baseline year of 2018.

These two approaches — along with fuel switching and low-carbon or no-carbon fuels and technologies — will put us on the path to eventually eliminating our use of fossil fuels.

Photo submitted by:  
**Caio Tralba | São Paulo, Brazil**  
Toque Grande beach, São Paulo.

### 2030 Renewable Electricity

GOAL: 100% RENEWABLE

2018  
BASE YEAR  
48%

51%  
2021

52% 2020  
50% 2019

### 2030 Energy Efficiency (MWh)

GOAL: 20% REDUCTION

2018  
BASE YEAR  
10,719,236

2%  
10,499,961  
2021

10%  
9,658,731  
2020

4%  
10,274,193  
2019

## Combating Climate Change

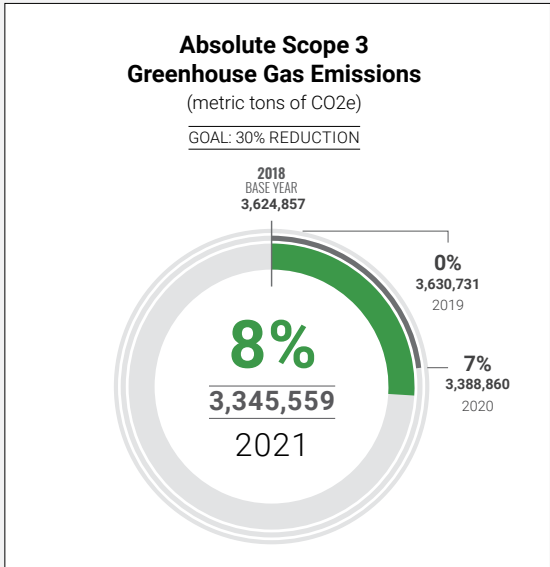
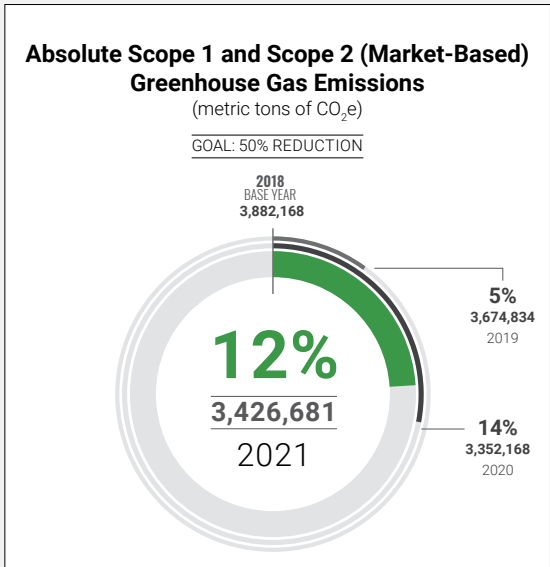
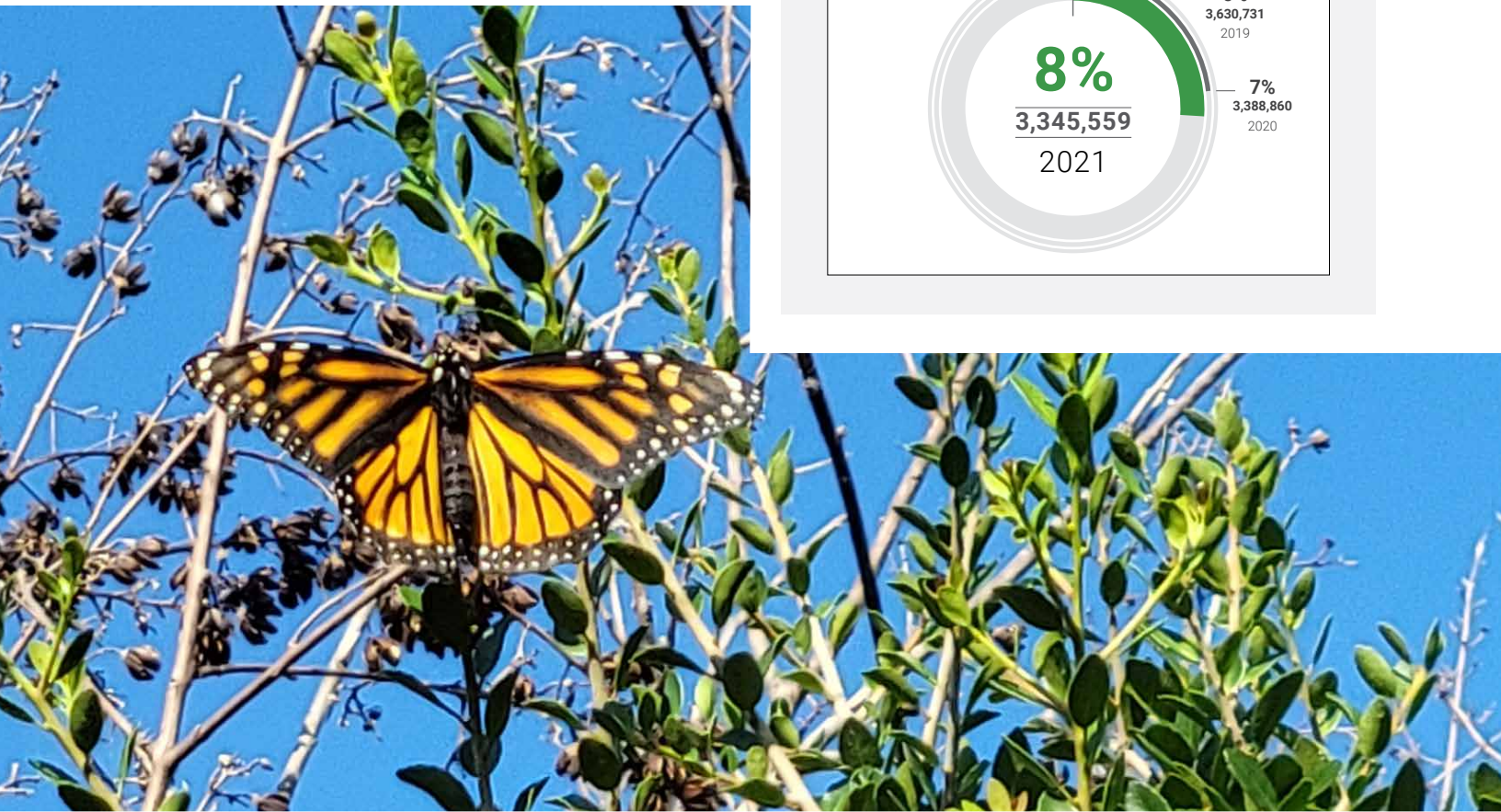
By 2030, our goal is a 50% reduction in absolute Scope 1 and Scope 2 market-based greenhouse gas from the base year of 2018.

- **Scope 1** refers to the direct emissions from our own manufacturing operations.
- **Scope 2** refers to indirect emissions from the generation of purchased energy.

We also have a goal to reduce absolute Scope 3 emissions by 30%.

- **Scope 3** refers to other indirect emissions, primarily those from our supply chain.

Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Monarch butterfly.





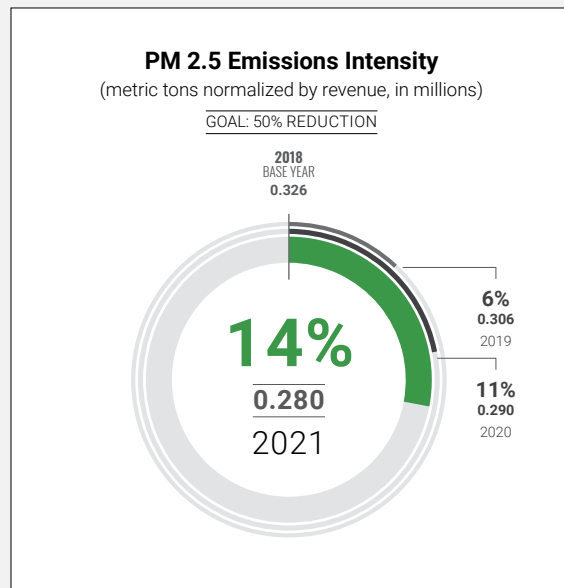
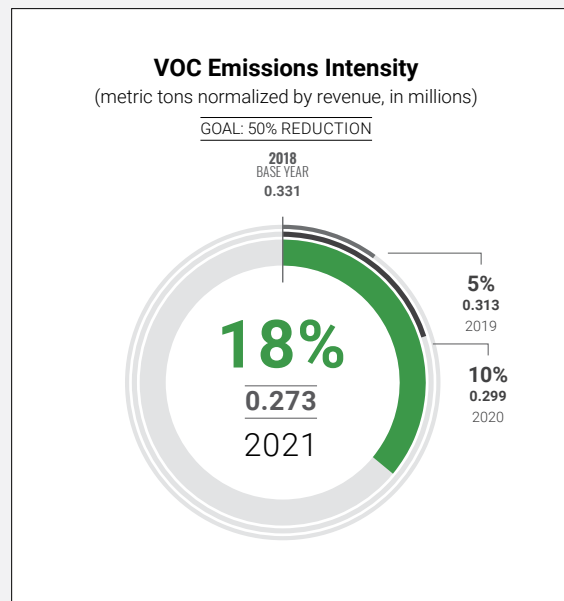


## Air Quality Management

**By 2030, we will reduce the aggregate intensity of our emissions of volatile organic compounds (VOCs) and fine particulate matter (PM2.5) by 50%.**

We also manage, track, and report against NOx and SOx air emissions requirements. The ways we measure and control NOx and SOx vary by location and local regulatory requirements.

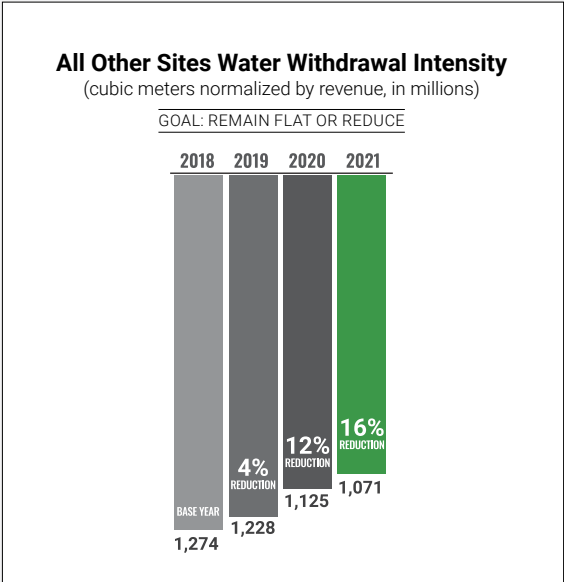
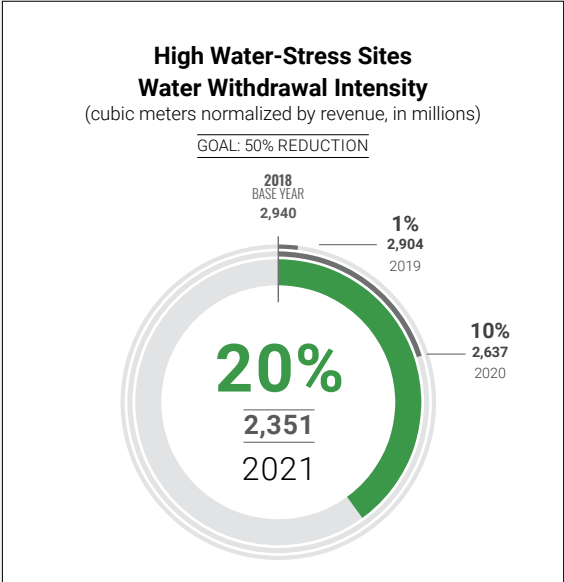
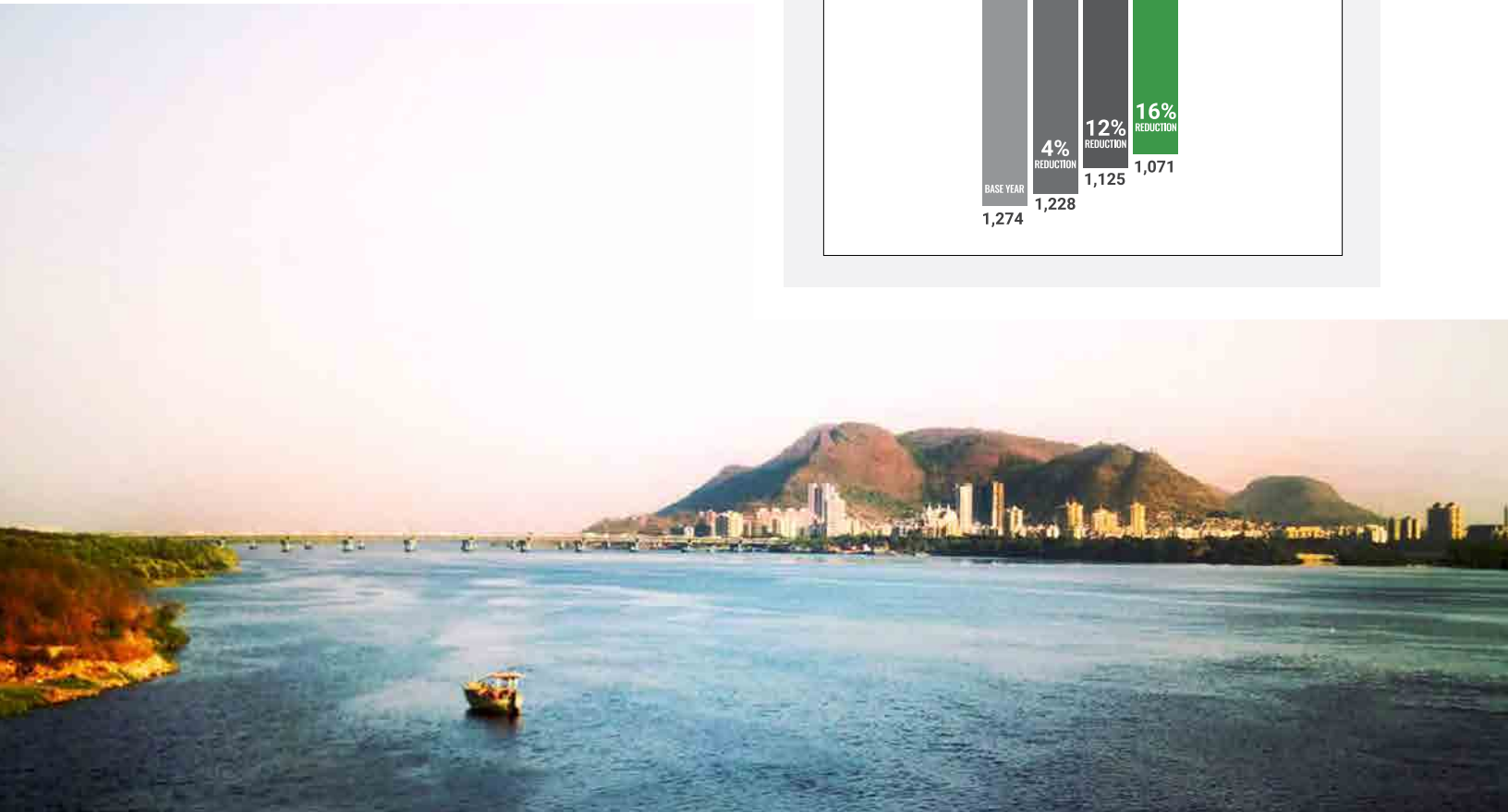
Photo submitted by:  
**Julie Childers | Granville, Ohio, U.S.**  
 Key West, Florida, U.S.



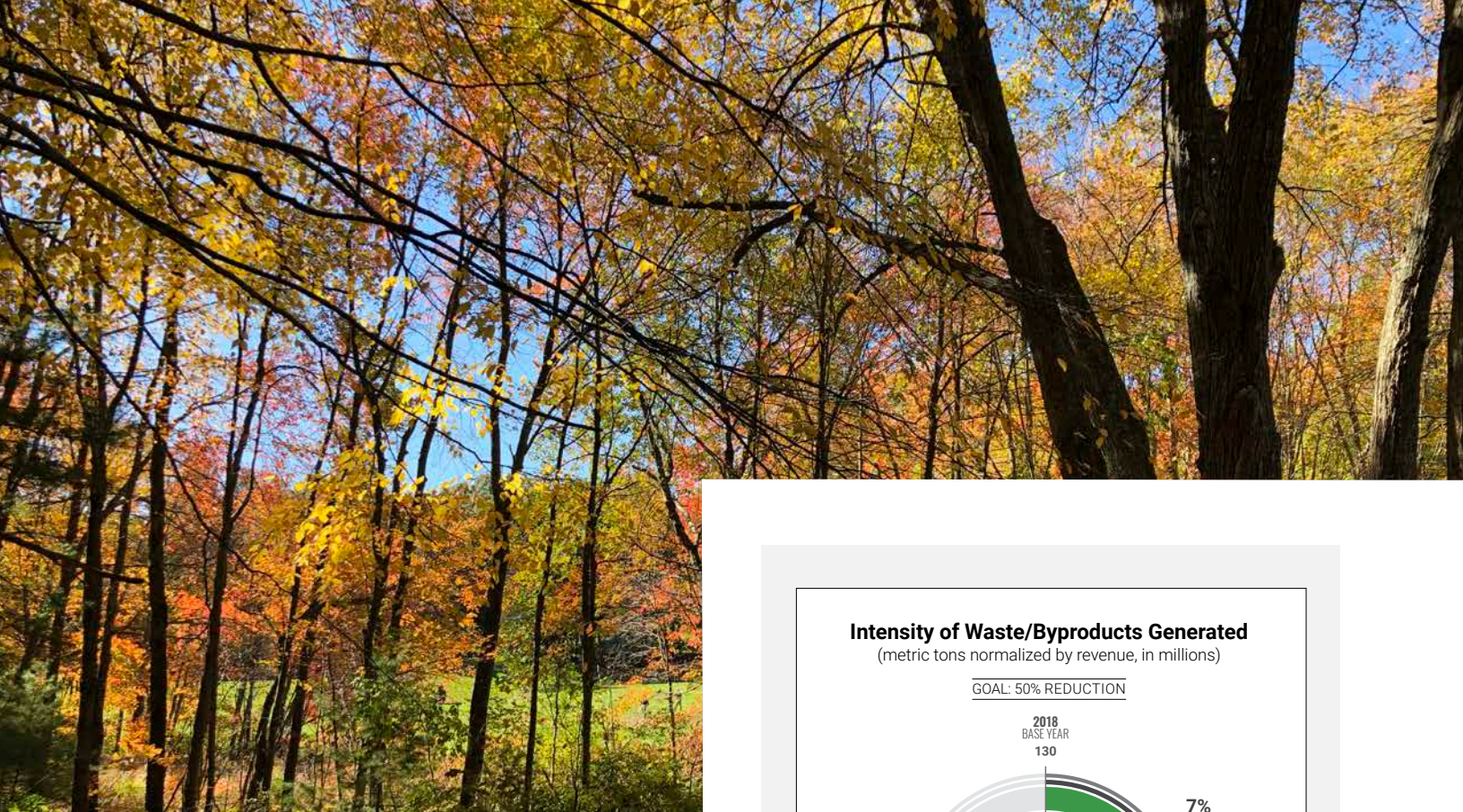
## Responsible Water Sourcing & Consumption

By 2030, we will cut in half the amount we take from local water supplies in places where water is limited in quantity or quality. In addition, we intend to ensure that our other facilities remain at the same water intensity as our base of 2018, or lower when aggregated.

Photo submitted by:  
**Priyanka Ruparel | Mumbai, India**  
Cityscape in India.







## Waste Management

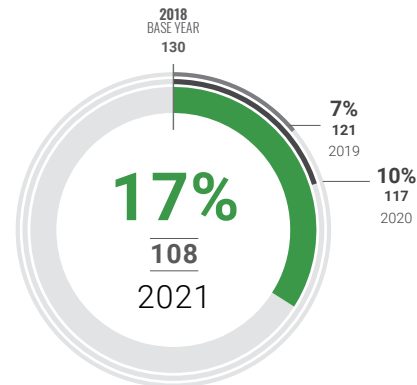
**By 2030, we will send zero waste to landfill, using the following two-part plan:**

- Reduce waste intensity by 50% by improving efficiency and process design.
- Repurpose or recycle the remaining waste, including recycling waste back into our own processes whenever possible.

Photo submitted by:  
**Susan Raneri | Massachusetts, U.S.**  
 Golf course, Northborough, Massachusetts.

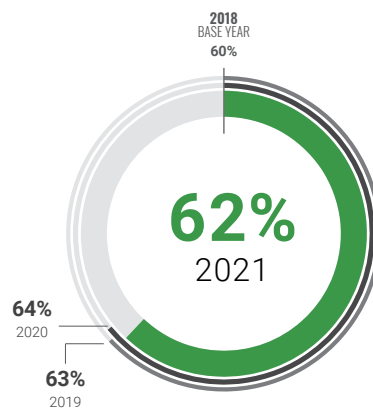
### Intensity of Waste/Byproducts Generated (metric tons normalized by revenue, in millions)

GOAL: 50% REDUCTION



### Percentage of Remaining Waste/Byproducts Repurposed or Recycled

GOAL: 100% REPURPOSED OR RECYCLED





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## Protecting Biodiversity

**Our 2030 goals for biodiversity will be based on the work we are currently doing to understand the full impact of our operations. We will have established our specific goals based on our findings by 2025.**

Achieving our biodiversity goals will require a broad-based network of collaborators, both internal and external, including our partnership with the Science Based Target Network, which provides us with a rigorous framework upon which we will build our biodiversity goals. This deep level of cooperation across all levels will be increasingly necessary as we seek to protect the closely interrelated web of species with which we share the planet.

Owens Corning uses the Integrated Biodiversity Assessment Tool (IBAT) to gauge our proximity to areas with high biodiversity value. By employing a science-based, data-driven approach, we can make decisions that have the most positive impact for the species we are working to preserve.

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Photo submitted by:  
**Karen Bonner | Toledo, Ohio, U.S.**  
Great Smoky Mountains National Park, Tennessee, U.S.





# EXPANDING OUR SOCIAL HANDPRINT

Creating a better world means ensuring a better quality of life for people everywhere — from our employees and their families to people in the communities where we do business. We seek to help our employees thrive during their tenure with us, and for people everywhere live with health, safety, and human dignity.

## Employee Experience

By 2030, in conjunction with our inclusion and diversity goals, we will make continuous improvements in recruiting, retention, training and development, mentorship and sponsorship professional growth, and employee engagement.

To that end, we have established a number of specific targets:

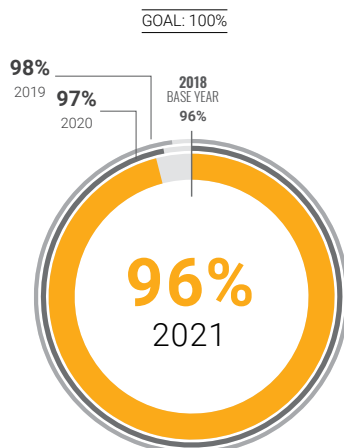
- 100% retention of high-potential talent between annual talent reviews.
- Internal fill rate of 75%-85% for leadership roles.
- Ensure two “ready now” internal succession candidates for key leadership roles.
- >95% of staff indicating they are frequently putting all their effort into their work.
- 90% staff and 85% primary worker response rate to our two global enterprise surveys.

## 2030 Retention Target

**100% retention of high-potential talent between annual talent reviews.**

We want to ensure that our top talent remains proud members of the Owens Corning team. According to the Society for Human Resource Managers (SHRM), this is the top quartile for outstanding companies, which makes it a suitable goal for Owens Corning.

### 2030 Percentage of High-Potential Talent Retained



## 2030 Employee Engagement Targets

**>95% of staff indicating they are frequently putting all their effort into their work.**

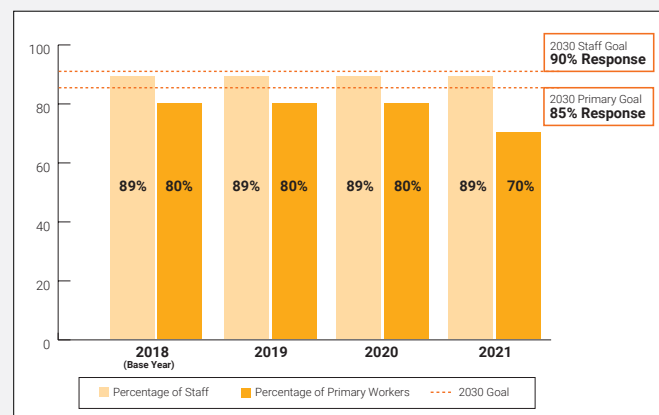
	2018	2019	2020	2021
Employee Engagement (% of actively engaged employees)	97%	97%	98%	98%
% of total salaried employees responding	89%	89%	89%	89%

We measure engagement by combining the percentage of people who respond Agree or Strongly Agree on our annual employee engagement survey. This is a common practice among the engagement surveys against which we set our benchmarks.

*Our figures place us high above the SHRM average of 69% who respond similarly.*

**90% staff and 85% primary workers response rate to our two global enterprise surveys.**

Owens Corning measures employee engagement in a variety of ways. For example, every other year, our staff is asked to complete a Leadership Capabilities for Growth survey, and our primary population is asked to complete an Operation Excellence survey.

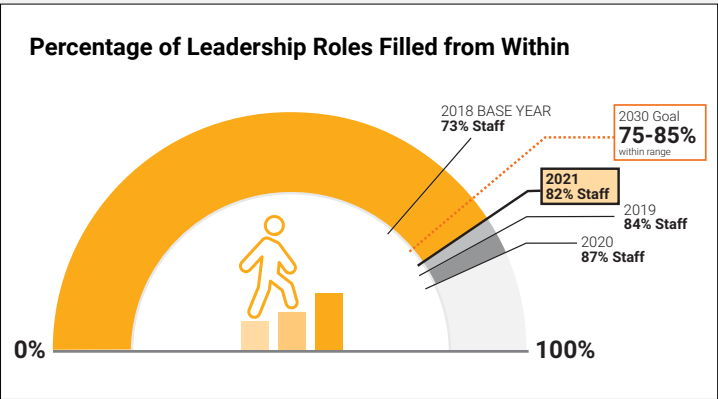


*Our survey response rate is already well above the 30-40% average response rates for internal employee surveys, and our goal is increase it even further as we work toward 2030.*

## 2030 Succession Targets

### Internal fill rate of 75%-85% for leadership roles.

We aspire to have mid-level, director, and vice president-level roles filled by current Owens Corning employees, either through a promotion or as a lateral move, as a percentage of all internal fills and external hires for these roles. As we build our diverse talent pipeline, promoting from within strengthens our inclusive environment as employees see diversity among our leaders.



### Ensure two “ready now” internal succession candidates for key leadership roles.

We calculate this by taking the number of unique candidates who are ready for promotion into the key leadership role divided by the number of succession roles in that business unit. Although strong candidates may be on multiple succession lists, each individual is counted only once within that business unit. In addition, we have set succession targets to help increase representation from women and people of color.

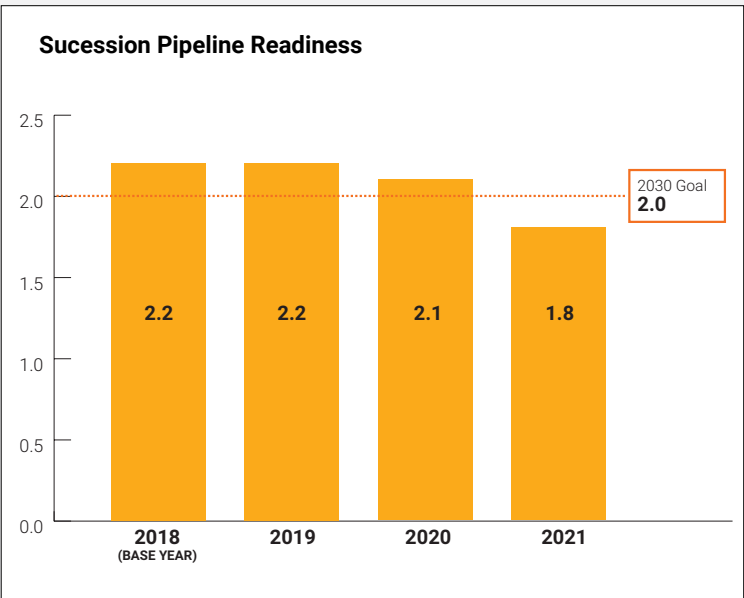


Photo submitted by:  
**Danielle Wittorp | Dearborn, Michigan, U.S.**  
Sunflower and bee in a home garden.



## Inclusion & Diversity

By 2030, we aspire to:

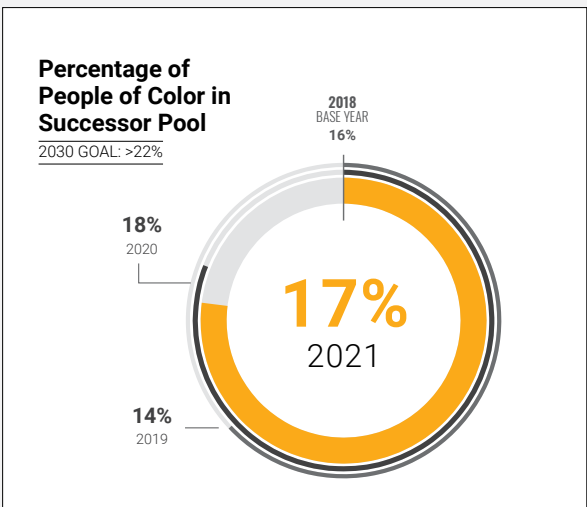
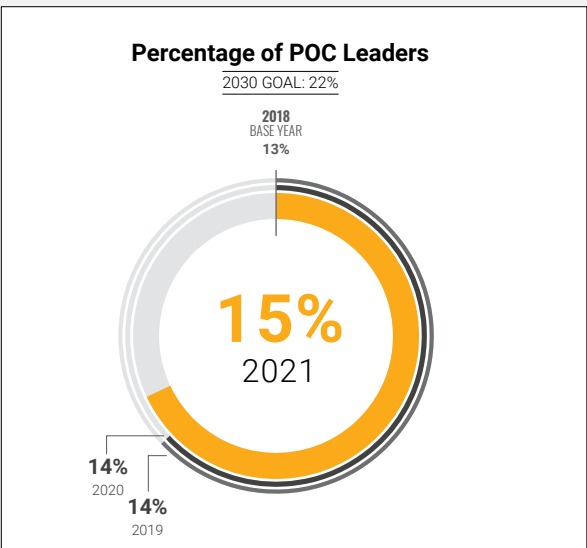
- **Build and support diverse workforce** and leadership teams that reflect the communities in which we live, work, and serve.
- **Retain diverse candidates** proportional to the communities in which we live, work, and serve.

- **Increase internal succession** with an emphasis on expanding the number of female candidates, underrepresented minorities, and representation of cultures from around the world.
- **Demonstrate transparency regarding pay equity** through periodic third-party reviews and ongoing internal analytics.

We have formalized our commitment to these goals by setting several specific targets that quantify our inclusion and diversity aspirations.

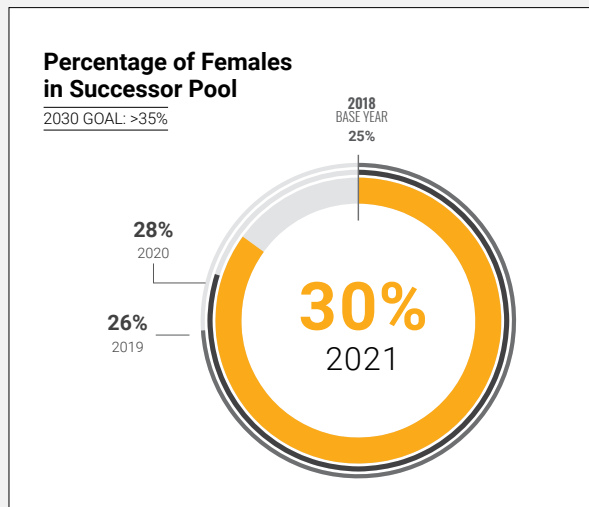
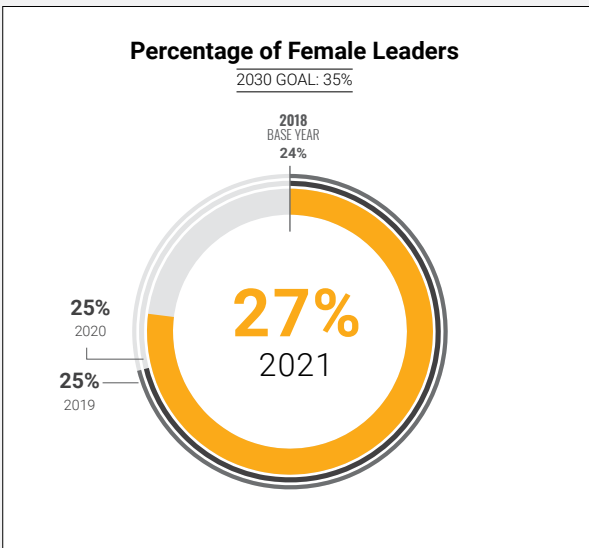
### People of Color in Leadership

As part of our 2030 goals, we have set a target that **22% of our U.S. leadership roles are filled by people of color (POC)**. In 2021, our representation for these roles was 15%, while overall approximately 51% of U.S. hires were people of color.



### Women in Leadership

We have established a 2030 target in which **35% of our global mid-level leader, director, and vice president roles are filled by women**.



## Inclusive Leadership Training

**We had set a target for 100% of our people leaders, from first level leaders through mid-level leaders, directors, and vice presidents to attend our internal inclusive leadership training by the end of 2021.**

While we fell short of that goal, we maintain a 2030 target to maintain training at that level for all new hires or promotions into those roles.



Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**



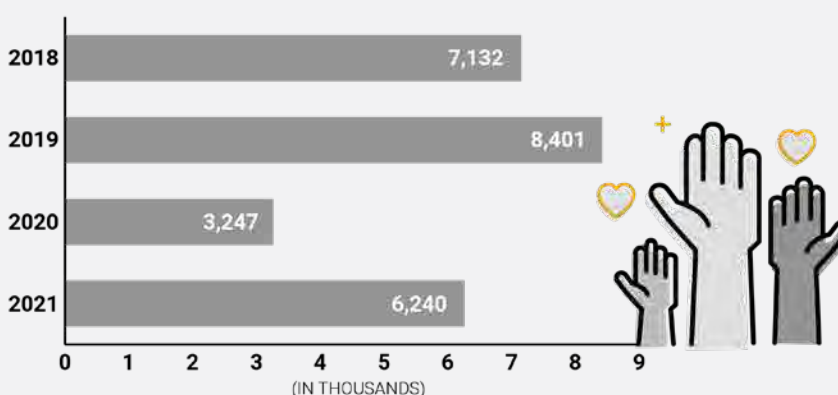


## Community Engagement

**By 2030, 100% of our employees will be actively engaged in their communities through company-sponsored activities.**

As part of this goal, we continue to engage facilities in community projects. By 2022, we intend to see 100% facility engagement, which will serve as a foundation for our broader 2030 goal.

Number of Volunteer Experiences\*



While COVID-19 restrictions led to a significant drop in volunteer experiences between 2019 and 2020, we are pleased to see our numbers trending upward in 2021. We are confident that volunteering will continue to increase as more communities begin to emerge from the pandemic.

\* While our ability to track and measure employee volunteerism improves every year, we are currently only able to track the number of volunteer experiences and not individual volunteers. The number of volunteer experiences serves as an informative reference as we expand our reach to all global facilities.

## Living Safely

By 2030, we aspire to achieve the following goals:

■ **Make it impossible for injuries and illnesses to occur.**

Ideally, we will do this by designing equipment and processes to eliminate risk. When an engineering solution isn't possible, we will continue to evaluate and implement strong rules and policies and ensure use of appropriate protective equipment to keep people from hazards.

■ **In new or newly acquired sites, achieve a level of safety at least equivalent to the rest of Owens Corning within one year.**

In 2021, Owens Corning acquired vliepa GmbH, a German-based company specializing in the coating, printing, and finishing of nonwovens, paper, and film for the building materials industry. We have been working to apply our safety processes to their operations as we complete the acquisition of this company.

■ **Emphasize the elimination of risks that could lead to the most serious injuries, rather than concentrating on only the most frequent ones.**

We aspire to eliminate all employee, contractor, and visitor injuries and occupational illnesses at work and at home, beginning with the ones that have the most serious consequences. While Owens Corning has a long-standing commitment to safety, we recognize there is still work to do as we keep our eye on our 2030 goals.

Our recordable incident rate (number of injuries x 200,000 / total labor hours) in 2021 was 0.59. This is 81% below the industry average, as reported by the U.S. Bureau of Labor Statistics for 2021 (the most recent data available).

In addition, 48% of our global facilities were injury-free in 2021. The severity of our incidents, measured by our lost-time injury frequency rate (lost workday cases x 1,000,000/total labor hours) was 1.69.

Health & Wellness

By 2030, we aspire to eliminate all lifestyle-induced disease and enable the best possible quality of life — where people flourish and are healthier because they work for Owens Corning.

While complying with privacy laws and local expectations, we will use accessible data, as well as health and behavioral science, to define metrics that will guide our strategies and tactics to achieve our goals. We will be guided by the frameworks established by the U.S. Healthy People 2030 as well as the WHO Global Action Plan. Each framework is based on indicators that measure both health risks and the burden of disease around the world.

Human Rights & Ethics

By 2030, 100% of our suppliers will meet our Supplier Code of Conduct requirements, with special attention on human rights issues such as safety and forced labor.

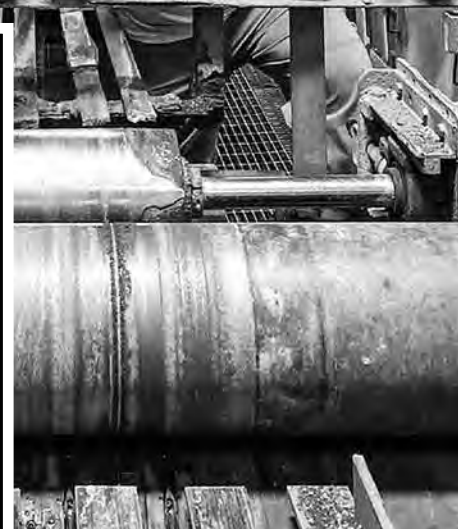
Each year, we conduct survey assessments of our key suppliers, which make up 74% of our spending. They are asked to report their own policies regarding a range of topics, including human rights and ethics. Of the suppliers who have responded to our survey assessments over the past three years, 98% reported that they meet the standards set by our Supplier Code of Conduct.



Owens Corning recognizes that change is inevitable, and it's happening faster than ever. As we look ahead to 2030, we recognize that we must be prepared to anticipate change — and innovate accordingly. We are confident that the goals we have set are within our reach, thanks to the collective spirit of dedication, collaboration, and ingenuity of our employees around the world.

Photo submitted by:  
**Jim Close** | Toledo, Ohio, U.S.  
Wisconsin Dells, Wisconsin, U.S.





# OUR APPROACH

In this section, we discuss the various factors that influence how we think about sustainability — and the steps we will take to achieve our 2030 goals.

- Stakeholder Engagement & Material Issues
- UN Sustainable Development Goals Alignment
- Board Leadership
- Risk Management
- Digital Transformation
- Compliance and Beyond
- Total Productive Maintenance
- Tax

# STAKEHOLDER ENGAGEMENT & MATERIAL ISSUES

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## In this chapter:

- OUR APPROACH
- INITIATIVES
- MATERIALITY GRIDS

Sustainability means meeting the needs of the present while leaving the world a better place for the future. That requires a sharp focus on the issues we face and an emphasis on collaboration, both within our organization and among our various stakeholders. Owens Corning works continuously to identify the material issues that most directly impact our operations, then we develop effective strategies to address them in partnership with a wide range of people and organizations.



Photo submitted by:  
**Andy Davis | Granville, Ohio, U.S.**  
A bee pollinating a Rose of Sharon flower.





## OUR APPROACH

Owens Corning is committed to objectively identifying material issues and evaluating their level of impact across our value chain. In support of this, Owens Corning is devoted to the assessment of our materiality matrix on a five-year cycle in accordance with AA1000 methodology. Our most recent [Materiality Assessment](#) was conducted in 2019.

As part of our ongoing processes, we continue to evaluate the impact of any significant changes to our operations for potential risks or areas that could have a positive or negative impact on our stated goals. We have developed a process of stakeholder engagement, reviewing both internal and external groups.

Photos submitted by:

**Susan Raneri | Massachusetts, U.S.**

Golf course, Northborough, Massachusetts.

**Karolina Koscianska | Trzemeszno, Poland (top, right)**

Mineral wool manufacturing plant in Hässleholm, Sweden.

**Danielle Wittorp | Dearborn, Michigan, U.S. (bottom, right)**

Flower garden.





## MATERIALITY & ENGAGEMENT INITIATIVES

In 2021, we conducted another refresh of the 2019 Materiality Assessment, in which we sought to confirm the continued relevance of the existing Material Topics and their relative positioning within the materiality matrix visuals, for the company as a whole and broken out by region. The refresh and review process can be described in three steps:

- Reassess scopes of material topics and input data for material topics.
- Refresh the AI-driven aspects of the assessment to incorporate new industry benchmark, regulatory, news, and social data into the models.
- A sustainability review to determine if the materiality assessment conducted in 2019 continues to accurately represent the company's sustainability strategy, impacts, and goals, or if there has been a significant enough change to the company strategy or model inputs to require further revisions.

In 2021, Owens Corning acquired vliepa GmbH, a German-based company specializing in the coating, printing, and finishing of nonwovens, paper, and film for the building materials industry. With this acquisition came an opportunity to reexamine our approach to sustainability materiality. We developed a process for assessing the materiality impact of new acquisitions, which looks at aspects such as the acquisition's size and location, the products that they make, the markets they serve, their environmental footprint, and their social impacts such as safety and inclusion and diversity. This process enables us to determine if the acquisition is significantly impactful in scope or scale compared to our company, which can then lead to updates to our sustainability priorities and impacts that reflect both our existing company and the acquisition.

Based on this review, it was determined that the vliepa acquisition did not require an update of our materiality assessment topic scopes, or relative matrix positions. This was due to vliepa's alignment within Owens Corning's existing product mix, as well as vliepa's small size relative to Owens Corning as an enterprise. While this acquisition did not require an update to our sustainability materiality, it was an important step to develop a process for the consistent consideration of new acquisitions, as this process can potentially be used in the future as well.

A sustainability review was conducted of the topic mapping, and the preliminary matrix data, taking into account the changes due to refreshing the data sources, and in the case of new Datamaran ontology, refreshing the underlying aspects of the material topics themselves. Through this assessment, it was determined that some topics did have slight movements in their weighting due to the new data. Despite these minor movements, the fundamental positions of the Material Topics, such as where topics lie in regions of the graph, were not significantly changed, and the Material Topics and their visual representations continue to represent Owens Corning's material sustainability topics accurately.

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Photo submitted by:  
**Leila Pourzahedi** | Granville, Ohio, U.S.  
Squamish, British Columbia, Canada.



## Material Topics

The following issues serve as Owens Corning's Material Sustainability Topics. They were selected after close review of the company's prior work on sustainability and materiality, research into best practices, examination of peer companies within our industry, and interviews with subject matter experts. Each topic is discussed in more detail in the corresponding chapter of this report.

### Air Quality Management

As a manufacturer, we have the opportunity to improve our processes and, in doing so, reduce our impact on air quality in the areas where we operate.



#### Biodiversity

Biodiversity describes the variety of life that keeps nature's ecosystems in balance. Owens Corning is committed to preserving and enhancing biodiversity and the natural habitats that surround our operations around the world. We seek to understand and manage the biodiversity impact of all our own operations, as well as gain insights into the impacts of our supply chain on biodiversity.

### Circular Economy

A circular economy is one in which virgin raw materials, waste, energy, and emissions are minimized through intelligent design, renewable and recycled inputs, energy-efficient production, and enabling the recyclability of products at the end of their life cycles. We are committed to supporting the global transformation to a circular economy.



### Combating Climate Change

Owens Corning understands the importance of climate action, and we take our role in the fight against climate change seriously. We have embraced a Science-Based Target for our greenhouse gas emissions in line with the most stringent standard, designed to limit global warming to 1.5 degrees Celsius. We also have a target to reduce our Scope 3 emissions, representing emissions from our supply chain.

### Community Engagement

Owens Corning strives to contribute to thriving communities where we work, where we live, and where we have the potential to make a positive impact.

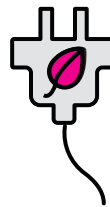
#### Employee Experience

We believe our employees should grow as people and as professionals while working at Owens Corning. We seek to attract the best people and provide every employee with the opportunity to develop and reach their full potential, in a work environment full of both challenge and optimism.



#### Energy Efficiency & Sourcing Renewable Energy

We are determined to continue decreasing our dependence on fossil fuels, both by improving efficiency in our operations and by meeting more of our energy demands through renewable sources.



#### Health & Wellness

We promote a healthy and tobacco-free lifestyle for all our employees and their families. We are committed to ending lifestyle-induced disease in our employees, as well as promoting mental, physical, and financial well-being.

#### Human Rights

Owens Corning has the privilege of working with people all over the world. We believe that this privilege comes with the responsibility to treat all people with dignity and respect and to protect their fundamental rights. We are committed to being a leader in setting and upholding the highest standards for safeguarding human rights.



### Inclusion & Diversity

We aim to foster an environment which represents people with various racial, ethnic, gender, religious, language, socioeconomic, family and cultural backgrounds, as well as people with different lived experiences, lifestyles, and interests, engaged and working together to create a fair, healthy, and high-performing organization. Inclusion enables employees to feel valued, understood, and inspired to bring their whole selves to work.

#### Living Safely

As a company, we are committed to promoting safety for all. We believe that all accidents are preventable, at work and at home.



### Product Innovation & Stewardship

We work to utilize innovation and the principles of product stewardship to ensure that our products are fundamentally safe and sustainable in their design, creation, use, and eventual disposal. We also seek to drive continual improvement in the sustainability of the products we offer, both in their creation and in their ability to help the world meet its sustainability needs.

### Responsible Water Sourcing & Consumption

We are committed to using water in an intelligent, sustainable way across the company. We operate in a number of different regions across the world, some of which are in areas of higher water stress than others. Through reuse, recycling, and efficiency, we strive to consume less water in our operations. We also must understand where our water use is most impactful, to set informed targets for water reduction.



## Supply Chain Sustainability

We strive to hold our suppliers to the same high standards we hold ourselves. We see our suppliers as key contributors to our overall sustainability vision, and we seek to ensure all our suppliers fully comply with all applicable legislation, regulations, and legal requirements on human rights, labor, the environment, anticorruption, and trade and customs.

## Waste Management

Our ambition is to mitigate the waste that we produce by redesigning the process to avoid its creation, then repurposing it whenever possible. We are committed to redefining waste, continuously looking for beneficial uses for our byproducts and other waste materials.



**Our Material Topics represent our stakeholders' priorities with consideration of our impacts, and they're informed by the UN's 2030 Sustainable Development Goals. This report is organized by these topics to show how our efforts, our goals, and our stakeholders' priorities align.**

## Stakeholder Engagement

Owens Corning interacts with a wide range of stakeholders on a regular basis. These stakeholders range from investors, customers, suppliers, community members, trade associations, and NGOs, to name a few. Through these engagements, we seek to accurately and transparently discuss our efforts, understand concerns, and work together for solutions.

	Customers	Suppliers	NGOs	Governmental Agencies	Employees	Investors	Trade and Industry Associations	Media	Communities	Potential Employees
Social media	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Website information	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Meetings and conference calls	✓	✓	✓	✓	✓	✓	✓	✓		
Conferences, speaking engagements	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Surveys, focus groups	✓	✓			✓					
Visits and account management	✓	✓								
Education/summits	✓	✓			✓	✓				✓
Internal communications					✓					
Volunteer and community projects	✓	✓	✓		✓				✓	
Memberships, sponsorship, board service, or project support			✓				✓		✓	
1-800-GETPINK and GETTECH@owenscorning.com	✓	✓							✓	



# OWENS CORNING'S MATERIALITY GRIDS

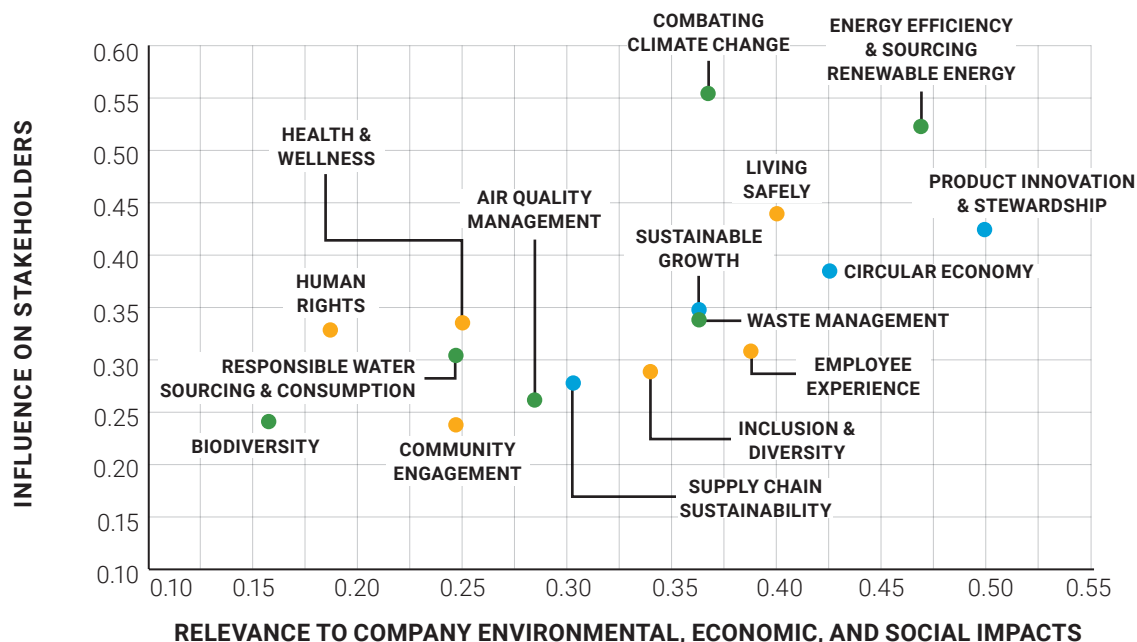
Our Materiality Matrices are structured to adhere to GRI standards. In contrast with traditional matrices, this type of matrix reflects the significance of environmental, social, and governance (ESG) impacts to the company, as well as the influence a Material Topic has on stakeholders in their assessments and decision-making. In addition, we have developed grids that reflect regional materiality concerns.

The completed matrices reflect the following regions:

- Americas
- Asia Pacific
- Europe

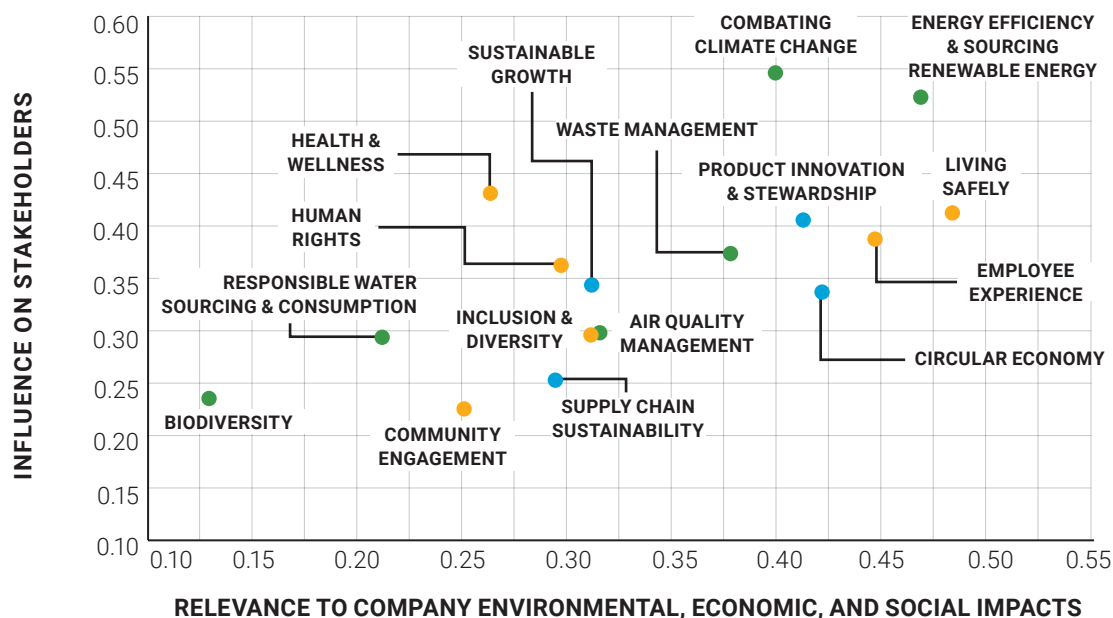
## Global Materiality

● Product Sustainability ● Environmental Sustainability ● Social Sustainability



## Regional Assessment Results | Americas Materiality

● Product Sustainability ● Environmental Sustainability ● Social Sustainability

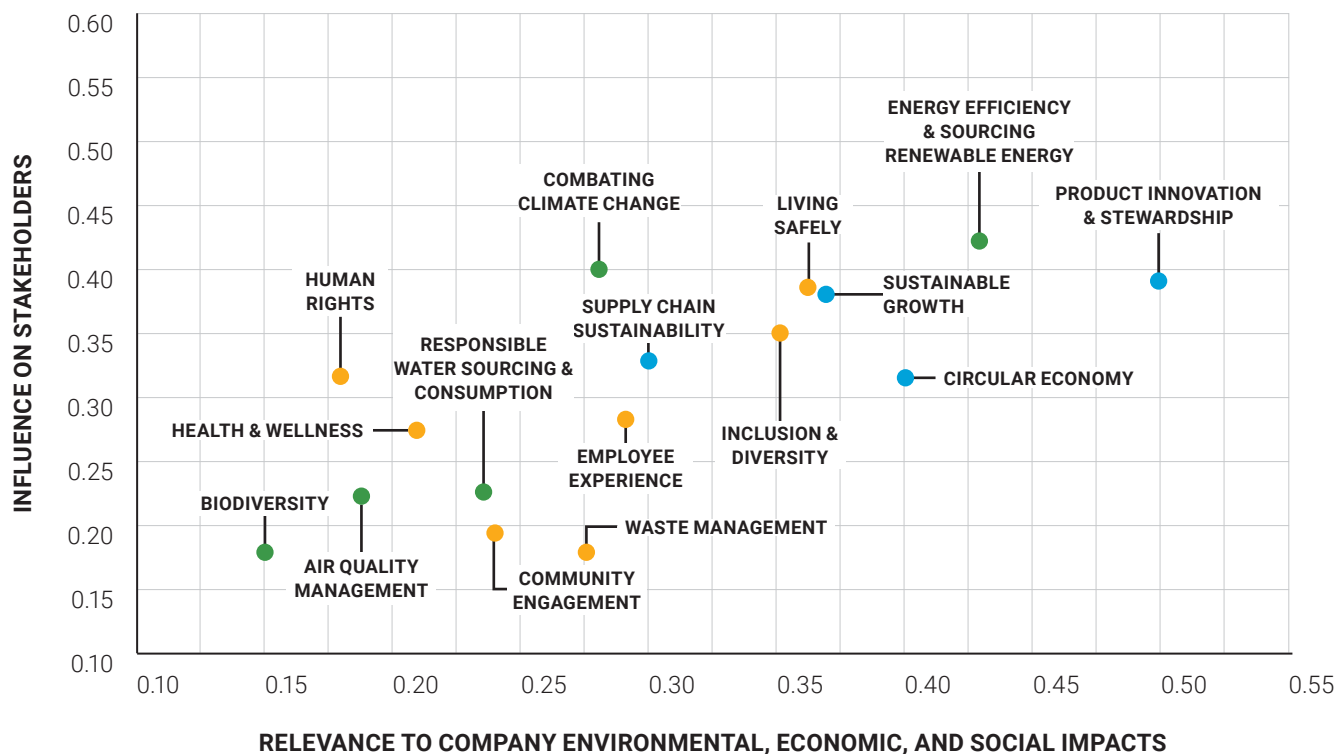


## Regional Assessment Results | Asia Pacific Materiality

● Product Sustainability

● Environmental Sustainability

● Social Sustainability

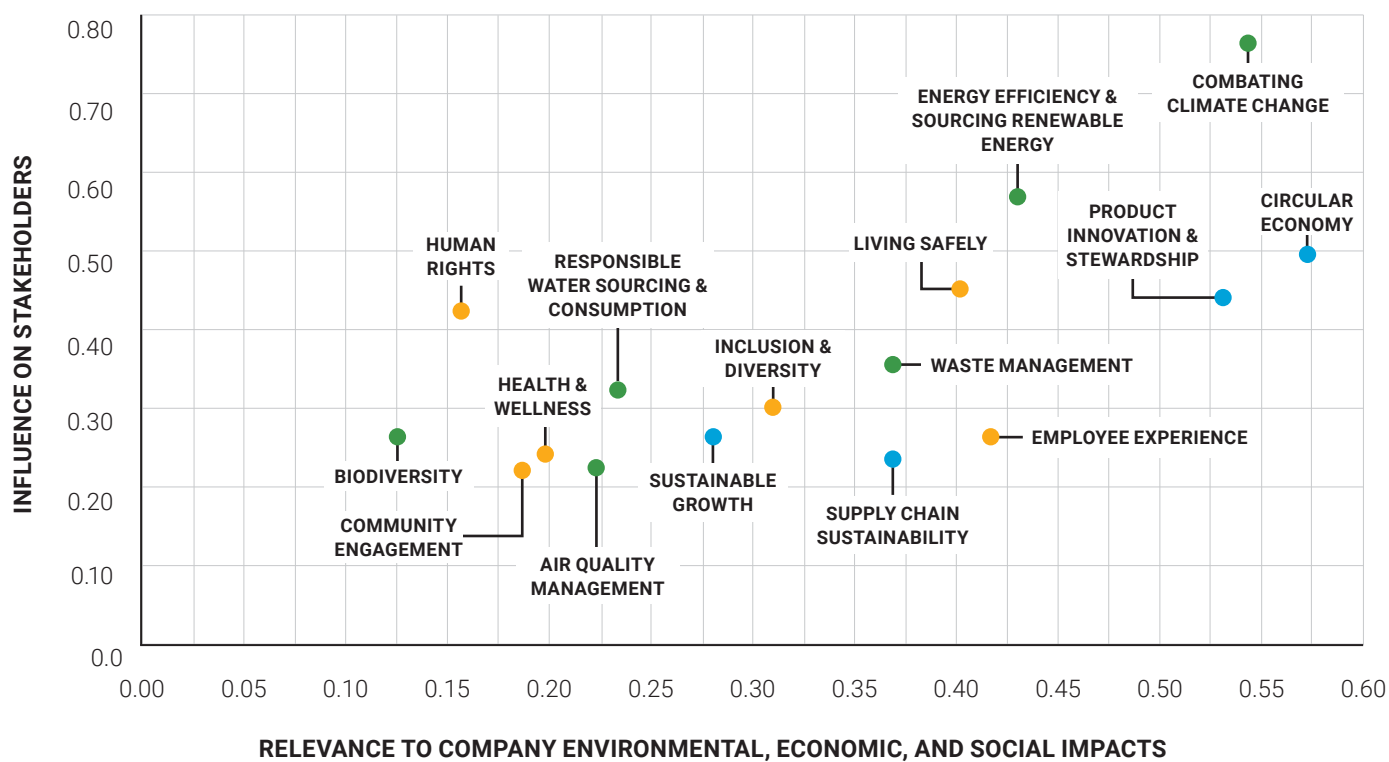


## Regional Assessment Results | Europe Materiality

● Product Sustainability

● Environmental Sustainability

● Social Sustainability





# UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS ALIGNMENT

The United Nations' Sustainable Development Goals (SDGs) were established in 2015 as a framework for governments, businesses, and individuals to use in addressing our society's most pressing issues. By setting our collective sights on these goals, we can help reduce inequality, fight climate change, and more. As Owens Corning has set its own sustainability goals, we have looked to the UN SDGs for guidance and insight.

The 17 UN SDGs are as follows:



## NO POVERTY <sup>3</sup>

End poverty in all its forms everywhere.



## ZERO HUNGER <sup>3</sup>

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.



## GOOD HEALTH AND WELL-BEING <sup>1</sup>

Ensure healthy lives and promote well-being for all at all ages.



## QUALITY EDUCATION <sup>2</sup>

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



## GENDER EQUALITY <sup>1</sup>

Achieve gender equality and empower all women and girls.



## CLEAN WATER AND SANITATION <sup>1</sup>

Ensure availability and sustainable management of water and sanitation for all.



## AFFORDABLE AND CLEAN ENERGY <sup>1</sup>

Ensure access to affordable, reliable, sustainable, and modern energy for all.



## DECENT WORK AND ECONOMIC GROWTH <sup>1</sup>

Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.



## INDUSTRY, INNOVATION, AND INFRASTRUCTURE <sup>1</sup>

Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.



## REDUCED INEQUALITIES <sup>2</sup>

Reduce inequality within and among countries.



## SUSTAINABLE CITIES AND COMMUNITIES <sup>2</sup>

Make cities and human settlements inclusive, safe, resilient, and sustainable.



## RESPONSIBLE CONSUMPTION AND PRODUCTION <sup>1</sup>

Ensure sustainable consumption and production patterns.



## CLIMATE ACTION <sup>1</sup>

Take urgent action to combat climate change and its impacts.



## LIFE BELOW WATER <sup>3</sup>

Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.



## LIFE ON LAND <sup>2</sup>

Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.



## PEACE, JUSTICE, AND STRONG INSTITUTIONS <sup>2</sup>

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.



## PARTNERSHIPS FOR THE GOALS <sup>1</sup>

Strengthen the means of implementation and revitalize the global partnership for sustainable development.

1 SDGs for which we believe we have the most direct impact or influence through our core business competencies and which are also material to our business.

2 SDGs for which we believe we have a lesser and less direct impact, but which nonetheless reflect our values, policies, and outreach work. These may also have a significant impact on stakeholders' decisions and perceptions about our company.

3 SDGs for which we perceive the least direct influence or impact, although these SDGs do have some overlap with others, our sustainability efforts, and our business. We do still measure and report on some of the indicators.

Definitions taken from the [Global Goals for Sustainable Development website](#).

# UN SDGS & OUR 2030 GOALS





















Owens Corning's overall commitment to sustainability includes partnerships and collaborations with a wide range of organizations, governmental agencies, NGOs, and industry associations. In addition, we are proud to participate in the UN Global Compact, which has set forth ten guiding principles related to human rights, labor, environmental issues, and anti-corruption.



The UN Sustainable Development Goals (SDGs) are an important consideration in our assessment of materiality. We have identified specific areas of alignment between our material topics, our 2030 sustainability goals, and the SDGs, shown in the table that follows.

## EXPANDING OUR PRODUCT HANDPRINT




















**Guiding Aspiration:** Double the positive impact of our products.

MATERIAL TOPIC	EXPLANATION	2030 GOALS	MOST RELEVANT SDGs
<b>CIRCULAR ECONOMY</b>	A circular economy is one in which virgin raw materials, waste, energy, and emissions are minimized through intelligent design, renewable and recyclable input, energy-efficient production, and enabling the recycling of products at the end of their life cycles. We are committed to supporting the global transformation to a circular economy.	<p>Establish viable circular economy business models involving our materials and how they are used by collaborating up and down the supply chain with customers, suppliers, communities, academics, policy makers, government entities, and other organizations.</p> <p>Increase recycled content and decrease virgin raw materials used in our products.</p> <p>Develop technical solutions and practical business models for our product materials and packaging to continuously be used for beneficial purposes even after they are no longer used for the original purpose.</p>	    
<b>PRODUCT INNOVATION &amp; STEWARDSHIP</b>	We work to utilize innovation in the principles of product stewardship to ensure that our products are fundamentally safe and sustainable in their design, creation, use, and eventual end of life. We also seek to drive continuous improvement in the sustainability of the products we offer, both in their creation and in their ability to help the world meet its sustainability needs.	Offer the most recognized and preferred products for sustainability.	     
<b>SUPPLY CHAIN SUSTAINABILITY</b>	We strive to hold our suppliers to the same high standards we hold ourselves. We see our suppliers as a key contributor to our overall sustainability vision and seek to ensure all our suppliers fully comply with all applicable legislation, regulations, and legal requirements on human rights, labor, the environment, anti-corruption, and trade and customs.	<p>Collaborate with suppliers to increase transparency around the raw materials we use in our products.</p> <p>Reduce the greenhouse gas emissions related to our purchased materials and services by collaborating with our suppliers to cut these emissions by 30%. Our target has been validating and approved by the Science-Based Target Initiative.</p> <p>100% of our global sourcing team will be trained and recertified annually of sustainability.</p>	   
<b>SUSTAINABLE GROWTH</b>	As a company with sustainability at our core, we aim to align our company's growth with sustainable trends and positive global impact. We achieve sustainable growth through serving our customers, fulfilling their need for quality, sustainable products. We are working to build a financially successful company with sustainability at its core.	Design our products for recycling or reuse to optimize the impact of our products over their entire life cycle, from raw materials to disposal.	    



























## REDUCING OUR ENVIRONMENTAL FOOTPRINT

**Guiding Aspiration:** Cut the negative impact of our operations in half.

MATERIAL TOPIC	EXPLANATION	2030 GOALS	MOST RELEVANT SDGs
<b>AIR QUALITY MANAGEMENT</b>	As a manufacturer, we have the opportunity to improve our processes and, in doing so, reduce our impact on air quality in the areas where we operate.	Reduce the aggregate intensity of our emissions of volatile organic compounds (VOCs) and fine particulate matter (PM2.5) by 50%.	  
<b>COMBATING CLIMATE CHANGE</b>	Owens Corning understands the importance of climate action, and we take our role in the fight against climate change seriously. We have embraced a science-based target for greenhouse gas emissions in line with the most stringent standard, designed to limit global warming to 1.5° Celsius. We also have a target to reduce our Scope 3 emissions, in line with well below the two degrees Celsius methodology, representing emissions from our supply chain.	Achieve 50% reduction in absolute Scope 1 and Scope 2 greenhouse gas emissions from the 2018 baseline, in line with what is needed to limit global warming to 1.5° C. Our target has been validated and approved by the Science-Based Target Initiative. We also have a goal to reduce absolute Scope 3 emissions by 30%.	  
<b>WASTE MANAGEMENT</b>	Our ambition is to mitigate the waste that we produce by redesigning the process to avoid its creation, then repurposing it whenever possible. We are committed to redefining waste, continuously looking for beneficial uses for our byproducts and other waste materials.	Send zero waste to landfill by cutting the amount of waste we generate in half and recycling the rest.	  
<b>ENERGY EFFICIENCY AND SOURCING RENEWABLE ENERGY</b>	We are determined to continue decreasing our dependence on fossil fuels, both by improving efficiency in our operations and by meeting more of our energy demands through renewable sources.	Source 100% renewable electricity. Switching to 100% renewable electricity and purchasing energy from renewable sources are essential to our effort to halve our greenhouse gas emissions. We will also work to reduce emissions from our processes and improve energy efficiency. This will put us on the path to eventually eliminating our use of fossil fuels.	  
<b>RESPONSIBLE WATER SOURCING AND CONSUMPTION</b>	We are committed to using water in an intelligent, sustainable way across the company. We operate in a number of different regions across the world, some of which are in areas of higher water stress than others. Through reuse, recycling, and efficiency, we strive to consume less water in our operations. We also must understand where our water use is most impactful, to set informed targets for water reduction.	Cut in half the amount we take from the local water supply in places where water is limited in quantity or quality, while other facilities remain at the same water intensity as our base year of 2018 or lower when aggregated.	 
<b>PROTECTING BIODIVERSITY</b>	Biodiversity describes the variety of life that keep nature's ecosystem in balance. Owens Corning is committed to preserving and enhancing biodiversity and the natural habitats that surround our operations around the world. We seek to understand and manage the biodiversity impact of all our own operations, as well as gain insights into the impacts of our supply chain on biodiversity.	Develop biodiversity goals based on an understanding of the full impact of our operations and supply chain on biodiversity by 2025.	    

## EXPANDING OUR SOCIAL HANDPRINT

**Guiding Aspiration:** Eliminate injuries and improve the quality of life for our employees and their families. Have a positive impact on our communities. Advance our inclusion and diversity.

MATERIAL TOPIC	EXPLANATION	2030 GOALS	MOST RELEVANT SDGs
<b>EMPLOYEE EXPERIENCE</b>	We believe our employees should grow as people and as professionals while working at Owens Corning. We seek to attract the best people and provide every employee with the opportunity to develop and reach their full potential, in a work environment full of both challenge and optimism.	Make continuous improvements in recruiting, retention, training and development, mentorship and sponsorship, professional growth, and employee engagement.	   
<b>INCLUSION AND DIVERSITY</b>	We aim to foster an inclusive and diverse environment, one which represents a range of people with various racial, ethnic, gender, religious, language, socioeconomic, and cultural backgrounds and different sexual orientations, experience, and interests, engaged and working together to create a fair, healthy, and high-performing organization. Inclusion enables employees to feel valued, understood, and inspired to bring their whole selves to work.	<p>Build and support diverse workforce and leadership teams that reflect the communities in which we live, work, and serve.</p> <p>Retain diverse candidates proportional to the communities in which we live, work, and serve.</p> <p>Increase internal succession with an emphasis on expanding the number of female candidates, people of color, and representation of cultures from around the world.</p> <p>Demonstrate pay equity through periodic third-party reviews and ongoing internal analytics.</p>	    
<b>COMMUNITY ENGAGEMENT</b>	Owens Corning strives to contribute to thriving communities, where we work, where we live, and where we have the potential to make a positive impact.	100% of our employees are actively engaged in their communities.	     
<b>LIVING SAFELY</b>	As a company, we are committed to promoting safety for all. We believe that all accidents are preventable, at work and at home.	<p>Make it impossible for injuries and illnesses to occur. Ideally, we will do this by designing equipment and processes to eliminate risk. When an engineering solution is not possible, we will continue to evaluate and implement strong rules and policies and ensure use of appropriate protective equipment to keep people from hazards.</p> <p>In new or newly acquired sites, achieve a level of safety at least equivalent to the rest of Owens Corning within one year.</p> <p>Emphasize the elimination of risks that could lead to the most serious injuries, rather than concentrating on the most frequent ones.</p>	  
<b>HEALTH AND WELLNESS</b>	We promote a healthy and tobacco-free lifestyle for all our employees and their families. We are committed to ending lifestyle-induced disease in our employees and promoting mental, physical, and financial well-being.	We aspire to eliminate all lifestyle-induced disease and enable the best possible quality of life — where people flourish and are healthier because they work for Owens Corning.	
<b>HUMAN RIGHTS &amp; ETHICS</b>	Owens Corning has the privilege of working with people all over the world. We believe that this privilege comes with the responsibility to treat all people with dignity and respect and to protect their fundamental rights. We are committed in being a leader in setting and upholding the highest standards for safeguarding human rights.	100% of our suppliers meet our Supplier Code of Conduct requirements, with special attention to human rights issues such as safety and forced labor.	    



Highlights on progress toward the nine SDGs where we believe we have the most direct impact are outlined below, and they are discussed more fully throughout the report.



### Good Health and Well-Being

With our commitment to zero injuries and our Healthy Living platform, we have goals or actions for many of the indicators for SDG #3.

#### **SDG Target 3.4 | By 2030, reduce by one-third premature mortality from non-communicable diseases (NCDs) through prevention and treatment, and promote mental health and well-being.**

Our aggregated data found a high correlation between U.S. employees who participate in our Healthy Living programs and reduction in our disease burden. We have increased our international engagement with our Healthy Living platform in Latin America, Europe, and Asia Pacific. All three regions are creating regionally appropriate, fit-for-purpose systems parallel to those we have in the U.S. to drive achievement in the six pillars. In addition, we continued to apply the principles of Total Productive Maintenance (TPM) to issues related to health and well-being.

#### **SDG Target 3.5 | Strengthen prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.**

In response to the U.S. opioid crisis, Owens Corning's policy limits short-acting opioid prescriptions to a three-day supply.

We observed the following in 2021:

- An 11.8% drop in opioid pills dispensed from 2020. Since the three-day limit was implemented, the number of pills dispensed has dropped by 57%.
- There was a 15% drop in pills dispensed on prescriptions longer than three days compared to 2020 — a reduction of over 50% since the limit was implemented.

- In 2021, the number of prescribers asking for authorization beyond the three-day initial limit decreased by 1.3%.

#### **SDG Target 3.6 | By 2020, halve global deaths and injuries from road traffic accidents.**

We continue our policy banning cell phone use to conduct company business and encourage employees to do so with families to prevent distracted driving.

#### **SDG Target 3.8 | Achieve universal health care coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.**

Engagement with our Healthy Living platform stayed relatively flat in 2021, while participation in key areas, such as biometric screenings and health risk assessment completion, have improved. We have created a global strategy to help us achieve our 2030 goals and support our employees in achieving and maintaining excellent quality of life. Among our first priorities is to develop a global measurement and reporting process that can be used to track employees' health data in all regions.

#### **SDG Target 3.9 | By 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.**

We made progress on our goals to reduce our emissions footprint worldwide, and with our product stewardship process that helps ensure that all products (new and existing) are safe to make, use, perform as intended, and can be disposed of responsibly.

#### **SDG Target 3.A | Strengthen implementation of the Framework Convention on Tobacco Framework Convention on Tobacco Control in all countries, as appropriate.**

Owens Corning offers many resources to our employees, including on-site group coaching, small group discussions, and nicotine replacement therapy and medications. We are approaching our goal of being 100% tobacco-free. As of the end of 2021, 98.5% of our employees work in tobacco-free facilities.



### Gender Equality

We measure gender diversity across our workforce, and our diversity

efforts include programs for ensuring equity and increasing the participation of women in our business.

#### **SDG Target 5.1 | End all forms of discrimination against all women and girls everywhere.**

Owens Corning believes its success is enhanced by an inclusive and diverse workforce, which adds value to the business by fostering an environment that leads to high engagement and innovative thinking in the workplace. Owens Corning operates programs that foster gender and ethnic diversity as well as equality within its workforce. The company has implemented a robust pay equity gap review, which includes multiple processes and controls that are executed during its hiring and annual merit review. This program is designed to prevent pay equity gaps from occurring. We ensure the success of this review by performing a biennial pay equity review with the assistance of a third-party vendor. The third-party review includes a robust, statistical analysis of pay equity across its global salaried workforce. Consistent with its commitment to "equal pay for equal work," the company remediates all identified and substantiated pay gaps through pay increases. The review in 2021, demonstrated that less than 1.4% of its 5,700 global salaried employees required remediation, at a total cost of less than .02% of annual global salaries. Further, the company has implemented processes and policies to avoid inheriting unequal pay bias of prior employers.

**SDG Target 5.2 | Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.**

We continue to strengthen our processes to ensure our human rights policy is implemented worldwide.

**SDG Target 5.5 | Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.**

Our Women's Inclusion Network (WIN) made significant strides toward its mission to attract, retain, and develop outstanding women through professional development, personal development, and community involvement. Throughout 2021, WIN sponsored a number of events, including a series of panel discussions touching on topics such as planned family leave, career and development planning, and the roles of women in leadership across different cultures.

Our Composites business formed Women in Operations (WIO) in the summer of 2020 to help support and elevate the role of women in the operations team. By its first anniversary in 2021, the group consisted of more than 100 women and allies and effected change throughout the company, with a priority on education, mentoring, networking, and career development. WIO sponsored a wide range of activities over the course of the year, including lunch-and-learns, one-on-one mentor/mentee relationships, mentor circles, and stay interviews.

Women hold 27% of management positions in Owens Corning, and currently there are three women serving as directors on our board, representing 30%.



**Clean Water and Sanitation**

Owens Corning has goals in place to source and consume water responsibly. In addition, Owens Corning has made CDP's Water A List for the third year in a row.

**SDG Target 6.4 | By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.**

By 2030, we aim to cut in half the amount we take from local water supplies in places where water is limited in quantity or quality. In addition, we intend to ensure that our other facilities remain at the same water intensity as our base year of 2018, or lower when aggregated.

**SDG Target 6.6 | By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes.**

Owens Corning has begun the process of deepening our understanding of the biodiversity that exists in the areas where we maintain a presence. Through this work, we will be better equipped to discover how we can preserve and enhance biodiversity and the natural habitats that surround our operations around the world. We will develop biodiversity goals based on an understanding of the full impact of our operations and supply chain on biodiversity by 2025.

**SDG Target 6.B | Support and strengthen the participation of local communities in improving water and sanitation management.**

At Owens Corning, our people and products make the world a better place — and we put that belief into practice through our many community outreach initiatives. We also look for projects that empower our employees to take an active role in their communities.

Owens Corning has a number of long-standing partnerships with U.S.-based charitable organizations, each of which provides vital services to communities across the country. These include Habitat for Humanity, the Gary Sinise Foundation, and World Vision.

Outside the U.S., Owens Corning works with Give2Asia, the Charities Aid Foundation, and the King Baudouin Foundation, to identify appropriate charities in our various regions around the globe, perform the necessary due diligence required by the U.S. Internal Revenue Service and then to transfer the funds. All three of these organizations specialize in helping corporate foundations grant in countries outside of the U.S.



**Affordable and Clean Energy**

As part of our 2030 goal cycle, we will work to reduce energy use from both renewable and non-renewable electricity, as well as other forms of non-renewable energy by 20% from our baseline year.

**SDG Target 7.2 | By 2030, increase substantially the share of renewable energy in the global energy mix.**

**SDG Target 7.3 | By 2030, double of the global rate of improvement in energy efficiency.**

Over our goal cycle, we will work to reduce energy use from both renewable and non-renewable electricity, as well as other forms of non-renewable energy by 20% from our baseline year of 2018. In 2021 — a year of increased production — Owens Corning increased its overall consumption of direct energy, including the fuel usage in operation, by 8.3% from 2020. We increased consumption of indirect energy, which includes the use of electricity, steam, and district heating, by 9.6%. With regard to energy efficiency, we are currently at a 2% energy use reduction in 2021 compared to our 2018 base year.



Purchasing electricity only from renewable sources is a key part of our effort to halve our greenhouse gas emissions. We will also work to reduce the emissions from our processes and improve energy efficiency. In 2021, approximately 51% of our electricity came from renewable sources, which represents continued progress toward our goal in a year of increased production and corresponding electricity consumption.

Overall, our reduction can be attributed to the conservation measures we have taken to significantly reduce energy consumption and improve plant efficiency. Since 2006, Owens Corning has implemented over 1,250 energy-use efficiency and reduction projects in our facilities around the world. The result has been a reduction in estimated usage of more than 1.45 million MWh per year. Additionally, we offer an extensive portfolio of products that can help our customers save energy and avoid emissions. In 2021, 63% of our revenue came from this category of products.

**SDG Target 7.A | By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil fuel technology, and promote investment in energy infrastructure and clean energy technology.**

In 2021, approximately 51% of our electricity across our portfolio globally came from renewable sources, such as wind, hydro, solar, and geothermal.



#### Decent Work and Economic Growth

Our vision for a sustainable enterprise includes attention to environmental and social progress, human rights, and an employee experience that leads employees to want to recommend the company to a friend.

**SDG Target 8.2 | Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.**

In 2021, Owens Corning launched PINK Next Gen™ Fiberglas™ insulation, which features a number of innovations that increase our overall product handprint. In addition to setting a new industry standard for recycled content, PINK Next Gen™ Fiberglas™ insulation is certified made with 100% renewable electricity through the use of power purchase agreements and has earned Underwriter Laboratories GREENGUARD® certification for low volatile organic compounds. The trade association NAIMA estimates that insulation saves 12 times the energy required to manufacture it within the first year of its use, and PINK Next Gen™ Fiberglas™ insulation offers even greater sustainability advantages. It is easy to cut and install and recovers instantly, making the process up to 23% faster.

The FOAMULAR® NGX™ (Next Generation Extruded) insulation line features a proprietary blowing agent that is optimized to demonstrate a greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products. With this advancement, Owens Corning offers customers another way to meet local regulations — and their own sustainability goals — with no diminishment in product performance.

The PAROC® Natura line of stone wool insulation uses low-carbon melting technology, green electricity, recycled waste materials, and new technologies to reduce the amount of virgin raw material used and offer a product with very low CO<sub>2</sub> emissions. The remaining emissions are compensated by reducing CO<sub>2</sub> emissions through the purchase of offsets in a Verified Emissions Reduction Scheme. The new product line, which is certified as carbon-neutral by a third-

party, offers fire-safe, durable insulation that does not decay when wet. PAROC® Natura became available in Finland, Norway, and Sweden at the beginning of 2021.

**SDG Target 8.4 | Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programs on sustainable consumption and production, with developed countries taking the lead.**

Owens Corning is taking every opportunity to transform our operations to a circular economy model, one in which virgin raw materials, waste, energy and emissions are minimized through intelligent design, renewable and recycled input, energy-efficient production, and recycling of products at the end their life cycles. In doing so, we are better positioned to achieve more sustainable economic growth — ensuring that we have a net-positive impact by reducing our environmental footprint and increasing our product handprint.

By 2030, Owens Corning's goal is to establish viable circular economy business models involving our materials and how they are used by collaborating up and down the supply chain, with customers, suppliers, communities, academics, policy makers, government entities, and other organizations. We recognize the need to increase the recycled content and decrease the virgin raw materials used in our products. We plan to develop technical solutions and practical business models for our product materials and packaging to continuously be used for beneficial purposes even after they are no longer used for the original purpose.

We are calling on our partners throughout our value chain to help us in our transition to a circular economy model and meet our 2030 science-based Scope 3 goal to reduce greenhouse gas emissions. We will rely on the companies with which we do business to help develop strategies that will limit the extraction of virgin raw materials and seek out new opportunities to keep products that are at the end of their life out of the landfill and useful within the global economy.

**SDG Target 8.5 | By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.**

A consistent philosophy in the design, application, and administration of total compensation programs globally ensures equitable treatment for all employees independent of gender, age, or status as a member of an underrepresented population, and we conduct biannual pay reviews to ensure our employees are paid equitably.

**SDG Target 8.7 | Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.**

**SDG Target 8.8 | Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.**

To further align our efforts with the UN SDGs, human rights has been a part of our materiality matrix since 2017, and we have devoted a section of this report to our commitment and progress. We continue to strengthen our processes to ensure our human rights policy is implemented worldwide.



#### **Industry, Innovation and Infrastructure**

All three Owens Corning businesses (Composites,

Insulation, and Roofing) engage in research and innovation to deliver products and services that bring performance and durability to infrastructure and the built environment.

**SDG Target 9.1 | Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.**

**SDG Target 9.4 | By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.**

Regarding both 9.1 and 9.4, we develop materials and systems that create resilient buildings and infrastructure. We currently have 15 products that have received "Made with 100% Renewable Electricity and Reduced Embodied Carbon" certification. These products give commercial architects and specifiers the option of low-carbon products to build greener structures.

We offer glass-fiber reinforced bars (rebar), which are corrosion-resistant and helps extend the life of bridges, as well as the PAROC® Natura line of stone wool insulation discussed under SDG Target 8.2.

**SDG Target 9.5 | Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.**

We have established science and technology centers in key markets worldwide. Our 11 global S&T centers employ scientists and engineers with expertise in a wide range of disciplines, including glass science, chemical engineering, fundamental chemistry, and much more. Our S&T organization includes close to 450 people.



#### **Responsible Consumption and Production**

The sustainability practices we have in place for our operations and supply chain reflect the attention to product sustainability and reducing our manufacturing footprint.

**SDG Target 12.4 | By 2030, achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize adverse impacts on human health and the environment.**

Approximately 36% of our locations were certified to ISO 14001, which accounts for 50% of our employees. In addition, approximately 47% of our locations use our internal Owens Corning EMS, which is based on the principles of ISO 14001, accounting for 36% of our employees. Thus, 83% of our locations have implemented an environmental management system, accounting for 86% of our employees. Further, approximately 47% of our locations were certified to the ISO 9001 standard for a QMS (Quality Management System) in 2021, representing approximately 62% of our employees.

We conduct life cycle assessments (LCAs) according to the ISO 14040, 14044, and 14025, as well as ISO 21930 and EN 15804, followed by a third-party review and verification of appropriate product category rules. We have conducted full LCAs on 81% of our products.



**SDG Target 12.5 | By 2030 substantially reduce waste generation through prevention, reduction, recycling and reuse.**

Our goal is to send zero waste to landfill by 2030. We have a two-part plan to achieve this. First, we aim to reduce waste intensity by 50% through improvements to efficiency and process design. We will then repurpose or recycle the remaining waste. In 2021, we achieved a 17% reduction in waste/byproducts generated over the base year of 2018, and a 62% overall waste diversion rate compared to 2018.

**SDG Target 12.6 | Encourage companies, especially large and transnational companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle.**

We disclose sustainability performance on a number of different platforms. Due to timing and data collection requirements, we have not yet published simultaneous financial and sustainability reports, but we are considering what we would need to do to make that possible.

**SDG Target 12.7 | Promote public procurement practices that are sustainable in accordance with national policies and priorities.**

We believe suppliers are critical partners in our sustainability efforts. We discuss our commitments, goals, and expectations in the [Supply Chain Sustainability chapter](#) in this report.



**Climate Change**

To reduce the impact of our operations and activities on global climate change, we focus on accelerating energy efficiency improvements, renewable energy deployment, and greenhouse gas (GHG) emission reductions.

**SDG Target 13.1 | Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries.**

We participate with builders, architects, and engineers to provide technical information and product innovations for resilience in building construction and infrastructure. We work with industry associations and consortia to advance understanding of how our materials help combat the effects of climate change — and help support quality of life as people face climate-related challenges.

In consultation with experts in the field, Owens Corning began work with The Ohio State University in 2020 to expand our efforts to assess the resilience of our strategies against a range of climate-related scenarios and time horizons. These scenarios will focus on risks and opportunities globally and at business level.

**SDG Target 13.3 | Improved education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.**

We provide education throughout the company. Our 2021 Sustainability Summit featured presentations on our sustainability strategies regarding our product handprint and environmental footprint, the circular economy model, embodied carbon, healthy living strategies, inclusion and diversity ambitions and metrics, employee engagement, and safety.



**Partnerships for the Goals**

Collaboration within our supply chain is key to meeting our ambitious 2030 goals. It will require the participation of every stakeholder in our value chain, from suppliers to customers and end users, as well as policymakers, external researchers, and many others.

**SDG Target 17.3 | Mobilize additional financial resources for developing countries from multiple sources.**

In 2021, Owens Corning and the Owens Corning Foundation distributed over \$5 million in cash contributions to nonprofit organizations. A portion of this funding was used for the OC Cares Fund, which is managed by an independent nonprofit. For details about our community engagement initiatives, please see our Community Engagement chapter.

**SDG Target 17.6 | Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.**

**SDG Target 17.16 | Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.**

**SDG Target 17.17 | Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.**

As part of our work to combat climate change and advance sustainability, we increasingly engage with external parties with which we can leverage our expertise and our products. We have partnered with a wide range of trade organizations to expand our reach to consumers and industry professionals, providing us with a platform through which we can promote energy efficiency, renewable energy practices, and other best practices in corporate responsibility. We participate at the board level in many strategically relevant organizations, such as the Residential Energy Services Network (RESNET), Building Performance Institute (BPI), National Association of Home Builders (NAHB), and Energy & Environmental Building Alliance (EEBA). Owens Corning employees also participate on committees and working groups in these organizations.

As we support regulations aimed at the elimination of GHG emissions, we engage extensively with relevant policymakers. Our government affairs team coordinates these efforts and ensures that activities are aligned with our climate change policy. Our corporate affairs and sustainability departments regularly review proposed communications and activities. Owens Corning also actively partners with organizations that drive forward-thinking programs on a range of topics, including advanced standards for energy efficiency and the durability of buildings. This includes our membership in the Carbon Leadership Forum.

One key partnership is Owens Corning's participation in the ZEBRA (Zero Waste Blade ReseArch) project in Europe, a cross-sector consortium launched in 2020 to develop the first 100% recyclable wind turbine blade. A number of products have been manufactured with input from our Chambéry wind lab, including a new thermoplastic resin. In addition, testing is ongoing to identify resin-matrix interface properties that will deliver the optimal solution for our customers. Owens Corning has also been invited to participate and is engaging with another ongoing European consortium focused on deconstructing and recycling first generation wind turbine blades. These blades use thermoset resins which by design are more difficult to deconstruct and recycle. Owens Corning will be exploring options to rejuvenate recovered glass fibers from these processes or remelt in our production facilities which effectively converts unusable glass to new glass made from recycled content.

## THE BETTER PLANTS CHALLENGE



The Better Plants Program, part of the U.S. Department of Energy's Better Buildings Initiative, is composed of over 250 companies that have adopted ambitious goals to conserve energy, reduce water usage, and cut waste. As the DOE seeks to significantly advance energy efficiency in commercial and industrial buildings across the country, they have created the Better Buildings Challenge, as well as its industrial counterpart, the Better Plants Challenge.

Owens Corning was one of four companies to sign on to the Better Plants Challenge in 2020. Challenge partners join other industry and community leaders to create and share real solutions that reduce energy consumption, create jobs, and save money. The Challenge requires an additional commitment from partners to share their corporate data, solutions, and successes in the form of showcase projects and implementation models to help guide other industrial companies with implementing real-world energy solutions in their facilities. In return, partners gain enhanced recognition from the Department of Energy.

**Our Challenge Partner targets are as follows:**

- **28% energy efficiency improvement** by 2030.
- **15% water withdrawal intensity** improvement by 2030.
- **Zero waste-to-landfill** by 2030.

To ensure uniformity with reporting, we will be using 2018 as our baseline for these targets.

According to the Department of Energy, partners in this initiative have together saved more than \$8 billion in cumulative energy costs and 1.7 quadrillion British thermal units (BTUs) since the program began. More information about these targets and their relevance to our overall sustainability goals can be found in their related chapters.



Photo submitted by:  
**Claudia Cantu | Houston, Texas, U.S.**  
Darrell Flanagan, an operator at the Houston Roofing plant.

# BOARD LEADERSHIP

In the sustainability world, we often discuss ESG impacts, which refer to three key elements of our approach — environmental, social, and governance. For the governance portion of this approach, we rely on our board of directors to provide essential leadership. The individuals who serve on our board share our commitment to reducing our negative impacts, increasing our positive impacts, and maintaining ethical standards, while also ensuring the growth of the company.

## The Owens Corning Board of Directors

Owens Corning's board of directors consists of one executive director and nine independent non-executive directors. Of these 10 individuals, three are people of color and three are female. Those board members are noted with an asterisk (\*) below.

NAME	SIGNIFICANT POSITIONS & COMMITMENTS	GENDER	AGE	INITIAL YEAR AS A DIRECTOR	ROLE
Mr. Brian Chambers	President, CEO, and Chair of the Board for Owens Corning	Male	55	2019	Executive
Mr. Eduardo E. Cordeiro*	Former Executive Vice President, CFO of Cabot Corporation, Director at FMC Corporation	Male	54	2019	Independent Non-Executive Director
Ms. Adrienne D. Elsner*	Former President, Chief Executive Officer and Director of Charlotte's Web Holding, Inc. Former President of U.S. Snacks, Kellogg Company	Female	59	2018	Independent Non-Executive Director
Mr. Alfred E. Festa	Former Chairman and CEO, W.R. Grace & Company	Male	62	2020	Independent Non-Executive Director
Mr. Edward F. Lonergan	Executive Chairman of Zep, Inc., Chairman of DRB Systems Inc, Former Director of The Schwan Food Company, Senior Advisor at New Mountain Capital	Male	62	2013	Independent Non-Executive Director
Ms. Maryann T. Mannen*	Executive Vice President and CFO of Marathon Petroleum Corporation	Female	59	2014	Independent Non-Executive Director
Mr. Paul E. Martin*	Former Senior Vice President and Chief Information Officer for Baxter International Inc.	Male	63	2021	Independent Non-Executive Director
Mr. W. Howard Morris*	President and Chief Investment Officer of The Prairie & Tireman Group	Male	61	2007	Independent Non-Executive Director
Ms. Suzanne P. Nimocks*	Former Senior Partner of McKinsey & Company, Director of Ovintiv Inc, Valaris plc, and ArcelorMittal	Female	63	2012	Independent Non-Executive Director
Mr. John D. Williams	President, CEO and Director of Domtar Corporation, Director of Form Technologies	Male	67	2011	Independent Non-Executive Director



The board has five committees:

- Audit committee.
- Compensation committee.
- Executive committee.
- Finance committee.
- Governance and nominating committee.

Information about these committees and their responsibilities can be found in the Board and Committee Membership section of our [2022 Proxy Statement](#) and on the [Owens Corning website](#).

### Current Leadership Structure

Brian D. Chambers assumed the chief executive role in April 2019, and became board chair in April 2020. In April 2021, Suzanne P. Nimocks began a two-year term as lead independent director. The board of directors has complete access to the company's management, with an ongoing ability to review the board's leadership structure and make changes as it deems necessary and appropriate. This gives them the flexibility to meet varying business, personnel, and organizational needs over time.

All board members, other than our board chair and CEO, are independent under all applicable legal, regulatory, and stock exchange requirements. Six board members have relevant experience in industrials and materials sectors where our products are sold. Average tenure on the board is currently six years. The board believes that the current and future leadership structure is appropriate for Owens Corning considering our company's governance structure, current needs, and business environment, as well as the unique talents, experiences, and attributes of the individuals in these roles. More information about the individual board members and their competencies can be found in our most recent Proxy Statement.

The board of directors met five times in 2021. Board and board committee meetings had attendance rates of 99%. Each of our directors attended at least 75% of the meetings of the board and the board committees on which he or she served. In 2021, the non-management directors met in executive session five times. Our lead independent director (LID) presides over all executive sessions of the board meetings attended by the LID.

### Nomination and Selection of Qualified Board Members

The board of directors is responsible for nominating candidates to the board, who are then elected by stockholders. They also fill vacancies that may occur between annual meetings of stockholders.

Owens Corning has formal procedures in place for the nomination and selection of potential board members. The governance and nominating committee is authorized to recommend only those candidates who meet our Director Qualification Standards. For a company director to be considered independent, the board of directors must affirm that the individual has no direct or indirect relationship with the company other than as director. Nominees for director are selected based on a wide range of criteria, including:

- Experience.
- Knowledge.
- Skills.
- Expertise.
- Mature judgment.
- Acumen.
- Character.
- Integrity.
- Diversity.
- The ability to make analytical inquiries.
- Understanding of the company's business environment.
- Willingness to devote adequate time and effort to board responsibilities.

As outlined in our bylaws, each board member is elected individually on an annual basis and must receive the majority of the votes. All our current non-executive directors have no more than four additional mandates to public boards, as required by our qualification standards.

The governance and nominating committee examines principal skills to evaluate the director's experience and qualifications to serve as director. With respect to sustainability, the committee assesses experience in or management responsibility for furthering sustainable business practices that address environmental, social, or ethical issues. Nine of our current board members demonstrate this skill.

Because we believe diversity enhances the board's ability to manage and direct the company, the committee considers diversity when identifying director nominees, as required by its charter and corporate governance guidelines. In this context, diversity refers to gender, race, ethnicity, nationality, national origin, or other elements of an individual's identity. The effectiveness of this process is assessed annually by the full board as part of its self-evaluation process.

Management Oversight of Sustainability

According to our Directors’ Code of Conduct, sustainability includes the following concepts:

- Environmental compliance.
- Product stewardship.
- Personal safety.
- The environmental and social impacts of our global operations and the products we make and sell.

Both the audit committee and the board of directors as a whole retain some oversight responsibility for environmental, health and safety risks. Directors are expected to provide oversight, guidance, and direction on sustainability issues and opportunities that potentially impact our reputation and long-term economic viability. These sustainability issues include energy reduction, renewable energy, water scarcity, and waste reduction. We have a sustainability governance structure to discuss and make decisions on all issues related to economic, environmental, and social aspects. Because the board of directors is responsible for overseeing risk for Owens Corning, they are also responsible for oversight of climate-related issues and opportunities.

According to the Audit Committee Charter:

- The committee is responsible to review the impact of significant regulatory changes, proposed regulatory changes and accounting or reporting developments, including significant reporting developments related to the principles of sustainability.

More information about risk oversight can be found in the [Risk section](#) of this report.



Oversight of sustainability — including all elements of our 2030 sustainability goals — lies with the board of directors. In addition, our audit committee has oversight responsibilities for Environmental, Health, and Safety.

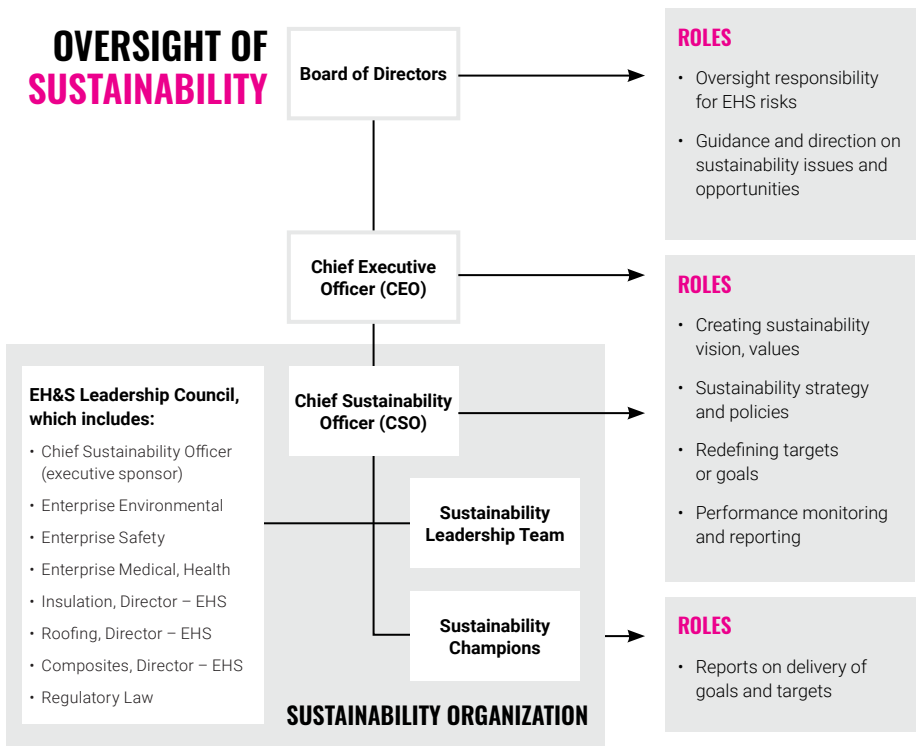
Owens Corning created the chief sustainability officer (CSO) role in 2007 to underscore the essential role sustainability plays in our overall operations. The CSO reports directly to the CEO and is responsible for our compliance with legal and company requirements related to environmental, safety, health, and sustainability. In addition, a sustainability organization, made up of approximately 50 employees, reports to the CSO. This team is accountable for circular economy, product stewardship, supply chain sustainability, sustainability and reporting analytics, operations sustainability, medical, and EHS (environmental, health, and safety).

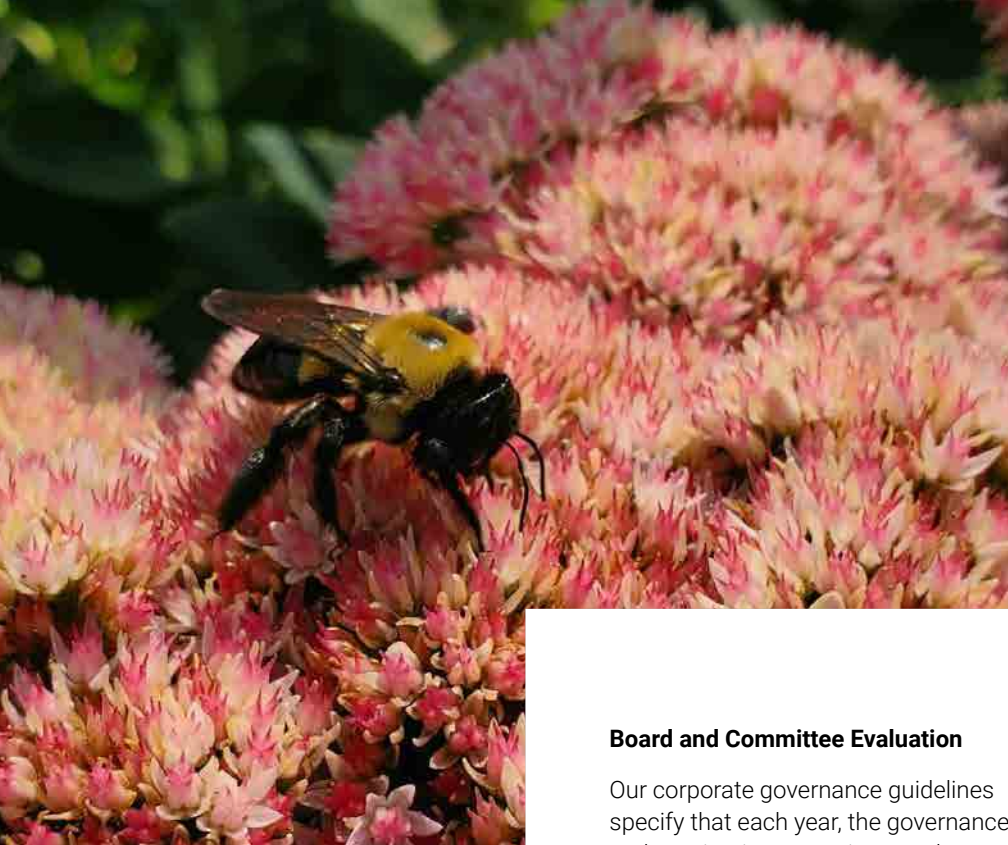
Vision and values related to sustainability are created by the CEO and the CSO. They also create, maintain, and promote sustainability strategy and policies, and they redefine targets and goals as needed.

The CSO and his organization are responsible for monitoring and reporting performance. Our environmental metrics and data are monitored using the EcoStruxure™ Resource Advisor system from Schneider Electric. Data is entered into the system, where it can be reviewed and analyzed. The sustainability leadership team meets regularly to:

- Review initiatives and performance against metrics.
- Debate current trends in the market.
- Evaluate the transparency of our product attributes and the level of information needed to satisfy customers.
- Understand increasing stakeholder expectations.

Climate-related issues are addressed through our risk management process and included in our risk registers, which are developed by the business and legal teams from the plant level up.





### Board Education

New directors undergo an orientation program covering a wide range of topics, including strategic plans and significant issues related to finance, accounting, and risk management issues to ensure they are fully knowledgeable about our company. They also review compliance programs, conflict policies, codes of business conduct and ethics, and governance guidelines. The orientation also includes opportunities to familiarize themselves with principal officers, internal auditors, and independent auditors, as well as receive briefings from the CEO and management.

Following the orientation process, directors are expected to continue learning about our business and related issues, so they maintain the necessary expertise and competency to perform their responsibilities as directors. This continued learning includes consultations with our executive officers, reviewing relevant materials, visiting offices and plants, and participating in third-party educational programs. The governance and nominating committee also receives periodic updates on environmental, social, and governance issues.

### Board and Committee Evaluation

Our corporate governance guidelines specify that each year, the governance and nominating committee evaluates the effectiveness of the board, its five committees, the chair and CEO, and committee charters. The evaluation process is as follows:

- The board and its committees complete annual self-assessment questionnaires and have individual discussions with the lead independent director to evaluate effectiveness in several areas, including board composition, structure, and process.
- The completed questionnaires are submitted directly to a third-party law firm, which summarizes the results.
- The governance and nominating committee circulates the summarized results to all directors, except for results related to evaluation of the chair and CEO. Those are sent to the independent directors, to be discussed in an executive session of the non-management directors.

### Conflicts of Interest

We have written policies and procedures in place related to avoiding, managing, and disclosing conflicts of interest by directors, officers, employees, and members of their immediate families.

As indicated in our Directors' Code of Conduct, a director who has an actual or potential conflict of interest must disclose the following to the chair of the board and the chair of the governance and nominating committee:

- The existence and nature of the actual or potential conflict of interest.
- All facts known to him or her regarding the transaction that may be material to a judgment about whether to proceed with the transaction.

The director may proceed with the transaction only after receiving approval from the governance and nominating committee. In our annual proxy statement, we disclose transactions between board members and their immediate families. For related-party transactions (RPTs) that are subject to the FASB Accounting Standards Codification (ASC) Topic 850, we comply with additional disclosure requirements. We also disclose with suppliers and other stakeholders all other conflicts of interest, such as the existence of controlling shareholders, cross-board membership, and cross-sharing.

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Photo submitted by:  
**Danyelle Lynne Phelps | Granville, Ohio, U.S.**  
 The carpenter bee, a valuable pollinator in the ecosystem.



## Executive Compensation

Owens Corning continually monitors the evolution of compensation best practices, as we review the relationship between company performance and compensation and the goals and targets we set. Individual goals and targets are designed to ensure that Owens Corning meets its financial and environmental goals while operating as an ethical company. In addition, Owens Corning has a fully non-executive compensation committee made up of all independent members.

Our CEO and our named executive officers (NEOs) have substantial “pay at risk,” with 85% of our CEO’s and 74% of our NEOs’ target compensation being tied to annual and long-term incentives (as opposed to base salaries). Actual annual incentives and long-term incentive awards are subject to the achievement of preestablished performance requirements and designed to align with stockholder value. Base salary and other fixed elements of compensation are essential to any compensation program and enable the recruitment and retention of top talent. However, we believe that variable compensation for our most senior executives should significantly outweigh base salaries.

For a more detailed discussion of executive compensation, including ways we apply internal and external financial success metrics, please see the Executive Compensation section of our latest [Proxy Statement](#), published in March 2022.

## Stakeholder Consultation and Communication

To better understand our stakeholders’ expectations and priorities, we proactively engage and consult with individuals, groups, and organizations that are impacted by our business operations. We rely on stakeholder guidance and direction to choose our business strategies and priorities, and from them we learn what is and is not working. We invite stakeholders to communicate with us on any economic, environmental, or social topic related to our business. The collective stakeholder input is crucial to the board’s fulfillment of its duties and responsibilities. It directly informs the board’s identification and management of economic, environmental, and social matters and their impacts, risks, and opportunities.

We also invite all our stockholders and other interested parties to communicate with our board on any critical concerns they might have about our business. Interested parties may communicate with the lead independent director or any other non-management director by sending an email to [non-managementdirectors@owenscorning.com](mailto:non-managementdirectors@owenscorning.com). All such communications are promptly reviewed for evaluation and appropriate follow-up by our general counsel and/or our vice president, internal audit. A summary of all communications is reported to the non-management directors. This does not include communications considered to be advertisements or other types of “spam” or “junk” messages unrelated to the board’s duties or responsibilities, which are discarded without further action.

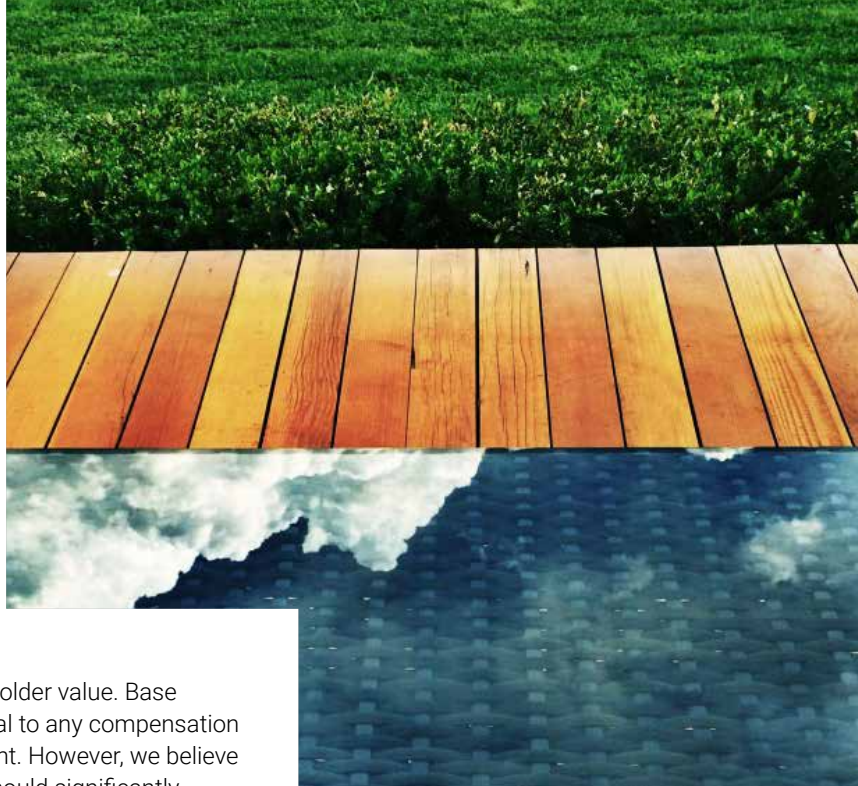


Photo submitted by:

**Douglas Gremel | Sward, Nebraska, U.S.**

A view from the front porch, featuring the deck, lawn, and the sky reflected in the glass top of the porch furniture.

In addition, stakeholders and other interested parties may communicate sustainability concerns with the senior vice president and chief sustainability officer (CSO) via his email address, his assistant, our sustainability email address, or telephone. All business-appropriate inquiries are handled by the CSO directly, or they are passed on to corporate communications, legal, or other company function for appropriate action or response.

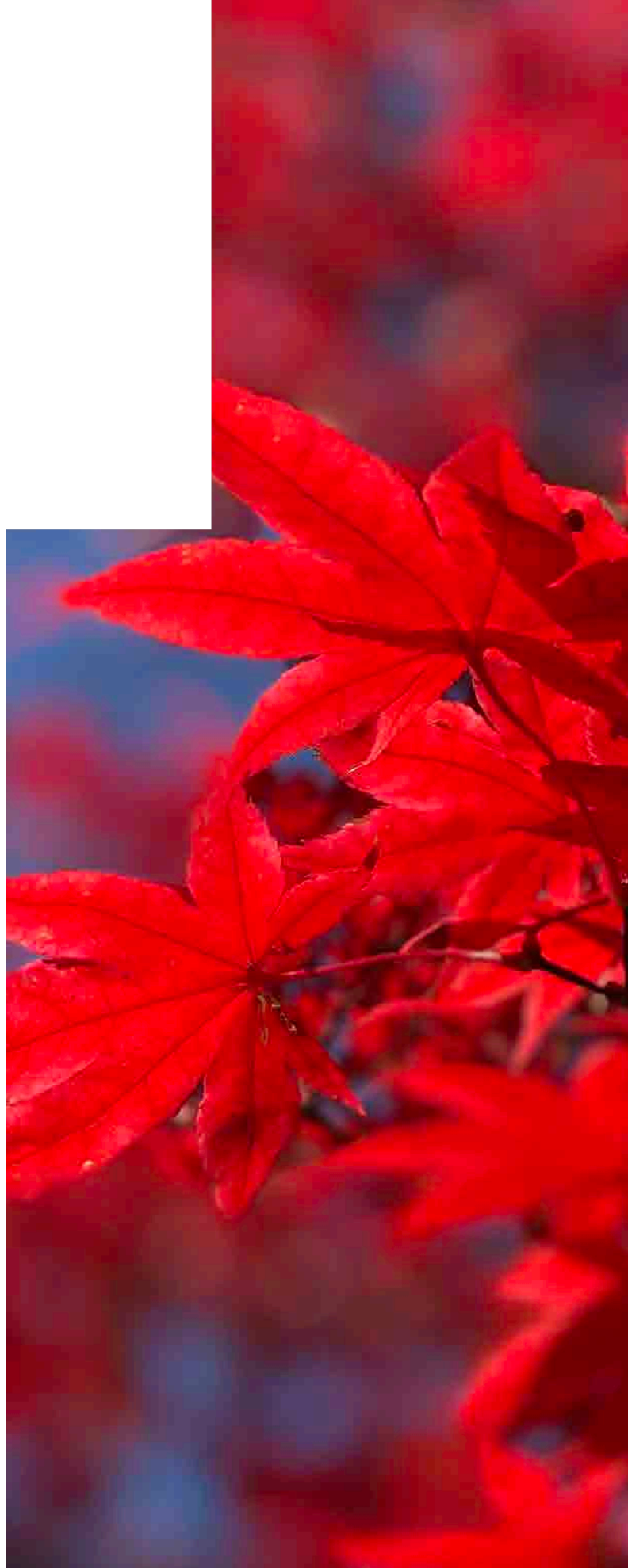
Communications alleging fraud or serious misconduct by directors or executive officers are immediately reported to the lead independent director. Complaints regarding business conduct policies, corporate governance matters, accounting controls, or auditing are managed and reported in accordance with Owens Corning’s existing audit committee complaint policy or business conduct complaint procedure, as appropriate.

## GOING FORWARD

Achieving our sustainability goals requires a concerted effort on the part of everyone at Owens Corning, and we are proud that these efforts are supported by the individuals who make up our board of directors. They have provided steadfast guidance throughout our sustainability journey, and their leadership and dedication give us added confidence as we look ahead to 2030.

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Photo submitted by:  
**Amanda Meehan | Toledo, Ohio, U.S.**  
Japanese maple leaves.



# RISK MANAGEMENT

## In this chapter:

- OUR APPROACH
- SUMMARY OF KEY RISKS
- GOING FORWARD

Owens Corning recognizes the need to assess and manage risk as an essential part of our ESG (environmental, social, and governance) responsibilities. By identifying risks across all aspects of our operations, we can proactively manage the risks that are directly related to sustainability.

In this section, we describe the structures Owens Corning has in place to manage risk, as well as the specific risks that we anticipate over coming years. This includes risks that are specific to our sustainability efforts.

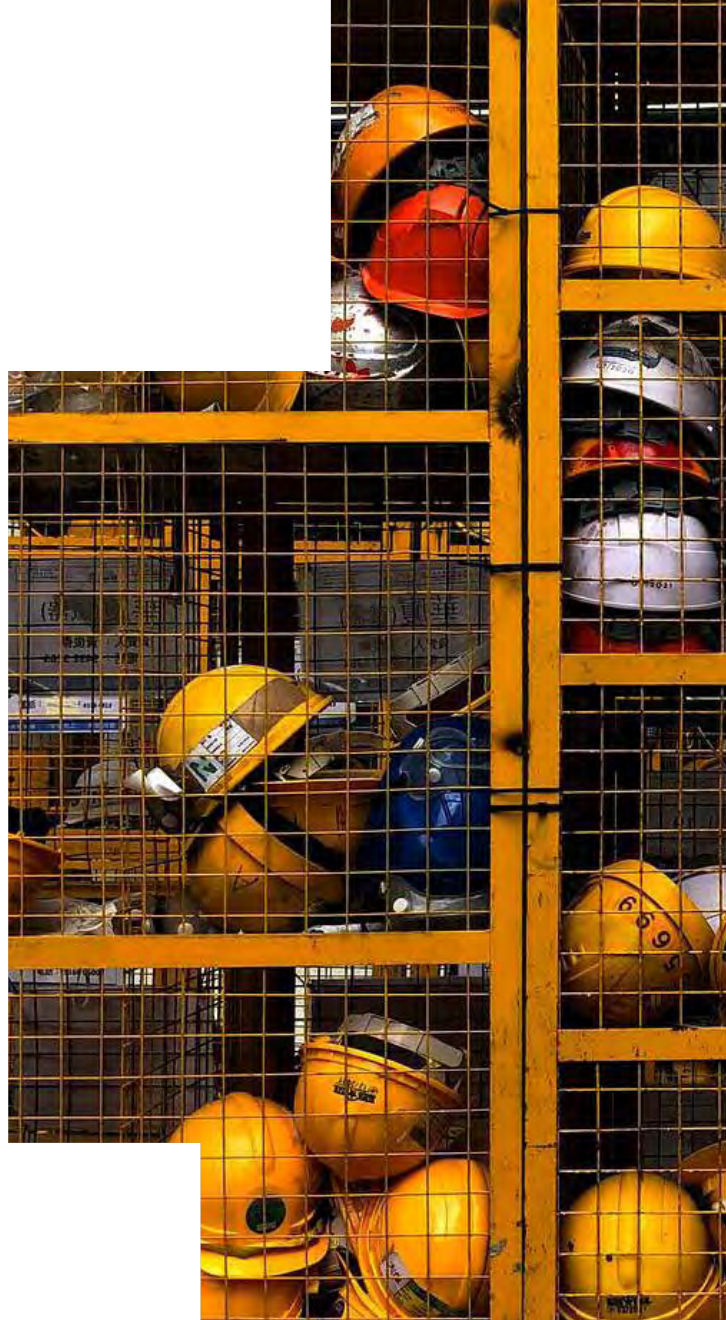


Photo submitted by:  
**Ron Barten | Tessenderlo, Belgium**  
Personal protective equipment used at the  
Tessenderlo plant.



## OUR APPROACH

Owens Corning identifies and manages risk across economic, environmental, and social domains. Our forward-thinking, holistic approach to managing risk enables us to make effective business decisions that help us build long-term financial goals and shape our future success.

### Oversight and Management

Enterprise Risk Management (ERM) is owned by the executive committee, who delegates its management to the risk committee. The executive committee then monitors the risk committee's management of ERM, culminating in a final review by the audit committee of the board.

The risk committee is responsible for overseeing and monitoring our risk assessment and mitigation actions. The risk committee is not a board committee; instead, it is a cross-functional committee that includes members across many areas of expertise. It is also structurally independent of our business lines. This internal group identifies risks and mitigation strategies, and it provides key updates to executive officers and the audit committee.

In 2020, the risk committee's membership was amended to ensure greater diversity of thought related to risk, including more functions and expanded geographic representation. Members from corporate functions include internal audit, legal, treasury, corporate strategy and financial planning, sourcing and supply chain, and IT. They were joined by individuals representing operations, human resources, commercial strategy, and science and technology within the businesses. In addition, safety

and environmental concerns were expanded in the core risk register, which increases the extent to which sustainability issues are embedded into the enterprise-wide risk process.

The risk committee reports to the executive committee, and it is specifically sponsored by both the chief financial officer and general counsel, who are themselves members of the executive committee. In support of these efforts, the independent corporate audit function systematically addresses risk throughout the organization. Audit results are reviewed with the audit committee of the board of directors, which has primary responsibility for assisting the board's oversight of risk. The audit committee's responsibilities include:

- Discussion of guidelines and policies that govern the process by which senior management and relevant departments access and manage the company's exposure to risk.
- Annual review of, and quarterly updates on, identification of Owens Corning's key risks, major financial exposures, and related mitigation plans.
- Oversight of our management of the key risks and major financial exposures that fall within the audit committee's specific purview.

- Assurance that the board and its committees oversee our management's key risks and major financial exposures within their respective purviews.

- Quarterly evaluation of the effectiveness of the above-referenced process of oversight.

In addition to the ERM process, three board committees — compensation, finance, and governance and nominating — review and evaluate risks associated with their respective areas. Each board committee reports on its respective risk management activities to the board, and the board then considers such reports.

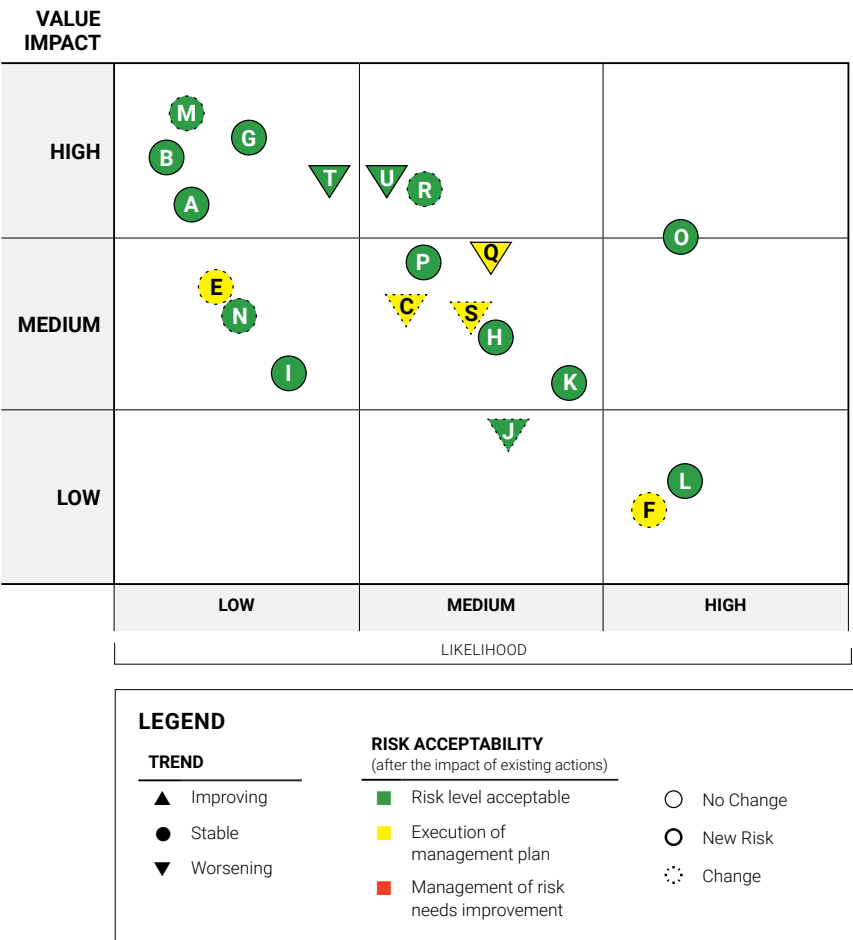
Between annual reviews, the registers are reviewed by the business stakeholders, and the risk committee meets quarterly to discuss any applicable updates. The risk registers are also reviewed quarterly by both the audit committee and the executive committee, regardless of any planned updates, to ensure that no risks are missed by the risk committee. Should any material updates be made, these are then reviewed with the executive committee and audit committee of the board as well.

Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
A Paroc employee inspects plant machinery.

Risk Registers

Owens Corning’s business units proactively analyze risks and create business- and function-specific risk registers. We currently have an enterprise risk register and sub-registers for each of our three businesses, as well as compliance and finance. The risk committee uses these individual risk registers to create an enterprise risk register, which enables business units and the risk committee to facilitate strategic and operational planning processes while mitigating sustainability and other risks.

Risks are prioritized based on their placement in the risk register. The Y-axis (“Value”) represents the potential financial impact, while the X-axis (“Likelihood”) represents the probability of occurrence. Color coding (for risk acceptability) and different shapes (for trending information) offer a fuller understanding of the potential risks. In 2021, we added the concept of risk velocity to our conceptualization of risk, describing the potential rate at which a risk could impact our businesses. While risk velocity is not depicted on the risk register in an infographic manner, the concept is described in conjunction with the overall register narrative. By incorporating the idea of risk velocity into our understanding of risk, we gain a better understanding impending impacts, which enables us to be proactive in our approach.



Example of a risk register for demonstration purposes.

To identify new risks – and update risks no longer considered important – the risk committee conducts quarterly reviews of results and outputs of risk assessments. The risk committee’s quarterly meetings enable them to review and report on robust mitigation plans across businesses as well as corporate functions. Our ERM process is also reviewed quarterly by the audit committee of the board to ensure it remains relevant and proactive.

Risk on a Page

Owens Corning encourages active learning through risk mapping, and in 2020 we implemented a new tool called Risk on a Page. The new model requires each risk to be presented separately, with dedicated team members playing an active role in managing each individual risk. The tool is used to describe key information about the risk such as risk trend, risk velocity, mitigating actions, and its link to strategic plan. It also includes a map of the risk that depicts its status, from Inherent Risk to Residual Risk, to pictorially represent the impact of mitigating actions, as well as the final mitigated position of the risk for the sub-register or enterprise register.

Each risk has two sponsors, one from the risk committee and one from the executive committee, and each risk has its own risk owner and subject matter expert. The subject matter expert and risk owner are responsible for ensuring we have mitigating actions in place for each risk, and that there is consistent progress being made toward mitigation. Risk owners are responsible for the overall management of the risk and communicating cross-functionally and vertically through the organization, ensuring visibility of the risk in all elements of strategic planning. This approach enables us to drive updates to the risk register, as sub-register risks roll up to the enterprise level. The implementation of the tool required extra training in 2020, which will be refreshed for new stakeholders each year.

## Risk Mitigation Framework

### Risk Management Training

Our enterprise risk management function (and philosophy) is dispersed throughout the organization at all levels, and we ensure that risk registers are updated through risk liaisons. Each sub-register has a risk liaison, who is responsible for facilitating updates to their respective sub-register. Risk liaisons receive thorough training from the corporate risk leader, and they then go on to train subject matter experts and risk owners in their respective businesses or corporate areas. As part of this process, individuals are trained in our approach to Enterprise Risk Management.

Additionally, the legal department initiates annual training on our Business Code of Conduct and antitrust policies globally to broadly address key compliance risks. Each business is required to complete strategic planning, covering risk management and strategic risk. Owens Corning conducts regular and ongoing risk management training for personnel in the risk committee and risk functions, including sourcing and finance globally.

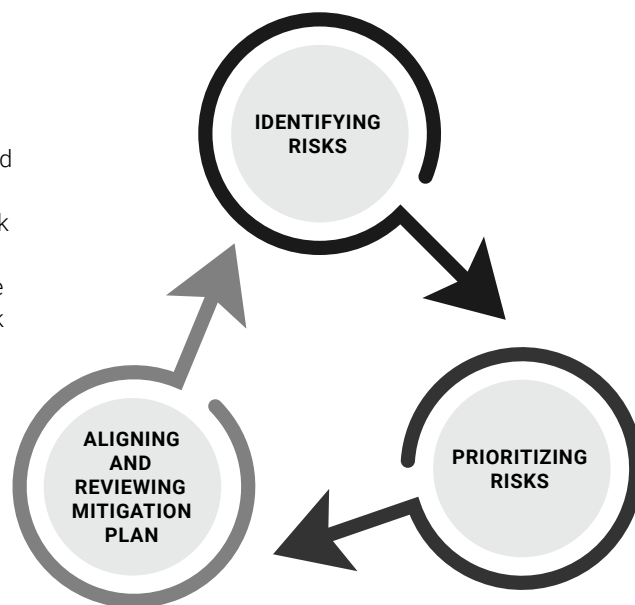
### Risk Management and Human Resources

Effective risk management is considered in our human resources (HR) processes for employees who are responsible for identifying and continually progressing mitigation strategies for risks in their daily job responsibilities. This is evidenced by our risk management process, which includes development of risk registers at the enterprise level, business unit level, and corporate function level. In support of our efforts to reduce risk in HR, Owens Corning has implemented an executive committee review, which details talent health, leadership succession, hiring and developing capabilities, retention, and inclusion and diversity progress.

### Engaging Employees in Risk Management

Many employees are involved in risk identification, as we encourage them to identify new risks to the organization through questionnaires, interviews, and the regular update of the business and enterprise risk registers. During these reviews, employees are given a forum to provide feedback. Potential risks regarding such items as sourcing, safety, environmental, and HR are raised at the plant level, and their learnings are shared across the company and are evaluated at the leadership team level in each facility; when appropriate, they are compiled into the business unit-level risk register. Once within the risk register, processes are established and appropriate employees are trained. There is also focused web-based loss-control training available for plant personnel.

In keeping with our culture of safety, employees are encouraged to be proactive in their management of risk. An example of this can be found in our integration of Total Productive Maintenance (TPM) into our operations. TPM emphasizes proactive and preventive activities to maintain, operate, and improve production. All employees are involved in maintaining their own process during production, which creates a shared responsibility for equipment and increases involvement from everyone. In addition, hazard recognition and near-miss reporting are significant tools within our safety culture and throughout the plant network.



Employees are encouraged to report their concerns to any manager, member of human resources or legal operations, or any member of our business conduct council (BCC). Employees may also submit their concerns (anonymously) to our BCC through a confidential helpline (1-800-461-9330) or web portal, operated by a third-party service provider. Employees can also report their concerns to the council using a designated email ([ethicalbusinesscomplaints@owenscorning.com](mailto:ethicalbusinesscomplaints@owenscorning.com)) address or a dedicated postal mailbox.

Key executives are also engaged to review areas of risk, as they are interviewed each year by our internal audit team as they develop an audit plan. In 2020, we began to integrate this with our ERM. Each quarter, the three businesses, finance, and compliance refresh their risk registers and identifies any new or materially changed risks and how they relate to the strategic plan.

This emphasis on risk also extends to new acquisitions. As part of our due diligence in the acquisition process, we evaluate the risk for items such as environment, safety, financial, IT, product stewardship, HR, and sourcing. For example, the process for safety includes leading indicator analysis and injury review calls, where each facility that has a "high-risk" first aid or injury incident shares best practices.



## SUMMARY OF KEY RISKS

Owens Corning is subject to a diverse array of risks, which vary greatly in importance and likelihood. Some are directly related to the competitive nature of our business and our operations, while others are the result of external forces, including weather-related phenomena. Using correlation analysis, we assess the likelihood of an event occurring within a specific period, then prioritize and develop strategic plans

accordingly. We apply this analysis to our key external business drivers, such as housing starts, hurricanes and other severe weather conditions, and wind-power growth rates.

For example, our analysis indicates that the North American building insulation business is highly correlated to new home starts. Based on actual and forecasted home starts, the business develops its strategic plan and makes the appropriate tactical maneuvers to right-size our capacity and workforce. Additionally, energy, commodity, and foreign currency hedging programs are routinely evaluated to provide inputs into our correlation analysis.

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## Sustainability Risks

For purposes of this report, we recognize the need to highlight potential risks that are specific to our sustainability efforts. In addition, we believe it is important for investors to understand the emerging long-term risks that we may face in the future.

Both the board of directors and its audit committee retain some oversight responsibility for environmental, health, and safety risks. In addition, directors are expected to provide oversight, guidance, and direction on sustainability issues and opportunities that have potential impact on our reputation and long-term economic viability. The following risks are also relevant to our sustainability efforts as outlined in this report:

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## Emerging Risks

### Climate Change and Associated Weather Conditions

While the science behind climate change has been clear for a long time, the gravity of the situation is becoming increasingly apparent. The world is recognizing the need to act quickly and decisively to mitigate the emerging risks that climate change poses for the safety, health, and economic well-being of people everywhere.

Given our understanding of the physical risks associated with climate change, Owens Corning has set targets aligned with the latest findings from the Intergovernmental Panel on Climate Change (IPCC). To avoid the worst impacts of climate change, the IPCC urges that temperature rise should be held below 1.5° C. Informed by this latest climate science information, we seek to reduce our Scope 1 and Scope 2 greenhouse gas emissions by 50% by 2030, and our Scope 3 emissions by 30%. The Science Based Targets initiative has verified that Owens Corning's greenhouse gas emissions reduction goals align to this standard.

Owens Corning continues to assess all the potential risks associated with climate change to gain a fuller understanding of the many ways that climate-related risks can impact operations across our entire value chain. As weather conditions shift, severe storms can have a significant impact on the markets for residential and commercial construction, repair and improvement, as well as a material adverse impact on our results of operations. Among our customers, severe weather conditions could slow or limit residential or commercial construction activity, which in turn could adversely affect demand for our products. Within our own operations, extreme weather can lead to disruptions in our manufacturing capacities,

as damages to our facilities may occur. In addition, as weather-based disruptions become more common, we could experience difficulties in obtaining affordable insurance. Adverse weather conditions can also have a negative impact on our suppliers, hindering our ability to obtain the materials needed to maintain our own operations.

### Climate Change and Associated Transitional Risks

Owens Corning is subject to or has chosen to voluntarily participate in Emissions Trading Schemes (ETS) around the world, such as the Alberta Technology Innovation and Emissions Reduction, EU Emissions Trading System, California's Cap-and-Trade system, the Canadian Federal Output-Based Pricing System, the Québec Cap-and-Trade system, and South Korea's Emissions Trading Scheme. Expansions to these schemes could impact us by reducing our carbon allowances, thus increasing our operating costs in those countries.

With the further reductions in allowances through Phase 4 of the European Union ETS, for example, we forecast that our allowances will be depleted after 2021, which will require us to begin purchasing credits.

Phase 4 applies to the period 2021-2030. Volatility in carbon market pricing creates additional risk. Our course of action in managing these risks involves: interacting with the commission regarding the implementation of the EU Green Deal and Fit-for-55 package; pursuit of R&D initiatives involving a change in material composition or in manufacturing processes to enable emissions reductions; and implementation of energy and GHG reduction projects.

We also anticipate transitional risks as climate-change legislation and other environmental mandates lead to increases in energy prices. This can have an adverse effect on our operations, as it can represent a cost increase that we may not be able to pass along to the customer.

Owens Corning has strategies in place to mitigate these risks. Chief among them is our commitment to the circular economy model, in which we work to avoid the use of virgin raw materials whenever possible, manufacture products to deliver the least negative environmental impact, and ensure that materials used in our products and packaging remain in the economy indefinitely. Our [Circular Economy chapter](#) in this report describes our commitment to this model in greater detail.

In consultation with experts in the field, Owens Corning began work with The Ohio State University in 2020 to expand our efforts to assess the resilience of our strategies against a range of climate-related scenarios and time horizons. These scenarios will focus on risks and opportunities globally and at the business level. For further discussion of our climate change risks, our management of those risks, and related opportunities, please see our CDP Climate Change 2022 Report, which will be posted on the Owens Corning website later this year. More information related to this topic is also presented in the TCFD climate risk discussion in [Appendix G](#).

### Loss of Highly Skilled Personnel

Owens Corning depends on our senior management team and other skilled and experienced personnel to operate our business effectively. These individuals possess skills in many areas that are important to the operation of our business, sales, marketing, manufacturing, logistical, financial, business strategy, and administrative skills. The loss of any of these individuals or the failure to attract additional personnel could adversely impact our financial condition and results of operations.

This is especially true as we seek to address potential staffing losses at our Science & Technology Centers, where we rely on individuals with very specific knowledge. Our technical staff brings an in-depth knowledge of our products, our processes, and our industry — knowledge that is essential to our ability to innovate — and replacing them when they retire presents significant challenges.

The loss of any of these individuals or an inability to attract additional personnel could prevent us from implementing our business strategy and could adversely impact our business and our future financial condition or results of operations. Owens Corning considers this a long-term emerging risk as many of these existing senior management personnel and skilled and experienced personnel will be at retirement age in the next 3-5 years.

We are working to mitigate this risk through phased retirement, which helps create a smooth transition for employees as they retire. This includes a program through which employees nearing retirement are given the opportunity to work parttime while still receiving full-time benefits. As employees prepare for retirement, they can pass along their insights and expertise, helping ensure that Owens Corning has the opportunity to continue moving forward with minimal disruption.

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## Additional Risks

Our 2021 Annual Report on Form 10-K offers an in-depth discussion of our quantitative and qualitative risks, as well as our approach for managing them. The impact of the COVID-19 pandemic may exacerbate the risks discussed in this section. The impact depends on the severity and duration of the current COVID-19 pandemic and actions taken by governmental authorities and other third parties in response, each of which is uncertain, changing, and difficult to predict.

Some of the key risks that directly impact our operations include the following:

1. Low levels of residential, commercial, or industrial construction activity, which can have a material adverse impact on our business and results of operations.
2. Significant competition in the markets we serve, against which we may not be able to compete successfully.
3. Rapid fall in sales due to declines in demand. This can occur because we do not operate under long-term volume agreements to supply our customers and because of customer concentration in certain segments.
4. Worldwide economic conditions and credit tightening, which could have a material adverse impact on the company.
5. Risks associated with our international operations.
6. Natural disasters, catastrophes, pandemics, theft, or sabotage, against which we may not be adequately insured, or which may cause serious harm.
7. Climate change, adverse weather conditions, and the level of severe storms, which could have a material adverse impact on our results of operations.
8. Cost increases or reduced availability of energy, materials, or transportation. This could reduce our margins and have a material adverse impact on our business, financial condition, and results of operations.
9. Risks associated with our efforts in acquiring and integrating other businesses, establishing joint ventures, expanding our production capacity, or divesting assets.

10. Potential product liability and warranty claims, for which we may not accurately estimate related costs, or we may not have sufficient insurance coverage available to cover such claims.
  11. Uninsured judgments or a rise in insurance premiums. This may adversely impact our business, financial condition, and results of operations, as we are subject to various legal and regulatory proceedings, including litigation in ordinary course of business.
  12. Potentially substantial expenditures related to our liability under and compliance with environmental and emerging product-based laws and regulations.
  13. Failure of our intellectual property rights to provide meaningful commercial protection for our products or brands. This could enable third parties to assert that we violate their intellectual property rights, which could adversely impact our business, financial condition, and results of operations.
  14. Our level of indebtedness. This could adversely affect our business, financial condition, or results of operations.
  15. Downgrades of our credit ratings.
  16. If we were required to write down all or part of our goodwill or other indefinite-lived intangible assets, our results of operations or financial condition could be materially adversely affected in a particular period.
  17. Ongoing efforts to increase productivity and reduce costs. These may not result in anticipated savings.
  18. High levels of fixed costs. This would be incurred regardless of our level of business activity, given that our operations require substantial capital.
  19. Failure of hedging activities to address energy price fluctuations to offset increases in those costs or potentially reducing or eliminating the benefits of any decreases in those costs.
  20. Price volatility in certain wind-generated U.S. energy markets.
  21. Increases in the cost of labor, union organizing activity, labor disputes, and work stoppages at our facilities. This could delay or impede our production, reduce sales of our products, and increase our costs.
  22. Significant changes in the factors and assumptions used to measure our defined benefit plan obligations, actual investment returns on pensions assets, and other factors. This could have a negative impact on our financial condition or liquidity.
  23. Failure to adequately protect our critical information technology systems. This could materially affect our operations.
- Risks at Owens Corning, regardless of their relation to sustainability, are addressed through our ERM program. Each business fluidly reviews its risk register to identify new or materially changed risks and address them accordingly with appropriate risk mitigation plans. Opportunities are addressed through the long-range planning process, which has a horizon of three years forward.

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## Retirement Benefits **Liabilities**

We are committed to providing all employees with comprehensive retirement benefits. Generally, we offer these benefits via defined contribution arrangements. However, defined benefit plans may be provided in accordance with local custom to ensure a competitive overall benefits package.

Of our defined benefit obligations, 98% are payable through a fund held and maintained separately from the resources of the organization. The Canadian qualified plan is 113% funded, as determined by actuarial valuation within the past 12 months. The U.S. and the U.K. plans are less than 100% funded, also based on actuarial valuation within the past 12 months. These three plans represent 98% of the company's defined benefit liabilities.

Our strategy for the U.S. plan is to contribute at least the minimum required amount each year and ensure that the plan is funded at 80% or greater. Other plans are funded to fully comply with local requirements. Approximately 96% of eligible U.S. employees participate in voluntary retirement savings (defined contribution) programs. Owens Corning provides an automatic 2% contribution based on salary to all U.S. employees' 401(k) plans. The company also matches up to 6% based on individual contributions; thus, employees who maximize the company match will save 14% of salary toward retirement. New U.S. hires are automatically enrolled in our 401(k) plan. Our 401(k) plan represents approximately 93% of our contributory savings plan globally.



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## Cybersecurity Risk

Owens Corning is subject to risks relating to our information technology systems, and any failure to adequately protect our critical information technology systems could materially affect our operations.

We rely on information technology systems across our operations, including for management, supply chain and financial information, and various other processes and transactions. Our ability to effectively manage our business depends on the security, reliability, and capacity of these systems. Information technology system failures, network disruptions, or breaches of security could disrupt our operations, causing delays or cancellation of customer orders or impeding the manufacture or shipment of products, processing of transactions, or reporting of financial results. An attack or other problem with our systems could also result in the disclosure of proprietary information about our business or confidential information concerning our customers or employees, which could result in significant damage to our business and our reputation.

We have put in place security measures designed to protect against the misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, or disruption of our operations. However, advanced cybersecurity threats, such as malware, ransomware, phishing attacks, attempts to access information, and other security breaches are persistent and continue to evolve, making them increasingly difficult to identify and prevent. Protecting against these threats may require significant resources, and we may not be able to implement measures that will protect against all the significant risks to our information technology systems. In addition, we rely on a number of third-party service providers to execute certain business processes and maintain certain information technology systems and infrastructure, and any breach of security on their part could impair our ability to effectively operate. Moreover, our operations in certain geographic locations may be particularly vulnerable to security attacks or other problems.

Any breach of our security measures could result in unauthorized access to and misappropriation of our information, corruption of data, or disruption of operations or transactions, any of which could have a material adverse effect on our business.

We have established a range of security measures to protect against these concerns. We have implemented additional controls, security processes, and monitoring of our manufacturing systems. We have also implemented additional cloud security tools and governance processes. We rely on third-party service providers to execute certain business processes, maintain certain IT systems and infrastructure, evaluate defenses, and implement recommendations. Moreover, our operations in certain geographic locations may be particularly vulnerable to security attacks or other problems. To combat this, we have added global information security team members to address regional security issues. We also placed great emphasis on cyber risk associated with merger and acquisition activities.

The board of directors' audit committee is responsible for overseeing the cybersecurity strategy for the company. Maryann T. Mannen is the chair of the audit committee. Our chief information officer oversees cybersecurity for the company and provides updates on cybersecurity risks to the board of directors' audit committee regularly. Audit committee member Paul Martin has more than 10 years' experience as chief information officer at another company, and his expertise includes oversight of cybersecurity. The audit committee reviews how we are executing against its comprehensive cybersecurity framework. Regularly, the audit committee may receive updates on efforts regarding data loss prevention, regulatory compliance, data privacy, threat and vulnerability management, cyber-crisis management, or other topics as applicable.

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## Risks Related to Child Labor and Forced Labor

Owens Corning's human rights policy states that we do not and will not employ child labor or forced, slave, convict, or bonded labor. In addition, Owens Corning will not knowingly engage a supplier or distributor, nor will we enter into a joint venture with an organization that directly or indirectly, through a third party, employs child labor, forced labor, or persons who were trafficked into employment. The [Human Rights & Ethics chapter](#) of this report offers further details.

Owens Corning supports participation in legitimate workplace apprenticeship programs, provided they comply with all applicable laws and are consistent with Articles 6 and 7 of the International Labour Organization (ILO) Minimum Age Convention No. 138 on vocational or technical education and light work.

## GOING FORWARD

In 2021, for the first time, Owens Corning took measures to further integrate risk into our strategic plan, working with the Strategic Growth Council to assess risks that might be upcoming and completing a mapping exercise to ensure that all risks are appropriately accounted for. Through these efforts, which will be conducted annually in years to come, we will be better equipped to address risks throughout the enterprise.

The world of 2030 will look very different from our current world, and new risks are certain to emerge. With the robust risk management structures that we have in place, from oversight on the part of our board of directors to newer tools such as Risk on a Page, we believe we will be prepared to face them — and achieve our sustainability goals.

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Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**



# DIGITAL TRANSFORMATION

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## In this chapter:

- OUR APPROACH
- INITIATIVES
- GOING FORWARD

Our commitment to innovation extends beyond our portfolio of products to include our entire approach to business. We continue to look for ways to drive efficiency and deliver sustainability — and breakthroughs in the digital space are providing us with the tools needed to accomplish an incredible array of goals. Digital innovations have helped us optimize our operations, helped our customers and contractors grow, and made it easier for our employees across the globe to collaborate efficiently and effectively.



Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**





## OUR APPROACH

Owens Corning's digital framework is built to address some of our key aspirations, including the following:

### **Improving manufacturing**

Through analytics and modeling, we are optimizing our manufacturing operations, and digital technologies are enabling us to integrate engineering data with manufacturing science, automation, and controls, so we can design and build plants more efficiently.

### **Driving efficiency**

Digital tools are transforming the workplace, enabling us to organize work and collaborate better while communicating thoughts, ideas, and interactions between our employees and stakeholders, as well as facilitating the analysis of large and diverse data sets.

### **Generating revenue**

Our market-facing initiatives include the use of digital marketing channels, engagement systems, and e-commerce tools. These digital tools and solutions drive awareness of our products, increase brand loyalty and advocacy, and support the e-commerce momentum in the industry — while also helping our customers, contractors, and influencers grow their businesses.

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Photo submitted by:  
**Jill Ries | Granville, Ohio, U.S.**  
At the Owens Corning Science &  
Technology Center in Granville.

# DIGITAL TRANSFORMATION INITIATIVES

Across our operations, we continue to discover areas where digital innovations can help us meet our goals for both sustainability and growth. As we continue to explore new avenues, we also find that we are increasing efficiencies and shaping our business for the better.



## Market-Facing Digital Initiatives

Owens Corning has developed a number of digital tools and solutions to help our customers, contractors, and influencers grow.

Some examples include:

**Distributors:** As we work to grow online with our distributors, we have developed a portal to offer order status, access to documents, and delivery tracking.

**Contractors:** The goal with contractors is to help them get more work — and get more work done. The OC Connect platform helps contractors get information and training and allows them to earn rewards for their purchases.

**Architects / Specifiers:** The digital tools we are developing are designed to provide accurate information about Owens Corning products and make them the easiest to spec into projects and systems, helping us become the manufacturer of choice in the markets we serve.

**Homeowners:** Digital marketing strategies enable us to guide the homeowner through the entire purchasing journey, from initial interest to acting as an advocate for Owens Corning® products.

We have created digital tools to support each stage of the buying process, from pre-shopping to advocacy.

## Digital Initiatives in Manufacturing

In manufacturing, we are using proven digital technologies to design, construct, and operate our manufacturing assets more efficiently in service to our customers. We are working to accelerate the digital transformation of our manufacturing operations by focusing on the following:

### Digital Engineering

We're looking at how we design and build better and more efficiently, integrating models and engineering data with construction science for capital efficiency. To achieve this, we are using model-based design, cost estimation and controls technologies, modular construction, and life cycle costing to provide critical insights into our design/build processes.

### Digital Process and Automation

Integrating data and science with automation and controls to free capacity, drive quality, and lower cost helps us operate more efficiently. Initiatives such as robotics and automation, asset performance management, advanced process controls, and remote collaboration are giving us the tools needed to reach our goals.

### Analytics and Modeling

We're combining our capabilities with the latest in modeling science to optimize our designs and operations. Through advanced analytics, process modeling, predictive maintenance, and real-time optimization, we're disrupting the current operating models and consistently moving forward.

Photo submitted by:

Jan-Christian Stenroos | Parainen, Finland



## Digital Worker Initiatives

Through our Digital Worker initiatives, we aspire to build an efficient, frictionless, and cohesive work experience for our employees. Digital hubs for each initiative will enable employees to collaborate and connect anywhere, anytime, as they serve our customers and deliver successful outcomes. Through precise, thoughtful, and structured transformational initiatives, we strive to improve the collaboration capabilities in multiple areas of our company. These initiatives are focused on how we collaborate in the context of our customers, our suppliers, our employees, our products, our plants, and the company.

### Customer Service

We seek to create a frictionless customer experience, regardless of how the customer chooses to do business with us. We are doing this by building an omni-channel hub capability that will enable our customers to connect with us over voice, text, chat, web, or system integration. This will create a seamless, integrated experience for our customers, while enabling a complete view of their experience to help us better serve them.

### Human Resources

We are expanding our existing talent center hub to support employees' career aspirations. The hub will help employees access opportunities for the kind of learning, mentoring, and development planning that lead to career growth.

### Sourcing

We can drive a new level of efficiency in our sourcing operations by expanding upon strategic e-sourcing and e-procurement initiatives. We will do this through a "source to settle" hub that includes a comprehensive, unified view of spending and risks with our suppliers and sourced materials.

### New Product Development

By redeploying and digitally connecting our new product development hub, we can evolve the stage-gate core process to organize, prioritize, and execute the innovation for anytime, anywhere collaboration for each business and discipline. This will enable us to deliver inventions and products with discipline and speed.



### Capital Engineering

Our aim is to advance the capital delivery process to a highly collaborative engineering experience for a seamless handover of physical assets and digital twins to operational teams to run. By transforming the engineering back office hub, we can support the reduction of design time and engineering costs supporting the Digital Engineering initiative.

### Enterprise

We will focus on a common, consistent set of tools, both existing and new, for efficient synchronous and asynchronous team collaboration. We will create a group productivity hub to streamline access to the tools that support how the team, function, or enterprise organizes work and gains insights.

Each of the strategic initiatives is designed to drive the company forward and help us attain our desired efficiency outcomes with a highly productive and engaging work environment. We are mindful that the culture of the organization is key to our success with these initiatives. Opportunities for employee engagement, participation and feedback are planned and encouraged throughout.

Photos submitted by:

**Yana Liu | Shanghai, China (left)**

Yuhang plant leader Yingyan Lu introducing the new EcoTouch® production line.

**Jan-Christian Stenroos | Parainen, Finland (right)**

Jani Pernell working at the Parainen, Finland plant.



## GOING FORWARD

The COVID-19 pandemic forced Owens Corning to rapidly accelerate our digital efforts.

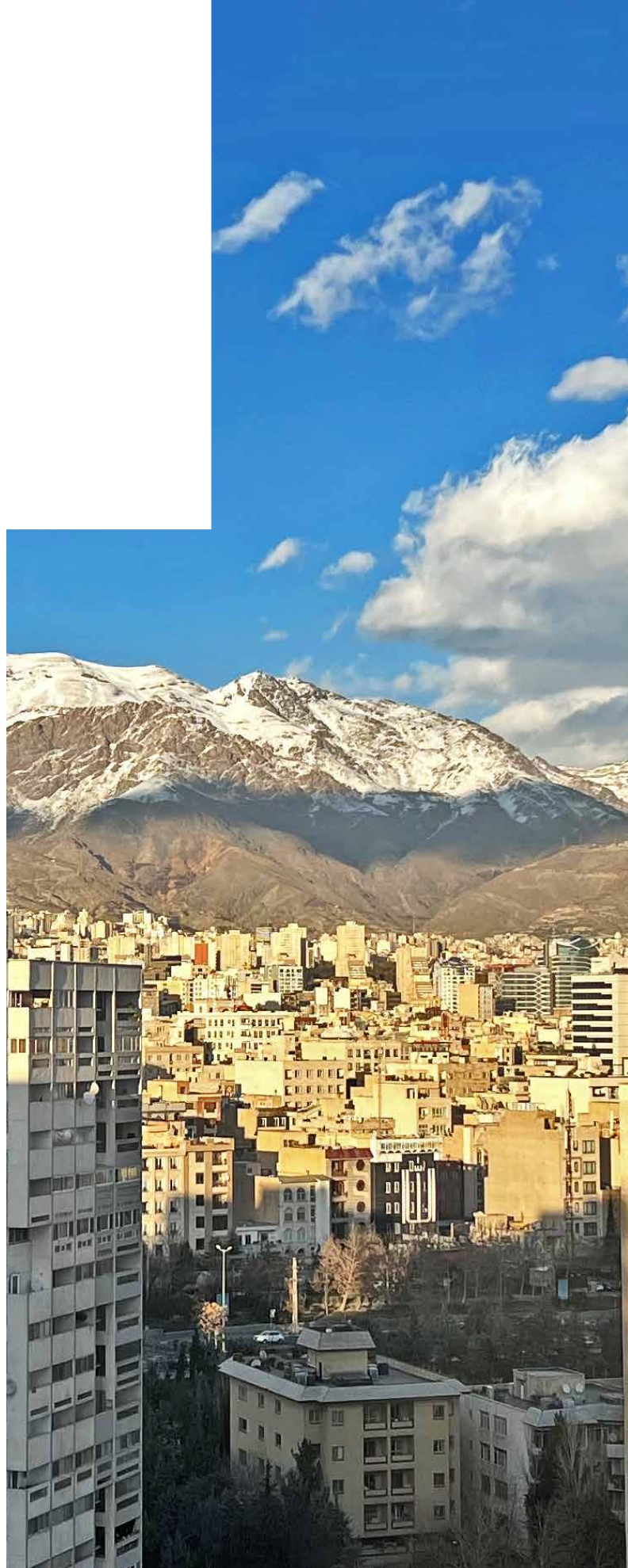
Now, Owens Corning continues to recognize the many benefits of integrating digital innovations into our operations.

We have already seen many facets of our work transformed by new technologies, models, and advanced analytics. There was increased participation in many of our initiatives as people were able to connect remotely, while dashboards and other tools proved useful in tracking daily cases and trends related to COVID-19. As we look ahead on our digital journey, we anticipate finding new avenues for centralized analytics related to environmental, health, and safety concerns — all of which will benefit Owens Corning greatly as we pursue our 2030 sustainability goals.

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Photo submitted by:

**Leila Pourzahedi | Granville, Ohio, U.S.**  
Tehran, Iran.



# COMPLIANCE AND BEYOND

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## In this chapter:

- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

In 2021, Owens Corning was ranked #1 on 3BL Media's list of the 100 best corporate citizens for the third consecutive year — a testament to our commitment to sustainability. We believe that adherence to local, national, and international laws and regulations should serve as a baseline for our actions, and that we should strive to go beyond compliance as we work to be a net-positive influence on the world.

Throughout our operations around the world, Owens Corning employees are taking the necessary steps to meet — and preferably exceed — the laws and regulations that govern environmental and social concerns. Through these efforts, we believe we can remain an exemplary corporate citizen for years to come.

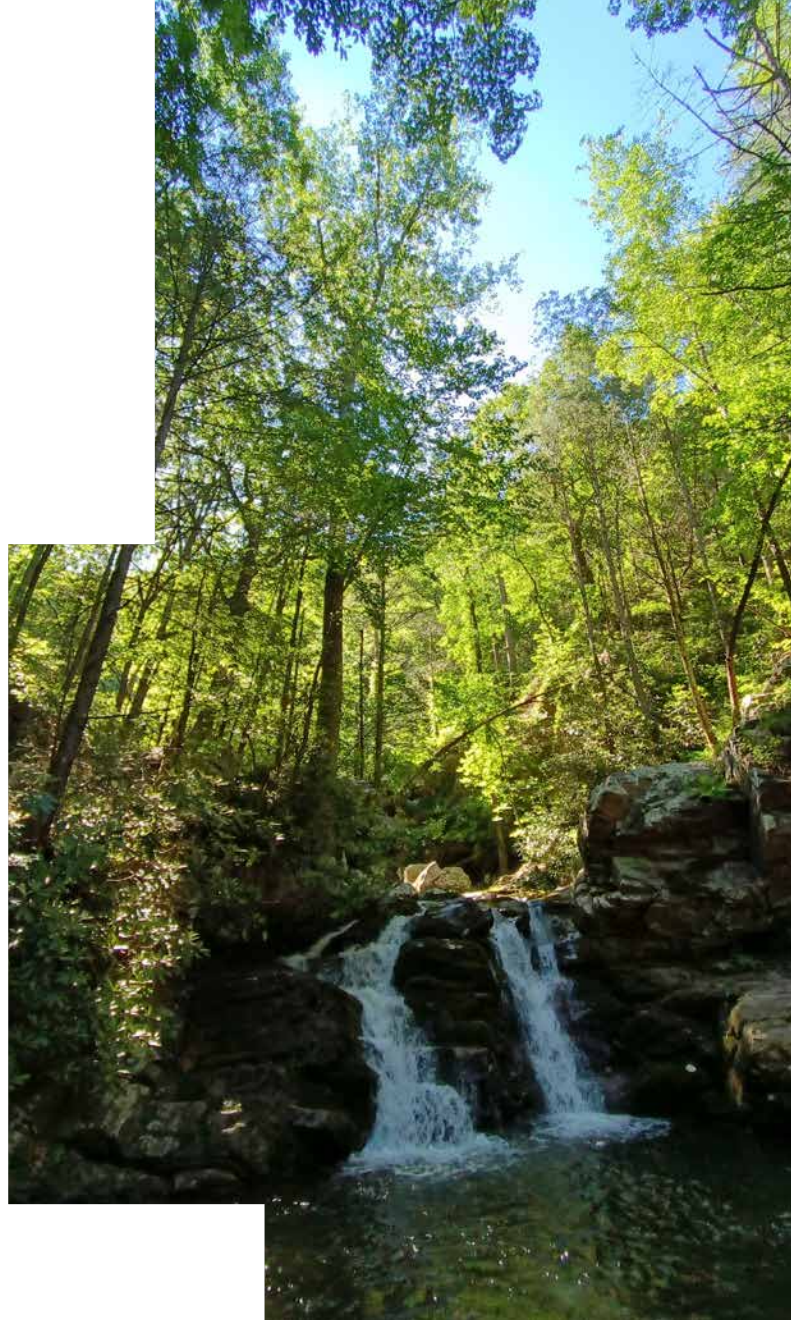


Photo submitted by:  
**Scott Campen | Knoxville, Tennessee, U.S.**  
Cherokee National Forest, Elizabethton, Tennessee





## OUR APPROACH

### Our Environmental Management System

Owens Corning's Environmental Management System (EMS) is designed to help us adhere to the principles in our Environmental, Health, Safety, and Product Stewardship Policy. The EMS is a collection of policies and procedures regarding the management of environmental performance in our facilities, including compliance and footprint reduction. Through our EMS, we can set and review the environmental objectives and targets that drive corrective actions and ensure continual environmental improvement. All our facilities around the world are required to implement the system, track their progress, and perform environmental self-audits.

Our EMS includes the following elements:

- Environmental policies that provide a framework for setting and reviewing our environmental objectives, as well as a commitment to continuous improvement and pollution prevention.
- A process to identify significant environmental aspects and impacts and develop an action plan to achieve objectives and targets based on our policies and those significant environmental aspects and impacts.
- Identification of legal and other obligations, including regulatory requirements, Owens Corning standards, and other needs, such as ISO certifications.
- A system wherein all required environmental tasks are assigned to appropriate personnel and completed correctly and on time.
- An organizational structure that identifies specific environmental authorities and responsibilities.
- Assurances that personnel have the training and competency needed to carry out assigned work related to environmental impacts.
- Procedures that outline how environmental information is communicated internally and externally.
- Processes for the storage, retrieval, and retention of environmental records.
- Operating procedures to control environmental impacts, updated according to the Management of Change process.
- Documented emergency procedures and plans for responding to known and potential emergency situations that could have an impact on the environment, in alignment with an EHS Emergency Response Plan.
- A process to identify, report, investigate, and correct nonconformities.
- Periodic assessments to ensure the effectiveness of the EMS and its progress toward meeting its environmental objectives and targets.

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Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**



## The Owens Corning Code of Conduct

Our Code of Conduct serves as an extension of our corporate values and guides our approach to business. The Code of Conduct was modernized and republished in 2022 to align more closely to our updated values and to reflect our culture more accurately as it has evolved through an expanding global presence and workforce.

It contains the principles that guide ethical conduct in our business, which are designed to ensure that our employees act with integrity and avoid even the appearance of illegality or impropriety. These principles are framed by our values:

- We care about health, safety, the environment, and each other.
- We are committed to lawful and high integrity conduct.
- We are collaborative, respectful, and transparent.
- We are curious innovators, and we protect our company secrets and assets.

While the language in our Code of Conduct has been simplified, our intent and expectation to comply with the laws where we do business and operate with high business integrity has not changed. Our policies apply to every single person at Owens Corning, regardless of position, country, business unit, or subsidiary.

Our Code of Conduct and guiding principles are inspired by and aligned with the United Nations Global Compact (UNGC), the Universal Declaration of Human Rights, the U.S. Foreign Corrupt Practices Act (FCPA), the U.K. Bribery Act, and the Organisation for Economic Cooperation and Development (OECD) Anti-Bribery Convention.

Owens Corning's business conduct council and compliance committee have oversight and responsibility for worldwide compliance with these policies. Our general counsel and corporate secretary sit on both the business conduct council and compliance committee, and the assistant secretary to the board sits on the compliance committee. Both groups report results to the audit committee of the board, which provides oversight.

Owens Corning maintains a confidential business code of conduct helpline and other mechanisms for receiving questions and concerns from our employees. Issues raised through this helpline are reviewed by the vice president of internal audit and legal compliance team. Further investigation and follow-up may be conducted by the internal audit team or external consultants, depending on the nature of the issue.



Photo submitted by:

**Francesco A. Saccaggi | Bologna, Italy**

CISOM (Italian Relief Corps of the Order of Malta), an organization that helps victims of armed conflicts and natural disasters.

# COMPLIANCE INITIATIVES

## Environmental Compliance

Owens Corning has policies and procedures in place to ensure that our operations are conducted in compliance with all relevant laws and regulations. Through these efforts, we are able to meet our high standards for corporate sustainability and environmental stewardship. EHS professionals conduct internal environmental assessments at both the site and business levels.

Our manufacturing facilities are subject to national, regional, and local laws and regulations related to the presence of hazardous materials, pollution, and protection of the environment. These laws and regulations cover air emissions, discharges to water, management of hazardous materials, handling and disposal of solid wastes, and remediation of contaminated sites. To ensure our compliance with these regulations, we rely on our EMS, which is based on the principles of ISO and helps our manufacturing facilities track progress toward our long-term sustainability goals, which require significant global reductions in our environmental impacts that go beyond compliance.

Approximately 36% of our locations were certified to ISO 14001, which accounts for 50% of our employees. In addition, approximately 47% of our locations use our internal Owens Corning EMS, which is based on the principles of ISO 14001, accounting for 36% of our employees. Thus, 83% of our locations have implemented an environmental management system, accounting for 86% of our employees. Further, approximately 47% of our locations were certified to the ISO 9001 standard for a QMS (Quality Management System) in 2021, representing approximately 62% of our employees.

ENVIRONMENTAL MANAGEMENT SYSTEM		
	LOCATIONS	EMPLOYEES
ISO 14001 Certification	36%	50%
Internal Owens Corning EMS	47%	36%
<b>Environmental Management System</b>	<b>83%</b>	<b>86%</b>



Throughout our operations, we work diligently to exceed expectations related to environmental compliance, data privacy, and more.

Photo submitted by:  
**Stefan Gielen | Tessenderlo, Belgium**  
 Mehmet Dalkilic and Erwin Lemmens, shift leaders at the  
 Tessenderlo FOAMGLAS® plant, during TPM bootcamp.



## Data Privacy

Because we view data privacy as an element of personal safety, we comply with global privacy laws, and we collect, process, and transfer personal data in a trustworthy manner worldwide. Our commitment to data privacy extends to all Owens Corning employees and our stakeholders.

To address data privacy, Owens Corning works to:

- Minimize data collection.
- Protect collected data.
- Limit access to personal data to the personnel who need it (our systems owners and data holders).
- Provide system owners and data handlers with extensive training on privacy laws such as the EU General Data Protection Regulation (GDPR).
- Ensure that processes are in place to respond to personal data requests and to mitigate or address any privacy breach or other issues.

We also continuously strive to strengthen our data privacy program. In recent years, we have taken on the following initiatives:

- We have expanded the reach of our GDPR standards.
- We have developed our own global data protection standards.
- We have a cross-functional team to help maintain our protection standards and adapt to an evolving global landscape.
- We have raised awareness of data privacy within our organization.
- We have adapted our IT systems and platforms to reflect a “privacy by design” perspective.
- We assess the IT environment and technical security systems of companies we acquire, ensuring that data collection and processing comply with our existing policy.

We comply with all data privacy laws applicable in the countries and locations where we do business. We have also implemented enhanced security measures designed to protect against misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, or disruption of our operations.

Owens Corning has established information security controls to prevent unauthorized access to our systems. External assessments of Owens Corning’s security controls are conducted at least twice a year to validate the effectiveness of the controls and identify areas to continuously improve controls. Owens Corning received no substantiated complaints of customer data breaches in 2021.

## Data Privacy, Data Security, and COVID-19

During the COVID-19 pandemic, Owens Corning has remained cognizant of issues surrounding data privacy and data security. As we continue to monitor the health of our people, we have continued to comply with different regulations around the world with regard to the collection of information such as employee temperatures and other potential COVID-19 indicators. Our COVID Management Team has carefully monitored the flow of information to preserve employee privacy. As many employees have continued to work remotely throughout 2021, we have also maintained security standards to protect company data as people access information off-site.

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Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
Reviewing plant data and operations.



# COMPLIANCE PERFORMANCE

## Environmental Control

Owens Corning defines significant environmental actions as those in which the total cost of fines or penalties are equal to or greater than \$100,000 USD. There are no significant environmental actions to report for 2021. The company has not experienced a material adverse effect on our capital expenditures or competitive position as a result of environmental control legislation and regulations. Operating costs associated with environmental compliance were approximately \$42 million in 2021. We continue to invest in equipment and process modifications to remain in compliance with applicable environmental laws and regulations.

Regulatory activities of particular importance include those addressing air pollution, water pollution, waste disposal, and chemical control. Over the next two to five years, we expect passage and implementation of new laws and regulations specifically addressing climate change, toxic air

emissions, ozone-forming emissions, and fine particulate matter.

New air pollution regulations could impact our ability to expand production or construct new facilities in certain regions in North America and around the world. We continue to monitor these potential impacts on our manufacturing operations and ensure that we have evaluated any new laws, regulations, and/or activities that could potentially have a material adverse effect on our current operations, financial condition, or long-term strategy. In support of these efforts, we continue to make progress in the reduction of our footprint globally.

Owens Corning is involved in remedial response activities and is responsible for environmental remediation at a number of sites, including certain currently owned or formerly owned plants. These responsibilities arise under a number of laws, including, but not limited to, the federal Resource

Conservation and Recovery Act (RCRA), and similar state or local laws pertaining to the management and remediation of hazardous materials and petroleum. The company has also been named a potentially responsible party under the United States Federal Superfund law, or state equivalents, at a number of disposal sites. We became involved in these sites as a result of government action or in connection with business acquisitions.

At the end of 2021, Owens Corning was involved with a total of 22 sites worldwide, including nine Superfund sites and 13 owned or formerly owned sites. None of the liabilities for these sites are individually significant to Owens Corning. On December 31, 2021, the company had an accrual totaling \$6 million for these liabilities. Changes in required remediation procedures, timing of those procedures at existing legacy sites, or discovery of contamination at additional sites could result in material increases to our environmental obligations.

## Significant Spills

Owens Corning acknowledges that releases, spills, or disposal of wastes and other substances by our operations could have negative environmental impacts. As part of Storm Water Pollution Prevention and Spill Prevention Countermeasure and Control in the U.S., and according to local legal requirements, we train our employees on best practices for avoiding and addressing spills. Response procedures for managing spills, as well as other emergencies, are in place for our facilities.

In the event of an incident, we recognize our responsibility to complete environmental remediation, maintain remediated sites, and provide funding support at multiparty disposal facilities. Owens Corning has had zero significant spills since 2013.

	2018	2019	2020	2021
Number of spills	0	0	0	0
Total volume of spill (cubic meters)	0	0	0	0

## GOING FORWARD

In Q4 of 2021, we performed an enterprise-wide Baseline EMS Assessment, which enables us to assess the corrective actions needed to improve our EMS. Though sites are required to perform a self-assessment, this baseline assessment is an enterprise-wide view of our EMS. We will use the results of this assessment to prioritize our attention and resources in the future.

In the coming years, we expect regulatory requirements to become more stringent as the realities of climate change become more evident. We intend to stay ahead of new regulations, operating under the idea that our goals should reflect the real needs of the planet, and that often laws and regulations only serve as a baseline for actual change. Owens Corning intends to remain at the forefront when it comes to reducing our environmental footprint, and as we go beyond compliance, we hope to set an example for other companies around the world.

Photo submitted by:  
**Claudia Cantu | Houston, Texas, U.S.**  
Daniel Llanos (left) and Luis Morning in the Houston Roofing plant.



# TOTAL PRODUCTIVE MAINTENANCE

## In this chapter:

- OUR APPROACH
- INITIATIVES
- GOING FORWARD

At Owens Corning, we believe in empowering our people — one way we do that is through the integration of Total Productive Maintenance into our operations. TPM is a management system designed to improve productivity. And because TPM encourages all employees to take an active role in maintaining, operating, and improving production, it can help us make real progress on our March to Zero.

## MARCH TO ZERO

### ZERO ► ACCIDENTS | DEFECTS | LOSSES

TPM provides a systematic way for employees to look for the abnormalities that can lead to problems over time, and to take corrective action if issues arise. Widespread adoption of TPM in our facilities helps us create an environment where people are encouraged to solve problems, and we find that the framework and mindset can be applied in exciting ways throughout our operations.

By employing the principles of Total Productive Maintenance, Owens Corning demonstrates the confidence we have in our people. Their talent, drive, and passion are what it takes to build a better work environment, and TPM gives them the tools to do it.



Photos submitted by:

**Jill Ries | Granville, Ohio (top)**

Christina Wise and Chris Amintrout inspect the shingle color on the viewing deck.

**Jill Ries | Granville, Ohio (bottom)**

Ryan Armstrong and Bryan Walser demonstrate LOBS testing.



# OUR APPROACH

Total Productive Maintenance is based on eight pillars.

## ■ Training and Development (T&D)

- Employees are given the knowledge and skills to carry out their responsibilities safely and effectively as a member of an autonomous team.
- Skills assessments are used to identify gaps.
- Employee skills are improved through training and sharing of best practices.

## ■ Autonomous Maintenance (AM)

- Activities are created to restore equipment to its optimum condition and improve safety, quality, and productivity.
- Employees are involved in the daily management of their equipment and processes.
- Employees are empowered to prevent or fix problems, slow deterioration, and drive change throughout our culture and operations.

## ■ Focused Improvement (FI)

- TPM teams identify and quantify losses throughout the plant, then they prioritize ways to eliminate losses and assign the right resources to these tasks.
- Methodologies are deployed to address issues and ensure continuous improvement across our operations.

## ■ Planned Maintenance (PM)

- This pillar, combined with AM, encourages proactive behavior and facilitates stable and reliable operations.
- Supporting systems and processes enable employee engagement and data-driven continuous improvement.

## ■ Early Management (EM)

- This pillar facilitates the development of user-friendly, sustainable equipment.
- Effective design and development of new equipment, processes, and products reduce the potential for losses and abnormalities.
- Time between development and launch is reduced, as are costs over products' life cycles.

## ■ Quality Maintenance (QM)

- Optimal equipment conditions are established and maintained, helping prevent losses in quality.
- Employees receive the systems, tools, and skills needed to achieve zero defects in our operations.

## ■ Office and Administration

- Activities are stressed that increase the quality, usefulness, and timeliness of information for internal and external customers.
- Improvements are facilitated, and administrative resources are aligned with performance needs.

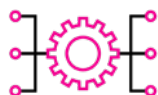
## ■ Environmental, Health, and Safety (EHS)

- TPM activities are combined with EHS programs, which fosters a culture of safety among all employees.

For each pillar, there is a multifunctional group that implements processes, provides training and coaching, leads cases, and assesses adherence to methodologies.

## THE PRINCIPLES OF 5S

Planned Maintenance builds upon the principles of 5S, which are designed to ensure that processes remain organized, disciplined, and efficient. 5S consists of five basic steps:



### Sort

Remove all unnecessary items from the work area.



### Set in Order

Organize the remaining items.



### Shine

Clean and inspect the work area.



### Standardize

Create standards that will ensure consistency going forward.



### Sustain

Maintain a culture of continuous improvement.



## TPM INITIATIVES AT OWENS CORNING



As our plants implement TPM in their operations, they follow a strategic approach. It starts with a preparation plan that focuses on daily management — the foundation of TPM — and includes an analysis of baseline key performance indicators. This analysis includes a range of management indicators that drive accountability and results:

- Safety
- Quality
- Delivery
- Cost
- Production
- Morale

Every plant is at a different point on the TPM journey, but each is moving with purpose and sharing. We survey employees to help plant leaders understand their teams' readiness for TPM and to identify opportunities to enhance knowledge and improve skills. Based on this information and best practice examples, plants create training workshops and team-building opportunities appropriate to their stage in the journey.

Although the COVID-19 pandemic continued to affect plants around the world throughout 2021, Owens Corning's TPM teams have worked to maintain their momentum. The following are a few of the initiatives that Owens Corning introduced to keep us heading in the right direction on our March to Zero.

- The daily briefing meeting is a key component of TPM. To ensure the safety of our employees during COVID-19 restrictions, we have continued to employ online solutions as applicable. Teams have been able to communicate remotely, manage tasks, and document progress according to the PDCA (Plan-Do-Check-Act) model.
- We have continued to maintain our TPM Academy online. A range of training modules are now available on-demand for Owens Corning employees in 90-minute sessions.

TPM is a true team effort, which we believe creates added value for our employees and our customers. The following are examples of the ways in which our TPM efforts have had a positive impact on our operations around the world.

### ■ L'Ardoise, France

Employees employed the principles of TPM to address a piece on a winding machine, which was causing losses in their operations. A multidisciplinary team was assembled, including members of the PM, AM, QM, and Office and Administration teams. In a matter of weeks they had developed a solution that could be applied to the machines throughout the plant. In the past, achieving a project such as this would have taken six months — with TPM, it took less than two months. The knowledge gained here was shared with Owens Corning's Center of Excellence. From there it was shared with other facilities around the world, as well as a key supplier.

### ■ Rio Claro, Brazil

Employees at this facility used the principles of TPM, specifically the EHS pillar, to reduce the amount of fiberglass waste sent to the landfill. To achieve this, the team there developed relationships with specific customers to purchase our fiberglass byproduct. In addition, they conducted a study of demand versus operating time with a clear definition of daily productivity goals. These efforts resulted in a 20% reduction in the amount of waste sent to landfill from the period of December 2019 to October 2020.

Photo submitted by:

**Jan Coerts | Apeldoorn, Netherlands**

Reviewing and implementing various TPM protocols at the Tessenderlo FOAMGLAS® plant



## JIPM Excellence Awards

The Japan Institute of Plant Maintenance (JIPM), the organization that first proposed TPM and continues to advocate for its implementation around the world, has awarded several Owens Corning facilities JIPM Excellence Awards.

To be eligible for the Award for TPM Excellence, a plant must meet the following requirements:

- A minimum of three years of achievement using TPM.
- The ability to demonstrate activity based on eight pillars of TPM by all staff members.
- The completion of Step 4 for autonomous maintenance activity.
- An infrastructure for TPM activity and obtained tangible and intangible achievements.

Once a plant has received this Level 1 award and been active in TPM for an additional two years, they are eligible for the Level 2 Award for Excellence in Consistent TPM Commitment.

Photo submitted by:

**Melissa Andrea Zabaraín García | Besana, Italy**

Employees at the Besana plant earned the JIPM excellence award.

### Consistency Award (Level 2)

- Rio Claro, Brazil (Glass Reinforcements)
- Tlaxcala, Mexico
- Yuhang, China

### Excellence Award (Level 1)

- Apeldoorn, Netherlands
- Guangzhou, China
- Jackson, Tennessee, U.S.
- Kimchon, South Korea
- L'Ardoise, France
- Rio Claro, Brazil (Technical Fabrics)
- Taloja, India
- Tianjin, China
- Besana, Italy (Glass Reinforcements)\*
- Suzhou, China (Alloy)\*
- Qingdao Novia, China (Roofing)\*
- Changzhou, China (Technical Fabrics)\*

\* Awarded in 2021



## GOING FORWARD

Total Productive Maintenance is an essential component on our March to Zero, and we are greatly encouraged by the results we have seen at our sites around the world. Because its principles foster an environment of empowerment among our employees, we have found that TPM can have applications extending beyond its original intent. This includes ways in which we can reduce our environmental footprint. For example, TPM is helping us develop processes for using production waste in the manufacturing of our composite materials, which will help us divert more waste from landfills and place us closer to our 2030 goals.

TPM has strengthened our approach to safety throughout the company. We have assigned a senior EHS leader to each enterprise-wide TPM pillar team, ensuring that safety is an integral part of our approach to each pillar. More information about the role TPM plays in our approach to safety can be found in the [Living Safely chapter](#) of this report.

Owens Corning has also been employing the principles of TPM to support our healthy living initiatives. Sites are using TPM to build strategies and determine opportunities to make gains in employee engagement around health and wellness. We are also helping employees make the connection between healthy living and TPM as they compare health to safety, injuries, and first aid incidents. Related to TPM, we have been using the 5S framework to help prevent the spread of COVID-19 at our sites around the world. To learn more, please see the [Healthy Living chapter](#) of this report.

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Photo submitted by:

**Prathamesh Kulkarni | Taloja, India**

Safety is an important aspect of our culture.





# TAX

Owens Corning's tax strategy is guided by the following principles:

1. Ensure that all tax filings and payments are made accurately and in a timely manner.
2. Build and maintain transparent and collaborative relationships with tax authorities.
3. Evaluate and mitigate risk through rigorous review processes and controls, including by external auditors.
4. Implement only those tax initiatives that are consistent with the company's business objectives and risk profile.

The company has a global team of tax professionals in many of its operating jurisdictions. Each location manages their respective tax affairs in accordance with Owens Corning's Code of Conduct, global tax strategy, policies, and procedures. The chief financial officer has the ultimate responsibility for Owens Corning's tax strategy. The vice president of tax oversees the day-to-day operations of the tax function including the execution of the company's tax objectives and policies. Tax matters are reported to the board's audit and finance committees on a regular basis.

Information about Owens Corning's taxes is provided in Note 19 of the company's Form 10-K filed with the SEC. The information is bifurcated into U.S. and Foreign because the U.S. provides the majority of the company's earnings before interest and taxes (EBIT). The management discussion and analysis (MD&A) section of Form 10-K provides an explanation of why the company's global effective tax rate differs from the U.S. statutory rate. An additional table is provided in Note 19 Income Taxes to further explain the material differences between the effective tax rate and the statutory tax rate.

Risk management is a critical part of Owens Corning's tax function. The tax function has rigorous processes and controls in place to identify, assess, and measure known, new, and emerging risks. The risk of tax law changes is regularly monitored and analyzed using research software, trade and news publications, and active participation in tax associations. The company tracks proposed tax law changes globally to determine which changes could potentially have an impact on the company's tax position, including the utilization of its tax attributes. Appropriate measures are then taken to mitigate the negative impact of such changes.

In addition, the tax function works very closely with the company's Corporate Financial Planning & Analysis (FP&A) and business finance and operational teams to understand both the short-term and the long-term trends of our global operations. Tax planning and operational initiatives are identified, analyzed, and implemented to support and complement these business objectives.

Lastly, Owens Corning seeks to develop and maintain open and constructive relationships with tax authorities. The company strives to resolve disputes through mutual transparency and collaboration, always behaving in the utmost professional and ethical manner.

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Photo submitted by:  
**Leila Pourzahedi | Granville, Ohio, U.S.**  
Whistler, British Columbia





# EXPANDING OUR **PRODUCT HANDPRINT**

At Owens Corning, we not only work to reduce our footprint, but we also strive to increase our handprint — the positive impact our products can have for our customers and the planet. The following material issues are essential to the expansion of our product handprint:

## ■ **Circular Economy**

See how we're working to close the loop on waste by extracting less raw material, engineering smarter processes, and developing end-of-life strategies for our products.

## ■ **Product Innovation & Stewardship**

Discover how our approach to product development and improvement is informed by our commitment to sustainability.

## ■ **Sustainable Growth**

We believe that what's good for the environment can also be good business. Learn what we're doing to integrate sustainability into our strategies.

## ■ **Supply Chain Sustainability**

We hold suppliers to stringent standards — in emissions, human rights, and more. See the difference it's making in our sustainability efforts.



# CIRCULAR ECONOMY

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

For too long, the world has used a linear model of production — taking raw materials, making products, and discarding those products at the end of their use. It has proven itself to be unsustainable in every sense of the word, taking a massive toll on the environment. As resources grow increasingly scarce, it has ceased to be a viable way to conduct operations.

Transitioning to the circular economy is also a path to decarbonization. For example, eliminating the need to extract virgin raw materials reduces the greenhouse gas emissions associated with mining, processing, and transporting those materials. To get full value from circularity, the technology and processes used to enable the needed changes in manufacturing cannot increase emissions. This becomes an important factor in evaluating potential technologies and processes that enable recycling or repurposing materials.

The sustainability goals we have set for 2030 are very ambitious, and our circular economy goals are no exception. Achieving them will require a great deal of ingenuity and collaboration — characteristics that our employees have always demonstrated.



Photos submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**

Our circular economy initiatives align with the following UN SDGs:



## Sustainability Materiality Definition:

A circular economy is one in which virgin raw materials waste, energy and emissions are minimized through intelligent design, renewable and recyclable input, energy-efficient production, and enabling the recycling of products at the end of their life cycles. We are committed to supporting the global transformation to a circular economy.

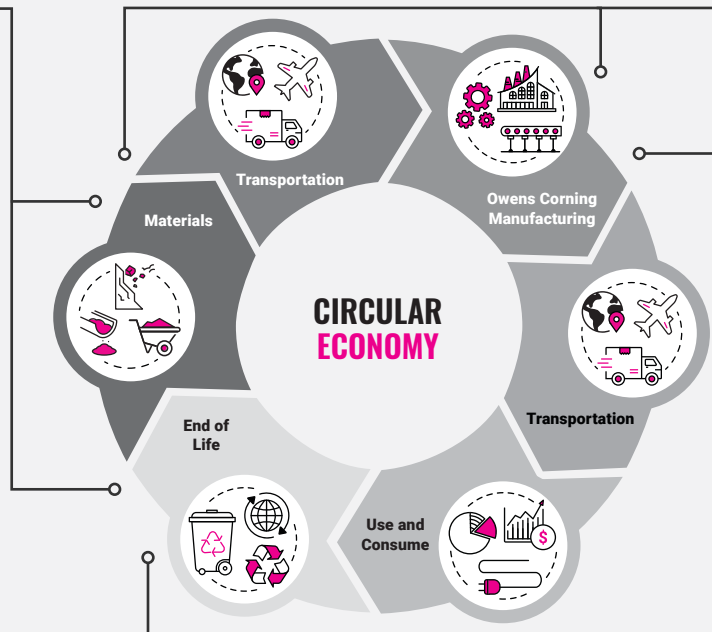


## 2030 GOALS FOR THE CIRCULAR ECONOMY

**By 2030:** We will establish viable circular economy business models involving our materials and how they are used. We can accomplish this by:

**Increasing recycled content** and decreasing virgin raw materials used in our products.

**Developing technical solutions** and practical business models for our product materials and packaging, so they can be used for beneficial purposes even after they are no longer used for the original purpose.



**Collaborating up and down the supply chain**, with customers, suppliers, communities, academics, policy makers, government entities, and other organizations.

## OUR APPROACH

The following objectives are essential to the establishment of our circular economy model.

### Avoid the use of virgin raw materials whenever possible.

The demand for recycled content among our customers is already strong, and we expect it will continue to grow. Our ability to meet customer expectations regarding product content — with full transparency — will be a key advantage as demand increases. We will rely on the companies with which we do business to help develop strategies that will limit the extraction of virgin raw materials.

**Our fiberglass insulation contains anywhere from 53% to 73% recycled content, depending on the product.** This includes a high level of post-consumer content in our light-density building insulation, typically coming from recycled beverage containers.



### Source materials and serve customers in ways that minimize transportation and its impact.

We are calling on our partners throughout our value chain to help us in our transition to a circular economy model. This includes local sourcing initiatives, including those

in which cullet is sourced near our plant locations. More information about our efforts in this area can be found in the [Supply Chain Sustainability chapter](#) of this report.

### Manufacture products in ways that reduce the amount of waste generated and ensure the least negative environmental impact.

Product innovation is central to this approach, through the development of products that are sustainably made and deliver positive impacts for customers. The ingenuity of our people is also key, as they discover new ways to increase efficiencies in our processes. In addition, the principles of product stewardship help us remain fully transparent as we demonstrate our commitment to sustainability.

### Ensure that materials used in our products and packaging remain in the economy indefinitely.

In Europe, end-of-life solutions are already the subject of a strong legislative drive, and Owens Corning is working to go beyond compliance as regulations become increasingly stringent. One challenge we face is finding applications and external companies that accept some of our byproducts, so we are seeking solutions that minimize waste at every step. This often involves taking materials back into our own operations or repurposing materials for alternate uses. Through it all, our goal is to ensure that materials are not discarded into landfills, which will require open collaboration with other companies throughout our value chain.



## The Owens Corning Circular Economy Team

Our work toward establishing circular economy models in our operations is driven by our circular economy team, which was established in November 2020. The team, led by our chief sustainability officer (CSO), defines goals and prioritizes projects that accelerate our circular economy ambitions. They consolidate and build on the work we've done over the past few decades, and they serve as a hub for thought leadership, expertise, and shared learnings.

To execute our plans, the team also partners with subject matter experts and teams across our company, as well as other key stakeholders in the industry. This structure creates shared accountability for meeting our goals. The circular economy is not a "sustainability team initiative" but a challenge, opportunity, and goal shared by all businesses and functions, in all regions.

Our circular economy efforts are focused in two areas:

### ■ Manufacturing

This work focuses on meeting our 2030 waste management goals — reducing the intensity of waste generated by our processes by 50%, and then find ways to reuse or recycle the rest — as well as our efforts to expand the use of recycled materials in our manufacturing operations and products, across all businesses.

### ■ End-of-life solutions

We are seeking innovative technologies and business models for our products and materials to be reused and repurposed indefinitely. This work includes partnering internally with R&D, commercial, and corporate development counterparts to shape the vision and execution in this area. We also engage with external partners to develop end-of-life solutions for our products, as well as the products where our materials are used. Our work in this area is detailed throughout this chapter.

There is a great deal of synergy between these two areas as we create opportunities to reclaim customer waste, deconstruct products at the end of their lives, and discover uses for those materials as raw material inputs for our operations and products.

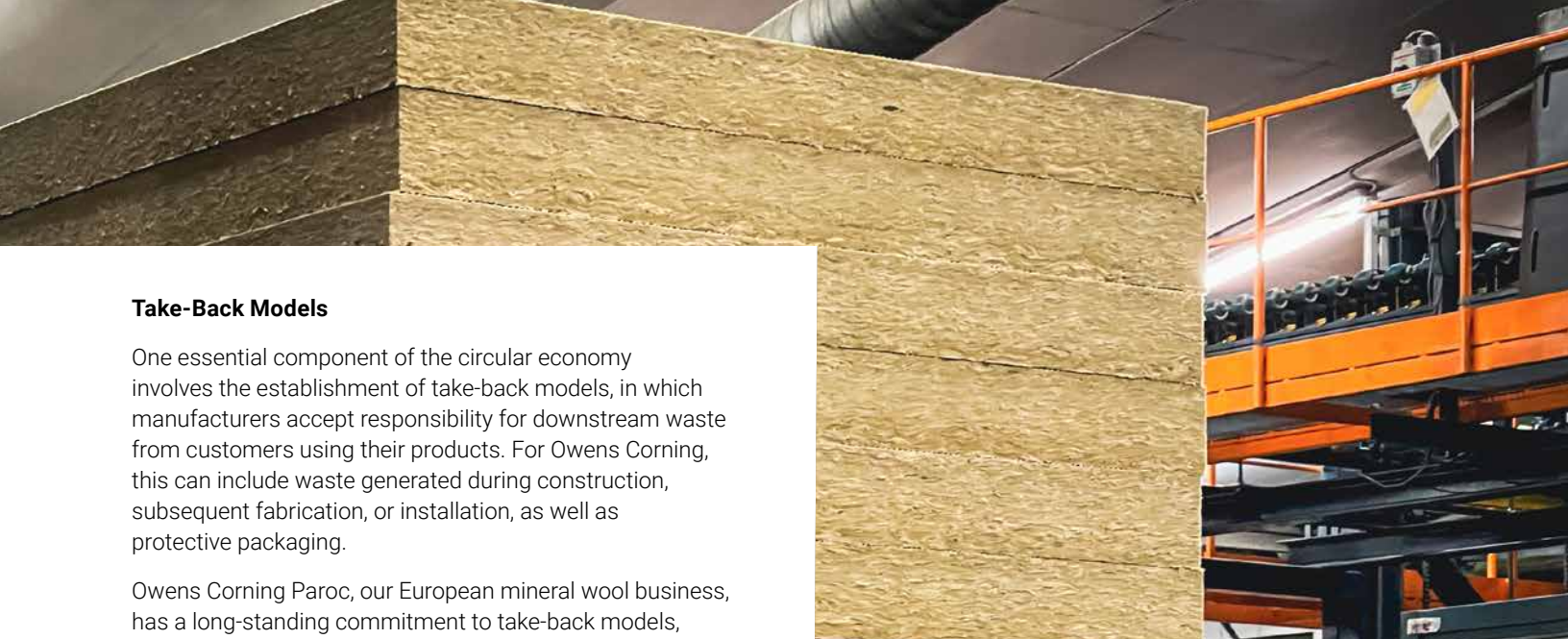
Building a circular economy model requires a tremendous amount of collaboration — across all our businesses, among our various departments, and with all our customers.

**On the next two pages, we provide some examples that demonstrate our commitment to the circular economy — and how we're putting our ambitions into action.**



Photo submitted by:  
**Karmakar Rupak | Silvassa, India**





## Take-Back Models

One essential component of the circular economy involves the establishment of take-back models, in which manufacturers accept responsibility for downstream waste from customers using their products. For Owens Corning, this can include waste generated during construction, subsequent fabrication, or installation, as well as protective packaging.

Owens Corning Paroc, our European mineral wool business, has a long-standing commitment to take-back models, dating back to 1996 (before the company was acquired by Owens Corning). They developed the Rewool program, a customer take-back model for their mineral wool. Leftovers from trimming stone wool insulation during installation, which would have once gone to a landfill, are now collected and recycled for future use.

Their take-back model required technological innovation throughout the process, from when and how the material is collected in bags, containers, or compressed bales, through storing, pretreatment, and the final recycling procedure. In developing this process, the team worked to ensure that it was safe, easy to work with, and efficient. For example, in one business model, stone wool cut-off is pretreated by grinding it, then it is fed directly back into new products, eliminating processes that would involve additional resources, such as remelting.

In recent years, Owens Corning Paroc's take-back model has continued to improve, and we are expanding by entering agreements with partners for support in collection and logistics to increase efficiency and flexibility in our model. The model was expanded into Finland in 2020, where customer waste from installation is processed and recycled into blowing wool. Our recycling partner reported that about 5,000 MT (mainly stone wool and a small amount of glass wool) was recycled in 2021, of which approximately 120 metric tons were attributable to Paroc. We are working with our customers to tailor the model to suit the specific needs of the building sites, including those striving to achieve zero waste-to-landfill. In October 2021, our Swedish take-back model was expanded, enabling us to recycle offcuts from customers in Norway. Byproduct is transported via a third-party waste handling company from Norway to one of our facilities in Sweden for recycling. This is an ongoing project for Paroc, one that shows a great deal of promise for the circular economy and will serve as a learning-pilot for implementation in our other markets.

In addition to these efforts, we have developed a take-back model for our metals packaging products. This initiative is discussed in more detail on page 91 as part of our commitment to closing the loop on protective packaging.

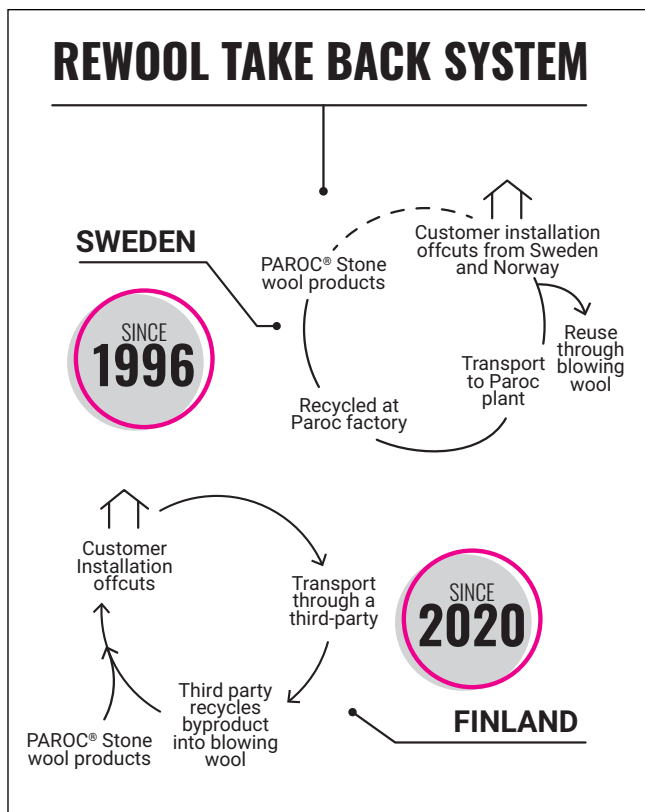


Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**

## Shingle Recycling

Each year, over 13 million U.S. tons of shingle waste is generated. Less than 10% of that is manufacturing waste, and the remaining balance consists of shingles removed at the end of their life, after decades of use protecting homes. Over the years, Owens Corning has attempted to solve this problem with varied approaches. By volume, the most impactful use of shingle waste has historically been to process for reuse into asphalt paving.

The Specialty Asphalt paving business has leveraged the Owens Corning contractor network and our unique position in the roofing and paving industry to develop opportunities for recycling post-industrial and post-consumer Recycled Asphalt Shingles (RAS). At its peak in 2015, two million U.S. tons of RAS were used in paving, and although that amount has dropped considerably, we are confident that with the right technical expertise, processes, and products, it can be an important contribution to the shingle circular economy.

Owens Corning worked with companies in Oklahoma City, Oklahoma, U.S., to reuse byproducts from manufacturing and post-consumer shingle waste in paving applications. Using balance mixed design (BMD) techniques, the asphalt mixtures contained up to 5% recycled asphalt shingles and 20% reclaimed asphalt pavement. Through this program, the team diverted 18,000 U.S. tons of shingle waste from landfills in 2021. Additionally, Owens Corning is continuing to innovate with technology and contractor partners on further developing and refining mix designs which will build confidence among departments of transportation and the paving industry to increase the use of RAS in paving, unlocking potential for significant diversion waste shingles from landfills in the future.

In addition to diverting shingles to paving applications, by deconstructing the component parts of the shingle — its granules, glass, sand, and filler — we are pursuing the capability to extract the value from those components. Owens Corning is working with a range of companies, from large corporations to small entrepreneurial innovators in adjacent industries, to develop efficient, effective, and practical ways to bring end-of-life shingle waste into the circular economy.

In conjunction with these efforts, our Roofing business is promoting recycling among roofing contractors. We have created a campaign designed to highlight the benefits of recycling. This includes increased demand for sustainable products, especially as younger generations enter into homeownership, as well as limits on building waste in landfills, which are imminent. To support contractors in this campaign, we have developed a range of marketing materials, including flyers, yard signs, door hangers, and more, which they can use to differentiate themselves from the competition and to help build their brand as a company that cares about sustainability. While our ability to fully implement this campaign remains contingent on the availability of shingle recycling sites near the contractor, we are confident that this

engagement of contractors can be an important component of our shingle recycling initiatives in the future.

We are also working with the markets into which these products would go, from roofing solutions to industrial asphalt and the specialty paving industry. The use of reclaimed asphalt pavements (RAP) is one of the largest circular economies in the U.S., representing over 85 million tons each year. Our Specialty Paving business participates in this through the development of unique binders that allow for increased use of RAP in asphalt pavement.

In addition, we are addressing waste through our work with industry organizations and regulatory agencies. Owens Corning has a leadership role with Asphalt Roofing Manufacturers Association (ARMA) with respect to the Asphalt Roofing Recycling Committee and the Asphalt Institute Foundation (AIF) research area. We recently helped sponsor and participated in ARMA's shingle recycling forum, which was a virtual national event focused on recycling. We also are working directly with agencies such as CalRecycle, an organization within the California EPA, to share best practices and collaborate on programs which promote the development of sustainable practices at the intersection of industry and state policy.

## 3D Printing

One way we are using technology to implement the circular economy model is through 3D printing, including metal 3D printing. We have found it to be a valuable resource in our development of prototypes, and we are actively working to expand our capacities in that area. In 2021, we installed a new 3D metal printer in our prototyping lab in Granville, Ohio, U.S. In addition, our partnership with The Ohio State University has enabled us to 3D print a critical part in our manufacturing process.

The implementation of 3D printing offers us several advantages in reducing waste generation, which is aligned with our circular economy goals, as materials can be recycled back into powder. This creates a closed cycle with very little waste. In addition, when parts can be printed on demand, we can potentially have fewer parts on hand as inventory.

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“ Owens Corning is working to develop innovations that will increase the use of recycled asphalt shingles in paving — and divert more shingle waste from landfills. ”

## CIRCULAR ECONOMY PERFORMANCE



### Wind Turbine Blades

Wind power remains a central component of the world's renewable energy strategies, and Owens Corning is proud to produce glass used in the reinforced composite materials that make wind turbine blades and nacelles. To fulfill wind power's potential, we also recognize the need to develop end-of-life solutions for these blades. Left unchecked, there could be as much as 2.2 million metric tons of high-volume wind blade waste in landfills by 2050 in the U.S. alone.

In the U.S., Owens Corning collaborates with organizations such as the American Composite Manufacturers Association (ACMA) and the Institute for Advanced Composites Manufacturing Innovation (IACMI), as well as other stakeholders in the wind industry value chain to develop solutions to effectively deal with this amount of waste. In addition to extending the service life of turbine blades, from 20 years to 30 or 40 years, we have been looking at ways to close the loop where waste is concerned.

In addition, efforts are being made to find above-ground storage options, which allow for a quick transformation from end-of-life in a landfill to other, more beneficial solutions. For example, the materials can be used in cement kilns where energy and chemical content can be extracted, and the remaining inorganic materials are a raw material source for the cement.

We are collaborating with industry partners to develop processes to cut and section wind blades, strip them of their metal, and shred them. We are also working with startup companies to conduct controlled pyrolysis processes for successful recovery of energy and glass fiber. In addition, current efforts are underway with the National Renewable Energy Laboratory and blade manufacturers to pelletize the shredded blade as a potential molding material for new wind blades. The pellets can also be used as a molding material for a variety of applications, including use in packaging, decking, and railroad tie manufacturing. The challenge is to be able to do this economically, at the scale required to fully divert blades from the landfill.

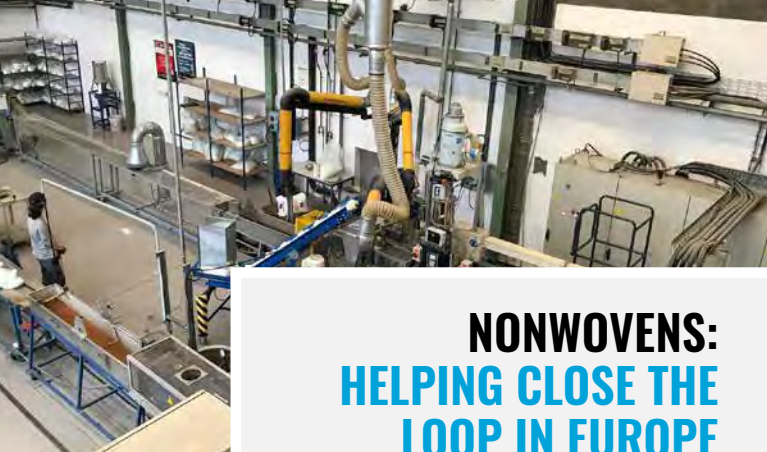
Owens Corning is also a partner in the ZEBRA (Zero Waste Blade ReseArch) project in Europe, a cross-sector consortium launched in 2020 to develop the first 100% recyclable wind turbine blade. A number of products have been manufactured with input from our Chambéry wind lab, including glass fiber reinforcements that enhance composite performance when used with a new thermoplastic resin. In addition, testing is ongoing to identify resin-matrix interface properties that will deliver the optimal solution for our customers. Owens Corning has also been invited to participate and is engaging with another ongoing European consortium focused on deconstructing and recycling first generation wind turbine blades. These blades use thermoset resins which by design are more difficult to deconstruct and recycle. Owens Corning will be exploring options to rejuvenate recovered glass fibers from these processes or remelt in our production facilities, which effectively converts unusable glass to new glass made from recycled content.



Photos submitted by:  
**Olivia Kasle | Ann Arbor, Michigan, U.S. (top)**  
Wind farm.

**Anna Brivio | Besana, Italy (bottom)**  
Windmill in Normandy, France.





## NONWOVENS: HELPING CLOSE THE LOOP IN EUROPE

Achieving zero waste to landfill is an essential part of our circular economy ambitions, and this often involves finding new uses for materials that might otherwise have simply been discarded. This can be challenging; for example, we currently have no suitable internal process to recycle waste from the manufacturing of nonwoven materials in its roll form, and there are currently not enough diversion outlets available to successfully recycle all nonwoven waste. This is due in part to the complex nature of nonwoven material, which combines glass fibers with fire retardants, organic binders, and mineral fillers.

To help drive the implementation of the circular economy model, Owens Corning has established a pilot program at our facility in Apeldoorn, Netherlands, which aims to address this challenge by developing cost-effective ways to upcycle nonwoven waste material. The project team has been working with a thermoplastic compounder, who is making compound from our waste mat fibers and recycled polymer.

In 2021, the project achieved an important milestone as the team performed the first-ever successful compounding and injection of 100% post-industrial recycled flakes. After testing different grinding technologies for making these glass flakes, we have upgraded the compounding line at our Science & Technology Center in Chambéry, France, for testing these materials and defining a comprehensive value proposition. One promising avenue is in thermoplastic compounding and injection molding, in which nonwoven byproducts are repurposed to make components for use in automotive, appliance, and electrical applications.

By diverting waste from the landfill, the project also has the potential to deliver significant savings in terms of landfill costs. Looking ahead, the team is working to leverage additional external partners and identify new thermoplastic applications. In addition, they are gauging the extent to which the project can be expanded beyond the Apeldoorn facility's nonwoven waste and into other nonwoven or glass fiber byproducts. These options may include thermoset resins, cement-based formulation, and wood- and paper-based products.

## Protective Packaging

Single-use plastics are known to be a major polluter of the environment. In addition to being non-biodegradable, they are too often disposed of without thought to where they will accumulate. Without taking the proper steps to collect, process, and ultimately reuse or recycle plastics — including packaging — their buildup and ultimate degradation in landfills and oceans threaten both the environment and human health. To address this critical problem, nations around the world have agreed to work toward the elimination of single-use plastics. The European Union is leading this effort by announcing new regulations, effective in 2025, to drastically reduce plastic pollution and establish circular economies.

Owens Corning is a global producer of woven plastic packaging, used to wrap lumber, steel, and engineered wood products. We are currently working to reduce plastic waste by recycling our own manufacturing scrap, which is reprocessed and fed back into our standard production processes. Furthermore, the Roofing Components Product Development team has made significant progress to establish partnerships with European recyclers to launch a closed-loop recycling program.

As regulations around the world continue to evolve, the need for packaging solutions that contribute to the circular economy becomes an even greater imperative, especially in Europe, where we seek to offer a closed-loop recycling solution for our products as recyclability requirements are growing increasingly stringent. Our team in Europe has contracted with a legal firm to offer guidance regarding the regulation of packaging recycling both throughout the continent and within individual countries.

For example, one large steel company required recyclable packaging to replace the non-recyclable plastic-coated paper they had been using. We have worked with them to develop options that could protect their steel coils in transit and then be safely recycled. By using different corrosion inhibitors, we were able to develop new nitrite-free VCI packaging to go into our metals packaging products. In addition, our take-back program creates a pathway that greatly facilitates recycling. The customer can use the product to its end of life, we coordinate with partnering companies to collect and reprocess the material, and then we are able to reintroduce the materials into our products, creating a full closed-loop system.

## Reusable FOAMULAR® Packaging

Broadening their efforts to reduce the use of single-use plastics, the Roofing Components team has repurposed their lumber wrap product as a reusable packaging for shipping FOAMULAR®, replacing stretch wrap. Not only was stretch wrap single-use, but it also required a tarp to be installed over the pallets on the truck, which resulted in expensive additional shipping costs. The reusable lumber wrap packaging not only easily slips over the FOAMULAR® pallets and provides Owens Corning with an exciting branding opportunity, but also saves the company \$2.3 million in freight costs annually. As an additional benefit, the elimination of the tarping process reduces safety risks as trucks are loaded.

# SPEAKING OF SUSTAINABILITY

## Robert Camm

Roofing Asphalt Sustainability Scientist

With his long-standing interest in reducing waste and inefficiency, Robb Camm immediately recognized the circular economy model's potential to be a game-changer, and how it can reshape the ways we design, innovate, and manufacture. Robb is a roofing asphalt sustainability scientist based at our Science & Technology Center in Granville, Ohio, U.S., and he actively seeks ways to integrate the principles of the circular economy as he develops innovations for our Roofing business, including end-of-life solutions for shingle waste. Robb shares his philosophies regarding the circular economy, as well as the challenges we face on the way to progress.



**“ Owens Corning has the potential to truly make a measurable difference. ”**

### On the comprehensive nature of the circular economy

A true circular economy to me is a system or process that is regenerative in nature from start to finish. That includes employing renewable energy in production, creating products from recycled material feedstocks, and then ensuring the products are easily regenerated or reused as opposed to being wasted. It's not only about using recycled material to produce consumer goods, but engineering innovative products that can be harvested for reuse or recycling.

### On the gravity of the situation and the role of Owens Corning

The modern form of our human ancestors evolved around 200,000 years ago, and we have managed as a species to knock this planet out of balance just within the past approximately two hundred years, marked by the beginning of the industrial revolution. It makes me sad to know that generations before me started this process, and I want to belong to a generation that helps break that trend. Furthermore, Owens Corning has employees in over 30 countries, so its reach is large, and its impact is equally as big — global in scope, but human in scale. Owens Corning has the potential and can truly make a measurable difference in this specific branch of sustainability.

### On the progress we've made and the road ahead

We're talking about things that are not going to change overnight. It's a long game to play. Honestly, one of the hardest parts for me was wanting immediate results. I definitely had to come to terms with the fact that shingle recycling and reuse have been explored by Owens Corning scientists and engineers for years. The difference is we now have some tools and newer technologies to help us answer questions or solve problems that we didn't have before. It took decades for us to be able to get to a point where we can study this with high impact, and it's going to take more than just a few years of my time to make sure that we're doing it correctly and that we're implementing it in a way that contributes to the circular economy. It's also not just a problem for Owens Corning. Every company and every household have roles to play — because every bit of sustainability matters.

Photo courtesy of Robert Camm



Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**

## Local Circular Economy Initiatives

From large-scale enterprises to smaller on-site campaigns, Owens Corning sites around the world are taking steps to contribute to the overall circular economy and achieve our sustainability goals. The following examples demonstrate our commitment and serve to inspire us at every level.

### ■ Liversedge, U.K.

In February 2021, this Composites plant introduced a new process in which rolls that previously would have gone to waste can now be sent to a third-party company, which will use them in road construction and in the creation of children's play areas. While this process is still being refined, it marks an excellent first step toward closing the loop on waste. We anticipate expanding the program in 2022, as shipping difficulties related to COVID-19 are resolved.

### ■ Parainen, Finland

Our stone wool plant has taken another step forward in reducing waste with the installation of dewatering equipment in May 2021. This equipment reduced moisture content in wet and filtered waste to 12%, which enables the dewatered waste to be fed back into the electrical melting furnace.

### ■ Joplin, Missouri, U.S.

In July, this Owens Corning mineral wool plant entered into an agreement with the Cherokee County Road and Bridge Department in Missouri. Through this arrangement, the county will be diverting byproduct materials from the landfill and using them in the maintenance of roads throughout the region. This initiative has the potential to reduce the site's waste-to-landfill by 95% or more.

### ■ Wabash, Indiana, U.S.

Our plant sends byproduct to 10X Engineered Materials, which owns and operates a recycling facility designed specifically to process our plant's dragline shot to be used as sandblasting material for the abrasives market. After delays related to COVID-19, the company's sales have begun to dramatically increase. In 2021, the U.S. Navy began using 10X materials for use on a submarine base.

### ■ Changzhou, China

The technical fabrics plant here provides glass waste to a third-party company, which uses it to make glass reinforcements for a variety of composite applications. The company is also evaluating other Owens Corning Fabrics plants' waste streams for use in their operations.

### ■ Fairburn, Georgia, U.S.

This insulation facility uses over 100 million pounds of recycled glass each year. Among the sources for this glass is a third-party recycling company, which provides the plant with glass collected from apartment complexes, bars, restaurants, and stadiums throughout the Atlanta, Georgia, area.



## GOING FORWARD

In many ways, our commitment to the circular economy model is at the center of our sustainability journey.

It's connected to our waste management strategies, our approach to product innovation and stewardship, and ultimately our plans for sustainable growth.

Our circular economy team has brought a streamlining of our various circular economy initiatives, helping us focus our actions at our sites around the world, and they will be integral as we continue to develop our circular economy model. This will require the establishment of effective processes and the cooperation of our entire value chain as we develop innovative products and cultivate the markets in which they will be used throughout their life cycles.

With this team in place, Owens Corning is now in an even better position to invest in the capabilities needed to achieve our circular economy ambitions, from people to resources to emerging technologies. We have begun a pilot program to build capability for recycling within our Composites business with the aim of enabling circularity. We are also investigating the potential in processes such as chemical recycling, which could prove valuable as we try to perform tasks such as separating fibers from resins and chemicals. This level of investment demonstrates our dedication to this bold – and very necessary – rethinking of the way we do business.

Photo submitted by:

**Claudia Cantu | Houston, Texas, U.S.**

Alyssa Macias inspects shingles on the manufacturing line.



# PRODUCT INNOVATION & STEWARDSHIP

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- PRODUCT INNOVATION
- PRODUCT STEWARDSHIP
- PRODUCT SUSTAINABILITY & TRANSPARENCY
- GOING FORWARD

Owens Corning products help make the world a more sustainable place, from insulation and roofing products that save energy in homes and workplaces to composites that help make renewable power even more viable. That's our product handprint — the positive impacts we have around the world — and extending that handprint is vital.

One way we do that is through innovations that are in keeping with the principles of product stewardship. Our people are working to lower our negative impact wherever possible and transparently present that progress. And given the ingenuity and passion of our people, we are confident that the goals we have set are within reach.

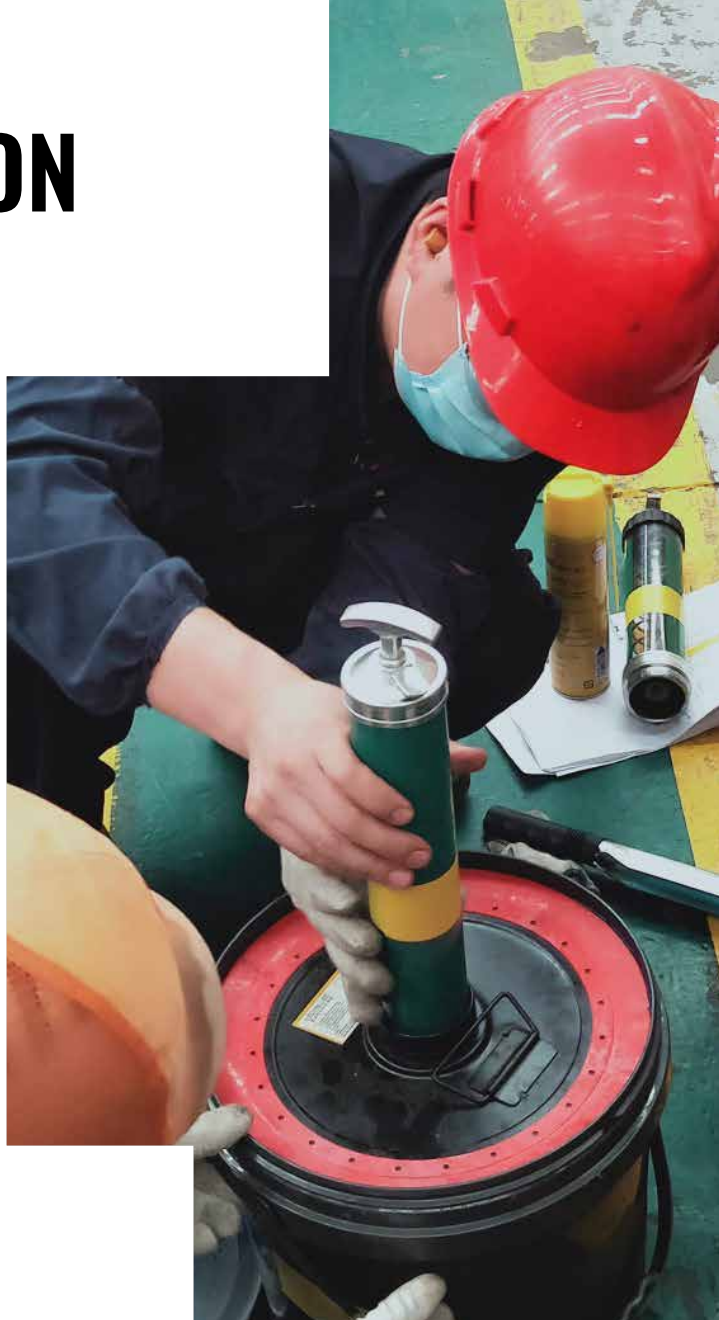


Photo submitted by:  
**Qu Leilei | Qingdao, China**

Our product innovation and stewardship efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

We utilize innovation in the principles of product stewardship to ensure that our products are fundamentally safe and sustainable in their design, creation, use, and eventual end of life. We also seek to drive continual improvement in the sustainability of the products we offer, both in their creation, and in their ability to help the world meet its sustainability needs.





## 2030 GOALS FOR PRODUCT INNOVATION & STEWARDSHIP

**By 2030, we intend to offer the most recognized and preferred products for sustainability.**

To meet this ambitious goal, we are striving to implement strategies that deliver the lowest impact with respect to embodied carbon among all available options.

We will design our products for recycling or reuse at their end of life while using Life Cycle Assessments as our guide. We will ensure our products contain a high percentage of recycled and renewable materials.

In addition, we will collaborate with our suppliers to increase transparency regarding the raw materials we use in our products. This helps us understand and control the full impact of our products — and enables us to share that information with our customers so they can do the same.



Photo submitted by:

**Eddy De Munter | Zele, Belgium**

Umman Tanriverdi (right) presents her new design concept on the Max20 and Max22 to eliminate fabric waste, reduce costs, and help solve concerns from operators. Also pictured is Wendy Crabbe (left).

## OUR APPROACH

**Product innovation** is essential to all three of our core businesses — Composites, Insulation, and Roofing — as we develop new products and applications across a growing range of key market segments. This innovation is inspired by the needs of our customers and addresses growing global trends. By collaborating closely with stakeholders, we can deliver sustainable solutions that meet the demands of the marketplace.

As these demands increasingly include the need to address human impact on the environment, our approach to innovation is rooted in a commitment to sustainability. That means our products can make a material difference as people and companies work to meet their own sustainability goals.

**Product stewardship** is a driving force behind our approach to innovation. As we develop new products or improve existing products, everyone involved understands that they share the responsibility for reducing those products' environmental footprint and increasing its product handprint.

**Product sustainability and transparency** is engrained in our commitment to delivering innovation that also provides sustainability advantages for customers across all our businesses. We achieve this by evaluating our products' environmental and material health. Many of our insulation products are GREENGUARD® Gold Certified, meeting the most stringent standards on indoor volatile organic compound (VOC) emission levels. We are working to increase the number of Health Product Declaration® (HPD) and Declare "nutrition labels" for our products, and we are participants in and sponsors of the Embodied Carbon in Construction Calculator (EC3) tool. This tool is used to help designers and specifiers make more informative choices when it comes to product selection.

At every point in a product's life cycle, we must consider its potential environmental impact. To mitigate that impact, we work to ensure our products are sustainably made, using our stringent stewardship process to evaluate 100% of our new and significantly modified products for EHS impacts.

**Our eleven Science & Technology Centers, located in key markets around the world, play a vital role in the development of solutions that meet customer needs and address global concerns regarding sustainability.**





## PRODUCT INNOVATION

As we work toward our 2030 sustainability goals, we can point to the progress we have already made in increasing the sustainability of our products. These examples demonstrate the effectiveness of our approach to product sustainability evaluation as part of our innovation process.

### Products That Make a Material Difference

Owens Corning's commitment to sustainability drives innovation across all three of our businesses. The result is a portfolio of products that help make the world a better place. The following examples represent some of our recent successes.

### Insulation Innovations

#### PINK Next Gen™ Fiberglas™ insulation

Launched in 2021, PINK Next Gen™ Fiberglas™ insulation features a number of innovations that increase our overall product handprint. The trade association NAIMA estimates that insulation saves 12 times the energy required to manufacture it within the first year of its use, and PINK Next Gen™ Fiberglas™ insulation offers even greater sustainability advantages, including the highest certified recycled content in the industry. In addition, it is certified made with 100% renewable electricity through the use of power purchase agreements, and it has earned Underwriter Laboratories GREENGUARD® Gold certification for low volatile organic compounds. (See [page 107](#) for more about our products that are certified as made with renewable electricity.)

The first project built with **PINK Next Gen™ Fiberglas™** insulation was a specially adapted smart home that was designed for a severely wounded U.S. military veteran and his family. Owens Corning donated these materials as part of our partnership with the Gary Sinise Foundation. Learn more in the [Community Engagement chapter](#) of this report.

#### FOAMULAR® NGX™ insulation

As an important step toward our goal to combat climate change, in 2020 Owens Corning introduced a new product line: FOAMULAR® NGX™ (Next Generation Extruded). The proprietary blowing agent in this new line of extruded polystyrene (XPS) foam products is optimized to demonstrate a greater than 80% reduction in embodied carbon compared to legacy FOAMULAR® insulation products. The investment in developing a product that meets and exceeds the stringent regulations going into effect in 2021 and 2022 reflects Owens Corning's commitment to offering building materials that merge the highest levels of performance and sustainability.

#### Pure Safety® insulation

We have expanded the reach of this high-performance insulation, the only building material to offer Asthma Allergy Free certification. This product offers an incremental reduction of dust in the material.

#### PAROC® Natura insulation

This line of stone wool insulation uses low-carbon melting technology, green electricity, recycled waste materials, and new technologies to reduce the amount of virgin raw material used and offer a product with very low CO<sub>2</sub> emissions. The remaining emissions are compensated by reducing global CO<sub>2</sub>e emissions through the purchase of offsets in a Verified Emissions Reduction Scheme. The new product line, which is certified as carbon-neutral by a third-party, offers durable insulation for the building industry and became available in Finland, Norway, and Sweden at the beginning of 2021.

**Net-positive:** When a product is saving more energy in use than it took to produce it.

**Legacy FOAMULAR®** becomes net-positive in approximately 3.4 years.

**New FOAMULAR® NGX™** becomes net-positive in about 7 months.

Photo:  
FOAMULAR® NGX™ insulation being installed.



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## Composites **Innovations**

### **WindStrand®**

This innovative material allows wind blade manufacturers to use 30% fewer layers of material in the blade molds, while delivering the same quality and performance as standard fabrics. This in turn represents a 50% savings in labor and production time for the blades.

In March 2021, we introduced WindStrand® 4000, as well as Ultrablade® 2 and Ultraspar™ 2, three high-performance materials that help wind blade manufacturers develop longer, stiffer, stronger blades. This in turn helps make wind energy more cost-effective.

In 2021, Owens Corning introduced ArmaStrand™ Type 30® Single-End Roving product into the Russian market. This product is specifically designed to provide customers with productivity savings while increasing the service life of rebar. Using corrosion-resistant Advantex® glass fiber, ArmaStrand™ has the flexibility to be used in a variety of rebar manufacturing processes and maximizes the mechanical properties of rebar systems with increased fiber content and higher bar modulus to meet new industry demands.



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## Roofing **Innovations**

### **Duration FLEX®**

The only modified polymer asphalt shingle with SureNail® technology, with nearly 1.5x the nail-pull strength and 10% better strength than standard shingles, Duration FLEX® also features improved granular adhesion and meets the highest impact resistance rating. After a successful launch in the U.S., Owens Corning developed a version specifically for the Canadian market. In 2021 Owens Corning continued to promote Duration FLEX® in Canada to allow customers to access a version of Duration FLEX® that meets CSA 123.5 standards as well as UL 2218 Class 4 impact resistance.

### **The Cool Roof Collection**

Using a highly reflective granule technology that reflects the sun's rays, Cool Roof shingles help reduce energy use by keeping roofs cooler and reducing air conditioning energy levels. Owens Corning offers a wide array of shingle choices that meet or exceed an aged SRI of 20 — the current aged Solar Reflectance Index minimum required for the Green Building Standards Code of Los Angeles County and Los Angeles City Cool Roofs Ordinance. In 2021, Owens Corning launched Duration® COOL Plus Midnight color providing a new dark color offering in this energy saving line.

### **Trumbull® Asphalt**

Over the last six years, our Trumbull® asphalt has made significant strides to reduce the number of oxidized products we produce for external asphalt markets. In 2015, 8% of our products were non-oxidized. Today, approximately 50% of the products we produce for the external asphalt business are non-oxidized, requiring less energy, lower temperatures, and fewer emissions. This has resulted in a 3% improvement in material efficiency across the 12 asphalt plants in the network.

### **Recyclable Protective Packaging**

The European Union's policy requires all plastic packaging in the EU market to be recyclable or reusable by 2030 to support the transition to a circular economy. Owens Corning is partnering with key players in lumber and steel to develop solutions through our expertise in polymer streams, with a goal of achieving these solutions by 2025.

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Photos:

#### **Top:**

Windstrand® composite material.

#### **Bottom:**

TruDefinition® Duration® COOL Plus Shingles in Midnight.

# SPEAKING OF SUSTAINABILITY

## Laurand Lewandowski

Director, Asphalt Innovation

With more than 30 years' experience in the asphalt industry — over 10 of them at Owens Corning — Laurand Lewandowski has insights into the innovations that have shaped where we are today and the trends that will be guiding us in the future. Laurand has been focused on sustainability for years, and his expertise has helped move Owens Corning toward our goals in many areas. Here, he discusses some of the key elements of his work in sustainability, as well as the collaborations required to achieve our aspirations.



“ We have to be holistic, from the innovation side and from the business perspective. ”

### On having a scientific basis for sustainable innovation

From a scientific perspective, you have to start out by defining your technology roadmap — how you are going to get from the point we are at today to the point in the future, where we're able to divert a significant amount of our waste from landfill. And so we have to be holistic about what steps that takes, not only from the innovation side, from the science and technology area, but also from the business perspective, building out that ecosystem so that you have a sustainable process for achieving our goals.

### On new developments in specialty paving

We entered the specialty paving business in 2015 and targeted some of the more niche areas that we could bring our technology strengths to. We had a couple of contractors that were very progressive and wanted to look more at recycling, so we partnered with them to make an asphalt mix design, which incorporated not only RAP (reclaimed asphalt pavement), but also recycled asphalt shingles. Working with our roofing plants' manufactured shingle waste, third parties who process those shingles, and then the hot mix asphalt contractor and our asphalt plant, we were able to successfully divert over 15,000 tons of shingle waste from landfill. By finding a key contractor that recycled the material and made a good performing pavement, we have a stepping stone to getting that approved by departments of transportation in the future.

### On working with the Asphalt Roofing Manufacturers Association (ARMA)

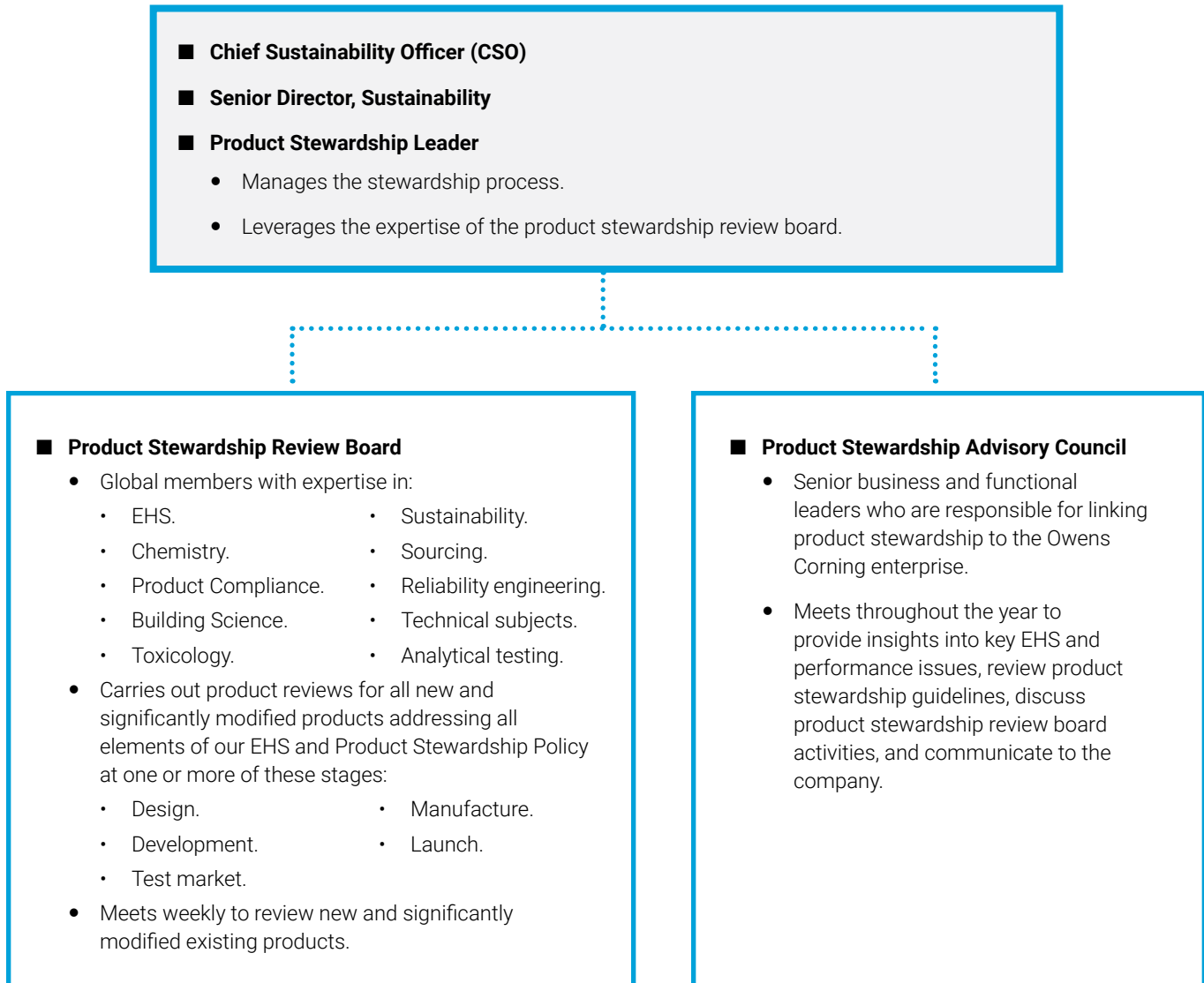
I chair ARMA's Asphalt Roofing Recycling Committee, and it's an exciting time because ARMA is putting out a recycling statement that will be defining the vision of the industry going forward, so I have an opportunity to help craft that message for Owens Corning. This aspiration goal will then help focus the industry on the long-term diversion of shingle waste from landfill and back into circular economies.

Photo courtesy of Laurand Lewandowski



# PRODUCT STEWARDSHIP

Owens Corning's product stewardship program is a collaborative effort among many individuals, each of whom bring their own expertise across a range of subjects. The entire product stewardship organization provides counsel, guidance, and direction to ensure compliance with the Owens Corning product stewardship policy and Owens Corning standards. The product stewardship organization consists of the following:



## Product Stewardship Policies

Owens Corning's Business Code of Conduct requires that all new and significantly modified existing products receive at least one product stewardship review to ensure they comply with Owens Corning's Environmental, Health, Safety, and Product Stewardship Policy, including regulatory compliance and other requirements.

We have product stewardship guidelines and standards that our product developers, engineers, and scientists are expected to follow to help meet our objective for our products to be:

- Safe and environmentally sound to make.
- Safe and environmentally sound to use.
- Safe and environmentally sound to dispose of.
- Able to perform as claimed.



Photo submitted by:  
**Jill Ries | Granville, Ohio, U.S.**

Marilyn Pennington follows proper protocol to check the asphalt tank.

## The Purpose of Product Stewardship

Our commitment to stewardship encourages us to thoroughly evaluate the sustainability of everything we do, from design to production — and to challenge ourselves to perform more effectively year over year. Across all three of our businesses, we seek to implement continuous and measurable improvements in the way our products are developed and produced, to reduce the environmental footprint of our products by:

- Saving energy and water.
- Using salvaged, recycled, or plant-based content.
- Conserving natural resources by reducing material usage, or using materials that are exceptionally durable, low-maintenance, or renewable.
- Reducing the risk of exposure to hazardous and harmful materials.
- Contributing to a safe, healthy indoor environment.
- Striving to make products that are reusable and recyclable at end-of-life.

Throughout the development of new products, we consider the following criteria:

- Choice of raw materials, including reducing the use of water, energy, or virgin materials and increasing renewable raw materials.
- Direct operations, production, and manufacturing, including the reduction of emissions, energy use, water, hazardous substances, and toxic materials.
- Distribution, storage, and transportation, including increased safety, packaging choice, or reduced environmental impact.
- Use phase — operation and servicing/maintenance, including energy, water, and material savings, as well as increased product durability.
- End-of-life management, including recovery, disposal, and biodegradation.



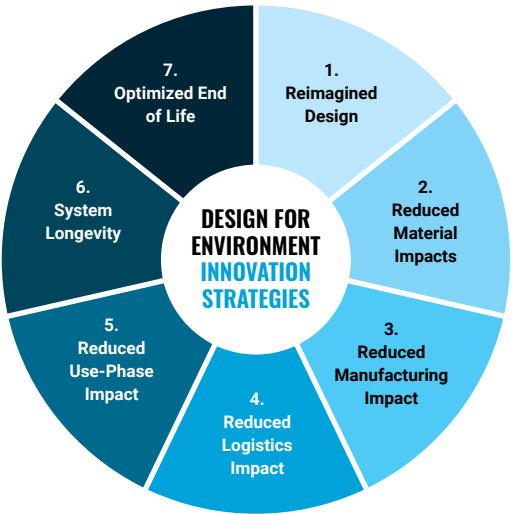
**Our focus on incorporating recycled materials throughout the product innovation and stewardship processes helps us further our goals for the circular economy.**

Evaluating Sustainability Impacts

As part of our product stewardship review process, we evaluate the sustainability impacts of R&D projects, new products, and new processes. In 2021, we began using the Ecodesign Strategy Wheel to make these evaluations. Based on the Okala Ecodesign Strategy Wheel, this powerful brainstorming tool integrates stage-specific Design for Environment and product sustainability strategies into the innovation process, empowering product designers to consider ways to ensure product sustainability throughout our products’ life cycles.

The Ecodesign Strategy Wheel is available to all project teams and is recommended for use throughout the product development process, beginning in the early design phase. It focuses on seven areas of the product’s life cycle, in which our people are encouraged to consider the following principles:

- 1. Reimagined Design**  
We are encouraged to rethink how to provide the product’s service or function, anticipate technological changes and updates, and take inspiration from nature.
- 2. Reduced Material Impacts**  
We should choose materials wisely, avoiding those that damage human or ecological health while opting for those that adhere to our sustainability goals.
- 3. Reduced Manufacturing Impact**  
Products should be designed for quality control while minimizing energy use, water use, manufacturing waste, emissions, and the number of components and production steps.
- 4. Reduced Logistics Impact**  
We should develop reusable packaging systems and source local materials and production, using lowest-impact transport, while reducing volume and weight of products and packaging.
- 5. Reduced Use-Phase Impact**  
Products should be designed for carbon-neutral or renewable energy and encourage low-consumption user behavior while reducing toxic emissions and the consumption of energy, material, and water.
- 6. System Longevity**  
Products should be designed for durability, easy maintenance and repair, reuse, and repurpose.
- 7. Optimized End of Life**  
Products should be designed for fast disassembly and safe disposal, as well as use recyclable, nontoxic materials.



Throughout 2021, our primary focus was on training groups and individuals on the Ecodesign Strategy Wheel, as well as integrating product stewardship into our Project Review Board process.

Summary reports of product stewardship reviews are shared internally with leaders on a quarterly basis by the product stewardship leader. Throughout this tiered process, we measure and verify a product’s composition and development at key points, according to desired safety, performance, environmental, and sustainability attributes.

In 2021, 88 projects were reviewed, for a total of over 1,600 such reviews since 1997 and over 1,300 since 2006, the year product stewardship reviews were made a mandatory part of our Business Code of Conduct.



## EHS Impacts of Products and Services

Owens Corning strictly adheres to internal controls for environmental, health, and safety (EHS) impacts, which are incorporated into our Business Code of Conduct. Every year, all employees are required to complete training on this code of conduct, and new hires throughout the company must undergo more in-depth training on our stewardship process. It is our policy that 100% of new and significantly modified products and services must be assessed for environmental, health, and safety impacts.

## Failure Mode and Effects Analysis

We use many tools to ensure the safety of our products and processes, including failure mode and effects analysis (FMEA). FMEA is a systemic way to identify, evaluate, reduce, or eliminate problems in products or processes. FMEA is conducted by cross-functional teams to ensure it reflects different perspectives and knowledge. Based on the results, a risk mitigation plan is implemented to ensure our products are safe to use and perform as claimed.



Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
Employee inspecting a manufacturing line.

# PRODUCT SUSTAINABILITY & TRANSPARENCY

## Product Circularity and Recycled Content

Recycled content reduces waste and saves resources throughout our manufacturing operations. It also helps our customers comply with green building program requirements and achieve their own sustainability goals. Our commitment to using recycled content in our building materials is demonstrated through a multipronged approach:

- We seek to include or increase the content of recycled materials in our products and packaging, either in initial design or through continuous improvement.
- We validate recycled content through third-party verification bodies and offer documentation for use in green building programs such as LEED®.
- We promote the attributes of recycled content and educate customers and consumers on the value this brings to reducing landfill waste, as well as saving resources and energy.
- We promote green products and green operations, including the benefits of recycled content and reducing impact over the products' life cycles for all the industries we serve.
- We participate as a member of organizations that promote recycled content in products, including the USGBC and its LEED® program.

Although most of the materials used in our processes are derived from non-renewable resources, we continue to look for opportunities to procure renewable sources, from raw materials to semi-finished goods and packaging. We are also focused on increasing our use of recycled packaging.

### Glass Recycling

Using crushed post-consumer glass — also called cullet — as a raw material decreases community landfill waste, and it lowers our energy use associated with manufacturing insulation, as starting with raw materials such as sand requires more energy. In fact, the Glass Packaging Institute (GPI) reports that energy costs drop by about 2-3% for each 10% of cullet used in manufacturing.

Even as we strive for higher recycled-glass content in our insulation products, the supply of recycled glass is at risk. According to the U.S. Environmental Protection Agency, only 31.3% of all glass containers were recycled in 2018 (the last year for which data have been published). In addition, many U.S. municipalities have removed glass from their curbside recycling programs, further threatening cullet supply.

To help counteract these trends, Owens Corning works with other companies and organizations to support the glass recycling industry and the glass recycling supply chain as a whole. The Glass Recycling Coalition (GRC) and the North American Insulation Manufacturers Association (NAIMA) are two of our key partners. Through GRC and NAIMA, we are particularly focused on promoting glass recycling in the Southeast, Northeast, Midwest, and Texas.

We also helped form a glass cullet task force, with the following objectives:

- Improving communication on end-use of glass containers to make fiberglass.
- Increasing glass container recycling rates.
- Improving glass cullet quality.
- Protecting current recycling programs at the state and local levels.

Owens Corning participates in several educational and informational workshops, including those by the Closed Loop Fund and recycled glass processor Strategic Materials, to promote open dialogue and collaboration among stakeholders interested in glass recycling.

As we work to reduce our impact on the environment, and despite ongoing challenges in a number of communities across the U.S., we continue to seek to increase our use of postconsumer bottle glass in North America. We believe the availability of high-quality recyclable glass is critical to the ongoing execution of both our environmental ambitions and our overall growth strategy.

**As we develop more end-of-life solutions and increase recycled content in our products and packaging, we make great strides toward enabling the circular economy model — which is essential to our sustainability ambitions.**



Insulation Products

Owens Corning is a leader in using recycled content in our fiberglass insulation, ranging from a minimum of 53% recycled content to a high of 73% recycled content in our Canadian-made products. Our North American residential fiberglass insulation is certified by SCS Global Services to contain at least 55% recycled content, while our commercial and industrial fiberglass insulation is certified to have a minimum of 53% recycled content.

In 2021, Owens Corning consumed more than 1.4 billion pounds of recycled glass globally, making us one of the largest users of recycled glass in the world. Our XPS foam insulation in North America has 20% certified pre-consumer content. Our Thermafiber® mineral wool insulation is manufactured to have a minimum of 70% recycled content and is validated by International Code Council Evaluation Service (ICC-ES).

2021 Recycled Input Materials (Metric Tons)

	2018	2019	2020	2021
Total weight of material used	7,695,265	8,208,112	6,812,476	8,416,366
Total weight of recycled raw materials	804,389	722,650	708,905	840,253
Percent of recycled content	10%	9%	10%	10%

Recycling and Reclaiming of Products and Packaging

Owens Corning was the first roofing manufacturer to establish a roofing contractor incentive program for recycling asphalt shingle roof tear-offs. Recycling torn-off shingles helps the environment in two ways: old shingles do not end up in landfills, and they get repurposed as pavement.

Each year in the U.S., approximately 13 million U.S. tons of potentially recyclable shingles are removed from the roofs of homes and buildings. Through a national strategic alliance with Earth911, we connect contractors with convenient recycling facilities. As part of the program, we ask contractors to help the environment and promote sustainable business practices by pledging to recycle their shingle tear-offs.

As of 2021, over 800 contractors in our network have pledged to recycle their shingle tear-offs, including 74 new contractors who made the pledge this year. The amount of recycled shingles continues to decline every year due to factors such as:

- Recycling centers closing.
- Recycling centers discontinuing their shingle recycling operation.
- Department of Transportation requirements.
- Stockpile of material, and difficulty in getting asphalt companies to take the material.

Our commitment to recycling also applies to our packaging. For example, Owens Corning uses wood pallets, which are reused throughout our plants, and the majority are recycled at the end of life. Recyclable cardboard is also used with some of our products. Each carton used for our insulation products contains up to 30% recycled content and is fully 100% recyclable after use. Cores used in our Composites business are made from recycled paper, and totes, bags, and super sacks are designed to be reused.



Photo: FOAMULAR® NGX™ insulation.



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## Product

### Certifications and Disclosures

Owens Corning uses third-party organizations to test and certify product attributes and to disclose their environmental, health, and safety impacts. We disclose core building products' environmental impacts through the issuance of EPDs, in accordance with ISO standards. We also perform regular follow-up testing to maintain our certifications.

Prior to being introduced in the marketplace, all product packaging and advertising is thoroughly reviewed by our technical services and legal departments, along with each business unit, to ensure compliance with all regulations and codes. In 2021, Owens Corning had no significant incidents of noncompliance with regulations or voluntary codes concerning the labeling, marketing, or advertising of our products and material services. In addition, Owens Corning had no incidents of noncompliance concerning the health and safety of our products in 2021. We have active product stewardship and product regulatory compliance programs designed to prevent product-related health and safety incidents.

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## Environmental Transparency

As part of our product sustainability goals, we are committed to evaluating our core products' impacts throughout their life cycles — and to being fully transparent about our findings. We adopted a two-part methodology to calculate this cradle-to-grave environmental impact.

- Conduct a life cycle assessment (LCA) according to the ISO 14040, 14044, and 14025, as well as ISO 21930 and EN 15804, followed by a third-party review and verification of appropriate product category rules.
- Develop an environmental product declaration (EPD) from the LCA and implement continuous and measurable improvements related to those impacts.

We remain committed to transparency about our products, from raw materials through production, use, and end-of-life, and will collaborate with our supply chain partners and customers to facilitate the adoption of a transparent value chain.

### Life Cycle Assessments (LCAs).

LCAs are comprehensive measurements of the environmental footprint of a product at all stages of its life cycle, from the extraction of raw materials, through processing, manufacturing, and product use, and all the way to its eventual end of life through disposal or recycling.

We have conducted full LCAs on 81% of our products, including shingles, fiberglass, mineral wool, FOAMGLAS® cellular glass, and extruded polystyrene (XPS) foam insulation, as well as composite glass product offerings such as reinforcements, nonwoven mats, and technical fabrics. In addition, we have simplified or "screening" LCAs for 5% of our other products.

By performing LCAs, we have identified many opportunities for improvement in our processes and products. We have also identified high-impact raw materials, enabling us to work with suppliers to reduce their footprint, which in turn helps us reduce ours. In 2021, we updated our LCAs on pipe insulation and roofing shingles.

In 2021, we updated our LCA on Thermafiber® insulation. We expanded and updated our LCAs covering composite glass products from 12 plants, focusing on rovings and fabrics.

Owens Corning is an organizational member of the American Center for Life Cycle Assessments (ACLCA). Our LCA practitioners are active members of the ACLCA, and one of our LCA practitioners serves on its board of directors and co-chairs the industry committee. The ACLCA is a nonprofit organization providing education, awareness, advocacy, and communications to build capacity and knowledge of environmental LCAs.

**In 2021, the ACLCA awarded their LCA Corporate Leadership Award to Cheryl Smith, product sustainability strategy leader at Owens Corning. Cheryl has been part of our LCA work for years, and she was integral to many of the early screening projects that helped establish the process.**

### Environmental Product Declarations (EPDs).

EPDs are a publicly available, third-party verified source for embodied carbon values. We have conducted LCAs and have issued EPDs on the following products:

- EcoTouch® Fiberglas™ insulation products.
- Unbonded loosefill insulation.
- FOAMULAR® XPS insulation.
- FOAMULAR® NGX™ XPS insulation.
- FOAMGLAS® cellular glass insulation.
- PAROC® stone wool insulation.
- PAROC® Natura Lana stone wool insulation.
- Thermafiber® mineral wool insulation.
- Owens Corning® asphalt shingles.
- WeatherPro® Lumber Wrap.
- Fiberglas™ pipe insulation.
- 700 Series Fiberglas™ insulation.
- QuietR® duct board.
- SOFTR® duct wrap.

## Made with Renewable Electricity

A growing number of Owens Corning® products, including some of our high-density insulation products and shingles, are certified as made with 100% renewable electricity and are part of a reduced embodied-carbon portfolio. These products were certified in accordance with SCS Global Services' certification protocol. The certifications are made possible by power purchase agreements Owens Corning signed in 2015, which enabled new wind capacity in Texas and Oklahoma. Both wind farms came online in late 2016 and have the potential to generate 1.1 million megawatt hours of electricity per year. Owens Corning obtains and retires the energy attribute credits (EACs) generated by these wind farms, enabling us to receive third-party renewable electricity certification.

We currently have 15 products that are certified:

- EcoTouch® Metal Building Insulation.
- EcoTouch® Flexible Duct Media Insulation.
- Pink® Next Gen™ Fiberglas™ Insulation.
- Unbonded Loosefill Insulation.
- Thermafiber® Insulation.
- Thermafiber® Formaldehyde-Free Insulation.
- QuietR® Duct Board Insulation.
- QuietR® Spiral Duct Liner.
- FOAMULAR® NGX™ XPS Insulation.
- Fiberglas™ 700 Series Insulation Board.
- Fiberglas™ Insul-Quick® Insulation.
- Ceiling Board.
- Duration®, Oakridge®, and Supreme® 3-Tab shingles from our facility in California.

These certified products, which make up 26% of our total revenues, alert commercial architects, specifiers, builders, and homeowners to lower-carbon product options as they seek to build greener structures. They also help architects design buildings with reduced life cycle impacts, in keeping with the recognized goals of the Architecture 2030 Challenge and U.S. Green Building Council's LEED® certification.

## Material Health

In accordance with our environmental, health, safety, and product stewardship policy, we provide information about all our products, their performance, and safe use. Product content information can be found on product labels, EPDs, HPDs, and other transparency documents such as Declare labels. Content and disposal information is included on safety data sheets or safe use instruction sheets.

