



# ELEVATING SUSTAINABILITY

## Through Our People-Based Culture

2017 SUSTAINABILITY SUMMARY



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## OVERVIEW

**At Koppers, we think, plan, and operate in a culture of *Zero Harm*, always working to place the safety and health of our employees, communities, and environment first. We continue to elevate sustainability as a core priority and an aspirational way to demonstrate strong and meaningful corporate citizenship.**

### What We Do

Koppers provides safe and environmentally responsible solutions for our customers' most important challenges. We do this in a variety of industries, primarily in treatments that extend and preserve the utility of wood across multiple applications and products. We actively and aggressively work to discover, refine, and apply all available technologies and tactics to achieve this critical goal in the most environmentally responsible and safe manner.

### How We Do It

Cut and treated wood provides a sustainable and critical product required to fulfill transportation, utility and housing needs. As we preserve these wood products, we extend this life cycle and further reduce the impact of greenhouse gases on our environment by allowing our forests to filter and sequester carbon dioxide from the atmosphere into the very products we use.

### Why We Do It

Koppers exists as a company to serve the needs of our customers across various industries, primarily by providing products that treat and preserve wood. The lifecycle of wood is becoming increasingly important, as society better understands its impact on our environment.

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## Message from the CEO



**Our company supports sustainability because we think and act with people as our top priority. A sustainable company, a sustainable world, benefits everyone. It's basic common sense.**

At Koppers, a **Zero Harm** safety culture stands as the first responsibility of managers, fellow employees, and corporate leadership. Zero Harm provides the engine and the undercurrent of how we think, act, and make decisions.

And why? Because we believe that when we first care for people — including employees in our facilities, neighbors in the communities where we operate, and all who benefit from a healthier environment — business results will follow and our record of sustainability can only improve. As proof, in 2017, 13 of our 31 operating facilities worked accident-free, and the number of our full-year OSHA recordable incidents was slightly below our 2016 results — all factors contributing to achievement of the best financial performance in Koppers history.

From an environmental standpoint, emissions of greenhouse gases from Koppers facilities continued on their downward trend marking the fifth consecutive year of improvement. A shining example is our Nyborg, Denmark, facility, which has achieved a record reduction in emissions while doubling production. As an added bonus that facility also now uses less energy, allowing us to support the nearby community by diverting waste heat to the municipal grid to heat residents' homes.

Those examples build upon the legacy of our base business of taking materials that would otherwise be considered waste and converting them into usable products. That is the very definition of sustainability, and I'm proud to say that it's embedded into our core business model.

I invite you to review this website, which features examples of our improved performance in 2017. As you review that material, keep in mind the many Koppers employees who are driving that performance. Employees who everyday inspire me by what they are doing to make our company a safer, stronger, cleaner, healthier, and more sustainable place to work. It is what sets us apart, and makes me proud to be the leader of Koppers.

Sincerely,

**Leroy M. Ball**  
 President and Chief Executive Officer  
 Koppers Inc.

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## Mission/Vision/Values

**We are Koppers** — an integrated global provider of treated wood products, wood treatment chemicals, and carbon compounds, as manufactured and delivered by three primary businesses: Performance Chemicals (KPC), Railroad and Utility Products & Services (RUPS), and Carbon Materials & Chemicals (CMC).

**Our Mission** is to create safe and environmentally responsible solutions that solve our customers' most important challenges and result in superior performance for shareholders.

**Our Vision** is to be recognized as the standard bearer for safely delivering customer focused solutions primarily through the development and application of technologies to enhance wood.

**Our Values** help guide us in managing risk, ensuring accountability to key stakeholders and securing competitive advantage.

- Accountability
- Customer Focus
- Excellence
- Innovation
- Integrity
- Respect
- Simplicity
- Sustainability
- Teamwork
- Transparency

Our Culture requires that we think, plan, and operate in a culture of **Zero Harm**, meaning that the company always places the safety and health of its employees, environment and communities first, as driven by our Values.

Koppers supports and adheres to the principles of the American Chemistry Council's Responsible Care® initiative, a voluntary industry program that requires members to implement best practices to manage environmental impacts, health, safety and security. In 2016 as part of its Responsible Care® efforts, Koppers incorporated the Process Safety Code and the Product Safety Code — two programs that expanded the company's demonstrated dedication to a comprehensive safety culture.

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## Safety

At Koppers, we think, plan, and operate in a culture of **Zero Harm**, always working to place the safety and health of our employees, communities, and environment first. Koppers team members, from the CEO through the employee on the front lines of our facilities around the world, make decisions driven by the foundational philosophy of **Zero Harm**, namely, that people come first.



- Overall safety performance at Koppers, as measured by the total recordable injuries, improved with a reduction of 4 injuries to 58 in 2017. The total recordable incident rate had a slight increase from 2.96 in 2016 to 2.99 in 2017 due to fewer hours worked by our employees.