### Health Product Declarations® (HPDs) and Declare Labels

HPDs are an effective means of reporting the chemical makeup of a product and disclosing potential hazard concerns. The reporting follows a set of stringent guidelines set by the Health Product Declaration Collaborative® (HPDC). Potential hazards are screened based on the GreenScreen for Safer Chemicals and additional lists from other agencies. HPDs enable architects, builders, and specifiers to evaluate and specify products with a comprehensive understanding of the product composition and potential hazards. Owens Corning's HPDs are available for download from the HPD Public Repository. In 2021, we worked to ensure that all certifications were current.

Owens Corning also has Living Building Challenge-Compliant Declare labels from the International Living Future Institute™ for unbonded loosefill fiberglass insulation, unfaced and kraft-faced PINK Next Gen™ Fiberglas™ (formerly EcoTouch®) insulation, faced and unfaced Thermafiber® formaldehyde-free mineral wool insulation, and Thermafiber® Rainbarrier® continuous mineral wool insulation. This certification demonstrates these products are fully compliant with the Living Building Challenge and allows them to be specified for LBC projects. In 2021, we worked to ensure that all certifications were current.

Photo submitted by:  
**Karmakar Rupak | Silvassa, India**



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## Managing Materials of Concern

All our manufacturing facilities and the products manufactured under our control are guided by our efforts to manage materials of concern (MOC), including chemicals that are not necessarily regulated, but which we believe pose sufficient safety, environmental, or regulatory hazard to merit restrictions on their use. These efforts apply to the use of raw materials and other substances used to produce products across all business activities. This includes research and development (R&D), manufacturing, tolling operations, distribution, and materials used to maintain the site facility and equipment. In addition, companies that supply us with raw materials are expected to verify that all materials used in the manufacture of Owens Corning® products or the sale of products to Owens Corning were sourced in compliance with all applicable environmental laws, regulations, and legal requirements, per our Supplier Code of Conduct.

As part of our product stewardship review process, a list of materials of concern is published on our intranet, where it is frequently updated. By consulting with these guidelines, we can:

- Control the use of chemicals, polymers, and other materials.
- Comply with laws and regulations in the places where we make and sell our products.
- Ensure our products are safe and sound to make, use, and dispose of.

To ensure the identification and replacement of any regionally banned or future banned chemicals, all our businesses are required to comply with the MOC list in the development of new or significantly modified products. These guidelines apply to all our controlled domestic and foreign subsidiaries and all other legal entities in which Owens Corning has controlling interest (>50%).

As stakeholders become more interested in understanding the chemical compositions of our products, our product sustainability team develops programs to address all product-related stakeholder questions and concerns.

Some of our products contain ingredients that have been banned in some regions, usually on a timeline for discontinuance. Though we use comprehensive risk assessments to ensure all our products can be used without harm to people or the environment, we put a replacement plan into action whenever we learn of an ingredient ban or discontinuance requirement. Under this plan, we also evaluate the applicable product line and enable R&D to address material substitution.

## Red List Chemicals

Many chemicals do not necessarily fall under regulatory restrictions in certain jurisdictions around the world, but green building rating system developers and architecture firms have flagged them as chemicals of potential concern. Our product stewardship team monitors these Red List chemicals and maintains an internal list that is consulted as new products are developed or existing products are modified.

We recognize that customers seeking specific certifications are choosing products that do not feature chemicals that appear on that certifier's Red List. Therefore, it is mutually beneficial both to us and the customer that we are fully transparent and voluntarily offer information about the chemicals used to make our products, including chemicals that appear on Red Lists.

## Fiber Safety

Owens Corning has been a pioneer in the science of fiber safety, and we continue to provide industry-leading expertise. By engineering our continuous filament fibers to be too large to be inhaled, and by controlling the composition of the raw materials we use to make our insulation glass wool, we ensure that all our fiber-based products are safe to manufacture and use. Owens Corning has an internal product stewardship guideline regarding fibrous materials, which states the company will not knowingly manufacture or use any fiber or fiber-containing material unless the fibers are shown to be non-respirable or biosoluble, or unless use of the material generates insignificant exposure as shown by measurements in the manufacturing and end-use environments. Compliance with this guideline is verified during product stewardship reviews.

The safety of Owens Corning insulation products is supported by a 2001 decision by the International Agency for Research on Cancer. In addition, the U.S. National Toxicology Program (NTP) removed soluble glass wool fibers from its list of substances "reasonably anticipated to be a human carcinogen." The decision was released in 2012 in a report to the U.S. Congress. In 2011, soluble glass fibers were removed from the California Prop 65 list. Owens Corning mineral wool products were never listed by NTP or Prop 65. We perform regular composition audits to ensure the fibrous insulation products produced in our plants have the correct composition and are biosoluble. All continuous filament glass manufactured by Owens Corning is non-respirable.

By the end of 2021, over 1,300 of our employees had taken our fiber safety online training, which was developed in 2018. As a result of this training, they have a better understanding of fiber health and our stance regarding the kind of glass fiber we produce and use.



# SPEAKING OF SUSTAINABILITY

## Susanne Fagerlund

Senior R&D Leader, Mineral Wool

In Europe, Paroc is leading the way in stone wool insulation innovations, and Susanne Fagerlund has been instrumental in steering these products and processes in sustainable ways. In addition to providing oversight that helps us increase our product handprint, Susanne serves on the product stewardship review board, which reviews new and significantly modified products from design to distribution. Susanne has been with Paroc since before it was acquired by Owens Corning, and her in-depth knowledge is invaluable as we strive to innovate throughout our industry.



**“ Product stewardship is enabling us to do the great innovations and get to the next level. ”**

### On asking the right questions for product stewardship

When we start making innovations, in the early phases, we need to start thinking about product stewardship. It's one of the enablers for our innovation process, and when we do the preliminary product stewardship, we have a lot of key questions. Is it doable? What are the important claims? What are the unique selling points for our customers? So we have this toolkit of questions to go back to when we do the final product stewardship process. It's like a checkbox for us to check that, yes, we did it, or if there's some more homework to do to be sure that we have met all the requirements, so that we can be sure that our quality is stable and safe and environmentally sustainable for all of our customers all over the world.

### On learning as the key to innovation

In each project we take through the product stewardship process, there are small learnings and bigger learnings, depending on the scope and scale of the project. In some of our recent development projects, where we are doing significant changes in the products, it has given us the tools to stop and think if we have really widened all the angles. And it's really enabling us to do the great innovations and get us to the next level to meet the tough, competitive world and the customer expectations. I'm really happy for our recent launches such as PAROC® Natura Lana, which is our first carbon neutral product, and which went through these processes where we were thinking about how the product is developed and handled.

### On collaboration within the product stewardship review board

Being part of the product stewardship review board is fascinating. It's a deep learning exercise when you come from one angle of expertise, and you get insights and learnings to widen your thinking to other areas. It's actually fun to see how we can challenge and question and improve our systems by getting other views on topics. Together we learn and that brings us to the next level, so I'm really excited to be part of this great journey in our company and making it even better for the future.

Photo courtesy of Susanne Fagerlund

## GOING FORWARD

Owens Corning is dedicated to consistently moving forward. In fact, our implementation of the Ecodesign Strategy Wheel demonstrates that we even think about innovation in innovative ways — with an eye toward product stewardship at every level of the product life cycle.

Sustainability is central to our processes as we develop new products and improve existing ones, and it has been an increasingly high-profile part of our long-range planning. Because of this, we anticipate a continued expansion of our capabilities — and greater engagement across all our businesses — as we collaborate on innovative solutions to meet our 2030 goals.

We are confident that the product innovation and stewardship goals we have set as a company are well within our reach. We also recognize that the need for sustainable innovations has never been greater, and that we must do what it takes to create a more livable world for generations to come.

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Photo submitted by:  
**Danielle Wittorp | Dearborn, Michigan, U.S.**  
A flower in a home garden.



# SUSTAINABLE GROWTH

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

With our mission to build a sustainable future through material innovation, Owens Corning has made sustainability central to our growth strategy. The success we've enjoyed this year, and the accolades we've received for our corporate citizenship, have strengthened our resolve to grow in ways that serve people today and preserve the environment for generations to come.

We're collaborating with our customers, so they can meet their own sustainability goals with innovative products that deliver optimal performance. It's all part of a strategy for growth that's evolving right along with the world, as people everywhere gain a better understanding of the need to minimize our collective impact on the environment.

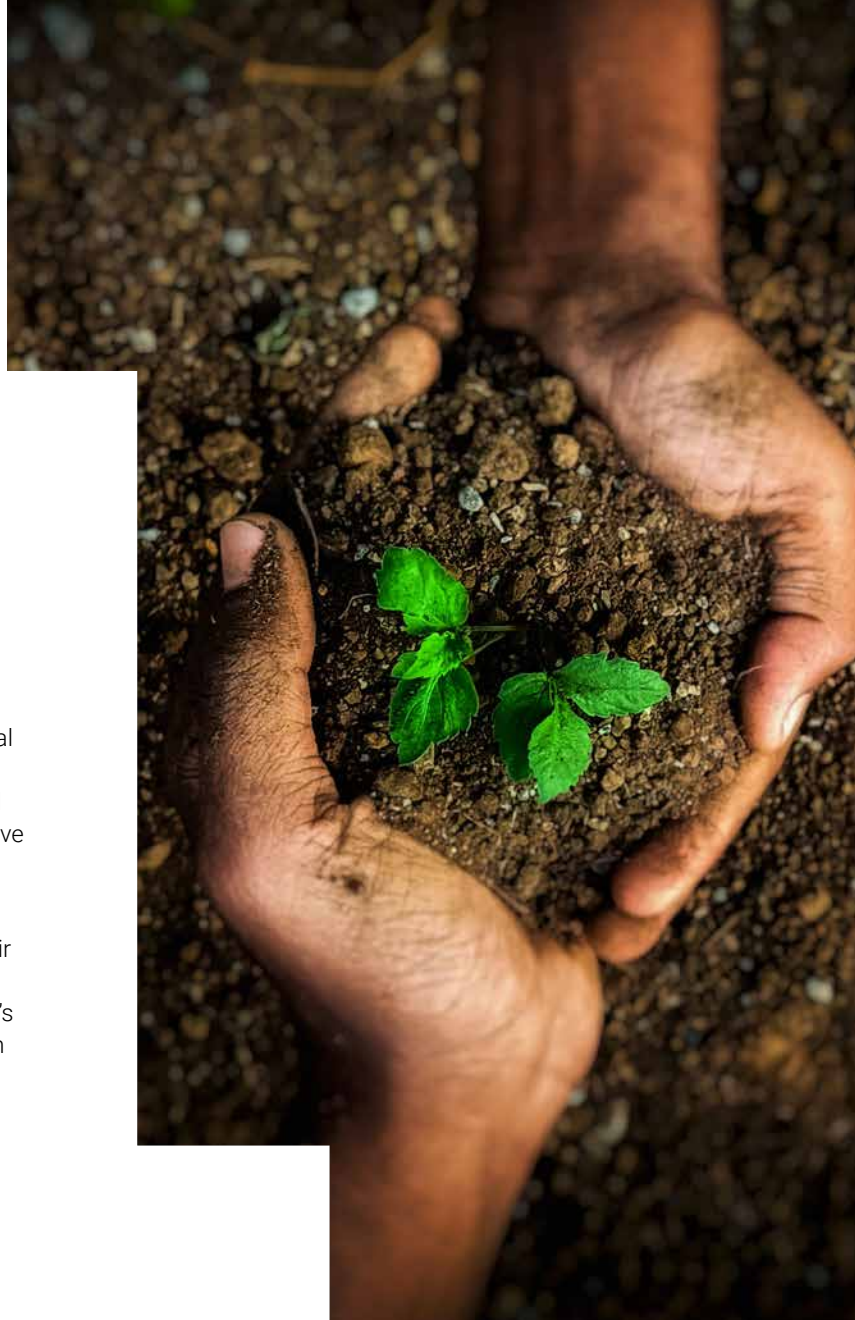


Photo submitted by:  
**Priyanka Ruparel | Talaja, India**

Our sustainable growth efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

As a company with sustainability at our core, we aim to align our company's growth with sustainable trends and positive global impact. We achieve sustainable growth through serving our customers, fulfilling their need for quality, sustainable products. We are working to support the global transition to a sustainable economy by being a financially successful company with sustainability at its core.





## 2030 GOALS SUSTAINABLE GROWTH

**By 2030, we will design our products for recycling or reuse to optimize the impact of our products over their entire life cycle from raw materials to disposal.**

In 2021, we earned \$8.5 billion in sales. Through our successes in the past year, we remain well-positioned to advance our overall product handprint aspirations for contributing to a circular economy model, ensuring collaboration throughout our supply chain, and delivering product innovation and stewardship in the years to come.



Photo submitted by:

**Yannick Fovet | San Vicente, Spain**

Explaining the 5S process at the San Vicente plant.

Pictured: Yannick Fovet, Jaume Trullas, Bilal El Hamdouni and Tania Gil

## OUR APPROACH

At Owens Corning, we serve global markets with a wide range of products that meet customers' needs, offering sustainability benefits without compromising

performance. Through our portfolio of products and systems, we are well-positioned to capture growth from key secular trends, including:

- Energy efficiency.
- Sustainability.
- Skilled labor shortage.
- Digital acceleration.
- Modular building.
- Customer and channel consolidation.

Solutions with enhanced sustainability attributes will be valuable in these spaces, and this is the foundation of our growth strategy. For our Insulation and Composites businesses, especially, our customers and key markets increasingly demand products and solutions that help them achieve their own sustainability goals.

For our Composites business, the inherent properties of our products offer enormous opportunities for sustainability. Composites, now more than ever, offer the opportunity to transform our built environment, the transportation sector, and our energy infrastructure, given that they deliver lighter, more durable materials. Many of our products, described in this chapter and throughout the report, provide sustainability benefits that address trends that are driving growth. For example, as the move toward decarbonization gains momentum, Owens Corning fiberglass composites can help meet the demand for more efficient wind energy, enabling the shift away from electricity generated by fossil fuels.

For our Insulation business, strong markets and the potential for further growth represent an opportunity for even greater leadership in our industry, as we work to improve upon the benefits of insulation as a means of conserving energy in homes and buildings everywhere. We can leverage our position to invest in the development of products, processes, and technologies that will help place Owens Corning on the path to net zero CO<sub>2</sub>e emissions. This includes continuing to increase the recycled content in our products and continuously reaffirming our commitment to the circular economy model.

Driving sustainable growth begins with a thorough understanding of our key sustainability indicators and implementing them in ways that meet the needs of stakeholders. This includes the following indicators:

- Achieving operational sustainability by reducing our environmental footprint in ways that are in line with global stakeholders' expectations.
- Charting a clear course of action to drive product and supply chain sustainability through enhanced engagement and by enabling product life cycle transparency.
- Ensuring community impact through local community initiatives, which is a key aspect of honoring our social responsibilities.
- Collaborating with customers and across our supply chain to develop innovative, more sustainable composite materials and solutions that perform as well as or better than traditional materials.
- Working closely with local government agencies to demonstrate the sustainability benefits of composite materials in infrastructure projects.

- Partnering and collaborating with builders, contractors, architects, and homeowners to understand their needs and help them leverage leading-edge building science to adapt to better building products and systems.
- Using science and technology to develop innovative building products and systems to improve durability and deliver energy efficiency and building comfort.
- Sharing our building science expertise to educate the industry and advocate for building code improvements and green building standards.
- Continuing to make our employees' safety, health, and wellness a top priority.

#### **Advanced Manufacturing and Productivity**

Our focus on capital efficiency enables us to achieve a better return on our investment overall. In addition, the Owens Corning advanced manufacturing team looks for ways to use all resources as efficiently as possible, helping us achieve the most possible output with the least possible input. This work is supported by our digital transformation efforts in manufacturing.

We apply advanced process controls to increase predictability in our manufacturing processes, which leads to better products and helps us use materials more effectively, reducing cost and our footprint. As an additional benefit of our increased efficiency, our operations are more stable overall. This has the potential to contribute to safety within our facilities, as employees are less likely to be in unplanned or unexpected situations. All told, improving productivity through advanced manufacturing enables growth that aligns with our aspiration to be a net-positive company.

#### **Promotion and Advocacy**

Owens Corning's advocacy objectives include support for initiatives that align with our core values, especially as they relate to energy efficiency measures and contemporary building code development and adoption. Our efforts to promote our products take many forms, including education campaigns, code advocacy, attention to legislation and regulation related to wildfires, work with the insurance industry, and more.

As an example, over the past few years, attention has turned to the codes and standards that apply to the fire performance of products and wall systems. In response to wildfires on the west coast of the U.S., as well as fires in the U.K., Europe, and the Middle East, we expect to see municipalities and possibly even state governments adopt code requirements that drive the market toward non-combustible materials such as Thermafiber® mineral wool insulation. In addition, expansion of zero-energy code policies in places like California would call for increased R-value per inch, and this could further drive the market toward Thermafiber® insulation and our other higher R-value insulation products.

We also engage with policy makers, with our government affairs team overseeing our interactions and ensuring that our activities are aligned with our climate policy. We regularly review language and activities with both the external affairs and sustainability departments and conduct legal reviews of all external communications including letters, testimony, and activities with outside advocates or NGOs. Owens Corning's political advocacy objectives are to support initiatives that align with the company's core values, namely advocating for energy efficiency measures, and for contemporary building code development and adoption.

#### **Partnerships with Industry Organizations**

Our collaborations with the organizations active in our industry provide us with invaluable insights as we seek to improve our sustainability capabilities, and they offer opportunities to collectively advocate for our industry, which in turn promotes growth. Owens Corning employees work with trade associations and research institutions, as well as the organizations that set codes and specifications for the buildings and products that use our materials. Our experts often participate as board and committee members in these organizations, providing leadership that incorporates our strong sustainability standards.

The North American Insulation Manufacturers Association (NAIMA) is made up of companies that manufacture fiberglass, rock wool, and slag wool insulation. Its members produce the majority of the insulation products used in the United States, Canada, and Mexico. NAIMA is primarily focused on promoting energy efficiency and the preservation of the environment, as well as the safe production and use of its members' products. Owens Corning is also a member of the European Insulation Manufacturers Association (EURIMA), which represents the interests of all major mineral wool producers throughout Europe.

Owens Corning employees hold leadership positions in the Asphalt Roofing Manufacturers Association (ARMA), which represents both manufacturers and the companies that supply their raw materials. ARMA is dedicated to the advancement of the asphalt roofing industry through the collective expertise of its member companies, and the organization is also a resource for building and code officials, as well as regulatory agencies and allied trade groups. Our employees have leadership positions with this organization, including chairing the Asphalt Roofing Recycling Committee and Codes Steering Group. Our employees are also active in the Asphalt Institute and Asphalt Institute Foundation and have leadership

positions on both the Asphalt Recycling Task Force and the Asphalt Institute Roofing Technical Committee. Through their work, we are helping drive multiple sustainable approaches within the roofing industry.

The American Composites Manufacturers Association (ACMA) provides education, advocacy, and representation for its member companies and associated markets, working to promote growth within the composites industry. ACMA is committed to driving industry innovation, providing members with a range of educational tools and certification programs. We are active members of these associations, and over the years our employees have served on boards and various committees.

For a full list of the organizations we work with, see [Appendix D](#).

### Certified Energy Experts

Owens Corning's Certified Energy Expert® (CEE) program was launched in 2012. To become a Certified Energy Expert, contractors must complete Owens Corning training on thermal performance, moisture prevention, air filtration, ventilation, and energy efficiency audits. CEE members have an advanced understanding of building science and have steadily grown sales of Owens Corning insulation. The expertise CEE members offer their customers makes them trusted partners throughout the building process, helping facilitate the construction of more sustainable buildings.

Owens Corning supports the contractors with local marketing materials that promote both the Owens Corning brand and the contractor's, a visible sign of the importance of this collaboration. We have also extended our limited lifetime warranty to include our CEEs' workmanship in addition to our products. In 2021, program engagement rose — 87% of the members worked with Owens Corning on at least one project during the year.

There are currently 100 insulation contractors in this elite group. To remain in the CEE program, the contractors must maintain an above-market sales growth and Owens Corning market share of more than 60%. Members of the program operate with different business models and install different types of insulation, including new construction and renovation of single-family homes and light commercial buildings such as multifamily units.

## SUPPORTING OUR CUSTOMERS' SUSTAINABILITY EFFORTS

Measuring and disclosing the sustainability impacts of our products not only advances our sustainability goals — it also helps our customers advance theirs. Our sustainability and product stewardship teams work closely with product

development and customer support teams to answer questions, test products, and drive transparency.

We also help customers improve and promote the sustainability of their products by providing life cycle inventory data for our products. As our customers use these products to manufacture their finished goods, they have access to information that can help them develop more precise LCAs and EPDs. Read more about this work in the [Product Innovation & Stewardship chapter](#).



Photo submitted by:

**Valentin Richard | l'Ardoise, France**

Removal of the foam cardboard layers increased safety for the operator and provided an opportunity for a more sustainable solution for our customers.



# SUSTAINABLE GROWTH INITIATIVES

Owens Corning's Sustainability Materiality Assessment emphasizes the importance of sustainable growth as part of our overall growth strategy and prosperity. The initiatives outlined here demonstrate the progress we've made to ensure that sustainability remains an integral part of our success.

## Owens Corning Inaugural Green Bond

In 2019, Owens Corning issued its inaugural green bond, which was the first to be offered by an industrial company in the United States. The \$450 million bond is payable over ten years at a coupon rate of 3.95%. In conjunction with the bond, the company committed to spending \$445 million on eligible green projects.

Green bonds represent a small but fast-growing segment of the overall bond market as investors increasingly value corporate sustainability and responsibility. A green bond is a fixed income debt instrument with characteristics similar to a traditional bond, but with a green bond, the issuer promises to use the proceeds to finance or refinance new or existing sustainable projects.

The Green Bond Principles are voluntary guidelines established in 2014 and overseen by the International Capital Markets Association. Along with committing to use funds specifically for eligible projects, the issuer pledges to report on how it spends the allocated funds and the progress it makes on the initiatives outlined in connection with the bond. Owens Corning's report on this inaugural green bond is available on the company's website.

## Net Zero Energy-Ready Buildings

Our products also play an important role in the development of net zero energy (NZE) buildings. An NZE building is one that produces the same amount of energy as it consumes. Buildings can be designed to be ultra-

efficient, making them NZE-ready. Then, when combined with the use of renewable energy, they can achieve net-zero energy status.

While we have not set a specific target for NZE buildings as part of our 2030 goals, we work closely with organizations and contractors who are driving progress in this area. For example, we partner with Natural Resources Canada (NRCAN) on several demonstration projects to help the building construction industry move toward net zero-ready performance, which will be mandated for all new buildings in 2030 as part of the Pan-Canadian Framework on Clean Growth and Climate Change.

Owens Corning is in the midst of a two-year project with NRCAN in Quebec to demonstrate and educate the building construction industry on building affordable net zero-ready homes in a large-scale setting. We are also working with NRCAN on the prefabricated exterior energy retrofit (PEER) group project, which develops insulation systems and technologies for deep energy retrofits to get existing buildings in Canada up to net zero-ready performance.

## The Building Science Solution Center

Owens Corning's experts continually research and deploy building science to serve architects, buildings, occupants, and the environment. The Owens Corning Building Science Solution Center is a 24/7 portal connecting architects to emerging research, best practices, and thought leadership across a spectrum of building disciplines.

In addition to delivering expertise related to sustainability, the Building Science Solution Center offers practical insights into the diverse challenges architects experience and provides access to certification documentation to meet green building program requirements. The portal's resources include content drawing on more than 40 years of experience pioneering perimeter fire containment assemblies, as well as information designed to help architects predict moisture and

thermal performance across a range of climates using WUFI® analysis.

Building science is promoted within the company through an internal team that engages industry partners, architects, engineers, and builders. Through lunch-and-learns, webinars, in-person and virtual seminars, workshops, and trade shows, our team helps drive the use of Owens Corning's energy-saving products in more green building applications, maximizing their performance and helping them achieve green certifications such as LEED®. Highly sustainable and energy-efficient solutions continue to be a focus for product and system innovation through collaboration. Cradle-to-grave evaluation of embodied carbon impact will now be at the center of that innovation.

Our focus on successfully engaging high-impact architects, engineers, and construction customers around builders is crucial — it can have a ripple effect on sustainable revenue as they spread practices and specifications that bring awareness of Owens Corning® products to a broader network. For example, if a major architectural firm begins to specify an Owens Corning® insulation product, that approach may be shared with satellite locations as well, and the impact of the engagement will be magnified.

Metrics tracking customers' building science engagement include monitoring the number of people reached and events held. In 2021, Owens Corning held 267 building science engagement events and reached over 7,200 architects, engineers, and builders. As COVID-19 restrictions begin to be eased, we are hopeful that we can increase our numbers to pre-pandemic levels.

**Fuel cell buses used throughout the Olympic Village at this year's games in Tokyo featured Owens Corning chopped strand mat in the air conditioner housings — one more way we're supporting more sustainable transportation.**

# SPEAKING OF SUSTAINABILITY

## Lindsay Eybs

Strategy Lead

In her seven years with Owens Corning, Lindsay Eybs has seen sustainability become an increasingly important priority among our customers. As a strategy leader for our Roofing business, Lindsay is helping to develop the business's strategic direction and long-range plan, and sustainable growth is very much at the center of that planning. She has many insights into the importance of integrating sustainability into our overall business goals, as well as the importance of bringing different perspectives together to achieve our company's shared vision.



**“ Sustainability isn’t a fad — it’s our future. ”**

### On helping customers connect growth and sustainability

One of the biggest challenges is continuing to meet the needs of customers, maintaining or the same or better per product performance, while understanding how we can positively impact the environment in meaningful ways. Another challenge is education. Many are familiar with what it takes to achieve financial success, and learning more about how sustainability fits into our business models will help. But the other side of this is educating others on the importance of growing sustainably. If we want to continue leadership in this area, educating customers and other key stakeholders so we're all growing together will help us to identify some well-defined solutions. And then finally, we must establish a connection to sustainable growth goals. If everyone sees the value in financial success inclusive of sustainability, I believe the passion and commitment of our people will ensure success.

### On the value of collaboration throughout the organization

Working cross-functionally with other groups at Owens Corning is incredibly important to achieving our various goals, whether that's working with our science and technology team, our sustainability team, or our finance and pricing teams. I often say that I can hardly do anything completely on my own within my role at Owens Corning. And I love that, because I think it truly does take a team. I also think that by working together, we push each other to be better and do better because we come up with different ideas. This helps us to push us a little bit further into what we need to be doing. And I think working together truly helps us to achieve our goals in a better and faster way.

### On the importance of sustainable growth goals

Having a goal provides clear direction. It holds us accountable and helps us plan for the future. What I also like about having a sustainable growth goal is that it's iterative. The ways in which we will achieve it will grow and change, which means that we need to be adaptable. And that's exciting to me because it doesn't allow us to be stagnant and definitely drives us to do better in the future. Sustainability isn't a fad — it's our future, and I think this helps us to see ourselves in how we're contributing to those goals.

Photo courtesy of Lindsay Eybs





## SUSTAINABLE GROWTH PERFORMANCE

As mentioned above, one way Owens Corning gauges our performance toward our sustainable growth goals is the extent to which we are addressing the trends that are shaping our industry. As we look to the future, we are also cognizant of these trends as significant opportunities to grow while at the same time meeting our 2030 sustainability goals.

Several of these trends represent opportunities for sustainable growth over the next decade.

### **Increased premium on living spaces**

The global pandemic has changed how we think about our homes, both in terms of functionality and comfort. This new emphasis on living spaces will continue to drive investments in new residential housing and renovation in the U.S. and abroad. Insulation is one of the best ways to improve energy efficiency and indoor comfort, including sound reduction.

### **Changing construction practices**

Even before the pandemic, we saw how labor shortages were impacting construction practices and cycles. Since early 2020, the trend has accelerated, creating the need for multi-material and prefabricated construction solutions that can drive efficiencies. Owens Corning PINK Next Gen™ Fiberglas™ enables 23% faster installation. Fiberglas™ rebar, which is seven times lighter than steel, improves ease of handling for 50% faster installation.

### **Demand for sustainable solutions**

Reduction of greenhouse gases, improvements in energy efficiency, and the development of more renewable energy sources are increasingly prioritized by homeowners. Governments at all levels are also requiring increasingly stringent standards. Both factors are driving specifications throughout the industry. For example, the European Green Deal Commission proposed that by 2030, all new buildings in the European Union be zero-emission, and Owens Corning products could be part of meeting that goal.

### **Investment in infrastructure**

We expect to see upgrades to roads and bridges to continue around the world over the next decade. We expect that this investment will also prioritize more durable solutions, which will help ensure that investments will be more sustainable over time.

We will capitalize on these opportunities by focusing on our unique combination of materials science knowledge, commercial strength, and manufacturing expertise to develop and commercialize additional product and system solutions. Many of the products discussed in the next section of this chapter will help us address these trends.

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Photo submitted by:

**Kelly Picking | Toledo, Ohio, U.S.**

A view of the High Level Bridge from  
Middlegrounds Metropark, Toledo, Ohio.



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## Products That Expand Our Handprint

The products Owens Corning manufactures are engineered to help users achieve their own sustainability goals while improving the quality of life for the people who use them. Our insulation products improve the safety and energy efficiency in homes, skyscrapers, and factories around the world. Our shingles and roofing products provide durable solutions that protect structures from the elements. And through our fiberglass reinforcements, used in composite materials, we help make tens of thousands of products lighter, stronger, and more durable.

Across all three of our businesses, we offer an extensive portfolio of products that can help our customers save energy and lower emissions. In 2021, 63% of our revenue came from this category of products, which includes:

### ■ **Fiberglass Insulation**

Fiberglass insulation is the most widely used type of insulation in the United States, Canada, and Mexico today, and Owens Corning's iconic PINK® insulation is available in a variety of product lines to serve this market. According to NAIMA, a typical unit of residential insulation saves 12 times as much energy in its first year in place as the energy used to produce it. That means the energy consumed during manufacturing is saved during the first four to five weeks of product use. The insulation continues to save that amount of energy every month throughout the life of the home or building in which it is installed. Other Owens Corning® fiberglass insulation products provide energy-saving thermal protection for HVAC, mechanical, industrial, and commercial applications. Using recycled glass in the production of fiberglass insulation also lowers the embodied carbon of the product. See the [Circular Economy chapter](#) for more details.

### ■ **FOAMGLAS® Cellular Glass**

FOAMGLAS® cellular glass is a high-performance insulation, offering water and fire resistance, high compressive strength, and long-lasting thermal protection in commercial and industrial systems. The product includes post-industrial recycled glass, which in addition to diverting waste from landfills, allows us to minimize our energy consumption and optimize manufacturing efficiency.

In 2021, our FOAMGLAS® hydrocarbon fire protection and corrosion under insulation (CUI) system was expanded to include industrial applications, affording commercial customers increased protection against fire and corrosion under insulation.

### ■ **FOAMGLAS® Compact Roof**

It is estimated that by 2050, nearly 70% of the world's population will live in cities. As society becomes increasingly urbanized, the need to provide livable spaces for people will continue to grow. This need can be addressed through the utilization of flat roof spaces. By adding rooftop gardens to urban structures, we can help increase biodiversity, reduce energy use, and mitigate the impacts of climate change.

FOAMGLAS® Compact Roof helps address this trend. It consists of three layers: a bearing substrate, FOAMGLAS® cellular glass for thermal insulation, and the waterproofing layer(s). This compact roof build-up can withstand high compressive loads and is resistant to deformation.

### ■ **Extruded Polystyrene (XPS) Insulation**

Our FOAMULAR® extruded polystyrene (XPS) insulation, a rigid board, is used on exterior and interior walls, foundations, roofs, and infrastructure for thermal insulation, and is uniquely suited for wet conditions. In addition, the product has a proven history of removal, salvage, and reuse. The XPS insulation produced in our facilities in North America and Mexico is made with at least 20% recycled content.

### ■ **FOAMULAR® NGX™**

The proprietary blowing agent in this new line of extruded polystyrene (XPS) foam products is optimized to demonstrate a greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products. It offers these benefits without any decrease in performance for customers, and it meets and exceeds the stringent regulations going into effect in 2021 and 2022. This innovation reflects Owens Corning's commitment to offering building materials that merge the highest levels of performance and sustainability.

## ■ Mineral Wool Insulation

Our mineral wool insulation is used in commercial and residential buildings and can also deliver fire containment with its high-temperature durability. In particular, Thermafiber® mineral wool resists fire and temperatures up to 1,200° F while also providing sound control and energy conservation, and it contains a minimum of 70% recycled content.

PAROC® stone wool insulation offers very low thermal conductivity, and it maintains its performance and dimensions over the life of the building. In addition, for each metric ton of CO<sub>2</sub>e generated in the manufacturing process, nearly 200 metric tons of CO<sub>2</sub>e are saved over a 50-year period, thanks to its excellent thermal insulation properties.

Our PAROC® Natura line of stone wool insulation uses low-carbon melting technology, green electricity, recycled waste materials, and new technologies to reduce the amount of virgin raw material used and offer a product with very low CO<sub>2</sub>e emissions. The remaining emissions are compensated by reducing CO<sub>2</sub>e emissions through the purchase of offsets in a Verified Emissions Reduction Scheme. This certified carbon-neutral product offers fire-safe, moisture-proof, durable insulation for the building industry.

PAROC® Ultra stone wool insulation, launched in 2021 in Europe's Baltic region, offers an energy-efficient solution for partitions in new and renovated buildings. It delivers excellent performance in humidity, cold, and in circumstances where temperatures fluctuate greatly during the day. Its stone wool slabs are also easy to install, addressing the changing nature of construction practices around the world, and slabs are compressed by as much as 60% to cut down on transportation and warehousing costs. PAROC® Ultra is also highly durable and is engineered to last the life of the building.



## ■ Cool Roof Shingles

Our wide color range of “cool roof” shingles uses a highly reflective granule technology that bounces back the sun's rays, helping keep roofs cooler to reduce air conditioning energy levels.

## ■ Composites

Glass-reinforced composites can be light, insulating, and resistant to corrosion, impact, and heat. They are used to replace steel, aluminum, wood, and other materials. Fiberglass as a reinforcement provides for lighter weight while delivering comparable or better strength than other materials such as steel. Lighter weight means more fuel efficiency in all forms of transportation. One area where we are contributing to lighter vehicles is in the development of battery covers for electric vehicles, which adds another layer of sustainability to our efforts.

In 2021, Owens Corning began supplying our Pipestrand S 2300 glass roving for the first hydrogen-powered commercial vehicle. The filament winding application process has been known for decades, but the application of hydrogen tanks for the automotive industry is rather new and strategic for the transition to cleaner automobile motorization. Each hydrogen tank contains about 2 kg of glass fiber, which constitutes the last layers of the winding, and provides protection for the inner carbon layers.

With increasingly higher-strength technology, composites have also provided more efficiency and greater economy for wind energy turbines using longer, lighter, and more productive blades, including those designed for lower wind speeds and emerging off-shore installations.

**In May 2021, the National Association of Manufacturers awarded Owens Corning the Manufacturing Leadership Award for innovation that supports environmental sustainability.**

**FOAMULAR® NGX™ extruded polystyrene insulation also earned High Achiever recognition for the highest score in the Sustainability Leadership category.**

Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
Mineral wool on the line at the Parainen plant

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## Sustainable Infrastructure

### ■ Products from Our Coated Wovens Business

These include geosynthetic membranes to provide superior solutions for water management, agriculture, and the protection of high value raw materials. Our roofing underlayment contains a minimum of 20% recycled content.

### ■ Liner for Cured-in-Place Pipe (CIPP)

Repairing sewer lines has traditionally involved digging up roadways, leading to traffic jams, noise, dust, and other disturbances. The CIPP installation process inserts a flexible thermoset resin liner into the damaged pipe, where it is then expanded using air pressure and cured using UV light.

CIPP delivers numerous advantages in terms of sustainability. By reducing the number of vehicles required to complete a repair and avoiding months of stopped traffic on the roadways, CIPP reduces the amount of CO<sub>2</sub> emitted over the course of repairs. This optimization of the process also saves time and labor while also reducing the risk of damage and accidents. We supply the thermoset resin manufacturers with specially designed continuous filament glass that enables the installation and performance of the liner systems.

The market for CIPP continues to grow around the world, especially in the U.S., Asia Pacific, and Europe. Looking ahead, we expect this market to continue to expand as investments in infrastructure continue to grow.

### ■ Corrosion-Resistant Rebar

The American Society of Structural Engineers estimates that one in nine bridges in the U.S. is structurally deficient. In many cases, bridge failure is caused by corrosion of the steel rebar used in the supports and surface, and many states are looking at significant infrastructure projects to repair or replace these bridges. These projects are often disruptive and costly.

In this context, longer-lasting bridges are better for the environment — and for the people who use and maintain them. Owens Corning's fiberglass rebar offers a sustainable solution. The advantages of Owens Corning's fiberglass rebar over traditional steel rebar are numerous — it lasts longer, it's up to four times lighter, and it resists corrosion. We've worked with the U.S. Department of Transportation and several state agencies on specific bridge projects to demonstrate the benefits.

Composite rebar is also beneficial in situations where concrete is manufactured using salt water, as it resists corrosion. By using salt water, manufacturers are able to preserve the amount of quality fresh water available for human consumption.

### ■ FOAMULAR® EdgeLock™ Insulation

This product is designed to insulate roads in areas where permafrost is vulnerable to melting, which is a practical factor in infrastructure in these regions. The unique design of EdgeLock™ insulation allows installers to use one layer of insulation without sacrificing the thermal performance typically achieved through two layers of insulation. This results in faster installation, reducing labor hours as well as carbon emissions from equipment, helping protect a sensitive ecosystem.

### ■ Composite Utility Poles and Cross-Arms

We are working with several pole customers globally to develop utility transmission and communication poles. These glass fiber reinforced plastic (GFRP) poles offer reliability and resilience in high-load situations such as ice storms and high winds. They last longer than wooden poles, and they resist fire, wind, and other potential damage. And unlike chemically treated wood poles, which can leach chemicals into the soil, GFRP composite materials are considered inert, minimizing adverse impact to the environment where they are installed. In addition, composite poles can weigh up to 80% less than timber and steel poles, making them lighter to transport and safer to install.



## GOING FORWARD

In the coming years, Owens Corning expects that the importance of balancing growth with sustainability will become increasingly evident.

We will be there to meet the demand for products that deliver performance while minimizing negative impacts. In particular, we recognize the growing demand for reduced embodied carbon, which is already shaping our approach to innovation throughout our operations. Among the other specific areas of focus Owens Corning has prioritized for the immediate future is the need to expand the number of products that are free of formaldehyde and fluorocarbons.

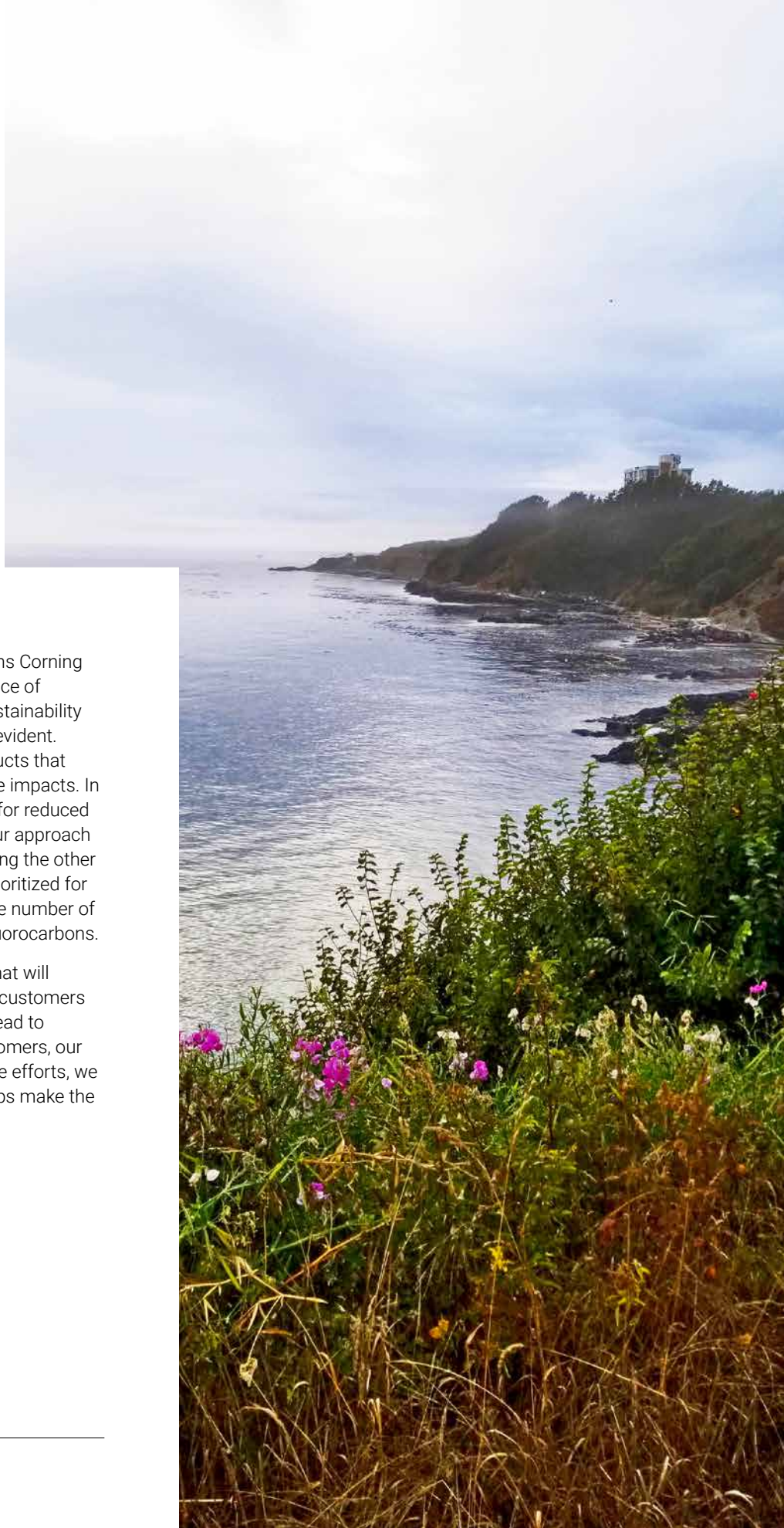
Our people are also monitoring other trends that will shape our economy, and we are working with customers to anticipate their needs. We believe this will lead to sustainable growth for the company, our customers, our suppliers, and our investors, and through these efforts, we will continue to be a vibrant company that helps make the world a better place.

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Photo submitted by:

**Leila Pourzahedi | Granville, Ohio, U.S.**

Beacon Hill Park, Victoria, British Columbia, Canada.



# SUPPLY CHAIN SUSTAINABILITY

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- INITIATIVES
- PERFORMANCE
- GOING FORWARD

When it comes to achieving our sustainability goals, collaboration is essential – both internally among our people and externally with the companies that contribute to our value chain. That’s why we developed our Supplier Code of Conduct, an essential document in our approach to supply chain sustainability.

Owens Corning is committed to working with suppliers that share our beliefs across all three of our sustainability pillars. We expect our suppliers to be dedicated to reducing their environmental footprint, and we measure their greenhouse gas emissions as part of our overall approach to combating climate change. We also work with them as they seek to contribute to the circular economy model and increase their product handprint.

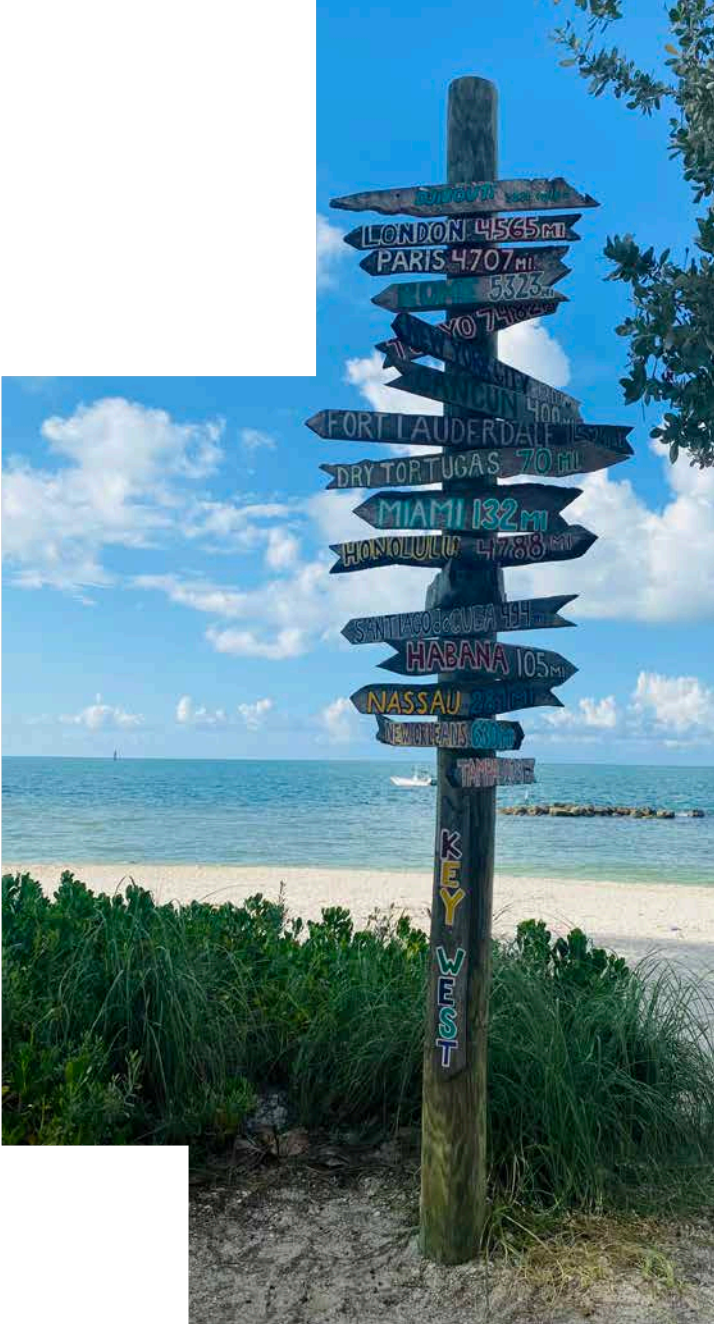


Photo submitted by:  
**Julie Childers | Granville, Ohio, U.S.**  
Wayfinding sign, Key West, Florida, U.S.

**By encouraging suppliers to develop standards related to human rights initiatives, we are helping them increase their social handprint as well.**



Our supply chain sustainability efforts align with the following UN SDGs:



**Sustainability Materiality Definition:**

We strive to hold our suppliers to the same high standards we hold ourselves. We see our suppliers as a key contributor to our overall sustainability vision and seek to ensure all our suppliers fully comply with all applicable legislation, regulations, and legal requirements on human rights, labor, the environment, anti-corruption, and trade and customs.

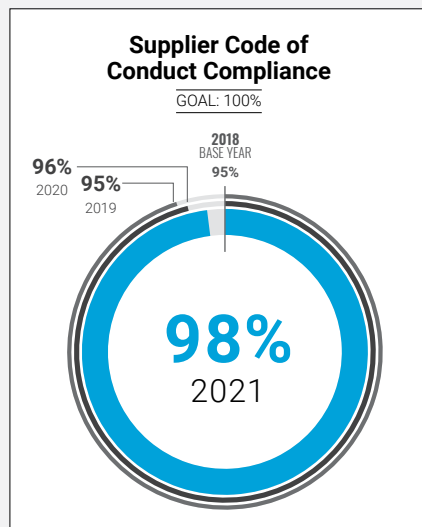
The data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix E](#).



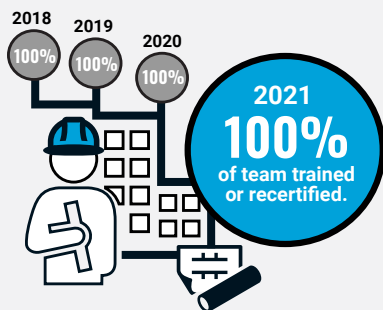
## **2030 GOALS** **FOR SUPPLY CHAIN SUSTAINABILITY**

**By 2030, 100% of our suppliers will meet our Supplier Code of Conduct requirements, with special attention to human rights issues such as safety and forced labor.\***

We will continue to prioritize supply chain partners that share our commitment to sustainability in all its forms.

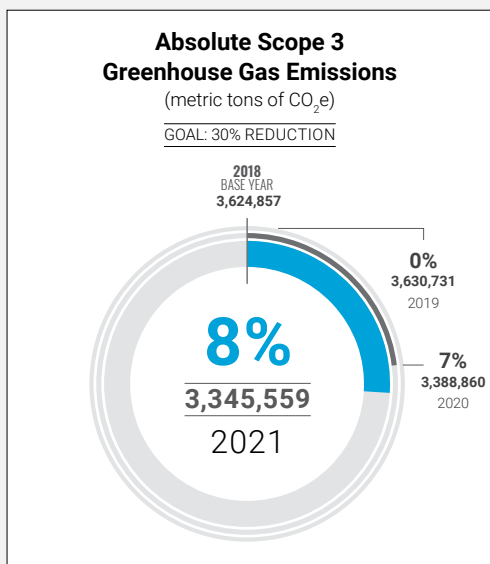


**In addition, 100% of our global sourcing team will be trained and recertified annually on sustainability.\***



A standardized process has been implemented across global sourcing and will be used in category strategies going forward. Training was conducted either in-person or online with 100% of global sourcing members.\*

As we discuss in the [Combating Climate Change chapter](#), we have a 2030 goal to reduce absolute Scope 3 emissions — indirect greenhouse gas emissions such as those from our supply chain — by 30%.\* Our suppliers will play an active role in achieving this goal. More information about our progress toward this goal can be found beginning on [page 154](#).



**OUR APPROACH** Owens Corning uses a variety of materials, including minerals, chemicals, energy, and packaging to manufacture our range of products. Our global manufacturing facilities perform processes that convert raw material inputs into finished products (or, in the case of composites, finished input materials to be used by another business). With operations in 33 countries, we manage inbound and outbound freight transport via truck, ship, and rail.

Most of our supply spend goes toward material suppliers, with the next greatest amount going to transportation companies. In addition, we work with distributors and service suppliers for capital goods, machinery, and myriad technical, consultative, and management services.

Our total base of suppliers consists of more than 19,000 organizations with an approximately \$6.5 billion spend. We have active management processes in place to evaluate, segment, and engage with all top-spend suppliers. Through our segmentation process, 775 vendors comprise 74% of our sourcing managed spend. We determine appropriate action items related to each supplier based on the supplier's specific profile, as described in the Management of Suppliers and Risk section later in this chapter.



Photo submitted by:  
**Lori Strohmaier | Toledo, Ohio, U.S.**  
Agave plant.



## 2021 Supplier Base by Country

COUNTRY	% OF TOTAL
United States	31%
China	9%
India	7%
France	5%
Canada	5%
Poland	4%
Mexico	4%
Finland	4%
Sweden	4%
Brazil	4%
South Korea	3%
Russia	3%
Germany	2%
Italy	2%
Netherlands	2%
Belgium	2%
United Kingdom	2%
Lithuania	2%
Spain	1%
Singapore	1%
Japan	1%
Other	2%

## Selecting Suppliers

We use a range of policies and procedures to inform the decisions we make, both in selecting and retaining the companies with whom we do business. These allow us to identify those companies whose priorities most closely align with our own.

### Supplier Code of Conduct

Owens Corning is a signatory to the United Nations Global Compact (UNGC) and a member of the Dow Jones Sustainability Index (DJSI). The supplier standards defined in our Supplier Code of Conduct are consistent with the principles established by these two entities.

Our Supplier Code of Conduct states that suppliers are expected to:

- Fully comply with all applicable legislation, regulations, and legal requirements related to human rights, environmental concerns, anti-corruption, and trade and customs.
- Provide effective management systems for EHS (environment, health, and safety) and product stewardship programs.
- Provide products that are safe and environmentally sound during their use and disposal.
- Have programs to reduce the environmental impact of their products, including the reduction of discharges into natural surroundings and other sources of pollution.
- Establish goals and monitor the reduction of their environmental footprint.
- Have employment standards and practices that include fostering diversity, providing suitable working conditions and compensation, and forbidding forced and child labor.

This code is explicitly consistent with our human rights policy and includes, for example, expectations related to human trafficking and the sourcing of conflict minerals.

In all areas, Owens Corning expects suppliers to comply with country-specific or local legislation, the international norms explicitly referenced in the code, or Owens Corning-specific standards, whichever standard sets the highest expectations. Owens Corning has a human rights policy in accordance with the UNGC, and the expectations on human rights are outlined in our [Human Rights & Ethics chapter](#).

### Local Sourcing

Supplier selection depends on many considerations, including costs, quality performance, delivery performance, innovation, financial viability, and conformance to the social, safety, and environmental standards found in our Supplier Code of Conduct. Supplier location is also a consideration. When a supplier is nearby, engagement and transportation of materials can be more efficient, which in turn leads to greater sustainability across the supply chain. In addition, local sourcing leads to less miles driven, which cuts down on transport cost, road congestion, and emissions. While we do not have a specific policy in place for local procurement, we define "local" to be within a 250-mile radius of any of our facilities, and we track this information for U.S. facilities.

In 2021, 32% of Owens Corning's purchases were made locally for significant locations within our operations. Some products, such as cullet (recycled glass), are sourced near plant locations as a matter of course. Many of our facilities have rail delivery capability, which falls outside the 250-mile radius for local procurement, but still provides cost and environmental benefits compared with truck transport.

Supplier Validation Process and New Supplier Selection



## Acquisitions and Supply Chain Sustainability

Bolt-on acquisitions are part of Owens Corning's strategy for growth. With acquisitions come new suppliers, many of which are significant and many of which are based outside the U.S. Whenever we consider acquiring another company, we exercise due diligence to evaluate supply chain risk. It is important that the target company's current suppliers are high-quality, capable, safe, and able to meet our standards.

Soon after a transaction is completed, we engage with each acquired business to set expectations and implement a consistent structure for supplier relationships. We provide extensive training to ensure that the acquired business understands our Supplier Code of Conduct and how to administer it. In addition, our commodity leaders spend time getting to know the acquired company's key suppliers, explaining the Supplier Code of Conduct, following up on issues of concern, and, if necessary, identifying alternative potential suppliers.

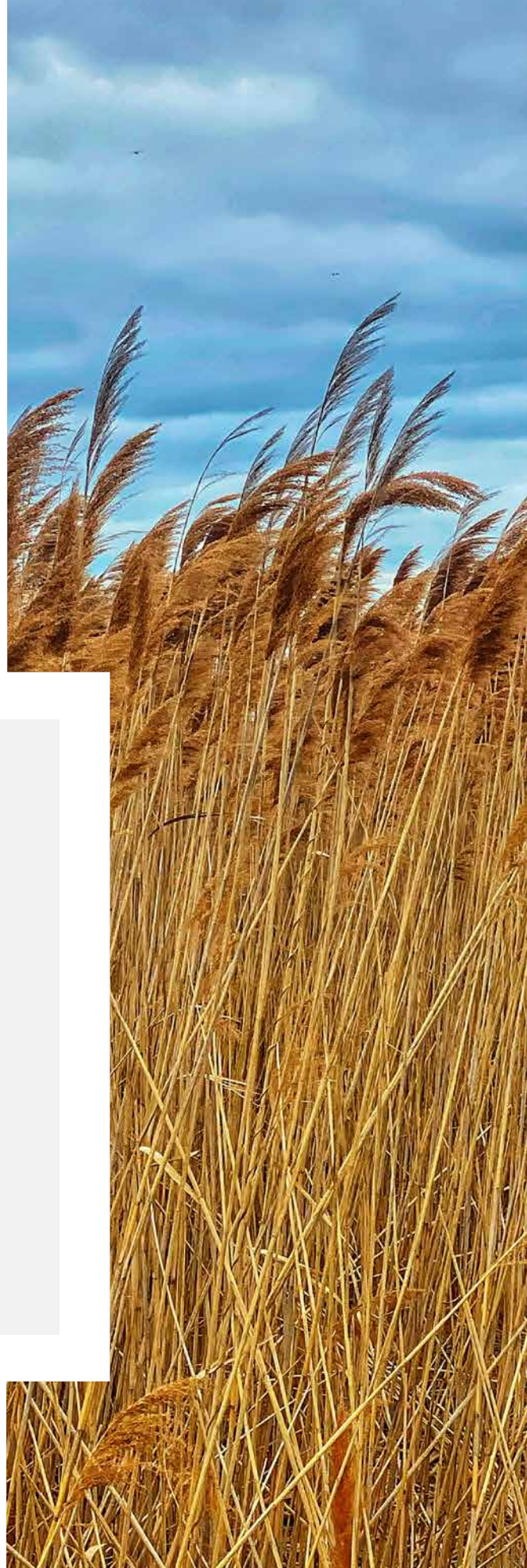
In 2021, Owens Corning acquired vliepa GmbH, a German-based company specializing in the coating, printing, and finishing of nonwovens, paper, and film for the building materials industry. While the company is undergoing the processes associated with acquisition, their data does not factor into this year's overall supply chain performance figures.

## PRIORITIZING SUPPLIERS USING ESG RISK SCORING

In 2021, Owens Corning enhanced our approach to prioritizing suppliers, empowering us to further emphasize the importance of sustainability throughout our value chain. This approach provides additional consideration of our suppliers' environmental, social, and governance (ESG) risk exposures. The environmental, social, and governance risk scoring framework is based on S&P Global Rating's ESG Risk Atlas.

A sector risk score, which encompasses associated environmental and social risk rationales, is assigned based on the commodity a supplier supplies to Owens Corning. A regional risk score, which embodies governance rationales, is assigned to a supplier's country. The overall ESG Risk Score is then tallied for each supplier by adding the three E, S, and G risk scores. For suppliers who provide multiple commodities to Owens Corning, and therefore have potentially multiple ESG risk scores, we selected the highest ESG risk score to conservatively represent these suppliers.

Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**





## Management of Suppliers and Risk

Owens Corning takes a holistic approach to managing suppliers and risk. We also include supply chain resilience in our assessments, which refers to our suppliers' ability to manage disruptions with relatively minor impacts on the supply chain. The sections below discuss our overall approach in greater detail.

### Supplier Segmentation

Owens Corning seeks to develop a complete understanding of every company in our supply chain, including the various ways these companies could affect our operations. To achieve this, our global sourcing team uses our Segmentation Tool to assess and classify primary suppliers. Suppliers included in the segmentation process:

Constitute <b>~75%</b> of overall global sourcing managed	<b>SINGLE OR SOLE</b> source suppliers	Suppliers with a high-risk ESG score and a spend over <b>\$250K</b>
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The tool compiles an overall score using the following criteria:

- Three questions related to risk, weighted based on their importance to Owens Corning.
- Four questions related to impact, weighted based on their importance to Owens Corning.
- The supplier's ESG score.

The assessment we have developed reflects our emphasis on risk mitigation, our need to address single and sole source suppliers, and our need to develop strategies in each commodity category. Each supplier is assigned scores based on two categories.

#### ■ Risk

The risk score captures potential for instability in our ability to purchase a given product or material. Higher risk may be the result of one or more of the following reasons:

- There is only one supplier for this material or product.
- There would be significant cost associated with switching suppliers.
- The supplier is subject to greater instability or disruptions.
- The supplier may not have publicly stated sustainability or safety measures.

#### ■ Impact

The impact score reflects the ways that a supplier's situation can affect Owens Corning's bottom line. High-impact suppliers are generally those who:

- Offer innovative products.
- Offer significant cost and/or productivity savings.
- Deliver a competitive advantage for us.
- Serve as a necessary part of Owens Corning's business operations.

Once the scores have been assigned, the suppliers are placed into one of four categories, and from there we are able to establish action plans that ensure our relationship with each supplier is optimized, increasing their overall impact and mitigating our risk.

The classification is also used to identify relationship owners, action items, and supplier, commodity, and/or business strategies. The Segmentation Tool has been updated and improved over the years, with the latest update taking place in 2021 to streamline the segmentation of suppliers and the questions asked to assess them.

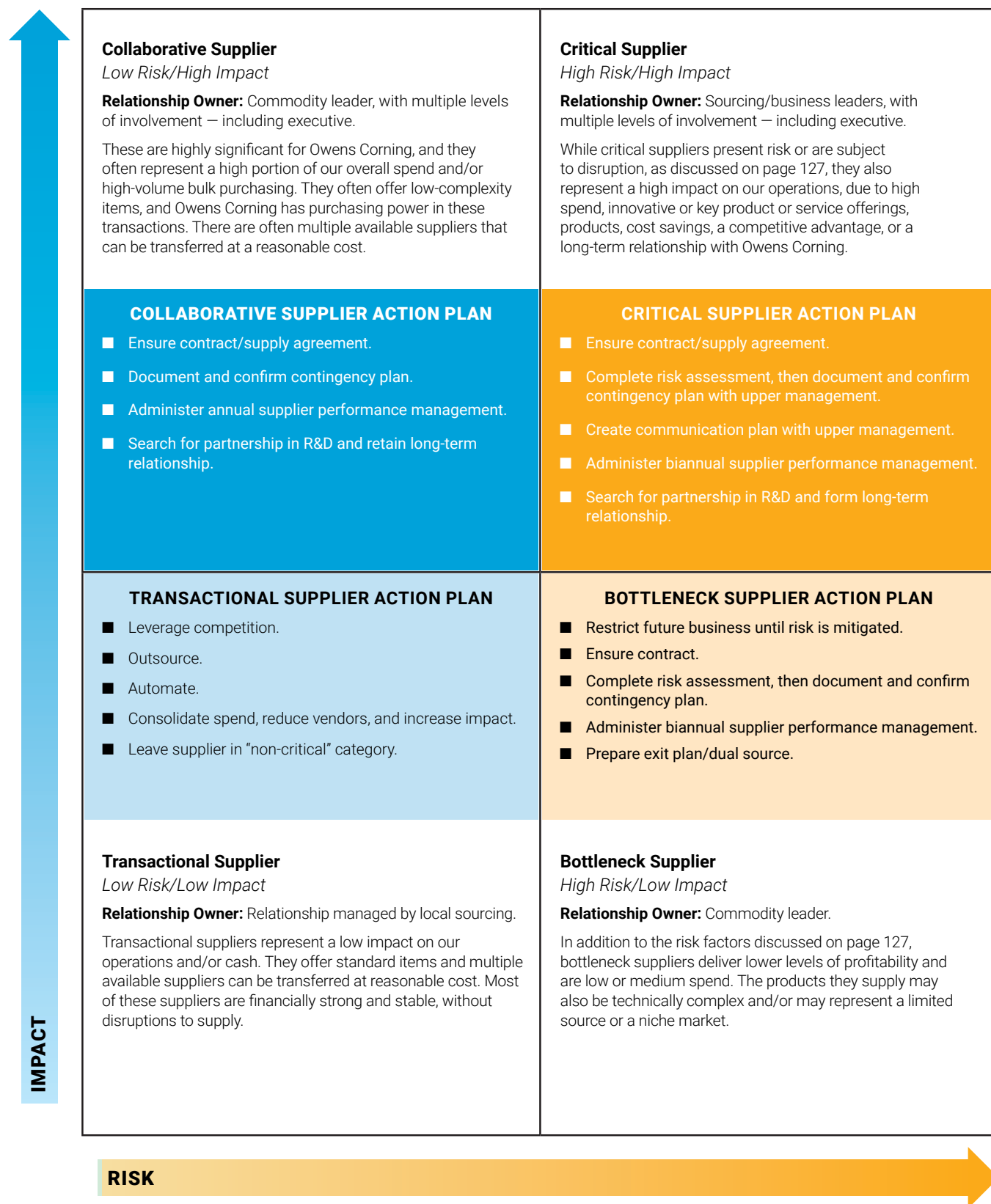
We have segmented the top 775 suppliers based on their impact and risk. In 2021, approximately 16% of our segmented suppliers were identified as critical suppliers (high risk/high impact), and approximately 37% were identified as bottleneck suppliers (high risk/low impact). Both segments are key focus areas in our supply chain responsibility efforts.



Photo submitted by:  
**Scott Campen | Knoxville, Tennessee, U.S.**  
Grand Canyon, Arizona, U.S.

Supplier segment categories and their specific action plans are outlined in the following chart:

## Characteristics of Different Supplier Segments and Action Plans



## Identifying and Mitigating Risk

Owens Corning has several methods to identify risk in our supply base, including ESG risk scoring, segmentation, the risk mitigation tool, supplier performance measurement, category strategies, on-site or self-evaluations, and sustainability evaluations. In addition, risk can be introduced by our suppliers through nonconforming material or work while on-site at our facilities. Our contractor management standard requires that all contract employees working at Owens Corning sites meet certain standards before proceeding with any work. Each contractor that performs medium- and high-risk work activity must submit appropriate documentation and achieve an acceptable grade by our external partner, ISN, prior to being awarded any jobs. Examples of documentation include a Certificate of Insurance, copies of specific safety programs, OSHA forms, and questionnaires about their EHS and sustainability programs. Owens Corning and the individual contractor pay for membership with ISN, and the cost to the contractor is based on their number of employees.

In our plants, we have a process to record and track nonconforming material from suppliers. Suspect or rejected material is segregated, which drives further investigation by the supplier into any material that may be in stock or en route. We also use an 8D process, an industry-standard corrective action that requires the supplier to respond with a detailed description of the problem, an immediate containment plan, short-term action, a root cause analysis, long-term corrective action, an implementation plan, a prevention plan, and an implementation evaluation. We use this tool for any corrective action that is requested from our suppliers.

We use various subscriptions and memberships to assist in our risk assessment of suppliers, market, and competitive landscape while making sourcing decisions. We have memberships with Procurement Leaders, Gartner, and MAPI, as well as resources related to chemical, oil, and more. Each sourcing professional is trained in gathering category and market intelligence, using a range of tools, including SWOT, PEST analysis, and Porters.

## Risk Mitigation/Contingency Planning

Our detailed risk mitigation tool focuses on all critical suppliers, along with all single and sole source suppliers. The tool consists of the following sections:

- Risk identification.
- Risk assessment.
- Maturity assessment.
- Risk score and segmentation.
- Prioritization.
- Documented contingency planning, where required.

Areas of risk assessed for suppliers include human risk, complex risk, information and legal risk, quality risk, reputational risk, and operational risk.

The tool takes each identified risk through a series of scoring matrices, with the final chart being a risk tolerance chart showing “impact” and “likelihood” of the risk. This then drives the documented contingency and testing process for the highest priority risks. Contingency plans can be completed on a supplier, category, or business basis and can take different shapes. For example, they can be a documented plan for backup transportation, raw material, temporary employment, or a request for production data to ensure that a supplier’s process is consistently running good material.

The risk mitigation tool was used with all category strategies in 2021 to create contingency plans and identify highest risk areas — a required component in the semi-annual category reviews.

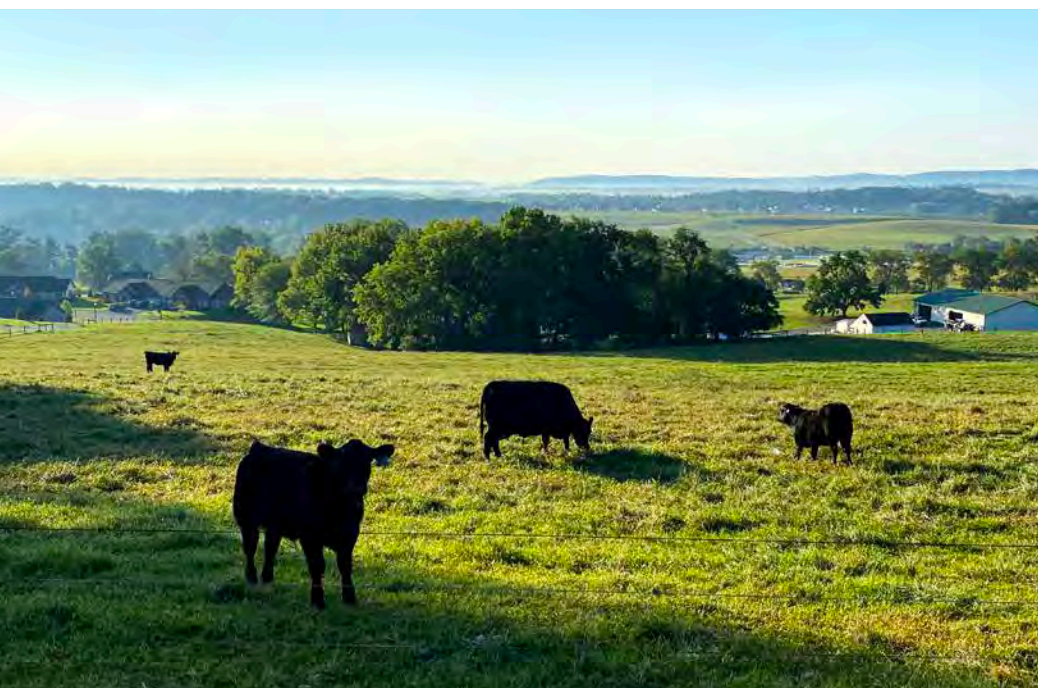


Photo submitted by:  
**Amanda Meehan | Toledo, Ohio, U.S.**  
Lancaster County, Pennsylvania, U.S.

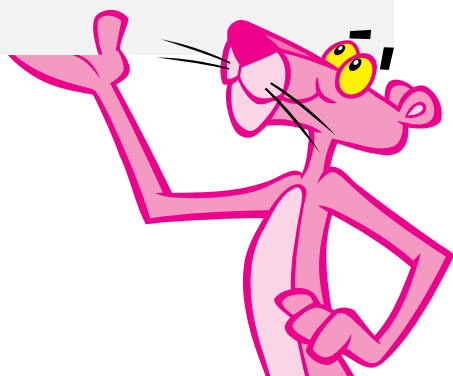


## Reducing Risk from Single-Source Suppliers

While raw materials usually come from more than one supplier, Owens Corning has some single-source supplier relationships that provide unique, value-added product and service capabilities. Such companies fall into the critical supplier category in our supplier segmentation tool, and they are subject to close monitoring, engagement, and collaboration with the sourcing team.

Our sourcing team maintains a regular schedule of safety, environmental, sustainability, and quality audits of single-source suppliers. In addition, we work with these companies to address any gaps in their risk analysis and contingency plans. Owens Corning meets with leaders of single-source companies to review and update all pertinent information.

**We are proud to be a 2021 CDP Supplier Engagement Leader, in recognition of our efforts to measure and reduce climate risk within our supply chain. We were part of CDP's Supplier Engagement Rating (SER), which rates how effectively companies are engaging their suppliers on climate change. CDP assesses performance on supplier engagement using a company's response to selected questions on governance, targets, Scope 3 emissions, and value chain engagement in the CDP climate change questionnaire.**



## Supplier Evaluation

Owens Corning sourcing and supply chain professionals evaluate existing and potential suppliers using either on-site evaluations or supplier self-assessments.

■ **On-site evaluations** are specific to the kind of supplier (e.g., chemicals, minerals, cullet, packaging) and focus on the highest risks for each category.

■ **Self-assessments** are in-depth documents asking about business practices, investments, quality management systems, and more.

Both evaluations include questions about the Owens Corning Supplier Code of Conduct, which includes a range of social criteria, including discrimination, child labor, forced labor, human trafficking, the right to collective bargaining, and the right to freedom of association, as well as safety and environmental policies. This process also evaluates the suppliers' treatment of contracted labor, women, and children.

In 2021, on-site evaluations were dramatically curtailed due to COVID-19 travel restrictions. While only 13 on-site evaluations and self-assessments took place in 2021, the pandemic has led us to reassess our processes and identify opportunities for continuous improvements that will enhance the ways we conduct both on-site assessments and self-assessments in the future.

## Supplier Performance

Our supplier performance measurement process is focused on those suppliers that have a risk score of 2.0 and above on the Segmentation Tool. This process uses a supplier performance scorecard, which is separated into four sections: raw material, transportation, indirect, and energy. Each section has questions and ratings that are created and weighted specific to that category. The supplier performance scorecard is designed to provide feedback to the supplier and drive improvement in several areas, each of which are

a weighted percentage of the total. These areas are as follows:

- Cost/Value.
- Quality.
- EHS.
- Delivery/Support.
- Flexibility and ease of doing business.

The EHS questions ask if the supplier complies with the Supplier Code of Conduct, and if the supplier has an environmental and safety policy. If the supplier's scores are unacceptable, it is the category leader's responsibility to resolve the issue using a documented corrective action plan, and then continue to monitor the situation until the corrections have been made and subsequent scorecards show improvement. If improvement is not made, other types of resolution will be considered, including business restriction or exit planning.

## Supplier Sustainability Assessment

Another tool used in assessing supplier risk is our Supplier Sustainability Assessment. Our survey is mapped to ESG risk categories, and specific topic areas within the survey include codes of conduct, both Owens Corning and supplier, sustainability policies and goals, environmental management system, health and safety policies and goals, labor policies and practices, and raw material.

We began sending annual supplier sustainability assessments in 2014. Over the years, we have continued to refine our approach in identifying and prioritizing key suppliers to engage in the supplier sustainability assessment. In 2021, criteria included suppliers with high-risk ESG rating, along with strategic, single/sole source, and critical suppliers. This strategic approach ensures that we are focusing our efforts with the most impactful and critical suppliers. Each supplier is asked if they can comply with the Owens Corning Supplier Code of Conduct; if they are unable to comply, they are asked to provide the reason and offer supporting documentation

of their own code of conduct. 98% of respondent suppliers say they meet the standards set by our Supplier Code of Conduct.\* When training buyers or professionals responsible for making decisions regarding the selection of suppliers or the awarding of business, the information gained from the sustainability survey is always stressed as an important element in the final decision.

As part of our due diligence, Owens Corning also uses these assessments to identify and gauge impacts and risks as they relate to our suppliers' commitment to human rights. Suppliers are asked whether they have policies in place regarding human trafficking, forced labor, child labor, and anti-discrimination. In addition, we ask suppliers whether they employ migrant workers in their operations.

#### Corrective Actions

Owens Corning uses an industry-standard process when corrective actions need to be taken with our suppliers. This process includes the following:

- Short-term action and containment plan.
- Root cause analysis.
- Identification and verification of long-term corrective actions.
- Implementation of long-term corrective action.
- Final verification and sign-off by stakeholders.

We typically deliver our written request for corrective action during supplier assessments and upon receipt of nonconforming material. In addition, we may ask suppliers to provide additional inspection data with a shipment, showing actual measurements for critical characteristics, as well as signoffs from management at supplier locations.

## Areas of Human Rights Concern

As part of our overall commitment to supply chain sustainability, Owens Corning is taking steps to manage known risks that may exist among our suppliers. Our goal is to mitigate these risks wherever possible through proactive measures and consistent monitoring.

### Sand Mining

Owens Corning requires sand as part of our manufacturing operations; as such, we have a vested interest in ensuring a sustainable, responsible supply chain for this essential material. We continue to monitor our sand mining suppliers for environmental and human rights conduct, as this industry has been identified as a risk due to increased sand consumption around the world.

In 2021, our sand consumption was approximately 841,276 metric tons, with nearly 62% coming from North America. Glass production requires a high grade of sand, which generally comes from mines and quarries rather than riverbeds or shorelines. We are confident in the integrity and continuity of our sand supply base. In addition, our commitment to glass recycling can help reduce our reliance on sand in the production of fiberglass insulation.

### Conflict Minerals

Owens Corning does not tolerate the use of raw materials that directly or indirectly contribute to armed conflict or human rights abuses in any of its products.

We follow the U.S. Securities and Exchange Commission guidelines in disclosing any use of conflict minerals and in conducting reasonable country-of-origin inquiries as required by those guidelines. We also follow the Organisation for Economic Co-Operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

Suppliers are expected to have a policy in place to address the responsible procurement of minerals. They are also expected to train appropriate personnel on this policy, implement a risk assessment (supply chain mapping) of all conflict mineral sources, and develop an appropriate risk mitigation strategy for suppliers identified as "high-risk" in the supply chain mapping exercise.

Owens Corning encourages the supplier to verify the due diligence practices of their suppliers regarding conflict minerals. They are also urged to join or build partnerships with industry organizations that implement due diligence in the mineral supply chain.

**We continue to monitor our sand mining suppliers for environmental and human rights conduct, as this industry has been identified as a risk due to increased sand consumption around the world.**



# SPEAKING OF SUSTAINABILITY

## Jelling Lai

Sustainability, Standards, and Compliance Leader

Born in Taiwan and raised in Malaysia, Jelling Lai grew up immersed in island environments, and the natural beauty of those places inspired her to pursue sustainability as a career. That passion led to degrees in environmental science, chemistry, and environmental policy, as well as two MBAs. Jelling brings this science-based focus to Owens Corning as sustainability standards and compliance leader for our global sourcing and supply chain. Her background gives her a unique perspective on the ways corporate responsibility and business imperatives intersect, as well as how Owens Corning's supply chain touches all aspects of our efforts to increase our product handprint.



“ Our suppliers are critical partners in our sustainability journey. ”

### On Owens Corning's commitment to supply chain sustainability

A role focused on sustainability within global sourcing and supply chain is a testament of Owens Corning's sustainability maturity and commitment to the next frontier — Scope 3 decarbonization. The landscape is very new as companies out there are trying to figure out the how we materialize sustainability within our own footprint and within our entire value chain. I think this then alludes to the circular economy model where we really engage suppliers in terms of end of life solutions and our ability to recycle or reuse some of the things we have manufactured. The landscape is emerging; as companies figure out how to materialize sustainability within the entire value chain, circular economy and end of life solutions are essential elements to enable our journey toward a more sustainable future.

### On the role our suppliers play in our sustainability efforts

Our suppliers are critical partners in our sustainability journey in that their Scope 1 and 2 emissions translate into our Scope 3 emissions — and that's just one facet. It's really important that we build on these partnerships. For example, by having their greenhouse gas emissions inventoried, we're able to gain visibility into what their emissions account for them and for ourselves as well. Seeking innovative ways to work together and finding sustainable alternatives are also a part of that journey. An example of that is sourcing alternatives to virgin materials. That's an area where our sourcing leaders are working hard, looking at what those alternatives will be, and our suppliers are a key part of helping us find those options.

### On approaching Owens Corning's goals with confidence

We're taking tangible steps towards achieving the goals we set in front of us, and that assures me about where we're heading. We also align ourselves to very stringent standards and expectations. We not only align to the U.N. Sustainable Development Goals, but we also have set science-based targets along with other frameworks and standards. We know this is a journey with guidance, guard rails, peer review, and third-party verification. That enhances the robustness of the journey that we have been on. In addition to the rigorous bar we've set and will continue to measure ourselves against, I've experienced the openness, the curiosity, and the passion of my colleagues to want to discover the new and want to think about what sustainability means in their fields of expertise. That, to me, really fuels the energy and the promise of what we can do.

Photo courtesy of Jelling Lai



# SUPPLY CHAIN SUSTAINABILITY INITIATIVES

Owens Corning has sought to establish clear expectations for our suppliers where sustainability issues are concerned, and we expect full compliance with our Supplier Code of Conduct.

## OC Sourcing Way

The OC Sourcing Way was written to standardize the process of creating strategies in global sourcing. We are continuing to train new employees in global sourcing and working to make improvements to the process to meet the needs of our organization. Each category leader is responsible for establishing category strategies based upon the output of the Segmentation Tool, business objectives, market forecast, and more. The strategies may focus on creating dual sources, risk mitigation, innovation, or cost savings initiatives for the business.

In our continuing efforts to reduce risk and bring top value in our supply chain, we have recently implemented Global Sourcing Bi-Annual Category Reviews. The purpose is to review each global strategy in its entirety with the Sourcing Leadership team. Keeping with the OC Sourcing Way, the agenda includes the category profile, industry analysis, supplier segmentation, supplier performance measurement, risk mitigation/contingency plan, value creation, and strategy plan and success measures. This review includes most collaborative and critical suppliers.

The OC Sourcing Way intranet site houses a wide range of information, providing global sourcing members with the latest information on shared suppliers, such as evaluations, sustainability surveys, segmentation, and risk mitigation plans. Housing all processes in one location helps category leaders complete supplier performance reports, supplier segmentation, and more.

## Diverse Supplier Program

Owens Corning's Diverse Supplier Program creates strong business partnerships, strengthens economic development in the communities where we serve, and supports the viability of diverse businesses across all aspects of our supply chain. As we build relationships with businesses owned by minorities, women, veterans, the disabled, service-disabled veterans, LGBTQ+ people, and people from historically underutilized business zones (HUBZone), we can help foster an inclusive culture that increases our social handprint.

To help facilitate the program, we have established a Diverse Sourcing Champion network to expedite diverse sourcing education and identify diverse spending opportunities. We have also developed internal tracking and reporting capabilities to measure progress. In addition, we have implemented useful tools for benchmarking, market research, and execution of inclusive sourcing practices in all businesses and categories, as well as communication tools for diverse suppliers.

## Supplier Awards

Each year, Owens Corning celebrates our global suppliers with an annual two-day series of events that includes a business meeting and a fundraiser for the Owens Corning Foundation. Usually, the event brings hundreds of suppliers to Toledo for networking, planning, and fun and allows Owens Corning to reward our top suppliers for their partnership. This year, the event and awards were held virtually over the course of one day. Suppliers were invited to presentations that included business updates by our corporate leaders and open panel discussions. During the business meeting, suppliers learned about Owens Corning's 2030 sustainability goals, including our inclusion and diversity goals, and how these pertained to our suppliers.

There were dozens of nominations for the awards and nine finalists, and sustainability performance was a factor in determining winners. Three suppliers won the final award for Supplier of the Year.

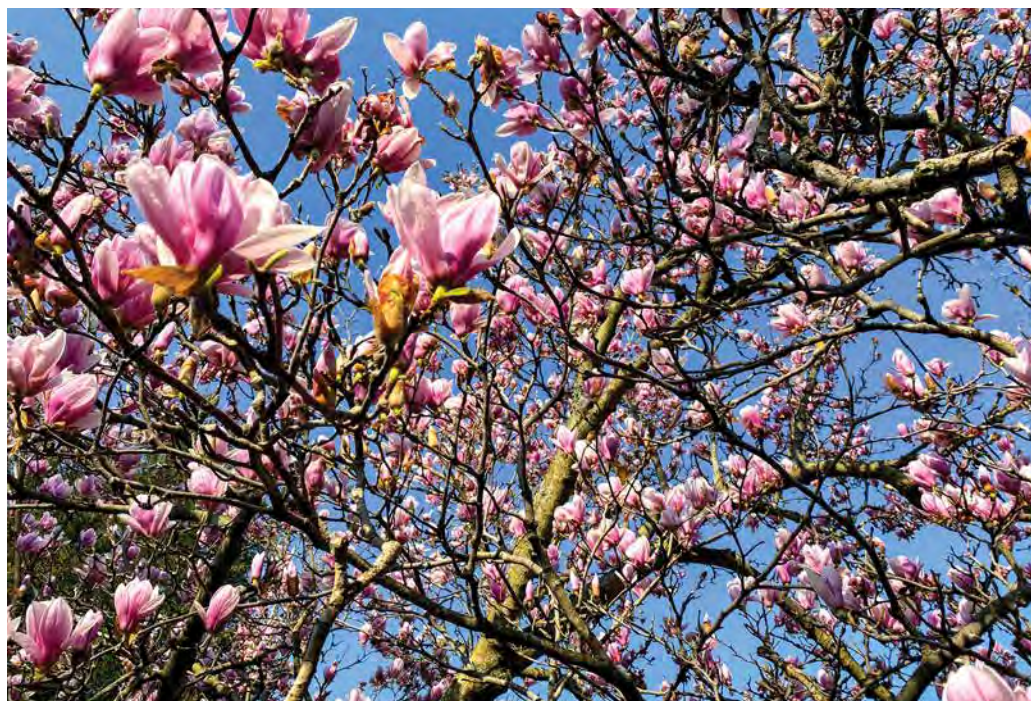


Photo submitted by:  
**Olivia Kasle | Ann Arbor, Michigan, U.S.**  
Magnolia flowers.



# SUPPLY CHAIN SUSTAINABILITY PERFORMANCE

By prioritizing suppliers that share our commitment to making the world a better place, we are also doing a great deal to achieve our overall goals. We are consistently gauging our suppliers' commitment to sustainability as well as their effectiveness in reducing emissions.

## Supplier Sustainability Survey

One of the key ways we gauge the effectiveness of our suppliers' work in sustainability is through our annual supplier sustainability survey. Each year, we ask a sampling of our suppliers to complete the survey. In 2021, this sample size was 553 suppliers from around the world. Of the suppliers we have surveyed over the past three years, we have received 131 responses, for an overall response rate of 24%. Owens Corning uses the survey data to accomplish the following:

- Learn how companies perform, including areas where they are strong and where additional support may be required.
- Highlight areas that need additional attention and follow-up. For example, questions that a company does not answer are treated as a negative response, which triggers direct follow-up.
- Identify best practices and leading companies that should be considered for an Owens Corning supplier award.

Of the suppliers that responded:

- 98% reported that they meet the standards set by our Supplier Code of Conduct.\* Those that could not say that they comply are listed as high-risk, and follow-up management is in place. Owens Corning also surveys suppliers about their policies and goals related to sustainability and safety.
- 87% of suppliers have organizational goals and policies for safety, and 80% have organizational goals and policies related to sustainability. Many of the companies report on their goals and policies internally and externally, and some publish their data at least annually.
- 79% have policies in place regarding labor practices and human rights.
- 58% have policies in place that prohibit forced or child labor.
- 29% of respondent supplier operations are covered by a certified ISO 14001 or EMAS environmental management system.

## Scope 3 Emissions

Recognizing the variety of activities both upstream and downstream of our operations, we follow multiple approaches to determine the amount of GHG emissions generated throughout our value chain. More information about emissions across our value chain can be found in the Scope 3 Emissions section of the [Combating Climate Change chapter](#) and on [page 315](#) in [Appendix C](#) of this report.

## Managing Supply Chain Challenges in 2021

Over the course of the year, Owens Corning teams were affected by a range of supply chain disruptions. Winter storms in Texas, a mine collapse, and lumber shortages caused by the booming U.S. housing market presented unique challenges to our businesses' supply chains. Owens Corning was able to manage these and other disruptions through strong collaboration across our businesses, sourcing, supply chain, commercial marketing teams, customers, and suppliers, as well as operations and advanced manufacturing. These teams quickly initiated measures to mitigate impact and help ensure that our businesses remain on track throughout the year.

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Photo submitted by:  
**Scott Campen | Knoxville, Tennessee, U.S.**  
Coconino National Forest, Arizona, U.S.



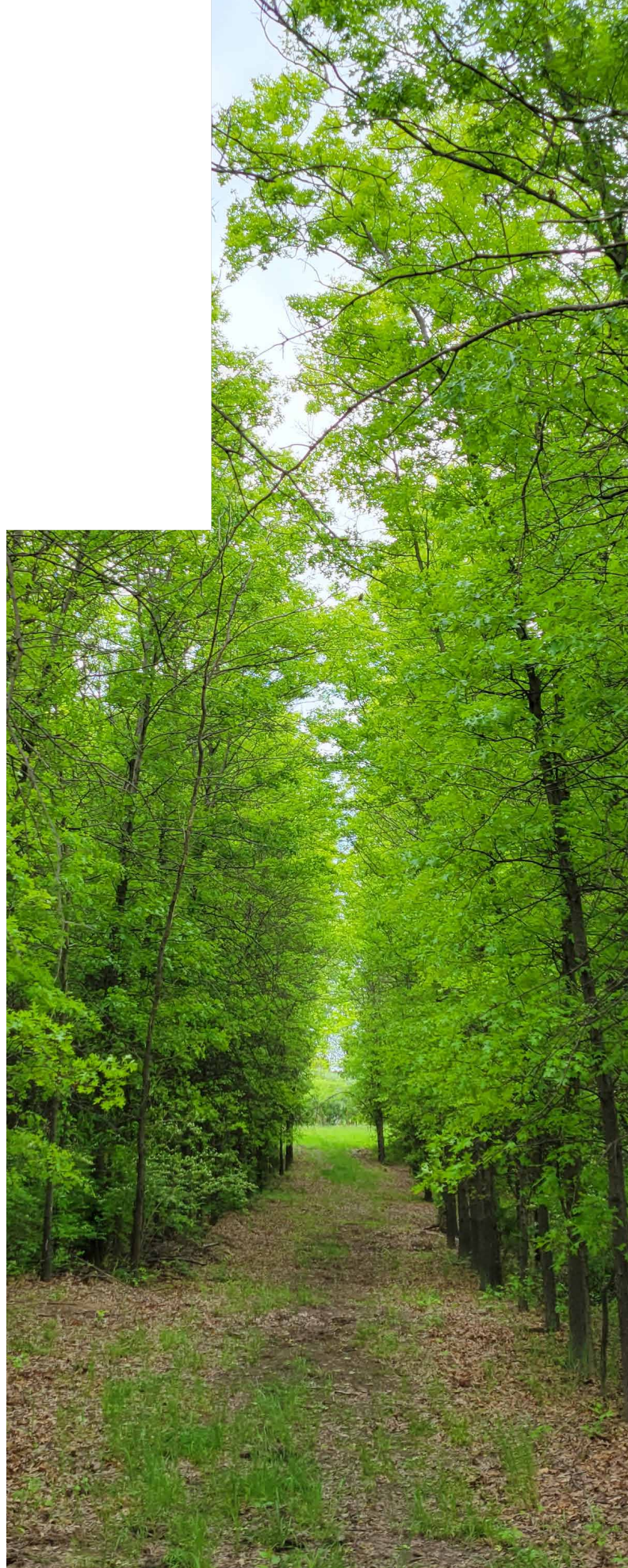
## GOING FORWARD

Our global leadership gives us the ability to advocate for our values and encourage other companies to join us on our sustainability journey. The initiatives outlined in this chapter, including the Diverse Supplier Program, are helping us establish mutually profitable business partnerships while fulfilling our ambitions to make the world a better place.

Through efforts such as these — as well as our longstanding supply chain initiatives — we will be able to do more to achieve our sustainability goals and help our suppliers achieve their own goals. With a range of tools at our disposal, including our Supplier Code of Conduct, we can help ensure that the companies we work with share our values and commitments.

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Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Shawnee, Kansas, U.S.







# REDUCING OUR ENVIRONMENTAL FOOTPRINT

Building a more sustainable future means reducing our negative impact across all our operations, so we can help ensure clearer air, cleaner water, and less waste for generations to come. We have specific goals and targets established related to the following material topics:

■ **Energy Efficiency & Sourcing  
Renewable Energy.**

Discover how our efforts to break away from fossil fuels — and use less energy in general — are central to achieving our sustainability goals.

■ **Combating Climate Change.**

Owens Corning recognizes climate change's devastating effects on the planet. Learn how we're reducing the greenhouse gas emissions that cause climate change.

■ **Air Quality Management.**

Reducing greenhouse gas emissions is only one part of our commitment to cleaner air. See how we're working to improve air quality in other ways, too.

■ **Responsible Water Sourcing & Consumption.**

Owens Corning relies on high-quality water in our processes — from the same sources that other people depend on. Discover how we're working to protect this increasingly precious resource.

■ **Waste Management.**

Learn how we're taking steps to become a zero waste-to-landfill company, from reducing waste in our processes to increasing our recycling.

■ **Protecting Biodiversity.**

The world lives in a delicate balance, with each species playing a role in our survival. Learn more about the steps we're taking to protect species around our sites.

# ENERGY EFFICIENCY & SOURCING RENEWABLE ENERGY

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

As a manufacturing enterprise with facilities around the world, Owens Corning recognizes the impact our energy usage can have. We are committed to using energy wisely, and to sourcing energy as sustainably as possible. By relying on renewable electricity to power our operations, we can help reduce our dependence on fossil fuels, which is a cornerstone of our sustainability efforts.

Through our collective expertise and understanding of what's required to move forward, we've made great strides in both increasing our efficiency and expanding our use of renewable energy since 2015. By building upon those successes over the next decade, we are confident that we'll meet our 2030 goals — and reduce our global environmental footprint.



Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Wind farm in Tatum, New Mexico, U.S.

**We're working to decrease our dependence on fossil fuels by improving efficiencies and sourcing renewable electricity.**



Our efforts to achieve energy efficiency and source renewable energy align with these UN SDGs:



**Sustainability Materiality Definition:** We are determined to continue decreasing our dependence on fossil fuels, both by improving efficiency in our operations, and by meeting more of our energy demands through renewable sources.

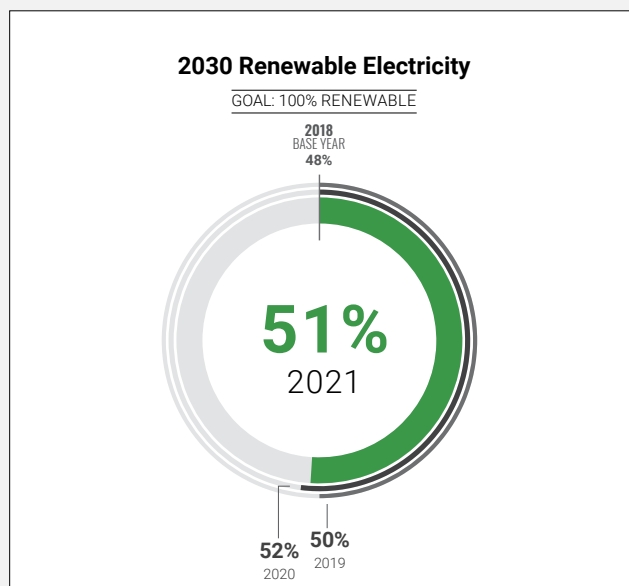
The energy data in this chapter were independently assured to a high level by SCS Global Services. For more information on the assurance process see About the Report, and for our verification statement please see [Appendix F](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more on [page 291](#) in [About the Report](#).

# **2030 GOALS FOR ENERGY EFFICIENCY & SOURCING RENEWABLE ENERGY**

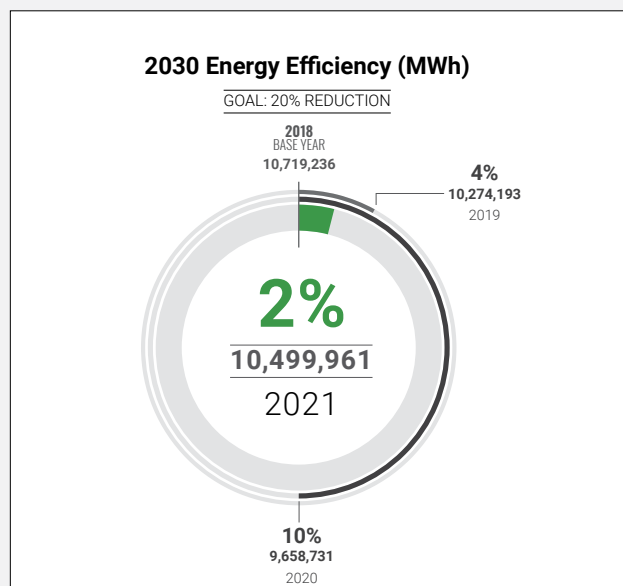
## By 2030, we will be sourcing 100% renewable electricity.

Purchasing electricity only from renewable sources is a key part of our effort to halve our greenhouse gas emissions. We'll also work to reduce the emissions from our processes and improve energy efficiency.



## We will also reduce energy use by 20% over our baseline year.

Over our goal cycle, we will work to reduce energy use from both renewable and non-renewable electricity, as well as other forms of non-renewable energy\* by 20% from our baseline year of 2018.



These two approaches — along with fuel switching and low-carbon or no-carbon fuels and technologies — will put us on the path to eventually eliminating our use of fossil fuels.

\* Non-renewable energy includes, but is not limited to, natural gas, fuel oil, gasoline, diesel, propane, and LPG.

## OUR APPROACH

In support of the 2030 goals described above, Owens Corning has identified a number of other approaches to help us achieve our 2030 goal for energy efficiency and the sourcing of renewable energy. Other strategies that will help us achieve our overarching goals for energy can be found in our [Combating Climate Change chapter](#).

## Tracking and Monitoring Our Performance

Owens Corning has robust systems in place to track and monitor our performance against key energy-related indicators. Each month, our plants report performance on our goals and targets, which helps us stay current on data and spot variations that may require corrective action.

Across our network of plants, designated energy leaders oversee the implementation of energy management activities and help identify areas for improvement. In addition, Owens Corning has energy managers who conduct assessments, facilitate Kaizen and Total Productive Maintenance activities, develop projects, and provide technical support. Several plants with medium and high energy usage also have energy teams that meet monthly.





## Our Energy Roadmap

Owens Corning's plan to increase energy efficiency and source renewable electricity includes the following strategies:

### Short-term Strategies

- Increase renewable electricity consumption across the grid through additional wind Virtual Power Purchase Agreements (VPPAs) in Sweden and Finland.
- Continue reducing the energy intensity of our operations through energy efficiency projects.

### Medium-term Strategies

- Consider additional renewable energy opportunities on a global basis, including longer-term agreements, and consider PPAs in the other regions where we operate, such as Latin America and Asia Pacific.
- Drive continued electrification of processes where feasible to reduce fossil fuel usage.
- Through projects and sourcing, switch to 100% renewable electricity and improve energy efficiency by 20% by 2030.

### Long-term Strategies

- Drive innovation within our research and development portfolio to enable further conversion from fossil fuels to carbon neutral and renewable energy to power our processes.
- Explore new renewable fuel technologies and opportunities, working towards an aspiration of using 100% renewable energy.

## Outreach and Accountability

Owens Corning ensures accountability and encourages further progress toward our sustainability goals.

- We believe that rewarding our employees for their dedication to sustainability is essential, and we recognize teams that help us meet our energy goals with companywide performance awards. In addition, sustainability goals are a factor in incentive compensation for our management team. For example, we incentivize our composites energy teams with cash rewards and recognition.
- Owens Corning partners with over 250 like-minded organizations in the U.S. Department of Energy's Better Plants Program, which provides our energy leaders with tools, training and technical assistance. In addition, we have expanded our commitment to this program by entering the Better Plants Challenge described on [page 141](#).
- We use a number of external platforms, including our website and this sustainability report, to publicly disclose our environmental performance. [We invite comments and feedback from all our stakeholders.](#)

## Power Purchase Agreements

To expand our renewable energy platform, we have entered long-term power purchase agreements (PPAs), which support the development of large renewable energy projects. The PPAs signed in 2015 enabled wind capacity in Texas and Oklahoma, with the potential to generate 1.1 million megawatt hours (MWh) of electricity each year, from a capacity of 250 megawatts (MW) of renewable electricity. This includes 125 MW of wind energy in Texas and another 125 MW in Oklahoma. Owens Corning aspires to have contracts in place covering 75% of our global enterprise electricity demand through renewable agreements which will drive additionality to the grid over the next two years.

Within the United States today, for every MWh of electricity generated by the renewable installation, we receive one energy attribute certificate (EAC), which we then apply to the manufacturing of our products. We retire all the EACs generated from our PPAs, which reduce our environmental footprint and the embodied carbon of our products.

While it's possible for a company to reduce its footprint simply by purchasing EACs, Owens Corning believes that we should also be directly responsible for bringing more renewable electricity into the grid through power purchase agreements or virtual power purchase agreements (VPPAs).

The (VPPAs) that Owens Corning entered in 2021 will add 91 MW of renewable capacity to the grid. We have entered into two wind VPPAs, one in Finland and one in Sweden, which will bring in 43 MW and 48 MW of renewable electricity capacity, respectively. The VPPA in Sweden reached its commercial date of operation in 2021, while the VPPA in Finland will reach its commercial date of operation in 2022.

# ENERGY INITIATIVES

Shifting toward renewable energy is key to our carbon reduction goals. To make this shift, we evaluate renewable energy opportunities globally and invest in on-site renewable programs. We also collaborate with external partners; through our sourcing organization, we look at renewable energy procurement options available through our utility providers.

In addition to the PPAs discussed above, the following are highlights of our on-site and off-site renewable programs in 2021:

- We installed a new fuel cell at our site in Compton, California, U.S., in 2021. At 750 kilowatts, this new fuel cell is nearly double the size of the previous fuel cell, and will be more efficient than the prior installation.
- Our facility in L'Ardoise, France, sourced 100% renewable electricity through the Compagnie Nationale du Rhône's (CNR) Caderousse hydroelectric project, which harnesses energy from the Rhône River.
- In January, a solar farm was completed at our IPP roofing components plant in India. Its 854 solar panels are expected to generate 5% of the plants total required power and help the plant meet local government regulations.
- In Toledo, Ohio, U.S., a 2.4-megawatt solar array provided approximately 20% of the power for our world headquarters.
- The 2.7-megawatt solar panels installed at our insulation plant in Delmar, New York, U.S., provided approximately 8% of its required electricity.
- The roofing plant in Kearny, New Jersey, U.S., sourced around 4% of its required electricity from roof solar panels.
- Our Tessenderlo, Belgium, location sourced approximately 11% of its electricity from wind turbines onsite and off-site.
- At our plant in Fairburn, Georgia, U.S., a one-megawatt solar installation saved an estimated 1,257 metric tons of CO<sub>2</sub>e emissions.
- In New Jersey, a solar installation is expected to come online by April 2022, bringing nearly 3.4 MW of renewable capacity to the grid, and with the potential to generate 4,400 MWh of renewable solar power a year. There is also potential to expand the array and further increase capacity.

## Guarantees of Origin in Europe

- In June 2021, our plant in San Vicente, Spain, signed an agreement with their electricity supplier ensuring that 100% of the facility's electricity comes from renewable sources. This switch is part of a larger project that also includes water usage, carbon dioxide emissions, and waste to landfill. Our Science & Technology Center in Chambéry, France, began to source 100% renewable electricity in 2021 as well.
- As of 2021, we now source renewable electricity at 11 of our European locations through guarantees of origin, certificates that provide assurance that the electricity comes from renewable sources. Sites with active guarantees of origin (GoO) in 2021 are: Apeldoorn (Netherlands); our Chambéry Science & Technology Center (France); Hällekis, Hässleholm, and Skövde (Sweden); Klášterec (Czech Republic); Parainen and our Parainen Science & Technology Center (Finland), San Vicente (Spain); and Tessenderlo and Zele (Belgium).
- In 2021, these 11 sites sourced 224,476 MWh of renewable electricity, which in turn saved 56,828 metric tons of related CO<sub>2</sub>e.



Photo submitted by:

**Michael Zepeda | Compton, California, U.S.**

Fuel cells at our Compton plant generate electricity without combustion, delivering reliable and resilient clean electrical power.

# RECOGNITION FROM THE U.S. DEPARTMENT OF ENERGY'S BETTER PLANTS PROGRAM



As a participant in the U.S. Department of Energy's Better Plants program, Owens Corning has committed to a 28% reduction in energy intensity by

2030, compared to our base year of 2018. This is the third goal we have set as part of this program; we surpassed our two previous goals ahead of schedule.

Efforts to increase our energy efficiency have led to a number of tremendous success stories. For example, by restructuring production at one plant, we were able to reduce our energy intensity by 37%. We have also implemented a range of capital projects at several of our facilities, including LED lighting upgrades, controls for our chilled water systems, optimization and monitoring of our compressed air equipment, and the installation of more energy-efficient furnaces.

Owens Corning is also proud to be recognized with a 2021 Better Project Award for our efforts in implementing an advanced HVAC control system at two of our facilities. The systems detect when low humidity and moderate temperatures make it possible to cool without the use of chillers, ensuring optimal cooling with the lowest possible energy use. In addition, the new systems enable Owens Corning people to maintain them without outside support.

According to Don Scarsella, Owens Corning's enterprise energy leader, the Better Plants program has proved to be an invaluable aid for the company as we have worked toward our sustainability goals. "We've had many in-plant trainings and assessments from the Industrial Assessment Center," he said, "and we've used their software tools to analyze our systems and look for opportunities."

## Waste Heat Recovery Projects

In 2021, Owens Corning's Composites business made significant investments in waste heat recovery. These projects represent tremendous technical innovations, and they will deliver substantial energy savings in the years to come. The waste heat recovery initiatives are in place at the following locations:

### ■ Chambéry, France

At this facility, we are using waste heat from the furnace to generate hot water, which is then taken to the ovens to preheat the air on our 11 dryers. This efficient transferring of heat from one area of the plant to another began in the fourth quarter of 2021. When it is operating at full capacity, this project has a heat recovery ability of over 1,100 kW, and it has the potential to save around 12,500 MWh of natural gas per year.

### ■ Taloja, India

Waste heat here is recovered in the form of hot air, which is taken to the drying ovens. It is expected that this project will lead to substantial savings, as well as a 50% reduction in the energy required to operate the drying ovens. The project became operational in the fourth quarter of 2021.

### ■ Rio Claro, Brazil

At the plant here, we are taking advantage of a new technology using a heat pipe-based air-to-water heat exchanger. The hot water is then used to generate cooling through an absorption chiller, which will reduce electricity consumption at the plant by over 1,700 MWh per year. This project is expected to be online in the first quarter of 2022.



## Green Power Partnership

Owens Corning joined the Green Power Partnership in 2020, which was established by the U.S.

Environmental Protection Agency to provide expert advice and technical assistance to companies and organizations seeking to increase their renewable electricity use. To qualify for participation, partners must meet annual electricity use standards and meet a minimum percentage of their annual electricity use in the U.S. with green power. As members of the Green Power Partnership, Owens Corning receives access to a range of tools and resources, as well as valuable assistance as we seek to achieve our 2030 renewable electricity target.



Photo submitted by:

**Toledo, Ohio, U.S.**

Solar panels located at Owens Corning world headquarters, Toledo, Ohio, U.S.





## ENERGY PERFORMANCE

In 2021, approximately 57% of the electricity used in our U.S. facilities came from renewable sources: wind (53.5%), hydro (1.9%), solar (1.2%), and biomass (0.7%). This percentage includes renewable energy sourced from the grid as well as energy enabled by our PPAs. In fact, of our total U.S. electricity consumption, 50% is directly attributable to our renewable energy programs. Globally, approximately 51% of our electricity across our portfolio globally came from renewable sources, such as wind, hydro, solar, and geothermal. This metric is defined as the renewable energy sourced from the grid and the energy enabled by our PPAs, including on-site generation.

### Energy Conservation and Savings

Since 2006, Owens Corning has implemented over 1,250 energy-use efficiency and reduction projects in our facilities around the world. The result has been a reduction in estimated usage by more than 1.45 million MWh per year.

These projects include lighting retrofits, compressed air optimization, cooling tower upgrades, pump optimizations, solar hot water tanks, fuel switching, process optimizations, and biomass conversions.

In 2021, we implemented 29 projects, generating annual energy savings of over 34,000 MWh and reducing greenhouse gas emissions by over 8,000 MT per year.

### 2021 Energy Conservation Projects

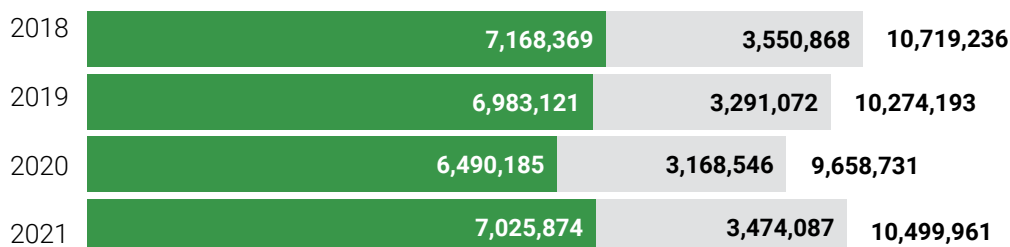
Description of Activity	NUMBER OF PROJECTS	MT CO <sub>2</sub> e SAVINGS/ YEAR	MWh SAVINGS/ YEAR	ANNUAL SAVINGS (USD)	INVESTMENT REQUIRED (USD)	PAYBACK	LIFETIME
Waste heat recovery projects	4	4,721	26,065	\$789,898	\$1,788,174	1-3 years	16-20 years
Efficient lighting projects	8	481	1,750	\$163,557	\$456,441	1-3 years	6-10 years
Compressed air efficiency projects	2	852	1,383	\$135,098	\$25,837	<1 year	16-20 years
Energy efficiency projects of various types, including pump upgrades, motor upgrades, and other infrastructure	3	120	952	\$57,548	\$94,090	1-3 years	Varies by Project
Projects impacting our processes, resulting in improved energy efficiency, including right-sizing of systems, efficient coating systems, and other process optimizations	5	585	1,362	\$86,075	\$123,080	1-3 years	Varies by Project
HVAC efficiency projects	3	1,129	1,558	\$124,795	\$319,185	1-3 years	Varies by Project
Replacing equipment with more energy-efficient technologies	4	439	1,123	\$72,377	\$136,365	1-3 years	16-20 years
<b>TOTAL</b>	<b>29</b>	<b>8,328</b>	<b>34,193</b>	<b>\$1,429,348</b>	<b>\$2,943,173</b>		

Photo submitted by:  
**Danyelle Lynne Phelps | Granville, Ohio, U.S.**  
 Solar field at the plant in Fairburn, Georgia, U.S.

## Energy Consumption

In 2021, Owens Corning increased its overall consumption of direct energy — including the fuel usage in operation — by 8.3% from 2020. We increased consumption of indirect energy, which includes the use of electricity, steam, and district heating, by 9.6%.

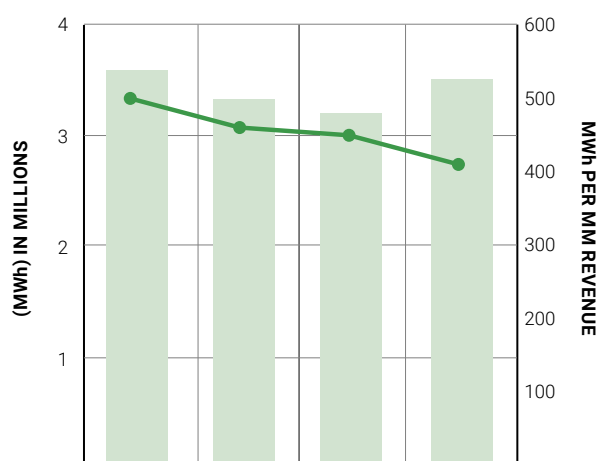
■ Direct energy   ■ Indirect energy



Energy usage is correlated to production.

## Normalized Electric Power

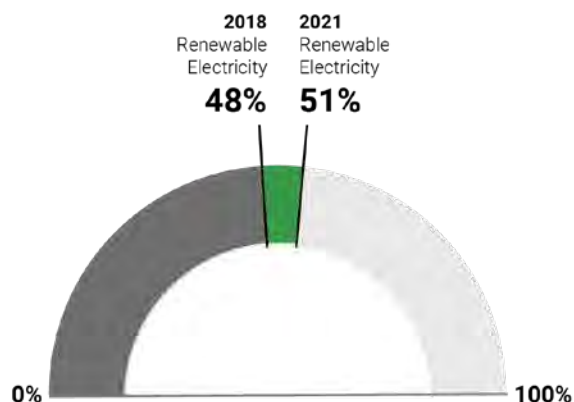
■ Electricity (MWh) in millions   ● Normalized Value (MWh per MM Revenue)



	2018	2019	2020	2021
Electricity (MWh) in millions	3,544,562	3,285,014	3,161,965	3,467,200
Normalized Value (MWh per MM Revenue)	497	457	447	407

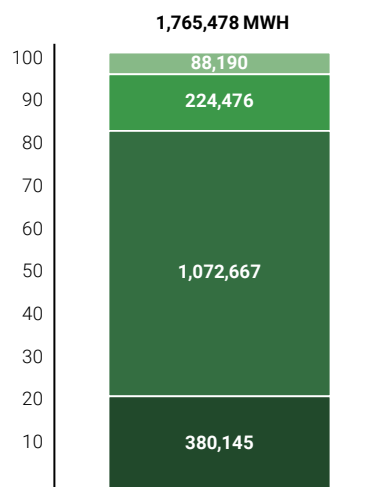
## Indirect Energy — Percent of Renewable Electricity

In 2021, approximately 51% of our electricity came from renewable sources, representing continued progress toward our goal in a year of increased production and corresponding electricity consumption.



## 2021 Renewable Electricity by Type

As we make progress towards our 2030 goal for 100% renewable electricity, we track inputs from a number of types of sources, all of which contribute to our total 2021 renewable electricity consumption of 1,765,478 MWh, equal to 51% of our total electricity consumption.



- **Behind-the-Meter:** Renewable installations that are directly consumed by Owens Corning without coming from the grid.
- **Site-Specific EAC:** Guarantees of origin that cover all electricity demand for a site.
- **EACs from Large-Scale PPAs:** EACs associated with Owens Corning's PPAs which inject renewable power directly into the grid.
- **Residual Grid Mix:** Renewable electricity blends found in the electricity grids where we operate.

**EAC:** Overarching term including Renewable Energy Credits (RECs), International RECs (IRECs), and Guarantees of Origin (GOOs).

# SPEAKING OF SUSTAINABILITY

## Laura Garciandia

Plant Leader

From an early age, Laura Garciandia has had an interest in renewable energy. Now, as a plant leader at our plant in San Vicente, Spain, she is bringing that passion to her work, inspiring her colleagues to join her in helping reduce her workplace's environmental footprint. She recognizes the positive impact that our everyday actions can have throughout the world, and she shares how people are coming together at her site to make a difference.



**“ It’s not only about the energy we’re using, it’s also the impact we can have on society. ”**

### On her early interest in sustainability, and how she’s passing it on

I remember my teacher talking about petrol, carbon, and the problem that we could have in the future if we don’t work together to find new solutions. Now the situation is very different. We have the solution there — it is a matter of making things happen. And I think companies should be a role model for the rest of the community. In my daughters’ education, I like to show them that we need to be responsible and that we need to think about the future of our world. On a daily basis, we make thousands of decisions that could be aligned with these values, and this is something that I would like to show them. And I would like that they grow up knowing that our daily decisions can have a great impact all around us.

### On the excitement for renewable energy among her colleagues

We are one of the facilities that we use renewable energy 100 percent. At the beginning of 2020, we signed a contract with the electricity supplier to ensure that our electricity comes from renewable energy. If all companies did the same, we would be pushing the electricity suppliers to ensure more and more renewable energy — and in the end, we would be changing the world. It is simple, but it is important. Some operators of our facility here in Spain asked me about this process because they wanted to do the same with their electricity at home. I think that those small steps could change the world.

### On leading by example and helping change the world

It is important that we have business objectives related to sustainability, and then cascade these business objectives in simple KPIs. It’s also very important that every employee understands how he or she can contribute to this business objective. And it is not only the impact that we have in the facility, it is the impact of all the people who work here, the contractors and other people who come to this facility. And this is something very motivating for me because we are not talking about only the energy we are using here in this facility, it’s also the impact that we could have around that in the society, in the community. Let’s go ahead and start with small initiatives and let’s try to create this new mindset in the people and in the community.

Photo courtesy of Laura Garciandia



## GOING FORWARD

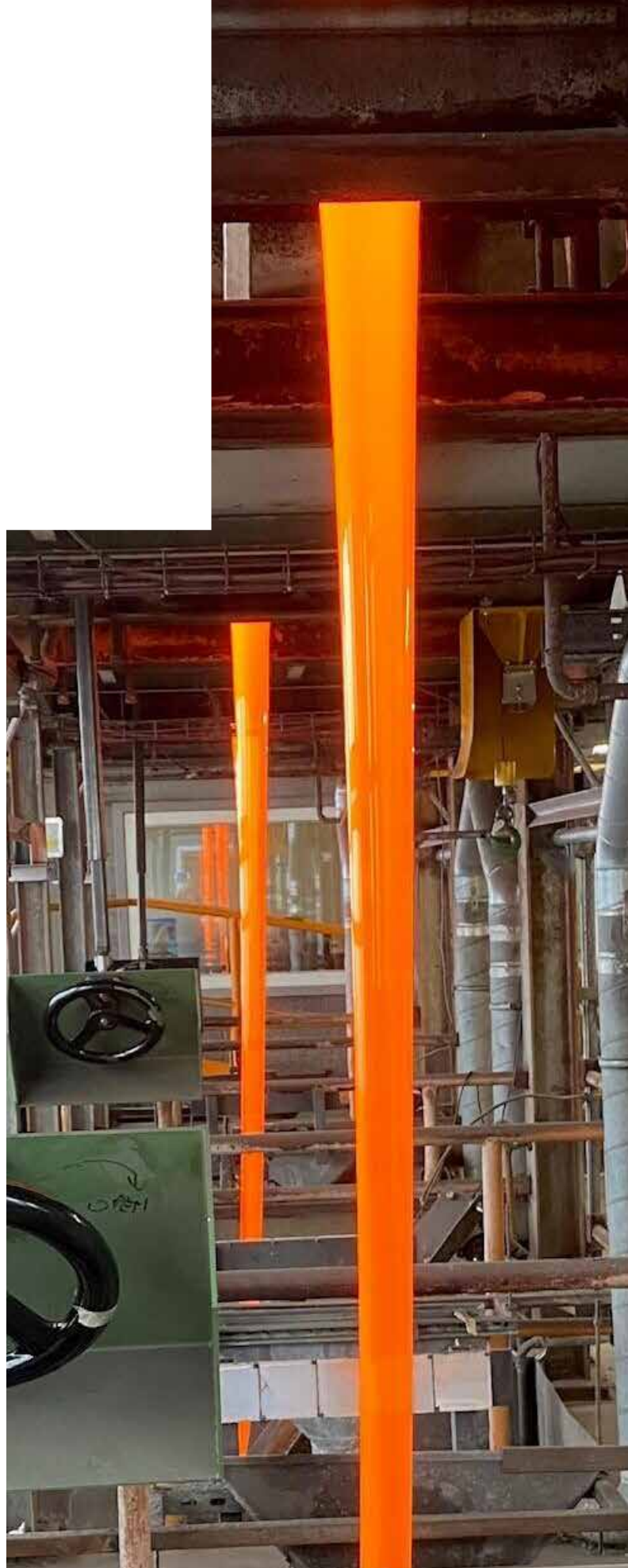
As we work toward our 2030 energy goals, we expect to make investments in new technologies that use electricity — and source that electricity sustainably — which would lead to significant reductions in our overall emissions. One example of this is our work to transition from coke cupolas to electric melters. Ultimately, our aim of sourcing 100% renewable electricity will be essential as we work toward reducing our Scope 1 and Scope 2 greenhouse gas emissions, limit the use of fossil fuels, and reduce our environmental footprint throughout our operations.

In 2021, we combined our energy teams into one, enabling us to better coordinate our global efforts. Through monthly calls involving energy team members around the world, we will have considerably greater opportunities to collaborate and learn from one another. This level of collaboration will be a key driver in our efforts to increase our energy efficiency and identify more ways to integrate renewable energy into our operations.

Photo submitted by:

**Anne Berthereau | Chambéry, France**

The FOAMGLAS® manufacturing process, Tessenderlo, Belgium.



# COMBATING CLIMATE CHANGE

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

The science behind climate change is clear — temperatures around the world are rising, and human activity is responsible. As a result, the health and safety of people around the world are in jeopardy. Owens Corning recognizes the role that manufacturing companies play in climate change, and we are intent on doing our part to mitigate our impact.

Throughout our operations, we are working to cut our greenhouse gas emissions. That requires us to have a full understanding of the gravity of the situation — and a complete commitment to the goals we have set for ourselves.

**Our Scope 1 and 2 greenhouse gas goal is in line with the standards set by the Intergovernmental Panel on Climate Change, which urges that temperature increases be held less than 1.5° C above pre-industrial levels.**



Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Alto Lake, New Mexico, U.S.

Our efforts to combat climate change align with the following UN SDGs:



## Sustainability Materiality Definition:

Owens Corning understands the importance of climate action, and we take our role in the fight against climate change seriously. We have embraced a science-based target for greenhouse gas emissions in line with the most stringent standard, designed to limit global warming to 1.5 degrees Celsius. We also have a target to reduce our Scope 3 emissions, in line with well below the two degrees Celsius methodology, representing emissions from our supply chain.

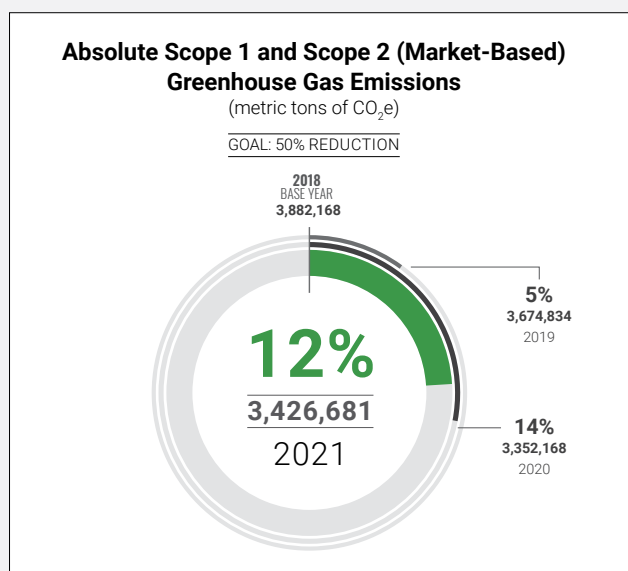
The Scope 1 and Scope 2 data in this chapter were independently assured to a high level by SCS Global Services. The Scope 3 data were independently assured by SCS Global Services to either a high or moderate level; details can be found on [page 154](#). For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more on [page 291](#) in [About the Report](#).

# **2030 GOALS FOR COMBATING CLIMATE CHANGE**

By 2030, our goal is a 50% reduction in absolute Scope 1 and Scope 2 market-based greenhouse gas emissions from the base year of 2018.

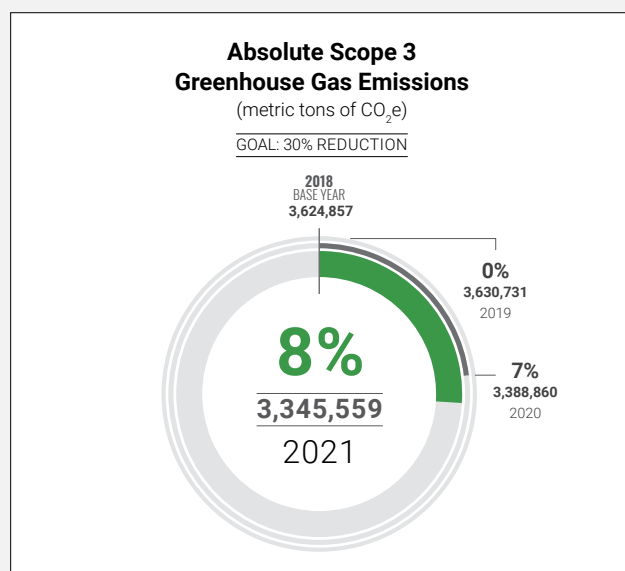
- **Scope 1** refers to the direct emissions from our own manufacturing operations.
- **Scope 2** refers to indirect emissions from the generation of purchased energy.



Owens Corning has reduced absolute Scope 1 and Scope 2 GHG emissions by 12% from the 2018 base year, in part due to efforts related to our renewable energy strategy as well as energy efficiency and process improvements. Our increase in metric tons of GHG emissions in 2021 was driven by a large increase in production.

We also have a goal to reduce absolute Scope 3 emissions by 30%.

- **Scope 3** refers to other indirect emissions, primarily those from our supply chain.



Owens Corning has reduced absolute Scope 3 GHG emissions by 8% from the 2018 base year. The reduction in Scope 3 emissions is due primarily to a decrease in emissions from Purchased Goods and Services, the category of emissions which reflects the impact of raw materials and use of recycled content in our products as reflected in our transparency efforts, specifically life cycle assessments.

## OUR APPROACH

In our Climate Change Statement, we acknowledge the following points:

- Both governments and businesses worldwide are expressing widespread support for the scientific findings regarding human activity's impact on climate change.
- There is a need for us to reduce energy use, water use, and greenhouse gas emissions as part of our efforts to combat climate change.

Recognizing the significant scope of our operations and activities, we include energy and climate change in our risk register. We are committed to accelerating improvements to our energy efficiency and reducing our overall energy use. In addition, we continue to accelerate our shift toward renewable energy. We seek opportunities to expand our portfolio of renewable energy sources and have designated a cross-functional team of internal and external subject matter experts to evaluate all potential opportunities – including both on-site renewable programs and larger off-site installations.





## Our Climate Change Roadmap

Owens Corning's plans to reduce emissions is based on the following short-, medium-, and long-term strategies:

### Scope 1 & 2 Emissions

#### Short-term Strategies

- Continue converting the blowing agent used in manufacturing our XPS foam products.
- Reduce Scope 2 emissions through additional Virtual Power Purchase Agreements (VPPAs).
- Drive innovation within our research and development portfolio to reduce emissions from input materials through circular innovations.

#### Medium-term Strategies

- Consider additional renewable energy opportunities on a global basis, including longer-term agreements.
- Continue converting the blowing agent used in manufacturing our XPS foam products.
- Switch to 100% renewable electricity.
- Improve energy efficiency by 20% by 2030, enabled through Total Productive Maintenance and improvements to our production processes.
- Ensure systematic knowledge sharing across our network of facilities.
- Continue to innovate within our research and development portfolio to reduce emissions from input materials through circular innovations.

#### Long-term Strategies

- Drive innovation within our research and development portfolio to enable conversion from fossil fuel to carbon-neutral and renewable energy to power our processes.
- Drive innovation through research and development on future XPS foam products to bring Global Warming Potential (GWP) of blowing agent blends down even further.
- Work to develop and implement last-mile solutions for remaining operational emissions through exploration of new equipment, processes, and still-emerging renewable fuel technologies.

### Scope 3 Emissions

#### Short-term Strategies

- Create sustainability governance framework/ infrastructure within the sourcing and supply chain organizations to promote collaboration and visibility of sustainable sourcing impact.
- Collaborate between the sourcing and supply chain organizations to develop a tool to track progress towards value chain decarbonization.
- Leverage the Citi Sustainable Supply Chain Finance program to collaborate with suppliers and incentivize emissions reductions.
- Realize Scope 3 improvements from new PPAs that enable sourcing 100% renewable electricity, which reduces Scope 3 emissions from fuel- and energy-related activities by decreasing emissions generated from the extraction, transportation and processing of fuel sources used to produce electricity.

#### Medium-term Strategies

- Achieve 2030 Science-Based Target of reducing absolute Scope 3 emissions by 30% since base year of 2018.
- Continue to realize Scope 3 improvements from sourcing 100% renewable electricity.

#### Long-term Strategies

- Continue to transparently engage with suppliers to reduce value chain emissions wherever feasible.

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## Science-Based Targets

Our goals for the reduction of greenhouse gas emissions are in line with the standards set by the Intergovernmental Panel on Climate Change, which urges that temperature increases be held less than 1.5° C above pre-industrial levels. The 2030 goals we have set to combat climate change have been approved by the Science Based Targets initiative as meeting these standards.

We follow the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) GHG protocol to account for Scope 1, 2, and 3 emissions. HCFC emissions are optionally included in Scope 1 in addition to the Kyoto gases (carbon dioxide, methane, and others). They are outlined in [Appendix C](#).

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## Strategies for Reducing Greenhouse Gas Emissions

Owens Corning has identified a number of drivers for reducing greenhouse gas emissions, most notably the following:

**Renewable electricity.** Our climate aspirations are tied closely to our energy efficiency goals. Learn more in the [Energy Efficiency & Sourcing Renewable Energy chapter](#) of this report.

**Electrification.** Switching to renewable electricity will enable us to take full advantage of the benefits of electrification. For example, converting from coke cupolas to electric melters would lead to significant reductions in our overall emissions. We could also see benefits across all three of our businesses as we switch our natural gas processes over to electricity or other innovative technologies.

**Efficiency improvements.** It is estimated that a 2% improvement in energy efficiency could lead to an approximately 10% improvement in greenhouse gas emissions. Our teams around the world are using the principles of [Total Productive Maintenance](#) to increase efficiencies in our equipment and our processes.

**Product and technology innovation.** By working to develop products with lower embodied carbon, we can make great progress toward achieving our greenhouse gas reduction goals. Learn more about embodied carbon on [page 151](#).

**Circular economy initiatives.** There is increasing scientific evidence that the circular economy model – in which the raw materials and resources extracted for our products and processes are kept in the economy indefinitely – can be a significant tactic for reducing carbon dioxide emissions and combating climate change. More information about our initiatives can be found in the [Circular Economy chapter](#) of this report.

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## Scope 3 Emissions

### Transportation Sustainability

As part of our strategies to reduce our Scope 3 footprint, we focus in part on emissions related to transportation. We remain optimistic about the prospect of a shift toward electric fleets in transportation. Currently, the demand for electric vehicles outpaces the supply, but we expect to see the possibility for advancement in the coming years. By 2030, we anticipate that electric vehicles will be a much larger part of our transportation strategy.

In the meantime, Owens Corning continues to focus on improving efficiencies in planning, as well as addressing the root causes of any inefficiencies in our movement of goods. This includes identifying logistical and sourcing strategies that leverage sustainable solutions.

- To help reduce the number of shipments made each day, we are working to reduce the number of stock transfer orders, in which finished goods are moved from one warehouse location to another. Stock transfer orders lead to double handling and increase the number of miles a product travels before arriving at a customer location. One way to achieve this is to optimize storage capacity at our warehouses.
- We are maximizing the amount of product on each shipment and, wherever possible, collaborating with our partners to haul heavier loads on specific roads as allowed by special permit. We are also working to reduce the weight of certain products (shingles, for example), without sacrificing product quality. In doing so, we can fit more pallets on a truck, thus further increasing our efficiency.
- We are focused on using the most energy-efficient modes of transportation, opting for rail transport over trucking whenever possible and avoiding the use of air transport for our goods.
- We use a range of analytics to leverage available data and identify further opportunities for improvement. For example, we can use analytics to determine which carriers, modes, and routes can deliver the efficiencies and results needed to reduce our Scope 3 emissions.

## UNDERSTANDING THE COST OF EMISSIONS

Like many companies around the world, Owens Corning has established an internal price for carbon emissions. Doing so helps us make smart decisions about our GHG reduction initiatives, as it enables us to frame challenges and opportunities in monetary terms, which are often more broadly understood than the concept of tons of emissions.

In implementing an internal carbon price, we consider Scope 1, 2, and 3 emissions – the total impact of our operations and our supply chain. We have both internal and externally published reduction goals, which are aligned to drive strategy and action. We do not have an internal carbon tax or carbon charge allocated to our businesses.

Quantifying the cost of carbon emissions with an internal carbon price helps us plan future scenarios and make business decisions. Our internal carbon price varies by region and considers a range of potential forecasted costs, ranging from \$60 per metric ton to \$120 per metric ton, depending on the location. A regional approach to internal carbon pricing allows us to more accurately estimate and evaluate the cost of carbon for capital project planning in regions with varying carbon prices. It also places value on carbon emissions in regions that do not yet have taxes or trading schemes.

By estimating the difference in metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) from one year-end to the next, then multiplying that amount by \$120 per metric ton, we can arrive at the high-end estimate of cost savings of emissions reduction if a carbon tax were implemented.

We have also been able to quantify our current total risk in the event of an efficient, economy-wide carbon tax, and we can see how dramatically we have reduced that risk since 2007, our peak GHG emissions year. This also allows us to value our future forecasted emissions reductions as we work toward our 2030 goals.



**Jiateng YAO | Yuhang, China**

Our facility in Yuhang completely replaced fuel-powered forklifts as part of its powered industrial vehicle (PIV) program.



## Partnering to Address Climate Change

As part of our work to combat climate change and advance sustainability, we increasingly engage with external parties with which we can leverage our expertise and our products. These partnerships include the following:

- **Trade groups.** By partnering with trade organizations, we can expand our reach to consumers and industry professionals, which helps promote energy efficiency and renewable energy practices. For a list of trade groups with which we engage, see [Appendix D](#).

We participate at the board level in many strategically relevant organizations, such as the Residential Energy Services Network (RESNET), Building Performance Institute (BPI), National Association of Home Builders (NAHB), and Energy & Environmental Building Alliance (EEBA). Owens Corning employees also participate on committees and working groups in these organizations.

- **Policy makers.** We support regulations aimed at the elimination of GHG emissions, and we engage with policymakers to that end. Our government affairs team coordinates these efforts and ensures that activities are aligned with our climate change policy. Our corporate affairs and sustainability departments regularly review proposed communications and activities.

- **Non-governmental organizations (NGOs).** We conduct legal reviews of all external communications, including letters, testimonies, and activities with outside advocates or NGOs. Owens Corning actively partners with organizations that drive forward-thinking programs on a range of topics, including advanced standards for energy efficiency and the durability of buildings. This includes our membership in the Carbon Leadership Forum.

## EMBODIED CARBON

In recent years, Owens Corning has expanded the scope of our sustainability efforts to include the reduction of embodied carbon in our products. Embodied carbon refers to the total amount of greenhouse gases (especially carbon dioxide) emitted throughout the life cycle of a product, from the extraction of raw materials to its manufacturing, transportation, and use. By increasing the recycled content in our products, making our manufacturing processes more energy-efficient, improving our supply chain logistics, and developing end-of-life solutions for materials, we can decrease the carbon embodied in our products and increase their overall positive impact. This is the formula for carbon neutrality.

### Strategies for Reducing Embodied Carbon

As part of our 2030 goals for product innovation and stewardship, we intend to offer products with the lowest impact with respect to embodied carbon among all available options. To accomplish this, we have a number of strategies in place to lower greenhouse gas emissions in all aspects of our operations.

**Life Cycle Assessments (LCAs)** are comprehensive measurements of a product's environmental footprint at all its stages — including greenhouse gases — from the extraction of raw materials, through processing, manufacturing, and use, and all the way to its eventual disposal or recycling. Learn more about LCAs in the [Product Innovation & Stewardship chapter](#).

**The Ecodesign Strategy Wheel** is a powerful brainstorming tool that we use to empower product designers to consider sustainability strategies at every stage of the innovation process. More about this tool can be found in the [Product Innovation & Stewardship chapter](#).

Owens Corning sponsors the **Embodied Carbon in Construction Calculator (EC3)**, a tool designed to help designers and specifiers look at a project's overall embodied carbon emissions, enabling the specification and procurement of low carbon options.

We are also members of the **Carbon Leadership Forum**, a coalition of architects, engineers, contractors, material suppliers, building owners and policymakers dedicated to dramatically reducing the embodied carbon in the building industry and promoting whole-building life cycle assessment and impact reduction.

We have developed an **Emissions Savings Calculator** to help architects and specifiers better understand how FOAMULAR® NGX™ insulation can reduce the global warming potential of their projects. Launched in 2020, FOAMULAR® NGX™ insulation features a proprietary blowing agent that demonstrates a greater than 80% reduction in embodied carbon compared to legacy FOAMULAR® insulation.

Across our portfolio, we offer a range of products that lower our carbon footprint. One recent example is **PAROC® Natura insulation**, carbon-neutral line of stone wool insulation that uses low-carbon melting technology, green electricity, recycled waste materials, new technologies, and purchased carbon offsets to minimize the amount of CO<sub>2</sub>e emitted during the manufacturing process. As we develop new products and make improvements to existing products, we expect to see even greater reductions in embodied carbon, lowering our overall footprint and contributing to a healthier planet.

# CLIMATE CHANGE INITIATIVES

We include climate change in our risk register, enabling our business units and risk committee to facilitate strategic and operational planning processes as we mitigate potential sustainability issues.

The risk register also includes issues related to energy, as accelerating improvements to energy efficiency and reducing our overall energy use will significantly reduce our greenhouse gas emissions. We seek opportunities to expand our portfolio of renewable energy sources, and we have designated a cross-functional team of internal and external subject matter experts to evaluate all potential opportunities, including both on-site renewable programs and larger off-site installations. This work is described in detail in the [Energy Efficiency & Sourcing Renewable Energy chapter](#).

## Green Power Partnership

Owens Corning joined the U.S. Environmental Protection Agency's Green Power Partnership in 2020. This program helps organizations procure electricity generated from renewable sources. By entering into this partnership, we are demonstrating our commitment to renewable power and the reduction of greenhouse gas emissions. The EPA has continually recognized our leadership in this area, and we are among the largest green power users in the partnership.

## Renewable Energy Portfolio

To segregate market-based and location-based emissions, our calculations are based on the latest approach listed in the World Resources Institute (WRI) and the World Business Council for Sustainable Development's (WBCSD) GHG Protocol Corporate Accounting and Reporting Standard and GHG Protocol Scope 2 Guidance for segregation.

In support of our efforts to reduce our GHG emissions, Owens Corning has expanded its renewable energy portfolio. The following are a few of our renewable energy initiatives. More information about our commitment to renewable energy can be found in the [Energy Efficiency & Sourcing Renewable Energy chapter](#).

- In 2021, we sourced 224,476 MWh of electricity through guarantees of origin for renewable electricity across 11 of our European sites, which translated to 56,828 metric tons of avoided CO<sub>2</sub>e.

### 2021 Renewable Programs GHG Reductions by Type

	MWh	EMISSIONS REDUCTION, IN MT CO <sub>2</sub> e
<b>Behind-the-Meter Renewable Installations</b>	88,190	6,858
<b>Site-specific Energy Attribute Certificates</b>	224,476	56,828
<b>Energy Attribute Certificates from large-scale PPAs</b>	1,072,667	399,932
<b>TOTAL</b>	<b>1,385,333</b>	<b>463,618</b>

### DEFINITIONS

<b>Energy Attribute Credit (EAC)</b>	Overarching term including Renewable Energy Credits (RECs), International RECs (IRECs), and Guarantees of Origin (GOOs).
<b>Behind-the-Meter</b>	Renewable installations that are directly consumed by Owens Corning without coming from the grid.
<b>Site-Specific EAC</b>	Guarantees of origin that cover all electricity demand for a site.
<b>EACs from Large-Scale PPAs</b>	EACs associated with Owens Corning's Power Purchase Agreements (PPAs) which inject renewable power directly into the grid.

- We power our Gastonia, North Carolina, U.S., facility with 100% nuclear electricity, which generates no electric GHG emissions.
- The PPAs Owens Corning signed in 2015 enabled new wind capacity in Texas and Oklahoma. Both wind farms came online in late 2016 and have the potential to generate 1.1 million megawatt hours of electricity per year.

Through our PPAs, Owens Corning retired 1,072,667 renewable energy credits (RECs) for a total of 399,932 metric tons of avoided CO<sub>2</sub>e in 2021.

Each REC represents a megawatt hour of energy from renewable sources. Owens Corning applies our RECs to the production of a portfolio of insulation products, as well as shingles produced at one of our facilities. These products have been certified in accordance with SCS Global Services' certification protocol as made with 100% renewable electricity, and they provide a range of benefits for greener buildings. More information about these products can be found in the [Product Innovation & Stewardship chapter](#) of this report.

## Reducing CO<sub>2</sub>e Emissions in Europe

The Composites business in Europe launched a bold initiative to achieve a 20% reduction in CO<sub>2</sub>e emissions by the end of 2021, compared to the base year of 2018. Many teams are involved, including operations, EHS, sourcing, finance, and our Science & Technology Centers and Center of Excellence, as well as external market players to leverage industry knowledge.

Several initiatives are in place to accomplish this goal, including the insulation of furnaces and the conversion of our combustion system. For example, the plant in Chambéry, France, will reduce its CO<sub>2</sub>e emissions by 2,650 metric tons per year by 2022, thanks to using the heat recovered from furnace fumes in our dryers.

At our plant in Apeldoorn, Netherlands, the equipment used to dry the glass veil uses approximately 10 million cubic meters of natural gas each year. To reduce the CO<sub>2</sub>e emissions that go along with that level of natural gas use, a project team there has started a Kaizen to identify opportunities to reduce consumption through process improvements. In addition, the team is researching possible sources of alternative energy to power the dryers.

# CLIMATE CHANGE PERFORMANCE

From the base year of 2018 to 2021, Owens Corning's greenhouse gas emissions progress toward our 2030 goals is as follows:

<p><b>14%</b></p> <p><b>ABSOLUTE REDUCTION IN SCOPE 1 EMISSIONS</b></p>	<p>Most of our Scope 1 emissions are attributable to the blowing agent used in our XPS foam production process, as well as fossil fuel combustion across the company. This is why innovations like our FOAMULAR® NGX™ insulation are critical to our strategy. It should also be noted that changes in production output could cause increases or decreases in our emissions, given the shifts in the use of raw materials and energy.</p>
<p><b>6%</b></p> <p><b>ABSOLUTE REDUCTION IN MARKET-BASED SCOPE 2 EMISSIONS</b></p>	<p>Electricity from utility providers is the major source of our market-based Scope 2 emissions. We use monthly invoices to capture end-to-end consumption at an enterprise level. As required through the GHG Protocol Scope 2 Guidance, we calculate our GHG emissions by tracking:</p> <ul style="list-style-type: none"> <li>■ Energy attribute certificates (including renewable energy credits).</li> <li>■ Contracts.</li> <li>■ Supplier/utility emission factors.</li> <li>■ Residual mix (where appropriate).</li> </ul> <p>In 2021, we used the 2021 V2 eGRID factors to measure location-based emissions from electricity for U.S. locations, as well as the 2021 Green-e® Residual Mix factors to measure market-based emissions from U.S. locations. For Europe, we also used the 2020 AIB European Residual Mix factors for market-based electricity emissions. For select international market-based calculations and all international location-based electricity calculations, we used IEA factors released in 2020. It should be noted that for approximately 47% of our facilities, we calculate emissions using supplier/utility emissions factors, which means we can make these calculations more accurately than through standard regional estimates. In these cases, suppliers provide information about the specific power sources used. These calculations may reflect the sources that make up the grid supply after renewable energy has been sold to specific users, meaning that other users are charged for the residual mix of sources.</p>
<p><b>12%</b></p> <p><b>ABSOLUTE REDUCTION IN SCOPE 1 AND MARKET-BASED SCOPE 2 EMISSIONS</b></p>	<p>Progress toward our GHG emissions goals is made possible through several key programs, including the following:</p> <ul style="list-style-type: none"> <li>■ Implementation of energy-efficiency initiatives across our enterprise.</li> <li>■ Evaluation of combined heat and power.</li> <li>■ Heat recovery.</li> <li>■ Expansion of renewable sources to replace grid energy.</li> <li>■ Blowing agent conversion.</li> </ul>

We are committed to achieving our goals by making significant changes to our operations and driving change in the electricity grid. We do not purchase carbon offsets as a strategy to reduce our manufacturing footprint, as we prefer Scope 1 and 2 direct actions to accomplish these goals.

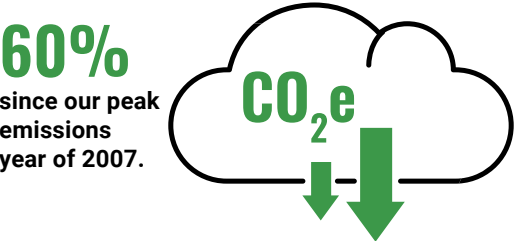
We do however, on occasion, purchase offsets to achieve customer-inspired embodied carbon reductions beyond what is possible via our direct reductions — for example, to attain carbon neutral-certified products. For PAROC® Natura insulation, launched in 2020, we select offsets from projects that are within the countries we operate or are within our business strategies. These offsets are not used to reduce our GHG emissions and are not included in our calculations for progress toward our 2030 Sustainability Goals. Per our verified Science-Based Target goal, we are committed to our continued reduction in our GHG emissions globally.



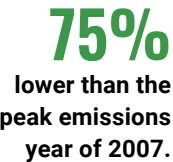
Scope 3 Emissions

Recognizing the variety of activities both upstream and downstream of our operations, we follow multiple approaches to determine the amount of GHG emissions generated throughout our value chain. In 2021, our Scope 3 emissions totaled 3,345,559 metric tons of CO<sub>2</sub>e. More information about emissions across our value chain can be found on [page 315](#) in [Appendix C](#).

We have reduced absolute Scope 1 and Scope 2 CO<sub>2</sub>e emissions by approximately



By cutting those emissions in half over the next decade, our 2030 absolute Scope 1 and Scope 2 CO<sub>2</sub>e emissions will be approximately



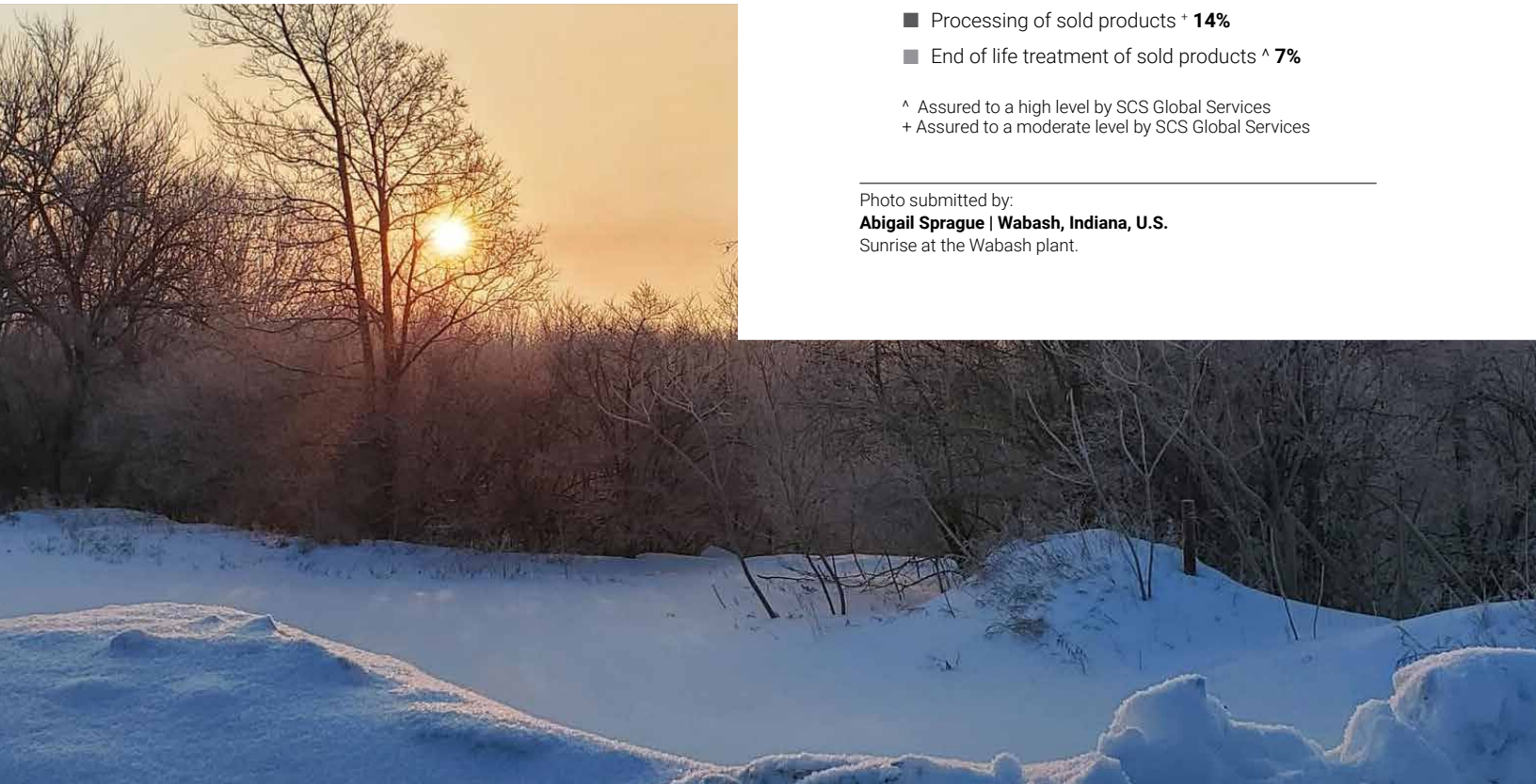
2021 Scope 3 GHG Emissions



- Purchased goods and services <sup>^</sup> 48%
- Capital goods <sup>+</sup> 3%
- Fuel- and energy-related activities (not included in Scope 1 or 2) <sup>^</sup> 12%
- Upstream transportation and distribution <sup>^</sup> 4%
- Business travel <sup>^</sup> <1%
- Employee commuting <sup>^</sup> 1%
- Downstream transportation and distribution <sup>^</sup> 12%
- Processing of sold products <sup>+</sup> 14%
- End of life treatment of sold products <sup>^</sup> 7%

<sup>^</sup> Assured to a high level by SCS Global Services  
<sup>+</sup> Assured to a moderate level by SCS Global Services

Photo submitted by:  
**Abigail Sprague | Wabash, Indiana, U.S.**  
Sunrise at the Wabash plant.



## Purchased Goods and Services

To determine the impact from purchased goods and services, we use insight gained from our manufacturer-specific product life cycle assessments (LCAs). Annual production data are combined with life cycle modules that represent raw material, and that is used to calculate the GHG emissions of the materials used to manufacture of products across our portfolio. The category of purchased goods and services is interpreted as the cradle-to-supplier-gate global warming potential impact of the representative raw material inputs used to manufacture Owens Corning® products. The data used to model these impacts come from Owens Corning's manufacturer-specific product LCA studies.

## Upstream Transportation and Distribution

Transportation is a significant source of GHG emissions when sourcing raw materials for product manufacturing as well as in the distribution of finished goods. Using data from our transportation management systems, we determine the weight of supplied raw materials and the corresponding distances transported by each major transportation mode. After combining this activity data with the respective GHG emissions factor for each mode, we can estimate the GHG emissions generated from the inbound transportation of supplied input materials.



**Throughout the COVID-19 pandemic, both business travel and employee commuting have been dramatically curtailed, and we have relied heavily on remote work and video conferencing. This pivot has been relatively seamless, as we have long been committed to integrating this technology into our operations.**

**Our calculations for 2021 have been adjusted to account for the sites where the majority of our employees have been able to telework. Reductions here had an impact on our Scope 3 emissions, and we will continue to monitor them as restrictions continue to be lifted in 2022.**

## Downstream Transportation and Distribution

Primary data for product shipments was collected internally from Owens Corning logistics management systems. From the datasets collected, activity data consisting of the weight of products shipped, distance transported, and transportation mode were combined with mode-specific emissions factors to calculate the GHG emissions generated from the outbound distribution of finished goods.

## Fuel- and Energy-Related Activities

In fuel- and energy-related activities, we aim to quantify the GHG emissions that occur both upstream and downstream of electricity generation. Upstream emissions, which are cradle-to-generation in scope, include those from activities required to generate electricity, such as the extraction, processing, and transportation of fuels. Downstream emissions, which are generation-to-consumption, include those produced from additional electricity generation that is needed to compensate for line losses that occur during transmission and distribution.

In our calculation for Scope 3 GHG emissions for fuel- and energy-related activities, upstream impacts were determined using life cycle impact assessment factors, calculated using geographic-specific unit processes for high-voltage production from Ecoinvent v3.8, and combined with emission rate data from the U.S. EPA's eGRID (for U.S. facilities) and IEA (for non-U.S. facilities). For U.S. facilities, data for downstream transmission and distribution line losses were calculated using eGRID. For non-U.S. facilities, we used IEA datasets for the calculation.

## Capital Goods

The category of capital goods represents the GHG emissions generated from our assets, which include manufacturing and construction equipment as well as land. We determine the representative industry sector associated with each asset class's economic activity. GHG emissions are calculated using the annual expenses incurred within the asset class and the GHG emissions generated per unit of economic activity within its industry sector.

Determination of Scope 3 emissions associated with capital goods was performed using an EIO-LCA-based method and was calculated using the EIO-LCA online tool developed by Carnegie Mellon University. Primary data were collected internally on total spend for capital expenditure.

## Business Travel

Rental car mileage and commercial air travel miles and emissions were received from our travel vendor. For employee vehicle reimbursement related to business mileage, Owens Corning used an extract of miles from our travel system and determined emissions based on a standard emission rate provided by the U.S. EPA Greenhouse Gas Emissions from a Typical Passenger Vehicle guide.

## Employee Commuting

Owens Corning used a simplified version of the Scope 3 GHG Protocol's average-data method to calculate employee commuting emissions. We used the U.S. EPA's guide to determine an estimate of grams of CO<sub>2</sub> per mile, and we used the average number of days worked per year to estimate employee commuting. We believe this estimate is overstated because our calculations did not take into account telecommuting, public transportation, carpooling, business travel days that would be accounted for separately, or other methods of commuting.

## Processing of Sold Products

Many of our products, including asphalt roofing shingles and insulation products, do not require additional processing or energy sources to perform their function. Additional downstream processing, however, is common with intermediate products — reinforcement glass fiber, for example, is often used in reinforced plastic composites. To determine the GHG emissions from this category, we correlate the revenue generated from our Composites business to the GHG emissions of industry sectors that represent our glass-fiber reinforced plastic (GFRP) customers. We calculate Scope 3 emissions for these products using the EIO-LCA online tool.

## End-of-Life (EoL) Treatment of Sold Products

While we have continued to develop innovative options for recycling asphalt roofing shingles and GFRP materials, insulation products are more likely to be sent to landfill. Scope 3 EoL emissions were determined for Owens Corning insulation manufacturing operations related to fiberglass and XPS insulation. We determine the impact of this category by calculating the GHG emissions generated when all the glass wool and XPS foam produced by our North American facilities for 2021 is sent to landfill.

EoL emission factors were determined from cradle-to-grave EPDs, and the LCAs upon which they are based, on Owens Corning fiberglass insulation and XPS insulation. The third-party verified LCAs were internally conducted for these products in 2017 and 2018, respectively. These factors were used in conjunction with 2021 production volumes for these two insulation materials to determine the Scope 3 emissions when the production volume quantities are disposed as waste to landfill.

## Customers

About 40% of GHG emissions in the world today come from buildings, so they are an essential target for reducing emissions. Given that the building and construction industry represents one of our main markets, we qualitatively and quantitatively monitor the GHG emissions from buildings in relation to their energy efficiency. Our commitment to sustainability includes energy-saving products such as insulation and air-sealing products. We estimate that the insulation we produced in North American in 2021 reduced GHG emissions for homeowners by approximately 10.5 million metric tons a year and 632 million metric tons over a 60-year building life. According to the trade association NAIMA, a typical unit of fiberglass insulation saves 12 times as much energy in its first year of use as the energy used to produce it. That means the energy consumed during manufacturing is saved during the first four to five weeks of product use.

Our glass fiber composites contribute to light-weighting of vehicles for better fuel efficiency, better efficiency of wind turbines, and lower embodied energy than competing materials over the life of the part. We collaborate with customers to conduct LCAs for their products as well.

**Further details** on renewable energy and other emissions reduction initiatives, including green buildings and energy-efficient products, can be found in our [Energy Efficiency & Sourcing Renewable Energy chapter](#).

For detailed examples of our 2021 emission reduction projects, please see Owens Corning's CDP Climate Change 2022 Report, which will be published later this year.



# SPEAKING OF SUSTAINABILITY

## Filipe Bassani

Project Specialist

For the past several years, Filipe Bassani has been leading special energy and sustainability projects at our glass reinforcements solutions facility in Rio Claro, Brazil. He has been actively involved in a range of projects, including our waste heat recovery initiatives and our work toward increasing the efficiency of our ovens. He takes a great deal of pride in his work, and it shows as he talks about Owens Corning's sustainability efforts and their importance throughout the world.



**“ Every time we share what we are doing, we set an example for companies around the world. ”**

### On Owens Corning's commitment to sustainability

I think Owens Corning has great goals. I feel we need to involve all our employees — not only direct employees, but contractors and indirect employees too. I think it is really important, because people will be the difference now and in the future. Another thing that I really love about Owens Corning is how we think about our handprint. We are working and thinking all the time about how our products will have a positive impact on the world. I love to hear about new kinds of insulation or some new process that will enable us to have a better impact. It's very important for our company, for our customers, and for the future.

### On demonstrating responsibility throughout our industry

It's important to give back to the world. Owens Corning is an example of this here in Brazil and in other countries around the world, and we need to show good examples of projects, actions, and everything we're doing. Every time we share what we are doing and what do we want to do, we're setting an example for companies around the world and other folks, who see it and work together with us to reduce greenhouse gases.

### On the rewards of working toward sustainability

It's important as a professional to contribute to reducing greenhouse gases, but it's also important to me personally. I am the father of a little girl who is two years old and I want to give her the same opportunity that I had to live in a good environment. It's important to me to contribute to my community, my family, and of course to her, so it's a pleasure for me to work on this. It's one thing that motivates me to wake up every morning and try to do my best day after day. Because this kind of action, this kind of positive impact, is what I want to do. It's not only for me, but for everyone.

Photo courtesy of Filipe Bassani

## GOING FORWARD

The need to combat climate change grows more urgent each year. The Intergovernmental Panel on Climate Change's Sixth

Assessment Report, released in 2021, makes this abundantly clear. As scientists observe climate change in real time all over the globe, they note that its effects are accelerating and intensifying to an alarming degree. Many of the impacts of climate change can be mitigated by acting to reduce greenhouse gas emissions now, and this informs our 2030 goals.

Reducing our Scope 1 and Scope 2 emissions by 50% is an ambitious goal, but it is what is required to limit global warming to under 1.5° C and the progress we have made gives us reason to be optimistic. We believe our people have the talent and the drive to accomplish this goal, and we are confident that we can work with our suppliers to reduce our Scope 3 emissions as well.

The internal and external collaboration required to meet our goals is already built into our approach to combating climate change. We recognize that this level of collaboration is imperative — the threat of climate change continues to grow, and it can only be diminished through a concerted effort on the part of individuals, corporations, organizations, and governments around the world.

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Photo submitted by:

**Abigail Sprague | Wabash, Indiana, U.S.**

Aurora Borealis, Fairbanks, Alaska, U.S.



# AIR QUALITY MANAGEMENT

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

Owens Corning recognizes that we must do our part to reduce air pollution throughout our operations. That means working to reduce the emissions that come from our plants, and our teams around the world have the drive and the know-how needed to increase efficiencies throughout our processes.

Effective air quality management also includes ensuring that our products have the least negative impact possible throughout their life cycle. As we develop new products and improve upon existing products, we will use the principles of product stewardship as a guide, so that our products are made, used, and disposed of in ways that are safe and environmentally sound.



Through our efforts, we're demonstrating our ability to **reduce pollution, smog, and other negative impacts** — and helping create a safer and healthier environment for people everywhere.

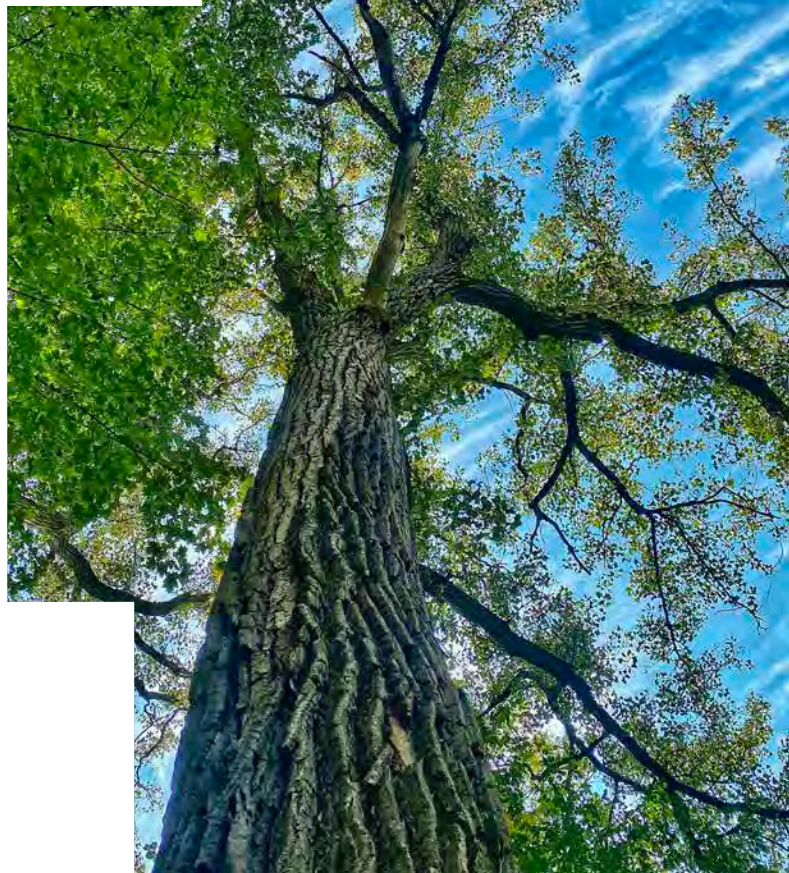


Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**  
Oak tree, Swan Creek Metropark,  
Toledo, Ohio.

Our air quality management efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

As a manufacturer, we have the opportunity to improve our processes and in doing so reduce our impact on air quality in areas where we operate.

The emissions data in the chapter were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more on [page 291](#) in About the Report.





## 2030 GOALS FOR AIR QUALITY MANAGEMENT

By 2030, we will reduce the aggregate intensity of our emissions of volatile organic compounds (VOCs) and fine particulate matter (PM2.5) by 50%.

**Volatile organic compounds (VOCs)** are certain carbon compounds that evaporate into the air at room temperature and contribute to ground level ozone formation. They are found in manufacturing processes and are used in many types of products, including building materials. VOCs represent a broad category of emissions, including formaldehyde and other toxic air emissions.

**50% aggregate intensity reduction in VOC emissions (metric tons normalized by revenue, in millions) from 2018 baseline.**

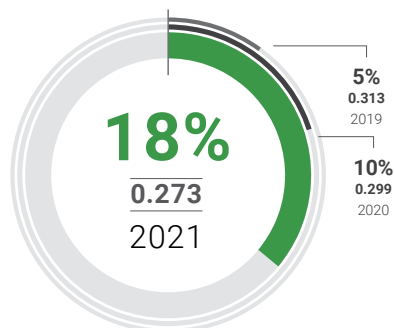
**Fine particulate matter (PM2.5)** refers to tiny, inhalable particles that can be released during chemical reactions and mechanical processes, including those that occur in the manufacturing process. The number denotes the aerodynamic diameter of the particulate matter, in this case 2.5 microns or less. For comparison, a grain of sand is about 90 microns.

**50% aggregate intensity reduction in PM2.5 emissions (metric tons normalized by revenue, in millions) from 2018 baseline.**

### VOC Emissions Intensity (metric tons normalized by revenue, in millions)

GOAL: 50% REDUCTION

2018  
BASE YEAR  
0.331

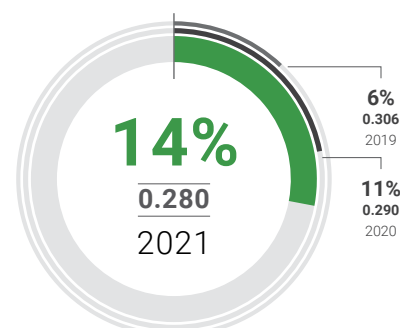


This improvement of 18% is due to equipment upgrades and improved efficiencies.

### PM 2.5 Emissions Intensity (metric tons normalized by revenue, in millions)

GOAL: 50% REDUCTION

2018  
BASE YEAR  
0.326



This improvement of 14% is due to equipment operations and maintenance optimization.

## OUR APPROACH

In addition to the targets we have set for VOCs and PM2.5, we also work to reduce the following emissions:

- **Nitrogen oxides (NOx)**, are gases that contribute to air pollution, including smog and acid rain.
- **Sulfur oxides (SOx)** are also gases that contribute to air pollution and can harm plant life, contribute to acid rain, and lead to ill health in humans.

We manage, track, and report against NOx and SOx air emissions requirements. The ways we measure and control NOx and SOx vary by location and local regulatory requirements. A significant source of these emissions is combustion, and we use

combustion-related emissions factors to calculate our footprint where it's practical. We also perform stack testing in some facilities to directly measure emissions factors, depending on equipment and processes.

We follow industry best practices to control emissions from combustion processes. In addition to routinely inspecting boilers and other types of burners and keeping them tuned, we work to ensure optimal fuel mixtures.



## Our Air Quality Roadmap

Owens Corning's plan to reduce intensity of VOC and PM2.5 emissions includes the following strategies:

### Short-term Strategies

- Maximize controls efficiency through equipment and maintenance optimization.
- Leverage LCAs and use principles of product stewardship when developing new products or improving existing products.

### Medium-term Strategies

- Explore and implement process changes to lower emissions from our manufacturing process.
- Drive product innovations that reduce emissions from our products.
- Explore and test innovative air emissions control technologies.

### Long-term Strategies

- Design products to lower emissions from both the manufacturing process and product use phase.

## Air Quality Management Strategies

Regardless of whether we have specific targets for various types of air emissions, we understand what will be required to reduce them. Here are some of the air quality management strategies we have in place:

### ■ Product and process innovation

Designing products with an eye toward lowering emissions can have a significant impact. One example of this is the conversion of our residential EcoTouch® insulation, which helped drive our success toward our 2020 targets. By shifting to a starch-based, formaldehyde-free binder, we significantly reduced the emission of VOCs and PM2.5.

In addition, we will continue to use the principles of product stewardship to evaluate use-phase impact during product development. One example of this is our PINK Next Gen™ Fiberglas™ insulation, launched in August 2021. This product offers a wide range of sustainability benefits, including Underwriter Laboratories GREENGUARD® Gold certification for low volatile organic compounds.

### ■ Optimization of equipment

We are working to ensure that the equipment we use to control emissions — incinerators, dust collectors, scrubbers, etc. — are operating as reliably and efficiently as possible. As Total Productive Maintenance is deployed across our sites, employees are using these principles to ensure equipment is run optimally.

### ■ Consistent Testing

To ensure consistency of testing for air and PM2.5 emissions, we have experts who oversee testing at our facilities, and then review and verify the results and findings. In addition, our experts partner with our business units and plants to ensure that we understand the impact of potential changes to our processes and plan accordingly for future events.



## AIR QUALITY MANAGEMENT INITIATIVES

One of our key air quality management initiatives centers around eliminating formaldehyde from our product formulations. Binder is an important component in many insulation products and nonwoven composites products. Owens Corning has developed formaldehyde-free binder technologies that both reduce formaldehyde emissions from our manufacturing process, as well as reduce formaldehyde emissions in indoor air quality. The following products use formaldehyde-free binder technology.

### Formaldehyde-free binder in ceiling board

We have changed to a formaldehyde-free formulation for the binder used to make technical insulation for ceilings. The chemistry delivers technical insulation products that are formaldehyde-free without compromising mechanical performance in hot and humid climates, where better insulation reduces energy spent on cooling. Additionally, the improved chemistry uses fewer chemicals and creates a stronger product.

### Binder for cushioned vinyl flooring and insulation

Two non-woven composite products use formaldehyde-free binder technology. In addition to using formaldehyde-free ingredients, the binder improves the mechanical performance of the glass composite at elevated temperatures like those typically used in the cushioned vinyl flooring process.

By reducing the use of formaldehyde to manufacture our products, we are decreasing our environmental footprint, increasing our product handprint, and creating healthier spaces for people to live and work.



Photo submitted by:  
**Jim Close | Toledo, Ohio, U.S.**  
Wisconsin Dells, Wisconsin, U.S.



# SPEAKING OF SUSTAINABILITY

## Devlin Whiteside

Environmental Leader

With her background in chemical engineering and environmental consulting, Devlin Whiteside has a long-standing interest in how companies address issues of air quality management. She recalls being particularly fascinated by air dispersion modeling, a computer-based model that predicts how pollutants might disperse into the air and get distributed around the globe. Now, as an environmental lead for our Roofing business, Devlin is a strong proponent for environmental justice, the idea that no population should be disproportionately affected by negative environmental impacts, and all populations should be empowered to make informed decisions and take action. Here, she talks about what environmental justice means for Owens Corning and for herself.



**“ Air quality is a global issue — every choice we make impacts the air we breathe. ”**

### On coming together to deliver effective solutions

I'm very proud when we collaborate across different disciplines to solve a problem. In one of our plants, we had an issue with a piece of equipment that was continuing to deviate from our normal operations. To solve that, the leadership team brought together people from operations, the environmental, health, and safety group, and external people with expertise in this piece of equipment. We got them all together, looked at the history of this piece of equipment, looked at the root causes, and came up with real solutions to reduce almost all the problems. It really improved our relationship with regulators because we were able to show that we took it very seriously and that we solved the problem.

### On the vital importance of air quality management

Air quality is a global issue — every choice that every single person makes impacts the quality and the health of the air that we breathe, so no one can run away from their responsibilities. Everyone plays a part, from individuals and their choices to the way industries run their businesses and all around the world. It's important for Owens Corning to do our part and make sure that we understand that the things that we do affect not only our local community, but our entire globe. And since we are a global company, it makes total sense that we would have global, enterprise-wide goals to make sure that we have consistent awareness and progress and goals to reduce our impacts.

### On building trust in the context of environmental justice

We have to make sure our communities trust that we are a partner in protecting them and the environment. My role is to make sure that we are forthcoming, and part of that is building trust with regulators and providing the community with accurate, truthful, relevant information. This means doing things like reporting when we have deviations, so we can show that we are taking these issues very seriously and that we are putting in the preventive measures and action items to make sure they never happen again. It has been to our benefit to have a good relationship with the community and the regulators — to meet them on a human level and talk to them about what's actually going on, when we've already established that level of trust. And the best way to build any kind of relationship is to be honest and to be clear.

Photo courtesy of Devlin Whiteside

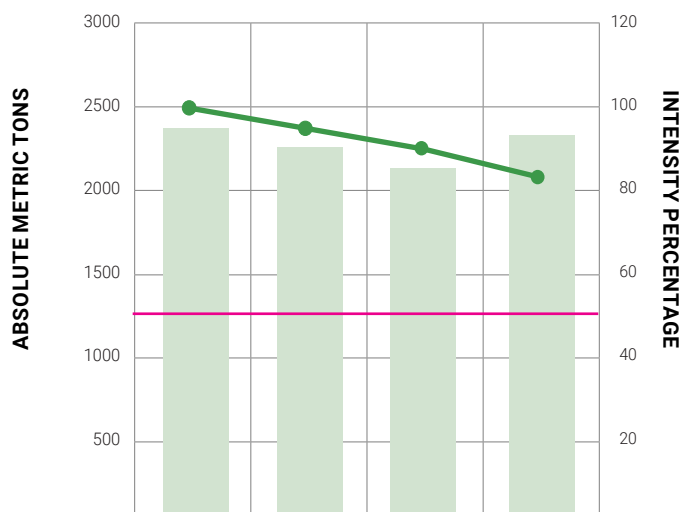
# AIR QUALITY MANAGEMENT

## PERFORMANCE

Across all our operations around the world, we are working to reduce a wide range of air emissions. By working to achieve the goals we have set for ourselves, we are contributing to a healthier environment in the areas where we operate — and beyond.

### Volatile Organic Compounds (VOC) Footprint

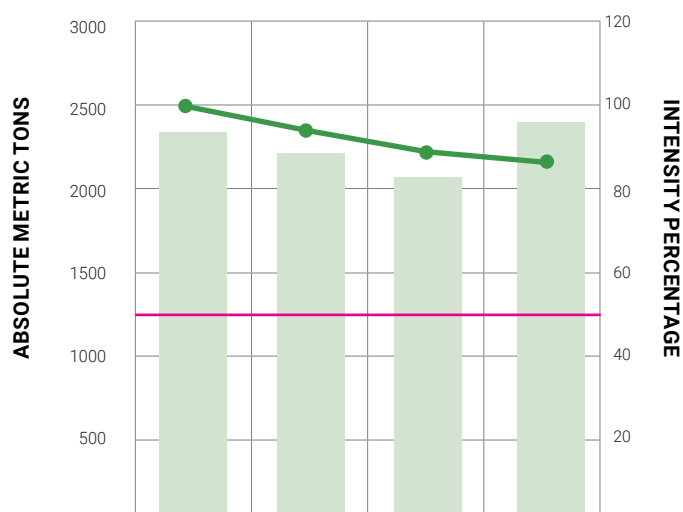
■ VOC Emissions ● Aggregate Intensity Percentage — 2030 Goal



We manage, track, and report VOC air emissions against our baseline year of 2018. In 2021, in addition to the aggregate intensity reductions discussed earlier in the chapter, we saw a 2% reduction in absolute VOC air emissions.

### Fine Particulate Matter (PM2.5) Footprint

■ PM2.5 Emissions ● Aggregate Intensity Percentage — 2030 Goal

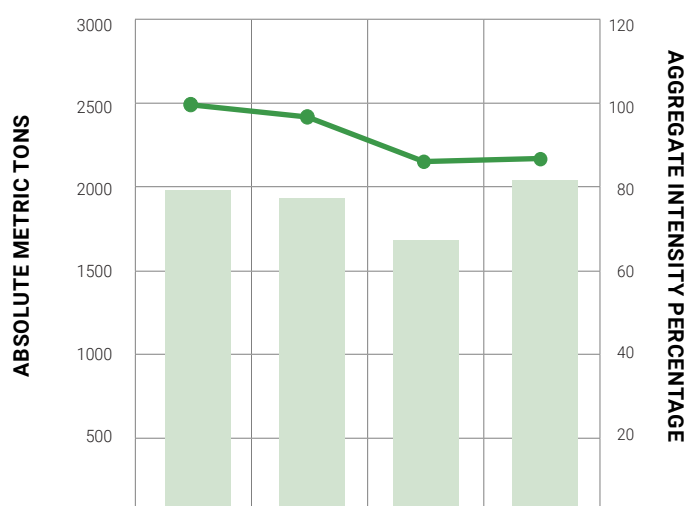


We manage, track, and report PM2.5 emissions against our baseline year of 2018. In 2021, in addition to the aggregate intensity reductions discussed earlier in the chapter, we saw a 3% increase in absolute in PM2.5 emissions.

## NOx Emissions Footprint

■ NOx Emissions

● Aggregate Intensity Percentage

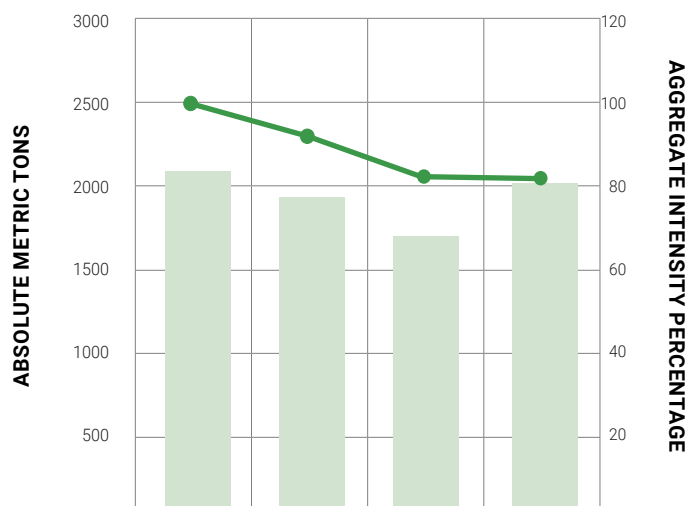


In 2021, we saw a 3% increase in absolute NOx emissions from 2018 baseline metrics, while aggregate intensity decreased 14%.

## SOx Emissions Footprint

■ SOx Emissions

● Aggregate Intensity Percentage



In 2021, we saw a 4% reduction in absolute SOx emissions from 2018 baseline metrics, while aggregate intensity decreased 19%.



## GOING FORWARD

Our commitment to cleaner air runs deep, because we realize that air quality impacts life far beyond the boundaries of our facilities. Even when we have not set specific targets for certain emissions, we are still working to limit them and are monitoring our progress along the way.

Air quality management is among our greatest challenges in many ways, in part because it is heavily dependent upon innovation. Our ability to reduce air emissions requires early engagement in the design of our products and the processes to make them. Our ability to innovate our manufacturing processes during the early design stages will go a long way toward helping us achieve our goals.

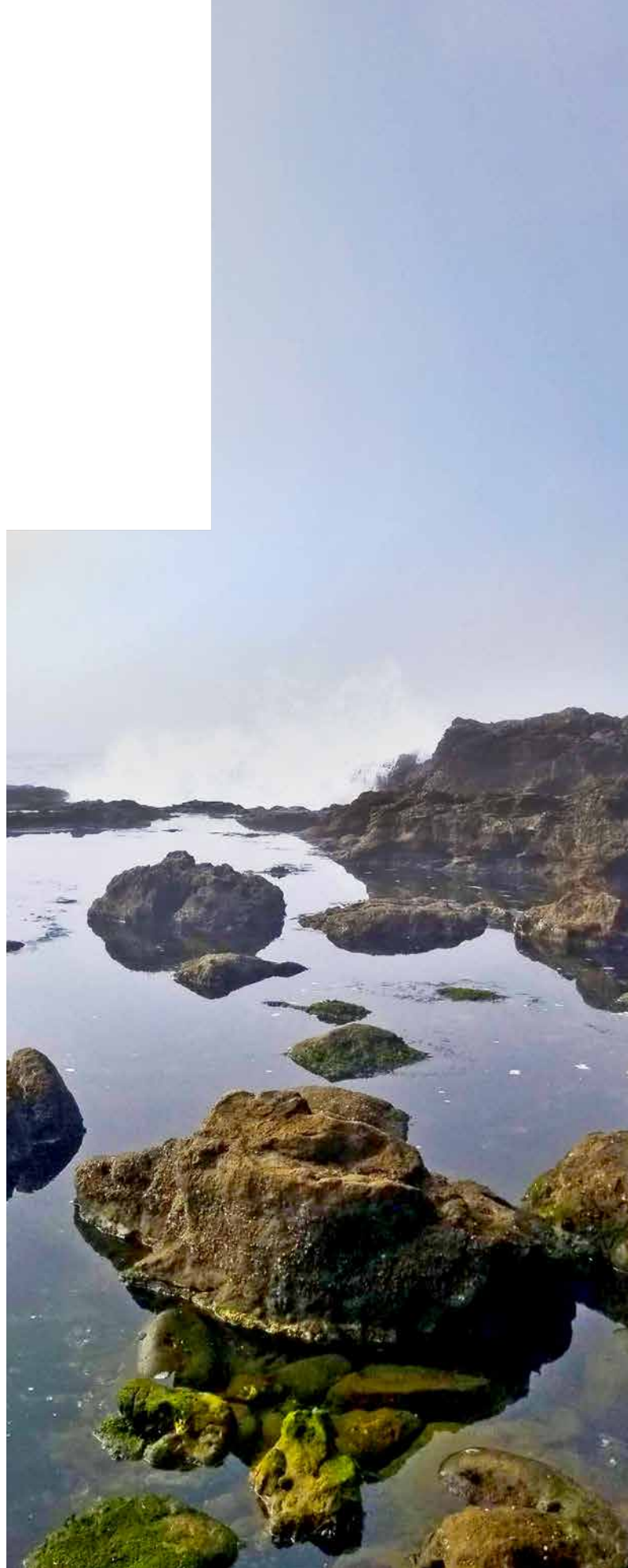
That focus on innovation is something that is intrinsic in our people, and we will rely on their talents and passion in achieving the goals we have set. By empowering them to make the everyday decisions that lead to companywide progress, we will deliver results that help make the world a better place.

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Photo submitted by:

**Leila Pourzahedi | Granville, Ohio, U.S.**

Botanical Beach, Victoria, British Columbia



# RESPONSIBLE WATER SOURCING & CONSUMPTION

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## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

Owens Corning relies on high-quality water for our operations — at the same time, we recognize that people around the world do as well. We are dedicated to sourcing and using water wisely, as part of our overall commitment to reducing our environmental footprint.

In addition, we will work to ensure our targets for water use address both our needs and the needs of the communities where we operate. By bringing our people's talents and expertise together to use water responsibly, we can help create a more livable world for people everywhere.

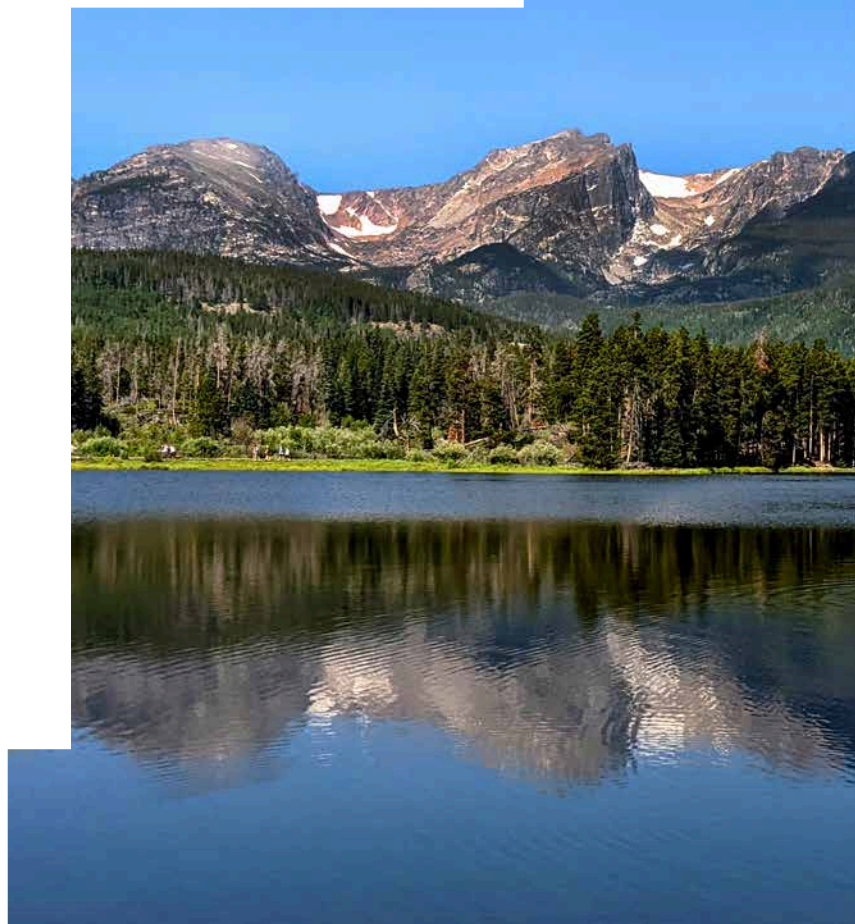


Photo submitted by:  
**Kristin Bell | Toledo, Ohio, U.S.**  
Rocky Mountain State Park, Colorado, U.S.

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Our efforts to source and consume water responsibly align with these UN SDGs:



## Sustainability Materiality Definition:

We are committed to using water in an intelligent, sustainable way across the company. We operate in a number of different regions across the world, some of which are in areas of higher water stress than others. Through reuse, recycling, and efficiency, we strive to consume less water in our operations. We also must understand where our water use is most impactful to set informed targets for water use reduction.

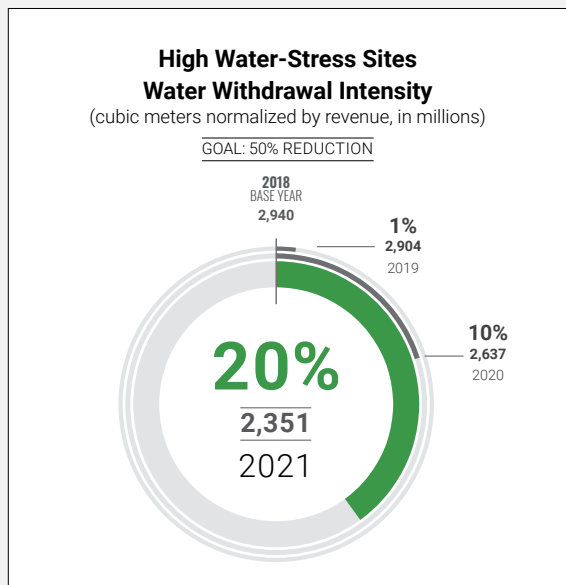
The water data in this chapter were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see About the Report, and for our verification statement please see [Appendix F](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more on [page 291](#) in [About the Report](#).

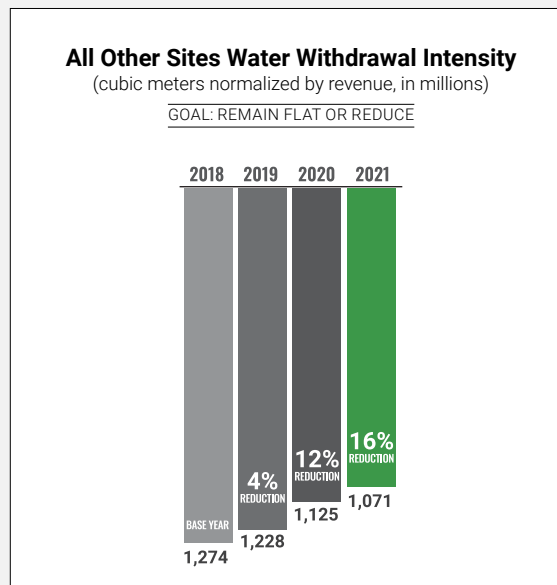
# **2030 GOALS** **FOR RESPONSIBLE WATER** **SOURCING & CONSUMPTION**

By 2030, we will cut in half the amount we take from local water supplies in places where water is limited in quantity or quality. In addition, we intend to ensure that our other facilities remain at the same water intensity as our base of 2018, or lower when aggregated.

50% aggregate intensity reduction of water withdrawal in high water-stress sites from 2018 baseline.



Remain flat or reduce aggregate water withdrawal intensity at all remaining sites from 2018 baseline.



Compared to 2018, continued water use efficiencies and fixture upgrades and repairs led to a 20% reduction in intensity at our high water-stress sites, and a 16% reduction in intensity at our remaining sites.



## **OUR** **APPROACH**

Increased water scarcity and rising costs are impacting people in the communities where we operate, and they pose risks for our operations. We are working to minimize our consumption, as well as ensuring that the production, use, and disposal of our products do not contribute to water contamination.

Photo submitted by:  
**Skylar Bone | Toronto, Canada**  
 Saguenay Fjord, Rivière-Éternité, Québec, Canada.





## Our Water Roadmap

Owens Corning's plan to reduce water withdrawal intensity in high water-stress sites and remain flat or reduce water withdrawal intensity at all remaining sites includes the following strategies:

### Short-term Strategies

- Conduct annual water risk assessments, identifying high water-stress areas for all our sites.
- Increase water efficiency through equipment and maintenance optimization.
- Engage employees to raise awareness of best water use practices.
- Assess our operations for additional reuse and recycling opportunities.

### Medium-term Strategies

- Deepen our understanding of water consumption through water balances and life cycle assessments.
- Explore and test innovative water recycling technologies.
- Engage with suppliers to understand water use and risk in the value chain.

### Long-term Strategies

- Continue to explore and proceed with key investments in infrastructure.
- Continue employee and stakeholder engagement to raise awareness of best water use practices.

To help ensure that we are using and sourcing water wisely, the following strategies will drive our progress:

### Water Balance

This refers to a site's mass balance specific to water — looking at the amount of water going into the process, the amount of water going out, and what we do with it in between. By understanding where we are consuming water and where we might be losing water, we will be able to find opportunities to reduce our overall usage. Our understanding can be shaped through the development of loss trees and the use of focused improvement tools from [Total Productive Maintenance](#), both of which can help position a site for greater water efficiency.



**Our plant in Gous-Khroustalny, Russia, recently completed a water balance and water flow diagram, which helped them decrease their water usage by 19% over the base year of 2018.**

### Increased Efficiency

Water efficiency programs such as leak detection, meter installation, and water mapping have lowered operating costs and further reduced our dependence on local or regional water sources. We also provide training to create employee and stakeholder awareness of better water use practices.

By integrating water-efficient equipment into our operations whenever possible, and by performing the maintenance necessary to repair and prevent leaks, we can see noticeable reductions in our overall water use.

### Increased Transparency and Sustainable Design

As with all our efforts to reduce our environmental footprint, we work to ensure transparency about our water use, so stakeholders can clearly evaluate our progress. One way we do that is through the life cycle assessments we perform on our core products. These comprehensive measurements of a product's footprint help Owens Corning identify opportunities to reduce our footprint.

We also conduct product stewardship reviews of our products. In 2021, we switched from our previous sustainability mapping tool to the Ecodesign Strategy Wheel. Through this powerful brainstorming tool, product designers can determine ways of ensuring product sustainability — including minimizing water use — throughout a product's entire life cycle beginning at the initial design phase. More information about the Ecodesign Strategy Wheel can be found in the [Product Innovation & Stewardship chapter](#) in this report.

## Stakeholder Engagement

Stakeholder engagement is critical to mitigating any future conflicts, and we work to establish positive relationships with the communities where we operate. We proactively engage with local stakeholders on an as-needed basis, including when we build, expand, or update our facilities. By working with stakeholders at all levels — including local levels — we can continually optimize water usage and reduce consumption and waste.

For example, Owens Corning maintains bioswales that were built on the grounds of our facility in Portland, Oregon, U.S. These bioswales concentrate and direct stormwater runoff while removing debris and pollution. In addition, they create habitats for wildlife and prevent puddles that attract mosquitos. While Owens Corning currently oversees the maintenance of the bioswales, the project began as a partnership with the city of Portland's Bureau of Environmental Services as part of efforts to manage stormwater sustainably.



Beyond the local level, Owens Corning is a partner in the Department of Energy's Better Plants Challenge, through which we have pledged to improve our

water withdrawal intensity by 15% in our U.S. operations by 2030, using 2018 as our base year. The Challenge requires an additional commitment from partners to share corporate data, solutions, and successes to help guide other industrial companies.

## Water Recycling and Recirculation

These terms are defined as follows:

- Recirculated water refers to water that is used in a closed-loop system in the production of prime product. This water only exits the recirculating system when it evaporates or when the recirculating system is flushed or cleaned.
- Recycled water refers to water that is used in the production of prime product and is then pulled out of a specific production process area, mechanically and/or chemically treated, then returned to the same process or used in a different area (either production-related or nonproduction-related).

At the site level, we track water withdrawal, water use, water discharge, and recycled and recirculated water monthly. Most of our withdrawal data come from invoices and meter readings, which are supplemented by calculations based on process knowledge and production levels. All sites are required to follow our detailed water governance documentation to ensure standardization and accuracy.

We have taken steps to increase the recirculation and recycling of water at our plants, which decreases intake, treatment, and discharge costs. In several Composites manufacturing facilities, for example, process water is recycled and used for cooling towers and landscaping

purposes. Since 2018, we have increased water recirculation percentages in our insulation facilities where processes support using recirculated water. As a result, we have seen a significant decrease in water withdrawal, despite increasing production in these facilities, which reduces our footprint in the communities where we operate while also benefiting the company financially.

## Water-Stressed Areas and Context-Based Targets

Owens Corning leverages the World Resource Institute (WRI) Aqueduct Water Risk Atlas to screen our sites for extremely high and high baseline water supply stress, 2030 and 2040 projections for water supply stress changes, and frequency of drought, as well as upstream water quality and other metrics. We combine the tool with internal knowledge in our facilities located in water-stressed areas.

The WRI Aqueduct Water Risk Atlas provides us with a framework to develop our targets and measure our progress. Looking at the 13 indicators they have established, we asked the following questions:

- Which of these indicators could have a direct impact on our ability to withdraw water?
- Which of these indicators could our water withdrawal directly impact?
- For which of these indicators would decreasing our water withdrawal by 50% directly matter?

Based on those questions, we selected seven indicators that have the highest relevance to our operations. The following three indicators are significantly relevant and are emphasized in our internal evaluation and scoring of our facilities.

### ■ Baseline Water Stress

This indicator compares the water withdrawn to the water available in a given sub-basin. Each sub-basin is part of a larger basin that drains into an ocean or lake at a single point. Because water demand is usually local, the WRI Aqueduct Water Risk Atlas measures water withdrawal at the sub-basin level, and the tool's main selection criterion is the average distance from supply to destination. This indicator also measures competition among users.

### ■ Baseline Water Depletion

Although similar to baseline water stress, which considers total withdrawals, baseline water depletion is calculated based only on the amount of water consumption. In alignment with WRI Aqueduct Water Risk Atlas definitions, we define consumption as water that does not return to the basin. We measure our consumption to track the ways our water withdrawal impacts local water supply and decreases water availability for downstream users.

### ■ Drought Risk

In addition to measuring the probability that drought will occur, this indicator considers the magnitude of the impact based on the exposure and vulnerability of the affected population and assets.

We also consider the following indicators to be relevant to our operations:

- **Interannual Variability**  
The variations in available water supply from year to year.
- **Seasonal Variability**  
The average variability within a year, including both renewable surface and groundwater supplies.
- **Unimproved/No Drinking Water**  
Areas where people have less access to safe drinking water. This measurement does not evaluate the availability of water or the actual quality of the water; it only measures the proportion of the population without access to treated drinking water.
- **Peak RepRisk**  
A third-party index that quantifies business risk exposure to ESG issues in a given country.

We have developed context-based targets to address our potential impact on water conditions around the world. Context-based targets address both our need for water as well as the needs of the communities where we operate.

Our contextual targets are based on a score for each facility, which is derived through calculations based on these indicators. A site is included on our list of high water-stress areas if:

- The facility has a high-risk score in the three significantly relevant indicators.
- A facility has a high total score based on all seven indicators.

This approach allows for a multifaceted evaluation of our water use and impacts.

The 30 sites currently on our list are the baseline for our 2030 goals, but we also have a watch list for all sites where there is a water risk that could change over time. Each year, we will evaluate all sites according to these indicators, and context-based targets will be added as needed to address high water-stress areas.

## SITES FOR 2030 CONTEXT-BASED TARGETS

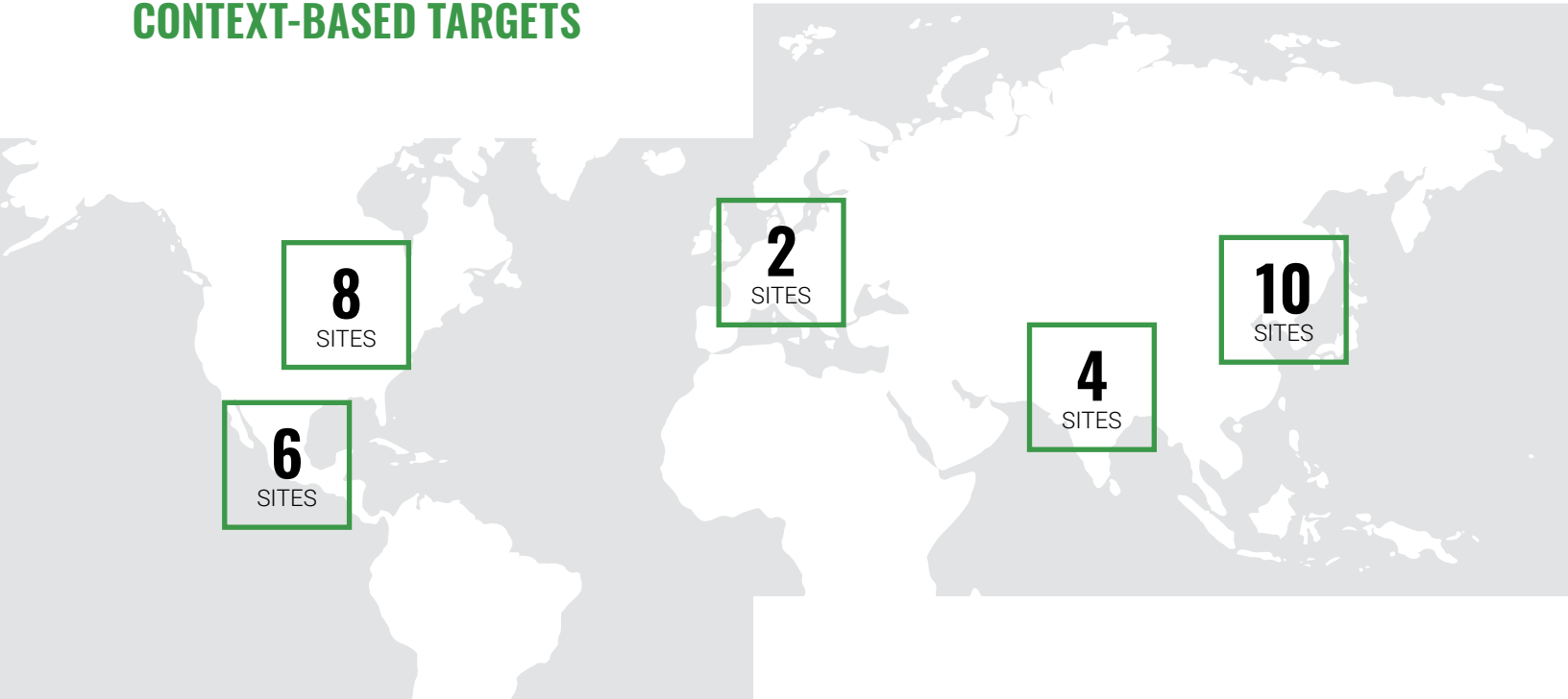






Photo submitted by:  
**Cheryl Smith | Newark, Ohio, U.S.**  
Wildlife in Newark, Ohio.

### Water Risk Assessments

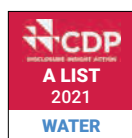
Water-related risks and availability of supply vary across our geographies, processes, and product lines. To minimize the effect of water risk at our locations, we perform regular risk assessments using the World Resources Institute (WRI) Aqueduct Water Risk Atlas. Using the [Ecodesign Strategy Wheel](#) and life cycle assessments (LCAs), we can identify the amount of freshwater consumed during the life cycle of each of our products, and we routinely evaluate each site's environmental footprint, as well as any changes in processes, products, regulatory statuses, or prices. In addition, the results of the annual supplier survey are provided to us, including information about whether suppliers have goals to reduce water usage and strategies for water management in water-stressed areas.

Since 2018, Owens Corning has measured its water risk using WRI's baseline water stress metric, which WRI describes as a strong proxy for all aspects of water risk to a business's operations. As this metric takes into account the supply and demand stress of regional water withdrawal, it provides a more complete understanding of water-stressed areas.

Using this approach, Owens Corning undertook our 10th annual water risk assessment in 2021 — our fourth year using baseline water stress as our metric. We used the findings of this analysis in conjunction with our sites' 2021 water intake and discharge statistics. This assessment informs the development of water management plans to optimize water efficiency at facilities in water-stressed regions with high water demand.

Our baseline water stress analysis identified that 30 of our sites that were active in 2021 were in areas classified by WRI as having high or extremely high baseline water stress. Our facilities at these sites accounted for 23% of our overall water withdrawal in 2021 as well as 26% of our overall water discharge in 2021.

Read more about our water risk assessments, including an updated supply chain risk assessment, in our CDP Water Security 2022 Report, which will be published later this year on the [sustainability website](#).



**For the third year in a row, Owens Corning has made CDP's Water A List**, recognizing our transparency regarding water use and management.

This program facilitates informed decision-making to achieve water resilience, better governance of water issues, incentivizing long-term water management planning, and the development of standard water metrics and performance benchmarks for better water quality and quantity.

# SPEAKING OF SUSTAINABILITY

## Irina Chashchina

Environmental Lead

With her extensive background as an environment, health, and safety (EHS) professional, Irina Chashchina has been bringing her passion and her expertise to our plant in Gous-Khroustalny, Russia, for the past four years. In her current role as environmental lead, Irina has been a key player in our efforts to use and source water responsibly. These include smaller efforts that increase our efficiency as well as larger projects that are having a dramatic impact. Irina shares her views on responsible water use and why it is essential to reducing our footprint.



**“ We are responsible not only for our current impact, but also for the heritage we leave to the next generations. ”**

### **On the example Owens Corning can set throughout our industry**

The shortage of fresh water is now more important than ever. Because Owens Corning is a manufacturing company, I think we are the ones who should be concerned about this the most. Although it's true we are not the largest consumer or polluter of water compared with other production companies in the world, nevertheless, we can't stand back. We are responsible not only for the current impact that we can observe, but also for the heritage we leave to the next generations. And we are working on it — I do hope that our company is a bright example for other production companies in water consumption.

### **On the steps we can take to save water on our sites and in our lives**

At our plant, we are focused on the elimination of obvious problems that don't require excessive time and cost. In parallel, we provided an analysis of water data and audited different pipelines and wells. Thanks to development of water balance and water losses, we defined projects and installed water meters on major consumer sources and monitor water consumption on a daily basis to understand where we have issues in water consumption. And my personal water savings routine consists of small steps that might seem invisible. For example, at home I use sensor water taps, I use rain and melt water to water the plants, and my home devices like the washing machine and dishwasher have high water economy rates. I think the steps are applicable for everybody and if we all make the effort, it will make a great difference.

### **On the most important strategies for responsible water use**

The first thing is understanding the water balance and losses. Second, we should apply the latest innovations for water recycling and water usage. Third, sharing best practices between our plants and businesses is very important. Of course, engaging people to take the initiative is always welcome in our sites and in our company. Every employee plays an important role, so we appreciate their ideas and we are open for the dialogue. They shouldn't be afraid to share their thoughts and projects with their teams.

Photo courtesy of Irina Chashchina





## WATER SOURCING & CONSUMPTION INITIATIVES

Site-level efforts such as leak detection and repair, identification of unnecessary water usage, and opportunities for increased water reuse are key components of our water conservation programs. We also recognize the need to continually assess our operations for additional reuse and recycling opportunities at the corporate level. Using information from LCAs, we can identify products with high impacts and prioritize projects that address them.

In addition, we continually track water intensity across all our facilities and monitor our progress. A considerable portion of the reductions we've made since 2018 can be attributed to our low-cost or no-cost efficiency efforts and undertaking more significant capital investment projects.



**Since 2018, our water conservation and efficiency efforts have saved enough drinking water for about 1.1 million people for a year.**

Photo submitted by:  
**Priyanka Ruparel | Maharashtra, India**

## INVESTMENTS IN INFRASTRUCTURE ADVANCE OUR WATER GOALS

In 2021, several Owens Corning facilities made important infrastructure investments that will enable us to reduce our environmental footprint as it relates to water. Some of these investments will enable us to use water more efficiently, while others will improve water quality in areas where we operate. All of them demonstrate our commitment to responsible water use around the world.

Prior to the installation of a new filtering and control system at our Mexico City, Mexico, plant, a great deal of city water was required to operate the cooling towers there. The new filtering system supports our efforts to reduce water withdrawal in areas of high water stress by enabling us to use treated water from a wastewater treatment facility rather than city water. This important water reuse project became operational in June 2021. In addition, the site has addressed leaks in their water main pipeline and installed water-saving faucets and toilets. Altogether, these projects have enabled the facility to reduce its water intensity by 20%.

We also implemented two repairs in the past year at our facility in Gous-Khroustalny, Russia, to address leaks. The first involved repairing leakage in the water heating system in the facility's office building, while the second repaired leakage in the well pipeline. Together, these repairs will save over 30,000 cubic meters of water per year.

At our plant in Sedalia, Missouri, U.S., we restored a tower for our cooling water system, enabling us to treat soft water as needed and ensure that we can meet our cooling needs throughout the summer months. In addition, we modified many of the tower's components to make operations more efficient. The investment has helped preserve the life of our melter, and it has led to significant cost savings for the plant.

In Memphis, Tennessee, U.S., the installation of a 20,000-gallon tank will enable the site to recycle the city water used to cool our converters. Over the course of the project, we were able to address other related water-use issues, which will lead to even greater savings on water, sewer, and natural gas bills, as well as a reduction in the use of boiler-related chemicals. The project is expected to lead to a reduction of over 1 million gallons of water each month.

Projects such as these are part of our overall approach to water use. Many of these investments will lead to a reduced reliance on municipal water systems, which helps ensure that we are doing our part to use water responsibly in the communities where we operate. As we look ahead, we anticipate more opportunities to invest in our infrastructure in ways that make a real difference in reducing our environmental footprint.



# WATER SOURCING & CONSUMPTION PERFORMANCE

Using 2018 as our base year, we have set a goal to achieve a 50% aggregate intensity reduction of water withdrawal in high water-stress sites by 2030. At the end of 2021, we have achieved a 20% improvement over that base year.

We source water for our operations from municipal water supplies, on-site wells, stormwater, off-site bodies of water, and third parties. This year, we withdrew 11,234,619 cubic meters of water, a 0.2% absolute reduction compared with 2018.

From 2020 to 2021, our absolute water withdrawal increased by 13%. Approximately 74% of the water we used in 2021 was taken from municipal water supplies.

Owens Corning facilities recycled a total of 2%, or 272,867 cubic meters, of the water we withdrew in 2021, and we recirculated 166,919,042 cubic meters, or 1,486% of water withdrawn. Insulation facilities, excluding Owens Corning Paroc and several FOAMGLAS® insulation sites, as well as some composite sites, currently calculate recycled or recirculated water.

**Our conservation and efficiency efforts have avoided more than 1.3 million cubic meters of water withdrawal since 2018, saving more than \$1.1 million in water intake related costs.**

## Impact on Local Water Bodies

We evaluate all our facilities to determine their proximity to sites listed as ecologically sensitive or significantly important to maintaining biodiversity. Aquatic evaluations are also completed at the corporate level to determine if any of our facilities are located near rare, threatened, or endangered species, sensitive habitats, or the International Union for Conservation of Nature's (IUCN) Red List species. Water withdrawals from our facilities do not exceed volume thresholds and do not extract from Ramsar Wetlands sites or other highly sensitive water resources (based on our knowledge of suppliers and sources).

Owens Corning is not impacting any special protected bodies of water and related habitats, as defined at the country level by the UN World Heritage Sites, UN Biosphere Sites, or Ramsar Wetlands. This determination is based on an evaluation conducted annually by Owens Corning, which continues to demonstrate our manufacturing sites' lack of proximity to these special sites or species.



Photo submitted by:  
**Christopher Pawson | Toledo, Ohio, U.S.**  
Driftwood Beach, Jekyll Island, Georgia, U.S.

**2021 Water Withdrawal by Source**

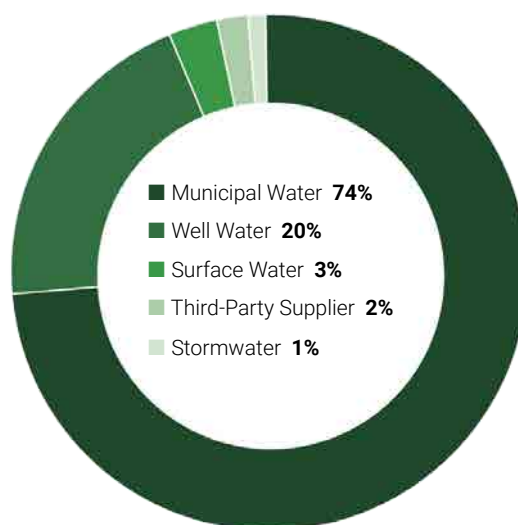




Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**  
 Maumee Bay State Park, Oregon, Ohio, U.S.

## Discharge Compliance

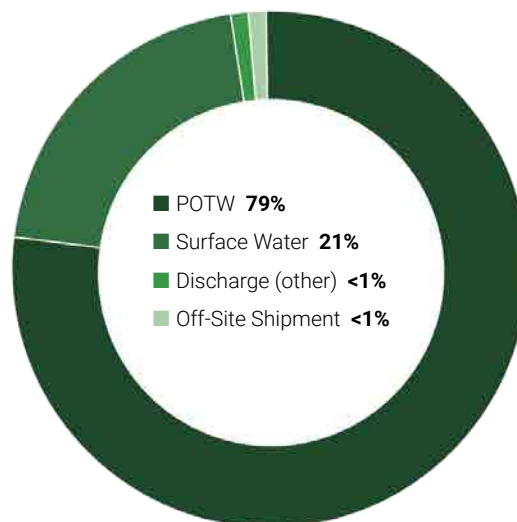
Owens Corning facilities comply with national, state, and local regulations and permits regarding water withdrawal and wastewater discharge. We have deployed advanced water treatment systems at our top three water-discharging facilities to ensure that the quality of the water they discharge meets or exceeds permit requirements.

Our businesses use water in different regions with different regulations, and in different processes. Because of this, our approach is tailored to the site level. In applicable sites, we actively monitor relevant effluent data — including Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), and Total Suspended Solids (TSS) — and we collaborate with external organizations to verify our discharge information. Where it is necessary to meet discharge requirements, we pretreat or treat our wastewater prior to discharge accordingly. Most of our sites are charged for their water discharge, and all our sites are expected to comply with local regulations for their water discharge.

In 2021, we discharged a total of 5,799,928 cubic meters, which represents a 5% improvement from the base year 2018. This includes discharges to publicly owned treatment works (POTW), surface water, off-site shipment, and other destinations.

Regarding environments that are around our facilities, discharges are controlled through permits and required monitoring. Moreover, several of our facilities have achieved a zero-discharge level (other than water discharged for irrigation). Unauthorized discharges and runoff must be reported to our environmental and legal departments, and corrective action must be taken. Employees are subject to disciplinary action for knowingly failing to comply with legally required environmental reporting.

## 2021 Water Discharge by Destination





## GOING FORWARD

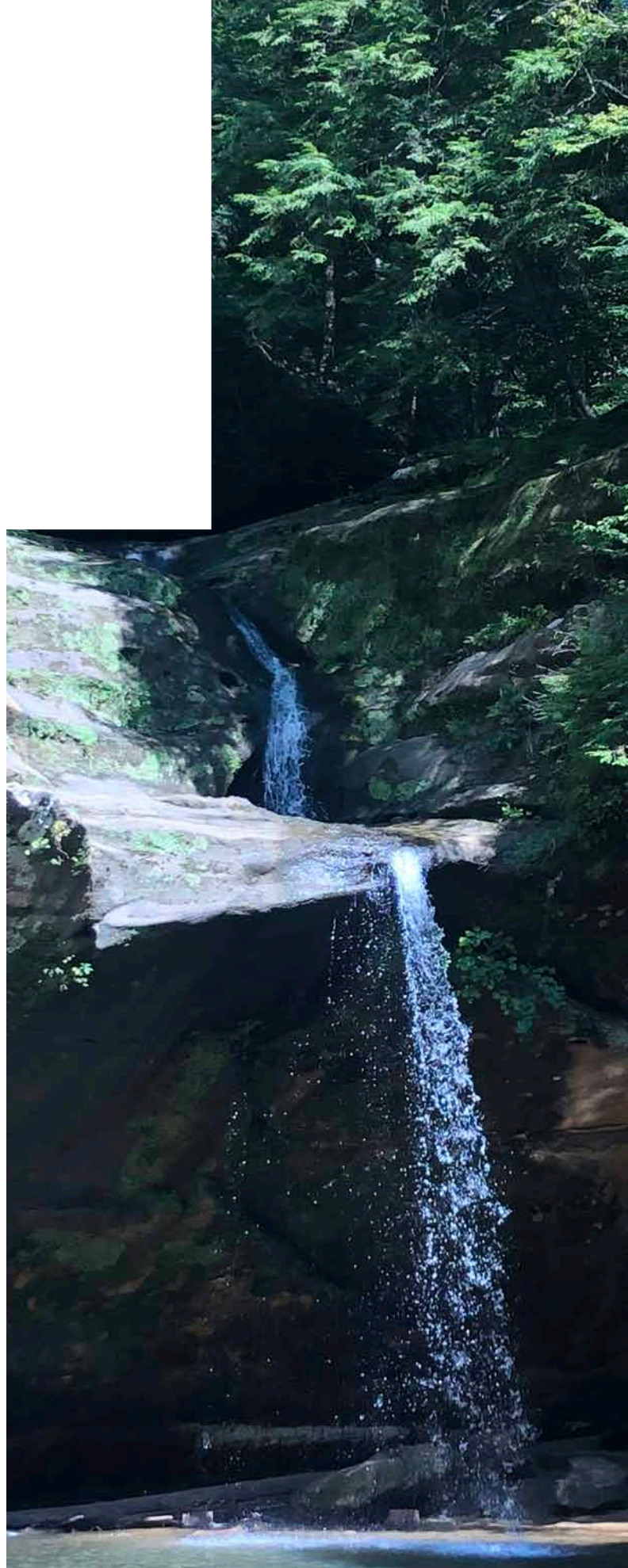
As we work to achieve our 2030 goals for responsible water sourcing and consumption, our focus on context-based targets will

help us refine our approach. By setting water use targets that also address the needs of the communities where we operate, we can help ensure that people's access to safe, clean water is not jeopardized.

We also endeavor to engage our suppliers in understanding the risks associated with water, and we encourage them to take measures to source and consume water responsibly. This is in keeping with our overall emphasis on collaboration with all stakeholders in our efforts to lessen our overall impact throughout the world and help ensure a more sustainable future for communities everywhere.

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Photo submitted by:  
**Kevin Bohne | Toledo, Ohio, U.S.**  
Hocking Hills, Ohio, U.S.





# WASTE MANAGEMENT

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- OUR INITIATIVES
- OUR PERFORMANCE
- GOING FORWARD

As a manufacturing company, Owens Corning recognizes the need to control waste throughout our organization. We understand that all around the world, too much waste is sent to landfills, and it's having a detrimental impact on our planet. By improving efficiencies in our operations, we strive to reduce the amount of waste we generate and keep the waste we do produce from going into landfills. When we reduce our environmental footprint, we are also doing a great deal to improve our product handprint. Owens Corning's waste management goals for the coming decade are increasingly vital in these efforts.

With waste-reduction goals embedded in our product innovation and stewardship principles, we focus on redesigning processes to avoid the creation of waste and repurposing or recycling it whenever possible. And diverting waste from the landfill has far-reaching benefits, as it enables us to close the loop on our transition to the circular economy model.

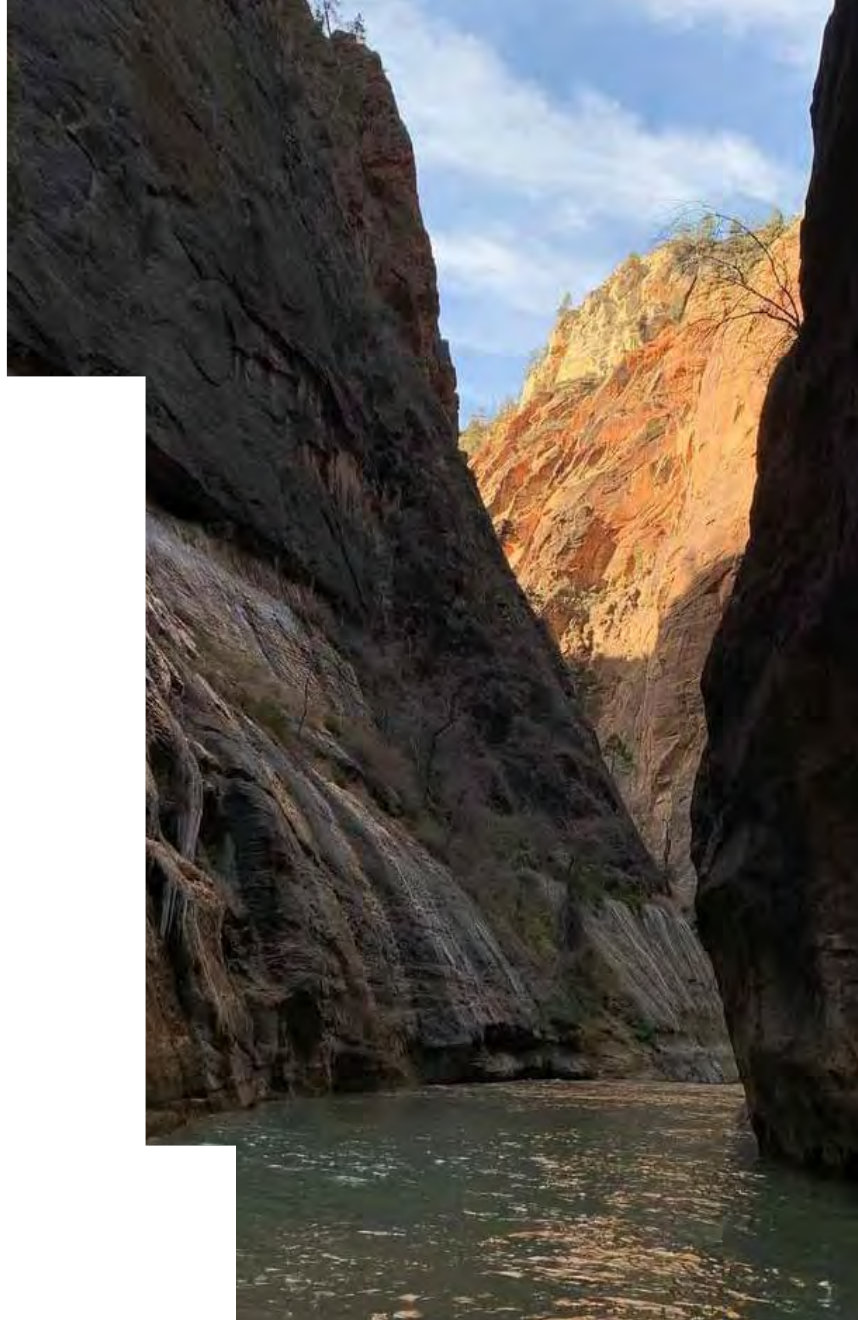


Photo submitted by:  
**Mark Sendi | St. George, Utah, U.S.**  
The Narrows in Zion National Park, Utah.

Our waste management efforts align with the following UN SDG:



**Sustainability Materiality Definition:** Our ambition is to mitigate the waste that we produce by redesigning the process to avoid its creation, and repurposing it whenever possible. We are committed to redefining waste, continuously looking for beneficial uses for our byproducts and other waste materials.

The waste data in this chapter were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see About the Report, and for our verification statement please see [Appendix F](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more on [page 291](#) in [About the Report](#).



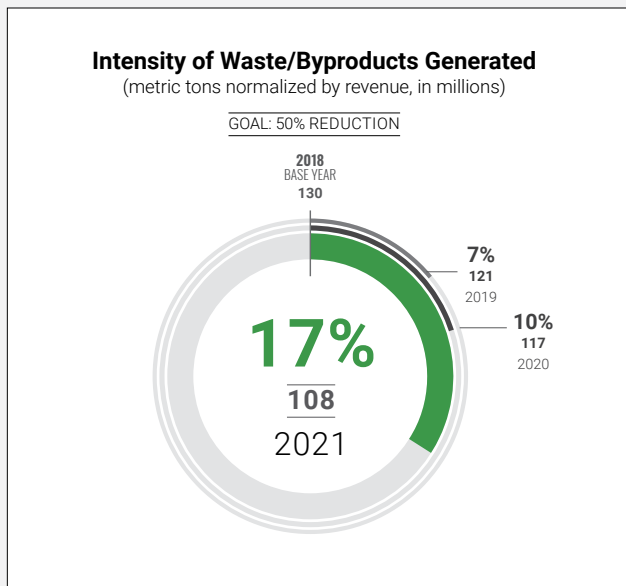
## 2030 GOALS FOR WASTE MANAGEMENT

**By 2030, we will send zero waste to landfill.**

It's an ambitious goal, but it can be achieved through our two-part plan:

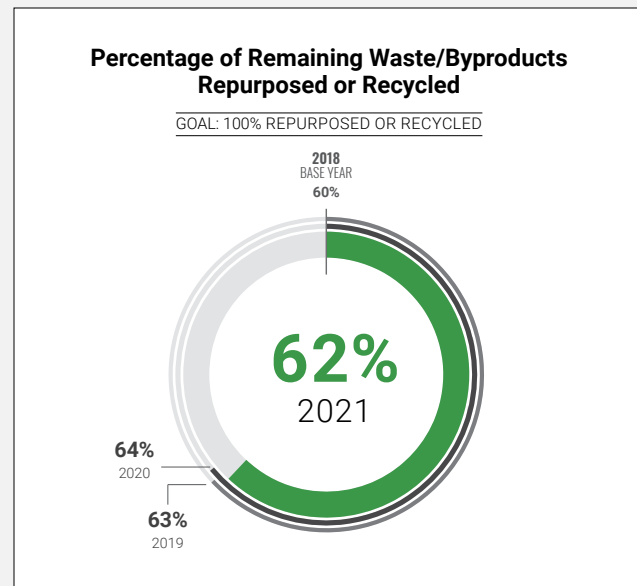


50% intensity reduction of waste/byproducts generated from 2018 baseline.



This 17% improvement from 2018 is due in part to increased focus on waste generation and operational efficiency improvements across the business.

After reducing waste intensity by 50%, repurpose or recycle 100% of remaining waste/byproducts from 2018 baseline.



Expanding our use of diversion outlets and end-use applications for our byproducts contributed to this 2% improvement from 2018.

## OUR APPROACH

We look for ways to reduce all forms of waste – liquid, solid, hazardous, nonhazardous, and more – over the life cycle of our products. Here's how we'll achieve zero waste to landfill.

- **Product and process innovation.** As we conduct life cycle assessments for our products, we consider the waste impact of the product. We seek to increase the percentage of recycled content in our products and packaging materials through innovations during the initial design phase and through continuous improvement efforts in our operations.
- **Improved efficiency.** By making our processes more efficient, we can reduce the amount of waste generated, which helps us achieve the first part of our zero WTL goal.
- **Internal recycling technology.** Recycled glass not only reduces energy demand, but it also reduces demand for raw materials. This is why we focus research and development on the recycling of glass fiber. As we find solutions to recycle and reuse waste within our processes, we expect to uncover ways to divert waste from the landfill.
- **Waste diversion.** Keeping waste out of landfills also includes supporting our customers by developing opportunities to expand our take-back programs. We also support glass recycling by collaborating with strategic partners to help ensure that glass containers and factory waste are recycled.

### Internal Processes and Accountability

Our zero waste-to-landfill goals demand that we exceed regulations and go beyond compliance. Our environmental management system (EMS) is designed to ensure that we meet all regulatory requirements related to waste, in adherence to our Environmental, Health, Safety, and Product Stewardship Policy. The EMS is a collection of policies and procedures regarding the management of environmental performance in our facilities, including compliance and footprint reduction. More information about the EMS can be found in the [Compliance chapter](#).

We also periodically assess the efficacy of our waste management and recycling efforts for opportunities to implement additional waste reduction and diversion strategies. The prevention of waste throughout our products' life cycles is also an important product stewardship objective. Read about our product stewardship efforts in our [Product Innovation chapter](#).

Our global waste-to-landfill leader is responsible for driving waste reductions and fostering relationships with internal and external stakeholders across all our businesses. Periodic reviews are used to assess progress and take necessary corrective actions. In addition to enterprise-level leadership and reporting, many of our initiatives begin at our manufacturing facilities, and they occur thanks to the dedication and ingenuity of the people who work there.



## Our Waste Roadmap

Owens Corning's plan to send zero waste to landfill includes the following strategies:

### Short-term Strategies

- Reduce waste intensity by improving operational efficiency and process design.
- Conduct life cycle assessments for our products to understand the waste impact of the product.
- Increase the percentage of recycled content in our products and packaging materials through design innovations and operational improvements.
- Find solutions to reuse and recycle waste back into our own processes.
- Continually assess the efficacy of our waste management and recycling efforts for additional waste reduction opportunities and diversion strategies.

### Medium-term Strategies

- Establish internal recycling capabilities across the three businesses.
- Continue to find new external outlets for specific waste streams by region.
- Focus research and development on glass fiber recycling technologies.

### Long-term Strategies

- Invest in technologies and processes to upgrade waste glass fibers into raw materials to be put back into the process.
- Collaborate with strategic partners to support recycling of glass and other waste streams.
- Expand our take-back programs for our customers.
- Support a circular economy model.



## OUR INITIATIVES

Our 2030 waste management goals are quite ambitious, but we are confident they can be achieved through our WTL efforts and the

designated resources throughout our businesses. Within this network of committed employees, we regularly share ideas, best practices, and recycling outlets across our plants, businesses, and R&D.

Owens Corning has successfully diverted the majority of the waste we generate away from landfills and toward other uses. Offtake customers have found value in these materials and successful transaction agreements have been established, and we continue to find new outlets for specific types of waste streams by region.

Although we have had a great deal of success diverting material from landfills, each business unit continues to have waste streams that are landfilled. In their current form, these streams are not usable in another application, and economical recycling processes typically do not exist. Our approach is to establish internal recycling for a more robust pathway to zero WTL. This approach can be seen in all three of our businesses.

The waste that is sent to landfill in our Composites business consists mainly of glass fiber. This is also the case for our Insulation business, specifically in the glass and mineral wool fiber waste streams. For this reason, we are investing in technologies and processes to upgrade waste glass fibers into raw materials appropriate for remelting, and then fiberizing them into new fibers to be used within our operations. Once appropriate recycling capabilities are developed and scaled, we will have addressed two-thirds of our remaining WTL volume. Our Roofing business represents a relatively low percentage of our enterprise WTL, with shingle tear-off waste at end-of-life representing the larger landfill challenge. As advances are made in Owens Corning's activities to build the circular economy model for our shingle products, those same technologies and systems can be leveraged to recycle the majority of the manufacturing waste from our Roofing plants.

**Our waste management goals benefit our business as well as the environment — by reducing costs associated with transportation, disposal, raw materials, energy, time, and labor.**



The following are among the notable waste management initiatives conducted at Owens Corning in 2021.

### Besana, Italy

As part of their commitment to eliminating the use of single-use plastic products, the facility installed 11 water dispensers on the shop floors. Employees were also given personalized, branded water bottles, helping reduce the amount of single-use plastic throughout the plant.

### Granville, Ohio, U.S.

The Granville Material Characterization Lab (MCL) recently underwent a team exercise to identify all lab waste streams, and they have begun to take small but impactful actions to reduce them. The MCL has been actively committed and working toward zero WTL since 2020, and they expanded their aspiration in 2021 to include a shared sustainability goal that holds individuals personally responsible for reducing lab waste. This includes committing to using reusable or biodegradable coffee cups, utensils, and plates, adding more recycling and composting bins, and working with lab customers to reduce the amount of composite materials shipped on-site for testing. The MCL is also dedicated to sharing best practices to facilitate a larger reduction in waste sitewide.

In 2021, Granville also received recognition for their commitment to Kimberly-Clark's RightCycle program, which diverts single-use gloves from the landfill. This past year, the Granville Science & Technology Center recycled over 321 pounds of gloves, compared to 185 pounds in 2020.

### Liversedge, U.K.

As part of their commitment to reducing waste, employees at the plant in Liversedge discovered that cutter housings from one machine are compatible with another and can help cut the composite sheet effectively. Blades that had previously been scrapped can now be used beyond their previous end of life, which places Liversedge closer to their goal of zero WTL.

### Hässleholm, Sweden

As part of their goal of achieving zero WTL, the plant in Hässleholm drew up a four-point action list in which they would:

1. Reduce waste by improving production processes.
2. Recycle all cured waste to blowing wool, using both new ad-mix equipment and the old recycling system.
3. Recycle all spinning waste via briquette.
4. Recycle all cupola dust via briquette.

As a result, their WTL has gone from almost 19% in 2013 to just over 4% in 2020, and their goal of zero WTL is well within reach.

## Briquette Production

Briquetting refers to the compression of industrial scrap and other byproducts. In their compacted shape, these briquettes can be reused as input material for cupolas in our operations. At several of our mineral wool sites, scrap rockwool and other byproducts are being converted into briquettes. Although most of the briquettes are manufactured by third-party companies, our facility in Guangde, China, built a brick workshop in 2019. Briquettes made there are fed back into the cupola; this solution for production waste helps the facility send zero waste to landfill.

## Reducing Sludge from Wastewater Treatment

In recent years, we have had notable initiatives reducing process-related and wastewater treatment sludge and increasing recycling of fly ash and shot, which we continue to work at expanding. In 2021, we diverted 25% of sludge from the landfill, up from 13% in 2010. Our facility in Taloja, India, is investigating the use of sludge from the wastewater treatment process for use in cement. Our Yuhang, China, plant is focused on reducing sludge by improving binder application efficiency and reducing moisture content through dewatering. The sludge recycling program at our plant in Besana, Italy, has continued to increase volume. Our Kimchon, South Korea, facility is recycling all their sludge through two outlets, and they stopped sending sludge to landfill in 2018.



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Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
Raw material at the Paroc plant in  
Parainen, Finland.



# SPEAKING OF SUSTAINABILITY

## Jill Krueger

Engineering Leader

Waste management is essential to our sustainability journey, as it ties in closely with our aspirations for the circular economy. Jill Krueger, a program manager at Owens Corning, is one of the people who are working diligently to help us achieve our goals. Jill is part of the team that is finding new ways to divert byproducts related to the manufacturing of composite materials away from the landfill. She has a great deal to share about the challenges related to these endeavors, as well as the excitement that comes from seeing Owens Corning's progress.



**“ As our customers are embracing the circular economy, they’re reaching out to partner with us. ”**

### On recycling as part of our waste-to-landfill goals

Instead of putting manufacturing byproduct into a landfill, those materials will go back into our melter. It has real advantages for our plants because not only are we avoiding the landfill costs, but we’re putting a material into the melter that Owens Corning is very familiar with — our own glass. This isn’t an easy project. Virgin raw materials are very pure, and when we take materials that are a byproduct of our manufacturing or byproduct of our customers’ manufacturing, there have been additional steps taken that potentially can dirty up the material. They can fall on the floor. There can be additional chemicals. And so, the real art and technique is how to separate what has been added to get back to the good stuff that we want.

### On the enthusiasm of our external partners and internal teams

I love when I hear stories that our customers are eager to start sending us their materials. They want to know the criteria for the program and how they can get involved. That makes me feel like there’s a real need that we’re addressing as a corporation. I also get really excited, because of my technical background, when I meet with my team and I hear that we’ve addressed another concern and that we feel pretty confident that we have the right technology in place to make sure that a contaminant doesn’t get into our melter, but is separated before we start that process. So, I just love seeing the eagerness from our customers, and the excitement from our internal technical team as they start checking off that this was a problem and now we know how to solve it.

### On how the legacy of Owens Corning inspires optimism

One thing that’s really giving the Composites recycling program an advantage is that Owens Corning has a deep history in sustainability. We’ve been working to improve our footprint and our handprint for over 20 years, and during that time, we’ve done a lot of work to figure out what the technology might look like to enable putting recycled materials into our melter. The second piece that I think is helpful is that we have a good reputation with our customers, so as our customers are thinking about how they can start embracing the circular economy themselves, they’re reaching out and asking to partner with us. Our customers are coming forward and offering to be part of the solution. I think those are the two things that are really going to move this forward in a quick way toward creating that circular economy.

Photo courtesy of Jill Krueger

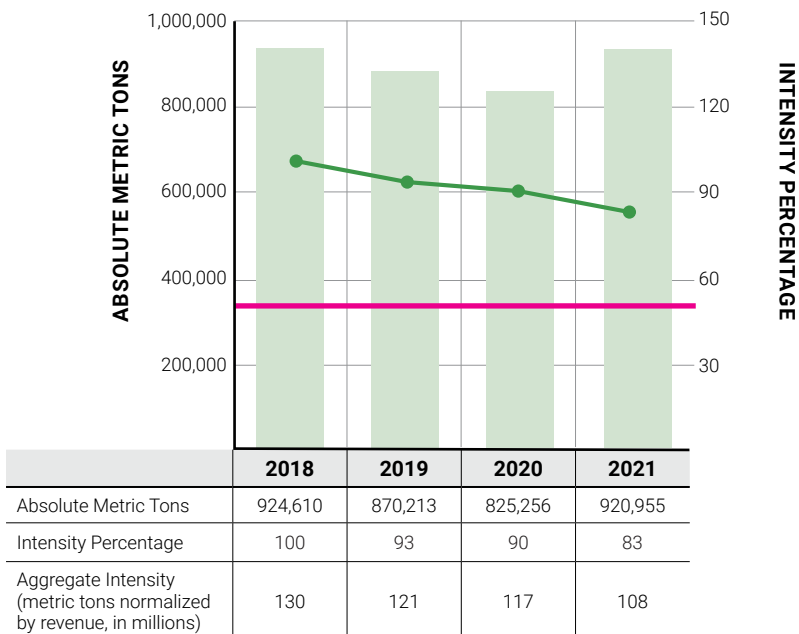


# WASTE MANAGEMENT PERFORMANCE

## Intensity of Waste/Byproducts Generated

(metric tons normalized by revenue, in millions)

■ Waste/Byproducts Generated ● Intensity Percentage — Part 1 – 2030 Goal



## Percentage of Remaining Waste/Byproducts Repurposed or Recycled

■ Amount Repurposed/Recycled ■ Amount Not Repurposed/Recycled ● Percent Repurposed/Recycled — Part 2 – 2030 Goal

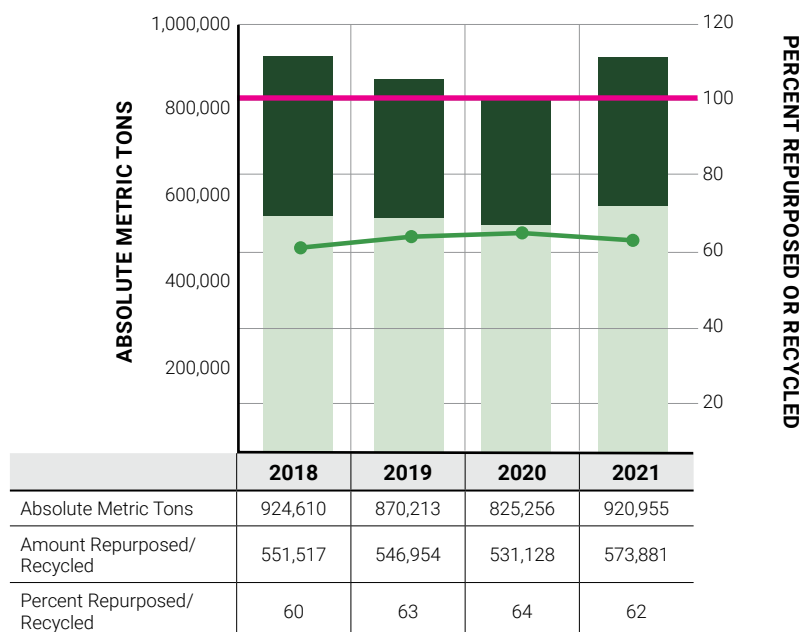


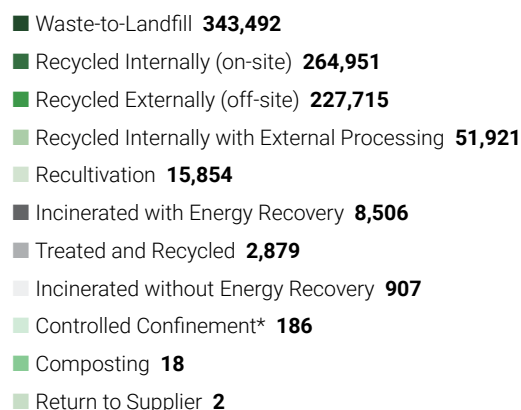
Photo submitted by:  
**Priyanka Ruparel | Mumbai, India**  
Queens Necklace, Mumbai.

## Total Waste Generation and Disposal

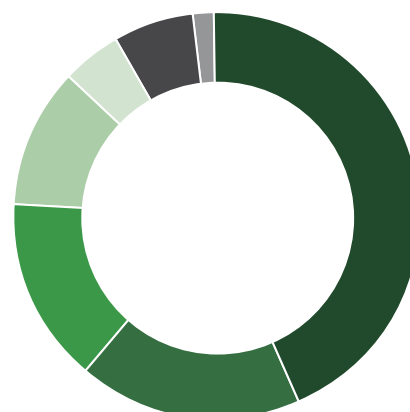
Owens Corning separates waste into hazardous and non-hazardous categories. The majority of waste generated in our facilities is either recycled or sent to landfill. Depending on the type of waste, we also use such methods as commercial composting, incineration with energy recovery, and returning waste to the supplier.

In 2021, we generated 920,955 metric tons of waste, compared to 825,256 metric tons in 2020. The overwhelming majority, 916,431 metric tons, was non-hazardous waste.

## 2021 Non-Hazardous Waste by Disposal Method (Metric Tons)



## 2021 Hazardous Waste by Disposal Method (Metric Tons)

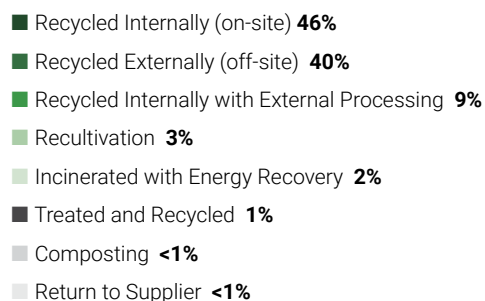


\* Owens Corning considers Controlled Confinement as Waste-to-Landfill for reporting purposes.

## Waste Diversion

Our overall waste diversion rate for 2021 was 62%, compared to 64% in 2020 and 60% in 2018.

## Waste Diversion for 2021





## Hazardous Waste

Owens Corning facilities generate small amounts of hazardous waste during production and maintenance operations. This typically includes spent cleaning solvents, paint-related wastes, and spent laboratory chemicals.

There are also some business-specific hazardous wastes. For example, Owens Corning's Roofing business uses flammable ink to mark shingle wrappers, so any unused ink or ink conditioner contributes a small amount to the total hazardous waste disposed.

Each location has an appropriate hazardous waste management system to ensure the proper and safe disposal of waste.

In 2021, we generated 4,524 metric tons of hazardous waste, which is only 0.5% of the total waste generated. A total of 2,193 metric tons of hazardous waste was sent to landfill, which includes waste disposed of through controlled confinement. Our business units have established a mechanism to track the intensity and amount of hazardous waste generated. The increases in hazardous waste over the years are correlated with the furnace rebuild cycles for our glass manufacturing locations. We continue to seek ways to reduce all waste, including hazardous waste.

During the reporting period, no hazardous wastes, as classified under the terms of the Basel convention, were imported, exported, transported, treated, or shipped internationally for disposal.

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Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**



## Excellence in Waste Diversion

Owens Corning recognizes the commitment that our facilities around the world have made to manage waste, and we honor those plants who achieve greater than 80% landfill diversion.

We use an internal rating system focused on diversion from landfill compared to total waste generated.

In 2021, 36 plants achieved greater than 80% landfill diversion.

PLATINUM LEVEL 100% WASTE DIVERSION	GOLD LEVEL >98% WASTE DIVERSION	SILVER LEVEL >80% WASTE DIVERSION
<ul style="list-style-type: none"> <li>■ Asan, South Korea</li> <li>■ Changzhou, China</li> <li>■ Gresham, Oregon, U.S.</li> <li>■ Guangde, China</li> <li>■ Parainen Science &amp; Technology, Finland</li> <li>■ Ridgeview, South Carolina, U.S.</li> <li>■ Sayli, India</li> <li>■ Springfield, Tennessee, U.S.</li> <li>■ Vilnius, Lithuania</li> </ul>	<ul style="list-style-type: none"> <li>■ Dapada, India</li> <li>■ Qingdao Novia, China</li> <li>■ Tessenderlo, Belgium</li> <li>■ Trzemeszno, Poland</li> <li>■ Valleyfield, Canada</li> <li>■ Yantai, China</li> <li>■ Yuhang Glass Wool, China</li> </ul>	<ul style="list-style-type: none"> <li>■ Chambéry, France</li> <li>■ Edmonton, Canada</li> <li>■ Guangzhou, China</li> <li>■ Hällekis, Sweden</li> <li>■ Hässleholm, Sweden</li> <li>■ Jaiobei, China</li> <li>■ Kearny, New Jersey, U.S.</li> <li>■ Monterrey Foam, Mexico</li> <li>■ Mount Vernon, Ohio, U.S.</li> <li>■ Nanjing, China</li> <li>■ Parainen, Finland</li> <li>■ Portland Asphalt, Oregon, U.S.</li> <li>■ Portland Roofing, Oregon, U.S.</li> <li>■ Rockford, Illinois, U.S.</li> <li>■ Tallmadge, Ohio, U.S.</li> <li>■ Taloja, India</li> <li>■ Tianjin Glass, China</li> <li>■ Tiffin, Ohio, U.S.</li> <li>■ Toronto, Canada</li> <li>■ Yuhang GRS, China</li> </ul>

## Waste Management Performance Measurement

As we work to achieve our 2030 waste management goals, we use waste intensity to measure our performance. We continue to evaluate and improve upon the methods and mechanisms to track waste streams that are ultimately recycled, reused, or landfilled. When available, we use waste management or recycler invoices in our data reporting; otherwise, we rely on on-site weight scales. In the absence of scales, we use calculated estimates to determine the weights of our shipments. We assess our performance based on the final disposition of each material.

## GOING FORWARD

There is a tremendous need to reduce the amount of waste that corporations send to landfill, and that is why Owens Corning's goals are highly ambitious. Achieving them will require intense collaboration throughout our organization, from individuals to plants to our corporate leadership.

Glass waste from our manufacturing process is our largest category of waste, and our biggest challenge. And while non-manufacturing waste is a significantly smaller part of our overall footprint, our efforts there are indicative of our companywide determination to seek solutions wherever possible. This is particularly urgent as landfill space, especially outside the U.S., becomes increasingly scarce.

In the world of manufacturing today, some degree of waste is inevitable, but Owens Corning has the resources, the talent, and the drive necessary to develop the solutions that will help us become a zero waste-to-landfill company.

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Photo submitted by:  
**Priyanka Ruparel | Mumbai, India**  
Home garden flower.



# PROTECTING BIODIVERSITY

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

Biodiversity — the delicate interrelation of species that sustain life — is essential to the well-being of our planet. According to the United Nations, nearly one million animal and plant species are currently threatened with extinction, making the need to protect species everywhere more urgent than ever.

Owens Corning has facilities in 33 countries across four continents, placing us in close proximity with countless species. We are committed to reducing the potential impact we may have, and we are working to develop biodiversity management programs at an enterprise level, which will help safeguard natural habitats in the areas where we operate. Given our record of sustainability, we are confident that we can make a real difference for species around the world.

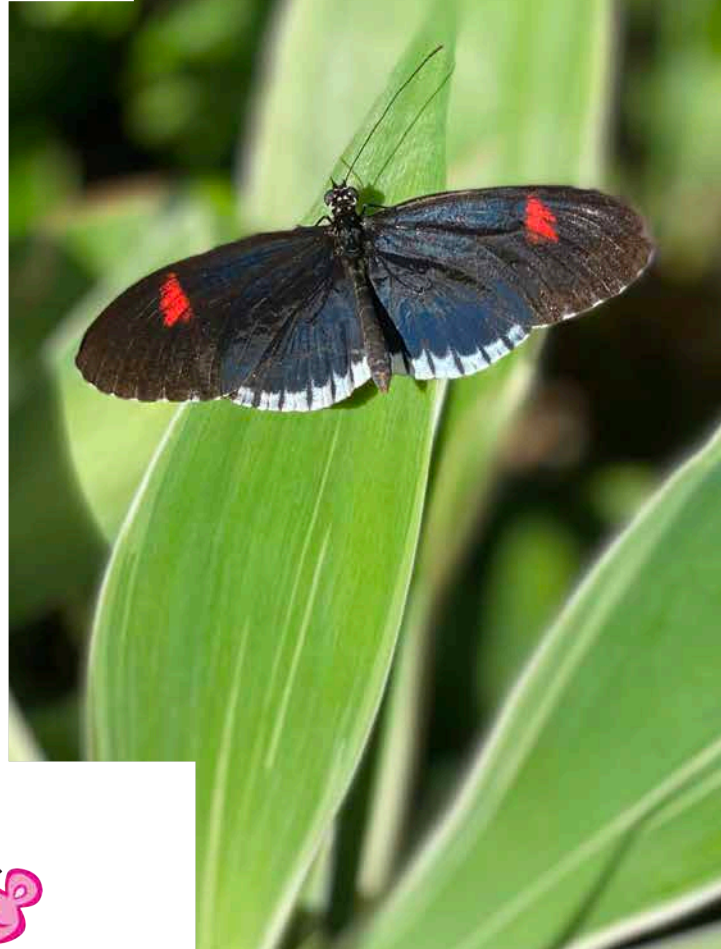


Photo submitted by:  
**Amanda Meehan | Toledo, Ohio, U.S.**

**We're working to develop biodiversity goals based on an understanding of the full impact of our operations and supply chain. We intend to have these goals in place by 2025.**



Our efforts to protect biodiversity align with the following UN SDGs:



## Sustainability Materiality Definition:

Biodiversity describes the variety of life that keep nature's ecosystem in balance. Owens Corning is committed to preserving and enhancing biodiversity and the natural habitats that surround our operations around the world. We seek to understand and manage the biodiversity impact of all our own operations, as well as gain insights into the impacts of our supply chain on biodiversity.





## 2030 GOALS FOR PROTECTING BIODIVERSITY

Our 2030 goals for biodiversity will be based on the work we are currently doing to understand the full impact of our operations. We will have established our specific goals based on our findings by 2025.

## OUR APPROACH

Owens Corning's strategies for protecting biodiversity are rooted in our Biodiversity Statement, first issued in 2015. In that statement, we pledged to:

- Integrate biodiversity assessments into current and proposed activities.
- Work with governmental agencies at each of our operating locations to obtain appropriate clearances and information to operate, and if necessary, take appropriate measures to protect the environment, including sensitive ecosystems.
- Encourage and support facilities to participate in local initiatives that protect and restore biodiversity.
- Publicly report on biodiversity impacts and activities in a timely, consistent, and transparent manner.
- Understand and positively influence our supply chain's impact on biodiversity.

### Biodiversity Assessments

To measure the risks our sites may pose for biodiversity, we compare a location against lists of the most protected and highly valued sites, including:

- United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites and Biosphere Reserves.
- Sites designated by the Ramsar Convention of Wetlands.
- Sites designated by the Alliance for Zero Extinction, an organization dedicated to conserving the world's most threatened species.
- Key Biodiversity Areas (KBA), referencing the 2016 IUCN Global Standard report.
- Natura 2000 sites, as applicable to Europe.
- Nationally listed nature and wildlife reserves.

Photo submitted by:

**Yana Danilova |**  
**Gous-Khroustalny, Russia**

Collecting rubbish in  
Meshchera National Park.

(from left): Andrey Lopatin, Lev Lopatin  
(Andrey's son), Yulia Shachkova, Natalia  
Gilyarevskaya, Natalia Pogarskaya

## Biodiversity Management Plan

Our management plan starts with a complete location screening for all sites, followed by impact assessments for sites with proximity to Key Biodiversity Areas (KBAs). Once assessments are complete, we can develop mitigation strategies as needed.

The sites listed in the chart on [page 197](#) have completed Step 1 of the biodiversity management plan, in which we determine a site's proximity to a KBA. Sites that are determined to be within a KBA's boundaries are prioritized to assess potential adverse impact, and plans are being established to assess the remaining sites.

## Integrated Biodiversity Assessment Tool

In 2020, we began using the Integrated Biodiversity Assessment Tool (IBAT), a web-based mapping and reporting instrument developed and maintained by the IBAT Alliance (BirdLife International, Conservation International, IUCN, and UN Environment World Conservation Monitoring Centre). It is designed to help users make informed, data-driven decisions in their biodiversity policies and practices.

IBAT provides us with access to the following global biodiversity datasets:

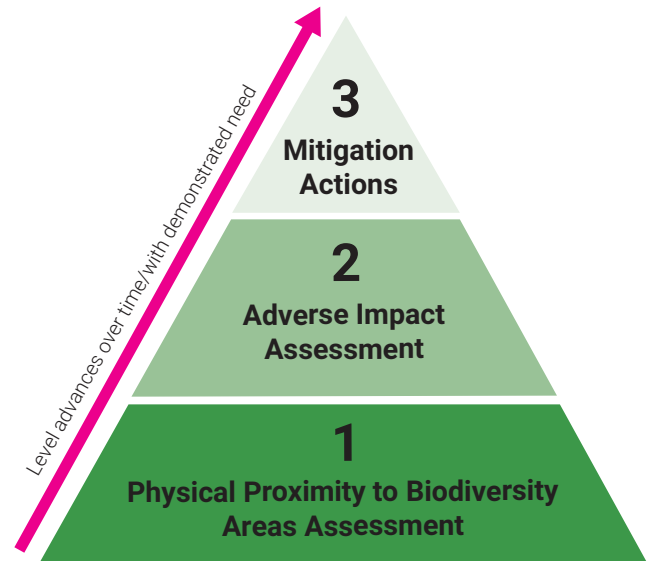
- IUCN Red List of Threatened Species.
- IUCN Species Threat Abatement and Recovery (STAR) metric.
- World Database on Protected Areas.
- World Database of Key Biodiversity Areas.

Through IBAT, we are able to upload site coordinates and receive information about a facility's proximity to nationally and regionally protected sites and key bird and biodiversity areas, as well as the extent to which there are endangered or threatened species in the vicinity.

## Protected and Key Biodiversity Areas

To evaluate and report on the biodiversity risks of our locations, Owens Corning assesses exposure to protected and highly valued areas in close proximity to each site. Owens Corning has processes for measuring our locations' proximity to protected and important areas for biodiversity, which have been strengthened through the implementation of physical screenings tools using the IBAT tool. This includes many Owens Corning Paroc sites that are located within five miles of protected areas listed by Natura 2000, whose network covers 18% of the EU's terrestrial area.

Through our due diligence and our annual assessment processes, Owens Corning identifies new biodiversity exposures, and we engage in campaigns to raise awareness and activities around these sites, as well as their respective biodiversity-related impacts. In addition, we strive to ensure that our impacts are well-understood and managed. This includes new acquisitions such as vliepa GmbH, which Owens Corning acquired in 2021 and whose sites were screened for exposures.



## Collaboration with Other Organizations

Owens Corning relies on the guidance of a number of organizations around the world as we work to develop strategies that will protect biodiversity.

## Biodiversity Impact Assessments with the Wildlife Habitat Council

Owens Corning works with third-party nonprofit organizations to conduct Biodiversity Impact Assessments, designed to help us address adverse impacts as part of our Biodiversity Management Plan. One of our key partners is the Wildlife Habitat Council (WHC), an organization dedicated to promoting and certifying habitat conservation and management on corporate lands. In conjunction with the WHC, we are developing bespoke methodologies to consistently assess our impacts at our locations around the world. Our initial assessments will be conducted in early 2022, and they will include actionable recommendations for sites as they work to improve conditions for local species.

In addition to these assessments, Owens Corning also partners with WHC to develop a range of initiatives that empower sites to proactively protect species in ways that are aligned with best practices. Their guidance has proven invaluable as we have initiated a range of projects and maintained native habitats at a number of Owens Corning sites, including the restoration of native habitats such as prairie lands and the installation of bird boxes, bat boxes, and pollinator gardens.

In addition, we have held a series of activities and programs over the years, designed to engage employees and call attention to the nature projects and features at our locations. Following the recertification process in 2020, which includes assessments of our grounds and biodiversity programs, our world headquarters in Toledo, Ohio, U.S., was awarded WHC Gold Certification. Our Science & Technology Center in Granville, Ohio was awarded WHC Gold Certification in February 2022.



## Science Based Targets Network

In 2020, Owens Corning joined the Science Based Targets Network (SBTN), which is part of the Global Commons Alliance. The SBTN is a network of international environmental nonprofit organizations, agencies, and mission-driven entities. Their goal is to empower individuals, companies, and governments to become stewards of the environment using science-based targets — measurable, actionable, and time-bound objectives based on the best available science. Expanding upon the successes of the Science Based Targets initiative (SBTi), which helps companies set climate change targets, the SBTN aims to develop methods and tools that help companies set goals and actions toward understanding and preventing negative impacts on nature and biodiversity. This in turn fosters an atmosphere where momentum toward our collective goals can build.

By entering into this partnership, we will be well-positioned to align our efforts with a wide range of nature-related sustainability goals that have been established by the United Nations and incorporated into broader frameworks by the SBTN. These goals address a range of global concerns, including ecosystems, extinction risks, land degradation, climate change, and sustainable development. Through our participation in the SBTN, we can further support sustainable development by contributing to the advancement of target-setting methodologies that can be adopted throughout the private sector.



Photo submitted by:  
**Cheryl Smith | Newark, Ohio, U.S.**  
Dawes Arboretum, Newark, Ohio.





## BIODIVERSITY INITIATIVES

Protecting biodiversity is in many ways a highly localized endeavor, as our facilities around the world can engage their employees in addressing the very specific needs of their regions. Many of our sites around the world have taken up the challenge to make their areas more habitable for the species with which they coexist.

### ■ Wabash, Indiana, U.S.

In July, the Wabash Green and Wellness Teams joined the Wabash River Defenders for their annual Clean Out the Banks event. The group rowed the Wabash River in kayaks and a canoe, pulling trash and debris from the water and along the banks. Among the items found were eight tires, shoes, a rusty barrel, a hub cap, a piece of a computer monitor and a cart.

### ■ Toledo, Ohio, U.S.

In April, employees from the law department spent a day working with Metroparks Toledo to reforest the Fallen Timbers Battlefield in Maumee, Ohio, U.S. — a suburb of Toledo, approximately 12 miles from our world headquarters. The team helped plant a range of trees, including maple, oak, and hickory, all of which are native to the region.

### ■ Gous-Khroustalny, Russia.

To celebrate Earth Day, the factory took part in an event known as Tidy Day, in which all departments joined in cleaning the grounds around the facility. In addition, the technical support team planted pine and mountain ash trees on-site.

In August, Owens Corning hosted a biodiversity webinar featuring a representative from the Ohio Department of Natural Resources, who discussed the importance of bats for biodiversity in Ohio. In addition to providing an overview of Owens Corning's evolving approach to biodiversity at both the enterprise and site level, the webinar explained the value bats bring to the ecosystem, the environmental pressures facing bats in Ohio, and what individuals and companies can do to help support bats and biodiversity.

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Photo submitted by:

**Penny Rupert | Newark, Ohio, U.S.**

Snapping turtle found by the wellness team on their daily walk. Snapping turtles are an important part of the biodiversity around the Wabash River and Wabash plant grounds.

## GRASSLANDS IN GUELPH ENHANCE BIODIVERSITY

The benefits of grasslands are numerous — they're low-maintenance areas that provide habitats for local species and help improve soil quality. They also provide an aesthetically pleasing green space for people who live and work near them. Our facility in Guelph, Ontario, Canada, has been working to build a grassland region adjacent to their parking lot, beginning with the planting of locally appropriate trees, shrubs, and herbaceous plugs in 2019. Since then, we have seen great progress in restoring the brownfield habitat and promoting biodiversity throughout the region.

To help ensure the overall health of this grassland area for years to come, our Guelph facility has partnered with the Biodiversity Institute of Ontario, part of the University of Guelph. The institute is working with Owens Corning to assess our local biodiversity and help us develop effective management tools to conserve and protect biodiversity in the region.

Owens Corning staff members took representatives from the institute around the grasslands, using a frame called a quadrat, which isolates a unit of area as shown in the accompanying image. This enables the team to record the number of different species within an area, and then estimate the abundance of a given species compared to other species. They then create a checklist of newly planted species and compare it to existing species to monitor the presence or absence of these species and their survival rates. In addition, they surveyed the entire grassland to identify the prevalence of certain invasive species. We use wildlife field notes to record the use of the grasslands by a range of species, including local, native, invasive, and at-risk species.



Looking ahead, we are considering other monitoring methods, such as night vision motion sensor cameras and sound recorders, to better gauge the presence of species. We are weighing our options regarding the removal or management of invasive species, the further installation of bird and bat boxes, and the creation of a wildlife den using dead shrubs and branches. Finally, by installing interpretive signage calling attention to the watershed and grasslands, we can engage our employees and visitors in our biodiversity efforts as well.

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Photo submitted by:

**Megan Moore | Guelph, Canada**

Using a quadrat to record species found in the area around the facility.

### Mining, Quarries, and Their Impacts on Biodiversity

We recognize that our own operations are only a part of the impact that our business has on biodiversity. In addition to the quarries we currently operate, we continue to purchase materials extracted by other companies as part of our global supply chain. To assess and continuously improve the sustainability of our products, we need to thoroughly understand and be able to influence or manage everything that contributes to the footprint of each product.

As part of our plans for biodiversity, we will expect our suppliers to meet environmental performance standards, protect local habitats, and maintain an overall commitment to sustainability. In 2021, Owens Corning took a new approach to prioritizing suppliers, one that also considers our suppliers' environmental, social, and governance (ESG) risk exposures, using a risk scoring framework based on S&P Global Rating's ESG Risk Atlas. Through this quantitative approach, we are doing even more to emphasize sustainability, including respect for nature and the environment, in our supplier selection process. Details can be found in the [Supply Chain Sustainability chapter](#) of this report.



## Environmental Impacts of Our Quarries

Our quarries extract industrial rock from the earth. In contrast to many traditional mining operations, all rock sourced from our quarries is used in some capacity. In fact, we ensure that there are solutions in place for all materials extracted from the quarries.

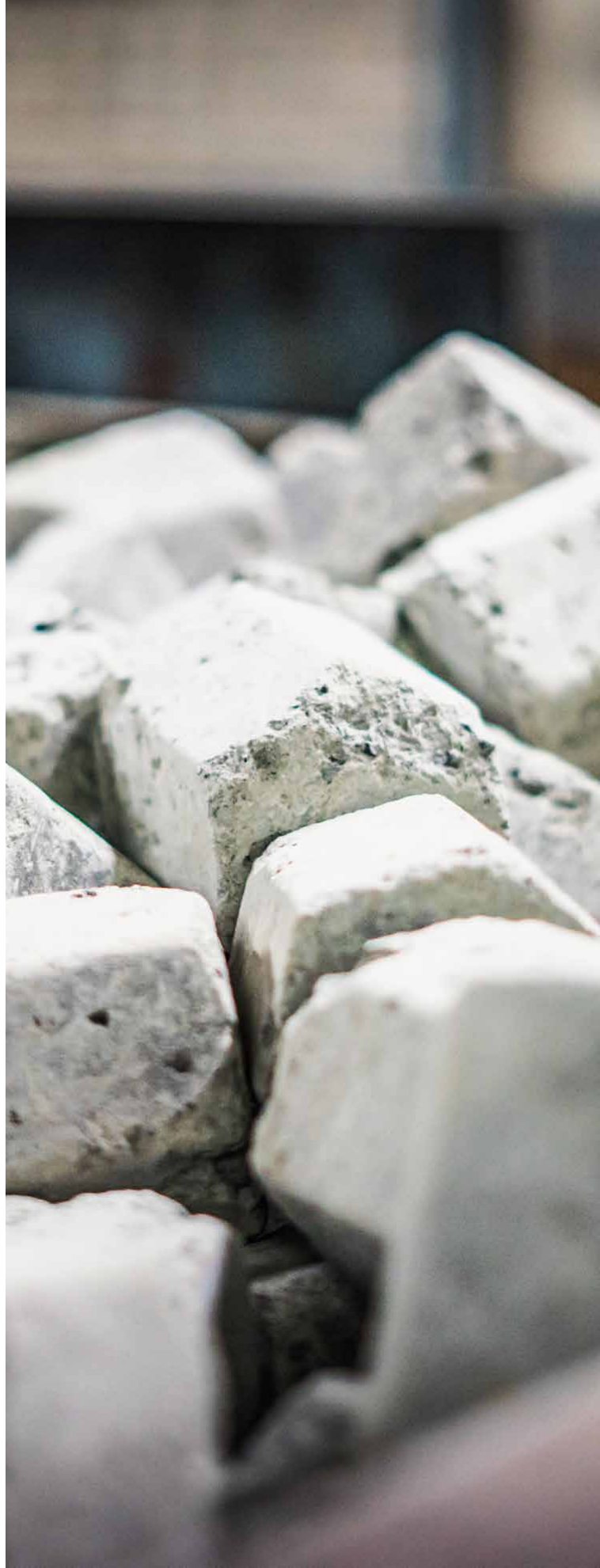
- Fine granules that are not directly relevant to stone wool production are either sold into the glass industry, used in construction, or compacted into briquettes, which can then be used as inputs for stone wool production.
- Usable stone is sent to our manufacturing sites to create stone wool.
- Rock that is not suitable for stone wool, known as “country rock,” is used to provide infrastructure for the quarry, to shore up sediment embankments, and as aggregate material for building projects.

In addition to managing stone waste, we manage our quarries’ soil and water impacts. Topsoil moved in the development of a quarry is kept on-site. Most of that topsoil becomes part of the landscape again, as grass and trees grow in. Some of the topsoil is also used as filler in quarry infrastructure.

Through our ownership of Owens Corning Paroc and the rights to eight mining concessions in Finland, Owens Corning now owns sources of direct mineral extractions and source industrial minerals. Following our acquisition of these quarries in 2018, Owens Corning has implemented our own internal auditing standards on the sites, seeking to protect local habitats and gauge any potential environmental impact. As with our other initiatives, our approach has sought to extend beyond simple compliance. To this end, the management systems at each active quarry are third-party verified to ISO 14001 (2015) and ISO 9001 (2015), ensuring systems are in place that integrate consideration of biodiversity and other environmental impacts into operations.

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Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**  
Raw materials.





# SPEAKING OF SUSTAINABILITY

## Jingjing Fu

Plant Leader

Having worked at both our Composites plant in Yuhang and our Insulation facility in Guangde, Jingjing Fu has a keen understanding of the positive impacts of our products. He has also seen how our all-encompassing approach to sustainability extends to our internal operations and our relationship with the world outside our walls. He has been actively involved in the Guangde plant's efforts to protect the alligators located near the site, and here he shares his insights into why safeguarding biodiversity is such a natural fit for Owens Corning.



**“ Having a biodiversity goal is in Owens Corning’s DNA. ”**

### On his interest in protecting our local ecosystems

My wife and I both enjoyed the feeling of serenity from watching fish swimming freely in a clear and lovely aquarium, and in 2016, we installed an aquarium in our home. Maintaining a healthy aquarium made me realize that the aquarium is a micro-ecosystem, requiring biodiversity to sustain. And then in 2019, after moving to Guangde plant, it came to the Guangde team's attention that the habitat of an endangered species, the Chinese alligator, is located only about 40 kilometers from the plant. We were excited to learn that in addition to improving our products and our process, we could help make a positive impact on biodiversity.

### On why biodiversity goals are part of our approach

To me, having a biodiversity goal is in Owens Corning's DNA. Owens Corning aspires to make the world a better place with our people and products. Our roofing and insulation products keep people safe, comfortable, and dry with energy-efficient buildings for work, home, and leisure. Our composites products are used in sustainable energy generation, electric vehicles, and infrastructure. What we do and what we make ensure our positive impact or handprint is greater than our negative impact or footprint. The biodiversity goal and the implementation of a strategy for biodiversity contributes to the achievement of our sustainable development goals.

### On protecting biodiversity as a company and as individuals

I think that there are a couple of things that Owens Corning needs to do to be good stewards of biodiversity. First, raise awareness of biodiversity and the linkage of biodiversity and sustainable development. Second, evaluate the impact of locations and products on biodiversity and define actions to preserve and restore. Third, continue finding ways to reduce our footprint, such as reducing emission and waste to landfill. For individuals, getting involved in biodiversity should not be difficult. For example, choose and live a more sustainable lifestyle, such as carpooling, choosing locally grown food, phasing out traditional light bulbs, etc. Reduce, recycle, reuse — and identify and participate in biodiversity initiatives.

Photo courtesy of Jingjing Fu

# BIODIVERSITY PERFORMANCE

We are still developing our specific goals for protecting biodiversity, and the assessments we are performing are an essential part of that process. Using what we learn here will provide us with the knowledge we need to establish management plans that safeguard species around the world.

## Integrated Biodiversity Assessment Tool Findings

The Integrated Biodiversity Assessment Tool (IBAT) provides us with greater awareness of our proximity to areas with high biodiversity value. As we continue to implement IBAT, we will be able to act with greater transparency.

By expanding our biodiversity screenings to include Key Biodiversity Areas, we see where the potential for adverse impact exists if left unchecked, which in turn gives us cause to explore further. As our understanding grows, we are committed to developing management plans to mitigate our impact on species in the areas where we operate.

The chart below contains information derived from the Biodiversity Management Plan, which is discussed on [page 191](#). Sites within a KBA's boundaries receive priority for mitigating action.

LOCATION	KEY BIODIVERSITY AREA (KBA)	TYPE OF KBA	BIODIVERSITY TRIGGERS	DETAIL ON PROXIMITY	STATUS OF MANAGEMENT PLAN
Asan, South Korea	Asan Bay (including Asan-ho lake and Sapgyo-ho lake)	Important Biodiversity Area	Endangered and Vulnerable Species, migratory birds/ congregations	Within 1 km	Step 2: Pilot Assessment Occuring in 2022
Brüggen, Germany (2 locations)	Schwalm-Nette-Platte and Grenzwald	Important Biodiversity Area	Bird species with most of their range restricted to a region, regionally important congregations, species threatened at the European Union level (IBA status B2, B3, and C6)	Within 1 km	Step 2: Planning
Fort Smith, Arkansas, U.S.	Fort Chaffee	Important Biodiversity Area	Threatened Bird Species Population (IBA status A1)	Within 1 km	Step 2: Planning
Guangde, China	Anhui Chinese Alligator National Nature Reserve	Alliance for Zero Extinction Area	Endangered Species, Endemic Species	Within the AZE boundaries	Step 2: Pilot Assessment Occuring in 2022
Izoplit, Russia	Zavidovo Reserve, including Lotoshinski, Klinski, and Diatlovo fish ponds	Important Biodiversity Area	Vulnerable Species, migratory birds/ congregations	Within 1 km	Step 2: Planning
Jiaobei, China	Qingdao-Rizhao coastal wetland and islands	Important Biodiversity Area	Endangered and Vulnerable Species	Within the IBA boundaries	Step 2: Planning
Qingdao, China	Qingdao-Rizhao coastal wetland and islands	Important Biodiversity Area	Endangered and Vulnerable Species	Within the IBA boundaries	Step 2: Planning
San Vicente, Spain	Mountains of Barcelona	Important Biodiversity Area	Important area for species characteristic of the Mediterranean region, and cliffnesting species	Within the IBA region	Step 2: Pilot Assessment Occuring in 2022

## PROTECTING REPTILES IN GUANGDE, CHINA

As part of the reptile class of animals, alligators and turtles have survived on Earth for over 200 million years — dating back to the time of the dinosaurs — but the very existence of many of these species could be threatened if humans fail to protect them. The Yangtze alligator and golden-headed box turtle are critically endangered, and Owens Corning has been taking steps to safeguard them since acquiring the mineral wool plant in Guangde, China, in 2018.

According to the International Union for Conservation of Nature (IUCN), a species is considered critically endangered when it faces an extremely high risk of becoming extinct in the wild. Because there are fewer than 1,000 golden-headed box turtles in the wild, and the habitat for Yangtze alligators is limited to the region surrounding our plant, Owens Corning is taking a number of important steps to do our part to preserve them.

During huddle meetings, plant leaders are raising awareness of the animals' physical proximity to our site, and information regarding the natural reserve is posted on site for both employees and visitors. We have also met with local environmental protection bureau officials to ensure we have the required resources.

Good news came in July 2021, when staff at the natural reserve uncovered 16 eggs laid by the Yangtze alligators that had been released into the wild two years ago. With the species beginning to breed and hatch in that region for the first time in the last 20 years, we have good reason to believe that the environment around the area is showing improvement. This inspired the Guangde team to take on some additional initiatives, including providing funds for the "adoption" of Yangtze alligators.

As our biodiversity efforts yield a more complete understanding of our impact at this site and at our other locations around the world, we will be in an even better position to protect the countless species with which we coexist.



Photo submitted by:

**Dewu Hou | Xuancheng, China**

Guangde plant leaders confer with the former head of the Yangtze Alligator Natural Reserve.

(From left to right) Dewu Hou, Guangde EHS leader, Jingjing Fu, Guangde plant leader, Gang Wang, Guangde maintenance leader, Feng Cai, former head of Guangde Yangtze Alligator Natural Reserve.



## GOING FORWARD

As we work to establish our 2030 goals for protecting biodiversity, we will rely on a wide range of inputs, from the findings determined by the IBAT to guidance from partnering organizations. By employing a science-based, data-driven approach, we can make decisions that have the most positive impact for the species we are working to preserve.

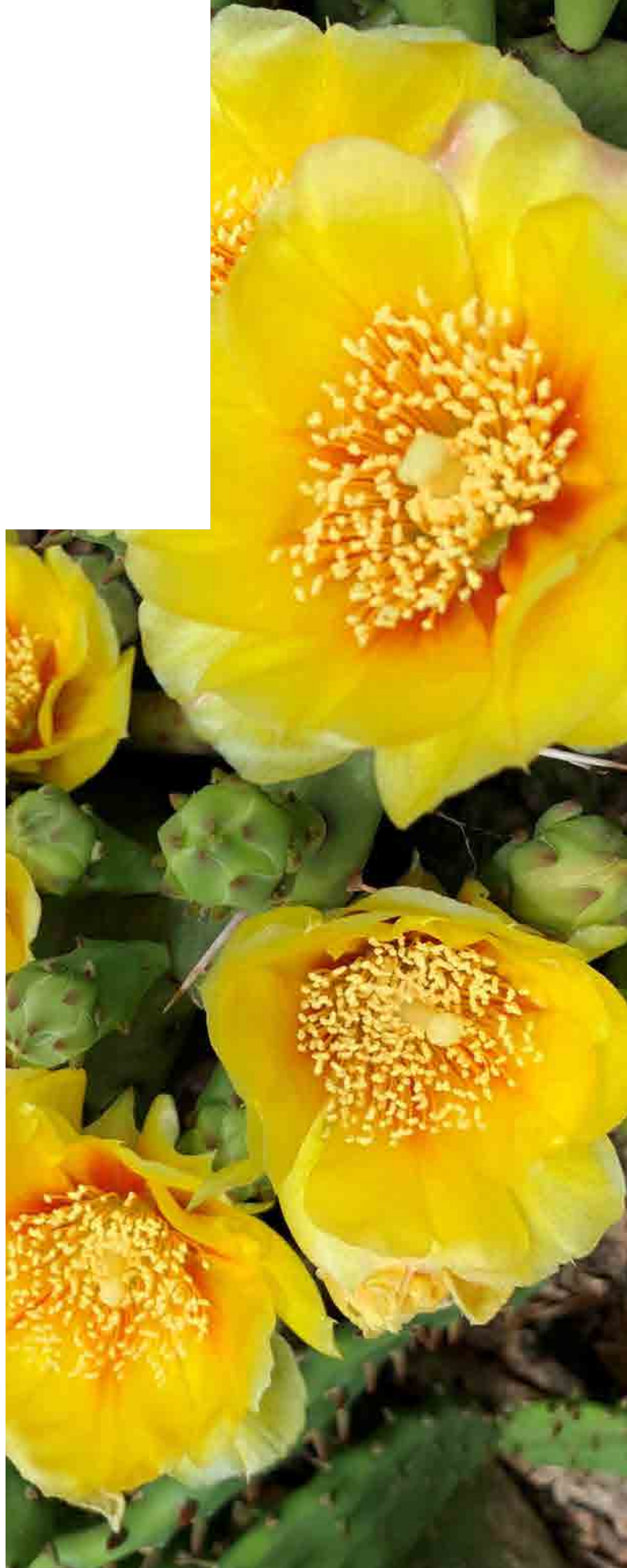
This includes our expectations as we collaborate with companies in our supply chain. We intend to prioritize companies that share our commitment to limiting the negative impact on plants and animals around the world — in the air, on land, and in the water.

We will also continue to look for opportunities for individual sites to actively protect the biodiversity that surrounds their facilities. We are developing toolkits that enable facilities to use IBAT technology to gain a greater understanding of the species in their regions, engage with their environments, and connect with local conservation groups. In addition, we are encouraging leaders at facilities to host on-site events such as tree plantings that could tie in with Earth Day or World Environment Day.

Achieving our biodiversity goals will require a broad-based network of collaborators, both internal and external, including our partnership with the SBTN, which provides us with a rigorous framework upon which we will build our biodiversity goals. This deep level of cooperation across all levels will be increasingly necessary as we seek to protect the closely interrelated web of species with which we share the planet.

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Photo submitted by:  
**Cheryl Smith | Newark, Ohio, U.S.**  
A cactus in bloom.





# EXPANDING OUR SOCIAL HANDPRINT

Owens Corning strives to act in ways that are true to our core values: caring, curious, collaborative, and committed. That means working to ensure a better quality of life for our employees, their families, and the communities where we live and work. We are increasing our social handprint across the following material topics:

## ■ **Employee Experience.**

See how we're helping our employees grow as professionals and as people throughout their time with us, from recruitment to retirement.

## ■ **Inclusion & Diversity.**

Learn how we're working to create an environment where people are valued and appreciated as they bring their most authentic selves to work.

## ■ **Community Engagement.**

Discover what we mean when we say that our people and products are making a material difference in our communities around the world.

## ■ **Living Safely.**

We believe all accidents are preventable — and the only acceptable number is zero. Learn how we're keeping our people safe at work and at home.

## ■ **Health & Wellness.**

We want our people to lead healthier lifestyles because they work at Owens Corning. Check out the ways we're improving people's well-being.

## ■ **Human Rights & Ethics.**

We believe it is a privilege to work with people all over the world. See the steps we are taking to ensure that they are treated with dignity and integrity.



# EMPLOYEE EXPERIENCE

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- THE OWENS CORNING EMPLOYEE EXPERIENCE
- SUMMARY OF COMPENSATION AND BENEFITS
- GOING FORWARD

The successes we've seen this year — including increased growth and greater recognition for our corporate citizenship — are thanks to the tireless efforts of our employees everywhere. Their dedication and passion are, in part, a tribute to Owens Corning's philosophy: Recruit the very best people for every position, offer them highly competitive salaries and benefits, and provide them with opportunities to grow in their position and advance their careers.

Owens Corning is committed to providing a meaningful, engaging work environment that helps ensure a great quality of life for the people we depend on. We believe that the work we do at Owens Corning is purpose-driven, as our people and our products make the world a better place. In that spirit, we seek to engage our employees in ways that are true to our core values — caring, curious, collaborative, and committed.



Photo submitted:  
**Kamble Vijay | Taloja, India**

Our employee experience efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

We believe our employees should grow as people and as professionals while working at Owens Corning. We seek to attract the best people and provide every employee with the opportunity to develop and reach their full potential, in a work environment full of both challenge and optimism.

The social data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. The social data in this chapter marked with a ^ sign were independently assured to a high level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).





## 2030 GOALS FOR THE EMPLOYEE EXPERIENCE

By 2030, in conjunction with our inclusion and diversity goals, we will make continuous improvements in recruiting, retention, training and development, mentorship and sponsorship, professional growth, and employee engagement.

To that end, we have established a number of specific targets. Progress toward each goal is detailed in this chapter; click the link in the PDF to quickly access this information.

- [100% retention of high-performing and high-potential](#) annual talent reviews.\*
- [Internal fill rate of 75%-85% for leadership roles.](#)†
- [Ensure two “ready now” internal succession candidates](#) for key leadership roles.\*
- [>95% of staff indicating they are frequently putting all their effort into their work.](#)^
- [90% staff and 85% primary workers response rate](#) to our two global enterprise surveys.^



**Wichita, Kansas, U.S.**  
Employees participating in the  
Martin Luther King Jr. Day of Service.

## OUR APPROACH



**Owens Corning focuses on moments that matter — those experiences that have the greatest impact on employees. From onboarding to everyday communications to engagement surveys, recognizing the significance of these moments is essential to our approach.**

At Owens Corning, we seek to create an experience for our employees that is full of challenge, connection, and optimism. It's a culture that's rooted in the following priorities:

### ■ Strategic Talent Mindset

We will seek to balance the needs of our company with the needs of our employees. We can achieve this through the creation of our Human Resources strategy and roadmap, and by enabling growth through strategic resource allocation.

### ■ Organizational Agility

We will foster an engaging work environment and operationalize business strategy through impactful organizational development.

### ■ Change and Inclusive Culture

We can transform the employee experience and collectively influence a culture that values diversity by developing inclusive leadership capabilities, stewarding equitable human resources practices, and facilitating organizational change.

In addition, we are committed to providing employees with competitive compensation and benefits, as well as additional incentives based on several factors, including individual and company performance. We align our hiring strategy with local labor markets, especially as we grow outside the U.S. Other programs, such as flexible work arrangements, are designed to help employees maintain a healthy work/life integration.

# THE OWENS CORNING EMPLOYEE EXPERIENCE

At Owens Corning, we work to attract great people — and provide them with great experiences throughout their time with us. We seek to create an environment in which every employee feels valued and has the opportunity to develop to their fullest potential. Through these efforts, we believe we can meet the needs of our business, support enterprise growth and sustainability, and cultivate future Owens Corning leaders from all walks of life.

The initiatives we have established to ensure an excellent employee experience fall under the following categories:

- Recruiting and retaining top talent.
- Employee engagement.
- Succession planning.
- Employee learning and development.

These categories are detailed throughout this section, and the work spotlighted here will be instrumental as we pursue our 2030 employee experience goals.

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## Recruiting Initiatives

Our recruitment approach begins with breaking down the barriers that might keep qualified people from joining us, then giving our team members every opportunity to flourish as they remain with us at Owens Corning. It's part of our holistic approach to sustainability, as it helps improve the quality of people's lives around the world and fosters an environment where people can see their values reflected in the company's work. The following initiatives are central to our approach to recruiting the best talent.

### Inclusive Recruitment

We are working to reduce barriers to talent acquisition and develop a more inclusive workforce by appealing to diverse audiences. In our efforts to build the broadest possible talent pool, we have established many significant innovations, including the following:

- The introduction of mobile-friendly applications.
- The removal of gendered language from job descriptions.
- The elimination of educational requirements where they are not necessary.
- Strategic appeals to diverse populations by developing relationships with specific professional organizations and universities, including historically Black colleges and universities (HBCUs).
- Investigations into ways to encourage diversity in recruiting and reduce turnover within our manufacturing operations, including participation in Master Assessor training and certification.

In addition, we have established the Inclusion and Diversity Recruiting Champions program, a cohort of affinity group members who are passionate about diversity in recruiting. More information about this program can be found in the [Inclusion & Diversity chapter](#).

### Internships

Our award-winning internship program has not only provided college students with valuable work experience, but it has also been an essential part of our strategies for recruiting new talent. The program gives students an opportunity to learn more about our business, and in the process, we have been able to keep Owens Corning top of mind as these young people begin to enter the workforce, possibly recruiting them through one of our Early Career programs, which are outlined below.

In 2021, Owens Corning hosted 92 summer interns at 18 company sites. In addition to our college interns, four high school students interned for the company in June. These students came to us as part of the Advancement Via Individual Determination (AVID) College and Career Readiness Program. AVID students learn skills that focus on writing, reading, collaboration, and organization.

### Technology Investment and Branding for Recruitment

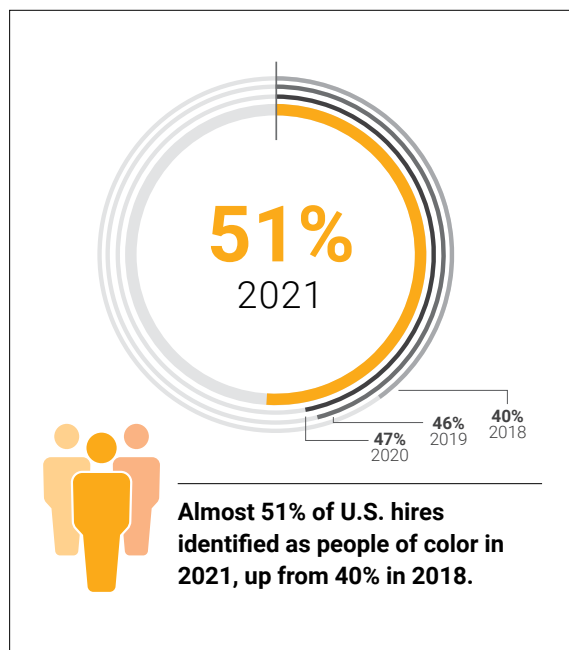
With our global presence, Owens Corning recognizes that we must balance the varied needs of communities around the world with our own unified global approach. To address this, we have now fully implemented technology that standardizes our recruiting activity under one platform.

Today, anyone who applies for a position at Owens Corning — anywhere in the world — uses the same technology. We are now able to share metrics and accountabilities across all regions in a way that had not been possible before. In addition, we can now offer the same mobile options around the world, which further increases accessibility for users. With this technology, we can communicate a consistent Owens Corning culture globally. At the same time, though, we can customize our materials to match the nuances of each region we serve. For example, our externally facing career webpages are designed to match the needs of the region and celebrate the uniqueness of our various audiences.

## Diversity in Our Workforce

By employing people with varied backgrounds, experiences, and perspectives, we are able to deliver more for our customers. That's why we believe our workforce should represent the full spectrum of humanity.

We have made strides in gender equality globally throughout our workforce, and this strengthens our business. We have also established a set of guidelines designed to help transgender and gender non-conforming employees transition in the workplace. In addition, diverse leadership is an essential part of the overall employee experience, as it helps diverse colleagues envision their own career paths. Please see the [Inclusion & Diversity chapter](#) for more about these initiatives, as well as our approach and progress in this area.



## Retention Initiatives

Owens Corning recognizes that the best way to retain top talent is to ensure that every individual's time with the company is an opportunity for personal fulfillment and professional growth. At the same time, we want to foster an environment of inclusion, one that enables all our employees to reach their fullest potential. Through the initiatives outlined here, we are working to achieve our business aspirations as our people achieve theirs.

### Early Career Programs

Our long-range commitment to inclusivity is inherently linked to maintaining a sustainable pipeline of diverse talent. Through our Early Career programs, we can foster new talent — often directly from university. These new hires are a constant source of invigoration for our team, as their diverse approaches and backgrounds provide us with exciting new perspectives. In addition, Early Career programs enable us to establish long-term plans for a diverse pipeline of future leaders.

As of 2021, we have retained 87%+ of Early Career Development Program participants after one year, and 57%+ of participants after five years. This surpasses benchmark retention rates obtained from the National Association of Colleges and Employers (NACE), whose 2020 data (the most recent available) indicates 69% retention after one year and 42% after five years.

### Inclusive Leader Training

We believe all Owens Corning employees have a role to play in recruitment as they represent the employment brand in their everyday lives. Therefore, in addition to the investment we place in our talent acquisition professionals, we seek to improve the recruiting capabilities of our staff around the world. Our Inclusive Leader training, which empowers leaders around the world to be inclusive recruiters, is now in its second year, and we have continued to expand its implementation throughout our organization. We have also trained a group of employees to serve as Inclusion & Diversity champions in our campus recruiting efforts. This program is described in the [Inclusion & Diversity chapter](#).

### High-Performing People

Owens Corning is dedicated to promoting an exceptional environment where our top talent comes together in a commitment to excellence. We believe that happens through clear objectives, effective performance management, and a structure that includes talent review, succession planning, development, and compensation. We view performance management as a consistent and ongoing dialogue between employees and leaders regarding staff members' overall performance.

We recently redesigned our process for selecting and cultivating our top talent pipeline based on key insights from our internal analyses. In 2021, we launched this revamped pipeline program with a series of improvements, including clarified selection criteria, new individual development plans to guide the growth experience, and a new resource collection to ensure leaders of these talent have the tools to guide meaningful development. We will continue to measure the impact of these improvements against our desired outcomes.



## Celebrating Employee Milestones

Owens Corning employs approximately 20,000 individuals, many of whom have been with the company for most of their careers. As of December 31, 2021, nearly 3,600 employees had served 20 years or more with Owens Corning, with the longest term being 60 years. We continuously work toward providing a positive employee experience where talented people have great opportunities to grow their careers — and we believe the years of service that so many of our employees have dedicated to our company are a testament to our success.

## Talent Acquisition and Retention

Where retention issues are concerned, we realize that some individuals' decisions might be based on factors beyond our control as a company. Our turnover rates are in keeping with global trends, such as the U.S. labor shortage and a booming competitive market for talent around the world. We are actively meeting the challenges created by the current employment climate, as we are intentionally building the workforce of the future and creating an environment that is attractive to the next generation of employees.

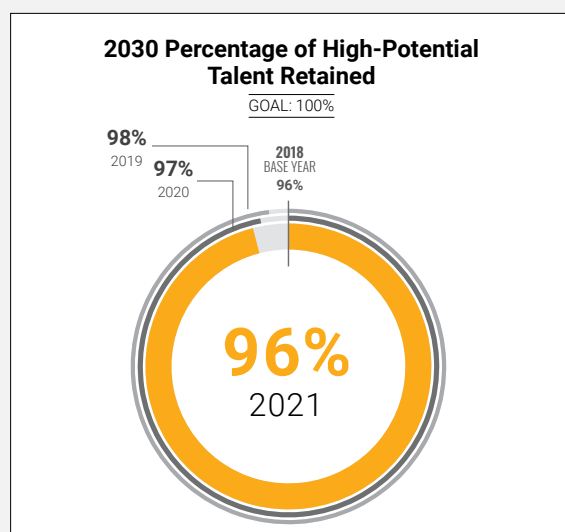
Overall turnover increased to 20%+ in 2021, up from 16% in 2020. This increase was driven by higher turnover among our primary employees, which was 23.8%+ in 2021. Turnover among staff employees was 10.6%, a decline that was driven mainly by a sharp reduction in involuntary terminations in 2021.+

## 2030 TARGETS & PERFORMANCE

### Retention

**100% retention of high-potential talent between annual talent reviews.+**

We want to ensure that our top talent remains proud members of the Owens Corning team. According to the Society for Human Resource Managers (SHRM), this is the top quartile for outstanding companies, which makes it a suitable goal for Owens Corning.



## Average Workforce Tenure by Region (in Years)



REGION	ALL EMPLOYEES	PRIMARY	STAFF	NUMBER OF EMPLOYEES SERVING OVER 20 YEARS
Asia Pacific	8	7	11	403
Europe	12	12	13	1,017
Latin America	7	7	7	135
North America	12	11	12	2,011

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## Learning & Development Initiatives

The investments we make in every employee benefit both the individual and the company. Our learning and development opportunities extend throughout our employees' time at Owens Corning, from early career development and midcareer advancement to executive-level cohort learning. We seek to deliver these experiences by aligning them with our business strategy, and we pursue them through the following initiatives.

### Aspiration and Goal Alignment

We strive to support employees' goals and align them with opportunities inside Owens Corning. This includes mentoring, performance management, participation in town halls, and OC One, an annual global leadership meeting with the company's top leaders. The past two OC One events have been virtual; as a result, the last two years have seen attendance grow to nearly 300 people.

### Building a Stronger Connection with People

A critical part of our development is learning how to lead and work with a diverse group of colleagues. Through programs such as the OC Leadership program, the Leading at the Next Level program, and Coaching for Impact, we offer valuable opportunities for advancement.

We have also begun to integrate new curricula into our leadership training. We have invested in a new program, Coaching for Growth, an accessible, scalable, and modular approach that will be of great benefit over the coming years. We believe the programming we have in place will help our leaders establish trust, build relationships, and cultivate compassion and empathy for employees' unique situations.

In 2021, we launched two new learning opportunities for employees:

#### ■ Leading Pink

A new leadership development program designed to strengthen the skills of people who are already leaders, as well as prepare those people who are interested in advancing into leadership positions. Leading Pink combines self-paced e-learning, individual reflection, and interactive virtual classroom sessions focused on a variety of leadership topics, all rooted in Leadership Capabilities for Growth.

#### ■ Enhanced Learning

Enhanced Learning, powered by Percipio, delivers new learning resources to support our global staff employees' unique development goals. Percipio, as it is commonly referred to, offers personal and professional development tools, skills training, continuing education, and professional certification preparation. These learning modules cover a broad range of topics, from leadership skills to learning technical or data analysis skills.

## Strategy and Commercial Skills

In addition to providing our employees with tangible skills, we also endeavor to advance their ability to think critically and strategically. Employees hone these skills through workshops and projects focused on customer-inspired growth, product management, human-centered design, organizational design, and strategy execution.

### Operational Skills

Our global training and development is rooted in Total Productive Maintenance (TPM) methodology, designed to guide the capture and transfer of knowledge and provide employees across our manufacturing facilities with the skills they need for success. Our programming includes one-point lessons, 3D diagramming, hands-on test-and-learn, and one-on-one coaching and mentoring. More information can be found in the [TPM section](#) of this report.

### Special Assignments and Training

We provide opportunities for employees to sharpen their leadership skills by putting them to use in real-world situations, leading groups, projects, and assignments. Other possibilities may include becoming an affinity group leader, working on special projects, and rotational assignments.

We track the progress of many of our formal learning and development activities across the company through data recorded in our learning management system (LMS). Each facility reports participation in formal learning programs such as classes, e-learning courses, and structured on-the-job activities.

In 2021, our primary workers recorded an average of 18 hours in our LMS and our non-primary (salaried) workers recorded 7 hours.\* Data include any training that was recorded in our LMS for the year, primarily for the formal learning programs conducted across the company. The pandemic led to many changes in our training programs, and some were paused while we worked to create virtual training alternatives, temporarily reducing the availability of these courses. Most of the learning and development activities that take place in Owens Corning are considered informal learning, such as coaching, mentoring, social groups, projects, assignments, and suggested reading, and these are not captured in the LMS.

We evaluate the effectiveness of much of our training using the Kirkpatrick model, which measures the extent to which participants benefit from learning opportunities. The model gauges effectiveness on four tiers:

- **Reaction.** Did the participants enjoy the training?
- **Learning.** Did the participants gain new knowledge?
- **Behavior.** Will the participants apply the learning to their everyday experience?
- **Results.** What impact has the training had on performance metrics?

Performance Reviews

Annual performance reviews are used as an opportunity for managers and employees to discuss both performance and career development goals. These are supplemented by quarterly feedback conversations as well as ongoing coaching and mentoring.

Review and Appraisal Percentages\*

	2018	2019	2020	2021
Male	99%	99.8%	99.5%	99.9%
Female	99%	99.6%	99.6%	99.9%

Of the 0.1% of staff employees who did not receive reviews, most were either on leave during the year, recently promoted to a staff role, or hired after November 1, 2021. Employees are not required to have a review until after three months of employment.

Developing Strong Leaders

The same biannual survey that we use to measure employee engagement is also a development tool for our leaders. It asks employees to provide feedback about their direct leaders on behaviors that relate to our internal leadership capability model. Over the past few years, leaders have been working hard to close their personal capability gaps, and it was evident that we could raise the bar even further. Consequently, we significantly revised the 2020 staff survey to reveal new development opportunities for our leaders.

EMPOWERING LOCAL TEAMS

Owens Corning operates in 33 countries around the world, and we recognize that differences in culture often require different approaches. To address the unique ways that work is done across all our regions, Owens Corning has been working to empower local teams and leadership. In recent years, we have been actively encouraging our people to take ownership of their operations and make decisions at the level that is closest to where the work is getting done.

As teams and leaders are more able to make key decisions at higher levels, they report that they are more engaged in their work and that the overall work environment is more stimulating. In addition, employees note that they are able to respond faster and more effectively to the needs of customers, bringing about greater successes for Owens Corning as a whole.

Owens Corning operates in 33 countries around the world, and we recognize that differences in culture often require different

Employee Engagement Initiatives

Communication with employees — including the feedback we receive from them — is essential as we work to capture the moments that matter for our people. As we strive to create a workplace where employees feel inspired and engaged at work, we have established a range of metrics and initiatives to guide us. These efforts help us quantify the employee experience and offer guidance as we work to continuously improve our employees’ time with us.

Leadership Surveys

For the past several years we have asked salaried employees to take part in a leadership survey. One of the items in this survey aims to measure the extent to which employees are actively contributing to their work by asking the question, “I frequently feel like I am putting all my effort into my work.” We have transitioned to conducting this survey every two years to minimize survey fatigue and allow leaders time to work on development areas identified in the individual reports. In 2020, we reworked the survey considerably, with questions that challenge leaders to demonstrate continued improvement, creating a new benchmark.

New Benchmark for Engagement

Measurements of discretionary effort are useful for comparing with external benchmarks, and they continue to be part of our survey and reporting. The new version of the survey will help us understand the emotional connection employees have to the company, their leaders, and their work, which will help provide a more holistic and nuanced measure of employee engagement. This additional metric is in keeping with our inclusion and diversity goals and approach, and it will help us guide our leaders’ growth. In our last biennial survey conducted in 2020, 88% of responses from staff to the new benchmark questions are classified as engaged or fully engaged.^

Nico Del Monaco, senior vice president for our Composites business in Europe, can attest to the value of this approach. “The only way to keep up with the dynamism and speed of change in our markets is to empower those who are closest to the end customer and those who can identify opportunities to simplify the way we work,” he says. “To make sure our people have the tools to succeed, it’s important to provide the right training and support to match our high expectations. When our people can see their impact on our operations and personalize how they contribute to our results, it fosters pride and increases engagement.”

Like most companies, Owens Corning has had to adapt to changing conditions in the way work is performed, and we have sought to reimagine the way we operate around the world. While this emphasis on local leadership has in many ways been a response to these changes, we also expect that it will become an essential part of the way we do business in years to come.



## Employee Engagement

**>95% of staff indicating they are frequently putting all their effort into their work.<sup>^</sup>**

	2018*	2019	2020	2021
Employee Engagement (% of actively engaged employees)	97%	97%	98%	98%
% of total salaried employees responding	89%	89%	89%	89%

\*2018 is the baseline year for our 2030 goals.

We measure engagement by combining the percentage of people who respond Agree or Strongly Agree on our annual employee engagement survey. This is a common practice among the engagement surveys against which we set our benchmarks.

*Our figures place us high above the SHRM average of 69% who respond similarly.*

**90% staff and 85% primary workers response rate to our two global enterprise surveys.<sup>^</sup>**

Owens Corning measures employee engagement in a variety of ways. For example, every other year, our staff is asked to complete a Leadership Capabilities for Growth survey, and our primary population is asked to complete an Operation Excellence survey.

*Our survey response rate is already well above the 30-40% average response rates for internal employee surveys, and our goal is increase it even further over the next 10 years.*

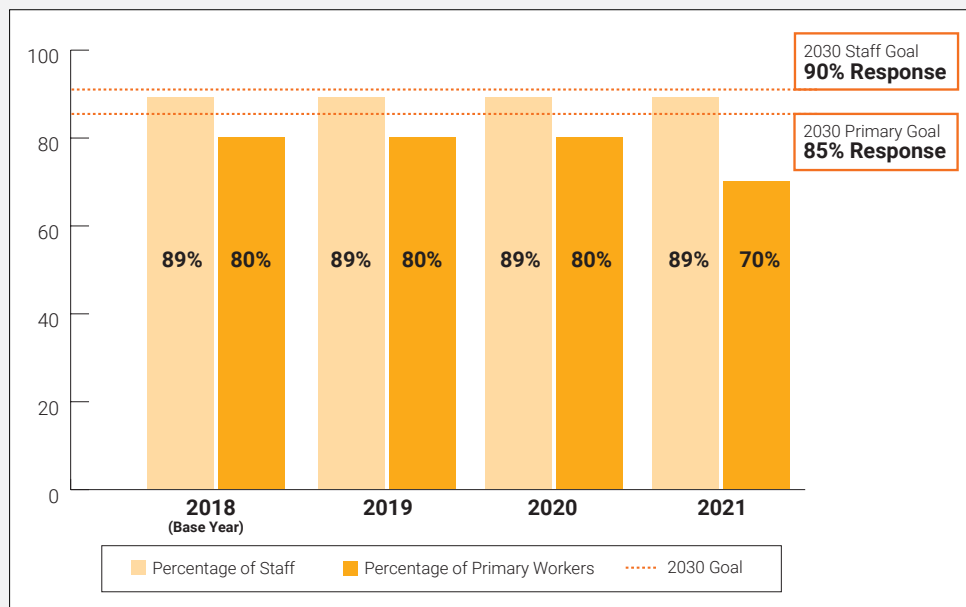


Photo submitted:  
**Danielle Wittorp | Dearborn, Michigan, U.S.**  
Flowers in a home garden.

## Succession Initiatives

To maintain a truly inclusive environment, all employees must feel that they not only belong, but they also have paths for advancement. We pay close attention to the development of our emerging talent, providing the kinds of opportunities and projects that enable a diverse workforce to thrive. In addition, we look at how many employees are part of our career succession plan and how we can prepare our people for even greater opportunities.

Each year, we implement a three-phase strategy to anticipate staffing needs and develop succession plans:

### 1. Strategy Planning

In the third quarter, business leaders from across the company come together to discuss our company's goals and how we will reach them. This in-depth look at the company allows our human resources department to anticipate staffing needs.

### 2. Operational Planning

In this phase, we closely examine the company's budgets, schedules, and needs. This enables our human resources department and company leaders to anticipate specific talent needs and cultivate the pipeline for upcoming positions.

### 3. Talent Planning

The final phase looks at our strengths as well as the gaps in the talent pipeline, including succession at the officer level. Critical discussions center on development and business growth. As we proceed through the evaluation process, we ask ourselves the following questions:

- What capabilities are required in the future that we do not have today?
- Is it possible to grow these capabilities internally?
- Are there any retention concerns?
- What is the existing talent pipeline?
- What key development needs should our learning and development efforts address?

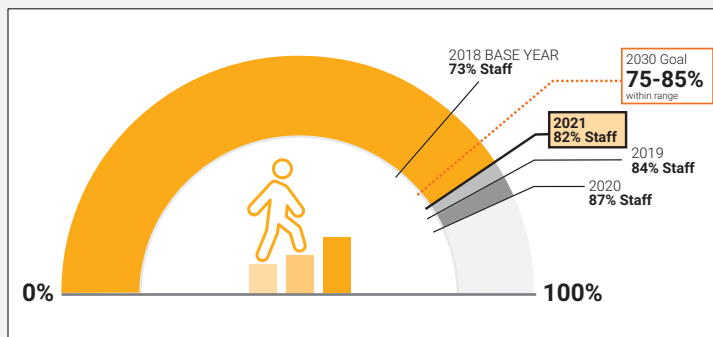
As part of this process, we evaluate our employees' overall readiness for future roles and experiences. At the same time, we develop plans for our employees' growth, ensuring that the next steps are in place for their career development.

## 2030 TARGETS & PERFORMANCE

### Succession Planning

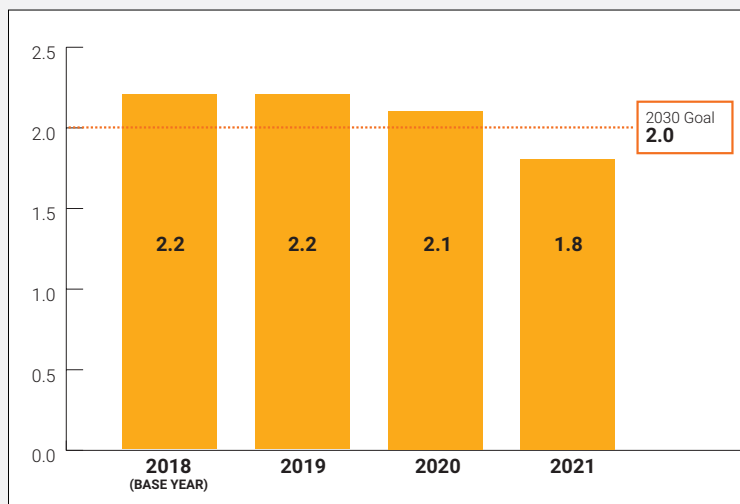
**Internal fill rate of 75%-85% for leadership roles.\*** We aspire to have mid-level, director, and vice president-level roles filled by current Owens Corning employees, either through a promotion or as a lateral move, as a percentage of all internal fills and external hires for these roles. As we build our diverse talent pipeline, promoting from within strengthens our inclusive environment as employees see diversity among our leaders.

#### Percentage of Leadership Roles Filled from Within



**Ensure two "ready now" internal succession candidates for key leadership roles.\*** We calculate this by taking the number of unique candidates who are ready for promotion into the key leadership role divided by the number of succession roles in that business unit. Although strong candidates may be on multiple succession lists, each individual is counted only once within that business unit. In addition, we have set succession targets to help increase representation from women and people of color. More information about our progress toward those targets can be found in the [Inclusion & Diversity chapter](#).

#### Succession Pipeline Readiness



# SPEAKING OF SUSTAINABILITY

## Kelsey Dul

Talent Lead

Tech-based learning and development platforms such as Leading Pink, CareerHub, and Coaching for Growth are major tools for employee advancement at Owens Corning. In her role as talent lead, Kelsey Dul oversees these programs, as well as providing support for our enterprise performance management process. In her four years of working in learning and development, Kelsey has seen firsthand how these processes enhance our employees' experiences — professionally and often personally. She shares her wisdom about the value of learning and development here.



“ When people are engaged at work, it impacts their broader lives. ”

### On meeting the development needs of our people

As an organization, we're committed to growing and developing and promoting talent from within. In order to do that, we really need to invest in our people and support their continuous learning journey to help them get to the next level. Also, in the increasingly competitive talent landscape, employees expect employers to provide them with development resources. If we want to continue to be an employer of choice and competitive in the market, it's really important that we provide those things. We've done a number of surveys and focus groups over the past couple of years, and employees have explicitly told us that this is really important to them.

### On the personal impacts of learning and development

Learning and development goes beyond the impact of just one person. When one person is growing in a skill or improving in their leadership, the impact will be exponential to the people that they are then working with or leading at the organization. It impacts employees beyond when they're at work. So I think when people are really engaged at work and have a great experience that feels rewarding and it feels like they're growing and learning things, it benefits the company, but I think it also impacts people's broader lives. When we have really great days at work, we carry that home with us. We have those positive experiences at work and it's kind of that domino effect into the rest of our lives and our relationships and our communities outside of Owens Corning.

### On how our programs link people throughout the company

Some of my favorite feedback that I hear about Leading Pink is that it enables people to connect across boundaries that they may have never connected across before. People are joining sessions and being really vulnerable about leadership and their own development, with people across time zones and across countries and even language differences. It helps our people solve problems more effectively, but it also makes the world feel a little bit smaller and helps us feel connected to colleagues that we may never have before. We constantly hear people saying that's their favorite part of Leading Pink — that they got to meet with someone in a plant in Finland who has similar experiences — despite the miles that might be between us.

Photo courtesy of Kelsey Dul



# SUMMARY OF COMPENSATION AND BENEFITS

Owens Corning believes that employees should be compensated in ways that are performance-driven, market-competitive, and equitable. Through base and variable pay, we seek to reward both individual and collective contributions to our business's success. Base salaries are determined by the following factors:

- Job responsibility.
- Benchmarking data on market competitiveness.
- Individual competencies.
- Job performance.

The design, application, and administration of our global compensation programs adhere to a consistent philosophy, one that ensures equitable treatment for employees, regardless of gender, age, or ethnicity.

Base pay rates are determined by job responsibility level and are targeted at the market median (the 50th percentile of comparable companies with whom Owens Corning competes for talent). Base pay rates are reviewed and updated annually, based on the job performed and the local market wages for similar skills, to ensure we are providing fair wages. Our compensation team has performed a thorough analysis of our U.S. population and all minimum wage increases that are current and approved, but not yet enacted. We are currently compensating our people at or above all established minimum wage requirements. For Owens Corning, minimum wages are generally not relevant, as most entry-level Owens Corning positions require a higher level of skills or knowledge than jobs at which the minimum wage would apply.

## Pay Equity

Owens Corning believes its success is enhanced by an inclusive and diverse workforce, which adds value to the business by fostering an environment that leads to high engagement and innovative thinking in the workplace. Owens Corning operates programs that foster gender and ethnic diversity as well as equality within its workforce. The company has implemented a robust pay equity gap review, which includes multiple processes and controls that are executed during its hiring and annual merit review. This program is designed to prevent pay equity gaps from occurring. We ensure the success of this review by performing a biennial pay equity review with the assistance of a third-party vendor. The third-party review includes a robust, statistical analysis of pay equity across its global salaried workforce. Consistent with its commitment to "equal pay for equal work," the company remediates all identified and

substantiated pay gaps through pay increases. The review in 2021 demonstrated that less than 1.4% of its 5,700 global salaried employees required remediation, at a total cost of less than .02% of annual global salaries. Further, the company has implemented processes and policies to avoid inheriting unequal pay bias of prior employers.

## Variable Incentive Plan

In addition to base pay, most primary employees are eligible to participate in Owens Corning's Variable Incentive Plan (VIP) at the plant level, which is dependent on individual and plant results. Through this compensation program, above-average total cash compensation is provided when a location performs well, leading to a competitive structure overall. Employees' compensation is proportionate to their role's impact and the contributions the individual makes to the company, which ensures fairness.

## Corporate Incentive Plan

Owens Corning's compensation philosophy is to use all elements of compensation effectively, aligning employees with the goals of the company and its businesses and encouraging our employees to meet and exceed desired performance objectives. Most staff employees are eligible to receive additional cash incentives through the Corporate Incentive Plan (CIP) based on the company's year-end results and their individual performance. The corporate component is determined through EBIT targets and a consolidated corporate target, while the individual component is based on each employee's annual performance.

## Long-Term Incentives

Our long-term incentive program (LTI) is an equity-based program that uses a combination of Restricted Stock Units and Performance Share Units. This program provides an opportunity to retain key talent and invest in our employees' future, provide opportunities to build wealth, and recognize extraordinary performance. Owens Corning offers these incentives to senior management and a very select group of employees below the director level. Vice Presidents receive a mix of Restricted Stock Units and Performance Share Units tied to the enterprise objectives of free cash flow conversion, return on capital, and total shareholder return. Directors and below receive Restricted Stock Units.

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## Full-Time Employee Benefits at Select Sites

In addition to providing fair compensation for our employees, Owens Corning offers an array of benefits designed to attract and retain a workforce that is committed to excellence. Benefits are made available to regular, full-time employees and some part-time employees working at least 24 hours per week. These benefits vary by country, business unit, and work location. Not all benefits are available at all locations. These benefits include retirement savings plans, insurance, educational benefits, job security initiatives for redeployment, and more. The benefits highlighted here pertain to our U.S. workforce. A more complete list can be found in [Appendix D](#).

Recently, we have begun providing several new benefits at many of our sites. These benefits go beyond standard health insurance and other perquisites, as they better reflect the needs of our diverse workforce. By offering these new or enhanced benefits, we can state even more definitively that we are committed to creating an inclusive work environment that truly values the priorities of our staff.

### Benefits to Assist in Building a Family

Our current health plan provides coverage for the diagnosis and treatment of infertility as a medical condition. We expanded fertility enhancement coverage in 2020 to include a lifetime medical benefit of up to \$15,000 and a \$5,000 annual prescription benefit, as well as comprehensive and advanced treatments within IRS guidelines for Aetna self-insured medical plans.

For U.S. and Canadian employees who are looking to adopt a child under 18 years of age, we now offer expanded benefits that can be put toward the expenses related to adoption, including legal fees. That benefit was expanded in 2020 to \$10,000 per event, with a lifetime limit of \$20,000.

In addition, the benefit will now include coverage for expenses related to surrogacy as well as egg and sperm donation and freezing. These expansions allow us to assist employees in building a family, however that may look for them.

### Scholarships

Employees who have worked at Owens Corning for at least one year are eligible to apply for the Owens Corning Employee Scholarship for a higher education degree. Recipients are selected based on manager recommendations, statement of career goals, demonstrated leadership, and past academic performance.

To promote our goal of access to education and academic excellence, the Dependent Employee Scholarship was established as an enduring gift for dependents of Owens Corning employees, helping those who demonstrate scholastic aptitude and financial need reach their fullest potential. In 2021, \$184,004.11 in scholarships was awarded to Owens Corning employees and their dependents.

In addition, full-time employees seeking to participate in a graduate program while continuing their employment with Owens Corning may be eligible for education reimbursement.

### Healthy Living

The Healthy Living wellness program provides employees and their covered adult dependents with resources to better manage their health. Programs include coaching to encourage a healthier lifestyle, support for expectant mothers, and annual health assessments and screening opportunities. For some programs, rewards for participation are also provided. More about our Healthy Living program is included in the [Health & Wellness chapter](#) of this report.

### Life and Disability Protection

Full-time employees receive \$50,000 of basic life insurance coverage. For staff employees who have a qualifying disability, our short-term disability plan replaces 100% of pay for 30 working days (or six weeks), and 60% of pay for the remainder of the disability (up to 18 months). Long-term disability benefits of 60% of eligible pay begin after 18 months for qualifying disabilities.

### Relocation Assistance

New hires and employees transferring from one site to another may be eligible for relocation assistance. This may include reimbursement for home sale, transition expenses, lease cancellation, final moving expenses, and/or tax assistance.

### Career Transition Assistance Programs

Our goal is to help employees through every level of their career. For example, Owens Corning seeks to help employees prepare for retirement with on-site planning workshops. Owens Corning has studied its retirement program to ensure it fully supports employees throughout this transition.

To that end, Owens Corning maintains a program through which employees nearing retirement are given the opportunity to work part-time while still receiving full-time benefits. Both Owens Corning and individual employees have benefited from this program, as transitions are made easier overall and employees can retire confidently, knowing their legacy will be preserved.

For employees who leave the company due to job eliminations, and who will be pursuing careers elsewhere, Owens Corning partners with a third-party organization to offer a variety of career transition programs. Individuals benefit from a personalized approach to career transition with flexible access, state-of-the-art technology, and connections to critical resources. Career transition assistance is not available for employees who are terminated for cause.



Photo submitted by:

**Osvaldo Rugerio Sanchez | Tlaxcala, Mexico**

The Tlaxcala, Mexico, EHS team is committed to taking care of all employees' safety and having all the necessary equipment for emergency responses.

## Labor Relations

Owens Corning prides itself on being a good corporate citizen and respecting the rights of our employees. This includes the rights to exercise freedom of association and collective bargaining. In addition, we seek to partner with suppliers who share this philosophy.

Approximately 61% of Owens Corning primary employees are covered by collective bargaining agreements.\* This includes relationships with unions, work councils, and employee associations around the world.

The specific language and scope of our labor agreements vary from site to site. All are structured to recognize the importance both Owens Corning and our workers place on health and safety as a guiding principle and core value. In all our facilities, employees are trained to understand, appreciate, and mitigate risk in the interest of their own safety and health, the safety and health of those around them, and of the organization overall. Other elements that are in these agreements, in addition to employee health and safety, include working conditions, discrimination or harassment, training, and career management.

## Notice Periods for Operations Changes

The company uses a variety of methods to ensure that workers are informed of operations changes. These include our global intranet site, email communications, and leadership meetings with team members.

Owens Corning provides at least the minimum notice required, which varies by local legislation and collective bargaining agreements in the regions where we operate. In many jurisdictions, our union and self-represented employees enjoy similar notice periods because of strong employee relations and labor practices, as well as applicable regulations.

## U.S. Leave of Absence Policies

In the United States, Owens Corning grants up to 12 weeks of leave as specified by the Family and Medical Leave Act (FMLA). An additional, unpaid leave of absence for personal reasons may be granted when approved by the appropriate management. Maximum leave for personal reasons is 60 days, unless approved by the business unit or process area vice president of human resources.

Personal reasons may include education, family issues, and more. Additionally, U.S. salaried employees are allowed up to four weeks of bereavement leave in the event of the

death of a spouse or a child under the age of 18. For other immediate family members (siblings, parents, grandparents, and children over the age of 18), five days of paid time off is provided.

For U.S. salaried employees, Owens Corning provides six weeks of short-term disability leave for the birth of a child, and eight weeks if the delivery occurs via C-section. Upon completion of the short-term disability benefit, birth parents are provided an additional two weeks of paid time off. Non-birth parents receive two weeks of paid time off after the birth of the child, as do employees who have adopted a child.

Our policies for routine leave, such as sick leave, personal days, and standard paid time off, vary by region, according to local customs, regulations, and laws. In the U.S., the amount of annual standard paid time off granted to salaried employees is determined by an employee's length of professional experience.

Outside the U.S., Owens Corning does adhere to federal leave of absence laws in the countries in which we operate. In addition, we offer benefits to provide income protection for disability leaves and leaves of absence that occur for other reasons.



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## COVID-19 and Employee Benefits

The COVID-19 pandemic remains a factor in Owens Corning's approach to the employee experience as we respond to the needs of our employees. We have continued to provide additional, temporary benefits in conjunction with our standard benefits. This includes an extra 80 hours of sick pay for our full-time employees in the U.S. and Canada. Through September 2021, we also offered 80 hours of quarantine pay, which was primarily offered to people who had potentially contracted COVID-19 or were waiting for test results. Employees who have tested positive for COVID-19 currently have some protections available under short-term disability benefits.

In addition to these COVID-19 benefits, the following aspects of our employee experience are in place to help our people navigate the ongoing pandemic:

### Flexible Work Arrangements

We have long seen providing flexible work arrangements as a key part of enabling our people to achieve work/life balance. These have remained vital in these later stages of the pandemic, as COVID-19 variants have continued to contribute to uncertainty in the workplace. The work arrangements we have offered in the past include the following:

- **Part-time.** Fewer hours than a full-time schedule.
- **Job sharing.** A special form of part-time work where two employees share the responsibility of one full-time role.
- **Flexplace.** In which an employee works a full-time schedule but works off-site for a portion of the time.
- **Flextime.** In which an employee works a full-time schedule in the office but start and end times fluctuate. This occurs within the guidelines determined by management and ensures the employee works within core hours every day.
- **Compressed work schedule.** In which an employee performs a full-time job in fewer days than a typical work week.

These arrangements are temporary or permanent depending on the employee's needs. The employee and manager work together to develop the most appropriate schedule, authorize the agreement, and ensure work is completed on time and objectives are met. Owens Corning continues to work diligently to be cognizant of the needs of our employees. Options for reduced hours and temporary furloughs were made available, allowing individuals to choose to reduce their work schedule to manage COVID-19-related responsibilities at home.

### Virtual Work Experiences and Benefits

With many employees around the world needing to work from home, Owens Corning has continued to adapt to the need for greater virtual capabilities. In addition to promoting online work experiences for employees whenever feasible, we have also supported our employees' health and wellness through virtual tools. We heavily promoted our long-standing employee assistance program (EAP), and we are also working to communicate the value of telemedicine solutions for our employees, especially as it relates to antibody testing. EAP is a truly global benefit, available to all Owens Corning employees around the world.

For employees who may require some emotional support during these trying times, our mental health provider, Beacon, also offers virtual counseling where people can talk with counselors about stress, grief, relationships, work/life balance, and more. Psychiatric services are also available to address mental health concerns and medication needs. More information about these programs is in the [Health & Wellness chapter](#).



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Photo submitted by:

**Julie Childers | Granville, Ohio, U.S.**

A visitor takes an interest in a video call with Owens Corning employees.



## GOING FORWARD

As we work toward our 2030 goals, Owens Corning continues to advance our people analytics capabilities, so that we can more accurately monitor and diagnose our performance against our benchmarks. In addition, we have invested in technology that enables us to listen to our employees and provide better experiences for them throughout their careers with us. Through this ongoing investment in both analytics and technology systems, we will be better equipped to scale our learning and career development initiatives, so that all salaried employees will have equitable access to the opportunities for growth that exist within Owens Corning.

In addition, Owens Corning will work to improve cultural competence throughout our entire global leadership structure, so that our leaders are able to work and interact with people from different backgrounds in a way that facilitates deeper understanding and better communication.

We anticipate that the employee experience of the future will continue to evolve, and our approach to creating a meaningful work environment will evolve accordingly. Our leaders are deeply engaged in exploring what we are learning about increased workplace flexibility, empowering our employees, and what the company needs to do to adapt to evolving employee expectations. To offer an exceptional employee experience, with support for professional and personal development, we will — like many companies — need to consider policies, technologies, and mindsets that support employees' individual needs.

This includes a range of Digital Worker initiatives, through which we are working to build an efficient, cohesive work experience. This idea revolves around the concept of the hub: a digital gathering place where people collaborate synchronously or asynchronously with some fundamental structure. We are building a Talent Center Hub that uses innovative solutions, including a Career Hub concept, that will transform the employee experience for our people.

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Photo submitted by:

**Kelly Picking | Toledo, Ohio, U.S.**

Autumn leaves at Wildwood Metropark, Toledo, Ohio, U.S.





# INCLUSION & DIVERSITY

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

What does it take to build high-performing teams throughout an organization? Owens Corning believes it involves creating a culture of inclusion, where people are inspired to bring their authentic selves to work every day. We have long been committed to inclusion, because we recognize that it enables people to share their diversity of experience, which in turn leads to a greater diversity of thought in our teams — and through that, we are better equipped to succeed.

A diverse environment is one that brings together a wide range of people from different backgrounds — racial, ethnic, gender, religious, language, socioeconomic, family, and cultural — as well as people with different sexual orientations, experiences, and interests. Our commitment to inclusion and diversity represents an expansion of our social handprint as it improves the quality of life for our people, making it an essential part of our approach to sustainability.

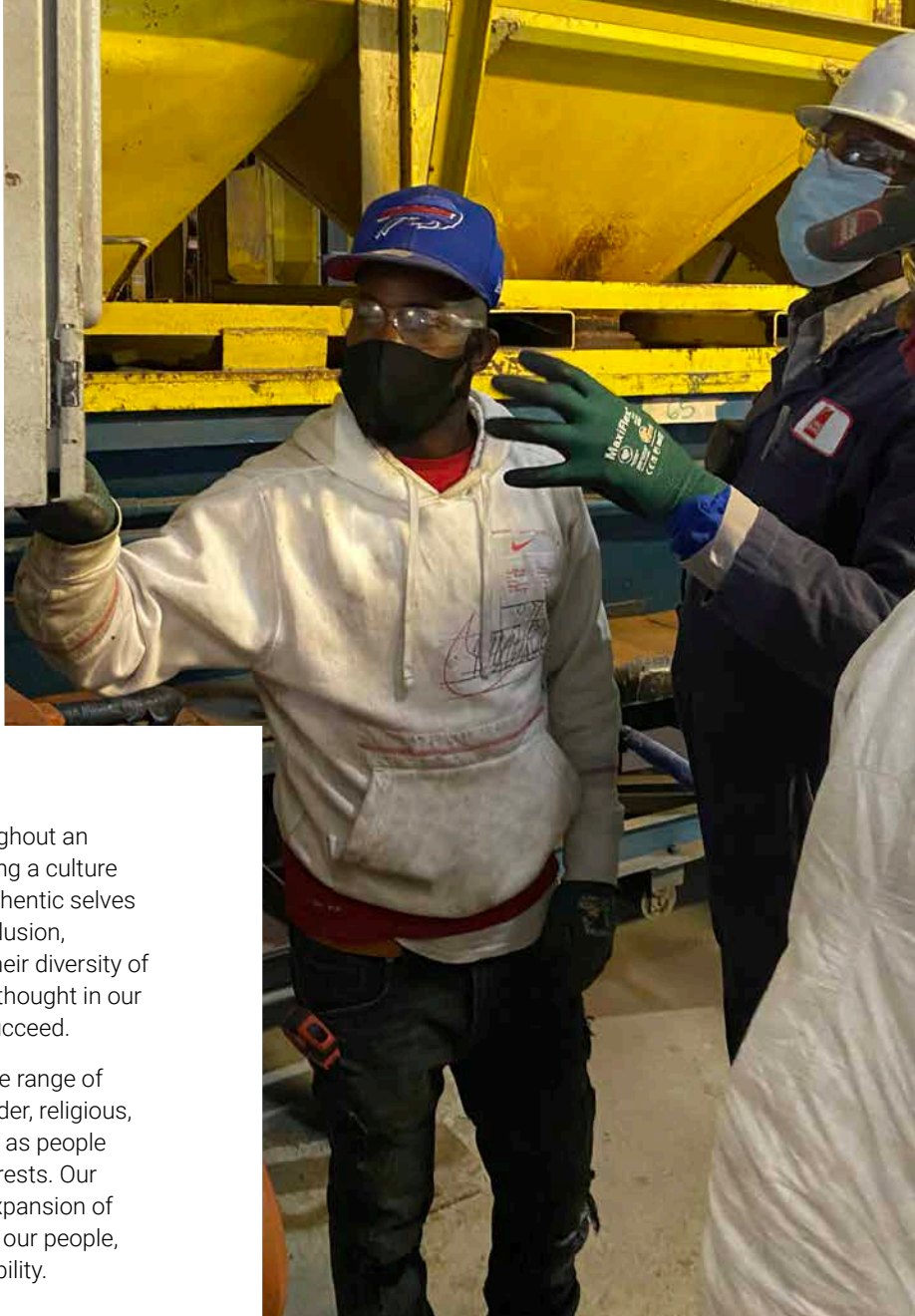


Photo submitted by:  
**Claudia Cantu | Houston, Texas, U.S.**  
Kenyatta Lewis (left) and Kenny  
Murphy at the Houston Roofing plant.

Our inclusion & diversity efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

We aim to foster an inclusive and diverse environment, one which represents a range of people with various racial, ethnic, gender, religious, language, socioeconomic, family, and cultural backgrounds and different sexual orientations, experiences and interests, engaged and working together to create a fair, healthy, and high-performing organization. Inclusion enables employees to feel valued, understood, and inspired to bring their whole selves to work.

The social data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).





## 2030 GOALS FOR INCLUSION & DIVERSITY

By 2030, we aspire to:

- Build and support diverse workforce and leadership teams that reflect the communities in which we live, work, and serve.
- Retain diverse candidates proportional to the communities in which we live, work, and serve.
- Increase internal succession with an emphasis on expanding the number of female candidates, people of color, and representation of cultures from around the world.
- Demonstrate transparency regarding pay equity through periodic third-party reviews and ongoing internal analytics.

As part of these goals, Owens Corning has set quantifiable targets related to women and people of color in leadership, including plans for succession. Our progress toward those targets are discussed in detail in the Performance section of this chapter.

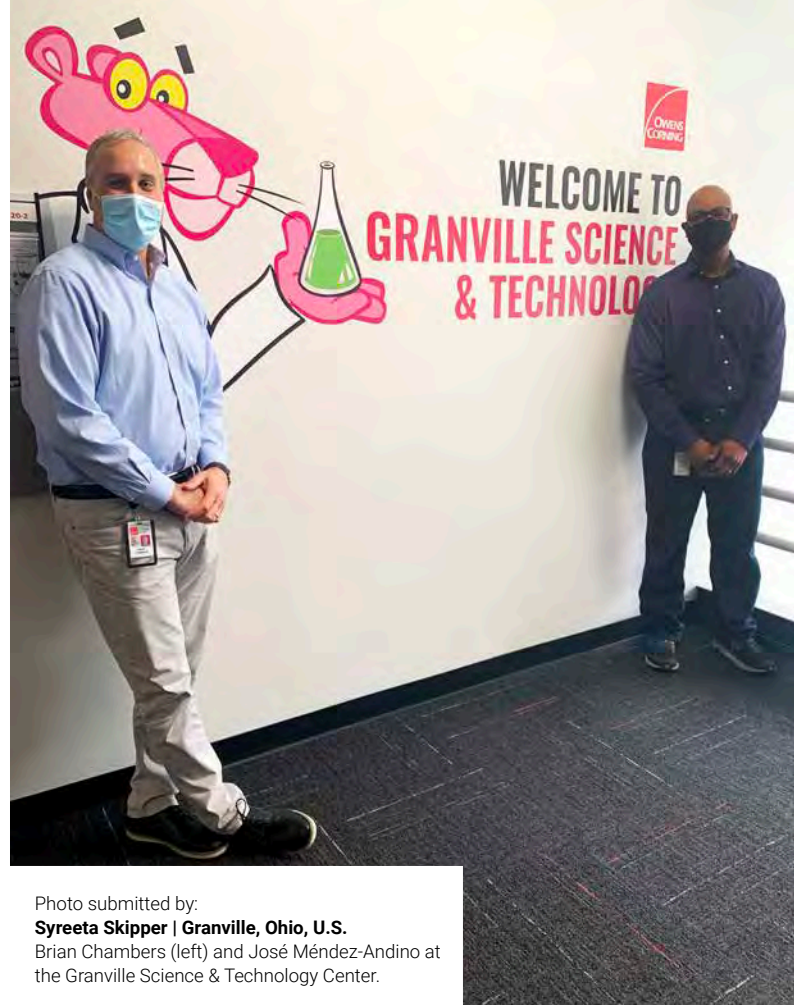


Photo submitted by:

**Syreeta Skipper | Granville, Ohio, U.S.**

Brian Chambers (left) and José Méndez-Andino at the Granville Science & Technology Center.

## OUR APPROACH

At Owens Corning, the decision to place inclusion before diversity was a conscious one. That's because an inclusive environment — one that

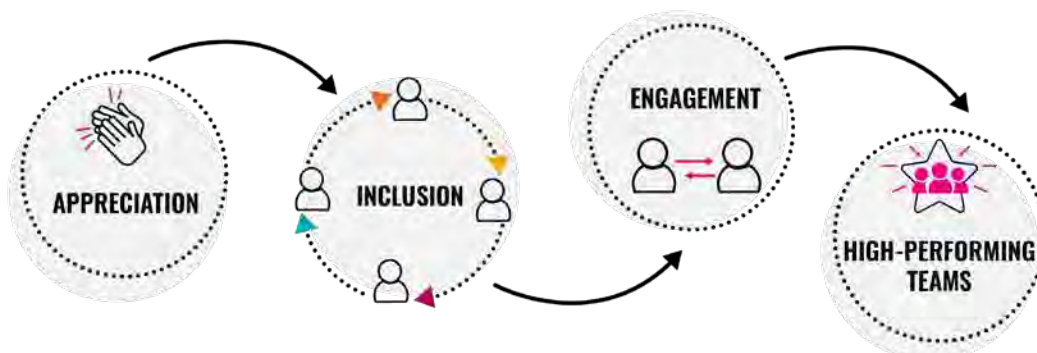
embraces diversity, recognizes the value of diverse teams, and facilitates contributions from people of different backgrounds and varied points of view — enables diversity to flourish. Employees who feel valued and understood are inspired to bring their authentic selves to work every day, which benefits the company as a whole.

Research continues to bear out the importance of fostering an inclusive and diverse workforce. Well-managed, diverse teams make better decisions faster and outperform less diverse teams. Inclusive leadership releases the power and potential of teams, leading to innovative solutions. An inclusive environment is a

critical foundation for Owens Corning, as high-performing, highly engaged teams join together to help us implement our strategies and live our values.

Owens Corning is committed to diverse representation at all levels of our company, including at the executive level. Of the nine members of our executive committee, two are female and two are people of color, meaning that 44% of these individuals are from underrepresented groups.

Our definition of diversity is broad, capturing many dimensions of human experience. It goes beyond physical differences to include an individual's values, as well as the cognitive, relational, occupational, and societal distinctions that shape that individual's perspective and how they experience the world around them. By recognizing and valuing all aspects of diversity, we strengthen our ability to understand and appreciate all people.



We have the following drivers in place to help Owens Corning build a more inclusive workforce. These concepts are also discussed in our [Employee Experience chapter](#); here, we talk about them with a specific focus on inclusion and diversity.

#### ■ Recruitment

Ensuring access to a diverse talent pool is essential to our efforts. Owens Corning is working to create a bias-free recruiting strategy, investing our resources into outreach that can help deliver the broadest possible range of talent. This includes our Inclusion & Diversity Recruiting Champions program, which is discussed in more detail on [page 226](#). In 2021, we created formal requirements designed to ensure diverse slates of candidates and interview panels. This policy enables us to track progress and follow up as needed, and it allows for change management and communication support.

#### ■ Development

Owens Corning believes that teams are most likely to thrive when employees are fully engaged with their work, their teammates, and their leaders. Through initiatives such as our affinity groups, we encourage people to be their most authentic selves at work, while our mentoring opportunities help develop meaningful relationships that help further careers for people from all backgrounds. These initiatives are discussed in more detail later in the chapter.

#### ■ Retention

Keeping talent that reflects our aspirations for inclusion and diversity is a top priority at Owens Corning. We're working to foster an inclusive workplace by undermining unconscious bias through training, policies, and initiatives designed to engage people in conversations that recognize their individuality, experience, and identity. Examples of this work can be found throughout this chapter.



**This year, our intern cohort — including young people pursuing careers in manufacturing, sales, finance, and science & technology — was our most diverse to date.**

## Inclusion and Diversity Surveys

To understand our place on the I&D journey at our locations around the world, Owens Corning conducts inclusion and diversity surveys every other year. Our 2021 survey included both salaried and primary employees. The survey featured some core questions that are asked globally, and additional questions are tailored to the specific needs of each region.

## Inclusion and Diversity Council

Our Inclusion and Diversity Council includes senior leaders from all our businesses, corporate functions, and regions. They share a passion for creating an environment that reaps the rewards of capable, diverse, and highly engaged teams.

The council's goals include the following:

- Enhancing the employee experience.
- Establishing sustainable diversity and creating a culture that provides value for employees, customers, shareholders, and communities.
- Ensuring that our strategy of inclusion and diversity supports the business strategy and company values.
- Gathering resources to enable strategy success.
- Measuring success.

We have established regional inclusion and diversity councils to lead local programs and focus areas that support our overall commitment to this important aspect of well-being.

In March 2021, the Inclusion and Diversity Council issued a statement condemning violence against Asian, Asian American, and Pacific Islander communities. The statement came in the aftermath of an incident in Atlanta in which eight people were killed, including six Asian women; in it, Owens Corning explicitly denounces xenophobia, hate crimes, and any tolerance of these actions.

## The 2+1 Regional Strategy

Because Owens Corning's I&D efforts differ around the world, we seek to empower each region to focus on what's right for employees who work there. As a global company, we understand that cultural expectations and diversity goals vary across different regions.

**TWO** + **ONE** = **GLOBAL IN SCOPE**  
global topics regional value HUMAN IN SCALE

Owens Corning's global I&D strategy focuses on a "2+1" approach, established by the professional services network PwC. The "2" refers to the two global topics that apply to every Owens Corning location and leader — creating a culture of appreciation and promoting gender diversity. The "1" represents an additional value that every region or country must define for themselves. This idea helps us live up to one of our core values — that we are global in scope and human in scale.

## Inclusion & Diversity Around the World

Outside the U.S., the strategies in place for each global region are as follows:



### Asia Pacific

Our Asia Pacific I&D Council launched in January 2021, and they have aligned themselves with the 2+1 regional strategy detailed above. This year, the council launched a Cultural Appreciation Program involving

employees from India, Korea, China, and Japan, and it hosted a series of Courageous Conversations in the region. (Learn more about these conversations on [page 225](#).) The team at our sales office in Japan rolled out a program aimed at encouraging our employees to reach out and listen.

In 2021, the operations team in China compiled a collection of stories from employees, who share their personal feelings about our commitment to inclusion and diversity. The essays speak to our people's ability to interact authentically in their workplace, and how they feel supported by Owens Corning and our corporate culture.

Asia Pacific's inclusion and diversity journey is still in its initial stages, and the support our employees throughout the region have shown for these initiatives has been tremendously promising. We expect to see this support continue to grow in years to come.



### Latin America

The I&D Council in Latin America has been active throughout 2021, developing a range of initiatives aimed at creating a more equitable environment for employees everywhere. To help employees

achieve their fullest potential, we have increased access to our leadership programs. Our leadership development program, Leading Pink, has been fully developed in Spanish, enabling more employees in Latin America to take part in e-learning opportunities for career growth. In addition, we have hosted virtual sessions on inclusive leadership in both Spanish and Portuguese, and all leaders in Latin America have completed the training.

We are also working to build a more inclusive workplace for employees in their daily life. In Rio Claro, Brazil, we replaced unisex work uniforms for primary employees with uniforms that are customized for men and women. In addition, the Building Materials Latin America division held sessions, called Voices of Women at Work, to discuss issues related to equity and growth, and this has led to the development of new initiatives that will better equip us to respond to employee concerns and feedback.

Our focus on inclusion and diversity is generating encouraging results in our Latin American sites. For example, all our sites in Mexico and Chile improved diversity among their new hires, and the presence of women in operations has increased there as well.



### Europe

Many teams in Europe have been focused on issues of inclusion and diversity, leading to the creation and first meetings of the European I&D Council — a big step forward in harnessing the power of our diverse European teams to accelerate our

progress. Made up of 20 members representing the diversity of Europe, the council defined three core focus areas: creating awareness, listening to our people, and understanding the data. Five subgroups were created to raise awareness, improve gender equality, share multicultural experiences, improve communication, and foster intergenerational integration.

To help create this culture of appreciation, hundreds of people in the European Roofing, Insulation, and Composites businesses have been trained on inclusive leadership. All mid-level and higher leaders in Europe have an I&D focus topic in their 2021 goals. We are committed to continuing to explore ways to create our culture of appreciation so that each employee feels appreciated for the distinct voice that they bring to the table, and we are gathering and sharing feedback from our employees through the EU I&D Council. Among the specific initiatives in Europe are the following:

- Our stone wool operations natural leadership team in Europe held an inclusion and diversity workshop in April.
- In Chambéry, France, an I&D group was formed to increase multicultural inclusion within the office, their "+1" in the 2+1 approach.
- Our facility in San Vicente, Spain, has launched the training and development of new operators. The training is focused on knowledge transfer and generation integration, helping ensure greater inclusiveness in a multigenerational work environment.
- At our global wind team meeting, we hosted representatives from one of our customers, who shared their approach to I&D, and how that approach is essential to their business objectives and allows for the freedom of local implementation.



## Affinity Groups

Owens Corning encourages our employees to play an active role in creating an inclusive and diverse workplace. In addition to providing training throughout the year, we support a wide range of affinity groups. These employee resource groups are designed to promote the exploration of diversity issues and help employees embrace their differences.

In addition to group members, each affinity group consists of an executive sponsor, a leader, and a co-leader. Over the course of the year, affinity groups organize a variety of events that raise awareness, inspire discussion, and lead to stronger connections among our people. By focusing on creating diverse and inclusive teams and building a sense of community through our affinity groups, we are strengthening our commitments to people internally and externally while fostering a more inclusive and emotionally intelligent culture.

This year, our affinity groups helped compile a playbook that can be used at our plants to help employees there get involved in inclusion and diversity initiatives. The playbook offers easy-to-follow tips that can help plant leaders

incorporate I&D strategies in ways that work in the plant environment and address their needs and their schedules. In addition, our Inclusion and Diversity Council began using a third-party system to track the membership and demographics of the affinity groups, as well as participation in events throughout the year.

**This year's Affinity One, our annual expo highlighting each of our affinity groups, was held as a virtual event for the first time. Each group shared a video featuring representatives who briefly talked about who they are and the group's impact.**

**The event, which had the theme Building a Culture of Appreciation, was attended by 520 employees — the largest virtual meeting we've seen since implementing our new videoconferencing platform.**

### In 2021, Owens Corning sponsored the following affinity groups:

#### Abilities



**Goal:** To provide a community within Owens Corning that will foster the inclusion and growth of employees with physical and mental health disabilities, as well as employees who are directly or indirectly impacted by disabilities, including seen and unseen health and ability challenges.

Our newest affinity group, launched in 2021, Abilities seeks to destigmatize disabilities and promote abilities within the Owens Corning community. They also provide mentorship and growth opportunities to our employees and support recruitment efforts to attract and retain employees with ability challenges. In November, they held a virtual town hall meeting. Representatives from the group shared their mission and purpose, as well as powerful stories of people's personal and professional experiences.

*"Abilities provides opportunities for every employee to act in a way that reflects our values — at work, with our families, and in our communities. This group opens the door for new learning that will lead to all of us investing deeply in the growth and success of others."*

**– Alan Lake, environmental risk management leader**

#### African American Resource Group (AARG)



**Goal:** To advance excellence through attracting, acclimating, retaining, and accelerating career growth, thus enhancing Owens Corning's business performance while leveraging the strength of a diverse workforce.

Throughout Black History Month in February, the AARG spotlighted Black-owned businesses located near Owens Corning sites. Employees supporting these businesses earned reward points in our healthy living platform. In May, the AARG led an event to commemorate the death of George Floyd. Participants were asked to reflect for nine minutes and 29 seconds.

The group hosted a special event in June featuring Kevin Powell, an author, poet, and civil and human rights advocate. Over 300 people took part in this virtual event, which stressed the importance of listening to others and taking action in pursuit of social justice — and doing so with empathy, compassion, and love. Also in June, the AARG chapter at our site in Granville, Ohio, U.S., hosted a no-sew tie blanket event to benefit Nationwide Children's Hospital of Columbus as part of celebrations for the Juneteenth holiday.

*"Over the last year, the issue of social justice has moved to the forefront. AARG has been a driving force to build awareness, bring people together, and make our company more inclusive. We've hosted external speakers, panels, Courageous Conversations, and personal development sessions to help people learn and grow."*

**– Clyde Calhoun, insulation product leader**

## Connections



**Goal:** To enrich the lives of our employees by partnering with those in career transition, while fostering personal and professional growth and promoting community involvement to attract and retain top talent.

In 2021, the Connections affinity group continued to host the Toledo Tomorrow series, offering employees opportunities to interact with people and groups working to improve Toledo, Ohio, U.S. — home to Owens Corning's world headquarters — through community involvement and events. In May, the group was instrumental in bringing a celebration of Asian culture to our world headquarters.

*"Connections aspires to create fulfillment by offering a sense of belonging and encouraging inclusivity. With the ways in which our world and work have changed, the group is continuing to evolve its mission and purpose so it can provide meaningful and inclusive collaboration, networking, and connection where it's difficult to gather in person."*

– **Brandon Purk, human resources leader**

## Interfaith Exchange



**Goal:** To provide a path for employees to share their beliefs with each other in a way that allows each distinct voice to be included, appreciated, and valued.

In 2021, the Interfaith Exchange presented a wide range of events, including book clubs, interfaith dialogues, prayer sessions, and presentations about specific faith traditions. In addition, the group posts information about a range of holy days throughout the year on the company's internal social media platform.

*"The Interfaith Exchange was implemented at a time when employees needed it most. People have been able to move into their faith or belief system in a way that promotes prayer among co-workers, impactful faith education, and topical dialogues. Employees express respect and genuine love as we grow deeper in our faith in a way that cares for all employees, regardless of what they believe."*

– **Wendy Sabo, pricing operations and controls leader**

## Mosaic



**Goal:** To enlighten our employees on cultural differences, foster diverse solutions, and enhance our business relationships all around the world, strengthening our company's growth agenda.

In July, Mosaic hosted its first Culture Quest, a weeklong virtual event highlighting many cultures through interactive activities. Events focused on music, dance, food, drinks, and other cultural dimensions. The group intends to make this an annual event.

*"Mosaic is a group of diverse and energized people who form a stronger whole together. Our 2021 events saw us learn from each other's experiences, strengthen appreciation for diverse cultures within Owens Corning, support our local community, and provide a space for laughter and camaraderie during challenging times. Mosaic has made Owens Corning more inclusive."*

– **Vanessa Burkard, insulation procurement team leader**

## OUTreach



**Goal:** To achieve a work environment that is inclusive and safe, where people feel they can be fully engaged to create and problem-solve to their maximum potential and can be confident in a work environment where they will be fairly evaluated.

In addition to promoting LGBTQ+ events in several U.S. cities throughout Pride Month, OUTreach celebrated International Transgender Day of Visibility by hosting a virtual panel discussion with three members of the transgender community. Through OUTreach, Owens Corning took part in the 2021 #AllyChallenge, a unique initiative from Pride Circle, an India-based organization that empowers LGBTQ+ individuals around the world. OUTreach was also instrumental in the March 2021 effort to encourage employees to add their pronouns to their email signatures, helping create a more inclusive environment for transgender and gender-diverse employees.

*"OUTreach has real impacts on our employees and communities, as well as Owens Corning's policies and public stances. In 2021, our efforts led to Owens Corning signing on to Ohio Business Competes to influence policy throughout Ohio. We were also founding members of Northwest Ohio LGBTQ+ Coalition, created to share best practices for LGBTQ employee groups and create an inclusive environment in Northwest Ohio."*

– **Lindsey Kauffman, circular economy lead**

## Salute



**Goal:** To raise awareness of Owens Corning's veteran community and support current and former military members and their families.

This new Owens Corning affinity group is open to all employees interested in advocating for those who serve or have served in any branch of the U.S. military. On Memorial Day, a U.S. holiday honoring fallen military members, the group placed flags on graves at cemeteries in Toledo, Ohio.

*"This year, Salute focused on furthering inclusivity while advancing Owens Corning's longstanding commitment to the military community. Salute led several conversations on the Afghanistan withdrawal, giving employees a forum to express thoughts that weighed heavily on their hearts and minds. Salute's community outreach activities included creating 500 care kits for families and helping place over 14,000 flags in remembrance of fallen soldiers over Memorial Day weekend."*

**– Kara Maruszak, employment law counsel**

## Women's Inclusion Network (WIN)



**Goal:** To attract, retain, and develop outstanding women through professional development, personal development, and community involvement.

Throughout 2021, WIN sponsored a number of events, including a series of panel discussions touching on topics such as planned family leave, career and development planning, and the roles of women across different cultures.

In May 2021, Owens Corning hosted a 90-minute virtual Executive Presence workshop. The event covered the elements of executive presence, as well as developing career paths and leadership capabilities for growth.

*"The WIN affinity group has provided a forum for women (and men) to remain connected throughout the "new normal" we've all been navigating. We are proud of the topics and conversations we've had, including advancing women in operations and sales, and recognizing and understanding burnout. We are also amazed at the level of engagement senior leaders have shown."*

**– Jana Youtzy, sourcing leader for global maintenance, repair, and operations**

## WOMEN IN OPERATIONS CELEBRATES FIRST ANNIVERSARY



**WIO**  
WOMEN IN OPERATIONS

Born of Owens Corning's commitment to inclusion and diversity, our Composites business formed WIO in the summer of 2020 to help support and elevate the role of women in the operations team. The group is already seeing a difference, and WIO has now expanded across all three businesses.

In 12 months, there has been a marked shift in attitudes surrounding career development by those in the group. For example, in 2020, when asked to share one word describing their feelings about personal career growth, the top responses were "blocked," "unsupported," and "stagnant". A year later, the top responses to the same question were "supported," "possible," and "hopeful."

During an extremely challenging year, the group of more than 100 women and allies came together to effect change, prioritizing education, mentoring, networking, and career development. Over the course of its first year, WIO hosted 11 lunch-and-learns, formed 20 one-on-one mentor/mentee relationships, began mentor circles, and completed stay interviews.

These activities were carried out in addition to participants' usual work obligations: keeping operations running by delivering on major projects, driving out cost, increasing volume, maintaining safety, and improving net efficiency. In the next year, WIO plans to continue recruiting women, focus on growing opportunities for women in leadership, and continuing to foster a culture of appreciation throughout our operations.



# INCLUSION & DIVERSITY INITIATIVES

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## 2021 Inclusion & Diversity Objectives for Leadership

This year, Owens Corning presented an overarching inclusion and diversity objective for all our people leaders, including plant leaders and sales leaders. This objective states that a growing number of our leaders will contribute to our progress on the I&D journey. Owens Corning will lead by example and provide visible support for our initiatives, and we will hold our people leaders and teams accountable to do the same.

People leaders draft objectives that align their team priorities with Owens Corning's overall inclusion and diversity aspirations. Their objectives are focused on building an environment of high-performing teams that are capable, diverse, and fully engaged, as well as contributing to the achievement of our I&D goals related to hiring, retention, and cultivating emerging talent.

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## Inclusion & Diversity Charter in Operations

As we extend our commitment to I&D to the people in our plants, we established an Inclusion and Diversity Charter in Operations in 2021. This charter is designed to help ensure that Owens Corning plants are equipped with the appropriate resources to drive inclusion and diversity on-site, as well as the freedom to move forward in a genuine, customizable way that is still in line with our overall approach.

In January 2021, all plant leaders had developed both personal and plant-level I&D objectives, and by the end of the year we had set a target whereby all people leaders would participate in inclusive leader workshops. In addition, Courageous Conversations were continued in our plants, with front-line leadership participating at minimum.

Our HR/talent acquisition partners are actively managing the treatment of open roles, our approach to our development programs, retention, and promotions. We commit to working together on this area to set the right tone, expectations, and approach. Community relations are an integral part of the I&D plans for each plant, and we will create an I&D scorecard with goals and targets for our facilities, as well as a corresponding management system to help enable our facilities in these commitments.

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Photo submitted by:

**Zelev, Belgium**

Woven technical fabric.



# MARTIN LUTHER KING JR. DAY OF SERVICE

The first Martin Luther King Jr. Day of Service was an overwhelming success, as employees from around the United States spent the holiday helping those in need. Thousands of people made blankets, packed hygiene kits and school backpacks, donated blood, collected food and clothing, and much more.

Martin Luther King Jr. Day — Monday, January 19 — was a holiday for U.S. employees, and company leaders encouraged people to honor Dr. King's legacy by spending the day in service. Every site committed to an activity, which resulted in the following:

**5,714**

people served  
through kit builds

**1,588**

foster care bags  
packed with hygiene  
items, activity books,  
blankets, etc.



**1,776**

hygiene kits  
filled with a  
toothbrush and  
toothpaste, soap,  
comb, etc.



**750**

cards written  
to senior citizens,  
first responders, and  
hospital workers



**1,600**

backpacks filled  
with school supplies



**250**

blankets made  
for hospitalized children



**1,586**

items bought  
through an online food drive

Owens Corning employees and their family members also participated in a range of activities. Across the U.S., our employees:

- Donated blood.
- Bought groceries for families in need.
- Cleaned up a neighborhood.
- Made food for local charities.
- Decorated lunch bags for a food delivery program.
- Donated clothes to local charities.
- Organized food drives.
- Volunteered at food pantries.
- Made care packages for the homeless.



#### Wabash, Indiana, U.S. (top left)

The Wabash Thermafiber® employees donate food to a local food bank.



#### Granville, Ohio, U.S. (top right)

Nadine Barfield and her family pack care kits.



#### Bedford, Texas, U.S. (bottom left)

Michele Mazza donates blood.



#### Waxahachie, Texas, U.S. (bottom right)

Care kits assembled by Waxahachie plant employees.



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## Toledo Racial Equity and Inclusion Council

In 2020, following the death of George Floyd, a group of leaders in the Black community formed a team and developed an agenda to address racial disparity gaps in the Toledo community. Concurrently, Owens Corning CEO Brian Chambers, other business leaders, and representatives of the city of Toledo came together to reaffirm that a welcoming and healthy community must stand together against systemic racism. They committed to build a framework where the private and public sector can stand with people of color to address needs and make meaningful changes.

Out of these efforts, the Toledo Racial Equity and Inclusion Council was formed, dedicated to facilitating solutions that will help reverse the deep racial disparities for people of color in the area surrounding our world headquarters. In 2021, Owens Corning provided external employee support and committed funds that will help pay for a consulting firm to further develop strategies and action plans in conjunction with leaders in local government, area businesses, and the community at large.



**In April 2021, Owens Corning released a statement on our social media channels reaffirming our belief that voting rights should be upheld in the U.S., and that giving a voice to every eligible voter is essential to the preservation of our democracy.**

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## Courageous Conversations

Owens Corning began our Courageous Conversations series in 2019 as an expansion of our Day of Understanding the year before. The series provides opportunities for people to come together and engage in open dialogues, understand and appreciate our differences, and recognize the ways that diversity can strengthen our company and our community. Through Courageous Conversations, Owens Corning is demonstrating our dedication to our values, creating an environment where people feel welcomed, respected, and valued for who they are — and celebrating their unique contributions to our purpose.

This year, Courageous Conversations were once again held virtually, which has led to robust participation, often with more than 100 people joining in. As we hold more of these Courageous Conversations, the topics have evolved from broader explorations of race, gender, and identity to discussions of specific issues. Sessions in 2021 focused on topics including the George Floyd murder trial and the anniversary of his death, coping with COVID-19 and work/life balance after the pandemic, the myth of the “model minority” and more.

Even as we discuss these potentially sensitive topics, we find that participants are very willing to lean into some difficult territory for discussions that are both productive and encouraging. Throughout the Courageous Conversations, key themes emerged as people sought out ways to be better allies and improve connections, including those between leadership and employees from all walks of life. Above all, participants stressed the importance of maintaining these sessions, as they help people overcome fears that they might have about potentially uncomfortable dialogues.

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## Mentor Sponsor Program

Owens Corning has always had a strong mentoring culture, but in 2021, we began building out a more structured mentor sponsor program with a key aim to engage our employees from underrepresented groups. Several pilots were launched, designed to pair up employees from all walks of life with mentors and sponsors who can help foster meaningful relationships and increase employee engagement.

As part of the enhanced program, we implemented a new mentoring program playbook, which includes a reverse mentoring component for all mentor/sponsor relationships. Through reverse mentoring, junior employees have an opportunity to provide insights into the organization from their perspective, which in turn helps senior employees lead more effectively. The playbook includes checkpoints at three months, six months, nine months, and one-year marks, offering recommendations for what should be occurring between the sponsor and the mentee.

Building upon the overwhelmingly positive feedback and the desire to expand these opportunities, we invested in a platform that uses algorithms to pair up the right individuals for these relationships. This platform will launch in the first quarter of 2022.

By tracking and encouraging interactions between mentors and mentees, the program adds structure to an already strong mentoring program and encourages retention throughout our organization. In implementing our mentor sponsor program, we plan to be intentional in our mentor pairing for underrepresented groups. In addition, we are integrating the Dimensions of Diversity from our Inclusive Leader Workshops into our programming, which will provide further guidance for mentoring conversations.



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## Inclusion & Diversity

### Recruiting Champions

To build the high-performing teams that come from increased diversity, we work to find new and creative approaches to our talent selection process. In 2020, Owens Corning launched the Inclusion and Diversity Recruiting Champion Program, a partnership between Talent Acquisition, the I&D function, and affinity groups. The Champions are a cohort of affinity group members passionate about diversity recruiting.

Participants in this program assist in the selection of internal and external candidates for both early career and experienced roles throughout our North American facilities. Recruiting champions are full-time employees who are active in one or more of our affinity groups. They join the interview teams to drive inclusive decision-making and undermine unconscious bias. In addition, our affinity groups routinely reach out to their contacts, including alumni organizations, professional organizations, fraternities and sororities, and more.

In its second year, the program introduced a new cohort of 27 recruiting champions, who are grouped by their functional expertise into four pools: sales, science and technology, manufacturing, and finance. Hiring teams can engage people from the appropriate pool to help ensure that an I&D perspective is part of the process. In addition, terms for recruiting champions were extended from the original 12 months to 18 months, and members of the first cohort were given a chance to extend their term for three to six months. Through these improvements to the program, recruitment champions have more opportunities to get involved and share best practices.

**In 2021, we added a dedicated Inclusion & Diversity page to our [external website](#). The page includes a statement from our vice president of inclusion and diversity, as well as an overview of our I&D aspirations.**

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## Inclusion & Diversity

### Training and Development

Our Inclusive Leader workshops have been well-received and extremely resonant with our senior leadership team, and we recognized the opportunity to extend the training beyond our top-level leaders. In 2020, we initiated our Train the Trainer sessions, which seek to train every people-leader in the organization globally, from senior executives to first-line plant supervisors.

This year, our inclusive leadership training took the form of a Virtual Inclusive Leadership Workshop (VILW). The VILW program goes beyond creating awareness of biases, equipping participants with actionable ways to both interrupt bias and create an environment where differences are appreciated, and people are included.

One way we work to foster this culture is by making a distinction between equality and equity — two concepts that might seem similar, but which actually have very different impacts. Equality means each individual or group of people is given the same resources or opportunities. While the intent of equality is admirable, it only goes part of the way toward fostering a culture of inclusion and diversity. Equity goes further, recognizing that individuals have different needs and providing people with the resources that best meet those needs.

Our training is grounded in our broad understanding of inclusion and diversity.

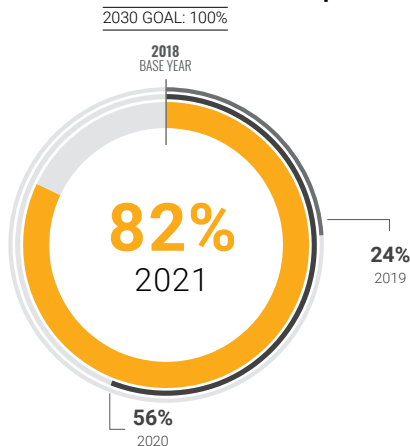
#### ■ Dimensions of Diversity

Although physical differences are easily recognized, they represent only a single dimension of the complex factors that shape individuals. The other dimensions of diversity include relational, occupational, and societal experience, as well as values and cognitive style and ability. Understanding others through the lens of these interrelated and often subtle dimensions strengthens our ability to relate to each other, which is the basis for inclusion.

#### ■ Inclusion Scale

Through the training we also provide opportunities to role-play and evaluate how our reactions to differences can affect our interactions. Our understanding of inclusion is mapped to a scale that expresses an individual's comfort with differences: repulsion, avoidance, tolerance, acceptance, and appreciation. To build the culture of appreciation we aspire to, we must understand how our behavior toward others impacts their ability to succeed and do their best work. By providing an opportunity for employees to use simulated examples, the training provides increased self-awareness that can help them change their actions in future experiences.

### Percentage of People Leaders Trained on Inclusive Leadership



We expect that as our leaders and employees participate in this training and deepen their understanding of these components, our people will increasingly feel that they are appreciated for their differences, their contributions are valued, and they are able to bring their whole selves to work. We had set a target for 100% of our people leaders, from first level leaders through mid-level leaders, directors, and vice presidents to attend our internal inclusive leadership training by the end of 2021, and while we fell short of that goal, we maintain a 2030 target to maintain training at that level for all new hires or promotions into those roles.\*

We have also worked to engage our manufacturing sites, tailoring our inclusive and diversity initiatives so that they are scalable and manageable for these facilities. This includes implementing our Inclusive Leader Workshops for people leaders at these sites, from plant leaders to front-line supervisors. To help sites better understand their needs, we have developed a self-assessment tool that gauges where they are in their I&D journey.



Photo submitted by:  
**Jill Ries | Granville, Ohio, U.S.**  
 Jan Johnson (left), Thomas Weekley (middle), and Karen Codiano (right).

## Inclusion & Diversity at OC One

In January 2021, company leaders from around the world gathered virtually for the 19th annual OC One meeting, in which the executive committee recaps the prior year and shares the company's priorities for the current year with a select group of leaders. Through a combination of presentations and working sessions, the meeting sets the focus for leader and employee efforts in the year ahead. At this year's meeting, special attention was given to supporting leaders as they help Owens Corning on our I&D journey.

Through internal and external research, we have identified what is most important for leaders to do to lead effectively in our global, flexible, inclusive environment. We believe these leadership skills are not only essential to success today but will continue to be differentiators for our success into the future.

### ■ Foster belonging

Leaders must create an environment of inclusion where everyone feels they truly belong and are being set up for success. When situations change rapidly, or teams are spread out, it is easy for someone to feel left behind or disconnected. All members of the team should feel close and included — whether we are a desk, city, or ocean apart.

### ■ Drive for clarity

Leaders must learn to be very clear and transparent when communicating and delegating to ensure the team is always focused on what is most important.

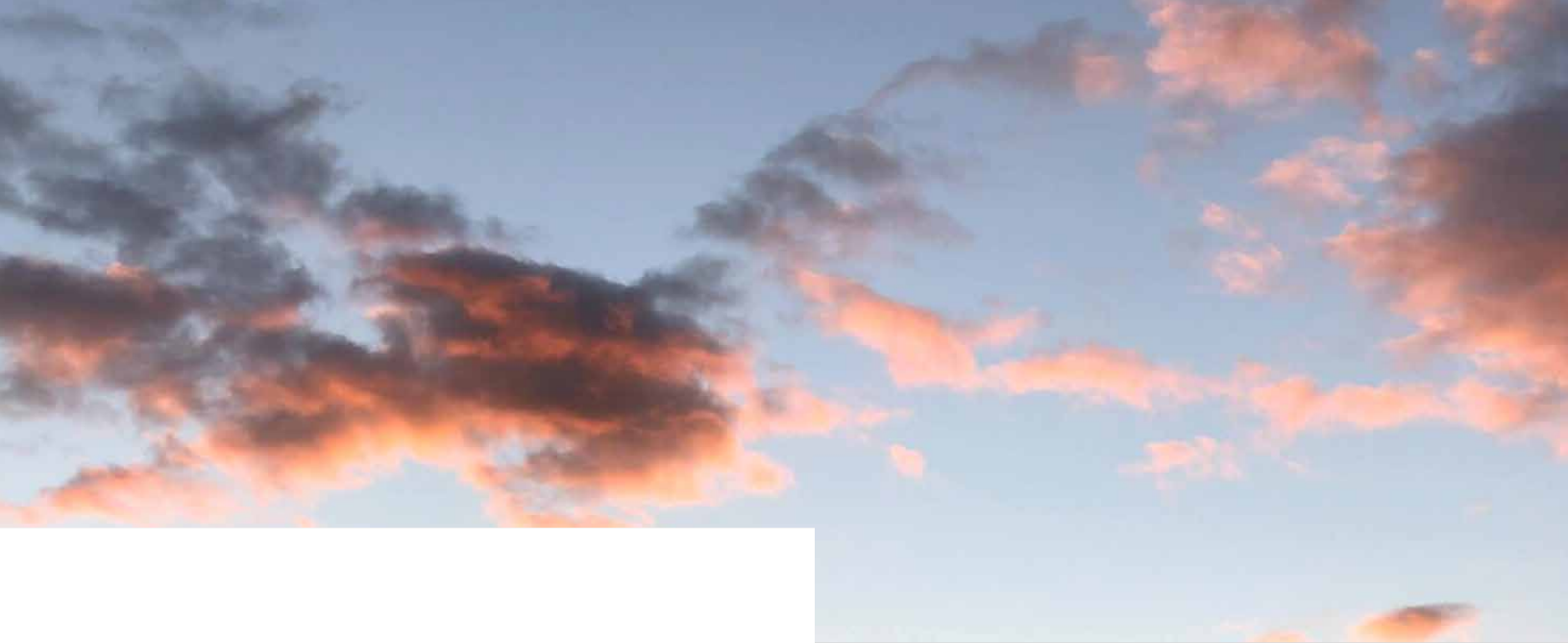
### ■ Lead by outcomes

We cannot depend on managing by observing. Leaders must learn to track the progress of their teams by impact and results, not by hours worked.

### ■ Connect with purpose

Leaders must intentionally plan conversations to build relationships so that we avoid losing the value of such interactions when schedules get tight or spaces are no longer shared. We must learn to be very intentional about how we strengthen our relationships and build our network.

Building strength in these leadership skills will increase our speed and responsiveness across teams and regions to support our customers. These skills will help us mitigate risks associated with a more flexible work environment and set us all up for success. They will build strong habits that benefit all teams, whether on-site, hybrid, or remote. And these skills will support an inclusive work environment where every employee feels a sense of appreciation and belonging.



# INCLUSION & DIVERSITY PERFORMANCE

A diverse workforce provides us with the different experiences and unique perspectives needed to deliver better results for our customers. That’s why we work to increase gender equality in the workforce and expand diversity in our leadership. In addition, greater diversity helps colleagues from all walks of life envision their own career paths.

## Women in Leadership

Several years ago, we formalized our commitment to putting women in leadership roles by establishing a target for female representation of 25% in all leadership levels. We reached this target in 2019 and continue our efforts to maintain and increase this percentage. This effort is aligned with our 2030 goal to have 35% of global mid-level leader, director, and vice president roles filled by women.\*

We are also working to improve women’s representation across our business, especially in operations, manufacturing, and our commercial sales organizations, which have long been customarily male domains. We are undertaking pilot programs to help us understand what we can do differently so women can thrive in their work. One program, being implemented in our Composites business with an eye toward expanding into our other businesses, engages women in discussions through scripted questions designed to gather insights into their experiences at work.

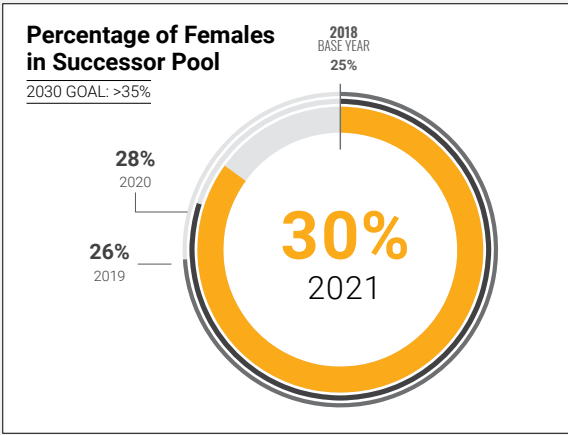
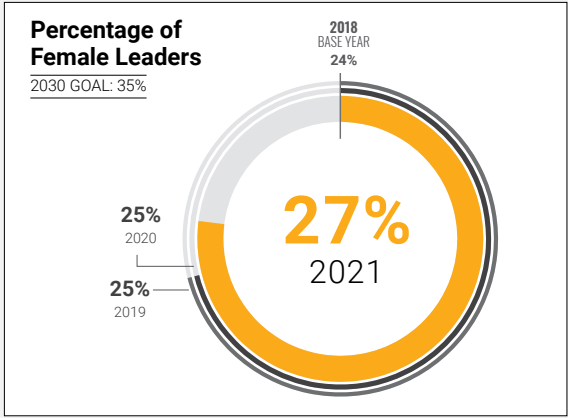


Photo submitted by:  
**Susan Burkett | Toledo, Ohio, U.S.**



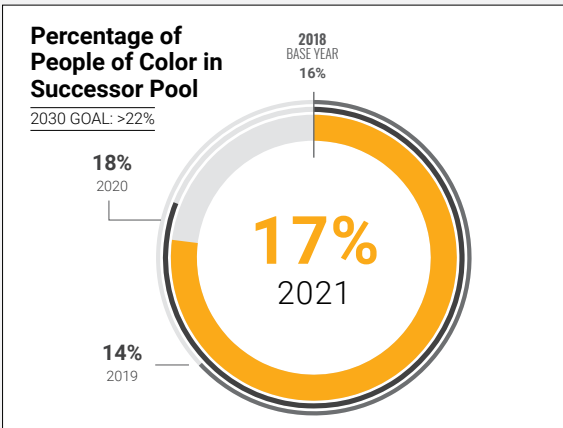
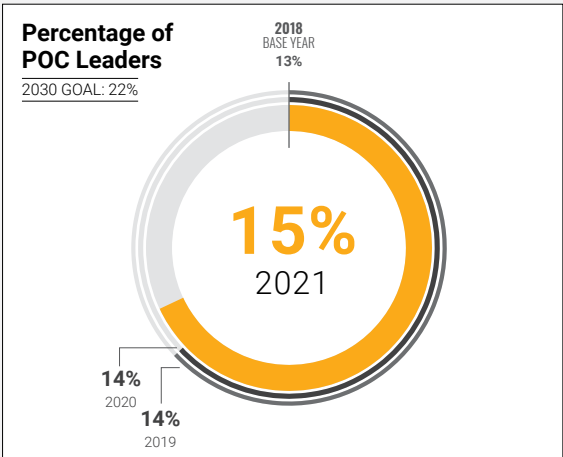
People of Color in Leadership

As part of our 2030 goals, we have set a target that 22% of our U.S. leadership roles are filled by people of color. In 2021, our representation for these roles was 15%, while overall approximately 51% of U.S. hires were people of color (POC).<sup>+</sup>

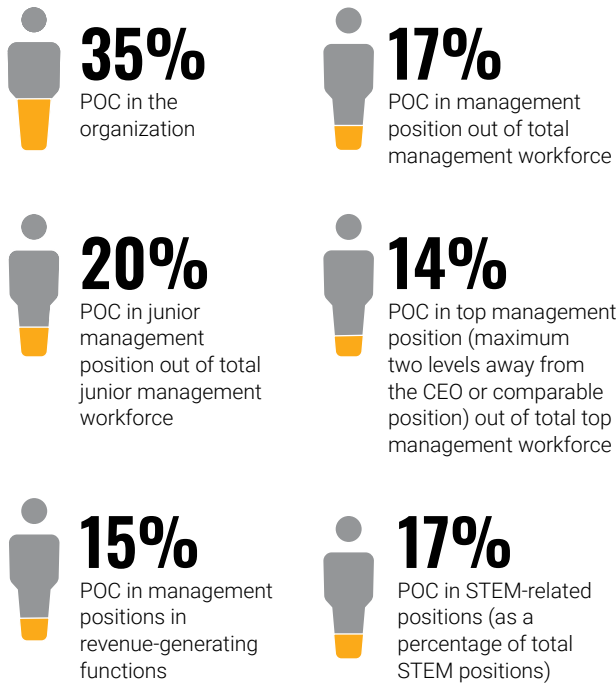
This voluntarily disclosed data is only available for our U.S. workforce. In our Employee Experience chapter, we discuss our commitment to the diversity in our pool of succession candidates for leadership roles, with respect to women and people of color.

Diversity-Related Succession Targets

In conjunction with our leadership targets for women and people of color, we have set targets related to succession into leadership roles. Specifically, we have a target in which greater than 35% female representation and 22% people of color representation among successors for identified key roles.<sup>+</sup> These targets are part of our overall succession goals for 2030; more information about them can be found in the [Employee Experience chapter](#).



Percentage of Roles in the U.S. Filled by People of Color



## Local Hiring

As an organization with operations across multiple geographies, we believe it is important to focus on local hiring. In doing so, we can optimize costs and efficiency, as well as support economic growth in the areas where we operate.

As of the end of 2021, 20 of 22 members of our operating committee (comprising general managers and key business leaders) live in or are citizens of the local country where they are assigned. The two senior leaders who were not sourced locally are internal transfers, assigned to international locations as expatriates for the opportunity to expand their skills and grow as global leaders. We believe these select opportunities lead to increased cultural and business intelligence.

## DiversityInc 2021 Companies for Diversity

For the second time, Owens Corning was recognized as a 2021 Noteworthy Company by DiversityInc, an organization that annually ranks U.S. companies for diversity, equity, and inclusion. They measure performance based on six key areas of diversity and inclusion management:



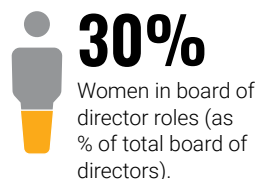
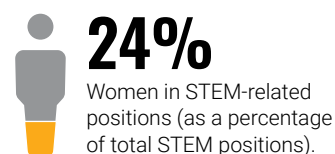
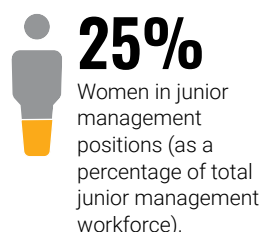
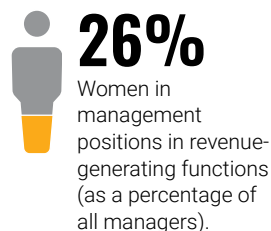
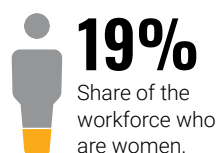
- Human capital diversity metrics.
- Leadership accountability.
- Talent programs.
- Workplace practices.
- Supplier diversity.
- Philanthropy.

We completed our first DiversityInc survey in 2020 with the intention of establishing a benchmark through which we could prioritize the strategies that would help us on our I&D journey. We had not expected to be ranked this early in our journey, so we were gratified to discover that our accelerated progress had placed Owens Corning among the organization's top companies.

Participating in the DiversityInc survey provided us with a clearer portrait of our strengths, which are highlighted throughout this chapter. It has also given us a better understanding of the areas where we can improve. The knowledge we have gained through this exercise has informed many of our recent inclusion and diversity efforts, including human capital diversity metrics such as increasing supplier diversity and tracking diverse talent. As we continue to improve our strategies for integrating inclusion and diversity into every aspect of our company, we can expect to receive even more encouraging recognition from DiversityInc and other similar organizations in the future.

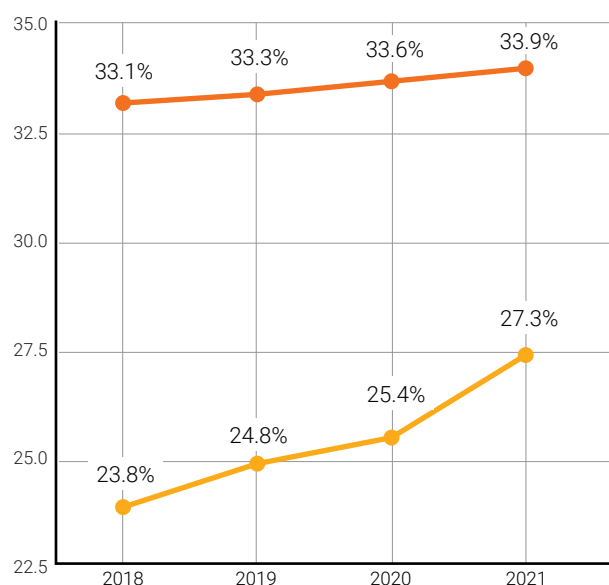
**DiversityInc is just one of the organizations to recognize Owens Corning for our commitment to I&D. See more examples on [page 9](#) of this report.**

## Percentage of Roles Across the Company Filled by Women



## Percentage of Women in Middle and Upper Management\*

● All Levels    ● Mid-level, Director, and VP



# SPEAKING OF SUSTAINABILITY

## Micki Vanderpool

Plant Leader

As a woman with years of experience in manufacturing, Micki Vanderpool says that she has sometimes felt that she was part of the team but not necessarily part of the club. That's one reason she's taken an active role in promoting inclusion and diversity at our plant in Rockford, Illinois, U.S. As a plant leader, Micki recognizes the importance of creating a work environment where people feel truly valued, and by making I&D a cornerstone at her plant, she is setting an example for our facilities around the world.



**“ People have to feel like their voice matters and that they can thrive. ”**

### On engaging employees throughout the year

I think Owens Corning has great goals. I feel we need to involve all our employees — not only direct employees, but contractors and indirect employees too. I think it is really important, because the people will be the difference now and in the future. Another thing that I really love about Owens Corning is how we think about our handprint. We are working and thinking all the time about how our products will have a positive impact on the world. I love to hear about new kinds of insulation or some new process that will enable us to have a better impact. It's very important for our company, for our customers, and for the future.

### On the plant leader's role in promoting I&D

In my opinion, the most important responsibility of a plant leader really is around talent. Ensuring that we're sourcing good, diverse talent into our plants from a starting point, and creating an inclusive environment for our teams. People have to feel like their voice matters and that they can thrive. Next, we have to provide the right growth and development opportunities for them, so their career can progress, and they want to stay with Owens Corning. Employees also need thoughtful, creative, personalized, balanced feedback. They need to know what they're doing well and where they can improve. As a plant leader, it's my responsibility to set up the environment where all of that happens when you come to work in my facility.

### On meeting people where they are on their I&D journey

Having insightful leadership is one vital step — people who see the need to drive this and create opportunities and place resources. I think we also have to upskill our talent. We can't assume that everyone is starting at the same place. I think that's where we really have to get involved and understand what skills our people need to lead an I&D journey. And then I think we have to have accountability to do as we say we're going to do. There has to be some follow through to say if I&D is really important to us, then we need to invest those resources and we need to make sure that the cultures in our plants are becoming the way we want them to be.

Photo courtesy of Micki Vanderpool



## GOING FORWARD

There is a strong business case to be made for acting in ways that encourage inclusion and diversity, with a growing body of research indicating that diverse teams of people outperform homogeneous groups. By 2030, demographics in the U.S. and around the world will likely be very different than they are today. As our societies become increasingly diverse, creating an inclusive work environment is more than just the right thing to do — it is truly a business imperative.

Our goals for inclusion and diversity require a coalition of people and organizations, both within Owens Corning and among external organizations. In recent years, Owens Corning has built strong partnerships aimed at creating a more equitable world. We expect to expand our partnerships in years to come, including our work to increase the levels of diversity within our supply chain — more information about our Diverse Supplier Program can be found in the [Supply Chain Sustainability chapter](#).

Our internal policies represent a continuing trend toward empowering our people to be their most authentic selves. It's an effort that will become increasingly global as we roll out inclusion and diversity surveys at our Asia Pacific locations. As we continue on our journey toward 2030, we are confident that we will be creating a workplace where we are all valued — not despite our differences, but because of them.

**Owens Corning's commitment to inclusion and diversity extends into our communities as well. Learn how we're investing in initiatives that will help create a more equitable world in the [Community Engagement](#) chapter.**

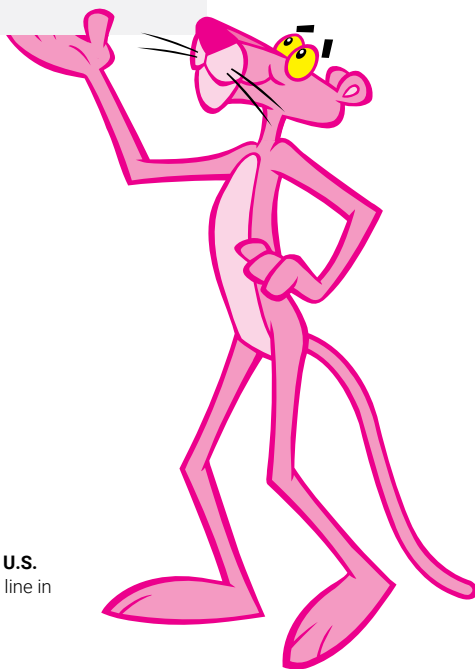


Photo submitted by:  
**Claudia Cantu | Houston, Texas, U.S.**  
Tonee Jones working the roofing line in  
Houston, Texas, U.S.



# COMMUNITY ENGAGEMENT

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

Sustainability is rooted in the idea that people deserve the opportunity to enjoy a high quality of life. That's why we consistently seek to engage with communities around the world, especially in the places where our people live and work. It's an idea that is very much in keeping with our values — especially the idea that we are dedicated to caring for our people and our communities.

While financial support is an essential element of our approach to corporate citizenship, we are proud of the fact that our employees are very much at the center of our efforts around the world. Their volunteerism is a key driver of our community engagement efforts, and in many ways, they guide our philanthropic endeavors.

**We have committed over \$6.5 million through multi-year agreements for work related to racial equity, including over \$2.4 million contributed by the end of 2021.**

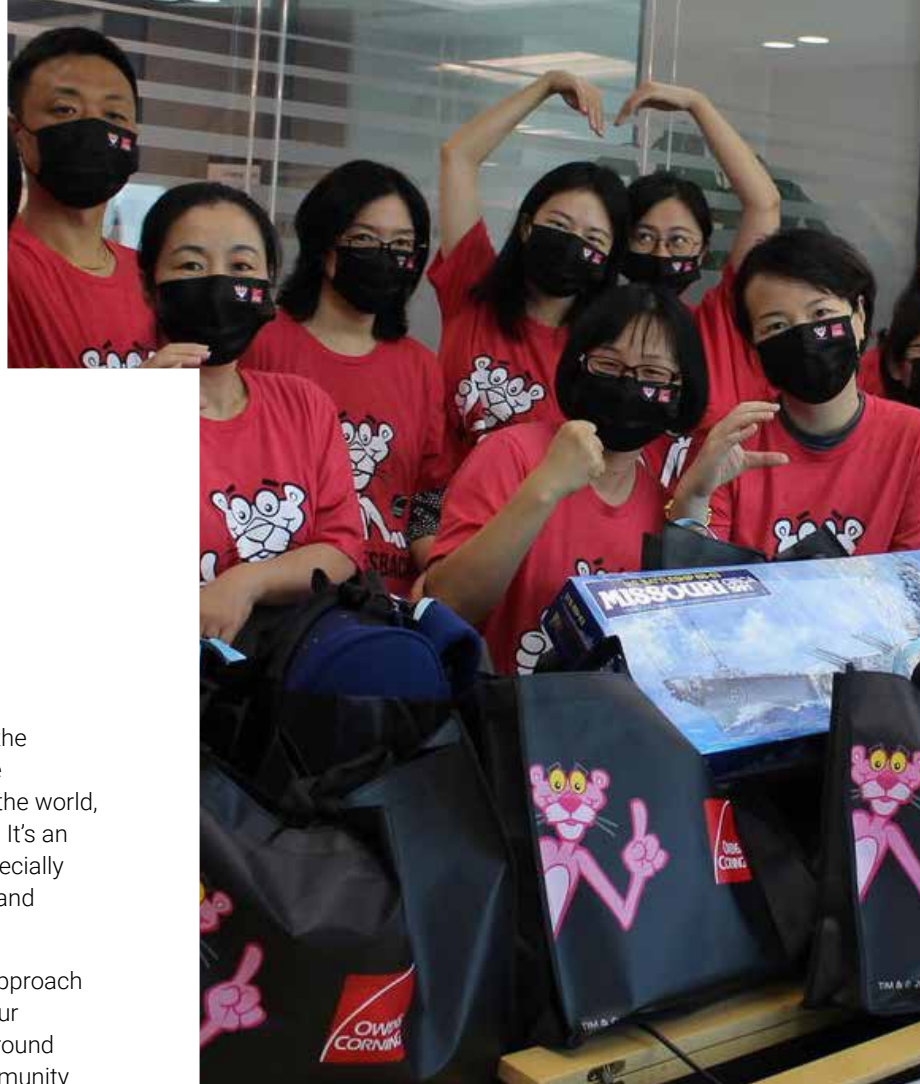


Photo submitted by:  
**Yana Liu | Shanghai, China**  
Global Finance Operations Reporting (GFOR)  
Caring Day

Our community engagement efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

Owens Corning strives to contribute to thriving communities, where we work, where we live, and where we have the potential to make a positive impact.

The social data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. The social data in this chapter marked with a ^ sign were independently assured to a high level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).



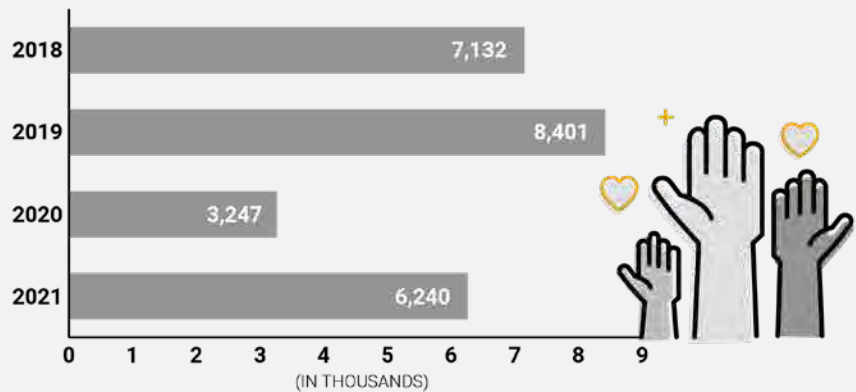
## 2030 GOALS FOR COMMUNITY ENGAGEMENT

**By 2030, 100% of our employees will be actively engaged in their communities through company-sponsored activities.**

When our facilities engage with their communities, our employee volunteers get to see the difference each individual can make. Some of our facilities conduct multiple community outreach events each year, and we have expanded our global reach through a wide range of initiatives. Through surveys, our employees tell us that working for a company that supports volunteerism is very important to them, and we have seen that their participation in Owens Corning sponsored outreach strengthens their pride in the company.

As part of our aspirations for 100% employee community engagement through company-sponsored outreach, we are continuing our efforts to engage facilities in community projects. By 2022, we intend to see 100% facility engagement, which will serve as a foundation for our broader 2030 goal.

**Number of Volunteer Experiences\***



While COVID-19 restrictions led to a significant drop in volunteer experiences between 2019 and 2020, we are pleased to see our numbers trending upward in 2021. We are confident that volunteering will continue to increase as more communities begin to emerge from the pandemic.

\* While our ability to track and measure employee volunteerism improves every year, we are currently only able to track the number of volunteer experiences and not individual volunteers. The number of volunteer experiences serves as an informative reference as we expand our reach to all global facilities.

## OUR APPROACH

Our community initiatives are structured around three key priorities, which are aligned with specific U.N. Sustainable Development Goals (SDGs) that relate to our global communities.

- **Safe & Efficient Housing (Sustainable Cities and Communities – SDG #11).** As a producer of residential and commercial building materials, we are well-positioned to help those who are unable to obtain shelter through traditional means.
- **Basic Health & Wellness (Good Health and Well-being – SDG #3 / Clean Water and Sanitation – SDG #6).** We seek to extend our culture of wellness beyond the workplace and into the communities where we serve.

- **Educational Opportunity (Quality Education – SDG #4).** By encouraging learning around the world, we believe we can nurture the next generation of leaders and further our goals far into the future.

Whenever possible, Owens Corning combines our philanthropic activity with volunteerism among our employees, encouraging them to be fully engaged with their communities. In addition, we are able to extend our contributions through our vast network of contractors, whose track record of excellence offers an added advantage as we seek to advance our efforts.



## The Owens Corning Foundation

The Owens Corning Foundation is a 501(c)(3) nonprofit organization established in 1978 to enhance lives through charitable contributions. The foundation supports Owens Corning's stakeholder communities throughout the U.S. and around the world through strategic partnerships. Additionally, the foundation engages employees through multiple programs designed to encourage volunteerism and giving.

This corporate citizenship program is managed under the umbrella of Owens Corning's corporate affairs department. The president of the Owens Corning Foundation also serves as the director of community affairs and is responsible for developing and implementing our companywide corporate citizenship strategy. The director of community affairs reports to the vice president of corporate affairs with additional oversight from the Owens Corning Foundation board.

In addition to regular contact with the chief executive officer, the director of community affairs reports each year to the full executive committee or a member of the executive committee. This helps ensure that the Foundation's efforts are aligned with and in support of our overall approach to corporate citizenship and philanthropy. Each year, the program is benchmarked against Giving in Numbers, a survey from the Committee Encouraging Corporate Philanthropy (CECP) on corporate giving and employee engagement at the world's largest companies. Budgets and programs are then planned accordingly, with a constant focus on meeting our goal of 100% facility engagement by 2022. Going forward, this process will also inform our plans to engage 100% of employees by 2030.

Photo submitted by:

**Misty Flantroy | Granville, Ohio, U.S.**

Blanket-making session for Fleece & Thank You, an organization that provides fleece blankets to children's hospitals.

Left to right: Stephanie Hawkins, Arrion Harris, Nadine Barfield, Misty Flantroy, Syreeta Skipper



## Engaging with Our Communities

Our approach to corporate citizenship empowers our employees to support their communities in ways that are truly meaningful to the people we serve. And because our approach is metrics-driven, it also helps us gauge our real impact around the world.

The Owens Corning Foundation provides financial support through strategic partnerships with nonprofit organizations that align with our corporate citizenship strategy and key business drivers. Our partnerships frequently include financial contributions from the Owens Corning Foundation, product donations, and employee volunteerism. We also provide support through our employee matching gift programs.

### ASSESSING LOCAL COMMUNITY NEEDS

Many of our partnerships address findings gathered from community needs assessments, which help us identify needs, look for synergy with our operations, and determine opportunities for volunteering.

### ENGAGING OUR EMPLOYEES

We choose to support projects based on their fit with our areas of focus and potential volunteer opportunities for our employees. We vet charities that approach us — if these criteria are met and there is employee interest, we usually find a way to support them.

### MEASURING OUR IMPACT

To ensure that our corporate citizenship program is both business-relevant and meaningful to our local communities, we regularly gauge its impact and verify its alignment with our key business drivers.

Our metrics include:

- Facility engagement in community service projects.
- The number of volunteer hours and other employee engagement metrics.
- Completion of contractor-related projects.
- The number of Habitat for Humanity builds in each community.
- The number of homes that have been reshingled or insulated through product donations or other work with strategic partners.



## Global Charitable Partners

Owens Corning works with the following organizations to identify appropriate charities in our various regions around the globe, perform the necessary due diligence required by the U.S. Internal Revenue Service, and then to transfer the funds. All three of these organizations specialize in helping corporate foundations make grants in countries outside of the U.S.

- Give2Asia.
- King Baudouin Foundation.
- Charities Aid Foundation.

Examples of the contributions made by the Owens Corning Foundation based on the guidance provided by these organizations can be found in the Initiatives section of this chapter, beginning on [page 239](#).

### Toledo, Ohio, U.S.

Owens Corning employees volunteer for a women's Habitat for Humanity house build.

## Key Charitable Partners

Owens Corning has a number of long-standing partnerships with U.S.-based charitable organizations, each of which provides vital services to communities across the country. These partnerships are highlighted here. Additional contributions to U.S.-based charities can be found in the Initiatives section of this chapter, beginning on [page 239](#).

### Habitat for Humanity

Our collaboration with Habitat for Humanity supports the building and improvement of homes in Owens Corning communities across the U.S. and internationally. The company donates building materials and employees volunteer their time, providing safe and energy-efficient housing for those in need. Through our work with this organization, Owens Corning helped to build, renovate, and improve living conditions for 126 families.

As COVID-19 restrictions were lifted in places around the world, opportunities to volunteer for Habitat for Humanity started to be available again. In 2021, Owens Corning's collaboration with Habitat for Humanity helped them complete 126 home builds, renovations, or improvements. To support this work, Owens Corning and the Owens Corning Foundation provided financial support and in-kind donations totaling \$47,500.

In June 2021, Owens Corning world headquarters volunteers began their 18th annual Habitat for Humanity build. The team performed a variety of tasks, including framing, painting, and installation of doors, windows, siding, insulation, and flooring. The home's recipient, Annette Middlebrooks, is mother to two one-year-olds and works at the University of Toledo in the emergency room registration department.



**In 2021, Maumee Valley Habitat for Humanity celebrated its 250th roof replacement. Since 2015, Owens Corning has donated over \$1 million in cash and product to the organization, located in northwest Ohio near our world headquarters.**



## The Gary Sinise Foundation

In recent years, we have expanded our partnership with the Gary Sinise Foundation. Founded by actor and philanthropist Gary Sinise, the organization supports U.S. defenders, first responders, veterans, and their loved ones. Our partnership directly supports the R.I.S.E. (Restoring Independence, Supporting Empowerment) program, which builds specially adapted homes for severely wounded U.S. military members and their families.

We donate insulation and roofing products for homes built through the program and work with contractors who volunteer in the construction of those homes. Our commitment to supporting safe, efficient housing for people in need makes R.I.S.E. a perfect fit for Owens Corning. As our employees — especially those who have family members in the armed services — see the difference these new homes can make for U.S. veterans, our participation is a true source of pride.

Among the 2021 recipients was retired U.S. Navy Senior Chief Petty Officer Kenton Stacy, who was injured in Syria in 2017. He and his family moved into a specially adapted smart home in California, which will provide greater independence and mobility. Dana Logsdon Roofing, an Owens Corning Platinum Preferred Contractor, donated the labor to install the roof, and Pacific Coast Building Services, a Certified Energy Expert, donated the labor to install the insulation.

Retired U.S. Army Staff Sergeant Jay Fondren, another 2021 recipient, was injured in Iraq in 2004. His new smart home in Texas was provided by the Gary Sinise Foundation. This home was made possible through the generosity of many supporters, including Roof Repair Squad, an Owens Corning Platinum Preferred Contractor, who donated the labor to install the roof, and Quality Insulation & Fireplace Services, a Certified Energy Expert, who donated the labor to install the insulation.

## World Vision

Owens Corning also collaborates with World Vision, an organization serving children, families, and their communities, on projects in which our donated products make a difference to individuals whose homes need significant repairs. Through our efforts in 2021, Owens Corning donated enough material to reroof 164 homes with World Vision.

### Additional Contributions

Beyond these key partnerships, we offer our financial support, products, and volunteers to benefit communities where we work and live. Our contributions help in the following areas:

- Building and rehabilitation of safe, efficient housing.
- Neighborhood revitalization projects.
- Construction and support of shelters and community centers.
- Disaster relief.
- Racial equality.

Like many companies, we are frequently approached with requests from charitable organizations. A substantial number of requests for one-time gifts come from the Toledo, Ohio, U.S., area, the location of our world headquarters. As the sole Fortune 500® company in the city, we believe it is important to maintain a significant presence; therefore, we often sign on as a corporate sponsor at events and fundraisers throughout the region. We often donate used office furniture and building materials to local charities, and we also allow them to use our facilities for events. These donations are all provided directly from Owens Corning rather than through the Foundation.

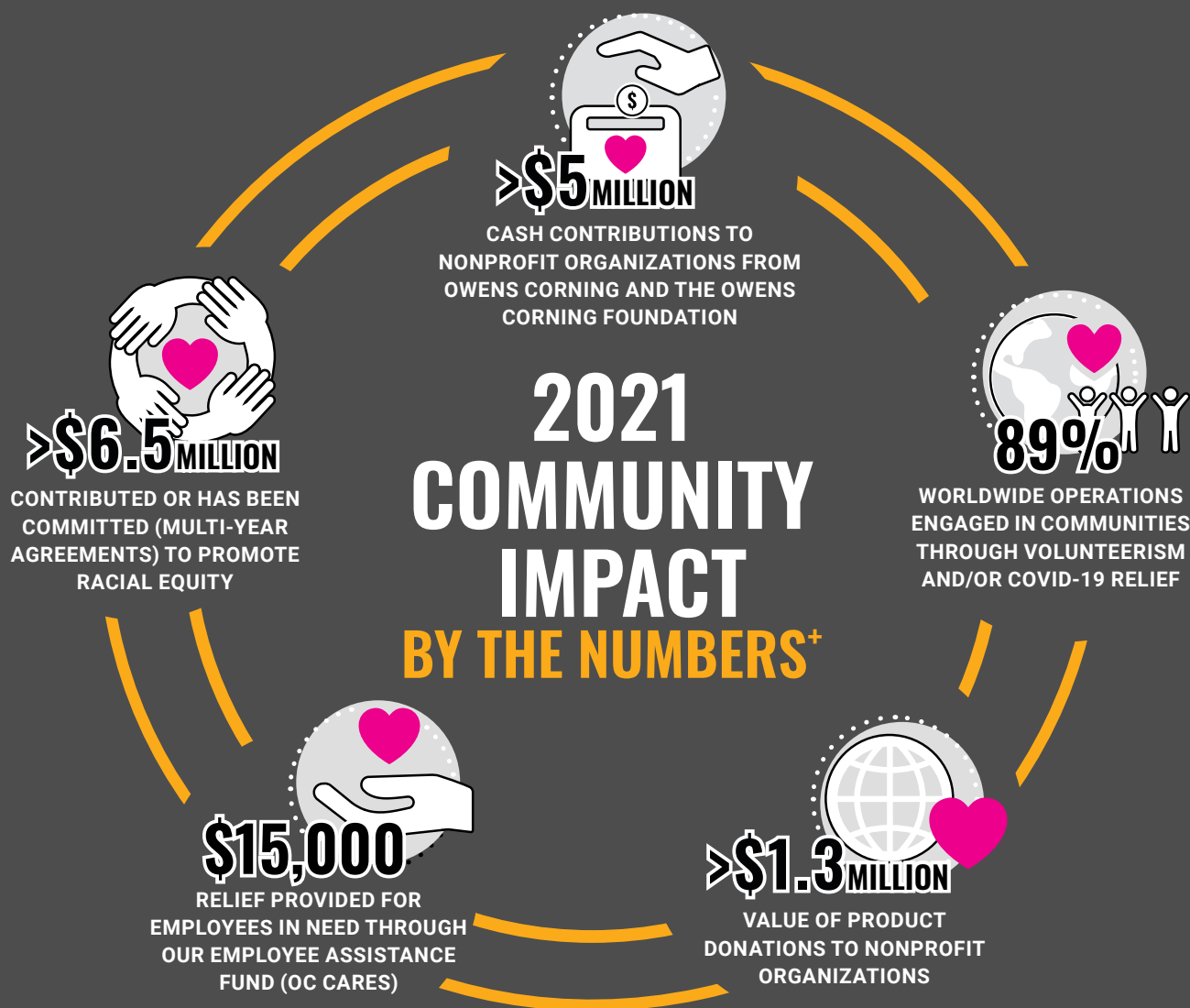


**The Gary Sinise Foundation | Houston, Texas, U.S.**  
U.S. Army Staff Sergeant Jay Fondren and his family  
in front of their new specially adapted home.



## COMMUNITY ENGAGEMENT INITIATIVES

Our people and our products make the world a better place — we see that in action as we look at the impact of our employee volunteers, our in-kind donations, and the financial support of the Owens Corning Foundation.



### SINCE 2016

**324**

new roofs provided to veterans in need through the Roof Deployment Project

**616**

home builds, renovations, or improvements in the U.S., Canada, and China through Habitat for Humanity International

**21,550**

children provided with access to computers

**3,035**

individuals provided with access to clean water

**1,168,442**

meals packed and served globally by Owens Corning volunteers

**58,768**

hygiene or supply kits packed

## Programming Assistance from the Owens Corning Foundation



### North America

#### Nationwide, U.S.

##### Roof Deployment Project

Since 2016, Owens Corning has partnered with our Platinum Preferred roofing contractors in the Roof Deployment Project. Through this program, contractors are given the opportunity to volunteer their services to a veteran in need, while Owens Corning donates the roofing materials. To date, 324 veterans have benefited from the program, in partnership with our Owens Corning Platinum Preferred Contractors. In 2021, we worked to create a network of charitable partners, who have expanded access into markets where there is need, making it possible for more of our contractors to participate in the program and helping more veterans. In 2021, we exceeded our goal for the program, and 82 veterans received new roofs, a 17% increase compared with 2020.



Among the people for whom we donated new roofs was U.S. Navy veteran **Helen Martowski of Ludlow, Massachusetts** — the oldest living female World War II veteran.

Photo submitted:

**Independence, Missouri, U.S.**

Contractors install donated Owens Corning shingles during a 2021 Roof Deployment project in Independence, Missouri, U.S.

## Toledo, Ohio, U.S.

### Connecting Kids to Meals

An organization that provides healthy meals to children in low-income and underserved areas throughout the community, Connecting Kids to Meals served more than 875,000 meals in the last year alone. They recently completed a \$40,000 remodeling of their walk-in refrigeration system, and the Owens Corning Foundation contributed approximately \$14,000 to help with the costs of this upgrade.

### Neighborhood Industries

Over the next five years, Owens Corning will donate \$1 million to support a workforce development program in downtown Toledo. This commitment will help supply computers and other tools that will be used by individuals in our community to prepare for jobs in the digital economy.

### Home Rescue Program

In March 2021, Maumee Valley Habitat for Humanity and the city of Toledo announced the Home Rescue Program, a community partnership to fund critical home repairs in distressed neighborhoods. The program will be funded with \$1.5 million from the Home Investment Partnerships Program. This funding was provided to Toledo by the U.S. Department of Housing and Urban Development, and it will be administered by the Maumee Valley Habitat for Humanity. The Owens Corning Foundation will donate construction materials as well as financial support for this initiative for the Junction neighborhood in central Toledo. In addition, the support will extend to a new Habitat housing development in Junction set to start in 2022. The repairs will address overall code violations, energy efficiency, and lead safety issues in owner-occupied homes. The program will benefit low- to moderate-income Toledo homeowners.

### Toledo Area Metroparks' Glass City Riverwalk

In 2021, the Owens Corning Foundation's made a \$1 million commitment in support for the completion of the Glass City Riverwalk. This new amenity, running along the banks of the Maumee River in downtown Toledo, will provide high-quality greenspace for the entire community. The new Riverwalk will link six different neighborhoods across the city, connecting them in new ways and providing greater equity, access, and experiences for all Toledo residents.

### Bowling Green State University

In 2020, the Owens Corning Foundation directed a gift of \$1 million to support underrepresented students in the School of the Built Environment within BGSU's College of Technology, Architecture, and Applied Engineering. The gift, which is being disbursed over the next five years, will create the Owens Corning Scholars Program for students studying architecture, construction management, or other majors in the building sciences field.

## Nationwide, Canada

### Jill of All Trades

In Canada, as in the U.S., there is a great and growing need for workers in the skilled trades. Currently, women in Canada make up less than 4% of that workforce, meaning there is a significant opportunity to encourage women to consider the trades as a career option.

Working with Conestoga College, we have entered a two-year, \$200,000 agreement to serve as the lead supporter for a program called Jill of All Trades. A successful event at Conestoga since 2014, Jill of All Trades provides hands-on experience for young women in grades 9-12 through a variety of skilled trades workshops.

Our agreement will provide support to expand beyond Conestoga College and take the program across Canada. This is also a very cost-effective way for our foundation to serve as an inclusion and diversity leader in Canada while also helping to fill essential positions at Owens Corning and for our customers in the building materials industry.

## Mexico

### IBAIS School for the Hearing Impaired (Tlaxcala)

Phase two of this project's construction was completed in 2020, thanks in part to the Owens Corning Foundation's partnership with the Mexican Red Cross. During this phase, the Foundation provided assistance that went to equipment and décor for the school. More than 25 Owens Corning employees were involved in this initiative.

In 2021, Tlaxcala employee Osvaldo Rugiero won the video challenge portion of our Healthy Living "Adventures in Africa" Walking Challenge, a competition designed to encourage physical activity among our employees. On his behalf, the Owens Corning Foundation, through the Mexican Red Cross, awarded \$5,000 to the school, which will put it toward acquiring and delivering storage water tanks for disadvantaged and remote households in the region.

### Home-School Perpetuo Socorro (Mexico City) and Social Orientation for Young Girls Association (Monterrey)

For several years, the Owens Corning Foundation has supported the Home-School, which provides housing and education for young girls taken from homes affected by domestic violence. The Owens Corning Foundation continued to provide financial support to the school in 2021, funding doctors, psychologists, teachers, drivers, and basic needs such as food. In addition, employees in the area host a range of events throughout the year that benefit these schools.





Photo submitted by:  
**Natalia Kravchenko | Izoplit, Russia**  
Izoplit plant employees plant lilac trees  
in a local school garden.

## Asia Pacific

### Nationwide, India

#### Freedom for You Foundation

Through our contributions to this NGO, we are helping provide vital support in the fight against COVID-19. This includes vaccinations throughout the country, medical equipment and assets for rural and semi-urban hospitals, and ration kits for marginalized communities. This support also reaches into schools, through the distribution of masks for students and teachers, as well as infrared thermometers, sanitizer dispensers, and oximeters. In addition, personal protective equipment (PPE) kits were distributed in areas near our Taloja and Silvassa industrial plants in consultation with Owens Corning India.

## Europe

### Nationwide, France

#### Posse 33

After completing a community needs assessment with the European-based agency Wider-Sense, we discovered that Posse 33 is the most promising emerging youth association in Chambéry, France, focusing on fostering inclusive urban cultures.

Posse 33 began as a rap school for marginalized children, based upon the belief that street culture could become a point of contact with youth, which would then build a safe space for the expression and mentorship of underprivileged children. Their success pushed them to expand and consolidate their programs for older age groups (15 to 25 years), aimed at the promotion of their inclusion and growth.

The Owens Corning Foundation grant supported the expansion of Posse 33's reach in 2021 by contributing to the development of a youth empowerment program (12 to 25 years) in their newly acquired location of Chatagnier. The project aims to empower youth by providing comprehensive support mechanisms, such as the creation of "expression rooms," the support of an educational or professional project, and encouraging community engagement.

### Chambéry, France

#### La Cantine Savoyarde

Our support for this organization, which provides meals for people in need, primarily the homeless and refugees making their way from Italy, has been a mainstay of our charitable giving in Chambéry, serving meals there since 2017.

#### French Muscular Dystrophy Association

For the third consecutive year, employees in Chambéry participated in a 10K race to benefit this organization, which supports research and helps patients and their families. In addition to this employee-based outreach, the Owens Corning Foundation contributed \$10,000 to this cause.

### Besana, Italy

#### In-Presa Cooperativa Sociale

This organization provides approximately 425 underprivileged youth with training and access to employment opportunities each year — 75% find a job within six months. The organization offers professional courses and diplomas in the fields of hospitality, catering, and electronics. The organization also runs specific programs for youths ages 16 to 20 who have dropped out from formal education and need to rebuild their confidence, by offering tutoring and short apprenticeships. In addition to the Owens Corning Foundation's contribution, our team members in Besana began volunteering with the organization in 2021.

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## Investments in Equity in the Toledo Area

As noted in the [Inclusion & Diversity chapter](#), Owens Corning's commitment to equity extends beyond our internal initiatives to include investments in programs and organizations that are working to improve the quality of life for the people in our communities — especially those who are too often underserved.

Owens Corning's world headquarters is located in Toledo, Ohio, U.S., and many of our investments are intended to help make our hometown stronger and more equitable. In 2021, the Owens Corning Foundation made the following commitments to these organizations, each of which share our commitment to the people of this region.

### Local Initiatives Support Corporation Toledo

In Toledo, families of color are half as likely as white families to own their own home. In an effort to close the racial wealth gap and expand homeownership opportunities, the Owens Corning Foundation has made a \$1 million, multi-year commitment to Local Initiatives Support Corporation (LISC) Toledo, a community development financial institution.

This commitment also supports Core City Rehabilitation projects, in which LISC collaborates with neighborhood partners to identify, acquire, and renovate homes throughout the downtown Toledo area. The homes are then sold to owner-occupants, which helps increase property values and stability in these communities. In addition, our commitment will fund efforts to grow the capacity of small contracting businesses owned by members of underrepresented groups and woman-owned contracting businesses, as well as invest in civic and community engagement projects. In 2021, work began on three Core City homes. One was completed in late December and is now on the market. The other two homes will be completed in the first quarter of 2022. The population of homeowners who benefit from the Core City effort project are 70% BIPOC, 57% female head of household, and have an average income of \$41,000 per year.

### The Jeff Innovation Hub

Another investment of \$1 million will support workforce development at The Jeff, a new innovation hub located in our downtown. The Jeff will be operated by Bitwise Industries, a California-based tech company that focuses on connecting people from marginalized communities and systemic poverty to skills and resources necessary to access opportunity in the tech industry.

### Toledo Excel

Toledo Excel is a scholarship incentive program to help underrepresented Toledo Public Schools (TPS) students succeed in college. The program connects with students, who receive mentoring, academic support, and wraparound services while they attend TPS high schools. Upon completion of the program, they receive four-year scholarships to the University of Toledo.

Through a multi-year commitment, the Owens Corning Foundation has provided approximately \$300,000 in scholarships for Toledo Public Schools students who participate in the program. In January 2021, Owens Corning hosted the organization's 37th annual conference. Guest speakers at the event included Valerie Jarrett, senior advisor to former President Barack Obama, and Sabrina Fulton, mother of Trayvon Martin.



Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Mexican sage, Trophy Club, Texas.



# SPEAKING OF SUSTAINABILITY

## Sanjay Rao

Human Resources Director, India and Singapore

In addition to leading human resources in India and Singapore, Sanjay Rao takes an active role in community outreach throughout these countries. Inspired by the work of Mother Teresa, Sanjay believes that serving the people in the areas where our employees live and work is vital, building a culture of service and caring and helping create a positive work environment. Here, he shares some of the many benefits of community engagement and how it inspires him every day.



**“ Community engagement is directly linked to our purpose: Our people and products make this world a better place. ”**

### On the value our teams bring to our community engagement

What we have achieved in the community space is through the combined efforts of the self-motivated and committed talent at our plants, without whom we would not be where we are. Today, like other aspects of a high-performing organization, we have self-directed teams and individuals who are passionately contributing to the community. We also look at the other needs that complement our inclusion and diversity goals, like creating more skill within women in our communities to support their families.

### On the importance of community outreach to prospective employees

I feel community work at Owens Corning is directly linked to our purpose: Our people and products make this world a better place. I also feel community work enhances our position as a leader in the industry, and it enhances goodwill towards our brand. Recently, when we were hiring for an open position, we heard from a couple of candidates that they were quite inspired by our sustainability aspirations. The next question from them was will they get a chance to work for the community being in the company. I think this is really good to know. The kind of work that we do in terms of basic health, basic education, sanitation, and the environment provides a great sense of satisfaction among employees, and it further strengthens our commitment to serving as a net-positive force and increasing our social handprint.

### On the personal rewards provided through service

Working for the community, especially with children, gives me immense pleasure and satisfaction. I feel when we work for the community, our perspective about the community changes. The needs of individuals and groups, which seem difficult to address, start getting resolved. In India, there is a saying which says, “Vasudhaiva Kutumbakam,” which means, “the world is one family.” I feel by supporting our communities, we practice this saying. And there’s nothing better than when you start looking at the world as one family and take care of them. It’s a great sense of gratification to bring smiles around, and this is what inspires me.

Photo courtesy of Sanjay Rao





## COMMUNITY ENGAGEMENT PERFORMANCE

As the world has begun to gradually emerge from the COVID-19 pandemic, our company-sponsored community outreach has begun to increase accordingly. It's a testament to our employees' eagerness to increase our social handprint through real engagement with the people in the regions where we conduct business.

In 2021, Owens Corning employees volunteered 6,240 times, up 92% from 2020. They devoted 23,574 hours of volunteer time, an increase of 50% from the 15,690 hours in 2020.

The work is valued at \$28.54 per hour, totaling \$672,793. Our facility engagement was 89%, which includes volunteerism and financial support.\*

Because COVID-19 restrictions are still in effect in places around the world, we are still experiencing lower rates of volunteerism than we saw in years prior. The upturn we have seen in 2021 is an encouraging sign that levels will continue to increase as restrictions ease, and we expect to see people return to volunteering at levels that exceed even those of previous years.

The dedication employees have shown is still a driving force in our financial support. In 2021, 5% of our donations were charitable contributions and 95% were community investments.^ Cash contributions totaled \$5,086,238, as well as \$1,436,928 in in-kind giving, including \$1,300,144 in product donations, projects/partnerships, or similar contributions.^

All our giving is accomplished with a management overhead of only \$494,387, which includes salaries and fringes, computer equipment, phone equipment, travel, and other miscellaneous expenses.^

Photo submitted by:

**Audrey Patruno | Chambéry, France**

Global Finance Operations Reporting (GFOR) Caring Day





## GOING FORWARD

The COVID-19 pandemic had a major impact on our ability to perform community outreach in person. As restrictions are gradually lifted around the world, though, our people have demonstrated tremendous interest in returning to volunteering in their communities. We are inspired by their eagerness to serve, and we believe we are well-positioned to achieve our 2030 goals for community engagement.



Photos submitted by:

### Top:

**Cherie Zurawski | Toledo, Ohio, U.S.**

Team OC installed insulation on the interior at the Women's Habitat for Humanity Build.

### Middle:

**Trinke Vonbrinton | Joplin, Missouri, U.S.**

The Vonbrintons filled their community Little Free Pantry as part of the Martin Luther King Jr. Day of Service.

### Bottom:

**Martha Aragón Osio | Tlaxcala, Mexico**

EHS and HR Teams visited nearby communities to deliver a COVID-19 express training.

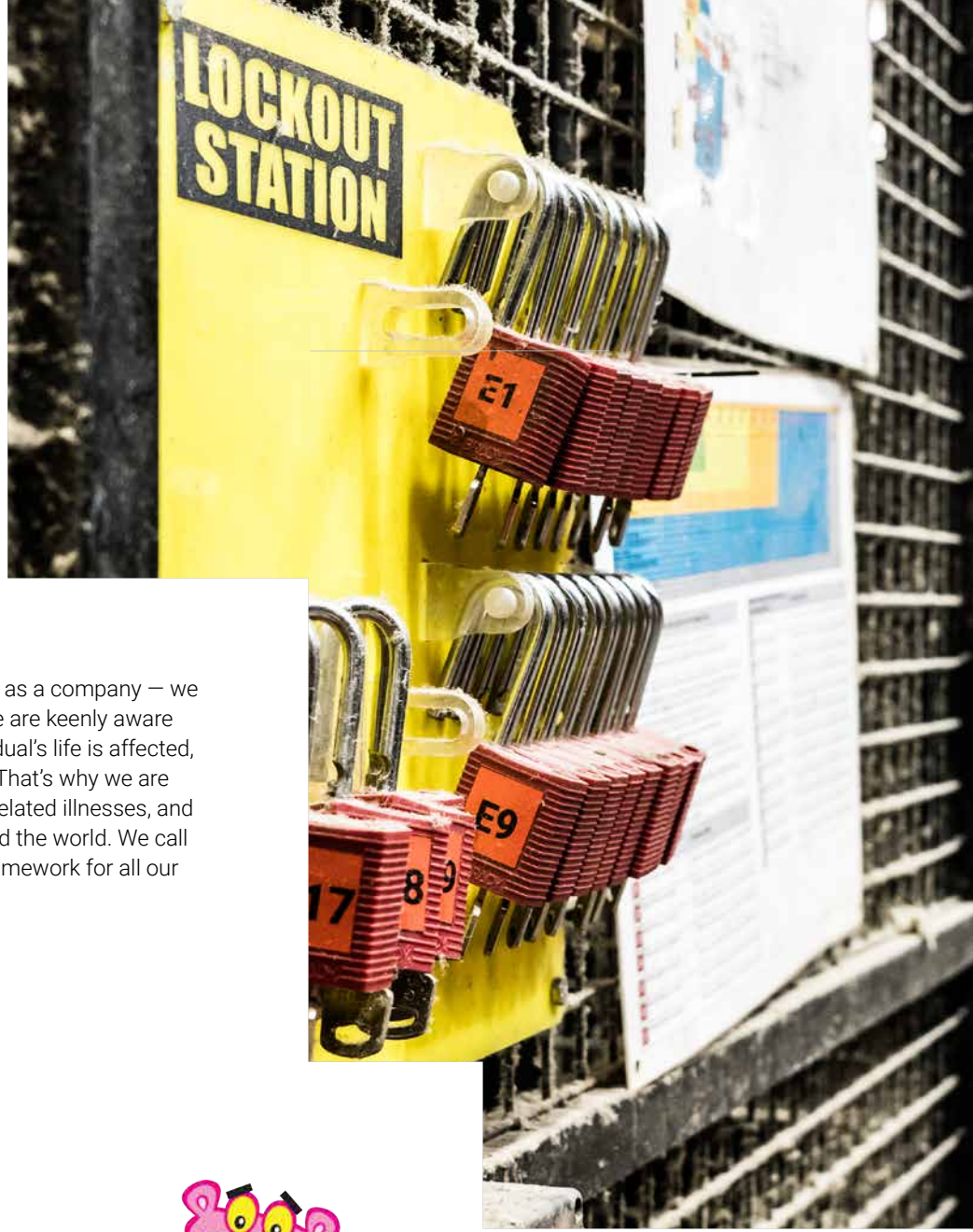


# LIVING SAFELY

In this chapter:

- 2030 GOALS
- OUR APPROACH
- SAFETY INITIATIVES
- SAFETY PERFORMANCE
- GOING FORWARD

Our approach to safety mirrors our mission as a company — we are global in scope, and human in scale. We are keenly aware that whenever an incident occurs, an individual's life is affected, and the impact could be extremely severe. That's why we are working hard to eliminate accidents, work-related illnesses, and other safety incidents in our facilities around the world. We call it the March to Zero, and it serves as the framework for all our safety efforts.



**We aspire to eliminate all injuries and occupational illnesses among employees, contractors, and visitors — at work and at home.**



Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**

Our safety efforts align with the following UN SDGs:



#### Sustainability Materiality Definition:

As a company, we are committed to promoting safety for all. We believe that all accidents are preventable, at work and at home.

The social data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).



## **2030 GOALS FOR LIVING SAFELY**

By 2030, we aspire to achieve the following goals:

■ **Make it impossible for injuries and illnesses to occur.**

Ideally, we will do this by designing equipment and processes to eliminate risk. When an engineering solution isn't possible, we will continue to evaluate and implement strong rules and policies and ensure use of appropriate protective equipment to keep people from hazards.

■ **In new or newly acquired sites, achieve a level of safety at least equivalent to the rest of Owens Corning within one year.**

In 2021, Owens Corning acquired vliepa GmbH, a German-based company specializing in the coating, printing, and finishing of nonwovens, paper, and film for the building materials industry. We have been working to apply our safety processes to their operations as we complete the acquisition of this company.

■ **Emphasize the elimination of risks that could lead to the most serious injuries, rather than concentrating on only the most frequent ones.**

We aspire to eliminate all employee, contractor, and visitor injuries and occupational illnesses at work and at home, beginning with the ones that have the most serious consequences. While Owens Corning has a long-standing commitment to safety, we recognize there is still work to do as we keep our eye on our 2030 goals.

## **OUR APPROACH**

As we work to achieve zero accidents and injuries at our facilities, we have implemented the following strategies, based on our Environmental, Health, and Safety Policy. Like our other policies, our EHS policy is endorsed by our executive leadership and applies to all Owens Corning employees everywhere.

- Environmental, health, and safety (EHS) committees.
- Emphasis on the prevention of serious injuries and fatalities (SIF).
- Occupational health and safety management through the application of Total Productive Maintenance (TPM) principles.
- Hazard recognition and control programs.
- Access to non-occupational health services.

These strategies are outlined throughout this section of the chapter.



Photo submitted by:

**Tadas Narankevicius | Vilnius, Lithuania**

L2 operator Stanislav Koščic (left) and warehouse manager Artūras Riška (right) engage on a gemba walk to ensure quality.

## Environment, Health, and Safety (EHS) Committees

Our safety goal can only be met through the active engagement of our employees in promoting safety and identifying and reducing the risk of injury. Because tasks vary at different plants, facilities have established a variety of EHS initiatives, and all employees and management are encouraged to take part in them. Every Owens Corning manufacturing location, regardless of size, has an EHS professional on site.

Initiatives include the following:

- Oversight safety committees.
- Behavior-based safety observation teams.
- Hazard recognition teams.
- Serious Injury and Fatality (SIF) prevention initiatives.
- Green teams (environmental).
- Employee wellness teams.

Representative safety teams at each plant communicate employee concerns, then review and roll out plant safety programs. The safety team is responsible for communicating plant leadership responses to safety concerns and programs brought through the safety committee. The team is also responsible for sharing best practices at their plant, and they share these findings among other facilities by submitting best practices to the enterprise safety website.

## Preventing Serious Injuries & Fatalities (SIF)

Like many other companies around the world, Owens Corning is thinking differently about the best ways to prevent serious injuries and fatalities (SIF). In the past, it was believed that serious injuries and fatalities were caused by the same issues as more common and minor injuries. Newer studies — and our own experience — demonstrate that the factors that contribute to SIF events are often very different.

We now track incidents with high potential for SIF as a separate category, which helps us focus on less common but potentially more severe hazards. Identifying and eliminating the precursors for these incidents is the best way to reduce all injuries.

This focus on severity also requires us to work to eliminate precursors to SIF, even when no injury has occurred. When a near miss occurs, we must ask ourselves, “What if?” As safety incidents — both injuries and near-misses — are reported and we conduct proactive risk assessments, we evaluate them based on how severe the injuries were or might have been. The most serious will get immediate attention.

Our SIF standards include:

- Automobile Safety.
- Confined Space.
- Electrical Safety.
- Hot Work Safety.
- Lock-Tag-Try.
- Machine Guarding.
- Powered Industrial Vehicles (PIV).
- Warehouse Safety.
- Working from Heights.

This year, we have placed an even greater emphasis on SIF prevention as it relates to the safety of our contractors. In the U.S., Canada, and Mexico, Owens Corning partners with ISN to review our contractor safety programs. As part of our ISN process, contractors must submit their applicable SIF prevention processes for review to determine if they meet minimum expectations for working at an Owens Corning facility. If it is determined that they do not meet expectations, the contractor is provided feedback so they can strengthen their programs for resubmittal and reconsideration. Additionally, any contractor company that has had a fatality within the last three years is automatically eliminated from consideration for work at an Owens Corning facility until they submit acceptable information detailing how the fatality occurred and what actions were taken to prevent this or similar events in the future.

The concept is now being expanded into Europe, using software that has been developed internally to review SIF programs that are specific to the types of work performed by Owens Corning contractors. This software is being tested at our plant in Besana, Italy, and we intend to roll it out in Europe in the coming months, and in Asia Pacific in 2023.

## Occupational Health and Safety Management

Our ambitious safety goal requires participation from every individual affiliated with Owens Corning — employees, contractors, and visitors alike — in our manufacturing facilities, offices, warehouses, laboratories, and other properties. Employees influence health and safety processes and protocols by providing input through:

- Safety teams and committees.
- All-plant communication meetings.
- Crew meetings.
- Shift huddles.
- Training teams and sessions.
- Subject-specific safety teams or committees.

Owens Corning identifies and avoids hazards through qualitative and quantitative surveys and a corrective/preventive action process. Our approach to health and safety uses several tools, including:

- Job hazard analysis and risk assessments.
- Structure hazard assessments.
- Product hazard analysis.
- Failure mode and effects analysis.
- Permitting processes.
- Pre-job hazard analysis.
- Stop-Think-Act-Review (STAR) Cards.

Our collective bargaining agreements contain all these provisions at the local level, as well as procedures for resolving issues affecting a safe workplace.

### Safety at Non-Owens Corning Sites

When employees are assigned to work at facilities not controlled by Owens Corning, these employees assess the risk of their tasks and in the general work environment. If the level of risk is not acceptable, they will discontinue their activities until risk-mitigating actions are completed by the owner of the facility. If necessary, our EHS personnel visit these facilities to assist with risk assessment and help develop risk mitigation strategies in partnership with the site owners. By empowering our staff to take action for their own safety, Owens Corning ensures that our employees are safe no matter where they are, and they can model good safety practices for others.

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Photo submitted by:  
**Jan Coerts | Apeldoorn, Netherlands**

## Total Productive Maintenance

Total Productive Maintenance (TPM) is the management system Owens Corning uses to improve manufacturing productivity. It is also a mindset that empowers all employees to proactively address issues that could cause losses. TPM works hand in hand with advanced manufacturing and process excellence to deliver world-class manufacturing performance in support of Owens Corning's growth strategy. See [page 78](#) for more information.

TPM also strengthens our safety culture across the company. In fact, we have now assigned a senior EHS leader to each enterprise-wide TPM pillar team, so the safety perspective is built into each of the pillars. We are building EHS into the phase-gate approval process using TPM Early Management, to standardize the way safety is incorporated into new projects.

As employees in the plants perform their daily work, for example, they are constantly monitoring the equipment and the environment for indications that maintenance or other intervention is needed. With TPM, all employees are accountable for watching for developing hazards. This improves efficiency in our operations as well as safety for our people.

One example of a TPM-driven practice is safety tagging.

- Equipment is inspected and audited.
- Tags are placed where safety issues are spotted, making them immediately apparent.
- Open tags can be tracked to completion, ensuring that issues are resolved.

In 2021, Owens Corning updated the safety portion of our EHS and Planned Maintenance pillars, and we have developed new checklists and guidelines for safety processes within the Autonomous Maintenance pillar.





## TPM LEADS TO SIF SUCCESSES IN TLAXCALA

When Total Productive Maintenance becomes an integral part of a plant's philosophy toward safety, the results can be highly beneficial. That has been the case in Tlaxcala, Mexico, where the team has created a culture of engagement and participation in TPM that extends throughout all aspects of their operations, especially as they relate to ensuring the safety of their people.

The Tlaxcala team's approach encourages people to act in ways that place safety at the center of their daily activities and motivates them to think about the overall impact of their actions on their fellow employees. In other words, people do not follow safety directives to avoid punishment — they do so because they want to protect themselves and their coworkers. By shifting the emphasis from a top-down paradigm to one that recognizes the interdependence of people throughout the facility, TPM fosters an environment where safety truly becomes a priority throughout the organization.

Tlaxcala uses a preventive approach, implemented by the EHS working board, based on hazard recognition and controls to identify opportunity areas and develop improvements that reduce potential risks related in work activities. The team documents losses, analyzes trends, and develops action plans to ensure continuous improvement. The process begins with a general commitment to the methodology, followed by concerted efforts aimed at understanding root causes behind incidents. Ideas are reinforced through on-site communications and safety alerts, and action plans are developed to avoid similar conditions and improve safety controls going forward.

One of the plant's most effective safety communications have been their "Keep It Fresh" events, which are designed to call attention to the many safety measures that are essential to operations — everything from lock-tag-try procedures to forklift protocols, COVID-19, and environmental topics to the use of handrails on stairways. In 2021, the facility sponsored 19 events involving more than 1,000 employees and contractors.

In 2021, machine guarding was a focus, as the potential trapping risk could cause serious accidents. The team evaluated 61 machines and determined the risk level based on exposure frequency, the severity of the damage, and the current safety controls implemented. This exercise indicated 10 very high-risk machines, 27 high-risk machines, 20 medium risk machines and four with low risk.

Aligned with the high-risk reduction plan and the SIF prevention approach, safety controls were improved on robotic vehicles that transfer product between forming and ovens — machines that are among the highest risk. More than 142 security devices were implemented on three of the plant's four vehicles. A second phase will be completed in 2022.

Results at the plant have been impressive: In recent years, 100% of SIF assessments had been completed, with 40% occurring in 2020 and the remaining 60% occurring in 2021.

Tlaxcala is one of many Owens Corning plants that have made TPM central to their approach to safety. As more facilities integrate these principles into their operations, we believe we will see even greater collective progress toward our March to Zero incidents.



Photos submitted by:  
**Isabel Fernandez | Tlaxcala, Mexico**  
Members of the EHS team in Tlaxcala

## Hazard Recognition and Control (HRC) Programs

Spotting hazards is a learned skill, and the HRC program teaches employees to break the human tendency to overlook familiar objects and situations, which can cause people to miss risks. Through the program, employees learn specific techniques to identify hazards, quantify risks, and develop effective ways to minimize or eliminate them. Traditionally, HRC training has been conducted at plants and in classroom settings. COVID-19 restrictions made it necessary to develop online training. To date, over 2,000 employees around the world have received HRC certification, including 97 in 2021.

This year, Owens Corning partnered with a third-party company to develop the technology necessary to begin providing HRC training using online training and virtual reality tools. We were able to combine the two forms of HRC training into one package that condenses approximately eight hours of classroom training into two hours. We piloted the training at our site in Amarillo, Texas, U.S., for employees who were already certified as HRC specialists and others who had not received the training, and the response has been overwhelmingly positive. The training is now available in English, Spanish, and Portuguese.

## VR-Based Lock-Tag-Try Training

In addition to our virtual HRC training, we have also piloted VR-based lock-tag-try training at our plant in Amarillo, and we intend to implement this training at other sites as our capacities expand. This training helps ensure that employees not only understand lock-tag-try, but demonstrate skills at reading, understanding, and demonstrating the use of the lock-tag-try machine postings using the VR exercises.

## Access to Non-Occupational Health Services

To support the health and well-being of our employees and their families, we go beyond occupational health. Our Healthy Living program combines coaching, interactive health risk assessments and biometric screenings, incentives, and rewards. Our goal is for all employees to benefit from putting a stronger focus on their everyday physical, emotional, financial, and mental well-being — resulting in improved health, productivity, and happiness. Read more about the program in the [Health & Wellness chapter](#).

This year, the company continued to promote the company-provided resources available to support employees' health and well-being throughout the COVID-19 pandemic. For quantitative occupational health and safety performance metrics for full-time employees and contractors, please see [Appendix B](#).

## Safety Strategies at Owens Corning

### Incident Reporting and Investigations

Our policy states that employees are expected to insist on safety training before starting any job or task. As a result, employees are also expected to stop and report unsafe behavior or any work procedure that puts themselves or others at risk.

When an incident does occur, our procedure is as follows:



### Sharing Lessons

A cross-business team of EHS leaders meets each week to review incident reports and discuss the lessons that were learned. Through our SIF tracking and analysis, we've come to understand that many of our most frequent safety incidents are business-specific, while SIF-potential incidents are not. For example, employees in our Composites plants handle glass fiber directly, so safety incidents involving glass fiber are likely to be more frequent than in our Roofing business, where employees do not handle glass fiber as often. Meanwhile, the potential for SIF incidents exists across all our businesses.

With this in mind, each business's safety team reviews high-frequency incidents separately, allowing the cross-business team to spend more time reviewing SIF-potential incidents. SIF or SIF-potential cases are reviewed each week by a cross-business team of EHS leaders who share learnings from those incidents within their respective businesses and implement corrective actions to prevent similar occurrences.

At the local level, incidents are reviewed during each shift's daily meeting. These meetings, which are a regular part of our operations, are an opportunity for the team to share and discuss topics ranging from plant production metrics to participation in health and wellness activities. The incoming workers are briefed on current working conditions, including safety concerns or investigations that are in progress, and they have the opportunity to ask questions and provide suggestions.

## PREVENTING COLLISIONS THROUGH ARTIFICIAL INTELLIGENCE

When it comes to safety, one of Owens Corning's guiding philosophies is that we should consistently strive to make it impossible for accidents to occur. One way to achieve that ambition is through the use of artificial intelligence

and machine learning. Recently, Owens Corning has been implementing these tools to help prevent incidents involving powered industrial vehicles — specifically forklifts. This is one of our SIF standards, and it's an essential component of workplace safety.

By employing artificial intelligence and machine learning in conjunction with our existing camera systems, we can better predict impending collisions between forklifts and fixed objects, other forklifts, and especially pedestrians. The results we are seeing in our pilot program have been very encouraging, and we plan to expand this project further in its second phase.

Accidents such as these are a serious concern for Owens Corning, one of our highest risks, and preventing them is among our top safety priorities. We are proud to be leading the way in the integration of artificial intelligence and machine learning in this area, and we look forward to building on the promise of this very exciting technology as we continue on the path to zero accidents.



Photo submitted by:  
**Jan-Christian Stenroos | Parainen, Finland**

### Risk Assessment & Controls

At Owens Corning, safety risks are ranked based on the following:

- Frequency of exposure.
- Potential severity of an injury.
- Likelihood of an incident.
- Level of controls in place.

This risk ranking system is used to prioritize projects, identify resource requirements, and allocate working capital across the company. This system is also used to measure risk reduction at all levels — plant, business unit, and corporate. This enables us to hold leaders accountable for reduction targets and to obtain the most risk reduction benefits for the resources allocated.

Risk identification is an ongoing process that includes the following steps:

- Complete a detailed risk assessment of each task prior to starting it.
- Complete a detailed risk assessment of high-risk conditions within the facility.
- Conduct a root cause investigation if an incident does occur.
- Develop corrective actions to prevent recurrence of incidents.
- Share learning across the site and between sites, as appropriate.

Risk assessments are conducted in new facilities or on new operations within existing facilities to predict and address potential health and safety issues. We are working diligently to prevent new hazards from entering our facilities while also understanding and addressing the risks at new facilities. Detailed risk assessments are completed for high-risk conditions within a facility, as well as prior to starting each task.

Owens Corning has systems in place to ensure that potential occupational exposure to hazards is recognized, understood, and effectively mitigated throughout our global operations. This is achieved through our comprehensive and rigorous focus on exposure control, as well as a traditional approach to employee health screening where appropriate. As a result, there are no worker groups with a high incidence of occupational disease.

We also work to understand and control exposure to hazards that might cause injury. Safety procedures are in place for specific hazards, including handling chemicals or hazardous substances.

In 2020, Owens Corning developed a global EHS standard for hazard communication and chemical management, which employees can view on our internal website's hazard communication page.



## Detailed Risk Assessment

Owens Corning completes a detailed risk assessment of high-risk conditions within a facility, as well as prior to starting each task. We have developed a risk assessment calculator tool that generates a risk score based on the complex relationships between severity and the hierarchy of controls. In addition to traditional risk assessment calculations, which multiply frequency by severity, we are exploring a new scoring system that removes frequency from our calculations. In doing so, we can avoid situations in which a minor but common hazard might be scored higher than one that is more serious but less common. This is in keeping with our commitment to SIF prevention.

After identifying a risk, assessors take the following steps:

- The potential severity of the risk is rated:
  - SIF.
  - Significant.
  - Minor.
- Each control type is rated according to the assessors' confidence in their effectiveness. Control types include:
  - Passive engineering.
  - Warning.
  - Administrative.
  - Personal protective equipment (PPE).
- Each selection is weighted and scored:
  - A score for the controls.
  - A score for severity.
  - A total risk score.
- Based on the scores, the risk is categorized:
  - Low.
  - Acceptable.
  - Unacceptable.
  - Dangerous.

If the risk is categorized as unacceptable or dangerous, a mitigation plan is required. When incidents do occur, an investigation into the root causes is conducted.

## Developing and Sharing Action Plans

Each site develops action plans to eliminate or reduce its top risks.

- Internal teams conduct site assessments that contribute to the enterprise risk management assessments that are completed for the audit committee and the board of directors.
- Business unit managers regularly discuss work-related risks.
- These discussions are then shared among our EHS teams, the executive management team, and the board of directors on a quarterly basis, resulting in additional action plans for the entire organization.

- Quarterly formal business-unit reviews of our safety model are then used to develop a continuous improvement program.
- Our regional leaders conduct periodic plant inspections as well as provide support and growth opportunities to each of their plants. In some cases, regional leaders collaborate across divisions to help eliminate hazards.
- The EHS assessment team thoroughly reviews EHS processes at sites, typically on a four- to five-year cycle. We review the list of sites regularly and schedule assessments based on the time elapsed since their last assessment (or sites that have not yet been assessed), site risk, and special requests from the businesses.

When required by our customers, we also obtain third-party safety certifications, such as OHSAS 18001/ISO 45001, which cover approximately 25% of our sites. Our global safety and environmental organization verifies and documents the status of management systems during scheduled audits. After assessments are completed, we obtain a published report. All items identified for improvement in the report are incorporated into the facility improvement plan. Critical items are called out and directed to the vice presidents of sustainability and operations for review, and to senior EHS leaders for further action.

## Virtual Health and Safety Assessments

We continue to conduct health and safety assessments virtually, which has led to greater efficiency as assessors spend less time on-site. The process begins as the site answers a series of questions related to safety initiatives and protocols. Assessors then review these self-assessments prior to an on-site visit, and they check up on a sampling of responses to confirm the information matches the assessment. This has led to significant improvements in efficiency, as on-site visits that once took up to a week can be done in a fraction of the time.

**Virtual assessments came about as a result of COVID-19 restrictions, but we expect they will become a more regular part of our processes, as this streamlined experience has proven highly beneficial for both our assessment teams and the sites.**





Photo submitted by:  
**Jill Ries | Granville, Ohio, U.S.**  
 Yahya Paya reviews data in the acoustics lab.

## Using Data to Improve Safety

Our March to Zero is in many ways driven by data — historical data, current data, and key performance indicators all give our safety teams the insights they need to track performance, identify trends, and tap into real-time metrics that help ensure prompt action. We continue to focus on SIF incidents with cross-business review of learning to facilitate deployment of actions globally. In 2021, we continued our work to develop safety dashboards and broaden the use of our database to track remediation efforts, although progress has been slower than expected due to resources being redirected to COVID-19 management.

### Insights from Data

In addition to the number of injuries, the data allow us to track other valuable information such as SIF near-miss frequency rate and the number of days employees are out of work due to injury, offering a continually updated picture of our safety. The monthly data collection and analysis give local leadership visibility into the changing level of risk and the opportunity to intervene and reduce that risk before an incident occurs. Based on what we learn, we regularly review and update the metrics and scoring system.

Through data mining, exposure reconstruction, statistical analysis, corrective action tracking, and more, we can use incident reporting to generate insights and support the work we do regarding safety standards. For example, the data reflected that machines represent significant risk potential to our employees, which in turn led us to conduct full risk assessments of machine guards at every location globally. Similarly, incidents involving powered industrial vehicles, such as forklifts, are the largest category of near misses with SIF potential, distinct from recordable injuries. This has led to a focus on finding innovative ways to improve safety related to these vehicles.

### Predictive Analytics

Our goal is to use the data model we've built to identify key factors and predict the risk of incidents based on historical data. We have taken several steps regarding leading indicators and are looking forward to incorporating additional initiatives toward that goal.

As an example, we have been using predictive analytics to develop a mathematical model that can identify the relationship between factories and the risk of injuries. Being able to help predict incidents can help plants mitigate their risks, which can serve as an important step in reaching our goal of zero injuries within our facilities.

### Data-Driven Analysis and COVID-19

As we have worked to contain the spread of COVID-19 throughout the organization, we have developed some powerful data-driven tools to do so efficiently and effectively. Power App technology has enabled us to communicate internally as new cases emerge, and it provides us with a tool for following up with individuals in quarantine or isolation. It also addresses data privacy issues that are in place and various sites around the world.

In addition, Power BI technology was developed internally so we can pull all relevant COVID-19 data into one place. This enables the COVID Management Team (CMT) to make decisions regarding our COVID-19 safety protocols quickly, even as recommendations fluctuate depending on changes in transmission rates, new information on the spread of variants, and other emerging concerns.

## SAFETY INITIATIVES

Throughout 2021, keeping our employees safe throughout the COVID-19 pandemic remained a high priority. At the same time, we have continued to ensure that safety practices continue to be a key component of our approach to work around the world.

Photo submitted by:

**Anne Berthereau | Chambéry, France**

Anne (right) poses with Chloé Bertrand while visiting the R&D location in Zele, Belgium.



## CRISIS MANAGEMENT

Owens Corning's crisis management plan, revised in December 2019, provides us with a comprehensive framework for responding to a wide range of crises. The plan is a simple, fit for purpose process that's easy to understand and follow, and it aligns with our natural business structure and function.

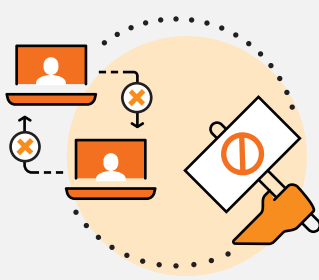
The plan addresses three primary types of crisis.



### ■ Emerging Issues

Situations that may threaten the company's reputation or its organizational, legal, or financial stability. These include:

- Environmental or regulatory concerns
- Product liability
- Leadership or management issues
- Trade restrictions
- Social issues
- Protests and demonstrations
- Theft or loss of intellectual property
- Loss or breach of data privacy



### ■ Business Interruptions

Incidents that disrupt manufacturing or other processes essential to the mission of the company. These include:

- Critical utility outages
- IT system failures and disruptions
- Labor action or strikes



### ■ Emergencies

Incidents that threaten human life, safety, health, property, or the environment. These include:

- Workplace violence
- Natural disasters
- Terrorism
- Chemical/environmental spills or hazards
- Kidnapping and ransom
- Fire and explosion
- Widespread disease outbreak



## THE COVID-19 MANAGEMENT TEAM

The Crisis Management Team, renamed the COVID Management Team when it became apparent that we were facing a long-term response, placed a special emphasis on protocols designed to help prevent the spread of COVID-19 in the facilities. As certain restrictions began to be lifted in parts of the world, these protocols have been adjusted to meet the specific needs of individual workplaces.

### ■ Medical Monitoring

Employees receive a daily health questionnaire asking if they are an active confirmed case or if they are experiencing any COVID-19 symptoms. We also require isolation for individuals with confirmed or suspected cases and quarantine for people who have been in close contact with confirmed cases.

### ■ Social Distancing

In our facilities, we've created protocols and adjusted our workflows and physical environments to enable employees to stay at least six feet apart. When this is not possible, PPE is required.

### ■ PPE Usage

We have developed protocols for use of masks, following guidance set by the World Health Organization, the Centers for Disease Control, and other reputable national bodies. Enhanced protocols are in place for higher-risk sites. The protocols at our sites typically meet or exceed local standards.

### ■ Visitor Restrictions

Visitors may not be permitted at facilities where restrictions are in place, unless they have been deemed essential by the site leader. When they are permitted, they are subject to a health screening and are denied entry if they are exhibiting signs of illness or have had contact with a confirmed case in the past 14 days.

### ■ Enhanced Cleaning

Following guidelines for cleaning products set by the Environmental Protection Agency, we have established robust cleaning procedures as well as what PPE should be worn during cleaning.

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Photo submitted by:

**Danielle Wittorp | Dearborn, Michigan, U.S.**

A bee on a flower in a home garden.



# SPEAKING OF SUSTAINABILITY

## Henry Yin

Plant Leader, FOAMGLAS® Insulation

In October 2021, our FOAMGLAS® manufacturing site in Yantai, China, achieved five consecutive years with zero recordable injuries. Achieving these milestones requires a concerted effort on the part of every employee — and dedicated leadership. As site supervisor, Henry Yin leads the safety efforts at the Yantai plant, and he has been an integral part of the facility's march to zero.



**“ The most important thing is ensuring zero injuries. ”**

### On the primary drivers of safety at our facilities

Firstly, I believe safety is all about leadership. Not only should people follow what they believe is right, but the leadership team should also foster a positive culture of safety to build up front-line accountability. I think this adds value to the entire operations team. Secondly, I would suggest helping people understand that the most important thing in safety efforts is to protect our people from incidents and ensuring zero injuries — more than just achieving metrics or safety KPI or anything else. That will make our people think deeply on how important their behaviors are in all tasks, so people are willing to participate in all parts of safety programs more easily.

### On building a culture of safety among our employees

Almost every day there are happenings on site where people see an issue and do something to improve safety. We use tools like Find & Fix and Near Miss reporting, and people are willing to employ these tools as part of their daily tasks. For example, when people see a trip or slip hazard on the road, they will try to remove it safely or just mark the hazard and share with engineering or another relevant team. When one front-line employee finds other people behaving unsafely in their tasks, they will nicely mention the hazard to those people.

### On taking an active leadership role in ensuring safety

As the site superintendent, keeping people safe and preventing incidents is my top priority. The Yantai team has been working hard to get to zero incidents, zero loss, and zero waste, and this achievement proves we are on the right path. I like to be part of the huddle event every day, listen and join the safety topics discussion, and appreciate all kinds of voices about safety suggestions. I like walking in the plant every day and talk to people directly. That helps to build people's confidence in speaking out if they have any questions or concerns when they're working, and it also gets them more engaged in our safety objectives.

Photo courtesy of Henry Yin

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## Emergency Preparedness Procedures

The emergency response standard applies to all facilities and worksites where Owens Corning has management control. (Owens Corning has management control at all facilities or other properties where it owns 50% or more of the stock.) An emergency is defined as a serious, unexpected, and often dangerous event that poses an immediate risk to health, life, property, or environment, and which requires a coordinated and rapid response.

Emergencies are typically handled at the local level. If any of our employees are assigned to a site where we do not have management control, a safety review, including emergency procedures, is conducted by Owens Corning. As with all safety matters, our employees are instructed to report if they feel their work environment isn't safe.

In addition, our emergency response standard requires that each location conduct an assessment to identify potential emergencies that are reasonably foreseeable or credible for their location, taking into consideration a list of emergency scenarios such as fire and explosions, weather emergencies and natural disasters, spills, violence, utility failures, and more. That assessment is documented and used to evaluate internal and external emergency response capabilities. It is to be reviewed annually or as operational or organizational changes occur or following an incident.

Each Owens Corning facility has an Emergency Response Team (ERT) who are prepared for and can respond to a local emergency, such as a natural disaster or an interruption of business operations. Specific employee assignments are required for different scenarios, and each site's plan must include training employees to ensure a safe and orderly evacuation, as well as procedures to be followed by employees who remain to conduct critical plant operations before they evacuate. Drills, inspection, and testing protocols ensure that the emergency response plan and equipment are adequate.

Each site also has a specific Emergency Response Plan (ERP) that addresses all emergency scenarios identified as reasonably foreseeable or credible. At minimum, each site's ERP must address the following emergency scenarios:

- Medical emergencies.
- Environmental spill/release.
- Fire/explosion.
- Bomb threats.
- Suspicious packages/devices.

In 2020, we developed new emergency lockdown guidelines, which provide Owens Corning plants with information needed in the event of an active assailant on the premises, workplace violence, or unrest — anything that threatens employees in the workplace and would require an immediate shutdown of the plant while keeping the people on-site safe.

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## Safety Training

Safety training begins with Owens Corning new-hire orientation, with a mentoring process designed to help reduce injuries among individuals who are either new to Owens Corning or new to their position. Safety training then continues throughout an employee's tenure, with activities such as daily safety huddles, scheduled monthly sessions, and annual refresher courses.

A formal safety mentoring program has been implemented in 80% of our Roofing plants, leading to deeper understanding of safety protocols for both mentors and mentees. For major programs, training is designed and deployed by corporate-level safety leadership with support and input from plant and other relevant personnel. Safety leaders also work with business partners to provide specialized training, such as driver safety for our sales team and personal protective equipment (PPE) support for our facilities.

All employees receive regularly conducted training on employee health and safety standards. We develop an annual training matrix, and our facilities use a common web-based platform with standard training modules through our global corporate intranet. Those are supplemented by site-specific education. This system is fully integrated with our talent management structure and provides the ability to customize learning plans for individuals.

Global EHS professionals involved in our safety programs receive advanced safety training. Our EHS Skill Building events are one-hour sessions that allow our EHS leaders to gain additional, practical, state-of-the-art knowledge on specific topics. We host periodic meetings with our EHS leaders to review strategies, share best practices, and provide technical training.

Our in-depth training covers a diverse array of topics, including:

- Proper fall-protection strategies.
- Ergonomics.
- Incident investigation.

We typically offer EHS training sessions on topics such as these at our Science & Technology Center in Granville, Ohio, U.S., and at other facilities worldwide. While the pandemic has curtailed our ability to administer the training in person, we have accelerated our efforts to expand the knowledge of local trainers, in addition to exploring ways of conducting effective training remotely.



### Translation of Safety Materials into Local Languages

Significant health and safety procedures are provided in local languages to ensure all employees have access to information that can prevent injuries and potentially save lives.

### Contractor Safety Handbook

In addition to ensuring safety among our employees, we are equally committed to the safety of contractors working with our company. All contractors receive a Contractor Safety Handbook, and it is their duty to ensure they are aware of and up to date with EHS laws as well as Owens Corning policies and expectations. Owens Corning also provides training to guarantee that contractors understand that their commitment to working safely must be unconditional. This handbook has been translated from English into 17 languages.

### Workplace Violence Training

In 2020, we completed the update to our workplace violence training, and we began the process of introducing it to our employees via our LMS. We required the training of all people leaders and staff globally, and we achieved a compliance rate of over 95% in the first year.

The COVID-19 pandemic made a traditional rollout difficult, as it complicated our ability to establish clearly defined deadlines, but the training was introduced to salaried employees around the world — throughout the Americas, and with a new emphasis on Europe and Asia-Pacific. Delivering the training to our primary employees typically involves bringing employees together in one room to deliver necessary information. In 2021, we worked with divisional human resource leaders, who recommended that local training plans for the year include the courses. They can be taken virtually via the learning management system or in a classroom setting. Although primary employees are encouraged to participate in the course, it is not yet a requirement for them due to COVID-19 constraints, and we have not yet begun to track their completion rates.

### PowerLift Training Video

In 2020, Owens Corning made this video training program available to introduce employees to a better way of lifting heavy objects, one they can use to protect their backs at work and at home. There are two translated versions of the video (in English and Spanish) and six subtitled versions (Chinese, Dutch, French, Polish, Portuguese, and Russian). The video can be viewed by individuals or presented in a group training setting.

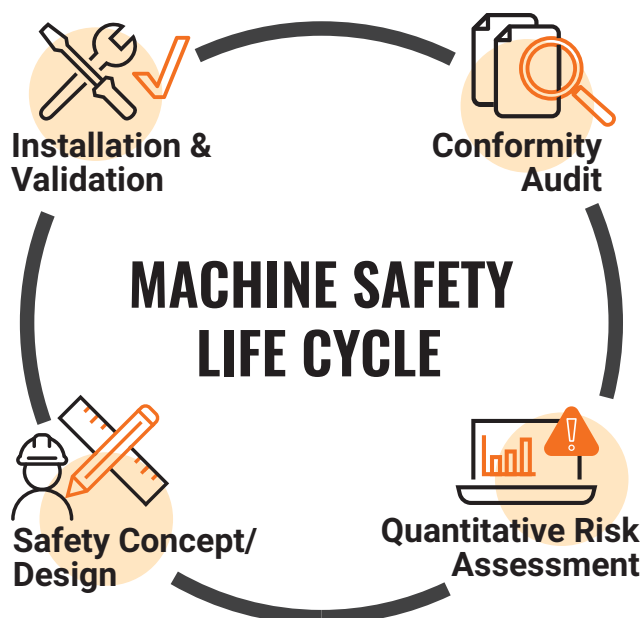
## SIF Policies

### Machine Guarding Implementation

Because of the nature of our operations, employees must work with and around industrial equipment. Based on incident reporting and investigations, we recognize that machines represent significant risk potential. Worker exposure to machines was a primary factor in 33% of our 2021 recordable incidents that had SIF potential.

As part of our increasing emphasis on SIF prevention, we have continued to conduct full machine-guarding risk assessments at every location globally. Our first phase of implementation included locations representing different regions, businesses, and facility size, which helped us gain insight about the process and streamline deployment. As we identified improvement opportunities, we created and shared corrective actions.

While COVID-19 has hindered our ability to move forward at the rate we would have liked, our work here is leading to improvements throughout our operations. In addition, we now have several employees across our operations who have become certified as machine safety experts, making them better equipped to assess machine guarding, which will lead to further benefits in the future.



## Contractor Management

Since contractors who work with Owens Corning are held to the same standards as the company's employees, they must attend and provide appropriate safety training for their employees. We conduct behavior-based observations, walkthrough inspections, and audits to ensure that contractors maintain the health and safety of our workplace.

We also have consistent processes for prequalifying and measuring contractor performance associated with large-scale projects within our facilities, and for contractors we directly manage. Our Contractor Management Standard establishes the minimum requirements to prequalify, select, orient, monitor, and evaluate contractors who perform higher risk work at Owens Corning sites globally. After deploying the Contractor Management Standard in the U.S., Mexico, and Canada in 2019, we began to implement software to support the program in Europe in 2021.

To enhance and streamline the process of verifying that contractors are compliant with Owens Corning standards, we worked with ISN, a global leader in supplier and contractor management. ISN's system, facilitated establishing and managing contractor qualification requirements. Our ISN process was detailed earlier in this chapter on [page 248](#).

Through the program, over 27,037 individual safety programs have been reviewed, and in 2021, 2,827 insurance certificates were reviewed. This work helps us understand gaps and standardize how we manage risk when working with our contractors. It ensures that all contractors performing work with moderate or high SIF potential at Owens Corning sites around the world have been verified to our standards through an external party.

## Cellphone Policy

Owens Corning is concerned with the safety of its employees, regardless of where they work or which activity they perform. The ubiquity of cell phones continues to present a safety issue, and countless studies have shown the extent to which cell phone users are distracted. Whether our employees are busy in production work areas, taking the stairs in our facilities, or walking or driving in parking lots, we have very specific rules about the use of cell phones.

We instituted a ban on the use of cell phones in our sites' parking lots, and when driving as part of company business, as far back as 2012. At most sites, signs about cell phone use are posted at strategic locations so that employees are reminded that these are safety rules, not mere suggestions, and that every individual is responsible for ensuring we are successful in our efforts toward zero injuries.

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## Partnerships in Safety

Owens Corning is fully engaged with our industry partners to help influence safety and regulatory standards, which has a global impact and reinforces our position as a leader in safety. Through our active involvement and leadership in trade associations' industrial hygiene or safety committees, we provide our industry with occupational-exposure monitoring data to aid in evaluating the potential impacts of regulatory activity and framing trade association input to developing standards. For decades, Owens Corning has been conducting regular industrial hygiene monitoring to assess and quantify the risks our employees may be exposed to and ensure that exposure is controlled to safe levels.

We also participate in the Industrial Hygiene/Occupational Health committees that exist independently as part of both the Asphalt Roofing Manufacturers Association (ARMA) and the North American Insulation Manufacturers Association (NAIMA). We are one of the leading contributors of data to those associations. The aggregate data is used in trade association efforts to represent Owens Corning and our industry in rule-making and, through published articles, serve as a source of information to the industry customer base and the scientific community. The committees help set up protocols for data collection and maintain data sets that our customers, contractors, and installers rely on in their everyday operations.

## The Campbell Institute

Owens Corning has been an active member of the National Safety Council (NSC) since 1943, and we are a charter member of the NSC's Center for Excellence, the Campbell Institute. Many representatives of our company serve on steering teams, working groups, and advisory committees. This year, Owens Corning was a member of the NSC's SAFER (Safe Actions for Employee Returns) Task Force, which provides resources for businesses as COVID-19 lockdowns began to ease and on-site work begins to resume.

In addition, we are active with the American Society of Safety Professionals, the Voluntary Protection Programs Participants' Association (VPPPA), and other organizations that promote safety solutions.

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## Occupational Health

Owens Corning has developed and deployed global safety standards and controls that integrate with our global occupational health and industrial hygiene process. We work to understand, control, and eliminate — whenever possible — the potential for exposure to work-related hazards that pose a risk to employee health.

Exposure potentials are assessed and evaluated against established exposure limits to ensure risk is quantified and understood. This understanding drives efforts in mitigating, reducing, and eliminating these risks. Where exposure

can be feasibly eliminated through substitution and engineering controls, those actions are implemented. Where substitution and engineering controls are infeasible, or while such controls are yet to be deployed, interim controls (lower on the hierarchy of control) are used to ensure employees are protected. These often include some combination of administrative controls and personal protective equipment.

The following are the primary and most broadly applicable hazards associated with our manufacturing operations that could pose a risk of ill health, and examples of controls we have deployed:

- Heat stress (potential for heat-related illnesses). Ambient cooling, where feasible, is coupled with seasonal focus in heat-stress prevention, hydration, PPE, and early mitigation.
- Use of materials that contain respirable crystalline silica, RCS (potential for silicosis). Owens Corning has applied the recent OSHA RCS standard globally, including banned housekeeping practices (per OSHA) and application of RCS Exposure Control Plans (ECP) and ECP controls.
- Industrial noise (potential for noise-induced hearing loss). Owens Corning's hearing conservation efforts are managed continuously under site-specific programs, ensuring all locations align with our global standard to protect employees from the potentially damaging effects of noise exposure and comply with applicable noise requirements. This includes eliminating noise exposure where necessary and requiring use of effective hearing protection. Our industrial hygiene process includes noise exposure assessments at our sites every other year, including employee exposure assessment (noise dosimetry) and Area Sound Level Surveys (SLSS).

Contractors do not have access to any of our non-occupational employee health benefit programs, including voluntary health promotion services and programs offered to employees to address major personal health risks, as these services and programs are considered a benefit. Occupational health is different, however. Anyone, including contractors, who work at our facilities are protected from occupational injuries via adherence to the same Owens Corning employee safety practices (prevention of injuries) and protection from occupational illnesses via Owens Corning's employee exposure control procedures that safeguard against biological, chemical, and physical hazards.

In 2021, there was one recordable injury related to ill health (a COVID-19 case) among Owens Corning employees or our supervised contractors or temporary employees.\*

## SAFETY PERFORMANCE

Our recordable incident rate (number of injuries x 200,000 / total labor hours) in 2021 was 0.59.\* This is 81% below the industry average, as reported by the U.S. Bureau of Labor Statistics for 2020 (the most recent data available). In addition, 48% of our global facilities were injury-free in 2021. The severity of our incidents, measured by our lost-time injury frequency rate (lost workday cases x 1,000,000/total labor hours) was 1.69.\*

We are working to reduce our most frequently occurring injury categories, including the following:

### ■ Hand injuries

Our hand safety improvement team is charged with determining best practices to reduce the risk of hand injuries, which are often related to the use of hand tools.



### ■ Glass-in-hand

A team has been working to identify factors that contribute to glass-in-hand, which is one of our most common injuries, and implement preventive practices. We employed the principles of TPM to implement a 10-step quality control plan to reduce glass-in-hand injuries. We also worked with our supplier to make improvements to the protective gloves we use. Through these efforts, we have been able to significantly reduce glass-in-hand injuries at our Composites sites.

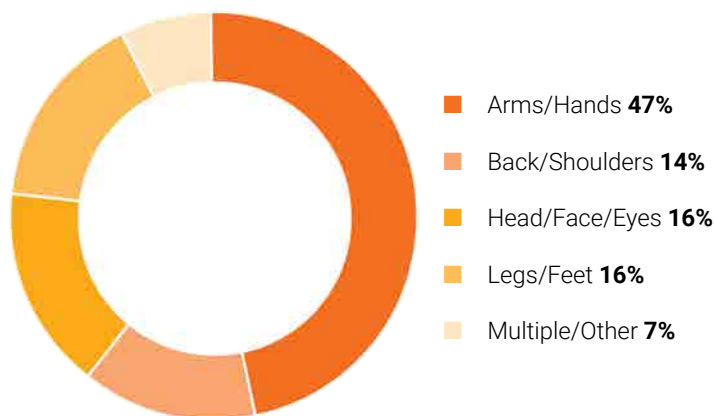


### ■ Slips, trips, and falls

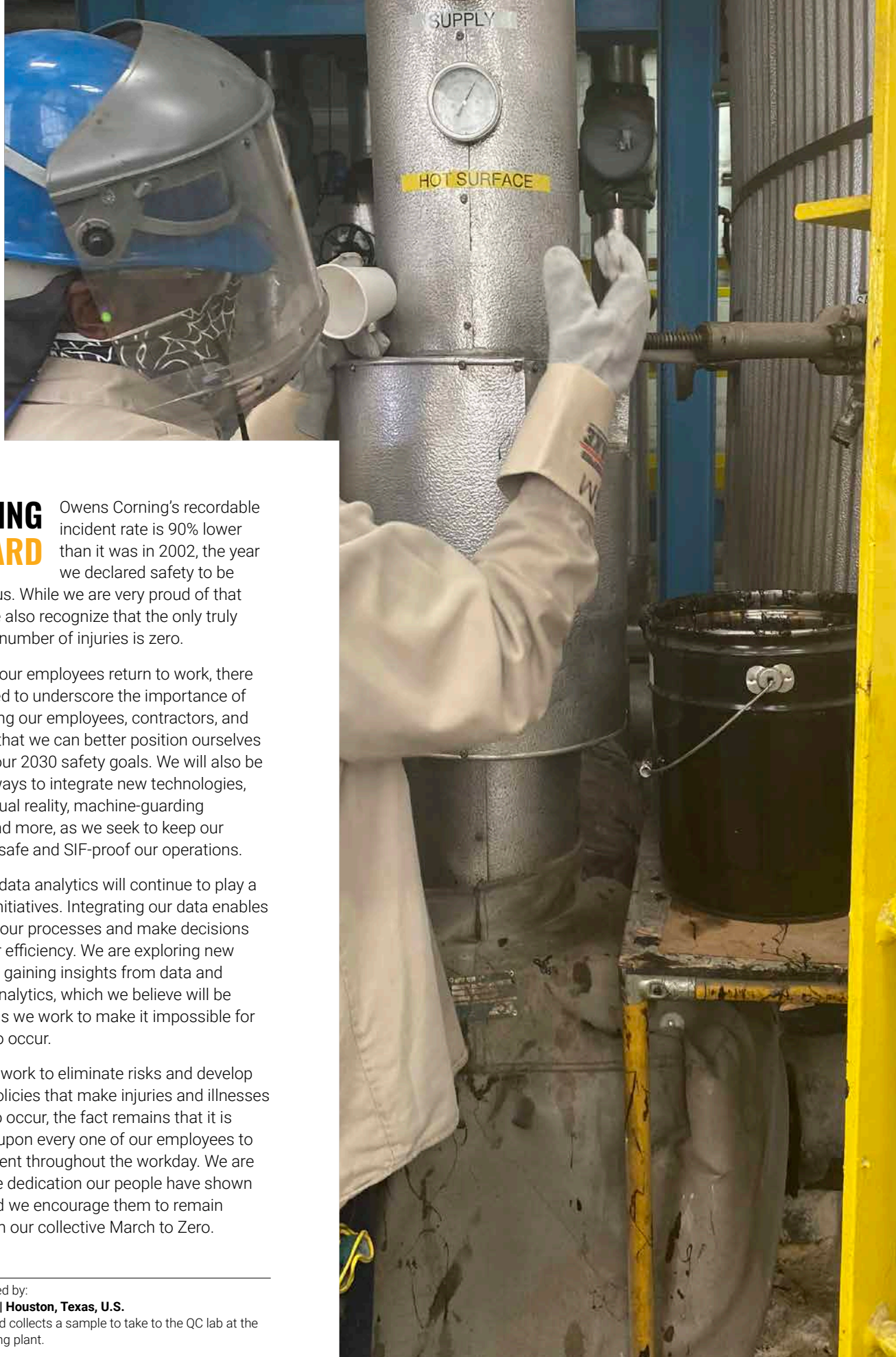
Our insulation business is conducting risk assessments of all walking surfaces and platforms at all facilities, and they are sharing their findings broadly, allowing sites to mitigate the risk before incidents occur.



2021 Recordable Injuries by Type\*







## GOING FORWARD

Owens Corning's recordable incident rate is 90% lower than it was in 2002, the year we declared safety to be our top focus. While we are very proud of that statistic, we also recognize that the only truly acceptable number of injuries is zero.

As more of our employees return to work, there is a real need to underscore the importance of safety among our employees, contractors, and visitors, so that we can better position ourselves to achieve our 2030 safety goals. We will also be looking at ways to integrate new technologies, such as virtual reality, machine-guarding systems, and more, as we seek to keep our employees safe and SIF-proof our operations.

In addition, data analytics will continue to play a role in our initiatives. Integrating our data enables us to refine our processes and make decisions with greater efficiency. We are exploring new avenues for gaining insights from data and predictive analytics, which we believe will be invaluable as we work to make it impossible for accidents to occur.

Even as we work to eliminate risks and develop rules and policies that make injuries and illnesses less likely to occur, the fact remains that it is incumbent upon every one of our employees to remain diligent throughout the workday. We are proud of the dedication our people have shown thus far, and we encourage them to remain steadfast on our collective March to Zero.

Photo submitted by:

**Claudia Cantu | Houston, Texas, U.S.**

Jevon Shepherd collects a sample to take to the QC lab at the Houston Roofing plant.



# HEALTH & WELLNESS

## In this chapter:

- 2030 GOALS
- OUR APPROACH
- INITIATIVES
- PERFORMANCE
- GOING FORWARD

Helping our people lead healthier, happier lives is essential to us, so our approach touches upon all aspects of health — mental, physical, and even financial. The resources we provide are designed to make it easy to achieve results that make a real difference, both at work and at home.

As the COVID-19 pandemic remains a concern around the world, issues related to health and well-being are still at the forefront of people's thoughts. Owens Corning's response to the pandemic has been very much in keeping with our overall commitment to wellness in all its forms.



Photos submitted by:

### Top Left:

**Julie Childers | Granville, Ohio, U.S.**

Sailing in Key West, Florida, U.S.

### Top Right:

**Skylar Bone | Toronto, Canada**

Rock faces on the north side of the Saguenay Fjord.

### Bottom:

**Yana Liu | Shanghai, China**

Employees explore nature near the Owens Corning facility in Guangde, China.

Our health & wellness efforts align with the following UN SDG:



### Sustainability Materiality Definition:

We promote a healthy and tobacco-free lifestyle for all our employees and their families. We are committed to ending lifestyle-induced disease in our employees, and promoting mental, physical, and financial well-being.



## 2030 GOALS FOR HEALTH & WELLNESS

**By 2030, we aspire to eliminate all lifestyle-induced disease and enable the best possible quality of life — where people flourish and are healthier because they work for Owens Corning.**

While complying with privacy laws and local expectations, we will use accessible data, as well as health and behavioral science, to define metrics that will guide our strategies and tactics to achieve our goals. We will be guided by the frameworks established by the U.S. Healthy People 2030 as well as the WHO Global Action Plan. Each framework is based on indicators that measure both health risks and the burden of disease around the world.

Photo submitted by:  
**Rich Phung | Calgary, Alberta, Canada**  
Mount Smutwood, Alberta, Canada.



## OUR APPROACH

Owens Corning is committed to providing all-encompassing wellness support for our employees, helping them lead healthier, more enjoyable lives. Our approach to health and wellness is informed by the following drivers:

### Risk Assessment

Our internal programs are designed to help employees reduce the critical risk factors that lead to the most common lifestyle-related diseases. By reducing tobacco usage among our employees, increasing cancer screening rates, and encouraging fitness, we can mitigate these risks and help protect our employees' health.

In the U.S., we track the percentage of employees who receive age-appropriate cancer screenings, go to preventive health appointments, and participate in biometric screenings, all of which are important components of our healthy living initiative.

### Aggregate Employee Data

Wellness program decisions at Owens Corning are made based on aggregate data, both what we obtain from employee participation in voluntary wellness programs and by analyzing claims data from U.S. employee health plans. All data used for health trend analysis are de-identified and obtained in the aggregate to safeguard employee privacy. Employee privacy expectations, as well as cultural differences and sensitivities regarding health and well-being, impact the availability of comprehensive aggregate health data. However, as a U.S.-based company with a historical focus on employee wellness, we have built a solid foundation for developing

metrics that drive our understanding, based on the aggregate data from our U.S. employees. Through this data, we gain a deeper understanding of potential health risks, which in turn helps us offer services that are truly beneficial.

The early analysis of this aggregate data helps us connect participation in our wellness programs to improved health measures. Knowing which programs make a difference for our employees in the U.S. helps us ensure that our entire global workforce has access to those same tools. We are working to establish metrics that fully represent the needs of all our employees. Changes in our workforce demographics over time add complexity as we track progress toward our goal.

### Overall Well-Being

Our commitment to creating a caring culture includes a focus on employees' mental and emotional health. We also provide education and tools to help our employees confidently manage their financial lives today while preparing for the future, including the unexpected.

In addition to the tools and resources we offer, we have seen our company policies and health coverage decisions drive health outcomes among our employees. For example, we have seen that our tobacco-free facility policy has encouraged employees to stop smoking. Coverage policies that remove barriers to preventive health have also proven beneficial, which is why health screenings and routine exams are fully covered by our insurance plans, and in some cases, they are offered on-site at our facilities.



## The Six Pillars

Our healthy living initiative is rooted in the following pillars, each of which address specific aspects of health and wellness.



### 1. Know Your Numbers

*We will enable all Owens Corning employees and their families to obtain their age-appropriate preventive health screenings and immunizations annually and understand the health consequences related to their personal biometric health numbers.*

To help our employees achieve optimal health, biometric screenings are available to all employees and their covered dependents at no cost through on-site events in the U.S. and several global locations, with their personal physician using preventive care benefits, and through LabCorp in their local community. These screenings help employees and their families learn if they are at their age-appropriate health targets, understand the health consequences related to their personal biometric numbers, and discover actions they can take as needed. We also offer a wide array of free, age-based preventive care screenings to employees and covered family members. In partnership with healthcare provider ProMedica, we provide on-site care at several Ohio, U.S., locations, including our world headquarters in Toledo, our Science & Technology Center in Granville, and our insulation manufacturing facility in Newark. The collaboration with ProMedica allows employees to easily access care providers, establish a primary care physician, and schedule appropriate age-related services.

As part of our emphasis on preventive care, this year we sent a colon testing kit to employees age 45 or older who had not had a colonoscopy test in the past 12 months. By the end of the year, 15% of recipients had used the testing kit.



### 2. Healthy Mind

*We aspire to help all Owens Corning employees enjoy meaningful work and life experiences in an environment that supports and inspires them. It's everybody's responsibility, especially our*

*leaders', to foster that supportive and inspiring workplace.*

Balancing the demands of a fulfilling career and personal life can be challenging. To help our employees be better at work and at home, we offer broad comprehensive counseling through the Employee Assistance Program (EAP). The EAP helps our people and their families cope with challenges that could affect their health, their relationships, or their effectiveness and safety on the job. Services are confidential, and counseling sessions are free of charge for up to six visits.

Sessions can be conducted face-to-face or over the phone, and they cover a range of topics, including:

- Traditional counseling services for issues such as stress management, depression, grief, or addiction.
- Work/life integration challenges, including child and elder care, home repair, or adoption.
- Financial and legal advice, such as college funding, creating wills and trusts, and credit score management.

In addition to counseling sessions, our EAP team has worked with our Inclusion and Diversity team and our mental health care provider, Beacon, to create the Healthy Mind Toolkit. This toolkit is designed to encourage employees to help themselves, their colleagues, and their loved ones assess and address their mental and emotional concerns.

The EAP platform is also available in a mobile application, the iConnectYou app. This app instantly connects employees with professionals 24 hours a day, 365 days a year. Those professionals can guide users to programs designed to help with work and life stresses, mental health, financial and legal solutions, and tobacco cessation.

Through the app, employees can contact EAP professionals to find resources and make appointments. They can also access videos, articles, and other self-help resources to guide them through life stressors. In 2021, the iConnectYou app was made available to employees outside the U.S.



### 3. Physical Activity

*We will enable all Owens Corning employees and their families in being active and acting to counter the negative health consequences of low physical activity and lack of movement on and off the job.*

We educate our employees about the benefits of physical activity and give them access to tools, resources, and incentives that promote daily movement. Several facilities have an on-site fitness center, offer physical training, and sponsor fitness challenges such as run/walks. In addition, employees earn points for steps recorded through our Healthy Living mobile platform.



#### 4. Nutrition

*We aspire to help all Owens Corning employees and their families eliminate key health risks that result from poor nutritional education and unhealthy food choices.*

Unhealthy food choices can lead to serious health risks. Owens Corning aims to help employees and their families eliminate those risks by providing nutritional education. Many of our U.S. locations now offer fresh fruit and vegetables to all employees free of charge, and many locations have changed out vending machines for open kiosk markets that provide fresh, healthy meals and snacks. In 2021, we upgraded the on-site marketplaces at 31 of our U.S. locations. Through this investment, we are helping to increase the healthy food choices for employees across the country.



#### 5. Tobacco-Free

*We aspire to be a company that helps our employees and their families lead tobacco-free lives.*

Owens Corning offers many resources to help our employees become tobacco-free, including on-site group coaching, small group discussions, nicotine replacement therapy, and medication. We are approaching our goal of being 100% tobacco-free. As of the end of 2021, 98.5% of our employees work in tobacco-free facilities.



#### 6. Financial Health

*We will help our employees confidently manage their financial lives today, while preparing for the future and dealing with the unexpected.*

We seek to raise awareness of company financial benefits available to our employees. This includes planning tools and resources such as financial and legal counseling through Beacon Health Options, retirement counseling through Fidelity Investments, and the implementation of site visits and online tools with banking partners in our plant communities.

Owens Corning has established a dashboard to help determine the extent to which people are taking advantage of our financial health services, including health savings accounts. By collecting aggregate data on this information, we can provide education as needed to help promote these services.

#### Healthy Living Aspiration Teams

To help support these six pillars, Owens Corning has established Healthy Living Aspiration Teams. Each team is led by a plant leader and supported by human resources, EHS, occupational health, benefits, and other key resources from each of our businesses to ensure healthy living goals align with their pillar and have a positive impact on all employees. The aspiration teams have led us through the development of tools and resources used in operations, including the Healthy Living C6, Power BI dashboards, and the integration of wellness into TPM at the local level.

## PROMOTING FINANCIAL HEALTH IN TLAXCALA

Having the money to cover necessary expenses while still saving for unforeseen events is essential to financial health — one of our six key health pillars. Many people, though, can benefit from coaching when it comes to planning for the medium or long term. In Mexico, this is especially common among younger employees who may need help balancing short-term financial issues with long-term goals. The Owens Corning plant in Tlaxcala, Mexico, recognized the need to encourage employees to take an active role in their own financial well-being, so they are better prepared to address health issues, save for homeownership, and plan for retirement.

In 2021, Owens Corning presented a series of sessions in conjunction with our pension plan and savings fund provider. These sessions, available to all Owens Corning employees, covered a wide range of financial topics, designed to help employees improve their current situations — and maintain their financial well-being into the future. By participating in these sessions, employees received sound advice, as well as tools to help them develop habits that will lead to improved financial health.

Topics ranged from how to generate a joint budget among couples, with an emphasis on working toward common objectives, to the importance of planning for retirement, including regulations associated with Mexico's two pension plans. Sessions were often aligned with the months in which financial benefits are provided to employees, such as holiday bonuses in December and tax time in April. Another session dealt with financial stress, addressing one major cause of anxiety for many Mexicans. Employees received advice on identifying expenses, setting a budget, and avoiding spending money before it is received. One session discussing debt was especially timely as the COVID-19 pandemic brought about expenses for which many families were unprepared.

Through these efforts, Owens Corning has created a small step in building a culture of savings. In doing so, we believe that each employee can achieve better habits for their financial future.

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## Reporting Healthy Living Metrics

We report our Healthy Living critical metrics across three tiers: Action-Based, Health Risk, and Disease-Related.



### TIER 1

#### ACTION-BASED METRICS

act as leading indicators for tracking program success.

**Our key Tier 1 metrics include:**

- Percentage of employees enrolled in the Healthy Living mobile platform.
- Percentage of employees engaged or highly engaged.
- Percentage of employees completing their annual health risk assessments and biometric screenings.
- Heart-age survey completion.
- Average number of steps taken at each facility per employee every week.



### TIER 2

#### HEALTH RISK METRICS

look at health risk factors and primary preventive measures such as immunizations and age-appropriate screening tests.

**Our key Tier 2 metrics include:**

- Percentage of employees with appropriate BMI.
- Percentage of employees with normal blood pressure and cholesterol.
- Percentage of employees receiving appropriate cancer screenings for age and gender.
- Percentage of employees receiving their key, age-appropriate immunizations.



### TIER 3

#### DISEASE-RELATED METRICS

track actual disease and illness statistics in the aggregate within our program population.

Relevant lifestyle-related morbidities include:

- Diabetes.
- Atherosclerotic coronary vascular disease (ASCVD).
- High blood pressure.
- Certain cancers.

Tier 3 program metrics are longer-term, and their success will be measured over years. If Tier 1 and Tier 2 metrics are successful, health science gives us confidence that Tier 3 metrics will improve well into the future.

Since 2018, we have maintained a high-level dashboard to centralize our data management and keep aggregated Tier 1 Activity-Based and Tier 2 Health Risk metrics. This dashboard is updated weekly and is available to all Owens Corning employees, while aggregated Tier 3 data is available to a limited group of health professionals.

Our health programs are designed to help employees understand how the three tiers address the health issues that can impact their lives and the lives of their families. Our goal is to have programs that change behaviors and bring sustained benefits to employees' lives inside and outside Owens Corning.



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## Healthy Living Platform

Our Healthy Living digital platform has refined our approach and helped our employees improve their healthy habits. Through a website and a mobile app, the platform links thousands of employees to our wellness resources, facilitating a culture of well-being as individuals track their progress and receive daily reminders about their fitness goals.

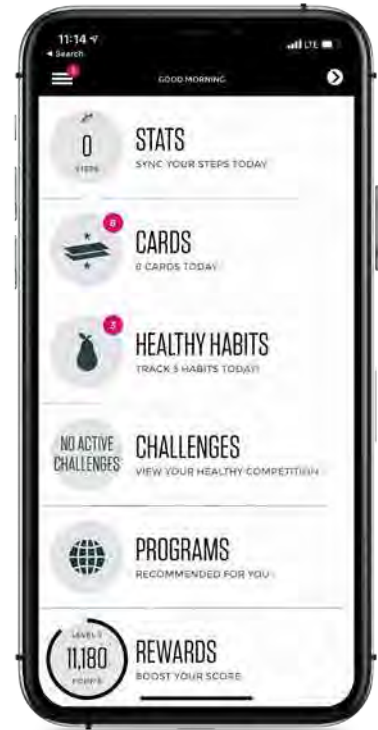
In addition to tracking steps, movement, weight, and eating habits, employees can track their heart rate and sleep, and that information is sent directly to the platform. The sleep tool not only tracks the amount and quality of sleep, but it also records the type of sleep pattern, such as rapid eye movement (REM). This information helps individuals monitor the effects of health-habit choices.

The Healthy Living platform makes it easier for employees to take part in many of our health and wellness initiatives. It also provides us with opportunities to offer a range of incentives for enrollment and participation, including cash and other rewards based on employees' daily activities. When users record their steps or track healthy eating habits, for example, they receive points, which can be redeemed for rewards. Employees who track their steps can also participate in a walking challenge, and they are eligible for weekly prizes.

One of the more popular financial incentives lets employees on U.S. health plans make contributions directly into their health savings accounts. Through these incentives, we have also visibly tied our Healthy Living platform to our employee benefits program.

Our goal is to create a platform that addresses all six pillars of healthy living. To further reinforce our commitment to the sixth pillar — promoting financial health — we have added a tab to the platform's dashboard that enables users to track contribution levels to their health savings accounts and 401(k) accounts.

Our Healthy Living program started in the U.S., and we have increased our international engagement in Latin America, Europe, and Asia Pacific. All three regions are creating regionally appropriate, fit-for-purpose systems parallel to those we have in the U.S. to drive achievement in the six pillars.



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## Integrating TPM into Healthy Living

For years, our facilities have been implementing Total Productive Maintenance (TPM), a management system designed to improve manufacturing productivity by encouraging employees to share the responsibilities for preventing injuries, defects, and losses. Because TPM is a mindset that empowers individuals to contribute to continuous improvement, Owens Corning has found that the principles of TPM are also applicable to our healthy living initiatives.

To help employees consider healthy living as part of their TPM initiatives, it is helpful to compare health to safety, injuries, and first aid incidents, which are a common focus of TPM.

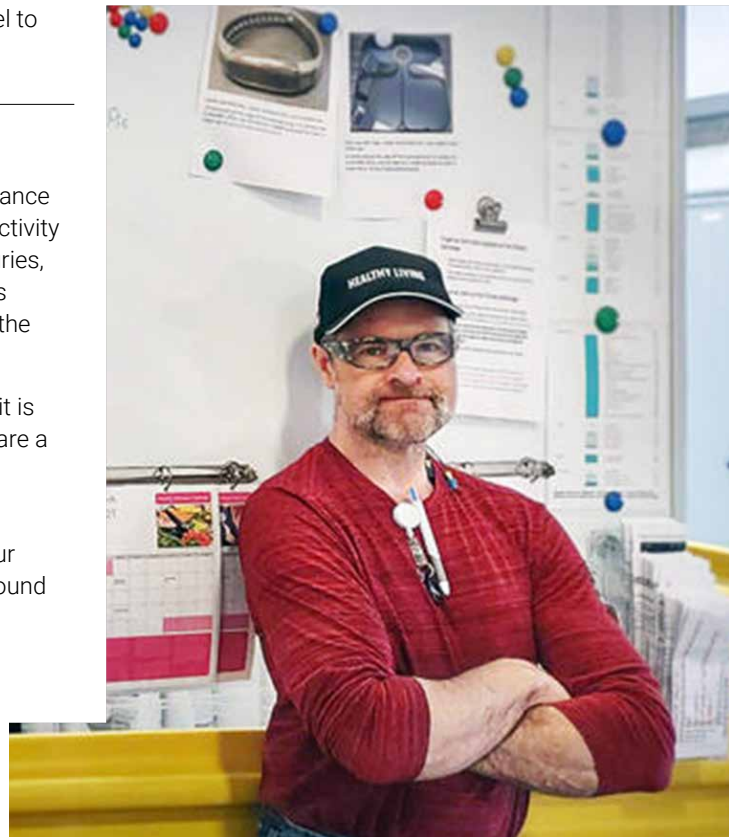
Although health pillars are important to people individually, we can drive continuous improvement by making them central to discussions within our plants. We have worked to expand this approach to plants and regions around the world whenever possible.

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Photo submitted by:

**Jeremy Fink | Brentwood, Tennessee, U.S.**

Using TPM tools, Jeremy Fink (in photo) and the Brentwood wellness team are helping people change their lives for the better.



## HEALTH & WELLNESS INITIATIVES

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### COVID-19 and Owens Corning

Although there were promising developments throughout 2021, it is clear that the COVID-19 pandemic will remain a concern for some time to come. It continues to affect our operations around the world, and we continue to review and update a range of strategies that were initially implemented last year. Updates to these strategies are made to reflect current guidance from health organizations, as well as local mandates and recommendations. Our EHS and HR teams have taken the lead in tracking occurrences of COVID-19.

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### Champion Network

Owens Corning's Champion Network consists of individuals at our facilities who work to ensure that our Healthy Living platform is locally driven with broad corporate support. Wellness champions are always looking for ways to engage employees about their health and increase participation in our programs. These champions are also able to encourage more individuals to join the champion network, expanding our influence at more locations.

We have invested significantly in training local wellness teams and Healthy Living champions to help support our programs. In 2021, we trained 24 new wellness champions, and we now have wellness teams in the U.S., Canada, Latin America, Europe, and Asia Pacific. We also worked with our regional wellness leads to establish a network of 39 international champions. With the pandemic, we've performed extensive virtual training with the international groups. This training includes the principles of TPM, and we have the support of regional TPM leaders, who are helping to drive this work.

Our sites in different countries and regions adopt their own healthy living goals and aspirations, so activities and focus areas are aligned with our employees' needs and realities. We created teams that include leaders from global business and corporate function groups, as well as regional leadership councils, to direct the execution of our global wellness strategy in each region.

Wellness champions have had the most impact when they have the support of leadership, and that engagement has been a core part of our overall approach to health and wellness. Materials to support activities planned for each pillar are available to champion teams so they can successfully engage employees and teams.

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### Flu Shots

While COVID-19 remains at the forefront of people's health concerns this year, we still needed to contend with the influenza outbreaks that crop up each autumn and winter. Owens Corning has continued to stress the importance of flu shots as a way to help prevent the spread of the disease, and we remind employees that most Owens Corning sites around the world offer flu vaccines. Given the differences in healthcare distribution in different countries around the world, flu shot campaigns are organized locally throughout our regions.

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### Fatigue Risk Management

In 2018, Owens Corning began work on strategies to improve supervisors' and managers' awareness of and responsiveness to fatigue-related problems. Through this training, we also seek to create a work climate that supports health management of energy, sleep, and focus at work.

To achieve this, we developed an innovative leadership training, Energy & Focus (E&F), and a new Owens Corning standard for fatigue risk management. E&F training covers topics associated with healthy lifestyle decisions related to sleep and fatigue, the basics of fatigue-risk management within plants, and accessing resources to reduce safety risks associated with fatigue.

The training was developed using significant input from managers and focus groups, making the training unique to Owens Corning. Following a pause in 2020 due to COVID-19 restrictions, work picked back up in 2021 with programs at select sites in the U.S. and Europe. We are also developing dashboards that will enable site leadership to identify work hour trends and early identification of potential fatigue-related issues. Plans moving forward include measuring the efficacy of the training using a sample of managers from participating plants. By raising awareness of the risk associated with worker fatigue, we can help ensure a safer, healthier environment for our employees.

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### Healthy Living Steering Team

To help drive the success of our healthy living programs — and enhance the well-being of our entire global workforce — Owens Corning has established a Healthy Living Steering Team (HLST), made up of leaders from our human resources, sustainability, operations, and communications teams. The HLST provides critical input, sharing best practices, championing initiatives, and driving actions aimed at continued program growth and development.

The team provides guidance and direction for global wellness strategies and facilitates the implementation of key initiatives through the authorization of resources. In addition, they assist in the recruitment of key operations leaders to serve on Healthy Living Aspiration Teams and support and measure their performance.

## HEALTH & WELLNESS PERFORMANCE

We continue to track our employees' metrics as they relate to their health and well-being. Through the aggregate data we receive, we are best equipped to provide wellness programs that meet the specific needs of our people.

### Metrics Dashboards

Our metrics dashboards track our facilities' success and provide up-to-date information on programs, offering transparency about our healthy living efforts. In addition to the pillars and wellness teams, we implement policies that help drive better health.

	2021 GOAL	2020 TOTALS	2021 TOTALS
Platform enrollment	80%	78%	73%
Platform engagement — earning >12,000 points (average of available quarterly data)	60%	41%	39%
Health risk assessment questionnaire completion	60%	53%	48%
Biometrics screening completion	60%	38%	40%
Average steps per day for employees enrolled in the program	5,000	3,623	3,130
Average steps per day for employees who are enrolled and tracking	9,000	8,083	7,989
Employees reporting they are tobacco-free (2021-2022 open enrollment data)	90%	87%	82%

With aggregate data from both our insurance carrier and the platform in the U.S., we are able to see the connection between participation and health improvements. Although enrollment in the Healthy Living platform went from 78% in 2020 to 73% in 2021 and engagement with the platform went from 41% in 2020 to 39% this year, participation rates in key areas such as biometric screenings, improved and are expected to return to pre-pandemic levels with our continued emphasis on employee well-being supported at all levels of the organization.

Our aggregated data found a high correlation between participating U.S. employees and reduction in disease risks among our employees. Our data indicates that increased engagement with the Healthy Living platform is correlated strongly with a lower risk. The conclusions we have drawn from this data will continue to guide us as we develop new initiatives and maintain existing ones:

- Employer support for healthy habits makes a difference. Our analyses show that higher levels of participation in the Healthy Living program are quantitatively linked to better health among Owens Corning employees.
- Better biometrics correlate strongly with better (lower) health risk scores.
- Higher participant points (top 20% of participants) correlate strongly with better (lower) sample health risk scores.
- Higher points-based participation measures (top 20% of participants) are strongly related to smaller increases in risk score, BMI, and blood glucose over time.

### Opioid Prescriptions

In response to the U.S. opioid crisis, Owens Corning's policy limits short-acting opioid prescriptions to a three-day supply. Any pills dispensed beyond the three-day limit must be authorized. This policy decision was informed by a report from the Centers for Disease Control and Prevention indicating that addiction rates to a prescribed opioid can double after four to five days of continued use.

We observed the following in 2021:

- An 11.8% drop in opioid pills dispensed from 2020. Since the three-day limit was implemented, the number of pills dispensed has dropped by 57%.
- There was a 15% drop in pills dispensed on prescriptions longer than three days compared to 2020 — a reduction of over 50% since the limit was implemented.
- In 2021, the number of prescribers asking for authorization beyond the three-day initial limit decreased by 1.3%.



## Healthy Competition for Healthy Habits

### Lighten Up! Weight-Loss Challenge

From May 3 to August 6, employees around the globe lost 4,287 pounds (1,945 kg) as part of the 2021 Lighten Up! challenge. A total of 1,432 employees from 65 locations participated in this year's weight loss competition. Participating employees measured their body composition every two weeks for three months.

The three female and three male participants who lost the most earned prizes based on where they placed. Prizes included fitness equipment, laptops, ear buds, smart TVs, vacuums, Fitbit trackers, camping equipment, mountain bikes, smart home systems, and juicers. All participating employees earned 2,000 points on our Healthy Living platform.

In a separate competition between facilities, Gous-Khroustalny, Russia, took the top spot among large sites, with employees losing a total over 366 pounds. Among small sites, Tallmadge, Ohio, U.S., won, as employees lost a total of 178 pounds.

#### Lighten Up! Challenge Site Winners

	SMALL SITE	LARGE SITE
<b>1st Place</b>	Tallmadge, Ohio, U.S.: 178.0 lbs.	Gous-Khroustalny, Russia: 366.7 lbs.
<b>2nd Place</b>	Joplin, Missouri, U.S.: 172.8 lbs.	Newark, Ohio, U.S.: 361.3 lbs.
<b>3rd Place</b>	Ridgeview, South Carolina, U.S.: 134.0 lbs.	Kláštorec, Czech Republic: 235.5 lbs.

### Activity Challenges

Exercise is essential to healthy living, so Owens Corning encourages all employees to keep moving through two healthy living challenges. In October 2021, Owens Corning sponsored Operation Move, a virtual initiative in which employees, wellness teams, and site leaders committed to their activity of choice over the course of one week. Nearly 200 employees from all regions of the world took part, with many of them posting their participation on OC Now, the company's online community.

Over 350 teams representing approximately 1,500 employees took part in our annual Healthy Living Mindful Explorations step challenge, which encourages employees to learn about mindfulness practices as they track their steps throughout the day. From October 4 through October 31, team members recorded their steps each day, achieving a total of 375,747,906 steps, the equivalent of 187,874 miles. Members of the first-place teams in each region received 3,000 points on our Healthy Living platform, with second-place finishers receiving 2,000 points, and third-place finishers receiving 1,000 points.



## GOING FORWARD

Our Healthy Living strategy will be essential as we strive to reach our 2030 goals and help our employees achieve and maintain their optimal health and wellness. We are expanding our efforts to include the development of a global measurement and reporting process that can be used to track employees' health and data around the world.

Over the next ten years, we will expand our Healthy Living programs based on health and behavioral science informed by the data available to us. We will continue to provide resources and encourage activities that support the six pillars of our Healthy Living platform, and we will roll out a number of new initiatives to reinforce them among our workforce. These will include specific goals related to biometrics, mental health, and financial health, including specific targets designed to engage site leadership in our efforts.

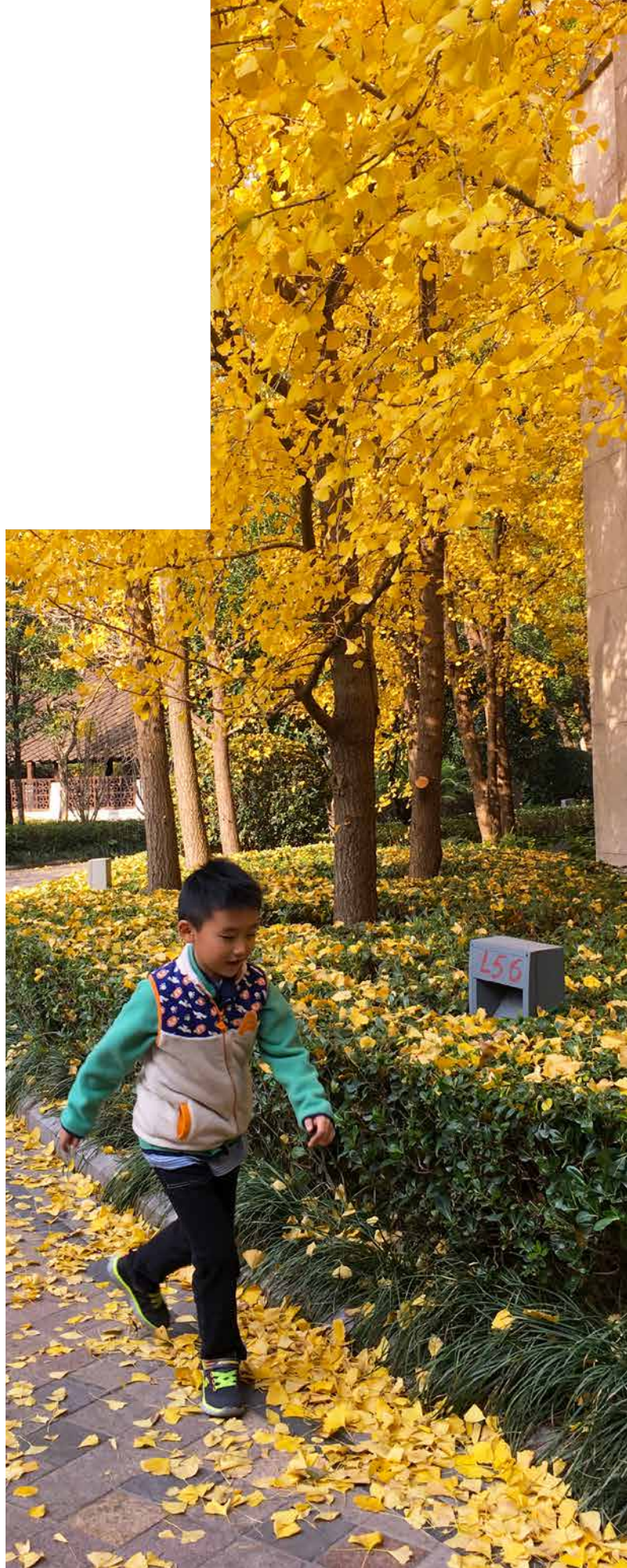
As the pandemic continues to pose challenges, we are reinforcing our commitment to the mental health of our employees. We have created EAP Navigators, a network of employees who are certified in Mental Health First Aid™ and trained on Owens Corning mental health benefits. This mental health social support program will provide support for coworkers' needs and concerns and direct them to company-provided resources.

Helping employees live healthier lives is part of how we care for them as individuals. We also hope they will take the encouragement they receive at work into their home lives, where their example can help families and friends live healthier lives around the world.

Photo submitted by:

**Yana Liu | Shanghai, China**

Owens Corning is fostering a culture of well-being for our employees and their families.





# HUMAN RIGHTS & ETHICS

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## In this chapter:

- 2030 GOALS
- OUR APPROACH
- HUMAN RIGHTS POLICIES
- ETHICS POLICIES
- GOING FORWARD

Owens Corning places a high priority on safeguarding the human rights of people around the world, and especially in the places that are touched by our operations. It's part of our overall commitment to ethical business practices and integrity, which is reflected in every aspect of our operations, from the quality of the products we make to our sustainable manufacturing processes.

We expect everyone we work with, from our employees to our suppliers, to adhere to our ethical principles — and to join us in our efforts to ensure that the fundamental rights of individuals everywhere are upheld.

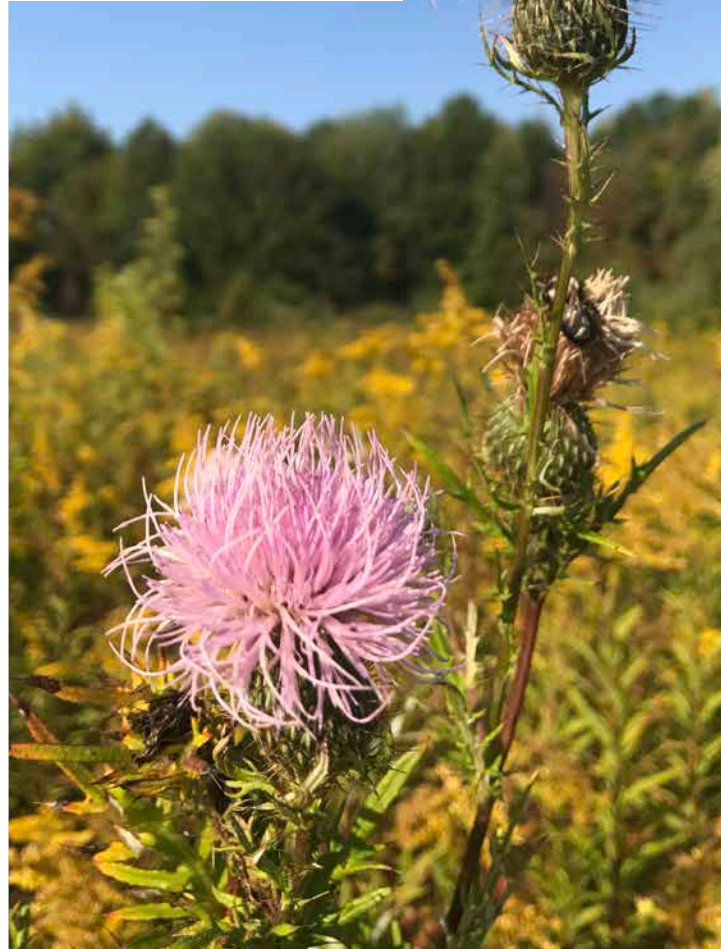


Photo submitted by:  
**Kelly Picking | Toledo, Ohio, U.S.**

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Our human rights & ethics efforts align with the following UN SDGs:



## Sustainability Materiality Definition:

Owens Corning has the privilege of working with people all over the world. We believe that this privilege comes with the responsibility to treat all people with dignity and respect and to protect their fundamental rights. We are committed to setting and upholding the highest standards for safeguarding human rights in everything we do.

The social data in this chapter marked with a + sign were independently assured to a moderate level by SCS Global Services. For more information on the assurance process see [About the Report](#), and for our verification statement please see [Appendix F](#).



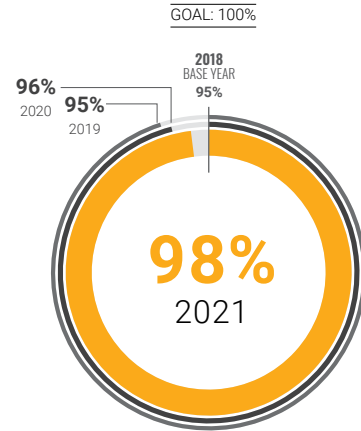


## 2030 GOALS FOR HUMAN RIGHTS & ETHICS

**By 2030, 100% of our suppliers will meet our Supplier Code of Conduct requirements, with special attention to human rights issues such as safety and forced labor.\***

Each year, we conduct a survey assessment of our key suppliers. In 2021, those suppliers constituted 74% of our sourcing managed spend. They are asked to report their own policies regarding a range of topics, including human rights and ethics. Of the suppliers who have responded to our survey assessments over the past three years, 98% reported that they meet the standards set by our Supplier Code of Conduct.

### Supplier Code of Conduct Compliance



## OUR APPROACH

The following documents serve as the foundation of our approach to human rights and ethics:

- The Ten Principles of the United Nations Global Compact (UNGC).
- The Universal Declaration of Human Rights.
- The UN Guiding Principles.
- The International Labor Organization's (ILO) Declaration on Fundamental Principles and Rights at Work.

Together, these documents represent the foundation upon which we have constructed the Human Rights Policies, the principles of which are embedded in the Owens Corning Code of Conduct, which establishes the ethical foundation for all company policies, procedures, and guidelines. This Code of Conduct applies to every person at Owens Corning. By holding all our people to these high standards, we demonstrate the value of ethical business conduct, as well as our respect for our stakeholders and our company.



**In 2021, we refreshed our Code of Conduct, making it even easier for employees to understand and ensuring that it reflects our growth as a company and the diversity of our people.**

As part of our comprehensive corporate ethics and compliance program, we have specific policies that apply to our chief executive, senior financial officers, and members of the board of directors. Other business conduct policies apply to all employees on specific compliance topics.

In addition to the Code of Conduct, the policies that guide us in all our interactions can be found in these documents:

- Director's Code of Conduct.
- Ethics Policy for Chief Executive and Senior Financial Officers.
- Supplier Code of Conduct.
- Non-Discrimination & Non-Harassment Policy.
- Human Rights Policy.
- Data Privacy and Data Protection Policies.

Our approach to human rights and ethics is intentionally broad and inclusive. We respect the rights of people within and outside our organization, and we work diligently to protect them.

This includes all full-time employees, part-time employees, contractors, and temporary staff of Owens Corning, the entities we own, the entities in which we hold a majority interest (including joint ventures), the facilities we manage, our franchises, and branded operations.

Moreover, we work with our suppliers, customers, and other business partners to uphold our human rights principles. We expect them to adopt similar policies within their businesses and extend the same protections to their various stakeholders. We use our Code of Conduct and Supplier Code of Conduct to review and evaluate our locations and acquisitions and guide our interactions with suppliers and other business partners.

# HUMAN RIGHTS POLICIES

## Human Rights Accountability Model

The implementation of our human rights policy is ensured through an accountability model, each element of which is assigned to and managed by specific corporate functions within Owens Corning. This cross-functional approach allows for a strategic, integrated focus. In addition, our ownership model allows for training, continuous improvement processes, and annual reporting.

## Owens Corning's Human Rights Framework

Our Human Rights Policy is part of an overarching framework that guides our actions as we strive to be a solid corporate citizen. We are committed to enforcing compliance in the following areas:

### ■ Equal Opportunity and Non-Discrimination

Owens Corning strives to foster an inclusive and diverse culture in which all employees feel valued and appreciated. We believe this culture of appreciation helps people engage at their best, knowing they have an equal opportunity to grow and succeed based on their performance, regardless of individual differences. We invest equally in our employees and ensure our corporate culture allows all employees to share their unique perspectives and experiences, learn from one another, and contribute to Owens Corning's global workplace.

We do not discriminate in employment and advancement opportunities, and we do not tolerate acts of discrimination. To provide equal employment and advancement opportunities to all individuals, employment decisions are based solely on merit, qualifications, and abilities. Accordingly, it is Owens Corning's policy to provide employment opportunities without regard to race, color, religion, national origin, age, disability, veteran or military status, pregnancy status, gender, gender identity, sexual orientation, genetic information, or any other characteristic protected by applicable law.

In 2021, the business conduct council reviewed and investigated six reported equal opportunity concerns. Actions for correction and improvements were taken as applicable.



Photo submitted by:  
Cheryl Smith | Newark, Ohio, U.S.

## ■ Child Labor/Forced Labor

We do not employ child labor in our operations. We define child labor as work or service extracted from anyone under the age of 16, the minimum age for employment, or the age for completing education in a country, whichever is highest. We also will not knowingly engage with a supplier or distributor or enter into a joint venture with an organization that does, directly or indirectly.

Similarly, we do not use forced, slave, convict, or bonded labor in our operations, and we will not work with a supplier or distributor or undertake a joint venture with an organization that employs forced labor or people trafficked into employment. Forced labor refers to any work or service not voluntarily performed and extracted from an individual under the menace of penalty or subject to unduly burdensome conditions. These include, but are not limited to, the surrender of government-issued identification, passports, or work permits, or any other limitations inhibiting the employee's free will with respect to work. Our definitions of slave labor and bonded labor reflect the United Nations Human Rights Office's Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions Similar to Slavery under Articles 1 and 7. Convict labor refers to any labor performed by a legally convicted person on or outside prison grounds. Where applicable, migrant workers will have the same entitlements as local employees.

We follow the U.S. Securities and Exchange Commission guidelines in disclosing any use of conflict minerals and in conducting reasonable country-of-origin inquiries as required by those guidelines. We also do not tolerate the use of raw materials, in any of our products, that directly or indirectly contribute to armed conflict or human rights abuses. We follow the Organisation for Economic Co-operation and Development's Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. Owens Corning supports the participation in legitimate workplace apprenticeship programs, as long as they comply with all applicable laws and are consistent with Articles 6 and 7 of the International Labour Organization (ILO) Minimum Age Convention No. 138 on vocational or technical education and light work. Issues regarding forced or child labor raised through the business code of conduct helpline are reviewed by internal audit and legal compliance.

We have identified country locations where risk of forced or compulsory labor is prevalent according to U.S. State Department and EIRIS data. Leveraging an ESG risk scoring framework based on the S&P Global Rating's ESG Risk Atlas, along with our supplier segmentation tool, we mapped both our top segmented suppliers and our own locations to identify the number of locations in higher-risk countries. This information provides a basis for continued monitoring for compliance, both in evaluating supplier risk and within our own operations.

Through our annual survey, no cases of forced, compulsory, or child labor were identified or reported in 2021, nor were human rights risks discovered that required remediation. Due to the nature of the mineral mining industry, we canvass suppliers in that industry to inquire about forced labor issues. When we become aware of an issue in our supply chain, Owens Corning is committed to working with our suppliers to mitigate known or suspected risks. This remains a focus area on annual surveys.

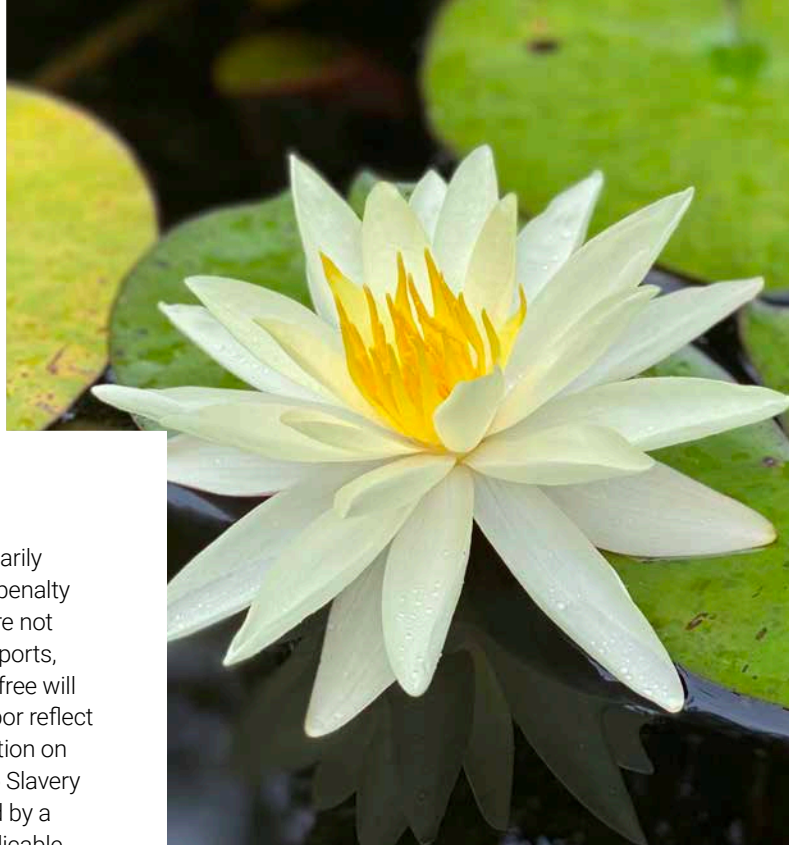


Photo submitted by:  
**Amanda Meehan | Toledo, Ohio, U.S.**



### ■ **Indigenous Peoples'/Traditional/Land Rights**

We subscribe to the principles of ILO Convention No. 169 on Indigenous and Tribal Peoples wherever our operations may impact the human rights of indigenous peoples. This question is part of our due diligence when considering new acquisitions. There have been no issues for Owens Corning involving the rights of indigenous people.

### ■ **Freedom of Association/Collective Bargaining**

We do not restrict worker's rights to exercise freedom of association or collective bargaining in any of our operations. Independent trade unions represent 61% of our primary employees, who are also covered by collective bargaining agreements. To support employees' rights to exercise freedom of association and collective bargaining, we had 20 formal consultations (and many informal consultations) or negotiations with trade unions as of the end of 2021. These talks have covered organizational changes, including restructuring and outsourcing. We also extend these principles to our suppliers, as outlined in our Supplier Code of Conduct.

### ■ **Employment Standards, Compensation, and Working Conditions**

We provide employees with compensation, benefits, and working-hour schedules in compliance with all applicable laws and collective agreements. We support mechanisms for employee grievances and resolution of disputes that protect employees' privacy, allow for anonymous reporting, and protect employees against retaliation.

### ■ **Data Privacy**

For the safety of our employees and stakeholders, we seek to comply with all applicable data privacy laws as regulated by the countries where we do business. We collect, process, and transfer personal data responsibly and in accordance with the principles and obligations set forth in our data privacy policy, unless doing so conflicts with stricter requirements of an applicable local law. Our IT department works to ensure that we have security controls in place to protect personal data.

### ■ **Safety, Health, Environmental, and Product Stewardship**

We are committed to providing safe, secure working conditions and workplaces that promote health and well-being. Through environmentally sound business practices, we work toward continuous improvement in our EHS performance. To ensure that our products perform as claimed and are safe and environmentally sound to make, use, and dispose of, we conduct a thorough review of any new or significantly modified product or manufacturing process.

### ■ **Non-Harassment Policies**

It is Owens Corning's intent that all employees will work in an environment free from harassment on any basis including, but not limited to, race, color, sex, age, national origin, veteran or military status, pregnancy status, sexual orientation, gender identity, cultural affiliation, religion, genetic information, physical or mental disability, personal characteristics or circumstances, or any other characteristic protected by applicable law. Harassment is defined as any conduct that threatens, intimidates, or coerces another person. Regardless of whether it is committed by a co-worker, a manager, or even a non-employee, harassment will never be tolerated at Owens Corning. Employees at all our worldwide locations and at all levels have the responsibility to avoid any act or actions that suggest harassment in the workplace or in a work setting. This includes interactions with contractors, vendors, consultants, customers, and other non-employees, such as visitors, who are involved with Owens Corning.

Travel and gathering restrictions due to the COVID-19 pandemic have impacted our ability to deliver non-harassment training to U.S. primary employees. In 2021, 2% of U.S. primary employees were trained on non-harassment. We will continue our work in this area as restrictions are lifted, and we hope to return to pre-pandemic levels in the near future; throughout 2019 and into 2021, 95% of U.S. primary employees were trained on non-harassment.

Owens Corning also has management training in place to help prevent harassment. This includes our leadership development program Leading Pink, which helps ensure that managers are aware of non-harassment policies, so they are better equipped to enforce them when they see potential violations. Our company actively investigates allegations of harassment, evaluates the conduct and the context of the alleged behavior, and takes appropriate action. In 2021, the business conduct council reviewed and investigated 16 reports of harassment. Actions for correction and improvements were taken as applicable.

### ■ **Communities**

We seek to engage in proactive, meaningful dialogue with stakeholders on human rights issues related to our business. We also encourage employee involvement with community organizations and foundations.

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## Implementing Our Human Rights Framework

We support our human rights commitments through our comprehensive compliance framework, which includes our human rights policy and the supporting policies and documents listed in the previous section. We also have a number of mechanisms in place to ensure that our high standards for integrity are upheld as we do business.

### ■ Upholding High Standards for Suppliers

Owens Corning seeks to partner with businesses that share our commitment to human rights. We expect our suppliers, customers, and other businesses around the world to uphold the principles in our human rights policy. We also expect them to adopt similar policies in their business practices and within their own relationships with subcontractors and others.

For all entities that directly provide goods or services to Owens Corning, our Supplier Code of Conduct holds them accountable to applicable laws and principles of ethical business. The code is explicitly consistent with our human rights policy and includes, for example, expectations related to human trafficking and the sourcing of conflict minerals. Our sourcing and supply chain leaders are responsible for managing human rights issues among our suppliers. They use our Supplier Code of Conduct as a reference to select suppliers, measure their performance, train them, and assess risks.

We conduct annual human rights assessments via a survey for our key suppliers, which comprise 74% of our sourcing managed spend this year. Over the past three years, 131 suppliers were assessed for impacts on society and labor practices. None of these suppliers were found to have potential of actual significant negative impacts on society, human rights, labor practices, or the environment.

### ■ Training Employees on Human Rights

Training is one of the core tenets of Owens Corning's compliance program. One hundred percent of our staff employees are trained on and provide written acknowledgement of the Code of Conduct and anti-corruption and anti-bribery policy.

Our Code of Conduct and Business Conduct Policies are extensions of our corporate values, which is why we require 100% compliance. To support compliance, the Code of Conduct and Business Conduct Policies are provided to all employees and are available in 16 languages via our internal network. We also expect all our facilities to display materials that highlight our human rights policies. In the case of acquisitions, the integration team will distribute physical copies of the Code of Conduct and Business Conduct Policies to the new plant staff, as they do not have immediate access to Owens Corning online systems.

To ensure compliance, internal training is essential. All staff employees are enrolled in the Code of Conduct training course at hire and annually thereafter, are required to certify their compliance, and are given an opportunity to disclose nonconformance. Special attention is given to personnel in key groups such as sales, environmental, safety, and security teams. In addition, managers are expected to lead by example and ensure that these policies are incorporated into the way employees interact each day with customers, colleagues, suppliers, and the public. This year, our 5,695 staff employees, which make up about 28% of our employees worldwide, collectively received 4,218 hours of human rights training.

**In considering human rights issues, we have identified women, LGBTQ+, people of color, and other underrepresented populations as vulnerable groups. We have created employee affinity groups within Owens Corning to address the specific risks and needs of these populations – learn more about them in the [Inclusion & Diversity chapter](#).**

### ■ Industrial Relations

Owens Corning makes use of a variety of formal and informal processes to address and resolve labor practices at each facility. All labor practice concerns raised by employees are resolved, typically through a peer review or grievance process at the local level. Occasionally, local grievances require additional input at the divisional or corporate level, and if still not resolved, are definitively decided by a neutral arbitrator. Although the company does not compile the number of grievances or complaints filed by employees/unions at each plant each year, it is not unusual for each facility to resolve dozens of such labor concerns each year. In 2021, we had two labor concerns across Owens Corning's U.S. operations that required the use of an arbitrator to reach a final disposition (i.e., grievance withdrawn, granted, or settled).

In the unfortunate event that one of the above mechanisms of resolution is unsuccessful, an employee may choose to proceed with legal action or file a complaint with a local agency. These are handled through Owens Corning's legal department following the same guidelines of investigation, remediation, and non-retaliation policies.

## ■ Human Rights Assessments

We have continued to implement our revised environmental, health, and safety (EHS) audit processes, which include on-the-ground visual observations for elements of our human rights policy. In our last EHS audits, conducted in 2021, we proactively assessed five sites for human rights risks, examining documented evidence and making visual assessments where needed. Our 2021 audits included sites, all in the U.S., representing two of Owens Corning's three business units. All the sites assessed had some type of mitigation plan in safety and health.

Our process in these five 2021 audits was modified from our past approach. These modifications were based on both role changes and travel restrictions related to COVID-19.

Findings are categorized by risk, and high-risk findings are tracked to completion in a corporate findings repository. All risk findings are required to be closed. There were no issues identified through human rights audits in 2021.

Our internal audit team is conducting visual inspections covering forced labor, child labor, unsafe working conditions, and other human rights issues in their on-site assessments in addition to their standard audit process. This expansion is part of our commitment to ensuring that our workplaces reflect the highest human rights standards as well as best practices for health and safety for everyone at our sites, including employees, contractors, and visitors. In 2021, we conducted 19 internal audits on human rights risk.

Between our EHS assessments and internal audits, Owens Corning assessed 24 of our sites for human rights risks in 2021.

## ■ Human Rights and Acquisitions

Our human rights policy has become part of our due diligence for potential acquisitions, which are a key element of our growth strategy. This process involves reviewing labor and human rights policies and practices and assessing risks, including evaluating any potential impacts on vulnerable populations such as tribal lands and indigenous people.

## ■ Facility Security

Our approach to facility security has evolved from a focus on property to a focus on people. We now ask how we can make our facilities safe for people, so they can do their best work.

We have operationalized our focus by implementing revised security standards for all our facilities. These robust standards provide a common statement of work for all security providers, as well as required training programs on appropriate behavior and use of force. We also have guidelines to help people leaders recognize and respond to potential workplace violence situations and behaviors of concern. Workplace violence training has been translated into 17 languages and disseminated to global sites. Over 95% of all global people leaders and salaried staff have completed the general training course.



For sites where we employ third-party security services, we have established a set of standards related to our human rights priorities. Human rights training, including training in the appropriate use of force, is required by all North American contract security providers. In North America, 100% of security personnel, including those employed by third-party organizations, have received formal human rights training.

Globally, security personnel at 38% of our sites have received this training. We expect guard services to observe and report — never to place themselves in harm's way or jeopardize the safety of others.

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Photo submitted by:  
**Leila Pourzahedi | Granville, Ohio, U.S.**  
Shannon Falls, Squamish, British Columbia



# SPEAKING OF SUSTAINABILITY

## Angela Carter

Director of Compliance

As an attorney and an MBA, Angela Carter recognizes the many ways that law and business interact. In her role as director of compliance for Owens Corning, Angela is dedicated to helping employees know what is expected of them as we strive to be an ethical corporation. To help with this, Owens Corning has established a companywide Code of Conduct, which was revised this year under Angela's supervision. Here, she discusses how these revisions will make it even easier for employees to adhere to our ethical policies, as well as the personal satisfaction that comes from ensuring that Owens Corning remains an exemplary corporate citizen.



**“ I enjoy talking to people, understanding what they do, and giving them the tools to help them do their jobs in a way that’s compliant and consistent with the law. ”**

### On the benefits of our revised Code of Conduct

The Code of Conduct was originally published in 2012, and in ten years, we have learned so much. We’ve taken all those learnings and modernized our code. We had a great code to begin with, but we took the opportunity to really think as a global company. We have a larger presence in areas of the world that we didn’t have before. We have many more employees outside of the United States, so we really wanted to make this code reflect the growth of our company and the diversity of our company. When I look at it, it makes me so proud because in writing the code, it was telling Owens Corning’s story. This is who we are. This is what we stand for and it’s exciting. I’m very proud of the team that put it together, but also proud of the employees that we got to tell the story for.

### On the importance of listening to our employees

Probably the thing I love most is just learning from people. And that requires talking to them, understanding why they’re passionate about the work that they do. With the company policies, we have a need to make sure that everybody’s doing something a certain way, so we create standards, we create procedures, and we need someone who can step in and help to say, here’s that consistent process. A lot of what my team does is teaching and training. So, what I really enjoy is just learning — talking to people, understanding what they do and why they do it, and then just giving them the tools, giving them the information to help them do their jobs in a way that’s compliant and consistent with the law.

### On the example set by Owens Corning’s leadership

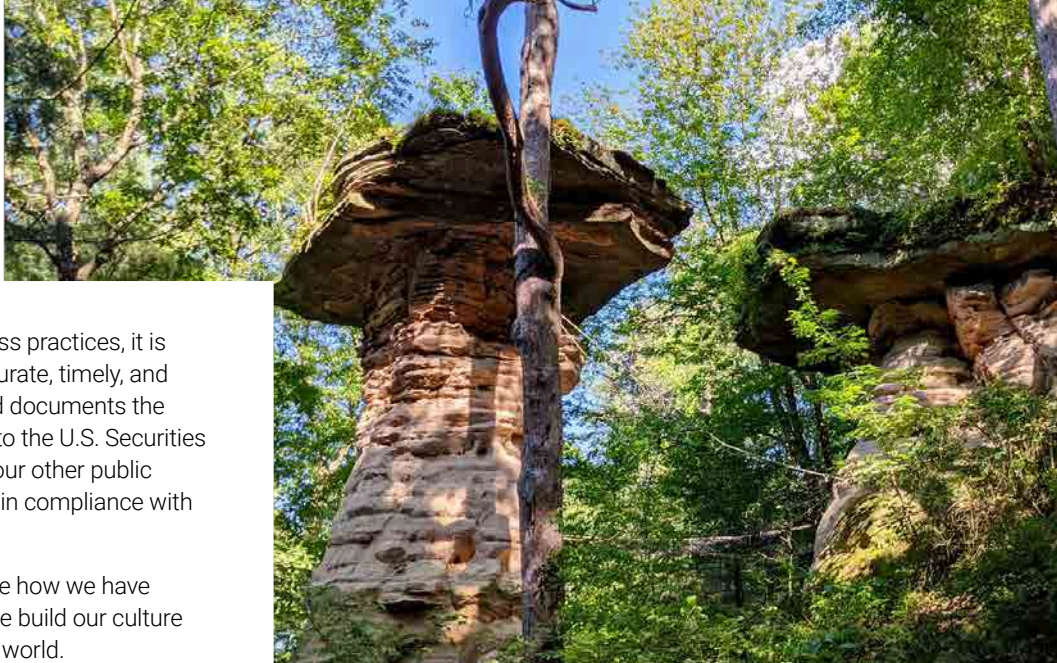
I am always delighted by the support that we get from our leadership. We are not only inspired, but we’re challenged by our leadership to make sure that we are connecting into the business, to understand the business and that the solutions that we provide are sensitive to the business. And they’re open in their support. They share things with myself and my team. They give us access to other leaders. They kind of points in the direction of where we need to go. And that’s critical — if they didn’t believe it and if it wasn’t important to them, then it would be really hard to do my job.

Photo courtesy of Angela Carter

# OWENS CORNING'S ETHICS POLICIES

As part of our commitment to ethical business practices, it is Owens Corning's policy to make full, fair, accurate, timely, and understandable disclosures in all reports and documents the company files with, submits to, or furnishes to the U.S. Securities and Exchange Commission (SEC) and in all our other public communications. Our public disclosures are in compliance with all applicable laws, rules, and regulations.

The ethics policies outlined here demonstrate how we have established a solid foundation upon which we build our culture of integrity with our stakeholders around the world.



## Senior Officer Policies

Not only must senior officers comply with applicable laws and other requirements, but they must proactively engage in and promote honest and ethical conduct. This includes, for example, the ethical handling of actual or apparent conflicts of interest between personal and professional relationships. These are specific corporate policies that apply to our senior officers:

### ■ Ethics Policy for Senior Officers

Our ethics policy for senior officers sets forth policies to guide the performance of their duties as CEO, CFO, and corporate controller. These officers are held to legal and ethical standards even beyond those of our other employees.

### ■ Reporting on Violations

Senior officers are required to report any suspected legal and ethical violations to our law department or corporate audit services or to any member of our business conduct council, a global team accountable for the management and oversight of the company's internal investigations protocol and escalation of concerns, where appropriate. We also maintain a confidential reporting system for receiving advice and concerns from our employees, described in more detail later in this section.

### ■ Conflicts of Interest

No senior officer shall make any investment, accept any position or benefits, participate in any transaction or business arrangement, or otherwise act in a manner that creates or appears to create a conflict of interest with the company, unless the senior officer makes full disclosure of the facts and circumstances to, and obtains the prior written approval of, the governance and nominating committee of Owens Corning's board of directors. Conflicts of interest requirements also apply to members of our board of directors.

## Executive Compensation

Owens Corning continually monitors the evolution of compensation best practices, as we review the relationship between company performance and compensation and the goals and targets we set. Individual goals and targets are designed to ensure that Owens Corning meets its financial and environmental goals while operating as an ethical company. In addition, Owens Corning has a fully non-executive Compensation Committee made up of all independent members. Our CEO and our Named Executive Officers (NEOs) have substantial "pay at risk," with 85% of our CEO's and 74% of our NEOs' target compensation being tied to annual and long-term incentives (as opposed to base salaries). Actual annual incentives and long-term incentive awards are subject to the achievement of preestablished performance requirements and designed to align with stockholder value. Base salary and other fixed elements of compensation are essential to any compensation program and enable the recruitment and retention of top talent. However, we believe that variable compensation for our most senior executives should significantly outweigh base salaries.

Photo submitted by:  
**Jim Close | Toledo, Ohio, U.S.**  
Wisconsin Dells, Wisconsin, U.S.

## ■ Open Reporting Process and Internal Investigations

Owens Corning works to ensure that all employees are aware of all applicable laws and company policies, including our Code of Conduct. If the need arises for employees to report suspected misconduct, including harassment, discrimination, and other ethical issues, employees can voice their critical concerns through an open reporting process.

All employees are encouraged to report suspicions of violations of law or policy, and they are expected to cooperate in the investigation of potential wrongdoing per our Code of Conduct. They can do so without fear of retaliation, which is strictly prohibited by Owens Corning as a way to protect whistleblowers or individuals who raise concerns. No hardship, loss of benefits, nor penalty may be imposed on an employee as punishment for good-faith reporting of suspected misconduct, responding to a concern of suspected misconduct, appearing as a witness in the investigation of a report, serving as an investigator, or otherwise cooperating in a workplace investigation. Retaliation or attempted retaliation is a violation of company policy, and anyone who engages in retaliation may be subject to discipline, up to and including termination. This expectation is reinforced with senior business and HR leadership during a quarterly compliance review.

Employees are encouraged to report their concerns to any manager, member of human resources or the law department, or any member of our business conduct council. Employees may also submit their concerns (anonymously, if desired) to our business conduct council through a confidential helpline (1-800-461-9330) or web portal ([helpline.owenscorning.com](https://helpline.owenscorning.com)), which are operated by a third-party service provider. Employees can also report their concerns to the business

conduct council using a designated email address or a dedicated postal mailbox.

Owens Corning takes all reports of misconduct seriously. Any concern brought to the company's attention is thoroughly reviewed and investigated by the business conduct council as appropriate. We make every effort to ensure that investigations are consistent, comprehensive, and confidential to the greatest extent possible. If a report is substantiated, the company will respond as it deems appropriate or necessary consistent with laws, internal procedures, and best practices, and we will act swiftly to correct the problem and deter future occurrences. Depending on the circumstances, this may include training and/or disciplinary action up to and including termination. Individuals suspected of being in violation of the law may also be subject to civil or criminal prosecution. Significant breaches of our Business Conduct Policies on the part of certain senior executives are escalated to the audit committee of the board of directors. The audit committee would determine the manner of investigation of any such reports and they are disclosed as applicable by law.

Internal investigations are reviewed for trends and opportunities at least quarterly and further discussed with senior business leaders. The audit committee receives a periodic report along with an update of the compliance program in general, including any breach of applicable law. Compliance operations will report significant highlights from the open reporting process to all employees annually, which may include the number of reported concerns received, the number of substantiated concerns, the percentage of anonymous reports, and the number of employees who were terminated for such concerns.

In 2021, there were no substantiated reports that had an actual or potential material financial impact on the company. The majority of reported concerns reviewed were employee-related matters, with a smaller number of business integrity reports. Fewer than 15% of the reports resulted in a finding of substantiated policy violations.

Even if reports were not substantiated, many of them presented opportunities for improvements in management systems. Identified trends led to enterprise-level changes, including policy updates, targeted training, and improved communication. Because no concerns reported in 2021 were critical, no concerns went through our escalation process, nor was the board of directors called upon to respond.

## ■ Anti-Corruption

Owens Corning uses many safeguards to avoid corruption related to our business — including corruption on the part of any of our employees, members of our board of directors, and business partners including third parties and independent agents. This policy is overseen by our audit committee. Our anti-corruption policies align with applicable anti-corruption laws, including but not limited to the U.S. Foreign Corrupt Practices Act of 1977 (FCPA), the UK Bribery Act, and the OECD Convention on Combating Bribery.

Specific controls exist within the Owens Corning treasury policies and procedures to review vendors and assess appropriateness before payments are processed. These controls are reviewed regularly by internal audit based on audit scoping. In addition, sensitive transactions, including gifts, travel, and entertainment, are reviewed using business analytics tools, as well as by our third-party business partner, to ensure compliance with Owens Corning policies. Additionally, internal audit performs an annual



review of travel and expenses (T&E) to assess policy compliance, sensitive transactions, and potential misuse or abuse.

In 2021, our anti-corruption efforts resulted in the following outcomes:

- 100% of the members of our board of directors received communication on our anti-corruption policies, procedures and compliance efforts.
- 100% of our employees received communication on our anti-corruption policies and procedures, and 100% of staff employees, which is approximately 28% (5,695) of all employees, completed training.
- 100% of our new suppliers received our Supplier Code of Conduct, which includes anti-corruption expectations.
- 100% of Owens Corning's business was assessed for corruption risks, per an annual assessment cycle. Significant risks identified and assessed include customers, independent third parties (including facilitation payments), direct and indirect interactions with government officials (including gifts and entertainment), anti-money laundering, politically exposed persons, and bribery.
- Owens Corning received no fines, penalties, or settlements in relation to corruption in 2021. Furthermore, no employees were disciplined or dismissed due to noncompliance with anti-corruption policies in 2021. There were no confirmed incidents of corruption, termination of contracts with business partners, or public legal cases against Owens Corning or its employees related to corruption.

## ■ Anti-Competitive Behavior

In general, Owens Corning discourages employee contact with competitors. Employees who do have contact with a competitor must report that contact to the law department, even if business is not discussed.

- Before a scheduled meeting or call with a competitor, the law department must review the purpose of the meeting, the written agenda, a list of participants, and any documents or information that will be shared.
- After any contact with a competitor, scheduled or unscheduled, employees must file a report with the law department.

Owens Corning has established controls related to potential contact with competitors. These controls may be reviewed as part of a periodic audit process. The company has created a mobile-friendly web app to make reporting these interactions easy.

After extensive review, we have found no record of any fair competition breaches in our company's history. We have also had no legal actions for anti-competitive behavior or monopoly practices.

## ■ Corporate Political Advocacy

Owens Corning incurs lobbying expenses directly through an internal registered lobbyist and three lobbying consultants, as well as indirectly through trade associations who lobby on their members companies' behalf.

In 2021, direct and indirect lobbying expenses for the company totaled \$564,390. Lobbying-related expenses are a subset of the company's overall advocacy-related expenditures, which also includes membership fees for industry associations. In 2021, the company's overall advocacy-related expense was \$3,200,004.

In 2021, the five largest lobbying-related expenses totaled to \$483,108, and were with the following organizations:

- WilmerHale.
- Flywheel Government Solutions.
- Mehlman Castagnetti.
- Business Roundtable.
- North American Insulation Manufacturers Association (NAIMA).

In 2021, our three largest trade association or lobbyist expenditures were for NAIMA, the Asphalt Roofing Manufacturers Association (ARMA), and the European Insulation Manufacturers Association (EURIMA). The company spent \$1,895,373 with these three groups, which includes membership fees and contributions to trade associations.

Owens Corning's political advocacy objectives are to support initiatives which align with the company's core principles, including advocating for energy efficiency measures and contemporary building code development and adoption. We also work in conjunction with the National Association of Manufacturers and the Business Roundtable to advocate for affordable housing and other social justice concerns. In 2021, Energy Efficiency accounted for around \$280,000 worth of related expense, and Building Codes accounted for around \$140,000, with some overlap of spending between these areas.

Owens Corning does not permit the use of corporate funds to support any political candidate, political organization, or campaign.



### Political Advocacy and Trade Expenditures

TYPE OF CONTRIBUTION	2018	2019	2020	2021
Lobbying, interest representation, or similar	544,003	450,499	599,150	564,390
Local, regional, or national political campaigns / organizations / candidates	-	-	-	-
Trade associations or tax-exempt groups (e.g. think tanks)	2,456,429	2,747,138	2,358,915	2,635,614
Other (e.g. spending related to ballot measures or referendums)	-	-	-	-
<b>TOTAL CONTRIBUTIONS AND OTHER SPENDING</b>	<b>3,000,432</b>	<b>3,197,637</b>	<b>2,958,065</b>	<b>3,200,004</b>
<b>DATA COVERAGE (AS % OF DENOMINATOR)</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

### Owens Corning Better Government Fund

Owens Corning employees have the option to make political contributions through our Owens Corning Better Government Fund. The fund is a voluntary, nonprofit, unincorporated committee operating as a separate, segregated fund of Owens Corning. The purpose of the fund is to provide our employees and shareholders with an opportunity to take part in the American political process. The fund provides a convenient way for these stakeholders to join a program of political giving so that they may have a united and constructive voice for better government. The fund prohibits direct or indirect contributions from Owens Corning or any other corporation or political action committee.

In 2021, the Owens Corning Better Government Fund distributed a total of \$13,000 in contributions. A full list of recipients can be found in [Appendix D](#). Additional information on the Better Government Fund's contributions can be found at [www.fec.gov](http://www.fec.gov).

Photo submitted by:  
**Michele Mazza | Trophy Club, Texas, U.S.**  
Hiking Rio Bonito area, Fort Stanton, New Mexico, U.S.



## GOING FORWARD

Creating an environment in which the rights of all people are respected, and business is conducted ethically at all times, requires a great deal of collaboration — within and across all our departments and among all our suppliers. As we work together to strengthen our commitment even further, we will be doing our part to make the world a better place for people everywhere.

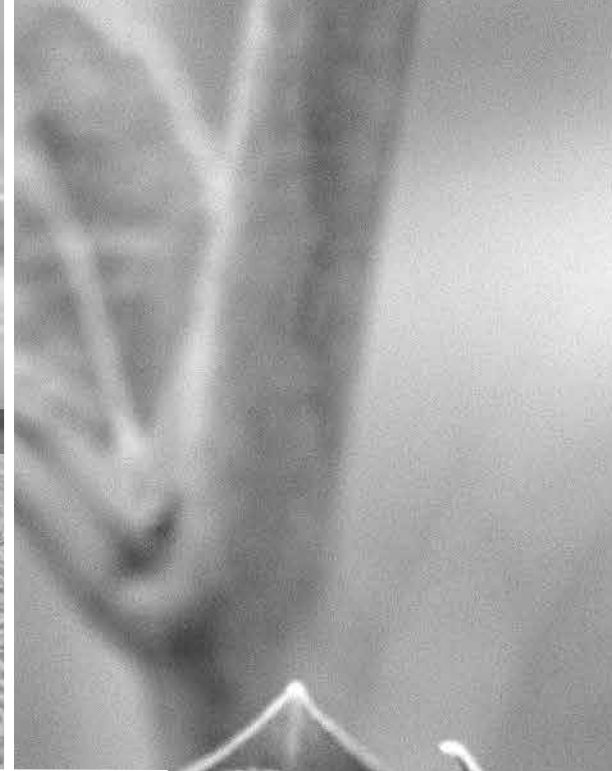
In addition, we recognize that our commitment to human rights and ethics must be shared by all our employees. The increase in responsibilities of our internal audit team is testament to the idea that every team — and every individual — has a role to play in safeguarding the rights of people, and we believe it is essential to achieving our 2030 goals in this area.

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Photo submitted by:  
**Priyanka Ruparel | Mumbai, India**  
Home garden.

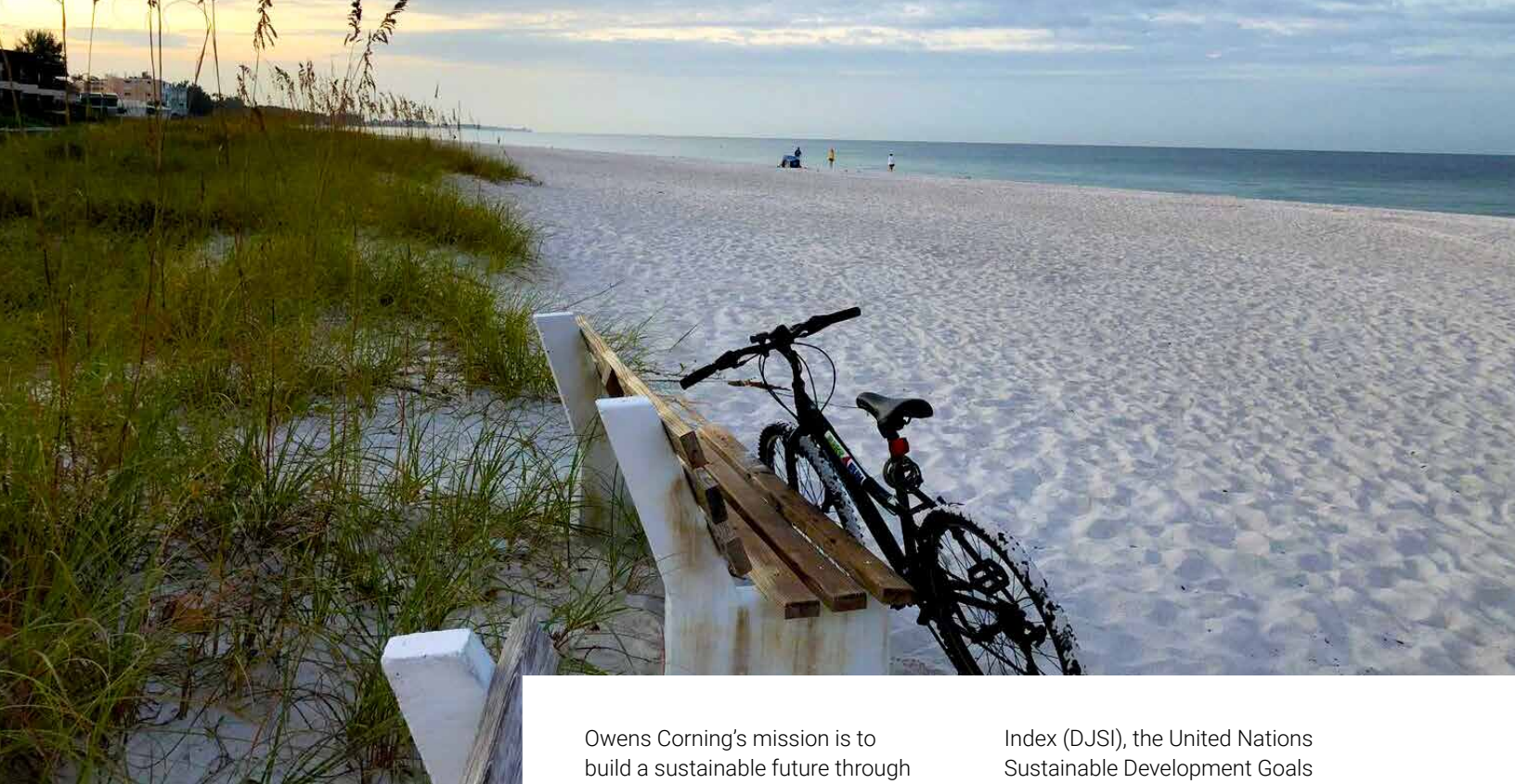






# APPENDIX





# ABOUT THE REPORT

Owens Corning's mission is to build a sustainable future through material innovation, and our annual Sustainability Report is one way we demonstrate our commitment to that mission. Through this report, our many stakeholders can gain a full understanding of our holistic approach to sustainability, encompassing environmental efforts, the development of sustainable products and processes, and initiatives aimed at increasing social equity within our company and throughout our communities.

This is our 16th annual Sustainability Report, published in March 2022, reflecting the reporting period from January 1, 2021, to December 31, 2021. Our previous report was published in April 2021.

This is our fifth report prepared in accordance with the Global Reporting Initiative (GRI) Standards: Comprehensive option. This is the more extensive option for GRI reporting, requiring additional disclosures related to our strategy, ethics and integrity, and governance. We report at this level because we believe that transparency is an essential component of any sustainability effort. In addition, this report addresses disclosures and material issues related to CDP (formerly the Carbon Disclosure Project), the Dow Jones Sustainability

Index (DJSI), the United Nations Sustainable Development Goals (SDGs), United Nations Communication on Progress, and other stakeholders' requests, including the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). This approach enables us to provide an integrated, comprehensive view of our commitments, progress, and activities related to sustainability and social responsibility.

We focus on creating robust business and reporting strategies that effectively align with the needs and priorities of our company and our stakeholders. We do this by investing substantial time and effort into understanding, prioritizing, and addressing material topics — and reporting on them accurately and transparently. To achieve this, we have developed our materiality matrix to address different stakeholder needs as well as our involvement with the impacts of material topics. To remain informed about changing business contexts, stakeholder requirements, and emerging trends, we regularly review our list of material topics and their relative priority, and we update them when appropriate. A discussion of our ongoing stakeholder engagement can be found in the [Stakeholder Management & Material Issues section](#) of this report.

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Photo submitted by:  
**Susan Burkett | Toledo, Ohio, U.S.**  
Anna Maria Island, Florida, U.S.

## SCOPE AND BOUNDARIES

For this report, the content and boundaries of material topics were developed and determined based on their impacts — economic, environmental, and/or social. We report on ways that we have caused or contributed to impacts in our material topics, as well as the ways our activities, projects, and services are directly linked to these topics through our business relationships. This includes relationships with entities that we do not control and might not have the leverage needed to effect change in their impacts.

In summary, the boundaries of all impacts cover all our operations around the world, including Asia Pacific, Europe, and the Americas. Internal boundaries include all plants and offices owned or leased by Owens Corning. The external boundary includes supplier locations, communities, and customer locations where Owens Corning does business.

### Significant Changes in Scope

In 2021, Owens Corning acquired vliepa GmbH, which specializes in the coating, printing, and finishing of nonwovens, paper, and film for the building materials industry. The acquisition broadens Owens Corning's significant global nonwovens portfolio to better serve European customers and accelerate growth of building and construction market applications in the region. vliepa GmbH employs approximately 70 people.

In accordance with World Resources Institute (WRI) protocols, we collected or estimated vliepa's utility and production data back to either our base year of 2018 or the year they opened. The revenue denominator we use to calculate our 2030 environmental sustainability goals has been updated to include the acquisition back to the base year of 2018. All vliepa locations are included in the environmental baseline and metrics provided in this report, with the exception of Scope 3 emissions. The acquired vliepa sites are not part of our reported non-environmental aspects, including HR, safety, supply chain, and corporate philanthropy. This change in scope is applicable across all material topics addressed in our report. The boundaries of our material topics have not otherwise changed.

There have been no material restatements of information in this report.



Photo submitted by:  
**Kevin Pawlicki | Toledo, Ohio, U.S.**  
Sunset in Key West, Florida, U.S.



## Key External Initiatives Adopted by the Company

INITIATIVE	ADOPTION DATE	WHERE APPLIED	STAKEHOLDER DEVELOPMENT	REQUIRED BY LAW/ VOLUNTARY
UN Global Compact	2010	Companywide	Multi-stakeholder approach to development	Voluntary
UN Environmental Programme	2010	Companywide	Supplier Code of Conduct	Voluntary
Universal Declaration of Human Rights	2014	Companywide	Supplier Code of Conduct	Voluntary
International Labour Organization	2010	Companywide	Supplier Code of Conduct	Voluntary
Supplementary Convention of the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery	2010	Companywide	Supplier Code of Conduct	Voluntary
Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention Against Transnational Organized Crime	2010	Companywide	Supplier Code of Conduct	Voluntary
UN Sustainable Development Goals	2016	Companywide	Multi-stakeholder approach to development	Voluntary
ISO 14000, ISO 50001, & ISO 45001/OHSAS 18001	Varies based on site	All EMS systems are in alignment with ISO standards. Select sites worldwide are certified.	Multi-stakeholder approach to development	Voluntary
ISO 9001	Varies by site	Select sites worldwide are certified.	Multi-stakeholder approach to development	Voluntary
Science Based Targets Initiative	2016	Companywide	Multi-stakeholder approach to development	Voluntary
Science Based Targets Network	2020	Companywide	Multi-stakeholder approach to development	Voluntary
CEO Action for Diversity & Inclusion	2019	Companywide	Multi-stakeholder approach to development	Voluntary



## PRECAUTIONARY APPROACH AND ALIGNMENT WITH OTHER UN INITIATIVES

Since 2010, Owens Corning has been a signatory to the United Nations Global Compact (UNGC), a strategic, voluntary policy initiative for businesses committed to aligning their operations with 10 universally accepted principles in the areas of human rights, labor, environment, and anti-corruption. Owens Corning is aligned with the UNGC's Advanced level of reporting. Through this agreement, business, as a primary driver of globalization, can help ensure that markets, commerce, technology, and finance advance in ways that benefit economies and societies everywhere.

Principle 7 of the UNGC states that, "businesses should support a precautionary approach to environmental challenges." The precautionary principle or approach was originally introduced in the 1992 Rio Declaration of Environment and Development. Principle 15 of the Rio Declaration explains that, "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

The precautionary approach calls upon us to diligently assess and manage environmental, health, and safety risks, so we can take appropriate action to prevent harm. We ensure that our products and technology comply with or exceed all applicable laws, regulations, and approval standards to protect the environment and human life and health. In addition, our product stewardship programs are designed to ensure the integrity of our products

and the processes used to develop, produce, and manage them. Owens Corning is confident that these efforts are consistent with the expectations of the precautionary approach. More information is available in our Environmental, Health, Safety, and Product Stewardship Policy, found at [www.owenscorning.com/sustainability](http://www.owenscorning.com/sustainability).

As demonstrated throughout the report, we align our activities with the UN's 17 SDGs. In addition, Owens Corning publicly states our support for the UN Universal Declaration of Human Rights. The 30 articles that make up the Universal Declaration represent a watershed moment in the history of international human rights. As one of the primary driving forces behind the UNGC, the Universal Declaration, which was established in 1948, is as relevant and impactful as ever.

Owens Corning is committed — in both belief and action — to the 10 principles of the Global Compact and the 30 articles of the Universal Declaration of Human Rights. This commitment extends beyond making our products and operations more sustainable. It involves the broader objectives of sustainability, balancing economic growth with social progress, and environmental stewardship. In short, we believe that what is good for people and good for our planet is also good for Owens Corning. Our Human Rights Policy was updated and expanded in December 2016 and informs our Supplier Code of Conduct, all in accordance with the principles of the UNGC and the Universal Declaration of Human Rights.

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Photo submitted by:  
**Lori Strohmaier | Toledo, Ohio, U.S.**  
A bee pollinating a flower.

# REPORTING METHODOLOGY

Owens Corning follows the World Resources Institute (WRI) Corporate Accounting and Reporting standard for defining and accounting our baseline structure. In 2021, we had over 100 facilities, which are included in the scope and boundary of our reporting. The data for divested facilities are excluded from our company environmental footprint; however, the data for closures are included in our reporting.

We review all structural changes such as mergers, acquisitions, and divestments on an annual basis, in keeping with WRI's guideline for baseline adjustments. Per the stated protocol, the data of mergers or acquisitions greater than 10% are reviewed for accuracy and integrity and then integrated into our reporting inventory from base year to current year. This process of updating the baseline is completed for both the numerator (aspect) and denominator (sales or production) of our calculations. This approach was implemented to ensure a meaningful and consistent comparison of emissions over time, including for the current year.

Please note that the numbers have been rounded. Some totals have been affected as a result.

## Defining Workers

For purposes of this report, Owens Corning defines "workers" as our employees globally across all facilities in which we operate. In the [Living Safely chapter](#), we also report on contractors over whom we have direct supervision, as well as those for our large capital projects.

## Environmental Methodology

For the organizational and geographical boundaries of the inventory, we have used owned and leased facilities globally under Owens Corning's operational control.

The physical infrastructure, activities, and/or technologies of the inventory are understood as:

- Offices.
- Distribution centers.
- Warehouses.
- Manufacturing facilities.
- Fleet vehicles.
- Corporate jet.
- Employee travel.

Emissions resulting from explosives, fire extinguishers, refrigerants, and welding gases have been excluded as de minimis.

The GHG sources identified are purchased electricity, heat, steam, cooling, natural gas, diesel, jet fuel, gasoline, propane, CO<sub>2</sub>, coke, fuel oils, kerosene, LPG, blowing agents, and emissions from the processing of asphalt, dolomite, limestone, and soda ash.

All greenhouse gases declared in the Kyoto Protocol (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, NF<sub>3</sub>) are included in the evaluation. HCFC emissions are optionally included in Scope 1 emissions, in addition to the Kyoto gases, and are outlined in the [Appendix](#).

## Verification of Data

Invoices are entered electronically into our system and subjected to several audits to check both the completeness and the validity of the data. Before data are made available in our EcoStruxure™ Resource Advisor system from

Schneider Electric, invoices are reviewed for missing data, potential overlaps, or collisions with existing data, and whether the data should be tracked by a third party. Once posted, the invoice data are reviewed in the context of the surrounding account to verify data entry, charge accuracy, and the overall trend in cost and consumption. Invoices with suspect data are elevated for further review and resolution, also by the third party.

Data that are put into our system go through two variance tests. The first is to check if the currently entered value is >2 standard deviations over the average value entered (the period for the average is 12 months prior to the current month and 12 months after the current month). The second variance test is to check that the unit of measure is consistently used month over month.

In addition to the measures associated with invoice- and user-provided data, our third-party partner provides 24 hours per month of support for data management and quality assurance of global data. The purpose of this ongoing quality assurance/quality control is to identify anomalies when reviewing long-term trending and analyses in a further effort to ensure data accuracy and integrity.

These boundaries are applicable to all GRI Standards topics, including:

- General disclosures.
- Management approach.
- Economic.
- Environmental.
- Social.



## EXTERNAL ASSURANCE

To enhance the reliability of our recorded data, Owens Corning works to ensure transparency in disclosure on all matrices, KPIs, and mechanisms of

assurance. As we move forward, we will externally assure additional topics, prioritizing based on availability of data and importance to stakeholders, as observed through our materiality assessment.

SCS performed the assurance of the Owens Corning's 2021 Sustainability Report against the AA1000 Assurance Standard (AA1000AS V3). In addition, SCS evaluated the report against the Global Reporting Initiative's (GRI) Standards. Specific performance data were assessed using internationally recognized standards, which included, but are not limited to, the following:

- World Resources Institute's (WRI) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004, along with Scope 2 and Scope 3 Guidance.
- ISO 14064-3:2006 Specification with guidance for the validation and verification of GHG assertions.

To view the assurance statement, please see [Appendix E](#).

**For additional information on the economic and social metrics verified through SCS Global Services, see our Verification Statements document.**



### Questions About the Report

Any questions regarding our reporting process or this report can be directed to our chief sustainability officer:

**Mr. Frank O'Brien-Bernini**

Senior Vice President and  
Chief Sustainability Officer

**Phone:** 1.419.248.8000

**Email:** [sustainability@owenscorning.com](mailto:sustainability@owenscorning.com)

Photo submitted by:  
**Danielle Wittorp | Dearborn, Michigan, U.S.**  
Flower bud a in home garden.

+ The social data in this appendix marked with a + sign were independently assured to a moderate level by SCS Global Services. For more information or to see the verification statement, please go to [page 345](#).

**2021 Global Workforce Composition (Gender and Age)+**

AGE GROUPS	POSITION	FEMALE	MALE	TOTAL
Number of employees in the age group <30 years by gender within employee categories	Manager	23	55	78
	Primary	366	2,900	3,266
	Staff	230	255	485
<b>TOTAL &lt;30 AGE GROUP</b>		<b>619</b>	<b>3,210</b>	<b>3,829</b>
Number of employees in the age group 30-50 years by gender within employee categories+	Manager	328	871	1,199
	Senior executive/vice president	12	20	32
	Primary	1,148	6,466	7,614
	Staff	862	1,371	2,233
<b>TOTAL 30-50 AGE GROUP</b>		<b>2,350</b>	<b>8,728</b>	<b>11,078</b>
Number of employees in the age group >50 years by gender within employee categories	Manager	108	419	527
	Officer	7	21	28
	Primary	351	2,856	3,207
	Staff	354	734	1,088
<b>TOTAL 50+ AGE GROUP</b>		<b>820</b>	<b>4,030</b>	<b>4,850</b>
<b>GRAND TOTAL</b>		<b>3,789</b>	<b>15,968</b>	<b>19,757</b>

**2021 U.S. Workforce Composition (People of Color)+**

	POSITION	FEMALE	MALE	TOTAL
Number of employees in who identify as people of color by gender within employee categories	Manager	42	101	143
	Senior executive/vice president	1	6	7
	Primary	336	2,056	2,392
	Staff	109	230	339
<b>TOTAL</b>		<b>488</b>	<b>2,393</b>	<b>2,881</b>

**2021 Percentage of People of Color at U.S. Sites+**

	2018	2019	2020	2021
Workforce	32%	32%	33%	35%
Management	13%	14%	16%	17%

**Percentage of 2021 U.S. Hires (Staff and Primary) Who Identify as People of Color**

	2018	2019	2020	2021
Hires who Identify as People of Color	606	516	435	1,141
All Hires	1,545	1,130	933	2,255
% People of Color	39%	46%	47%	51%

**2021 Ethnic Background of Non-Contingent U.S. Employees<sup>+</sup>**

ETHNIC BACKGROUND	FEMALE	MALE	TOTAL	SHARE IN TOTAL WORKFORCE
White	1,213	4,185	5,398	65.1%
Black	270	1,087	1,357	16.4%
Hispanic	144	1,050	1,194	14.4%
Asian	43	162	205	2.5%
American Indian/Alaskan	7	29	36	0.4%
Native Hawaiian/Other Pacific Islander	5	14	19	0.2%
Two or More Races	19	51	70	0.8%
Not Specified	2	5	7	0.1%
<b>TOTAL</b>	<b>1,703</b>	<b>6,583</b>	<b>8,286</b>	<b>100%</b>

**2021 U.S. Management Positions Share by Ethnic Background<sup>+</sup>**

BREAKDOWN	2020	2021	YOY CHANGE
Asian	3.9%	3.7%	-0.1%
Black or African American	5.7%	7.1%	1.5%
Hispanic or Latino	5.0%	5.2%	0.2%
White	84.4%	83.1%	-1.3%
Indigenous or Native	0.5%	0.3%	-0.1%
Native Hawaiian/Other Pacific Islander	0.0%	0.0%	0.0%
Two or More Races	0.7%	0.6%	-0.1%
Not Specified	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

**Number of Global Employees by Employment Contract (by Gender and Region)<sup>+</sup>**

REGION	FEMALE		MALE		TOTAL
	REGULAR	TEMPORARY	REGULAR	TEMPORARY	
Asia Pacific	779	0	3,394	0	4,173
Europe	744	3	3,725	1	4,473
Latin America	446	0	1,789	0	2,235
North America	1,817	0	7,058	1	8,876
<b>TOTAL</b>	<b>3,786</b>	<b>3</b>	<b>15,966</b>	<b>2</b>	<b>19,757</b>



**Number of Global Employees by Employment Type (by Gender)<sup>+</sup>**

	FEMALE	MALE	TOTAL
Full Time	3,733	15,923	19,656
Part Time	56	45	101
<b>TOTAL</b>	<b>3,789</b>	<b>15,968</b>	<b>19,757</b>

**Employee Training by Gender<sup>+</sup>**

CATEGORY	HOURS SUM		COUNT		HOURS AVERAGE		TOTALS		
	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	HOURS	COUNT	HRS AVG
Senior executive/vice president	150	296	17	40	9	7	446	57	8
Manager	3,690	10,731	434	1,265	9	8	14,422	1,699	8
Staff	7,167	12,165	1,227	2,053	6	6	19,332	3,280	6
Primary	12,854	64,032	670	3,609	19	18	76,886	4,279	18
<b>TOTAL</b>	<b>23,863</b>	<b>87,224</b>	<b>2,348</b>	<b>6,967</b>	<b>10</b>	<b>13</b>	<b>111,087</b>	<b>9,315</b>	<b>12</b>

	2021
Average amount in USD spent per FTE on training and development <sup>+</sup>	\$408

**2021 Global Workforce Composition** (Gender and Country)\*

COUNTRY	FEMALE	MALE	TOTAL
Austria	1	3	4
Belarus	2	3	5
Belgium	78	427	505
Brazil	60	537	597
Canada	114	476	590
Chile	12	32	44
China	638	1,302	1,940
Czech Republic	54	225	279
Denmark	2	5	7
Estonia	1	7	8
Finland	55	195	250
France	113	553	666
Germany	23	72	95
Hong Kong	1	1	2
India	110	1,756	1,866
Italy	23	284	307
Japan	4	16	20
Korea, Republic of	17	284	301
Latvia	2	7	9
Lithuania	46	221	267
Mexico	374	1,220	1,594
Netherlands	11	156	167
Norway		9	9
Poland	98	673	771
Russian Federation	122	379	501
Singapore	9	35	44
Slovakia		2	2
Spain	30	46	76
Sweden	70	341	411
Switzerland	5	13	18
United Arab Emirates		1	1
United Kingdom	11	104	115
United States	1,703	6,583	8,286
<b>TOTAL</b>	<b>3,789</b>	<b>15,968</b>	<b>19,757</b>

**Number of Employees Joining the Organization in 2021\*\***

	2018	2019	2020	2021	2021 RATE
Total Employees	4,236	2,563	2,436	4,274	22%
<b>BY AGE GROUP</b>					
<30 Years	2,256	1,248	1,174	2,217	58%
30 to 50 Years	1,743	1,123	1,095	1,756	16%
>50 Years	237	192	167	301	6%
<b>BY GENDER</b>					
Male	3,378	2,010	1,927	3,447	22%
Female	858	553	509	827	22%
<b>BY REGION</b>					
Asia Pacific	1,422	502	758	957	23%
Europe	549	458	319	477	11%
Latin America	614	438	391	649	29%
North America	1,651	1,165	968	2,191	25%
<b>OTHER METRICS</b>					
% of Open Positions Filled by Internal Candidates	56	46	39	28	
Average Hiring Cost/FTE in USD	4,576	4,963	5,079	4,800	

\*The New Hire rate is not an internal Owens Corning metric. It is calculated based on GRI Standard requirements.

**Number of Employees Leaving Employment in 2021\***

	2018	2019	2020	2021	2021 RATE
Total Employees	3,294	3,298	2,908	3,879	20%
<b>BY AGE GROUP</b>					
<30 Years	1,093	1,039	812	1,509	41%
30 to 50 Years	1,488	1,568	1,417	1,650	15%
>50 Years	712	691	679	720	15%
<b>BY GENDER</b>					
Male	2,615	2,623	2,298	3,131	20%
Female	678	675	610	748	20%
<b>BY REGION</b>					
Asia Pacific	724	806	636	908	22%
Europe	457	499	405	453	10%
Latin America	532	572	480	475	22%
North America	1,581	1,421	1,387	2,043	24%

**Total Employee Turnover Rate\***

	2018	2019	2020	2021
Total Employee Turnover Rate	17%	17%	16%	20%
Voluntary Employee Turnover Rate	12%	11%	10%	13%



ACRONYM	DEFINITION	FORMULA
<b>LWIR</b>	Lost Work Day Injury Rate	Lost Work Day Cases x 200,000 / Total Labor Hours
<b>LTIFR</b>	Lost Time Injuries Frequency Rate	Lost Work Day Cases x 1,000,000 / Total Labor Hours
<b>RIR</b>	Recordable Incident Rate	Number of Injuries x 200,000 / Total Labor Hours
<b>OIFR</b>	Occupational Illness Frequency Rate	Number of Illnesses x 1,000,000 / Total Labor Hours
<b>TRIFR</b>	Total Recordable Injury Frequency Rate	Number of Injuries x 1,000,000 / Total Labor Hours
<b>LWD</b>	Lost Work Day Rate	Lost Work Days x 200,000 / Total Labor Hours

**Occupational Illness Frequency Rate (OIFR) - Employees\***

DEPARTMENT NAME	METRIC	2018	2019	2020	2021
Occupational Illness	Total Labor Hours	45,596,924	45,900,250	42,105,796	45,586,648
	Count	3	0	2	1
	Rate	0.07	0.00	0.05	0.02

**Occupational Illness By Region\***

DEPARTMENT NAME	METRIC	2018	2019	2020	2021
North America	Total Labor Hours	45,596,924	45,900,250	42,105,796	45,586,648
	Female (count)	1	0	0	0
	Female (rate)	0.00	0.00	0.00	0.00
	Male (count)	2	0	2	1
	Male (rate)	0.00	0.00	0.01	0.00

There were no occupational illness in South America, Europe, or Asia Pacific in the last four years.

**Recordable Injuries\***

REGION	METRIC	2018	2019	2020	2021
Asia Pacific	Total Labor Hours	12,566,888	13,089,577	12,290,369	13,430,246
	Female (count)	0	1	0	4
	Female (rate)	0.00	0.02	0.00	0.06
	Male (count)	14	6	10	10
	Male (rate)	0.22	0.09	0.16	0.15
	Not Specified (count)	1	2	0	0
	Not Specified (rate)	0.02	0.03	0.00	0.00
Asia Pacific Total (count)		15	9	10	14
<b>ASIA PACIFIC RIR</b>		<b>0.24</b>	<b>0.14</b>	<b>0.16</b>	<b>0.21</b>
Europe	Total Labor Hours	8,069,125	8,575,120	8,073,712	8,440,486
	Female (count)	0	1	0	0
	Female (rate)	0.00	0.02	0.00	0.00
	Male (count)	15	13	10	13
	Male (rate)	0.37	0.30	0.25	0.31
	Not Specified (count)	1	6	6	4
	Not Specified (rate)	0.02	0.14	0.15	0.09
Europe Total (count)		16	20	16	17
<b>EUROPE RIR</b>		<b>0.40</b>	<b>0.47</b>	<b>0.40</b>	<b>0.40</b>
North America	Total Labor Hours	23,736,659	22,925,718	20,590,689	22,596,142
	Female (count)	21	18	13	20
	Female (rate)	0.18	0.16	0.13	0.18
	Male (count)	68	102	91	82
	Male (rate)	0.57	0.89	0.88	0.73
	Not Specified (count)	0	2	2	1
	Not Specified (rate)	0.00	0.02	0.02	0.01
North America Total (count)		89	122	106	103
<b>NORTH AMERICA RIR</b>		<b>0.75</b>	<b>1.06</b>	<b>1.03</b>	<b>0.91</b>
South America	Total Labor Hours	1,224,252	1,309,836	1,151,026	1,119,773
	Female (count)	0	0	0	0
	Female (rate)	0.00	0.00	0.00	0.00
	Male (count)	0	0	0	0
	Male (rate)	0.00	0.00	0.00	0.00
South America Total (count)		0	0	0	0
<b>SOUTH AMERICA RIR</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>GRAND TOTAL RECORDABLE INJURIES</b>		<b>120</b>	<b>151</b>	<b>132</b>	<b>134</b>
<b>RECORDABLE INCIDENT RATE (RIR)</b>		<b>0.53</b>	<b>0.66</b>	<b>0.63</b>	<b>0.59</b>
<b>TOTAL RECORDABLE INJURIES FREQUENCY RATE (TRIFR)</b>		<b>2.63</b>	<b>3.29</b>	<b>3.13</b>	<b>2.94</b>

Region/Gender/Injury Type\*

ASIA PACIFIC	2018	2019	2020	2021
<b>FEMALE</b>				
Arms/Hands	0	1	0	3
Legs/Feet	0	0	0	1
<b>TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>MALE</b>				
Arms/Hands	9	3	6	8
Back/Shoulders	0	0	1	0
Head/Face/Eyes	1	0	1	1
Legs/Feet	3	3	2	1
Multiple/Other	1	0	0	0
<b>TOTAL</b>	<b>14</b>	<b>6</b>	<b>10</b>	<b>10</b>
<b>UNSPECIFIED</b>				
Arms/Hands	1	2	0	0
<b>TOTAL</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>ASIA PACIFIC TOTAL</b>	<b>15</b>	<b>9</b>	<b>10</b>	<b>14</b>

EUROPE	2018	2019	2020	2021
<b>FEMALE</b>				
Arms/Hands	0	1	0	0
<b>TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>MALE</b>				
Arms/Hands	12	8	6	10
Back/Shoulders	0	1	0	0
Head/Face/Eyes	1	0	2	1
Legs/Feet	2	4	2	2
<b>TOTAL</b>	<b>15</b>	<b>13</b>	<b>10</b>	<b>13</b>
<b>UNSPECIFIED</b>				
Arms/Hands	0	2	5	2
Back/Shoulders	0	1	0	0
Head/Face/Eyes	0	2	0	2
Legs/Feet	1	1	1	0
<b>TOTAL</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>4</b>
<b>EUROPE TOTAL</b>	<b>16</b>	<b>20</b>	<b>16</b>	<b>17</b>

NORTH AMERICA	2018	2019	2020	2021
<b>FEMALE</b>				
Arms/Hands	10	7	3	5
Back/Shoulders	7	3	4	5
Head/Face/Eyes	3	4	2	4
Legs/Feet	1	4	3	4
Multiple/Other	1	0	1	2
<b>TOTAL</b>	<b>22</b>	<b>18</b>	<b>13</b>	<b>20</b>
<b>MALE</b>				
Arms/Hands	40	43	34	35
Back/Shoulders	15	22	17	14
Head/Face/Eyes	9	13	20	13
Legs/Feet	4	19	19	13
Multiple/Other	2	5	3	8
<b>TOTAL</b>	<b>70</b>	<b>102</b>	<b>93</b>	<b>83</b>
<b>UNSPECIFIED</b>				
Arms/Hands	0	1	1	1
Legs/Feet	0	1	1	0
<b>TOTAL</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>
<b>NORTH AMERICA TOTAL</b>	<b>92</b>	<b>122</b>	<b>108</b>	<b>104</b>

REGION	2018	2019	2020	2021
Asia Pacific	15	9	10	14
Europe	16	20	16	17
North America	92	122	108	104
South America	0	0	0	0
<b>GRAND TOTAL</b>	<b>123</b>	<b>151</b>	<b>134</b>	<b>135</b>



**Employee Lost-Time Injury Frequency Rate (LTIFR)\***

REGION	METRIC	2018	2019	2020	2021
Asia Pacific	Total Labor Hours	12,566,888	13,089,577	12,290,369	13,430,246
	Female (count)	0	1	0	3
	Female (rate)	0.00	0.02	0.00	0.04
	Male (count)	9	2	7	6
	Male (rate)	0.14	0.03	0.11	0.09
	Not Specified (count)	1	0	0	0
	Not Specified (rate)	0.02	0.00	0.00	0.00
Asia Pacific Total (count)		10	3	7	9
ASIA PACIFIC LWIR		0.16	0.05	0.11	0.13
ASIA PACIFIC LTIFR		0.80	0.23	0.57	0.67
Europe	Total Labor Hours	8,069,125	8,575,120	8,073,712	8,440,486
	Female (count)	0	0	0	0
	Female (rate)	0.00	0.00	0.00	0.00
	Male (count)	11	11	8	9
	Male (rate)	0.27	0.26	0.20	0.21
	Not Specified (count)	1	4	4	3
	Not Specified (rate)	0.02	0.09	0.10	0.07
Europe Total (count)		12	15	12	12
EUROPE LWIR		0.30	0.35	0.30	0.28
EUROPE LTIFR		1.49	1.75	1.49	1.42
North America	Total Labor Hours	23,736,659	22,925,718	20,590,689	22,596,142
	Female (count)	9	9	7	10
	Female (rate)	0.08	0.08	0.07	0.09
	Male (count)	30	54	37	45
	Male (rate)	0.25	0.47	0.36	0.40
	Not Specified (count)	0	0	1	1
	Not Specified (rate)	0.00	0.00	0.01	0.01
North America Total (count)		39	63	45	56
NORTH AMERICA LWIR		0.33	0.55	0.44	0.50
NORTH AMERICA LTIFR		1.64	2.75	2.19	2.48
South America	Total Labor Hours	1,224,252	1,309,836	1,151,026	1,119,773
	Male (count)	0	0	0	0
	Male (rate)	0.00	0.00	0.00	0.00
South America Total (Count)		0	0	0	0
SOUTH AMERICA LWIR		0.00	0.00	0.00	0.00
SOUTH AMERICA LTIFR		0.00	0.00	0.00	0.00
GRAND TOTAL		61	81	64	77

Lost-Time Injuries Frequency Rate (LTIFR) - Employees	2018	2019	2020	2021
TOTAL LABOR HOURS	45,596,924	45,900,250	42,105,796	45,586,648
LTIFR	1.34	1.76	1.52	1.69

**Lost Work Day Rate (LWD)\***

REGION	METRIC	2018	2019	2020	2021
Asia Pacific	Total Labor Hours	12,566,888	13,089,577	12,290,369	13,430,246
	Female (Count)	0	0	0	16
	Female (Rate)	0.00	0.00	0.00	0.24
	Male (Count)	430	246	459	239
	Male (Rate)	6.84	3.76	7.47	3.56
	Unspecified (Count)	212	126	180	0
	Unspecified (Rate)	3.37	1.93	2.93	0.00
Asia Pacific Total Work Days Lost		642	372	639	255
<b>ASIA LWD RATE</b>		<b>10.22</b>	<b>5.68</b>	<b>10.40</b>	<b>3.80</b>
Europe	Total Labor Hours	8,069,125	8,575,120	8,073,712	8,440,486
	Female (Count)	0	0	0	0
	Female (Rate)	0.00	0.00	0.00	0.00
	Male (Count)	540	624	468	302
	Male (Rate)	13.38	14.55	11.59	7.16
	Unspecified (Count)	38	86	291	286
	Unspecified (Rate)	0.94	2.01	7.21	6.78
Europe Total Work Days Lost		578	710	759	588
<b>EUROPE LWD RATE</b>		<b>14.33</b>	<b>16.56</b>	<b>18.80</b>	<b>13.93</b>
North America	Total Labor Hours	23,736,659	22,925,718	20,590,689	22,596,142
	Female (Count)	1023	882	1188	1236
	Female (Rate)	8.62	7.69	11.54	10.94
	Male (Count)	3083	5647	4495	4198
	Male (Rate)	25.98	49.26	43.66	37.16
	Unspecified (Count)	11	0	180	0
	Unspecified (Rate)	0.09	0.00	1.75	0.00
North America Total Work Days Lost		4117	6529	5863	5434
<b>NORTH AMERICA LWD RATE</b>		<b>34.69</b>	<b>56.96</b>	<b>56.95</b>	<b>48.10</b>
South America	Total Labor Hours	1,224,252	1,309,836	1,151,026	1,119,773
	Female (Count)	0	0	0	0
	Female (Rate)	0.00	0.00	0.00	0.00
	Male (Count)	0	0	0	0
	Male (Rate)	0.00	0.00	0.00	0.00
South America Total Work Days Lost		0	0	0	0
<b>SOUTH AMERICA LWD RATE</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>GRAND TOTAL - TOTAL WORK DAYS LOST</b>		<b>5,337</b>	<b>7,611</b>	<b>7,261</b>	<b>6,277</b>
<b>TOTAL LWD RATE</b>		<b>23.41</b>	<b>33.16</b>	<b>34.49</b>	<b>27.54</b>

**Contractor Safety Statistics\***

BUSINESS	METRIC	2018	2019	2020	2021
Building Materials Asia Pacific	Recordables	1	-	-	-
	Total Labor Hours	191,203	245,896	93,664	283,696
	Number LWD Cases	1	-	-	-
	LWIR	1.05	-	-	-
	RIR	1.05	-	-	-
	Fatalities	-	-	-	-
Composites	Recordables	3	-	-	-
	Total Labor Hours	3,855,821	208,622	203,206	275,040
	Number LWD Cases	1	-	-	-
	LWIR	0.05	-	-	-
	RIR	0.16	-	-	-
	Fatalities	-	-	-	-
Insulation	Recordables	3	2	1	2
	Total Labor Hours	408,086	353,232	235,705	223,279
	Number LWD Cases	1	-	-	-
	LWIR	0.49	-	-	-
	RIR	1.47	1.13	0.85	1.79
	Fatalities	-	-	-	-
Roofing	Recordables	1	1	-	1
	Total Labor Hours	150,216	135,407	98,119	93,277
	Number LWD Cases	1	-	-	-
	LWIR	1.33	-	-	-
	RIR	1.33	1.48	-	2.14
	Fatalities	1	-	-	-
<b>TOTAL</b>	Recordables	8	3	1	3
	Total Labor Hours	4,605,326	943,157	630,694	875,292
	Number LWD Cases	4	-	-	-
	LWIR	0.17	-	-	-
	RIR	0.35	0.64	0.32	0.69
	Fatalities	1	-	-	-

**Contractor Lost-Time Injury Frequency Rate (LTIFR)\***

	2018	2019	2020	2021
Contractor Labor Hours	4,605,326	943,157	630,694	875,292
Lost Work Day Cases	4	-	-	-
LTIFR Contractors	0.87	-	-	-
Data Coverage: % of total contractors	100	100	100	100



**2021 Serious Injuries and Fatalities (SIF)\***

SIF FIRST AIDS				
REGION	METRIC	2019	2020	2021
Asia Pacific	Total Labor Hours	13,089,577	12,290,369	13,430,246
	SIF First Aid Count	8	2	1
	SIF First Aid Rate	0.12	0.03	0.01
Europe	Total Labor Hours	8,575,120	8,073,712	8,440,486
	SIF First Aid Count	2	2	0
	SIF First Aid Rate	0.05	0.05	0.00
North America	Total Labor Hours	22,925,718	20,590,689	22,596,142
	SIF First Aid Count	9	10	6
	SIF First Aid Rate	0.08	0.10	0.05
South America	Total Labor Hours	1,309,836	1,151,026	1,119,773
	SIF First Aid Count	1	1	1
	SIF First Aid Rate	0.15	0.17	0.18
GRAND TOTAL SIF FIRST AIDS		20	15	8
TOTAL SIF FIRST AID RATE		0.09	0.07	0.04

SIF NEAR MISS				
REGION	METRIC	2019	2020	2021
Asia Pacific	Total Labor Hours	13,089,577	12,290,369	13,430,246
	SIF Near Miss Count	8	2	4
	SIF Near Miss Rate	0.12	0.03	0.06
Europe	Total Labor Hours	8,575,120	8,073,712	8,440,486
	SIF Near Miss Count	5	3	4
	SIF Near Miss Rate	0.12	0.07	0.09
North America	Total Labor Hours	22,925,718	20,590,689	22,596,142
	SIF Near Miss Count	25	22	15
	SIF Near Miss Rate	0.22	0.21	0.13
South America	Total Labor Hours	1,309,836	1,151,026	1,119,773
	SIF Near Miss Count	1	1	1
	SIF Near Miss Rate	0.15	0.17	0.18
GRAND TOTAL SIF NEAR MISSES		39	28	24
TOTAL SIF NEAR MISS RATE		0.17	0.13	0.11

SIF RECORDABLE				
REGION	METRIC	2019	2020	2021
Asia Pacific	Total Labor Hours	13,089,577	12,290,369	13,430,246
	SIF Recordable Count	1	1	3
	SIF Recordable Rate	0.02	0.02	0.04
Europe	Total Labor Hours	8,575,120	8,073,712	8,440,486
	SIF Recordable Count	3	2	4
	SIF Recordable Rate	0.07	0.05	0.09
North America	Total Labor Hours	22,925,718	20,590,689	22,596,142
	SIF Recordable Count	16	13	14
	SIF Recordable Rate	0.14	0.13	0.12
South America	Total Labor Hours	1,309,836	1,151,026	1,119,773
	SIF Recordable Count	0	0	0
	SIF Recordable Rate	0.00	0.00	0.00
<b>GRAND TOTAL SIF RECORDABLES</b>		<b>20</b>	<b>16</b>	<b>21</b>
<b>TOTAL SIF RECORDABLE RATE</b>		<b>0.09</b>	<b>0.08</b>	<b>0.09</b>

**Employee Fatalities\***

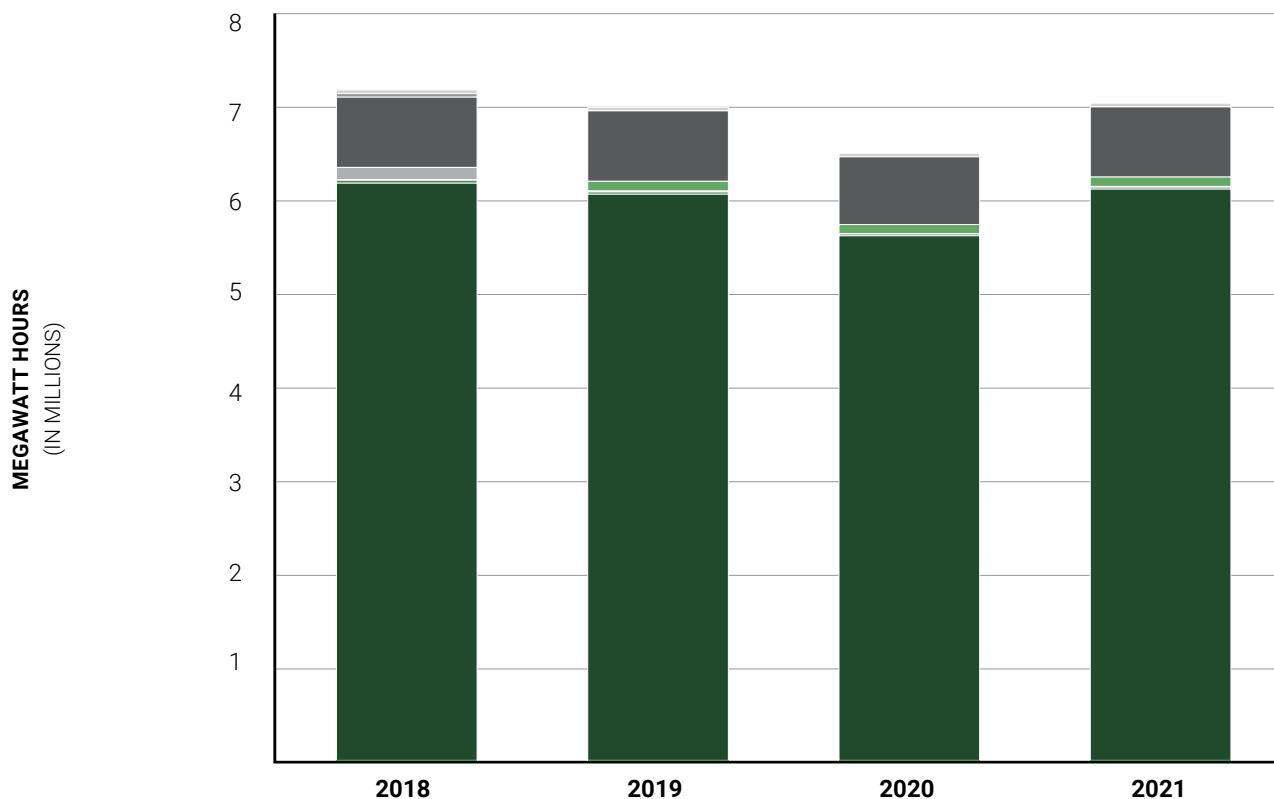
REGION	METRIC	2018	2019	2020	2021
Asia Pacific	Total Labor Hours	12,566,888	13,089,577	12,290,369	13,430,246
	Female Fatalities (count)	0	0	0	0
	Male Fatalities (count)	0	0	0	0
	<b>TOTAL FATALITIES</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Europe	Total Labor Hours	8,069,125	8,575,120	8,073,712	8,440,486
	Female Fatalities (count)	0	0	0	0
	Male Fatalities (count)	0	0	0	0
	<b>TOTAL FATALITIES</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
North America	Total Labor Hours	23,736,659	22,925,718	20,590,689	22,596,142
	Female Fatalities (count)	0	0	0	0
	Male Fatalities (count)	0	1	0	0
	<b>TOTAL FATALITIES</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
South America	Total Labor Hours	1,224,252	1,309,836	1,151,026	1,119,773
	Female Fatalities (count)	0	0	0	0
	Male Fatalities (count)	0	0	0	0
	<b>TOTAL FATALITIES</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL FATALITIES</b>		<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>

### Energy

The energy, Scope 1 and Scope 2 greenhouse gas emissions, and select Scope 3 greenhouse gas emission categories data in this appendix were independently assured to a high level by SCS Global Services. Other data were independently assured to a moderate level by SCS Global Services. For more information or to see the verification statement, please go to [page 345](#).

For the data in this section, baseline adjustments were made following the World Resources Institute (WRI) protocols. Read more in [About the Report](#).

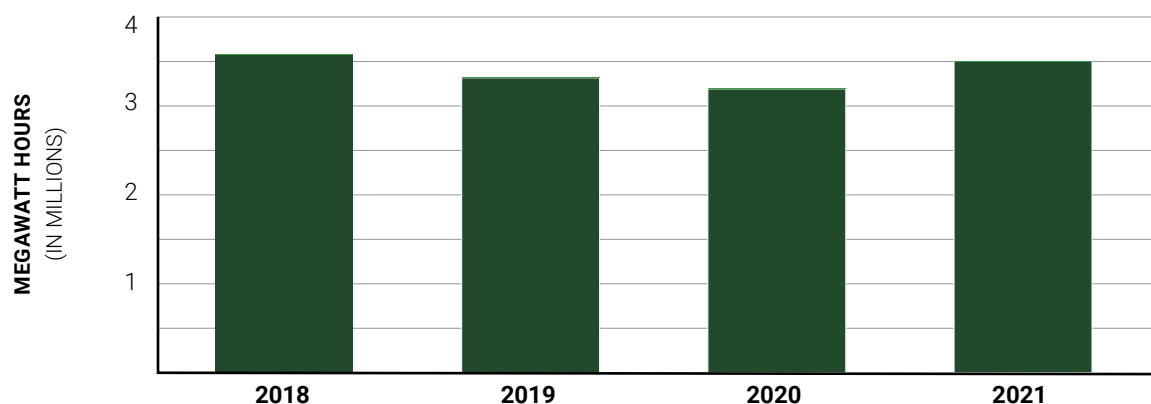
### Direct Energy by Fuel Type



Gasoline & Diesel	26,457	23,029	18,150	19,969
Jet Fuel (Jet A or A-1)	12,503	11,197	4,290	8,970
Propane & LPG	129,465	103,824	97,507	100,177
Coke	751,173	752,827	723,899	749,738
Fuel Oil 1,2,6	37,542	3,398	3,457	4,102
Liquefied Natural Gas (LNG)	39,982	35,492	34,088	35,302
Natural Gas	6,171,246	6,053,354	5,608,795	6,107,615
<b>TOTAL</b>	<b>7,168,369</b>	<b>6,983,121</b>	<b>6,490,185</b>	<b>7,025,874</b>

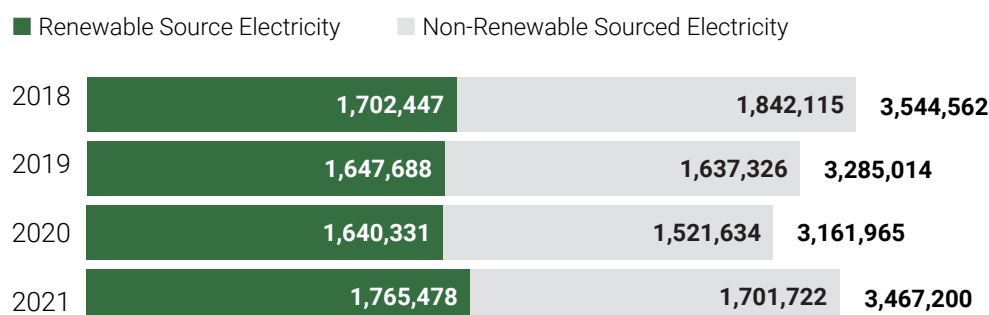


### Indirect Energy by Source

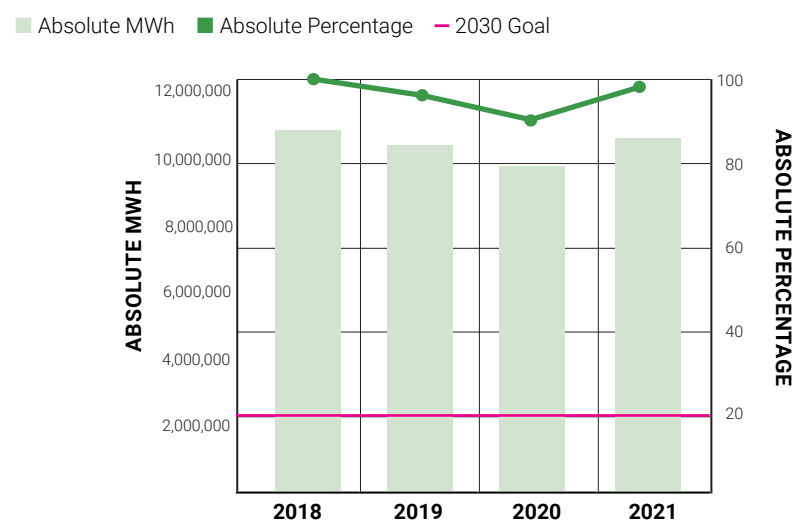


Electricity	3,544,562	3,285,014	3,161,965	3,467,200
Steam, Heat, Cooling	6,305	6,057	6,581	6,886
<b>TOTAL</b>	<b>3,550,868</b>	<b>3,291,072</b>	<b>3,168,546</b>	<b>3,474,087</b>

### Electricity Consumption by Source (in Megawatt Hours)



### Energy Efficiency Footprint



Absolute MWh	10,719,236	10,274,193	9,658,731	10,499,961
Absolute Percentage	100	96	90	98
Aggregate Intensity (MWh Normalized by Revenue - In Millions)	1,501.53	1,429.38	1,363.96	1,232.78

**Energy Portfolio** (in Megawatt Hours)

<b>DIRECT ENERGY</b>				
<b>Non-Renewable</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Asia Pacific	796,211	862,410	694,287	764,370
Canada	258,369	221,081	215,075	275,459
Europe	1,907,158	1,826,804	1,729,460	1,814,521
Latin America	587,359	539,663	547,142	576,302
United States	3,619,271	3,533,163	3,304,221	3,595,222
<b>Renewable</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
All Regions	0	0	0	0
<b>INDIRECT ENERGY</b>				
<b>Non-Renewable</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Asia Pacific	347,984	376,704	342,418	376,127
Canada	158,657	122,285	21,349	15,936
Europe	438,280	349,659	370,793	407,138
Latin America	184,388	161,638	149,260	166,290
United States	719,112	633,098	644,395	743,118
<b>Renewable</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Asia Pacific	77,835	89,291	85,769	94,324
Canada	66,558	54,875	166,548	219,457
Europe	272,700	346,220	330,487	358,913
Latin America	90,106	88,960	82,663	94,001
United States	1,195,248	1,068,341	974,864	998,783
<b>Overall Energy Usage</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Non-Renewable	9,016,789	8,626,504	8,018,400	8,734,483
Renewable	1,702,447	1,647,688	1,640,331	1,765,478
<b>TOTAL ENERGY USAGE</b>	<b>10,719,236</b>	<b>10,274,193</b>	<b>9,658,731</b>	<b>10,499,961</b>
<b>PERCENT ENERGY FROM RENEWABLE SOURCES</b>	<b>15.9%</b>	<b>16.0%</b>	<b>17.0%</b>	<b>16.8%</b>

**Renewable and Non-Renewable Electricity Consumption by Region** (in Megawatt Hours)

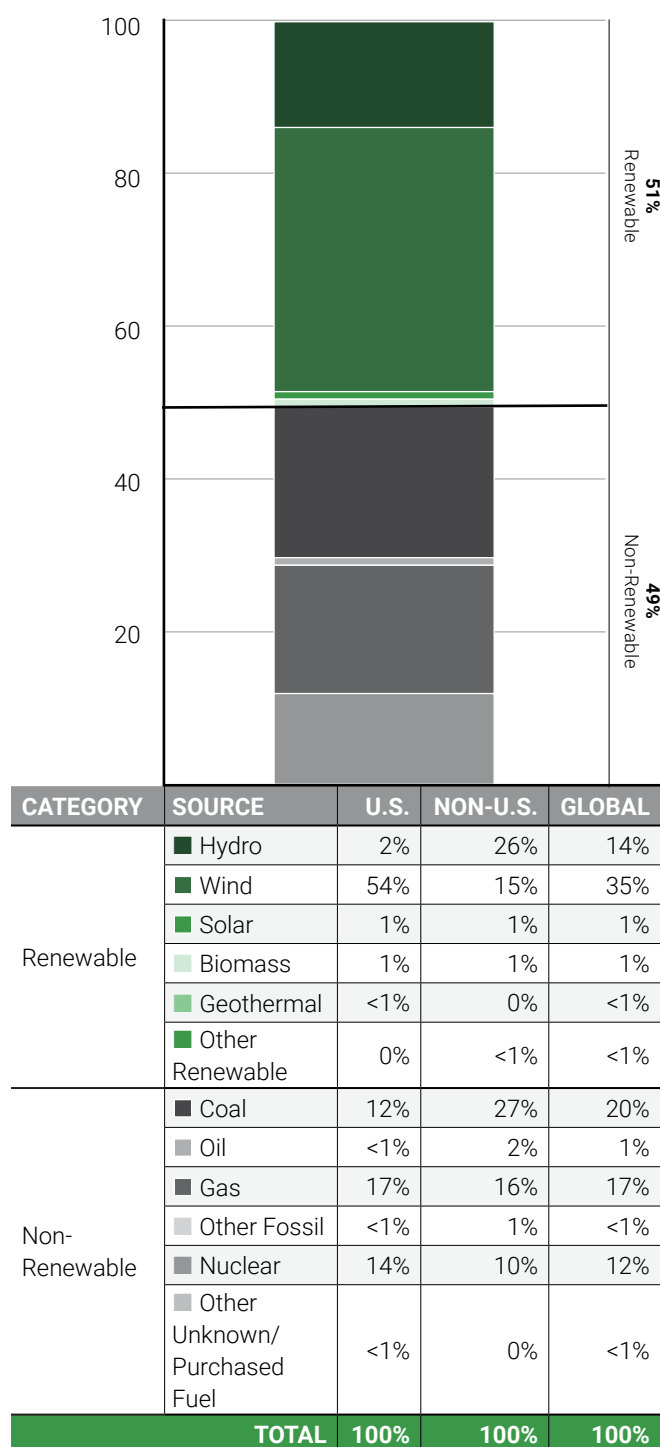
	2018	2019	2020	2021
<b>Renewable</b>				
Asia Pacific	77,835	89,291	85,769	94,324
Canada	66,558	54,875	166,548	219,457
Europe	272,700	346,220	330,487	358,913
Latin America	90,106	88,960	82,663	94,001
United States	1,195,248	1,068,341	974,864	998,783
<b>TOTAL RENEWABLE</b>	<b>1,702,447</b>	<b>1,647,688</b>	<b>1,640,331</b>	<b>1,765,478</b>
<b>Non-Renewable</b>				
Asia Pacific	346,888	375,528	340,912	374,676
Canada	158,657	122,285	21,349	15,936
Europe	433,071	344,778	365,718	401,702
Latin America	184,388	161,638	149,260	166,290
United States	719,112	633,098	644,395	743,118
<b>TOTAL NON-RENEWABLE</b>	<b>1,842,115</b>	<b>1,637,326</b>	<b>1,521,634</b>	<b>1,701,722</b>

**2021 Direct and Indirect Energy Summary by Region** (in Megawatt Hours)

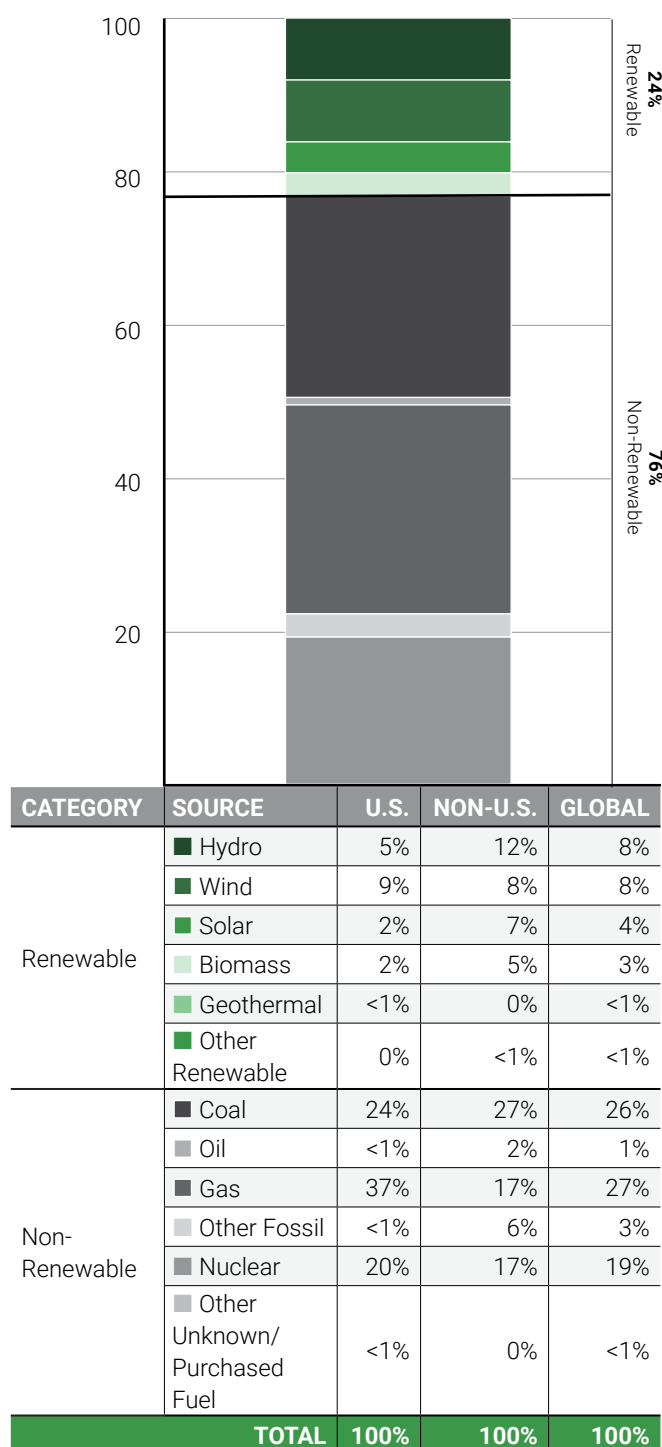
REGION	RENEWABLE	NON-RENEWABLE	TOTAL BY REGION
Asia Pacific	94,324	1,140,497	1,234,821
Canada	219,457	291,395	510,852
Europe	358,913	2,221,659	2,580,572
Latin America	94,001	742,592	836,593
United States	998,783	4,338,340	5,337,123
<b>TOTAL</b>	<b>1,765,478</b>	<b>8,734,483</b>	<b>10,499,961</b>



**Global Electricity Mix Market-Based**



**Global Electricity Mix Location-Based**



**2021 Total Energy Consumed in Our Value Chain** (in Megawatt Hours)

CATEGORY	COMPOSITES	INSULATION	ROOFING	TOTAL
Coal	1,684,496	2,742,252	1,592,983	6,019,732
Natural Gas	1,827,273	2,041,379	2,489,353	6,358,004
Petrol	779,854	1,381,261	2,177,346	4,338,462
Bio/Waste	289,868	504,495	533,713	1,328,076
Non-fossil Electricity	647,893	613,131	637,241	1,898,265
<b>TOTAL ENERGY</b>	<b>5,229,383</b>	<b>7,282,519</b>	<b>7,430,637</b>	<b>19,942,539</b>

Energy consumption outside of the organization is determined using an EIO-LCA based method. The calculation is performed using the EIO-LCA online tool developed by Carnegie Mellon University. It is based on the respective NAICS manufacturing industry sectors associated with Owens Corning's three major business operations. Net sales figures in the 2021 Owens Corning Annual Report on Form 10-K were used as indicators of, and inputs for, economic activity in each of the three respective sectors. The reported value is reflective of only Scope 3 upstream use for each of our three businesses.

**Energy Disclosures Based on SASB Definitions and Metrics**

DISCLOSURE REQUEST	VALUE
Total Energy Consumed in gigajoules (GJ)	37,799,859
Percentage of energy consumed that was supplied from grid electricity	33.0%
Percentage of energy consumed that was from alternative sources	0%
Percentage of energy consumed that is renewable energy*	13.2%

\* Excluding renewable electricity from residual grid mix data

**2021 Estimated Savings from Energy Investments by Region**

LOCATION	ESTIMATED ANNUAL SAVINGS (METRIC TONS CO <sub>2</sub> e)	ANNUAL MONETARY SAVINGS (USD)	INVESTMENT REQUIRED (USD)
North America	527	184,610	487,084
Outside North America	7,801	1,244,738	2,456,089
<b>TOTAL</b>	<b>8,328</b>	<b>\$1,429,348</b>	<b>\$2,943,173</b>

**Global Electricity Mix Factors**

TYPE	LOCATIONS	CALENDAR YEAR	SOURCE
Electricity	Canada	2021	Statistics Canada Electric Power Annual Generation Data (w/ 2019 data)
Electricity	EU Countries	2021	Association of Issuing Bodies (AIB): European Residual Mixes (w/ 2020 data)
Electricity	ROW*	2021	International Energy Agency (IEA): Month Electricity Statistics Data (w/ 2018 data)
Electricity	Singapore	2021	Singapore Government Energy Market Authority (w/ 2018 data)
Electricity	US	2021	US EPA eGRID 2021 (w/2019 data)
Electricity	Canada	2020	Statistics Canada Electric Power Annual Generation Data (w/ 2018 data)
Electricity	EU Countries	2020	Association of Issuing Bodies (AIB): European Residual Mixes (w/ 2019 data)
Electricity	ROW*	2020	International Energy Agency (IEA): Month Electricity Statistics Data (w/ 2018 data)
Electricity	Singapore	2020	Singapore Government Energy Market Authority (w/ 2018 data)
Electricity	US	2020	US EPA eGRID 2020v2 (w/2018 data)
Electricity	Canada	2019	Statistics Canada Electric Power Annual Generation Data (w/ 2018 data)
Electricity	EU Countries	2019	Association of Issuing Bodies (AIB): European Residual Mixes (w/ 2018 data)
Electricity	ROW*	2019	International Energy Agency (IEA): Month Electricity Statistics Data (w/ 2017 data)
Electricity	Singapore	2019	Singapore Government Energy Market Authority (w/ 2018 data)
Electricity	US	2019	US EPA eGRID 2018 (w/2016 data)
Electricity	Canada	2018	Statistics Canada Electric Power Annual Generation Data (w/ 2017 data)
Electricity	EU Countries	2018	Association of Issuing Bodies (AIB): European Residual Mixes (w/ 2017 data)
Electricity	ROW*	2018	International Energy Agency (IEA): Month Electricity Statistics Data (w/ 2016 data)
Electricity	Singapore	2018	Singapore Government Energy Market Authority (w/ 2017 data)
Electricity	US	2018	US EPA eGRID 2018 (w/2016 data)

\* ROW: Countries besides the US, Canada, Singapore, and the EU



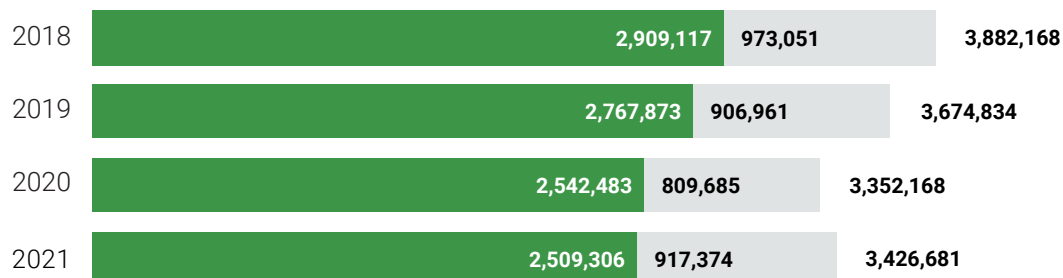
HCFC emissions are optionally included in Scope 1 emissions, in addition to the Kyoto gases, and the associated emissions are outlined in the table [Ozone-Depleting Substances](#).

### Direct and Indirect Emissions (Metric Tons CO<sub>2</sub>e)

Scope 1 and 2 Emissions using **Market-Based** method.

■ Direct (Scope 1)

■ Indirect (Scope 2)

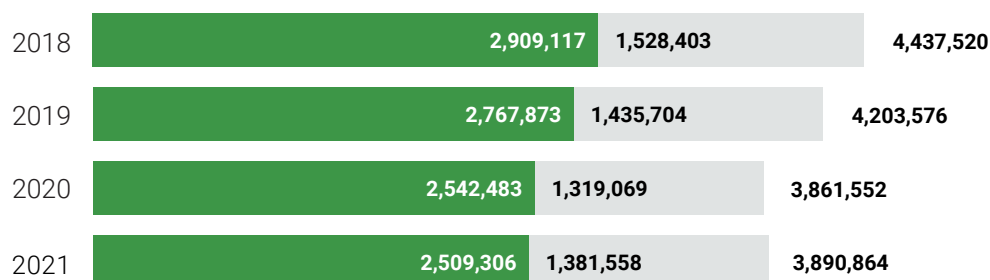


### Direct and Indirect Emissions (Metric Tons CO<sub>2</sub>e)

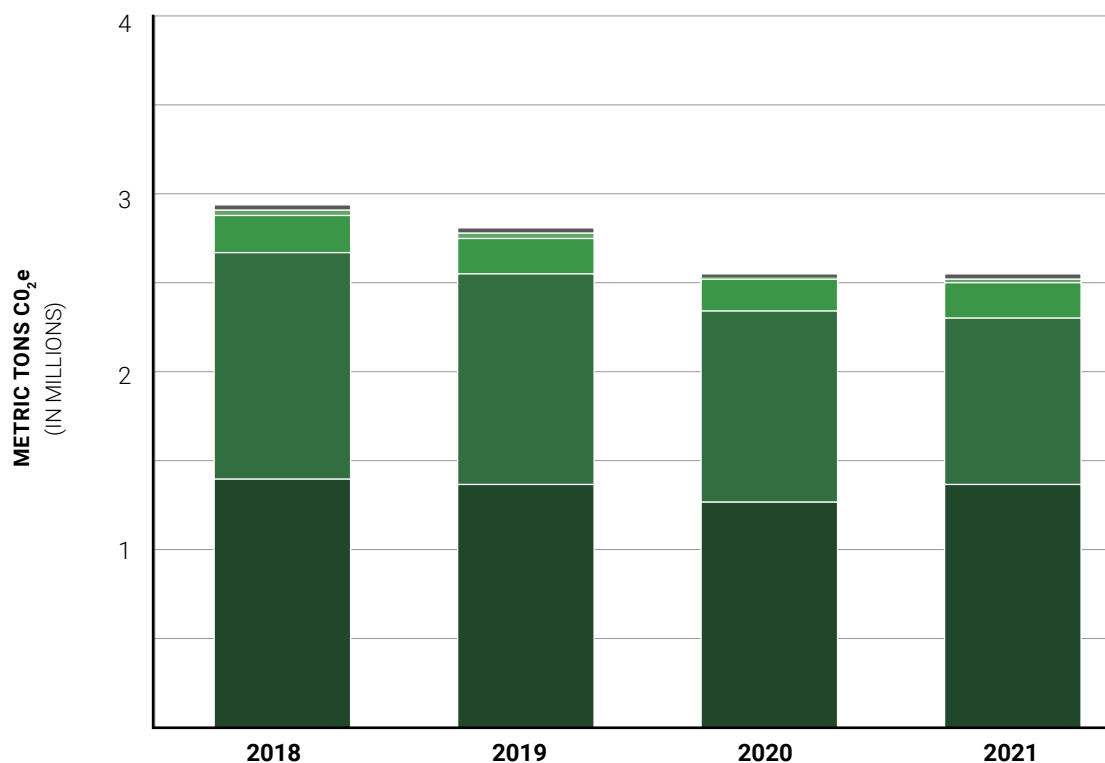
Scope 1 and 2 Emissions using **Location-Based** method.

■ Direct (Scope 1)

■ Indirect (Scope 2)



**Scope 1 Emissions Breakdown**



Fossil Fuel Combustion	1,412,175	1,375,344	1,282,583	1,382,753
Foam Blowing Agent Emissions	1,283,946	1,187,221	1,076,580	939,753
Process Emissions	206,840	199,237	179,928	181,980
Leased Corporate Aircraft	3,107	2,785	1,066	2,211
Leased Corporate Fleet	3,048	3,286	2,327	2,609
<b>TOTAL</b>	<b>2,909,117</b>	<b>2,767,873</b>	<b>2,542,483</b>	<b>2,509,306</b>

**Scope 1 Total Direct GHG Emissions - Market-Based** (Metric Tons CO<sub>2</sub>e)

	2018	2019	2020	2021
Total Direct GHG Emissions (Scope 1)	2,909,117	2,767,873	2,542,483	2,509,306
Data Coverage (% of units of production)	100	100	100	100

**Scope 2 Total Indirect GHG Emissions - Market-Based** (Metric Tons CO<sub>2</sub>e)

	2018	2019	2020	2021
Total Indirect GHG Emissions (Scope 2)	973,051	906,961	809,685	917,374
Data Coverage (% of units of production)	100	100	100	100

**Scope 3 Total GHG Emissions** (Metric Tons CO<sub>2</sub>e)

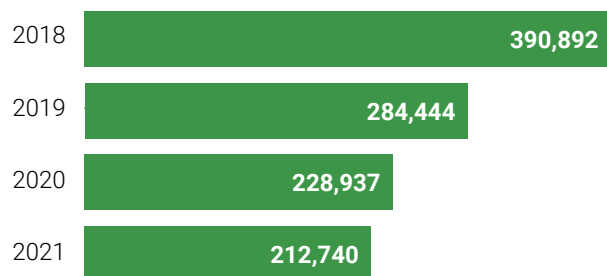
CATEGORIES	2018	2019	2020	2021
Purchased goods and services	1,936,670	1,943,019	1,823,130	1,592,200
Capital goods	136,868	150,012	106,623	95,129
Fuel- and energy-related activities (not included in Scope 1 or 2)	416,521	436,358	369,114	393,193
Upstream transportation and distribution	130,071	163,653	134,899	150,379
Business travel	13,708	13,931	3,370	3,852
Employee commuting	26,220	25,027	23,635	23,891
Downstream transportation and distribution	323,585	271,408	335,109	406,422
Processing of sold products	438,746	436,358	396,960	460,832
End of life treatment of sold products	202,469	190,965	196,019	219,661
<b>TOTAL</b>	<b>3,624,857</b>	<b>3,630,731</b>	<b>3,388,860</b>	<b>3,345,559</b>

**2021 Direct GHG Emissions - Market-Based** (Metric Tons CO<sub>2</sub>e)

	NORTH AMERICA	OUTSIDE NORTH AMERICA	TOTAL
Direct GHG Emissions	1,488,608	1,020,698	2,509,306
Indirect GHG Emissions	354,005	563,369	917,374
<b>TOTAL</b>	<b>1,842,614</b>	<b>1,584,067</b>	<b>3,426,681</b>



### Ozone-Depleting Substances - HCFCs (Absolute Metric Tons CO<sub>2</sub>e)



Owens Corning optionally chooses to report our HCFC emissions within our Scope 1 for transparency.

### Particulate Matter 10 Micrometers or Less in Diameter (PM<sub>10</sub>)

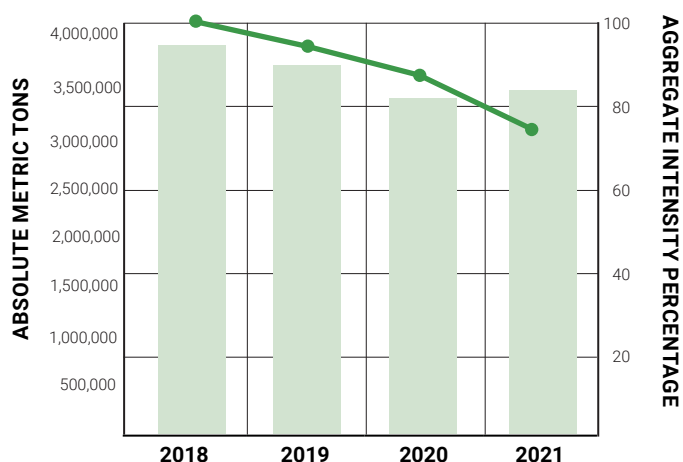
	2018	2019	2020	2021
Absolute Metric Tons	2,904	2,787	2,600	3,003

### Retired Carbon Offsets

QUANTITY RETIRED	GHG OFFSET	OFFSET TYPE	REGISTRY	PURPOSE OF RETIREMENT	DETAILS OF CREDIT ORIGINATION
50 offsets	50 mt CO <sub>2</sub> e	Verified Emissions Reductions (VERs)	Gold Standard Impact Registry	Retired in support of 2021 sales of net-zero products	India: Delhi Metro rail efficiency project, related to the implementation of energy efficiency measures in selected stations of the Delhi Metro in India and promoting less GHG intensive transportation models for the region

### GHG Scope 1 and Scope 2 Intensity

■ Scope 1 and 2 (market-based) emissions ● Aggregate Intensity Percentage



Scope 1 and 2 (market-based) emissions	3,882,168	3,674,834	3,352,168	3,426,681
Aggregate Intensity (mt CO <sub>2</sub> e Normalized by Revenue - in Millions)	543.806	511.255	473.377	402.273
Aggregate Intensity Percentage	100	94	87	74

**Source of GHG Emissions Factors**

TYPE	LOCATIONS	CALENDAR YEAR	SOURCE
Natural Gas	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 1	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 2	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 6	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Propane	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Coke	All locations	2018	The Climate Registry: 2018 Gen. Reporting Protocol - USA Industrial
Coke	All locations	2019	The Climate Registry: 2019 Gen. Reporting Protocol - USA Industrial
Coke	All locations	2020	The Climate Registry: 2020 Gen. Reporting Protocol - USA Industrial
Coke	All locations	2021	The Climate Registry: 2021 Gen. Reporting Protocol - USA Industrial
Diesel/Gas Oil	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Motor Gas	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Liquified Petroleum Gas (LPG)	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Liquified Natural Gas (LNG)	All locations	2018	The Climate Registry: 2018 Gen. Reporting Protocol - USA Transport
Liquified Natural Gas (LNG)	All locations	2019	The Climate Registry: 2019 Gen. Reporting Protocol - USA Transport
Liquified Natural Gas (LNG)	All locations	2020	The Climate Registry: 2020 Gen. Reporting Protocol - USA Transport
Liquified Natural Gas (LNG)	All locations	2021	The Climate Registry: 2021 Gen. Reporting Protocol - USA Transport
Kerosene	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Jet Fuel	All locations	2018	The Climate Registry: 2018 Gen. Reporting Protocol - USA Transport
Jet Fuel	All locations	2019	The Climate Registry: 2019 Gen. Reporting Protocol - USA Transport
Jet Fuel	All locations	2020	The Climate Registry: 2020 Gen. Reporting Protocol - USA Transport
Jet Fuel	All locations	2021	The Climate Registry: 2021 Gen. Reporting Protocol - USA Transport
Limestone	All locations	2018-2021	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Dolomite	All locations	2018-2021	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Soda Ash	All locations	2018-2021	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Steam Purchased	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
District Heating	All locations	2018-2021	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Blowing Agents	All locations	2018-2021	IPCC Fifth Assessment Report (AR5): Climate Change 2014
Electricity - Market - Utility Emission Factors	Select Locations	2018-2021	Provided factors vary by energy supplier by site and year

TYPE	LOCATIONS	CALENDAR YEAR	SOURCE
Electricity - Market Residual Mix	EU Countries	2021	Association of Issuing Bodies (AIB): European Residual Mix 2020 v1.0
Electricity - National Sources	ROW*	2021	International Energy Agency (IEA): CO2 Emissions from Fuel Combustion 2020-Year 2018
Electricity - Market Residual Mix	US	2021	2021 Green-e Residual Mix (2019 certified sales)
Electricity - Location - Regional Sources	US	2021	US EPA eGRID 2021 (w/2019 Data)
Electricity - Market Residual Mix	EU Countries	2020	Association of Issuing Bodies (AIB): European Residual Mix 2019 v1.0
Electricity - National Sources	ROW*	2020	International Energy Agency (IEA): CO2 Emissions from Fuel Combustion 2020-Year 2018
Electricity - Market Residual Mix	US	2020	2020 Green-e Residual Mix (2018 certified sales)
Electricity - Location - Regional Sources	US	2020	US EPA eGRID 2020 v2 (w/2018 Data)
Electricity - Market Residual Mix	EU Countries	2019	Association of Issuing Bodies (AIB): European Residual Mixes 2018
Electricity - National Sources	ROW*	2019	International Energy Agency (IEA): CO2 Emissions from Fuel Combustion 2019-Year 2017
Electricity - Market Residual Mix	US	2019	2019 Green-e Residual Mix (2017 certified sales)
Electricity - Location - Regional Sources	US	2019	US EPA eGRID 2018 (w/2016 data)
Electricity - Market Residual Mix	EU Countries	2018	Association of Issuing Bodies (AIB): European Residual Mixes 2018
Electricity - National Sources	ROW*	2018	International Energy Agency (IEA): CO2 Emissions from Fuel Combustion 2018-Year 2016
Electricity - Market Residual Mix	US	2018	2018 Green-e Residual Mix (2016 certified sales)
Electricity - Location - Regional Sources	US	2018	US EPA eGRID 2018 (w/2016 data)
Leased Facilities	Warehouse	2019-2021	Energy Star Portfolio Manager - U.S. Energy Use Intensity by Property Type; publication 8/2018
Leased Facilities	Office/Other	2019-2021	Energy Star Portfolio Manager - U.S. Energy Use Intensity by Property Type; publication 8/2018
Leased Facilities	Warehouse	2018	Energy Star Portfolio Manager - Energy Star Score for Warehouses in the United States; publication 7/13
Leased Facilities	Office/Other	2018	Energy Star Portfolio Manager - Energy Use in Office Buildings; publication 10/2012

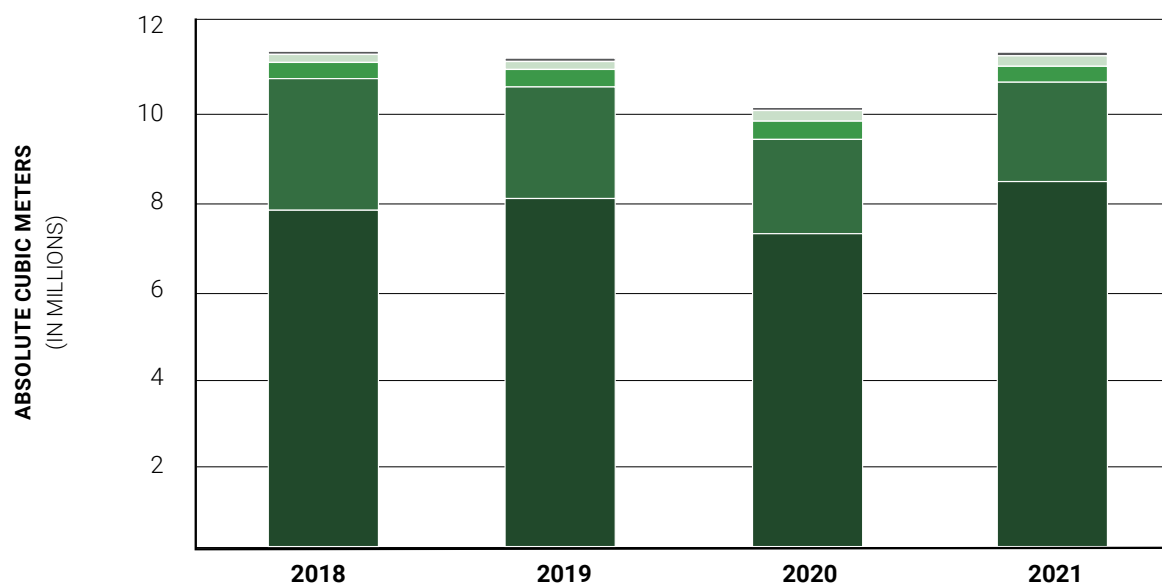
\*ROW includes EU countries when using the location-based approach. Residual mix data from AIB is used in market-based emissions calculations only



### Water Consumption (Cubic Meters)

	2018	2019	2020	2021
Withdrawal	11,254,902	11,098,723	9,978,414	11,234,619
Discharge	6,113,873	6,257,415	5,641,304	5,799,928
Consumption	5,141,029	4,841,308	4,337,110	5,434,690

### Water Withdrawal by Source

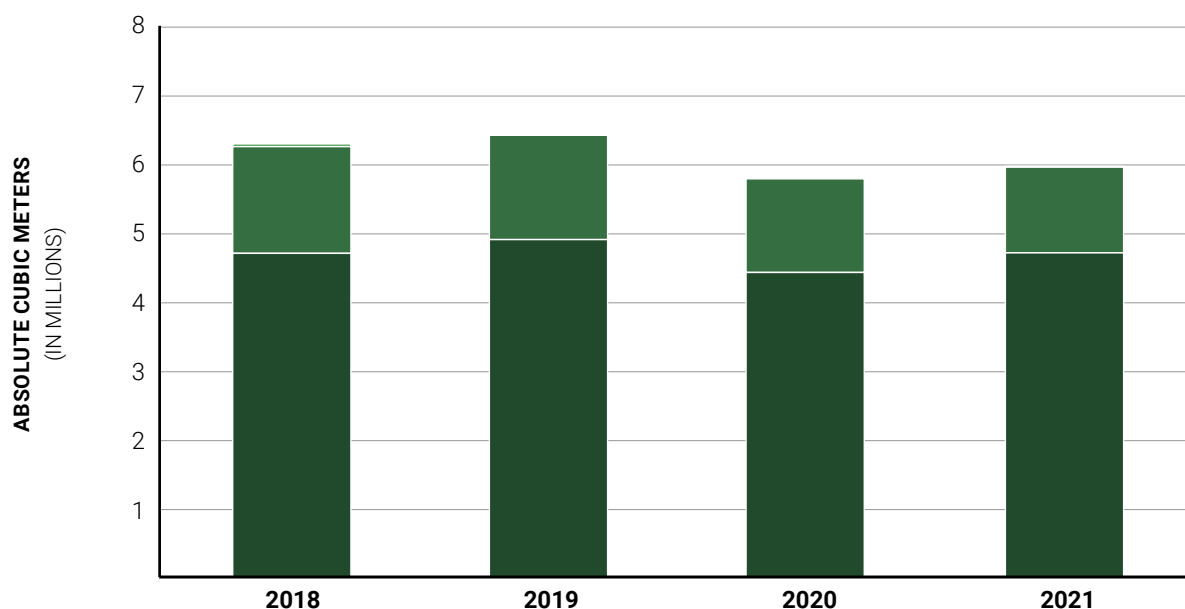


■ Municipal Water	7,643,017	7,909,149	7,109,795	8,294,140
■ Well Water	2,989,856	2,534,398	2,142,501	2,257,470
■ Surface Water	367,753	397,720	413,751	361,109
■ Third Party Supplier Water	182,998	181,658	243,680	238,775
■ Stormwater	71,277	75,798	68,687	83,124
<b>TOTAL</b>	<b>11,254,902</b>	<b>11,098,723</b>	<b>9,978,414</b>	<b>11,234,619</b>

### Water Withdrawal by Business (Cubic Meters)

	2018	2019	2020	2021
Composites	5,882,767	6,103,916	5,293,886	5,794,216
Insulation	4,101,377	3,686,889	3,478,941	4,065,718
Roofing	1,151,712	1,194,563	1,092,678	1,261,957
Corporate	119,045	113,354	112,909	112,727
<b>TOTAL</b>	<b>11,254,902</b>	<b>11,098,723</b>	<b>9,978,414</b>	<b>11,234,619</b>

### Water Discharge by Destination



POTW	4,566,151	4,760,080	4,296,625	4,573,052
Surface Water	1,504,890	1,470,828	1,320,524	1,208,588
Discharge (other)	38,072	20,951	20,247	15,648
Off-Site Shipment	4,759	5,556	3,908	2,640
<b>TOTAL</b>	<b>6,113,873</b>	<b>6,257,415</b>	<b>5,641,304</b>	<b>5,799,928</b>

### Water Discharge by Location (Cubic Meters)

	2018	2019	2020	2021
North America	2,934,738	2,980,837	2,675,687	2,842,305
Outside North America	3,179,134	3,276,578	2,965,617	2,957,623
<b>TOTAL</b>	<b>6,113,873</b>	<b>6,257,415</b>	<b>5,641,304</b>	<b>5,799,928</b>

### Estimated Water Savings by Business (2018-2021)

	CUBIC METERS	USD
Composites	371,478	334,168
Insulation	720,991	648,579
Roofing	240,313	216,177
<b>TOTAL</b>	<b>1,332,782</b>	<b>1,198,924</b>

### Average Discharge Quality by Effluent Type

Water Quality	2021
Effluent - BOD	124.56
Effluent - COD	442.61
Effluent - TSS	170.30

*In average milligrams of effluent per liter of water.*

**2021 WRI Extremely High/High Baseline Water Stress in Accordance with GRI and CDP**

<b>WITHDRAWAL BY SOURCE</b>	<b>WITHDRAWAL (IN CUBIC METERS)</b>
Municipal Water	1,798,304
Well Water	692,397
Surface Water	14,113
Third Party Supplier Water	80,271
Stormwater	0
Withdrawal (Other)	0
<b>TOTAL</b>	<b>2,585,085</b>

**2021 WRI Extremely High/High Baseline Water Stress in Accordance with GRI and CDP**

<b>DISCHARGE BY DESTINATION</b>	<b>DISCHARGE (IN CUBIC METERS)</b>
POTW	1,005,881
Surface Water	482,975
Off-Site Shipment	0
Discharge (other)	0
<b>TOTAL</b>	<b>1,488,856</b>

**50% Aggregate Intensity Reduction Water Withdrawal High Water Stress Sites**

<b>WATER WITHDRAWAL INTENSITY HIGH WATER STRESS SITES</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Absolute Cubic Meters	3,812,627	3,933,077	3,506,118	3,877,524
Aggregate Intensity Percentage	100	99	90	80
Aggregate Intensity (Cubic Meters Normalized by Revenue, in Millions)	2,940	2,904	2,637	2,351

<b>WATER WITHDRAWAL INTENSITY ALL REMAINING SITES</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Absolute Cubic Meters	7,442,274	7,165,646	6,472,296	7,357,094
Aggregate Intensity Percentage	100	96	88	84
Aggregate Intensity (Cubic Meters Normalized by Revenue, in Millions)	1,274	1,228	1,125	1,071



**2021 Water Withdrawal by Source with Freshwater Breakdown (Cubic Meters)**

	ALL SITES	HIGH WATER STRESS SITES
WITHDRAWAL BY SOURCE	WITHDRAWAL	WITHDRAWAL
<b>Municipal Water</b>	<b>8,294,140</b>	<b>3,067,960</b>
Freshwater	8,294,140	3,067,960
Other Water	0	0
<b>Well Water</b>	<b>2,257,470</b>	<b>715,180</b>
Freshwater	2,257,470	715,180
Other Water	0	0
<b>Surface Water</b>	<b>361,109</b>	<b>14,113</b>
Freshwater	361,109	14,113
Other Water	0	0
<b>Third-Party Supplier Water</b>	<b>238,775</b>	<b>80,271</b>
Freshwater	238,775	80,271
Other Water	0	0
<b>Stormwater</b>	<b>83,124</b>	<b>0</b>
Freshwater	83,124	0
Other Water	0	0
<b>Withdrawal (Other)</b>	<b>0</b>	<b>0</b>
Freshwater	0	0
Other Water	0	0
<b>TOTAL</b>	<b>11,234,619</b>	<b>3,877,524</b>
Freshwater	11,234,619	3,877,524
Other Water	0	0

### 2021 Water Discharge by Destination with Freshwater Breakdown (Cubic Meters)

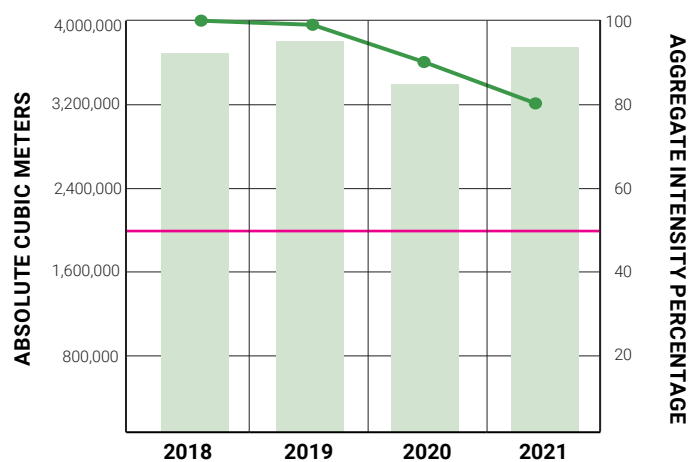
	ALL SITES	HIGH WATER STRESS SITES
DISCHARGE BY DESTINATION	DISCHARGE	DISCHARGE
<b>POTW</b>	<b>4,573,052</b>	<b>1,878,726</b>
Freshwater	4,573,052	1,878,726
Other Water	0	0
<b>Surface Water</b>	<b>1,208,588</b>	<b>531,530</b>
Freshwater	1,208,588	531,530
Other Water	0	0
<b>Discharge (Other)</b>	<b>15,648</b>	<b>0</b>
Freshwater	15,648	0
Other Water	0	0
<b>Off-Site Shipment</b>	<b>2,640</b>	<b>0</b>
Freshwater	2,640	0
Other Water	0	0
<b>TOTAL</b>	<b>5,799,928</b>	<b>2,410,256</b>
Freshwater	5,799,928	2,410,256
Other Water	0	0

### 2021 Water Consumption Areas with Water Stress (Cubic Meters)

	ALL SITES	HIGH WATER STRESS SITES
Withdrawal	11,234,619	3,877,524
Discharge	5,799,928	2,410,256
Consumption	5,434,690	1,467,268

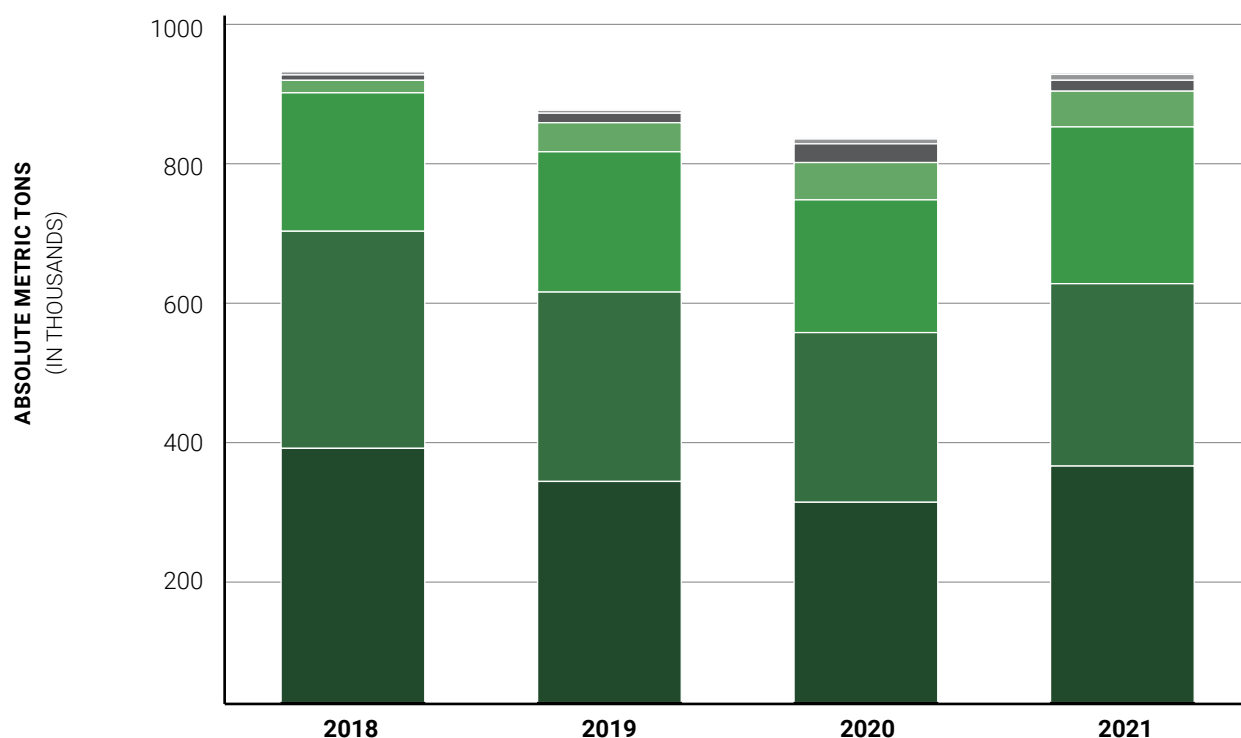
### High Water Stress Footprint

■ Absolute Cubic Meters
 ■ Aggregate Intensity Percentage
 — 2030 Goal



Absolute Cubic Meters	3,812,627	3,933,077	3,506,118	3,877,524
Aggregate Intensity Percentage	100	99	90	80
Aggregate Intensity (Cubic Meters Normalized by Revenue - In Millions)	2,940	2,904	2,637	2,351

### Non-Hazardous Waste by Disposal Method (Metric Tons)



\* Owens Corning considers Controlled Confinement as Waste-to-Landfill for reporting purposes.



# ENVIRONMENTAL DATA

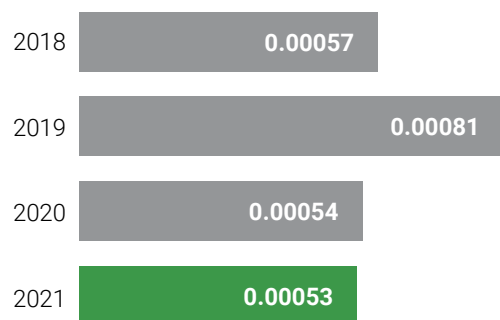
## WASTE DATA

Appendix C

### Non-Hazardous Waste by Business (Metric Tons)

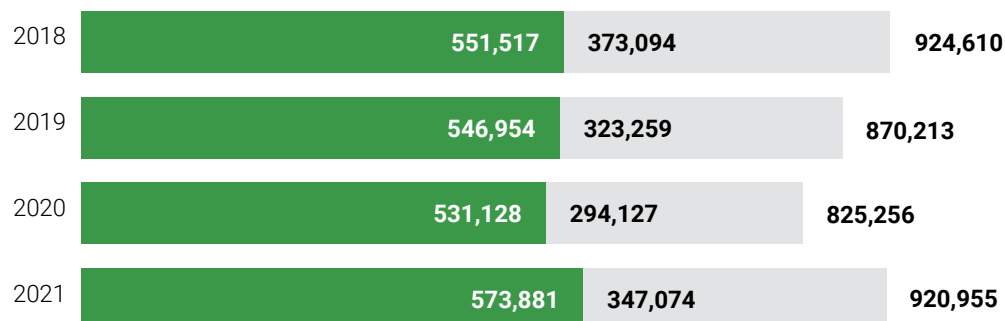
	2018	2019	2020	2021
Corporate	1,231	2,206	1,031	895
Composites	213,962	192,227	170,060	216,673
Insulation	615,507	580,774	557,345	607,502
Roofing	89,616	88,820	92,746	91,362
<b>GRAND TOTAL</b>	<b>920,316</b>	<b>864,027</b>	<b>821,182</b>	<b>916,431</b>

### Hazardous Waste Intensity (Normalized by Metric Tons of Product Produced)

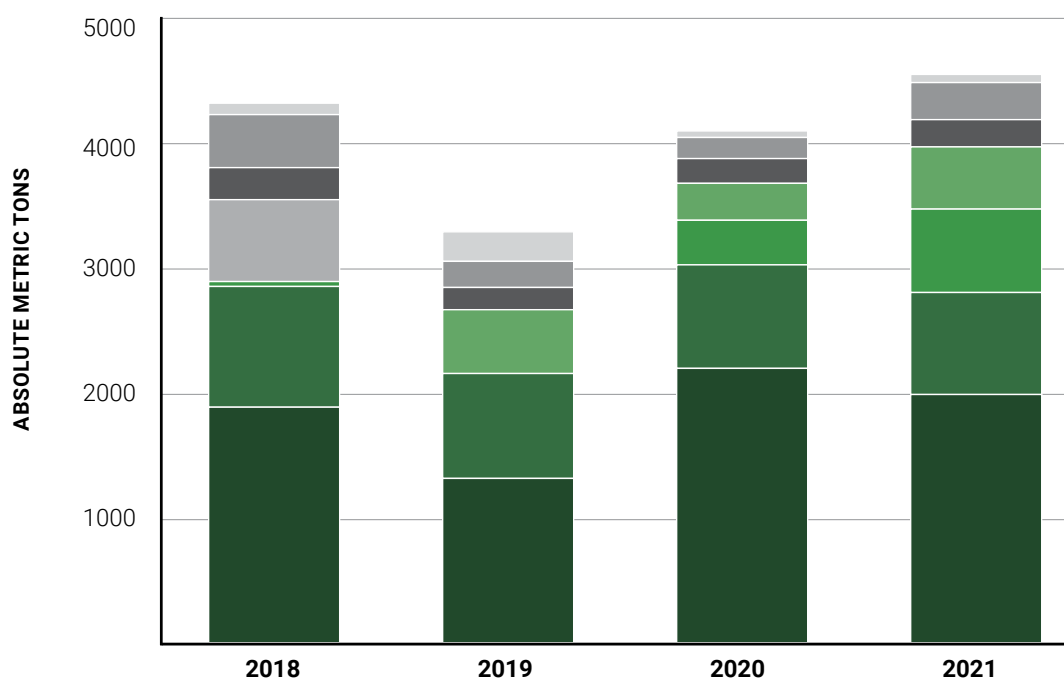


### Diverted vs. Not Diverted Waste (Metric Tons)

■ Diverted ■ Not Diverted



**Hazardous Waste by Disposal Method** (Metric Tons)



■ Waste-to-Landfill	1,875	1,308	2,184	1,976
■ Recycled Internally (on-site)	961	835	824	812
■ Incinerated with Energy Recovery	39	2,916	355	664
■ Recycled Externally (off-site)	652	508	294	495
■ Controlled Confinement*	255	177	197	217
■ Incinerated without Energy Recovery	422	208	168	295
■ Treated and Recycled	91	235	52	65
<b>TOTAL</b>	<b>4,295</b>	<b>6,186</b>	<b>4,074</b>	<b>4,524</b>

\* Owens Corning considers Controlled Confinement as Waste-to-Landfill for reporting purposes.

In 2021, 60% of our total waste generated was recycled. This includes the categories Recycled Internally (on-site), Recycled Externally (off-site), Recycled Internally with External Processing, Treated and Recycled, and Cross-Plant Recycle for both hazardous and non-hazardous waste.

**Hazardous Waste by Business** (Metric Tons)

	2018	2019	2020	2021
Corporate	24	20	27	22
Composites	1,769	1,136	940	1,074
Insulation	2,481	5,002	3,052	3,398
Roofing	21	29	55	30
<b>GRAND TOTAL</b>	<b>4,295</b>	<b>6,186</b>	<b>4,074</b>	<b>4,524</b>

Owens Corning offers a wide range of competitive benefit offerings, allowing our employees to choose what best fits their individual needs. Benefits are made available to regular, full-time employees and some part-time employees working at least 24 hours per week. These benefits vary by country, business unit, and work location. Not all benefits are available at all locations. These benefits include:

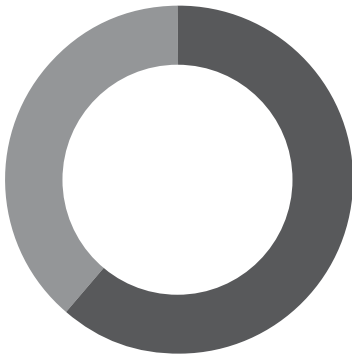
- Retirement savings plans
- Medical coverage
- Maternity and/or paternity leave
- Employee Assistance program
- Flexible work-schemes and work-sharing
- Bonus/Incentive pay
- Recall rights for laid-off employees
- Job security initiatives for redeployment, including retraining, relocation, work-sharing, and outplacement services
- Insurance
  - Healthcare employee
  - Healthcare family
  - Healthcare domestic partner
  - Dental
  - Vision
  - Short-term disability
  - Long-term disability
- Education benefits
  - Employee
  - Family
- Relocation assistance
- Work/Life support program
- Wellness/Fitness program
- On-site fitness facilities (available at some locations)
- Adoption assistance
- 401(k) financial education
- 401(k) match
- Paid and unpaid leaves of absences
- On-site recreation facilities (available at some locations)
- Bereavement leave
- Mentoring programs
- Employee recognition programs
- Matching gift program
- Workforce training, skills, and leadership development programs
- Wellness credits and access to Health Improvement programs
- Life insurance
- Business travel accident protection
- Employee stock purchase program
- Paid vacation and holidays
- Fertility, surrogacy, and adoption benefits to help employees build their families
- Tuition reimbursement (other than career training)
- Gym facilities (available at some locations)
- Preventive healthcare programs
- Paid maternity leave (for workers in certain countries)
- Retirement healthcare benefits (for employees hired prior to 1/1/2006)



**Better Government Fund 2021 Recipients**

**Party**

■ Democrats **61.5%**    ■ Republicans **38.5%**



**Category**

■ Senate **11.5%**    ■ House **88.5%**



**2021 Senate and House Distributions**

**Republicans**

MEMBER	STATE	BUDGET	ACTUAL
Scott	SC	\$1,500	\$1,500
Balderson	OH	\$1,500	\$1,500
Latta	OH	\$2,000	\$2,000

**Democrats**

MEMBER	STATE	BUDGET	ACTUAL
Kaptur	OH	\$2,500	\$2,500
Tonko	NY	\$2,500	\$2,500
Veasey	TX	\$3,000	\$3,000

## Customer Satisfaction

We collected feedback from more than 1,000 respondents, representing a sample of our distinct customer types, contractors, and locations. The survey allows us to measure overall satisfaction and the Net Promoter Score (NPS) as well as to go into more detail across customer touch points to help drive specific improvements. In 2021, the NPS score was 56 for the company, based on an index ranging from -100 to 100.

## 2021 Financial Assistance

Owens Corning receives financial assistance in the form of various tax credits, which is reflected in the table below.

COUNTRY	TAX RELIEF AND TAX CREDITS	SUBSIDIES	GRANTS	AWARDS	ROYALTY HOLIDAYS	ECA ASSISTANCE	FINANCIAL INCENTIVES	COVID-19 BENEFITS	OTHER GOVERNMENT BENEFITS
France	\$1,573,684		\$94,400					\$15,735	
Italy	\$133,732							\$48,330	
Belgium		\$43,828							
Czech Republic			\$(42,410)					\$12,844	
Finland	\$525,938	\$65,184							
Germany		\$13,488							
Lithuania									
Netherlands		\$44,959	\$123,619						
United States	\$1,098,812								
U.S. States	\$4,010,793								
China	\$1,523,566	\$1,149,563	\$173,245	\$854,450	\$-	\$-	\$186,441	\$369,553	\$298
Japan	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Korea	\$5,376	\$4,420	\$-	\$-	\$-	\$-	\$-	\$-	\$60,000
India	\$-	\$-	\$714,484	\$-	\$-	\$-	\$-	\$-	\$2,742,085
Singapore	\$-	\$-	\$14,011	\$-	\$-	\$-	\$-	\$39,496	\$-
<b>TOTAL</b>	<b>\$8,871,901</b>	<b>\$1,321,442</b>	<b>\$1,077,349</b>	<b>\$854,450</b>	<b>\$-</b>	<b>\$-</b>	<b>\$186,441</b>	<b>\$485,958</b>	<b>\$2,802,383</b>

1. Grants include: investment grants, research and development grants, and other relevant types of grant;
2. COVID-19 Benefits Include: Wage subsidies, Social Benefits exemptions, Utilities exemptions, Job Stability compensation
3. France Tax Relief and Tax Credits: 2015 R&D tax credit paid out in cash (Euro 1,400,000)
4. Czech Republic Grants: Negative adjustment to property grant issued in 2019 (918,000 CZK)
5. China Tax Relief and Tax Credits: Includes \$345,768 Technical Investment Award which may be refunded in 2022 due to sale of assets to India and \$339,285 of VAT exemption.

**Our Partnerships and Collaborations with Organizations/Governing Bodies**

	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
<b>COMMUNITIES</b>					
Association of Corporate Citizenship Professionals		✓		✓	✓
CAF America				✓	✓
ConneCToledo		✓	✓	✓	✓
Freedom for You Foundation			✓	✓	
Gary Sinise Foundation			✓	✓	✓
Give2Asia				✓	✓
Habitat for Humanity India			✓	✓	✓
Habitat for Humanity International			✓	✓	✓
Habitat for Humanity Singapore				✓	✓
King Baudouin Foundation				✓	✓
Local Habitat for Humanity Affiliates		✓	✓	✓	✓
Marathon Classic (LPGA charitable tournament)			✓	✓	✓
Maumee Valley Habitat for Humanity		✓	✓	✓	✓
Mexican Red Cross			✓	✓	✓
Mumbai Mobile Creche			✓	✓	
Neighborhood Industries				✓	✓
Regional Growth Partnership – Northwest Ohio (RGP)			✓	✓	✓
Toledo Local Initiatives Support Corporation		✓		✓	✓
Toledo Metroparks Foundation		✓	✓	✓	✓
Toledo Public School Foundation		✓		✓	✓
Truckers Against Trafficking	✓				
United Way Greater Toledo		✓	✓	✓	✓
United Way International/Worldwide			✓	✓	✓
United Way Mumbai			✓	✓	✓
Wildlife Habitat Council	✓			✓	✓
YWCA of NW Ohio		✓		✓	✓
<b>GOVERNMENT</b>					
DOE's Better Plants Program	✓				✓
EPA's ENERGY STAR®	✓				✓
EPA's Green Power Partnership	✓				
National Institute for Standards and Technology		✓	✓		✓



# GENERAL DISCLOSURES

## KEY PARTNERSHIPS

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
<b>NON-GOVERNMENT ORGANIZATIONS</b>					
Alliance to Save Energy					✓
Altus Group	✓				✓
American Center for Life Cycle Assessment (ACLCA)		✓	✓		✓
American Council for an Energy-Efficient Economy	✓				✓
American Institute of Chemical Engineers		✓			✓
American Society for Testing and Materials	✓		✓		✓
American Society of Civil Engineers (ASCE)	✓				
American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)		✓	✓		✓
American Society of Safety Professionals (ASSP)	✓		✓		
ASTM International	✓	✓	✓		✓
Building Performance Institute (BPI)	✓	✓	✓		✓
Business Roundtable (BRT) - National and State Levels	✓	✓	✓	✓	✓
Campbell Institute	✓	✓	✓		✓
Carbon Leadership Forum	✓		✓	✓	✓
Council of Tall Buildings and Urban Habitats	✓				✓
Energy Efficiency Business Coalition	✓		✓		✓
Factory Mutual (FM)			✓		✓
Fire Safe North America	✓			✓	✓
Gartnerx Research & Advisory Company			✓		
Glass Recycling Coalition	✓				✓
Goldman Sachs Horizon Corporate Network		✓	✓		✓
Health Product Declaration Collaborative (HPDC)	✓	✓	✓		✓
Insurance Institute for Business & Home Safety					✓
International Code Council	✓				✓
International Firestop Council (IFC)	✓	✓	✓	✓	✓
International Living Future Institute (ILFI)	✓		✓	✓	✓
Midwest Energy Efficiency Alliance	✓				✓
National Association of State Energy Officials (NASEO)	✓				✓
National Fire Protection Agency (NFPA)			✓		✓
National Safety Council (NSC)	✓		✓		
Northeast Energy Efficiency Partnerships	✓				✓

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
<b>NON-GOVERNMENT ORGANIZATIONS</b>					
Passive House Network with sub chapters: CA, DC, MN, NJ, PA, Rocky Mountains	✓				✓
Procurement Leaders			✓		
Rainscreen Association in North America	✓				✓
Residential Energy Services Network (RESNET)		✓			✓
Science Based Targets Network	✓		✓		✓
South-Central Partnership for Energy Efficiency as a Resource	✓				✓
Stucco Manufacturers Association	✓				✓
Sustainability and Health Initiative for NetPositive Enterprise (SHINE)	✓		✓		✓
U.S. Green Building Council (USGBC)	✓				✓
Underwriters Laboratory (UL)			✓		✓
United Nations Global Compact (UNGC)	✓		✓	✓	✓
<b>INDUSTRY ASSOCIATIONS</b>					
Air Barrier Association of America (ABAA)	✓				✓
Air Duct Council (ADC)					✓
American Chemistry Council - Modern Building Coalition		✓	✓		
American Composites Manufacturing Association (ACMA)	✓	✓	✓		
American Concrete Institute (ACI)	✓		✓		✓
American Institute of Architects (AIA)	✓		✓		✓
Asphalt Institute Foundation	✓	✓			✓
Asphalt Interlayer Association (AIA)	✓				
Asphalt Roofing Manufacturer Association (ARMA)	✓	✓	✓		✓
Association for Materials Protection and Performance	✓				
Association of Modified Asphalt Producers		✓	✓		
Center for the Integration of Composites into Infrastructure (CICI)		✓	✓		✓
Concrete Preservation Institute (CPI)	✓				
Construction & Demolition Recycling Association			✓		
Construction Specifiers Institute (CSI)	✓	✓	✓	✓	✓
Eastern States Insulation contractors Association (ESICA)		✓	✓		✓
ecoEnergy Innovation Institute (ecoEII)	✓				

# GENERAL DISCLOSURES

## KEY PARTNERSHIPS

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
<b>INDUSTRY ASSOCIATIONS</b>					
Energy and Environmental Building Alliance (EEBA)		✓			✓
Engineered Wood Technology Association (EWTA)	✓				
Extruded Polystyrene Foam Association (XPSA)		✓	✓	✓	✓
Firestop Contractors International Association (FCIA)	✓		✓	✓	✓
Heating, Air-Conditioning & Refrigeration Distributors International (HARDI)	✓				✓
Home Innovation Research Labs			✓		✓
HVACR Manufacturer's Association (HMA)	✓				
Innovation Research Interchange (IRI)	✓		✓		✓
Institute for Advanced Composites Manufacturing Innovation (IACMI)	✓				
Insulation Contactors of America Association (ICAA)			✓	✓	✓
International Air-Conditioning, Heating, Refrigeration (AHR)	✓				
International Institute for FRP in Construction (IIFC)	✓	✓	✓		
International Institute of Ammonia Refrigeration (IIAR)	✓				
International Institute of Building Enclosure Consultants (IIBEC)	✓				
Manufacturers Alliance for Productivity & Innovation (MAPI)	✓				
National Association of Home Builders (NAHB)	✓	✓	✓	✓	✓
National Association of Manufacturers (NAM)	✓	✓	✓	✓	✓
National Insulation Association (NIA)	✓		✓		✓
National Road Research Alliance (NRRRA)	✓				
North America Insulation Manufacturer Association (NAIMA)	✓	✓	✓	✓	✓
North American Modern Building Alliance (NAMBA)		✓			
North Energy Efficiency Alliance (NEEA)			✓		✓
Ohio Manufacturers Association (OMA)	✓				
Polyisocyanurate Insulation Manufacturers Assoc. (PIMA)	✓		✓		✓
Precast/Prestressed Concrete Institute (PCI)	✓		✓		✓
Professional Women in Construction	✓				



# GENERAL DISCLOSURES

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
<b>INDUSTRY ASSOCIATIONS</b>					
Sheet Metal and Air Conditioning Contractors National Association (SMACNA)	✓				✓
Single Ply Roofing Industry (SPRI)	✓				✓
Southwest Energy Efficiency Project (SWEEP)	✓		✓		✓
Southwest Insulation Contractors Association (SWICA)	✓		✓		✓
Spiral Duct Manufacturers Association (SPIDA)	✓				✓
Tilt-Up Concreate Association (TCA)	✓				✓
Truckload Carriers Association (TCA)		✓	✓		
Western Insulation Contractors Association	✓				
Women in Construction	✓				
Women in HVACR	✓				✓
<b>EDUCATION</b>					
Bowling Green State University				✓	✓
Ohio State University – Fisher School of Business			✓		✓
University of Michigan – Ross School of Business			✓		✓
<b>CHINA</b>					
China Academy of Building Research	✓				
China Building Waterproof Association, Single Ply Roofing Branch (SPR)		✓	✓		
China Building Energy Efficiency Association			✓		
China Building Material Federation		✓	✓		
China Cold Storage and Supply Chain Association	✓				
China Federation of Logistics & Purchasing Cold Chain Logistics	✓				
China Metal Building Association			✓		
China Metallurgical Study Institute		✓			
China Ministry of Construction, Standardization Department		✓			
China Plastics Processing Industry Association (CPPIA)		✓			
China Thermal Insulation Material Academy			✓		
China XPS Committee		✓	✓		
Fire Protection Association, 7th Branch			✓		
Jiangsu Building Energy Efficiency Association	✓				
Nanjing Fiberglass Research & Design Institute Co., Ltd.		✓	✓		
Shanghai Building Material Industry Association	✓				

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
Si Chuan Fire Research Institute (SCFRI)	✓				
<b>EUROPE</b>					
Argentina - Asociación Argentina de Tecnología del Hormigón	✓				
EAE (European Assoc. for External Thermal Insulation Composite Systems)	✓		✓		✓
Estonia - ESTISOL, EETL, EKVU, EIEL, EKT	✓	✓			
European Industrial Insulation Foundation		✓	✓		
European Insulation Manufacturers Association & Health and Safety Committee	✓	✓	✓	✓	
Finland - Building Information Foundation RTS		✓			
Finland - Confederation of Finnish Construction Industries RT		✓	✓		✓
Finland - Finnisol	✓	✓	✓		
Finland - RTT Association of Insulation Producers	✓	✓	✓		
Firesafe Europe	✓	✓	✓	✓	
France - Association Française de Génie Civil			✓		
France - Association Française de Normalisation	✓		✓		✓
Germany - DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen)	✓				✓
Germany - Fachvereinigung Faserbeton e.V.	✓		✓		
Germany – FMI (Fachverband Mineralwolleindustrie e.V.)	✓		✓		✓
Germany – VDPM (Verband für Dämmsysteme, Putz und Mörtel)	✓				✓
Germany-GGM Gutgemeinschaft Mineralwolle e.V.	✓				
International Federation for Structural Concrete			✓		
Italy - Associazione Italiana Sottofondi, Massetti e Pavimentazioni e Rivestimenti Continui	✓				
Latvia - LATIZOL		✓	✓		
Lithuania - Mineral Wool Producers Association, Lithuanian Technical Insulation Contractors Association, Lithuanian Builders Association, Baltic Investors Forum	✓	✓	✓		✓
Russia - Rosizol, ANIFAS	✓	✓	✓	✓	✓
Spain - Spanish Association of Structural Engineering			✓		
Spain - Asociación Nacional de la Industria del Prefabricado de Hormigón	✓		✓		✓
Sweden - Swedisol, SIS Swedish Standards Institute		✓	✓		✓

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	MEMBER ONLY	POSITION IN GOVERNANCE BODIES	PARTICIPATES IN PROJECTS/ COMMITTEES	PROVIDES SUBSTANTIVE FUNDS BEYOND ROUTINE MEMBERSHIP	VIEWS RELATIONSHIP AS STRATEGIC
The International Glassfibre Reinforced Concrete Association		✓	✓		✓
The International Union of Laboratories and Experts in Construction Materials, Systems and Structures	✓		✓		
<b>BRAZIL / LA</b>					
Bradesco Pension Fund Administration	✓				
Committee on the Hydrographic Basins of Piracicaba, Capivari and Jundiaí Rivers	✓				✓
Composites Materials Latin American Association	✓	✓			✓
Glass Industry Federal Union	✓				✓
Human Resources Association	✓		✓		
National Glass Industry Association	✓		✓		✓
State of São Paulo Industry Association	✓				✓
<b>CANADA</b>					
Architectural Institute of British Columbia	✓		✓		✓
British Columbia Building Envelope Council	✓		✓		✓
Canadian Association of Consulting Energy Advisors	✓		✓		✓
Canadian Green Building Council	✓		✓		✓
Canadian Home Builders Association	✓	✓	✓		✓
Canadian Roofing Contractors Association	✓		✓		✓
Chemistry Industry Association of Canada	✓		✓		✓
Construction Specifications Canada	✓		✓		✓
Ecohabitation	✓		✓		✓
EnerQuality	✓	✓	✓		✓
Metal Cladding Contractors Association (Quebec)	✓		✓		✓
National Resource Council Canada (NRC)			✓		✓
National Resources Canada		✓	✓		✓
North American Insulation Manufacturers Association	✓	✓	✓	✓	✓
Passive House Institute Canada	✓		✓		✓
Quebec Building Envelope Council	✓	✓	✓		✓
Quebec Construction Association	✓		✓		✓
Quebec Home Builders Association	✓		✓		✓
Quebec Insulation Association	✓		✓		✓
Royal Architecture Institute of Canada	✓		✓		✓
Underwriters Laboratories of Canada	✓	✓	✓		✓



**Certifications**

<b>ENERGY STAR®</b>	Toledo, Ohio, U.S. (World Headquarters)
<b>Wildlife Habitat Council</b>	Toledo, Ohio, U.S. (World Headquarters); Granville, Ohio, U.S.
<b>ISO 50001</b>	Chambéry, France; Klášterec, Czech Republic; Tessenderlo, Belgium

### OWENS CORNING WORLD HEADQUARTERS

ONE OWENS CORNING PARKWAY  
TOLEDO, OHIO 43659  
419.248.8000



March 24, 2022

H.E. António Guterres  
Secretary-General  
United Nations  
New York, NY 10017

#### Dear Mr. Secretary General:

Owens Corning is committed to building a sustainable future through material innovation, and that is why we joined the United Nations Global Compact 11 years ago. We remain deeply committed to the 10 principles that make up this historic initiative. Our latest annual Sustainability Report demonstrates that commitment, as well as our holistic approach to sustainability. In addition to minimizing the impact of our products and operations, we have also established broad objectives aimed at balancing economic growth with social progress and environmental stewardship. We believe our approach is in the best interest of our company and our stakeholders, and it creates long-term value for our shareholders. This work resonates deeply with the sense of purpose shared by our employees around the world: Our people and our products make the world a better place.

To make our shared vision a reality, we are continuously striving to advance the same principles articulated in the Global Compact, which are incorporated into our sustainability strategy and drive our company values, and which in turn guide the way we interact with our customers, suppliers, investors, and colleagues, as well as the communities in which we live and work. Through the lens of that strategy, Owens Corning has reviewed the United Nations Sustainable Development Goals and identified several that are material to our business, and on which we believe we have direct impact through our core business competencies. We also identified those where we can have either direct or indirect influence. For those aligned with our material issues, active programs and reporting are already underway. This work is included in our 2021 Sustainability Report, which is attached.

Many of Owens Corning's sustainability efforts have been recognized by organizations that evaluate our progress against high standards and industry benchmarks. In 2021, Owens Corning was named to the Dow Jones Sustainability World Index for the twelfth consecutive year. Additionally, Owens Corning earned placement on the Dow Jones Sustainability North America Index for a fourth year, with industry-leading scores. The North America Index tracks the sustainability leaders in the largest U.S. and Canadian companies in the S&P Global Broad Market Index.

Companies are selected for inclusion in the Dow Jones Sustainability Index in part based on their scores in the S&P Global Corporate Sustainability Index. Owens Corning placed in the 100th percentile for the building products industry. The company's 2021 scores in each dimension — economic, environmental, and social — are also in the 100th percentile for the industry.

In addition, Owens Corning received many awards and distinctions for our corporate citizenship efforts in 2021. We again earned the top spot on the 100 Best Corporate Citizens List, making us the first company to earn the top ranking for three consecutive years. We also once again received recognition from the Ethisphere Institute as one of the world's most ethical companies, for the fourth consecutive year. The company is one of only two honorees in the Construction and Building Materials industry.

The progress we have made on our sustainability journey serves as a baseline for our next steps. We are currently working toward an ambitious slate of 2030 sustainability goals, which will require us to innovate and collaborate among all stakeholders as we work to make a difference in the world. In one key example, we have set a target to reduce greenhouse gas emissions to the levels needed to limit global warming to 1.5° Celsius — a target that has been approved by the Science Based Targets initiative. In addition, we are implementing contextual water use targets based on the WRI Aqueduct Indicators that address the risks to water supply in high water-stress areas. This year we also completed two power purchase agreements for renewable energy around the world.

The full story of our 2030 sustainability goals — and our ongoing efforts to achieve them — in the attached report demonstrates our progress and current efforts in areas related to the 10 principles of the Global Compact. An index highlighting the relevant sections in the report is also included.

We are proud of what we have achieved in pursuit of our sustainability goals, even as we acknowledge that every accomplishment represents an opportunity upon which to build. It is in this spirit that I, on behalf of everyone at Owens Corning, reaffirm our commitment to the Global Compact and our dedication to conducting business responsibly throughout the world.



**Brian Chambers**

Chair and Chief Executive Officer  
Owens Corning



### Principle 1

Businesses should support and respect the protection of internationally proclaimed human rights.

2021 REPORT SECTION	PAGE NUMBER	COMMENTS
About Owens Corning	9	Corporate Equality Index
Human Rights & Ethics	275-277	Human Rights Policy
Compliance and Beyond	73	Code of Conduct

### Principle 2

Businesses should ensure that they are not complicit in human rights abuses.

2021 REPORT SECTION	PAGE NUMBER	COMMENTS
About Owens Corning	9	Corporate Equality Index
Human Rights & Ethics	275-277	Human Rights Policy
Compliance and Beyond	73	Code of Conduct

### Principle 3

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.

2021 REPORT SECTION	PAGE NUMBER	COMMENTS
Employee Experience	213	Labor Relations

#### Principle 4

Businesses should support the elimination of all forms of forced and compulsory labor.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Human Rights & Ethics	276	Forced Labor/Child Labor

#### Principle 5

Businesses should support the effective abolition of child labor.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Human Rights & Ethics	276	Forced Labor/Child Labor

#### Principle 6

Businesses should support the elimination of discrimination in respect of employment and occupation.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Inclusion & Diversity	216-232	
Employee Experience	211-214	Summary of Compensation & Benefits
Compliance	73	Code of Conduct
Human Rights & Ethics	275	Equal Opportunity and Non-Discrimination

#### Principle 7

Businesses should support a precautionary approach to environmental challenges.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
About the Report	290	Precautionary Approach

## Principle 8

Businesses should undertake initiatives to promote greater environmental responsibility.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Product Innovation & Stewardship	101-114	
Product Innovation & Stewardship	106	Environmental Transparency
Circular Economy	86	2030 Goals for The Circular Economy
Sustainable Growth	115	Sustainable Growth Initiatives
Energy Efficiency & Sourcing Renewable Energy	139	Power Purchase Agreements
Combating Climate Change	151	Partnering to Address Climate Change
Compliance and Beyond	74	Environmental Compliance

## Principle 9

Businesses should encourage the development and diffusion of environmentally friendly technologies.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Product Innovation & Stewardship	97-98	Products that Make a Material Difference
Energy Efficiency & Sourcing Renewable Energy	142	Energy Conservation and Savings
Energy Efficiency & Sourcing Renewable Energy	140	Energy Initiatives
Sustainable Growth	97-98	Products That Make a Material Difference
Combating Climate Change	147-148	Our Approach

## Principle 10

Businesses should work against corruption in all its forms, including extortion and bribery.

2020 REPORT SECTION	PAGE NUMBER	COMMENTS
Human Rights & Ethics	282-283	Anti-corruption

United Nations Sustainable Development Goals discussed in our report in the Executive Summary section on [pages 41-50](#).



THEME	ADVANCED LEVEL COMMUNICATION ON PROGRESS CRITERIA	CHAPTER	PAGE NUMBER
Implementing the Ten Principles into Strategies & Operations	Criterion 1: The COP describes mainstreaming into corporate functions and business units Criterion	Our Sustainability Aspirations	13-15
	Criterion 2: The COP describes value chain implementation	Supply Chain	124
		Human Rights & Ethics	273-285
Robust Human Rights Management Policies & Procedures	Criterion 3: The COP describes robust commitments, strategies or policies in the area of human rights	Supply Chain	124, 131
		Human Rights & Ethics	273-285
	Criterion 4: The COP describes effective management systems to integrate the human rights principles	Human Rights & Ethics	273-285
	Criterion 5: The COP describes effective monitoring and evaluation mechanisms of human rights integration	Human Rights & Ethics	273-285
Robust Labour Management Policies & Procedures	Criterion 6: The COP describes robust commitments, strategies or policies in the area of labour	Employee Experience	213
		Human Rights & Ethics	275-279
	Criterion 7: The COP describes effective management systems to integrate the labour principles	Supply Chain	130
		Employee Experience	213
		Human Rights & Ethics	275-279
	Criterion 8: The COP describes effective monitoring and evaluation mechanisms of labour principles integration	Supply Chain	130
		Living Safely	248-249
		Employee Experience	213
		Human Rights & Ethics	275-279
Robust Environmental Management Policies & Procedures	Criterion 9: The COP describes robust commitments, strategies or policies in the area of environmental stewardship	Our Sustainability Aspirations	13-15
		Summary & Highlights	16-26
		Stakeholder Management & Material Issues	34-40
		Compliance and Beyond	72
		Supply Chain	124
		Combating Climate Change	146-152
	Criterion 10: The COP describes effective management systems to integrate the environmental principles	Board Leadership	53
		Compliance and Beyond	72, 74
		Product Innovation and Stewardship	95-110
		Human Rights & Ethics	282
	Criterion 11: The COP describes effective monitoring and evaluation mechanisms for environmental stewardship	Board Leadership	53
		Compliance and Beyond	72, 74, 76
		Supply Chain	124-125, 130-131, 134

THEME	ADVANCED LEVEL COMMUNICATION ON PROGRESS CRITERIA	CHAPTER	PAGE NUMBER
Robust Anti-Corruption Management Policies & Procedures	Criterion 12: The COP describes robust commitments, strategies or policies in the area of anti-corruption	Supply Chain	124
		Human Rights & Ethics	282-283
	Criterion 13: The COP describes effective management systems to integrate the anti-corruption principle	Supply Chain	124-125, 130-131
		Human Rights & Ethics	282-283
	Criterion 14: The COP describes effective monitoring and evaluation mechanisms for the integration of anticorruption	Supply Chain	124-125, 130-131, 134
		Human Rights & Ethics	282-283
Taking Action in Support of Broader UN Goals and Issues	Criterion 15: The COP describes core business contributions to UN goals and issues	UN Sustainable Development Goals Alignment	41-50
		UN Global Compact Communication on Progress	338-344
	Criterion 16: The COP describes strategic social investments and philanthropy	Community Engagement	233-235
	Criterion 17: The COP describes advocacy and public policy engagement	UN Sustainable Development Goals Alignment	41-50
		UN Global Compact Communication on Progress	338-344
	Criterion 18: The COP describes partnerships and collective action	Combating Climate Change	151
		UN Global Compact Communication on Progress	338-344
		Appendix D General Disclosures - Key Partnerships	330-337
Corporate Sustainability Governance and Leadership	Criterion 19: The COP describes CEO commitment and leadership	Message from Our CEO and CSO	4-5
		Board Leadership	53
		UN Global Compact Communication on Progress	338-339
	Criterion 20: The COP describes Board adoption and oversight	Board Leadership	51, 53
		Human Rights & Ethics	274, 281-283
	Criterion 21: The COP describes stakeholder engagement	Stakeholder Management & Material Issues	34-40
		Human Rights & Ethics	282



## Independent Assurance Statement

### To Owens Corning's Stakeholders

SCS Global Services (SCS) has been engaged by Owens Corning to provide independent assurance for their 2021 Sustainability Report. SCS conducted a moderate level of assurance on the report in adherence to AccountAbility's Principles of Inclusivity, Materiality, Responsiveness, and Impact. In addition, SCS conducted assurance on key performance indicators provided in the Owens Corning 2021 Sustainability Report. This was a remote engagement which took place from September 2021 to March 2022.

### Objective

The objective of this assurance engagement was to provide an independent opinion on Owens Corning's reporting of qualitative and quantitative claims and their supporting management systems so as assure stakeholders of the overall credibility of the reported information within the scope.

### Scope

The scope of Owens Corning's 2021 Sustainability Report and this assurance engagement includes all of Owens Corning's sites and activities under their operational control globally. A Type 2 assurance engagement was performed on Owens Corning's performance against AccountAbility's AA1000 Principles (2018) to a moderate level. Energy use, Scope 1 and 2 greenhouse gas emissions, Scope 3 greenhouse gas emission categories 1, 3, 4, 6, 7, 9 and 12, employee engagement (% responding and % actively engaged) and types and amounts of philanthropic contributions have all been assured to a high level. All other data within the Report, including but not limited to, performance data and progress towards 2030 goals were assured to at least a moderate level. In addition, SCS evaluated the Report's adherence to Global Reporting Initiative's Consolidated Set of GRI Sustainability Reporting Standards (2020).

### Standards

SCS performed the assurance of Owens Corning's 2021 Sustainability Report against the AA1000 Assurance Standard AA1000AS v3 (2020). Specific performance data were assessed utilizing internationally recognized standards which include, but are not limited to, the following:

- AA1000 Principles Standard (2018)
- World Resources Institute's Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004 along with Scope 2 and Scope 3 Guidance
- ISO 14064-3:2006 Specification with guidance for the validation and verification of GHG assertions.
- Consolidated Set of GRI Sustainability Reporting Standards 2020
- Dow Jones Corporate Sustainability Assessment (CSA) 2021



## Assurance Team and Methodology

Our team was comprised of Tina Sentner, Dr. Gerard Mansell, Vincent Katharua, Tavio Benetti and Neil Mendenhall with qualifications available online and upon request. SCS' Assurance Team undertook the following activities in order to render our opinion:

- Reviewed management systems and governance documents developed as a part of Owens Corning's sustainability management system, which includes their identification of material topics, stakeholder engagement, mechanisms for stakeholder responsiveness, evaluation of impact and calculation methods
- Reviewed and analyzed primary performance data collected at the sites and aggregated at the corporate level to identify any material misstatements or calculation errors.
- Conducted interviews with management and key staff in the US, Asia and Europe and requested procedures and data from a sample of Owens Corning's regions and sites; and
- Reviewed the Sustainability Report for material misstatements and its alignment to the requirements of the Global Reporting Initiative (GRI) Standards.

## Limitations

SCS conducted interviews with management and staff, reviewed governance documents and data, and performed limited recalculations on aggregate and site-specific data through risk-based sampling. These processes enabled SCS to provide a moderate level of assurance on Owens Corning's 2021 Sustainability Report, which reduces the risk of our conclusions being in error but does not reduce the risk to zero. The assurance did not cover financial data such as the balance sheet, the income statement, and the cash flow statement, technical descriptions of buildings, equipment and production processes or other information not related to sustainability or already supported by existing documents, such as third-party audits or certifications.

## Opinion and Findings

Based on our methodology and the activities described above, it is our opinion that:

- There is no evidence to suggest that Owens Corning's management systems, governance documents, data collection methods, and KPI calculations have material errors. Owens Corning's reporting of 2021 Scope 3 greenhouse gas emissions, water use, waste, air pollution, VOCs, social performance indicators, and progress towards 2030 sustainability goals were assured at a moderate-level and no material errors or misstatements were identified.
- Owens Corning reported Scope 1, 2, and scope 3 categories 1, 3, 4, 6, 7, 9 and 12 GHG emissions, energy use, employee engagement (% responding and % actively engaged), and types and amounts of philanthropic contributions was assured at a high-level and this data can be considered reliable.
- The Report adequately reflects the organization's alignment to, and implementation of the AA1000AS v3 (2020) principles of Inclusivity, Materiality, Responsiveness, and Impact in its operations. Owens Corning has processes in place for consulting and engaging with its key stakeholders in a structured and systematic manner.

- Owens Corning's Report was found to conform with the Consolidated Set of GRI Sustainability Reporting Standards (2020).

### **Adherence to the AA1000 Principles**

Based on the methodology and activities performed we have found that Owens Corning's Report and specified key performance indicators are in adherence to AA1000 V3 (2020) and AccountAbility's Principles Standard (2018). A summary of our conclusions and evidence follows:

#### ***Inclusivity:***

Based on the information gathered from management interviews, 2019 materiality assessment white paper and other provided documents, it was observed that Owens Corning has continued to seek stakeholder participation. Owens Corning has processes in place for engaging with a range of key stakeholders, including employees, members, suppliers, providers, and community partners. Some of the ways the company engages the stakeholders includes interviews, workshops and surveys. Additionally, Owens Corning conducts an employee engagement survey every two years. The employee engagement survey, *"DJSI 3.5.7 Trend of Employee Engagement"*, is verified annually by SCS Global Services as part of our review and assurance of DJSI indices.

#### ***Materiality:***

With reference to the 2019 Materiality assessment white paper, it was observed that Owens Corning followed a clear process for identifying business risks which was informed by engagement with stakeholders, peer performance, emerging issues and trends and financial considerations. The result of this assessment demonstrates a schematic process for identifying and prioritizing material topics based on stakeholder preferences and impact. In 2021 Owens Corning prepared an addendum, *"Steps for the Full Consideration of Acquisitions on Owens Corning Materiality"*, to allow for the consideration of new acquisitions as they relate to the Owens Corning materiality process. This addendum further demonstrates how future changes to the organizations operations through acquisition might trigger an update to their material topics. The 2021 sustainability report addresses the range of social and economic issues of concern that Owens Corning identified as being of highest material importance in the materiality assessment.

#### ***Responsiveness:***

Owens Corning is responsive to issues identified by their stakeholders through the development of policies, procedures, goals, objectives, and key performance indicators reported in their annual sustainability report. The audit team tested all internal and third-party managed mechanisms for capturing complaints, reporting of safety violations, supplier and customer helplines, etc. and they were active and responsive. Owens Corning also communicates with employees on a variety of sustainability issues through team meetings, an annual employee engagement survey, email communication, noticeboards, and the corporate intranet.

**Impact:**

Owens Corning has established processes for identifying, monitoring, measuring, evaluating, and managing their most material impacts. For example, Owens Corning measures impact through the company's contributions to overall economic development and prosperity in communities and regions where they operate, including the measurement of local employment and community development initiatives. The company also considers their material environmental impacts by measuring and setting goals for reducing energy consumption, greenhouse gas emissions, water consumption, and waste. As an example, Owens Corning has set and is tracking the following 2030 environmental topics with a 2018 baseline.

Topic	Description	2030 Reduction Goal	Current Progress
Water	High Water-Stress Sites Water Withdrawal Intensity	50%	20%
	All Other Sites Water Withdrawal Intensity	Remain flat or reduce	16%
Energy	2030 Renewable Electricity	100%	51%
	2030 Energy Efficiency	20%	2%
Waste	Waste/Byproducts Repurposed or Recycled	100%	62%
	Waste/Byproducts Generated Intensity	50%	17%
GHG	Scope 1 & 2 GHG	50%	12%
	Scope 3 GHG	30%	8%
Air	VOC Emissions Intensity	50%	18%
	PM2.5 Emissions Intensity	50%	14%

## Conclusions

Based on the methodology and activities performed within the scope of this assessment, nothing has come to our attention that is materially misstated. Specified key performance indicators have been found to be accurate based on our assurance procedures which are in line with AA1000 V3 (2020) and AccountAbility's Principles (2018). This conclusion reduces the risk of error but does not reduce the risk to zero.

## Observations & Recommendations

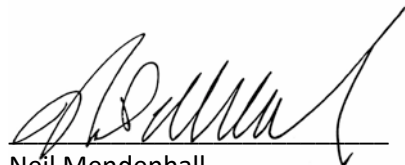
As with previous years SCS found that HCFC emissions were included in 2021 Scope 1 emissions. These emissions are not covered by the Kyoto Protocol GHG emissions and the WRI Greenhouse Gas Protocol states that these emissions should be reported as "Optional Emissions" outside of Scope 1 reporting. It is therefore noted that the Scope 1 emissions reported herein include current and historical HCFC emissions back to the base year instead of being reported separately as "Optional Emissions" under WRI requirements.



## Independence

SCS Global Services is an independent and internationally accredited conformance assessment body. All members of the assurance team were internally reviewed to ensure they were free from conflicts of interest. SCS is not financially dependent on Owens Corning in any way beyond the pre-payment of our work under the scope of this engagement and a limited number of independent assessments and product certifications it performs for Owens Corning annually.

## Declaration



Neil Mendenhall

Associate Certified Sustainability Assurance Practitioner (ACSAP)

SCS Global Services

Emeryville, California – March 2022



**AA1000**

Licensed Assurance Provider  
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Climate change risks and opportunities are fundamentally driven by three factors: regulations, physical climate factors, and other climate-related variations. We monitor the physical risks of climate change, as well as transition risks such as changing environmental regulations, new technologies, and changes in the marketplace, all of which may impact our operations or our planning.

In addition, we are committed to managing the market and reputational risks that arise from the impacts of climate change. This informs our goals and our approach to reducing greenhouse gas emissions, as both our products and our processes can help us combat climate change.

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## **Governance**

Our environmental and social sustainability journey is fundamental to Owens Corning, and everyone affiliated with the company has a role to play. That includes our board of directors and our executive leadership.

### **Board Oversight of Climate-Related Risks and Opportunities**

Owens Corning's sustainability progress is monitored by the CEO and the complete board of directors. The board oversees corporate social responsibility (CSR) strategies set by management. In addition, they oversee our performance as we work toward our goals, and they approve annual financial incentives for high-level employees, including those tied to sustainability goals.

The board reviews our sustainability program at least annually, and they receive periodic updates on relevant environmental impacts (including climate-related issues), health and safety metrics and activities, and our long-term sustainability goals. In addition, major acquisitions, capital projects, and innovation are all reviewed by the board. In each of these areas, the impact on our CSR strategy is considered through our risk register review and product stewardship review processes.

The audit committee of the board is responsible for the oversight of all risk management policies, including climate-related risks. These risk management policies include current regulations, potential regulation changes, acute and chronic physical risks, and other climate-related issues.

Our board and committees also have risk oversight related to impacts from environment, health, and safety (EHS), including climate change and the mitigation plans the company has in place. As an example of the board's involvement in our sustainability and climate-related processes, the board oversaw the development and setting of all our 2030 Sustainability Goals.

## **Managerial Responsibility for Climate Risks and Opportunities**

Owens Corning's chief sustainability officer (CSO) and the sustainability team are responsible for monitoring and reporting our performance. The CSO presents progress toward our 2030 sustainability goals to the board of directors annually. In addition, the CSO presents quarterly to the operating committee on our sustainability progress, including issues, risks, and opportunities. This committee consists of Owens Corning business leaders and vice presidents.

Our enterprise environmental and operations sustainability director reports to the CSO and works directly with the environmental leaders of each of our businesses to monitor all climate-related issues throughout the company.

Furthermore, climate-related issues are addressed through our risk management process and included in our risk registers, which are developed by the business and legal departments and from the plant level up. Our risk committee is responsible for overseeing and monitoring our risk assessment and mitigation actions. Safety and environmental concerns, including climate-related concerns, are part of the core risk register, which increases the extent to which sustainability issues are embedded into the enterprise-wide risk process. The risk committee reports to the executive committee, and it is specifically sponsored by both the chief financial officer and general counsel, who are themselves members of the executive committee.

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## **Strategy**

### **Identification of Climate-Related Risks**

Owens Corning looks at all risks, including climate-related risks, through essentially the same process. At the asset level, our business units (BUs) create business-specific risk registers which are used in their Strategic and Operational Planning processes. In creating these registers, the BUs identify internal and external factors that could pose threats and opportunities to their business. They evaluate the potential impact and likelihood, and then establish management plans to mitigate the risk. Each risk is assessed by subject matter experts who consider relevant indicators in determining impact. These indicators vary depending on the aspects that are relevant for each risk. Potential quantifiable indicators that could factor into an individual risk's impact classification include potential impact on revenue, potential number of sites disrupted, applicable fines, litigation outcome, medical treatment cost, and others.

Of the risks that we monitor, Owens Corning has established three levels for value impact. The lowest level risks are those where the company can absorb the financial impact, and the reputational impact is relatively non-existent. The next level is moderate financial impact, with a potential to be known by the public or to damage our reputation. The highest level is significant financial impact and or reputational damage, with the potential to be catastrophic to the organization. All three levels of risks have been determined important to monitor, but those in the moderate and significant levels are defined as having substantive financial impact.

Risk horizons are defined as follows:

- Short-term (1-3 years)
- Medium-term (3-6 years)
- Long-term (over 6 years)

*Owens Corning has recognized numerous risks specifically related to climate change, and we have strategies in place to mitigate them. These risks include the following:*

**Risk: Increased Severity and Frequency of Extreme Weather Events**

Many of Owens Corning's business activities involve substantial investments in manufacturing facilities, and many products are produced at a limited number of locations. These facilities could be materially damaged by natural disasters such as floods, tornadoes, hurricanes, and earthquakes, or by sabotage.

We have experienced flooding at plants in New Jersey, Texas, and India. Owens Corning could incur uninsured losses and liabilities, as well as disruptions in production capacity. In addition, natural disasters pose a significant threat to the safety of our employees, contractors, and customers. We engage with our third-party loss prevention engineering firm to equip our locations to have minimal losses and best survive weather-related incidents.

As climate change occurs, events related to these risks could become more likely and also make insuring against these risks less feasible. For example, Owens Corning experienced a catastrophic flood at one facility, resulting from a named storm approximately 10 years ago. The ~190,000 square foot building, located in the Northeast of the United States, is flood-prone due to its proximity to a river system and the Atlantic Ocean. As such, continuing to purchase flood insurance for this facility has become more challenging, and recently the insurance capacity available for purchase was reduced. Combined with a potential increase in the likelihood of this risk due to the impact of climate change, this situation is even more important to mitigate appropriately. Other natural disasters could also impact Owens Corning locations in a similar manner.

Owens Corning mitigates this risk through the purchase of insurance, loss prevention engineering, and strategic location evaluation among other processes such as strategic sourcing and supply chain planning.

**Risk: Increased Cost of Raw Materials**

Owens Corning is at risk of significant impact to our reported financial results as a result of volatile energy costs or supply disruptions. We operate in environments where the flow of energy supply has regulations that can impact our performance (e.g., China).

In order to mitigate this risk, we have a commodities risk management committee that oversees financial risk related to our energy supply pricing. We deploy location-specific energy sourcing strategies and have an ongoing review of energy markets. We monitor and assess energy storage and distributed energy generation technology advancements. As part of a larger total productive maintenance initiative, we ensure energy transmission reliability for key manufacturing processes. One example of this is battery storage at one of our insulation plants to mitigate volatile energy costs.

**Risk: Enhanced Emissions-Reporting Obligations**

Owens Corning is subject to or has chosen to voluntarily participate in Emissions Trading Schemes (ETS) around the world, such as the Alberta Technology Innovation and Emissions Reduction, EU Emissions Trading System, California's Cap-and-Trade system, the Canadian Federal Output-Based Pricing System, the Québec Cap-and-Trade system, and South Korea's Emissions Trading Scheme. Expansions to these schemes could impact us by reducing our carbon allowances, thus increasing our operating costs in those countries.

With the further reductions in allowances through Phase 4 of the European Union ETS, for example, we forecast that our allowances will be depleted after 2021, which will require us to begin purchasing credits.

Phase 4 applies to the period 2021-2030. Volatility in carbon market pricing creates additional risk. Our course of action in managing these risks involves: interacting with the commission regarding the implementation of the EU Green Deal and Fit-for-55 package; pursuit of R&D initiatives involving a change in material composition or in manufacturing processes to enable emissions reductions; and implementation of energy and GHG reduction projects.

We also anticipate transitional risks as climate-change legislation and other environmental mandates lead to increases in energy prices. This can have an adverse effect on our operations, as it can represent a cost increase that we may not be able to pass along to the customer.



Owens Corning has strategies in place to mitigate these risks. Chief among them is our commitment to the circular economy model, in which we work to avoid the use of virgin raw materials whenever possible, manufacture products to deliver the least negative environmental impact, and ensure that materials used in our products and packaging remain in the economy indefinitely.

We had eleven plants in 2021 that were impacted by the EU ETS: Composites plants L'Ardoise, Chambéry, Besana, and Apeldoorn, and Insulation plants Tessenderlo, Klášterec, Hällekis, Hässleholm, Parainen, Vilnius, and Trzemeszno. Both composite glass and insulation production create GHG emissions. In 2021, 25% of our Scope 1 emissions fell under emissions limiting regulations.

A primary way we have been managing this risk is by emission reduction projects. In 2021, we implemented 29 projects, generating energy savings of over 34,000 MWh and reducing greenhouse gas emissions by more than 8,000 MT per year.

#### **Identification of Climate-Based Opportunities**

In addition to the risks outlined above, conditions related to climate change can present opportunities for our business. While there is the potential for some degree of growth in these opportunities, it is important to note that Owens Corning remains committed to our sustainability goals. Opportunities are addressed through our long-range planning process.

#### **Opportunity: Increased Demand for Mineral Wool Products**

More aggressive building codes and regulations regarding energy efficiency and climate drive the use of Owens Corning's insulation and other energy-saving products and systems. Increased transportation industry-related energy efficiency regulations help drive the use of lighter and stronger materials like our glass-fiber reinforcements. Demand for products in our roofing business is generally driven by both residential repair, remodeling activity and by new residential construction.

To cite an example: In response to the 2017 Grenfell Tower fire in the U.K., and similar fires in Europe and the Middle East, attention has turned to the codes and standards on the fire performance of products and wall systems. New York City is considering revising its code to limit the use of combustible materials in exterior assemblies of commercial buildings, especially tall structures. Combined with strong energy codes calling for exterior insulating sheathing, this new code requirement is likely to drive the market toward non-combustible mineral wool insulation board, like Owens Corning Thermafiber® products. Other alternatives like extruded polystyrene (XPS) can have a much higher global warming potential and are higher in embodied carbon than mineral wool board insulation. Thus, while fire and life safety

were the driving forces in updating the New York City code, it would have a positive impact on climate as mineral wool board gets more market penetration. Other cities and states may adopt similar measures.

We see a similar scenario arising in California for single-family homes. To meet the zero-energy code, builders often choose continuous insulation on exteriors of walls, and combined with the urban wildland interface code, we expect to see the use of combustible expanded polystyrene (EPS) diminish in favor of non-combustible insulative sheathings such as Thermafiber® mineral wool. The market penetration of non-combustible mineral wool insulation may be faster in tall commercial buildings. Specific to our mineral wool products, there are presently three identified example opportunities related to stricter codes: the growth attributable to non-combustibility, the development of codes that call for increased R-value per inch, and the ability of our products to satisfy Buy Clean California requirements for global warming potential (via embodied carbon) of products, which would grow the potential comparative market for mineral wool.

Owens Corning actively engages with NGOs, state and federal agencies and legislative bodies through its Governmental Affairs organization concerning increased climate, energy conservation, and fire and life safety requirements. In 2021, we continued to partner with builders throughout the U.S. and Canada who are building in a wide variety of climates, regions, and communities.

One example of this is our work with the Canadian government's Natural Resources Canada (NRCAN). We partner with NRCAN on several demonstration projects to help the building construction industry move toward net zero-ready performance, which will be mandated for all new buildings in 2030 as part of the PanCanadian Framework on Clean Growth and Climate Change. In 2020, we began a two-year project with NRCAN in Quebec to demonstrate and educate the building construction industry on building affordable net zero-ready homes in a large-scale setting. We are also working with NRCAN on the prefabricated exterior energy retrofit (PEER) group project, which develops insulation systems and technologies for deep energy retrofits to get existing buildings in Canada up to net zero-ready performance.

#### **Opportunity: Increased Demand for Roofing Materials**

Demand for products in our roofing business is generally driven by both residential repair and remodeling activity and by new residential construction. As the effects of climate change are felt in the increased frequency and severity of storms, Owens Corning as a building materials company may see an increased demand for our products in our roofing business due to storm-related roof damage.

All our architectural laminate shingles are designed to protect against high winds seen in these conditions. Our TruDefinition® Duration FLEX®, TruDefinition® Duration STORM®, and TruDefinition® WeatherGuard® HP shingles also meet the industry's highest classification for impact resistance, and they are preferred products in many hail-prone regions. With elevated storm activity, our entire shingle product line could see increased revenues.

The roofing market is deeply affected by the unpredictability of storm activity, which accounts for less than 10% of Owens Corning's revenue. External sources suggest that climate change will increase the frequency and/or severity of destructive storms, especially hurricanes. The Intergovernmental Panel on Climate Change (IPCC) projects "an 80% increase in the frequency of Saffir-Simpson category 4 and 5 Atlantic hurricanes over the next 80 years," and the National Oceanic and Atmospheric Administration projects "tropical cyclone intensities globally will likely increase on average (by 1 to 10% according to model projections for a 2 degree Celsius global warming). This change would imply an even larger percentage increase in the destructive potential per storm, assuming no reduction in storm size." Going by these sources, this range of values represents up to a 10% increase in storm activity in the long term.

#### **Opportunity: Increased Demand for Sustainable Products**

As the awareness of environmental deterioration increases, Owens Corning's products become more important to consumers and to builders who market energy efficient structures. Our products, specifically insulation, are significant to the reduction of GHG from buildings. Because of this, Owens Corning stands to benefit from our reputation of promoting sustainability, as consumers concerned with climate change and the environment are likely to prefer Owens Corning products over those of our competitors.

Recent examples of products which could see increased demand from climate-conscious customers include:

1. The products produced with a "Made with 100% Renewable Electricity and Reduced Embodied Carbon" Certification. We currently have 15 products that have received a third-party renewable electricity certification, up from 13 in 2020. These certified insulation products alert commercial architects, specifiers, builders, and homeowners to lower-carbon product options as they seek to build greener structures. They also help architects design buildings with reduced life cycle impacts, in keeping with the recognized goals of the Architecture 2030 Challenge and U.S. Green Building Council's LEED® certification.

2. Expanding our offering of "cool roof" shingles. Using a highly reflective granule technology that reflects the sun's rays, Owens Corning's Cool Roof Collection™ shingles help reduce energy use by keeping roofs cooler throughout the year and reducing air conditioning energy levels. Owens Corning offers a wide array of shingle choices that meet or exceed an aged SRI of 20 — the current aged Solar Reflectance Index minimum required for the Green Building Standards Code of Los Angeles County and Los Angeles City Cool Roofs Ordinance. In 2021, Owens Corning launched Duration® COOL Plus Midnight color, providing a new dark color offering in this energy saving line.
3. Developing WindStrand®, an innovative material that allows wind blade manufacturers to use 30% fewer layers of material in the molds for the blades while delivering the same quality and performance as standard fabrics. That, in turn, represents a 50% savings in labor and production time for the blades. In March 2021, we introduced WindStrand® 4000, as well as Ultrablade® 2 and Ultraspar™ 2, three high-performance materials that help wind blade manufacturers develop longer, stiffer, stronger blades and helps make wind energy more cost-effective.

In 2021, Owens Corning introduced ArmaStrand™ Type 30® Single-End Roving product into the Russian market. This product is specifically designed to provide customers with productivity savings while increasing the service life of rebar. Using corrosion-resistant Advantex® glass fiber, ArmaStrand™ has the flexibility to be used in a variety of rebar manufacturing processes and maximizes the mechanical properties of rebar systems with increased fiber content and higher bar modulus to meet new industry demands.

4. FOAMULAR® NGX™ insulation. A new line of extruded polystyrene (XPS) foam products, FOAMULAR® NGX™ is optimized to demonstrate a greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products.
5. PAROC® Natura Insulation. This line of stone wool insulation uses low-carbon melting technology, green electricity, recycled waste materials, and new technologies to reduce the amount of virgin raw material used and offer a product with very low CO<sub>2</sub> emissions. The remaining emissions are compensated by reducing CO<sub>2</sub> emissions through the purchase of offsets in a Verified Emissions Reduction Scheme. The new product line, which is certified as carbon-neutral by a third-party, offers fire-safe, durable insulation that does not decay when wet. PAROC® Natura became available in Finland, Norway, and Sweden at the beginning of 2021.

## **Impact of Climate-Related Risks and Opportunities on Our Strategies**

The continued rise of climate-related risks and opportunities have led Owens Corning to develop a range of strategies that have had a major impact on the way we conduct our business. These include the following:

### ■ **Products and Services**

In response to the identified risk of potential for increased regulation on energy efficiency and emissions standards, Owens Corning has in recent years made dramatic improvements to its product lines in all businesses, including Cool Roof Collection™ shingles, and Sustaina® in our Composites business, which is a nonwoven glass fiber fabric that uses a bio-based binder system with high tensile strength performance and does not contain formaldehyde.

We have also developed completely new products to comply with climate-related regulation and reduce emissions from blowing agents, such as FOAMULAR® NGX™, a new foam product is optimized to demonstrate a greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products, and reduces Scope 1 emissions in production. The product also addresses a short-term climate transition risk, as a Canadian regulation phasing out certain blowing agents went into effect in 2021, and this product helps the company to stay ahead of regulations of this sort elsewhere as well. The time horizon for the conversion of our legacy blowing agent to the new FOAMULAR® NGX™ is active currently, with more activity expected to convert in the short term.

In 2020, we also introduced PAROC® Natura insulation. This carbon-neutral line of stone wool insulation uses low-carbon melting technology, green electricity, recycled waste materials, and new technologies to minimize the amount of CO<sub>2</sub> emitted during the manufacturing process. In February 2020, we extended our Cool Roof Collection with the launch of six new colors in the TruDefinition® Duration® COOL Plus line, plus two additional colors added to our Oakridge line. These shingles meet or exceed the minimum 20 Solar Reflective Index requirements set by Los Angeles City and County discussed above. These innovations have had a moderate impact on our revenues as we deliver new market leading products in the near term, and products like these, that can help our customers save energy and avoid emissions, accounted for 63% of our revenue in 2021.

### ■ **Supply Chain**

We believe transportation of materials and engagement with a supplier can be done more efficiently if the supplier is nearby, which enhances sustainability across the supply chain and minimizes the impact of storms and natural disasters. An important area where supply chain-related risks have impacted our business is regional shingle production. Historically, shingles of a particular

color made at different plants were slightly different and could not be mixed on a roof. To mitigate the impact of natural disasters, we have worked with our suppliers to create regional shingles so that we can produce consistent colors across many of our roofing plants. This improves our ability to meet demand if a disaster disrupts production at one plant. Regional shingles have had a significant impact on our roofing business, as we can now mix product from different plants, greatly expanding our distribution flexibility, even in non-storm-related situations. This process allows for us to be advantageously prepared in the immediate term to respond to severe weather disruptions as a result of the regional shingles. This preparation provides our company with an advantage when responding to natural disasters, and therefore we are focused on maintaining successful regional shingle colors for the long-term.

Another way in which climate-related risks and opportunities influence our strategy in the value chain can be seen in the recent development of our 2030 long-term sustainability goals. A Sustainability Materiality Assessment indicated responsible sourcing as a material topic, along with combating climate change: these two areas combine to inform a 2030 goal to reduce Scope 3 emissions from our supply chain 30% by 2030 against a 2018 base year, in line with IPCC guidance to limit global warming to 1.5° C above pre-industrial levels.

### ■ **Investment in R&D**

Owens Corning has invested in energy-efficient, environmentally responsible products such as Cool Roof Collection™ shingles, WindStrand® high performance glass fiber roving, and others that have proven successful in the marketplace. Currently, Owens Corning is investing substantially in further R&D in response to the many climate-related risks and opportunities that we have defined. We intend to create new processes and products in response to these risks and opportunities in the short term through the long term, as the world transitions to increased climate action.

The risk management process has had a moderate impact on how funds are invested in R&D, as the risk management process often leads to mitigation needs and identified business opportunities. For example, the investment in R&D for WindStrand® was driven in part by climate change-related risk and opportunity evaluations. WindStrand® is a high-efficiency fabric for wind blades designed to make wind energy more cost-effective. This innovative material allows wind blade manufacturers to use 30% fewer layers of material in the molds for the blades, while delivering the same quality and performance as standard fabrics. That, in turn, represents a 50% savings in labor and production time for the blades. By enabling longer, stronger, lighter wind blades, our high-efficiency fabric



solution lowers the cost of wind energy, thus contributing to the worldwide advancement of this alternative source of energy production. Another significant example of climate-related R&D with near term implications is the development of the newly announced FOAMULAR® NGX™, a foam insulation optimized to demonstrate a greater than 80% reduction in embodied carbon, compared to legacy FOAMULAR® insulation products, and, developed to comply with expected and actual blowing agent regulation, such as a phaseout in Canada that went into effect in 2021, and in several U.S. states that have enacted similar regulations to Canada, with several more states enacting phaseouts in the short term by 2022. FOAMULAR® NGX™ is positioned to be immediately available in Canada and all US states affected by the anticipated regulation, managing the transition risk.

### ■ Operations

Identified climate related risks and opportunities have had a significant impact for Owens Corning. To help meet our 2020 sustainability goal for GHG reduction, which was developed in response to climate risks for our company, in 2015 we made major investments in renewable energy. We installed a solar array at our corporate headquarters, satisfying about 20% of the building's energy needs and offsetting the equivalent amount of GHG emitted by the building's commuters. To expand our renewable energy platform, we have entered long-term power purchase agreements (PPAs), which support the development of large renewable energy projects. The PPAs signed in 2015 enabled wind capacity in Texas and Oklahoma, with the potential to generate 1.1 million megawatt hours (MWh) of electricity each year, from a capacity of 250 megawatts (MW) of renewable electricity. This includes 125 MW of wind energy in Texas and another 125 MW in Oklahoma. Owens Corning aspires to have contracts in place covering 75% of our global enterprise electricity demand through renewable agreements which will drive additionality to the grid over the next two years.

Within the United States today, for every MWh of electricity generated by the renewable installation, we receive one energy attribute certificate (EAC), which we then apply to the manufacturing of our products. We retire all the EACs generated from our PPAs, which reduce our environmental footprint and the embodied carbon of our products.

While it's possible for a company to reduce its footprint simply by purchasing EACs, Owens Corning believes that we should also be directly responsible for bringing more renewable electricity into the grid through power purchase agreements or virtual power purchase agreements (VPPAs).

The (VPPAs) that Owens Corning entered in 2021 will add 91 MW of renewable capacity to the grid. We have entered into two wind VPPAs, one in Finland and one in Sweden, which will bring in 43 MW and 48 MW of renewable electricity capacity, respectively. The VPPA in Sweden reached its commercial date of operation in 2021, while the VPPA in Finland reached its commercial date of operation in January 2022.

In addition to growing our renewable electricity portfolio, in support of our goal of sourcing 100% renewable electricity by 2030, we are also changing our operations strategy in response to climate risks and opportunities through the electrification of assets. A recent example can be seen with Paroc, a European stone wool company that Owens Corning acquired in 2018. Paroc finished construction of a new energy-efficient line in Trzemeszno, Poland, in 2019 and the upgrade of the production technology supports our growth strategy for Central and Western Europe and further expands our current operational capabilities. We expect to reduce our CO<sub>2</sub> emission by 75-80% with this line compared to a traditional coke-fired furnace line. Moreover, the new line's Electric Arc Furnace (EAF) will reduce carbon intensity by roughly 10% for all PAROC® Insulation in Europe. The new EAF is the third stone wool electric furnace for Owens Corning in Europe and the second at the Owens Corning site in Poland. As we plan for the further development of the EU ETS in the long-term, we are proactively managing this risk with financial planning and operations changes like the electrification of the Trzemeszno furnace.

*Owens Corning has also developed strategies to address potential climate-related impacts on our financial planning. These include strategies for the following impact areas:*

### ■ Revenues

Owens Corning has incorporated climate risks and opportunities into our financial planning process. Our new product developments are factored into our forecasting, as previous climate related products, like EcoTouch® PINK® Insulation, were when they were being developed. Currently low carbon products, which were introduced in 2017 and made up 26% of 2021 revenues, have also been included in future revenue projections at a forecasted rate of growth. These risks and opportunities have a moderate impact on revenues in the financial planning process. We also monitor products that avoid emissions in the value chain, such as fiberglass products, and several composites products. These products accounted for 63% of revenues in 2021. Potential impacts of climate risks and opportunities on revenues include identified long-term opportunities, such as the growth in non-flammable insulation products in the long term due to stricter code adoption in North America.

■ **Direct Costs**

Owens Corning incorporates the impact of the identified risks into its direct operating costs for financial planning models based on a number of factors including the likelihood, timeframe, and magnitude of the financial impact of the risk or opportunity. For example, in the event of reduced production capacity due to climate-related increases in storm activity and severity, Owens Corning would potentially see increased (Direct) Operating Costs with substantial magnitude of impact in the affected regions. The increase would be due to cleanup costs, as well as alternate transportation costs, increased maintenance, increased sourcing costs due to supply chain strain, and likely increased production costs as the repaired line is brought back up to production. This estimated impact would be included in the financial planning process in various scenarios and analyses. When Hurricane Sandy damaged our roofing plant in New Jersey in 2012, we had a good example to use to adjust our planning estimates for future potential severe weather events and their impact on operating costs.

■ **Indirect Costs**

Indirect costs like insurance have been influenced by climate-related risks, such as extreme weather events and their increased likelihood. In the years since the catastrophic flood impacted one of our facilities approximately 10 years ago, continuing to purchase flood insurance for this facility has become more challenging, and recently the insurance capacity available for purchase was reduced. This indirect cost not only became more difficult to purchase, the available protection capacity was altered entirely due to the increased likelihood of climate-related weather events like flooding. This example influences indirect cost financial planning in any Owens Corning site with similar natural disaster risk.

■ **Capital Expenditures (CapEx)**

CapEx is influenced by climate risks and opportunities. One particular example is a regulatory transition risk regarding our blowing agent blend, which is being phased out in the immediate and short term as a component of climate/environmental regulation. A few years ago, we included in the planning process the new equipment required to use a foam blowing agent with a lower GWP, as the need for blowing agent changes was identified in our risk and opportunities analyses. The first such product with a lower GWP blowing agent, FOAMULAR® NGX™, was announced in mid-2020 to coincide with regulations in Canada and in certain U.S. States in effect as of January 2021. Our response to identified climate related risks and opportunities like these has had a substantial impact on our financial planning of capital allocation.

■ **Acquisitions & Divestments**

Identified climate risks and opportunities have had a moderate impact on our financial planning for acquisitions and divestments. Over the last several years acquisitions have been an important part of our growth strategy. We look for acquisition opportunities with businesses that meet specific criteria: They must provide stable and attractive margins and strong synergies, address our target growth areas, and meet our strategic objectives.

We evaluate our acquisition candidates through multiple lenses, including sustainability, and we ask a critical question: Will this business be better with us as its owner? As sustainability guides our operations, we want to be confident that we can improve the environmental, health, and safety (EHS) performance, employee experience, customer experience, and community impact of the companies that join us. Can we bring a new perspective on safety and health? Can we improve energy efficiency and lower waste in operations? Owens Corning has purchased several companies in the last four to five years, including InterWrap, Pittsburgh Corning, Paroc, and Vliepa. The acquired businesses successfully expand the capabilities and global reach of our three business segments (Composites, Insulation, and Roofing). Improving EHS performance and enhancing the employee experience are critical elements in our acquisition integration process. The identified climate change related opportunities, including more aggressive building codes, increased building materials demand due to potentially increased storm activity and severity, and improved demand for existing products due to our reputation for sustainable products were all factors in our acquisitions to expand our product line. These opportunities continue to be involved in our financial planning process as we continue to evaluate and analyze additional acquisition targets for the medium and long term.

■ **Assets & Liabilities**

Climate risks and opportunities have had a moderate impact on our financial planning for assets and liabilities, primarily through our acquisitions. We consider the acquisition of the companies mentioned in the previous section in the long-term horizon. The identified opportunities regarding more aggressive building codes, increased building materials demand due to changes in weather patterns and storm activity, and improved demand for existing products due to our reputation for sustainable products were all factors in our acquisitions to expand our product line. These opportunities continue to be involved in our financial planning process as we continue to evaluate and analyze additional acquisition targets.

Climate-related risks and opportunities are integrated into our current decision making and strategy formulation. This includes planning assumptions and objectives around climate change mitigation, adaptation, or opportunities, including the following:

- **Research & Development**

Owens Corning is investing substantially in further R&D in response to the many climate-related risks and opportunities that we have defined. In addition to our FOAMULAR® NGX™ insulation, this includes Cool Roof Collection™ shingles and WindStrand® glass fiber roving, as described above.

- **Future Activities**

Climate risks influence our investments in many ways. One example is a regulatory transition risk related to our blowing agent blend, which led to our investment in the development of a foam blowing agent with lower global warming potential. The product using this new blowing agent, FOAMULAR® NGX™, is described above. Identified climate risks have had a moderate impact on our restructuring activities. The acquisitions Owens Corning has made in recent years, including Pittsburgh Corning, Paroc, and Vlepa, were made in part due to their ability to add to our portfolio of energy-saving products. These new assets will be beneficial to us as we meet the challenges presented by transition risks, as well as address climate-related opportunities, such as more stringent building codes and increased demand for building products in the aftermath of more extreme weather patterns.

- **Planning Around Legacy Assets**

We have established a range of strategies to reduce carbon-intensive, energy-intensive, and water-intensive activities throughout our operations, including major investments in renewable energy. The initiatives described above, such as the solar array at our world headquarters, power purchase agreements, wind farms, and electric arc furnace, all demonstrate our commitment to meeting our Science-Based Targets and overall 2030 sustainability goals.

- **Capital Planning and Allocation**

GHG emissions, energy, and water use are also considered as we allocate resources to initiatives throughout our operations. As we develop new products (e.g., FOAMULAR® NGX™, WindStrand®, Cool Roof Collection™ shingles), we employ our product stewardship principles to ensure that sustainability is taken into account throughout the entire process.

- **Flexibility in Positioning/Repositioning Capital**

As we seek to address emerging climate-related risks and opportunities, we recognize the need to adapt our operations accordingly. The example of regional shingles, discussed in detail above, demonstrates our ability to act with flexibility to adjust to the needs of the marketplace through ingenuity in production and supply chain planning. Our adjustments to planning estimates in the aftermath of Hurricane Sandy are another example. Increases in costs related to cleanup, strain on the supply chain, and production were factored into our planning, and Owens Corning was able to include future potential severe weather events and their impact on operating costs.

### **Resilience of Owens Corning Strategy in Climate-Related Scenarios**

*Owens Corning has developed resilient strategies related to different climate-related scenarios, including Science-Based Targets.*

Our actions to reduce GHG emissions have always been informed by the latest science-based methodologies. Previously, our GHG reduction goal was designed to limit global warming to less than 2° C above pre-industrial level, consistent with our commitment to the Paris Agreement of 2015.

Given the more in-depth understanding of the physical risks associated with climate change gained in recent years, Owens Corning has now set targets aligned with the latest findings from the Intergovernmental Panel on Climate Change (IPCC). To avoid the worst impacts of climate change, the IPCC urges that temperature rise should be held below 1.5° C. As we seek to reduce our Scope 1 and Scope 2 greenhouse gas emissions by 50% over the next ten years, we will use this metric — representing the latest in climate science — as our guide.

Owens Corning has assessed all the potential risks associated with climate change, giving us a full understanding of the many ways in which climate-related risks can impact operations across our entire value chain. As weather conditions shift, severe storms can have a significant impact on the markets for residential and commercial construction, repair, and improvement, as well as a material adverse impact on our results of operations.

Among our customers, severe weather conditions could slow or limit residential or commercial construction activity, which in turn could adversely affect demand for our products. Within our own operations, extreme weather can lead to disruptions in our manufacturing capacities, as damages to our facilities may occur. In addition, as weather-based disruptions become more common, we anticipate potential difficulties in obtaining affordable insurance.



## **Assessing Climate Scenarios in Partnership with The Ohio State University**

Climate scenario analysis has been an emerging priority for responsible corporations in recent years, as stakeholders like CDP, investors, and the TCFD seek to ensure that businesses are adequately considering the potential risks and opportunities posed to their operations both by climate change and climate action. To address this growing area, Owens Corning began work with The Ohio State University in 2020 to expand our efforts to assess the resilience of our strategies against a range of climate-related scenarios and time horizons. The scenario analyses focused on “Shared Socioeconomic Pathways” (SSPs) for the scenario analysis: SSP1-2.6, SSP2-4.5, and SSP5-8.5. The use of these SSP models aligns our analyses with the most recent 2021 IPCC sixth assessment report (AR6). These initial analyses referenced time horizons of the current period, 2036, and 2051.

The initial scenario analysis work focused on two areas of understanding for Owens Corning: physical climate risks posed to our company locations, and potential impacts of climate change on demand for our roofing products, as sales of roofing products is influenced by severe weather and storm activity.

In the first project, climate scenario analysis was conducted for physical climate risk to our facilities over the same emission pathways and time horizons, and these facilities level findings will be incorporated into our risk determination for our plants. Variables assessed included factors like winds, cyclones and severe weather, flood risk, drought risk, and maximum temperature. Each of these factors can change for each facility in response to different climate scenarios, and awareness of these potential changes at the site level is a key step to ensuring preparedness at the enterprise level. We are currently evaluating more detailed analysis for specific facilities.

For the second scenario analysis, OSU was able to model the potential changes to US roofing product demand by region for each emission pathway and time horizon. This analysis can help us to understand how drivers of roofing shingle demand could potentially change as variables like wind, tropical cyclones, and hail fluctuate in different climate scenarios. Outcomes of this analysis can help Owens Corning to ensure our production capability can adapt to climate change and ensure we successfully serve our markets as their demand for roofing products changes due to climate change. The exact way in which these findings will be incorporated into our business decisions is still being determined, but undertaking the analysis was a key first step achieved in 2021.

## **Risk Management**

Enterprise Risk Management (ERM) is owned by the executive committee, who delegates its management to the risk committee. The executive committee then monitors the risk committee's management of ERM, culminating in a final review by the audit committee of the board.

The risk committee is responsible for overseeing and monitoring our risk assessment and mitigation actions. The risk committee is not a board committee; instead, it is a cross-functional corporate committee that includes members across many areas of expertise. It is also structurally independent of our business lines. This internal mechanism identifies risks and mitigation strategies, and it provides key updates to executive officers and the audit committee.

In 2020, safety and environmental concerns were added to the core risk register, which increases the extent to which sustainability issues are embedded into the enterprise-wide risk process.

The risk committee reports to the executive committee, and it is specifically sponsored by both the chief financial officer and general counsel, who are themselves members of the executive committee. In support of these efforts, the independent corporate audit function systematically addresses risk throughout the organization. Audit results are reviewed with the audit committee of the board of directors, which has primary responsibility for assisting the board's oversight of risk. The audit committee's responsibilities include:

- Discussion of guidelines and policies that govern the process by which senior management and relevant departments access and manage the company's exposure to risk.
- Annual review of, and quarterly updates on, identification of Owens Corning's key risks, major financial exposures, and related mitigation plans.
- Oversight of our management of the key risks and major financial exposures that fall within the audit committee's specific purview.
- Assurance that the board and its committees oversee our management's key risks and major financial exposures within their respective purviews.
- Quarterly evaluation of the effectiveness of the above-referenced process of oversight.

In addition to the ERM process, three board committees — compensation, finance, and governance and nominating — review and evaluate risks associated with their respective areas. Each board committee reports on its respective risk management activities to the board, and the board then considers such reports.

Between annual reviews, the registers are reviewed by the business stakeholders, and the risk committee meets quarterly to discuss any applicable updates. The risk registers are also reviewed by both the audit committee and the executive committee, regardless of any planned updates, to ensure that no risks are missed by the risk committee. Should any material updates be made, these are then reviewed with the executive committee and audit committee of the board as well.

In addition to the business-level reviews, Owens Corning's sustainability and reporting analytics team monitors the company's climate-related data. This team works to understand global regulations and emerging expectations related to ESG, including their potential impact on our businesses. By staying abreast of ESG reporting trends, including the entire ecosystem of ESG ratings and rankings as well as reporting frameworks, sustainability reporting standards, sustainability reporting standards, and disclosure legislation, the team can provide recommendations based on their in-depth knowledge. The team also completes competitive intelligence monitoring and benchmarking, and they analyze trends and market expectations related to sustainability. Environmental metrics and data are monitored using Schneider Electric's Resource Advisor system. Data is input into the system where it can be reviewed and analyzed.

### **Risk Registers**

Owens Corning's business units proactively analyze risks and create business-specific and function-specific risk registers. We currently have an enterprise risk register, as well as sub-registers for each of our three businesses, as well as compliance and finance. The risk committee then uses these individual risk registers to create a corporate-level risk register, which enables business units and the risk committee to facilitate strategic and operational planning processes while mitigating sustainability risks.

Risks are prioritized based on their placement in the risk register. The Y-axis ("Value") represents the potential financial impact, while the X-axis ("Likelihood") represents the probability of occurrence. Color coding (for emphasis) and different shapes (for trending information) offer a fuller understanding of the potential risks. Risks in green indicate that the level of exposure is acceptable, yellow indicates mitigation plans are actively in place, and red indicates that improved risk mitigation is needed.

In 2021, we added the concept of risk velocity to our conceptualization of risk, describing the potential rate at which a risk could impact our businesses. While risk velocity is not depicted on the risk register in an infographic manner, the concept is described in conjunction with the overall register narrative. By incorporating the idea of risk velocity into our understanding of risk, we gain a better understanding impending impacts, which enables us to be proactive in our approach.

To identify new risks — and update risks no longer considered important — the risk committee regularly reviews results and outputs of risk assessments. Meeting four times per year, the risk committee is well-equipped to implement a robust mitigation plan across businesses as well as corporate functions. Our enterprise risk management (ERM) process is updated and reviewed annually by the board's executive and audit committees to ensure it remains relevant and proactive.

Owens Corning's risk committee meets with functional and business leaders throughout the organization to discuss identified risks and manage corresponding action plans. Risks are considered by the committee for all ranges of time horizon, and in all aspects of the value chain. At the asset level, our business units (BUs) create business-specific risk registers, which are used in their strategic and operational planning processes. In creating these registers, the BUs identify internal and external factors that could pose threats and opportunities to their business. They evaluate the potential impact and likelihood, and then establish management plans to mitigate each risk. Risks are then either retained (risk exposure is accepted without further mitigation), reduced/transferred (risk exposure is reduced, transferred, or consequences are reduced) or avoided (risk exposure eliminated entirely; for example, by ceasing a business).

The risk committee considers significant risk to the corporation using the following process:

- 1. Review the Owens Corning Risk Register substantiated by business and functional reviews.** The risks are prioritized based on their placement on the register. The Y-axis is a measure of financial impact and the X-axis is a measure of probability of occurrence. For example, a risk located toward the upper left of the risk map would be indicative of risk that is high in financial impact but low in probability.
- 2. Align around key mitigation programs.** Based on the risk assessment register outputs, the risk committee identifies the various mitigation actions to be taken and a planned approach is taken towards implementing them through the businesses.
- 3. Review risk register with the executive committee.** All risk assessment results and outputs are reviewed by the executive committee, and feedback received is incorporated in the action register and reflected in the mitigation planning.

4. **Meet quarterly.** The risk committee meets quarterly to review the risk registers and their potential impact to Owens Corning. They review the existing risk aspects, add any new risks being identified from internal or external sources, and update any risks which are no longer considered applicable to the businesses. The risk committee also reviews the mitigation actions and outputs for the annual cycle. Annually the business reviews emerging risks for the company and partners with the Strategic Growth Council to ensure these are contemplated in strategic planning cycle for the company.

**5. Provide quarterly update to the board of directors.**

We have a variety of processes for identifying and managing opportunities within the business, marketing, R&D, and across the company, including climate-related opportunities. As an example, tech scouting is a business strategy aligned with our corporate innovation team, and it is designed to continuously fuel Owens Corning business pipelines with technology-based opportunities that enable growth or mitigate threats. Our tech scouting team is integrated with each business unit, systematically finding and assessing business opportunities that match our needs and strategy, and effectively sourcing the most suitable technologies and partners. Any new products developed must go through our stringent product stewardship process, and each product is evaluated through our Ecodesign Strategy Wheel. Recycling, in the context of the circular economy, will be a key focus of the tech scouting team.

Some case studies of how we have followed our processes for managing climate-related risks and opportunities:

■ **Transitional Risk**

Broad and gradual tightening of limits on emissions by federal and state governments could impact Owens Corning by disrupting our use of specific raw materials which in turn would disrupt our production capacity for products using those materials. One specific Owens Corning example involves the phase-out of certain blowing agents used in our XPS foam plants in North America and Asia. As this occurs, we have been required to make certain capital investments at our plants to use alternative blowing agents. Because we believe the likelihood of this identified risk is high in the long term, we have completed development and certification of new foam blowing agent blends with lower GWP that could be used with our existing equipment, and we have also begun capital upgrades needed to run our lines with these lower GWP blowing agent blends. All our plants in regions affected by existing or emerging regulation will be capable of using the new blowing agent in the near term (by early 2022). As a result, we can manage this risk into the future, and are doing so already, as with the 2021 release of FOAMULAR® NGX® for Canada and certain U.S. states.

■ **Physical Risk**

We have a plant in Tennessee located in a high earthquake and tornado zone. This plant is important as it helps supply raw material to another business within the company as well as outside companies. We therefore needed to find a way to manage the physical risk to this plant. To do so, we developed a management plan that involves insurance, loss prevention, supply chain, and our commercial teams to mitigate the losses in the event of a natural catastrophe. The plan includes having the appropriate amount of insurance, planning to convert other facilities to make similar product, making updates to the facility to help it withstand natural disasters, and having appropriate contractual obligations with outside customers to supply a prorated amount of materials in the event of a disaster. This plan is reviewed and updated annually as circumstances change. As a result, this plant is managing physical risks posed to it, which helps us operate more effectively.

■ **Transitional Opportunity**

Owens Corning actively lobbies the U.S. Department of Energy and other legislative bodies through its Governmental Affairs organization for increased energy conservation requirements. Evaluation of risk and opportunities by the businesses determined that more aggressive building codes can help drive the use of Owens Corning's products, to save customers energy and reduce GHG emissions. We estimate that aside from the benefit to consumers, Owens Corning could see a considerable amount of new business attributable to code changes.

■ **Physical Opportunity**

Demand for products in our roofing business is generally driven by residential repair, remodeling activity, and new residential construction. As the effects of climate change are felt in the increased frequency and severity of storms, Owens Corning as a building materials company may see an increased demand for our roofing products due to storm related roof damage. Evaluation of climate-related physical risks and opportunities have driven changes and expansion in production and marketing of specific Owens Corning products, like WeatherGuard® and Duration FLEX® shingles, which are rated against high winds and storm activity.

**Recognizing Climate Risks and Opportunities Through Building Science**

Owens Corning recognizes the importance of sustainability and has embedded building science professionals into the business. We understand the impacts of our products and aim to innovate solutions that provide positive impacts on the building envelope. Our sustainability organization and sales force actively and broadly promote our company's stand for sustainability and train professionals on how to achieve maximum environmental benefits using our products. The



company is a significant user of recycled content, and we strive to reduce the energy usage and GHG emissions from producing our products while tracking avoided emissions from product usage.

Owens Corning Building Science engineers the complex, interconnected systems that make buildings and homes comfortable, energy efficient, high performing, durable, sustainable, and affordable – that is our material difference. Product innovation, developing products like EcoTouch® “Made with 100% Renewable Electricity and Reduced Embodied Carbon” products, and Cool Roof Collection Shingles that reduce energy and emissions, puts us in a position to take advantage of this opportunity.

## Metrics & Targets

Owens Corning set aggressive 2030 GHG emissions goals using the Absolute Emissions Contraction Method from the Science Based Targets initiative (SBTi). Our approved targets are to reduce absolute Scope 1 and 2 GHG emissions 50% from 2018 levels by 2030 and to reduce absolute Scope 3 GHG emissions 30% within the same timeframe. We ran the model, using both the 1.5° C scenario and 2.0° C scenario, and our Scope 1 and Scope 2 target was determined to be in line with 1.5° C trajectory. In 2019, we received confirmation from the SBTi that our Scope 1, 2, and 3 greenhouse gas goals are approved as aligned with the planetary actions needed to reach the 1.5° C target.

We have established additional 2030 targets and initiatives to enable us to meet these aggressive targets, such as our 2030 goal for 100% renewable energy, which are in place to help us sharply reduce emissions from our processes and products. For example, our 2030 renewable electricity goal will require Owens Corning to pursue additional large renewable energy projects in several regions outside North America. We continue to review potential projects domestically and internationally. We plan to also continue to expand our portfolio of low-carbon products certified as being made with wind energy.

Owens Corning chose 2030 as our target year for our third set of 10-year goals. We evaluated 2017 and 2018 as potential base years, and we chose 2018 because it more accurately reflects the nature of our business today after further acquisition integration.

## Linking Executive Compensation to Climate-Related Performance

Monetary rewards for the CEO and the corporate executive team are based on performance toward their individual goals, which can include sustainability goals. This is part of our executive performance objectives, which affect variable incentives for executives within the science & technology organization, each business unit, as well as our corporate sustainability function. This includes individuals such as

our CEO & chairman of the board, our chief sustainability officer, the presidents of each of our three main businesses (Insulation, Composites, and Roofing & Asphalt) as well as other executives, such as the VP of roofing & asphalt operations, the VP of advanced manufacturing, the VP of composites science & technology, and the VP of insulation and roofing science & technology.

## Understanding the Cost of Emissions

In implementing an internal carbon price, we consider Scope 1, 2, and 3 emissions – the total impact of our operations and our supply chain. We have both internal and externally published reduction goals, which are aligned to drive strategy and action. We do not have an internal carbon tax or carbon charge allocated to our businesses.

Quantifying the cost of carbon emissions with an internal carbon price helps us plan future scenarios and make business decisions. Our internal carbon price varies by region and considers a range of potential forecasted costs, ranging up to \$120 per metric ton depending on the location. A regional approach to internal carbon pricing allows us to more accurately estimate and evaluate the cost of carbon for capital project planning in regions with varying carbon prices. It also places value on carbon emissions in regions that do not yet have taxes or trading schemes.

By estimating the difference in metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) from one year-end to the next, then multiplying that amount by \$120 per metric ton, we can arrive at the high-end estimate of cost savings of emissions reduction if a carbon tax were implemented.

We have also been able to quantify our current total risk in the event of an efficient, economy-wide carbon tax, and we can see how dramatically we have reduced that risk since 2007, our peak GHG emissions year. This also allows us to value our future forecasted emissions reductions as we work toward our 2030 goals.

## Addressing Emerging Climate-Related Risks and Opportunities

Our commitment to sustainability starts with our passion for developing energy-saving products, such as insulation and durable products that significantly reduce energy use and associated emissions. A significant portion of global greenhouse gas emissions come from the combustion of fossil fuels; therefore, energy savings, or avoided energy consumption, are directly tied to a quantifiable amount of avoided emissions. More information about our sustainable product portfolio and approach is included in the [Expanding Our Product Handprint](#) section of this report.

**Governance**

Disclose the organization's governance around climate-related risks and opportunities.

DISCLOSURE	CHAPTER	PAGE	ADDITIONAL INFORMATION
Describe the board's oversight of climate-related risks and opportunities.	Board Leadership	53	See Management Oversight of Sustainability
	Risk Management	58	
Describe management's role in assessing and managing climate-related risks and opportunities.	Board Leadership	53	See Management Oversight of Sustainability
	Risk Management	58-64	
	Combating Climate Change	147-151	Strategy and Approach

**Strategy**

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

DISCLOSURE	CHAPTER	PAGE	ADDITIONAL INFORMATION
Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Risk Management	61-64	Summary of Key Risks
	Combating Climate Change	146-150	Strategy and Approach
	TCFD Climate Risk	350-361	
Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Risk Management	58-64	
	TCFD Climate Risk	350-361	
Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Message from Our CEO and CSO	4-5	
	Combating Climate Change	147-151	
	TCFD Climate Risk	350-361	

## Risk Management

Disclose how the organization identifies, assesses, and manages climate-related risks.

DISCLOSURE	CHAPTER	PAGE	ADDITIONAL INFORMATION
Describe the organization's processes for identifying and assessing climate-related risks.	Risk Management	57-61	
	TCFD Climate Risk	350-361	
Describe the organization's processes for managing climate-related risks.	Risk Management	58-64	
	TCFD Climate Risk	350-361	
Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	Risk Management	58-64	
	TCFD Climate Risk	350-361	

## Metrics & Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

DISCLOSURE	CHAPTER	PAGE	ADDITIONAL INFORMATION
Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Reducing Environmental Footprint Section	136-198	Owens Corning discloses GHG, energy, water, waste, and air quality metrics in their respective chapters in the Reducing Environmental Footprint section of the report. We also discuss other metrics in our TCFD Climate Risk section.
	TCFD Climate Risk	350-361	
	Appendix C - Environmental Data	313-318	
Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions and the related risks.	Combating Climate Change	147-151	
	Appendix C - Environmental Data	313-318	Detailed emissions data
Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Reducing Environmental Footprint Section	136-198	Owens Corning discloses GHG, energy, water, waste, and air quality targets in their respective chapters in the Reducing Environmental Footprint section of the report, along with 2021 performance against those targets.
	Appendix C - Environmental Data	313-318	Detailed emissions data
Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Reducing Environmental Footprint Section	136-198	Owens Corning discloses GHG, energy, water, waste, and air quality targets in their respective chapters in the Reducing Environmental Footprint section of the report, along with 2021 performance against those targets.



DISCLOSURE NUMBER	TOPIC	ACCOUNT METRIC	CHAPTER	PAGE NUMBER
EM-CM-110a.1	Greenhouse Gas Emissions	Gross global Scope 1 emissions	Appendix C - Environmental Data	313
EM-CM-110a.1	Greenhouse Gas Emissions	Percentage of gross global Scope 1 GHG emissions that are covered under an emissions-limiting regulation or program	Appendix G - TCFD Climate Risk	352
EM-CM-110a.2	Greenhouse Gas Emissions	Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Combating Climate Change	147-158
EM-CM-120a.1	Air Quality	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) dioxins/furans, (5) volatile organic compounds (VOCs), (6) polycyclic aromatic hydrocarbons (PAHs), and (7) heavy metals	Air Quality Management	159-166
EM-CM-130a.1	Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage alternative, (4) percentage renewable	Appendix C - Environmental Data	311
EM-CM-140a.1	Water Management	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Responsible Water Sourcing & Consumption	168, 175
EM-CM-150a.1	Waste Management	Amount of waste generated, percentage hazardous, percentage recycled	Waste Management	184-186
EM-CM-160a.1	Biodiversity Impacts	Description of environmental management policies and practices for active sites	Protecting Biodiversity	189-199
EM-CM-160a.2	Biodiversity Impacts	Terrestrial acreage disturbed, percentage of impacted area restored	Protecting Biodiversity	189-199
EM-CM-320a.1	Workforce Health & Safety	(1) Total Recordable Injury Rate (TRIR) and (2) Near Miss Frequency Rate for (a) full-time employees and (b) contract employees	Appendix B - Workforce Data	299, 301-305
EM-CM-320a.2	Workforce Health & Safety	Number of reported cases of silicosis	Living Safely	261
EM-CM-410a.1	Product Innovation	Percentage of products that qualify for credits in sustainable building design and construction certifications	Product Innovation & Stewardship	96-108
EM-CM-410a.2	Product Innovation	Total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production	Sustainable Growth	118-120
EM-CM-520a.1	Pricing Integrity & Transparency	Total amount of monetary losses as a result of legal proceedings associated with cartel activities, price fixing, and anti-trust activities	Human Rights & Ethics	282-283

**GRI 102: General Disclosures**

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
102-1	Name of the organization	About Owens Corning	3	
102-2	Activities, brands, products, and services	About Owens Corning	6-7	
102-3	Location of headquarters	About Owens Corning	8	
102-4	Location of operations	About Owens Corning	8	
102-5	Ownership and legal form	About Owens Corning	8	
102-6	Markets served	About Owens Corning	6-7	
102-7	Scale of the organization	About Owens Corning	8	
102-8*	Information on employees and other workers	Appendix B - Workforce Data	293-297	#8 Decent Work and Economic Growth
102-9	Supply chain	Supply Chain Sustainability	122-135	
102-10	Significant changes to the organization and its supply chain	Supply Chain Sustainability; About the Report	126, 288	
102-11	Precautionary Principle or approach	About the Report	290	
102-12	External initiatives	About the Report	289	
102-13	Membership of associations	Appendix D - General Disclosures	330-337	
102-14	Statement from senior decision-maker	Message from Our CEO and CSO	4-5	
102-15	Key impacts, risks, and opportunities	Risk Management	61-64	
102-16	Values, principles, standards, and norms of behavior	Compliance and Beyond; Human Rights & Ethics	73, 273-283	#16 Peace, Justice and Strong Institutions
102-17	Mechanisms for advice and concerns about ethics	Human Rights & Ethics	281-283	#16 Peace, Justice and Strong Institutions
102-18	Governance structure	Board Leadership	51-53	
102-19	Delegating authority	Board Leadership	53	
102-20	Executive-level responsibility for economic, environmental and social topics	Board Leadership	53	
102-21	Consulting stakeholders on economic, environmental, and social topics	Stakeholder Management & Material Issues; Board Leadership	34-40, 53	#16 Peace, Justice and Strong Institutions
102-22	Composition of the highest governance body and its committees	Board Leadership	51-52	#5 Gender Equality #16 Peace, Justice and Strong Institutions

\* See [page 291](#) in *About the Report* for Owens Corning's definition of worker

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
102-23	Chair of the highest governance body	Board Leadership	52	#16 Peace, Justice and Strong Institutions
102-24	Nominating and selecting the highest governance body	Board Leadership	52	#5 Gender Equality #16 Peace, Justice and Strong Institutions
102-25	Conflicts of interest	Board Leadership	54	#16 Peace, Justice and Strong Institutions
102-26	Role of highest governance body in setting purpose, values, and strategy	Board Leadership	51-53	
102-27	Collective knowledge of highest governance body	Board Leadership	51, 53	#4 Quality Education
102-28	Evaluating the highest governance body's performance	Board Leadership	53	
102-29	Identifying and managing economic, environmental, and social impacts	Board Leadership; Risk Management	52, 57-64	#16 Peace, Justice and Strong Institutions
102-30	Effectiveness of risk management processes	Risk Management	57-64	
102-31	Review of economic, environmental, and social topics	Risk Management	61-64	
102-32	Highest governance body's role in sustainability reporting	Board Leadership	53	
102-33	Communicating critical concerns	Board Leadership; Human Rights & Ethics	55, 282	
102-34	Nature and total number of critical concerns	Human Rights & Ethics	282	
102-35	Remuneration policies	Board Leadership	55	
102-36	Process for determining remuneration	Board Leadership; 2022 Proxy Statement	55	
102-37	Stakeholders' involvement in remuneration	Board Leadership; 2022 Proxy Statement	55	#16 Peace, Justice and Strong Institutions
102-38	Annual total compensation ratio	Employee Experience; 2022 Proxy Statement	211	
102-39	Percentage increase in annual total compensation ratio	Employee Experience	211	
102-40	List of stakeholder groups	Stakeholder Management & Material Issues	34-40	
102-41	Collective bargaining agreements	Employee Experience; Living Safely; Human Rights & Ethics	213, 249, 277	#8 Decent Work and Economic Growth
102-42	Identifying and selecting stakeholders	Stakeholder Management & Material Issues	34-40	



DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
102-43	Approach to stakeholder engagement	Stakeholder Management & Material Issues	34-40	
102-44	Key topics and concerns raised	Stakeholder Management & Material Issues	34-40	
102-45	Entities included in the consolidated financial statements	<a href="#">Form 10-K</a>	—	
102-46	Defining report content and topic boundaries	About the Report	288	
102-47	List of material topics	Stakeholder Management & Material Issues	34-40	
102-48	Restatements of information	About the Report	288	
102-49	Changes in reporting	About the Report	288	
102-50	Reporting period	About the Report	287	
102-51	Date of most recent report	About the Report	287	
102-52	Reporting cycle	About the Report	287	
102-53	Contact point for questions regarding the report	About the Report	292	
102-54	Claims of reporting in accordance with the GRI Standards	About the Report	287	
102-55	GRI content index	GRI Index	365-375	
102-56	Reference to the External Assurance Report	About the Report; Appendix F - Assurance Statements	292, 345	

## Management Approach

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
103-1	Explanation of the material topic and its boundary	See report sections for each material topic	-	
103-2	The management approach and its components	See report sections for each material topic	-	
103-3	Evaluation of the management approach	See report sections for each material topic	-	

**Economic**

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
201-1	Direct economic value generated and distributed	Sustainable Growth	111-121	#2 Zero Hunger #5 Gender Equality #7 Affordable and Clean Energy #8 Decent Work and Economic Growth #9 Industry, Innovation, and Infrastructure
201-2	Financial implications and other risks and opportunities due to climate change	Risk Management; Sustainable Growth; Combating Climate Change	61-64, 118-120, 146-156	#13 Climate Action
201-3	Defined benefit plan obligations and other retirement plans	Risk Management	63	
201-4	Financial assistance received from government	Appendix D - General Disclosures	329	
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Employee Experience	211-214	#1 No Poverty #5 Gender Equality #8 Decent Work and Economic Growth
202-2	Proportion of senior management hired from the local community	Inclusion & Diversity	230	#8 Decent Work and Economic Growth #2 Zero Hunger
203-1	Infrastructure investments and services supported	Community Engagement	233-244	#7 Affordable and Clean Energy #9 Industry, Innovation, and Infrastructure #11 Sustainable Cities and Communities
203-2	Significant indirect economic impacts	Community Engagement	239-244	#1 No Poverty #2 Zero Hunger #3 Good Health and Well-Being #8 Decent Work and Economic Growth #10 Reduced Inequalities #17 Partnerships for the Goals
204-1	Proportion of spending on local suppliers	Supply Chain Sustainability	124	#12 Responsible Consumption and Production

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
205-1	Operations assessed for risks related to corruption	Human Rights & Ethics	282-283	#16 Peace, Justice and Strong Institutions
205-2	Communication and training about anti-corruption policies and procedures	Human Rights & Ethics	282-283	#16 Peace, Justice and Strong Institutions
205-3	Confirmed incidents of corruption and actions taken	Human Rights & Ethics	282-283	#16 Peace, Justice and Strong Institutions
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Human Rights & Ethics	282-283	#16 Peace, Justice and Strong Institutions
207-1	Approach to Tax	Tax	83	#1 No Poverty
207-2	Approach to Tax governance and related risk management	Tax	83	#1 No Poverty
207-3	Stakeholder engagement and management of concerns related to tax	Tax	83	#1 No Poverty

## Economic

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
301-1	Materials used by weight or volume	Product Innovation & Stewardship	105	#8 Decent Work and Economic Growth #12 Responsible Consumption and Production
301-2	Recycled input materials used	Product Innovation & Stewardship	105	#8 Decent Work and Economic Growth #12 Responsible Consumption and Production
301-3	Reclaimed products and their packaging materials	Product Innovation & Stewardship	105	#8 Decent Work and Economic Growth #12 Responsible Consumption and Production
302-1	Energy consumption within the organization	Energy Efficiency & Sourcing Renewable Energy, Appendix C - Environmental Data	137-144, 306-312	#7 Affordable and Clean Energy #8 Decent Work and Economic Growth #12 Responsible Consumption and Production #13 Climate Action
302-2	Energy consumption outside of the organization	Appendix C - Environmental Data	311	#7 Affordable and Clean Energy #8 Decent Work and Economic Growth #12 Responsible Consumption and Production #13 Climate Action



DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
302-3	Energy intensity	Appendix C - Environmental Data	307	#7 Affordable and Clean Energy #8 Decent Work and Economic Growth #12 Responsible Consumption and Production #13 Climate Action
302-4	Reduction of energy consumption	Energy Efficiency & Sourcing Renewable Energy; Appendix C - Environmental Data	138-143, 307	#8 Decent Work and Economic Growth #12 Responsible Consumption and Production #13 Climate Action
302-5	Reductions in energy requirements of products and services	Sustainable Growth	97-98	#7 Affordable and Clean Energy #8 Decent Work and Economic Growth #12 Responsible Consumption and Production #13 Climate Action
303-1	Interactions with water as a shared resource	Responsible Water Sourcing & Consumption	167-177	#6 Clean Water and Sanitation
303-2	Management of water discharge-related impacts	Responsible Water Sourcing & Consumption	175-176	#6 Clean Water and Sanitation
303-3	Water withdrawal	Responsible Water Sourcing & Consumption; Appendix C - Environmental Data	175, 319, 321	#6 Clean Water and Sanitation
303-4	Water discharge	Responsible Water Sourcing & Consumption; Appendix C - Environmental Data	176, 320-321	#6 Clean Water and Sanitation
303-5	Water consumption	Responsible Water Sourcing & Consumption; Appendix C - Environmental Data	174-175, 319	#6 Clean Water and Sanitation
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Protecting Biodiversity	189-199	#14 Life Below Water #15 Life on Land
304-2	Significant impacts of activities, products, and services on biodiversity	Protecting Biodiversity	189-199	#6 Clean Water and Sanitation #14 Life Below Water #15 Life on Land
304-3	Habitats protected or restored	Protecting Biodiversity	189-199	#6 Clean Water and Sanitation #14 Life Below Water #15 Life on Land

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Protecting Biodiversity	189-199	#14 Life Below Water #15 Life on Land
305-1	Direct (Scope 1) GHG emissions	Combating Climate Change; Appendix C - Environmental Data	147, 153, 313-318	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
305-2	Energy indirect (Scope 2) GHG emissions	Combating Climate Change; Appendix C - Environmental Data	147, 153, 313-318	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
305-3	Other indirect (Scope 3) GHG emissions	Combating Climate Change; Appendix C - Environmental Data	154-156, 315	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
305-4	GHG emissions intensity	Appendix C - Environmental Data	316	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
305-5	Reduction of GHG emissions	Combating Climate Change	146-158	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
305-6	Emissions of ozone-depleting substances (ODS)	Appendix C - Environmental Data	316	#3 Good Health and Well-Being #12 Responsible Consumption and Production #13 Climate Action

DISCLOSURE NUMBER	DESCRIPTION	2021 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Quality Management	159-166	#12 Responsible Consumption and Production #13 Climate Action #14 Life Below Water #15 Life on Land
306-1	Waste generation and significant waste-related impacts	Waste Management	178-188	#3 Good Health and Well-Being #6 Clean Water and Sanitation #12 Responsible Consumption and Production
306-2	Management of significant waste-related impacts	Circular Economy; Waste Management	85-94, 179-186	#3 Good Health and Well-Being #6 Clean Water and Sanitation #12 Responsible Consumption and Production
306-3	Waste Generated	Waste Management; Appendix C - Environmental Data	179-186, 324-326	#3 Good Health and Well-Being #6 Clean Water and Sanitation #12 Responsible Consumption and Production
306-4	Waste diverted from disposal	Waste Management; Appendix C - Environmental Data	179-186, 324-326	#3 Good Health and Well-Being #12 Responsible Consumption and Production
306-5	Waste directed to disposal	Waste Management; Appendix C - Environmental Data	179-186, 324-326	#6 Clean Water and Sanitation #12 Responsible Consumption and Production #15 Life on Land
307-1	Non-compliance with environmental laws and regulations	Compliance and Beyond	71-77	#16 Peace, Justice and Strong Institutions
308-1	New suppliers that were screened using environmental criteria	Supply Chain Sustainability	125-126, 129-130, 134	
308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain Sustainability	129-131	#12 Responsible Consumption and Production



**Economic**

DISCLOSURE NUMBER	DESCRIPTION	2019 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
401-1	New employee hires and employee turnover	Appendix B - Workforce Data	297	#5 Gender Equality #8 Decent Work and Economic Growth
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Appendix D - General Disclosures	327	#8 Decent Work and Economic Growth
401-3	Parental leave	Employee Experience	213	#5 Gender Equality #8 Decent Work and Economic Growth
402-1	Minimum notice periods regarding operational changes	Employee Experience	213	#8 Decent Work and Economic Growth
403-1	Occupational health and safety management system	Living Safely	246-262	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-2	Hazard identification, risk assessment, and incident investigation	Living Safely	246-262	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-3	Occupational health services	Living Safely	260-261	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-4*	Worker participation, consultation, and communication on occupational health and safety	Living Safely	246-262	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-5*	Description: Worker training on occupational health and safety	Living Safely	246-262	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-6*	Promotion of worker health	Living Safely; Health & Wellness	260-261, 263-272	#3 Good Health and Well-being #8 Decent Work and Economic Growth
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Living Safely	249, 259-261	#8 Decent Work and Economic Growth
403-8*	Workers covered by an occupational health and safety management system	Living Safely	246-262	#8 Decent Work and Economic Growth
403-9	Work-related injuries	Living Safely; Appendix B - Workforce Data	261, 298-305	#8 Decent Work and Economic Growth

DISCLOSURE NUMBER	DESCRIPTION	2019 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
403-10	Work-related ill health	Living Safely; Appendix B - Workforce Data	260-261, 298	#3 Good Health and Well-being
404-1	Average hours of training per year per employee	Employee Experience, Appendix B - Workforce Data	206, 295	#4 Quality Education #5 Gender Equality #8 Decent Work and Economic Growth
404-2	Programs for upgrading employee skills and transition assistance programs	Employee Experience	206-207, 212	#8 Decent Work and Economic Growth
404-3	Percentage of employees receiving regular performance and career development reviews	Employee Experience	207	#5 Gender Equality #8 Decent Work and Economic Growth
405-1	Diversity of governance bodies and employees	Board Leadership, Employee Experience, Appendix B - Workforce Data	51-52, 203-204, 293-296	#5 Gender Equality #8 Decent Work and Economic Growth
405-2	Ratio of basic salary and remuneration of women to men	Employee Experience	211	#5 Gender Equality #8 Decent Work and Economic Growth #10 Reduced Inequalities
406-1	Incidents of discrimination and corrective actions taken	Human Rights & Ethics	275	#5 Gender Equality #8 Decent Work and Economic Growth #10 Reduced Inequalities #16 Peace, Justice and Strong Institutions
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Supply Chain, Employee Experience, Living Safely, Human Rights & Ethics	130, 213, 249, 277	#8 Decent Work and Economic Growth
408-1	Operations and suppliers at significant risk for incidents of child labor	UN Sustainable Development Goals Alignment, Risk Management, Supply Chain Sustainability, Human Rights & Ethics	48, 64, 124, 130-131, 134, 276, 279	#8 Decent Work and Economic Growth #16 Peace, Justice and Strong Institutions
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	UN Sustainable Development Goals Alignment, Risk Management, Supply Chain Sustainability, Human Rights & Ethics	48, 64, 124, 130-131, 134, 277, 279	#8 Decent Work and Economic Growth
410-1	Security personnel trained in human rights policies or procedures	Human Rights & Ethics	279	#16 Peace, Justice and Strong Institutions
411-1	Incidents of violations involving rights of indigenous peoples	Human Rights & Ethics	277	#2 Zero Hunger
412-1	Operations that have been subject to human rights reviews or impact assessments	Human Rights & Ethics	279	

DISCLOSURE NUMBER	DESCRIPTION	2019 TEXT LOCATION	PAGE NUMBER	SDG TARGET LINKAGE
412-2	Employee training on human rights policies or procedures	Human Rights & Ethics	278-279	
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Supply Chain Sustainability, Human Rights & Ethics	126-128, 132-134, 274	
413-1	Operations with local community engagement, impact assessments, and development programs	Community Engagement	233-245	
413-2	Operations with significant actual and potential negative impacts on local communities	Community Engagement	233-245	#1 No Poverty #2 Zero Hunger
414-1	New suppliers that were screened using social criteria	Supply Chain Sustainability	124-127, 130-131, 134	#5 Gender Equality #8 Decent Work and Economic Growth #16 Peace, Justice and Strong Institutions
414-2	Negative social impacts in the supply chain and actions taken	Supply Chain Sustainability	124-127	#5 Gender Equality #8 Decent Work and Economic Growth #16 Peace, Justice and Strong Institutions
415-1	Political contributions	Human Rights & Ethics, Appendix D - General Disclosures	283-284, 328	#16 Peace, Justice and Strong Institutions
416-1	Assessment of the health and safety impacts of product and service categories	Product Innovation & Stewardship	96, 106-108	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product Innovation & Stewardship	106-108	#16 Peace, Justice and Strong Institutions
417-1	Incidents of non-compliance concerning product and service information and labeling	Product Innovation & Stewardship	106-108	#16 Peace, Justice and Strong Institutions
417-3	Incidents of non-compliance concerning marketing communications	Product Innovation & Stewardship	106-108	
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Compliance and Beyond, Human Rights & Ethics	75, 277	#16 Peace, Justice and Strong Institutions
419-1	Non-compliance with laws and regulations in the social and economic area	Compliance and Beyond, Human Rights & Ethics	71-77, 276-283	#16 Peace, Justice and Strong Institutions





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