### Safety

	2017	2016	2015	2014
Days Away Case Rate	1.03	0.91	1.21	0.76
DART Rate	1.96	1.91	1.90	2.03
Total Recordable Rate	2.99	2.96	3.45	3.91

- Koppers defines Serious Incidents and Serious Incident Precursors as injuries or events that have the potential to alter a person’s life. We encourage reporting of all incidents. Precursors describe high-risk situations that may result in a serious incident if allowed to continue, and are normally reported as a near-miss or minor event that — under slightly different circumstances — could have resulted in a Serious Incident. Our Serious Incident Precursor count dropped slightly, but our rate was up, due to fewer hours worked, from 8.97 in 2016 to 9.59 in 2017. Our Serious Incident Rate dropped significantly from 2.15 in 2016 to 1.03 in 2017. We believe these results represent a positive sign that our efforts to prioritize training and education around identifying and mitigating the most potentially dangerous exposures are showing results.
- In 2017, Koppers had three Tier 1 Process Safety Incidents with a rate of 0.40, and 10 Tier 2 incidents. Tier 1 events are defined by the American Petroleum Institute (API) as a loss of primary containment with the greatest consequence. Over the past several years, Koppers has been working to improve many of our operations by implementing process safety procedures recommended by the U.S. Occupational Safety and Health Administration and under the American Chemistry Council’s Responsible Care® initiative. These procedures cover a variety of operating principles such as employee training and testing, mechanical integrity standards, and management of change within an operating unit. Tracking and reporting Process Safety Incidents improves the transparency of our operations as well as helps us maintain accountability towards our improvement goals.

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## Safety *(continued from last page)*

- Koppers leaders in 2017 received Zero Harm training to spur an examination of the science behind why and how people make decisions, why people take short cuts when they know better, and why those decisions seem to make sense at the time. More than 310 leaders around the world received this training, which also explained how an analysis of an observable act (antecedent, trigger, consequence) can be used to understand what led to the at-risk behavior. It also provided ideas on how to influence the person in the right direction, and build in more positive antecedents. The training, offered in a “no-blame” environment, is meant to help managers ask the right questions when incidents occur, so that making the right decisions gets easier and becomes a habit. Modules from the training, and a description of each, can be found in the table below:

Training Module	Description
Foundations	Establishing the “why” behind leaders putting safety into everything we do.
Observations	Enabling relationship building between leaders and employees through a mutual goal of reducing exposure.
Understanding & Influencing Behaviors	Developing the understanding around the Behavior model: Antecedent, Behavior, Consequence.
Life Saving Rules (2018)	Koppers has established 7 critical rules that prevent life-threatening behaviors.
Physical Hazards Workshop (2018)	Using workplace inspections to: assess physical and conditional risks; reinforce safe conditions; use protective measures; create a personal safety vision.
Job Safety Briefings (2019)	Interactions focusing on specific safety requirements and exposures associated with a work task.

- Roughly 1,000 times each month, Koppers supervisors around the world conduct safety observations with their teams on a one-to-one basis, with a goal of every employee experiencing one of these personalized safety discussions each year. These encounters are about engagement and finding solutions together by increasing dialogue, feedback, and trust — the foundation of a stronger safety culture. Continuously focused on what we’re doing right, along with identifying and correcting safety exposures, the observation program plans to concentrate next on Life Saving Rules.
- In 2017, Koppers completed an analysis of every single task at every facility around the world, to arrive at a risk assessment and appropriate controls and procedures to mitigate exposures that could lead to Safety, Health, or Environmental incidents in the future. This program provides a baseline of practical, immediately usable information that can be shared among facilities. Some 1,500 activities were assessed, yielding more than 2,000 procedures reviewed and developed.

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## Environmental

### Performance Highlights

- Koppers greenhouse gas emissions continue to improve year after year, as was seen in a reduction of 2017 greenhouse gas emissions of **8.2% compared to 2016, and an overall 47.8% reduction since 2012.**
- Koppers commitment to protecting the environment continues to focus on the occurrence of reportable releases, a metric used to provide a consistent measurement for cataloguing spills. This consistency and transparency supports Koppers desire to remain accountable, continuously improve our operations, and reduce our impact on the environment.

### Performance Data

#### Environmental Measurements

Reportable Releases	2017	2016	2015	2014
North America	2	9	14	13
Europe	8	0	7	0
Total	10	9	21	13

#### Water Permit Limit

Exceedance Events	2017	2016
North America	2	4
Europe	4	3
Total	6	7

#### Greenhouse Gas

Emissions (MT CO <sub>2</sub> e)	2017	2016	2015	2014
North America	311,865	337,641	432,535	433,792
Europe	30,149	30,140	38,926	55,620
Australia/New Zealand	37,783	42,286	36,852	35,370
China	27,767	33,896	52,859	61,980
Total	407,564	443,963	561,172	586,762

#### Energy Consumption

(in gigajoules)	2017	2016	2015	2014
Direct (Primary)	3,641,860	3,795,424	4,242,103	4,505,862
Indirect (Purchased)	762,278	1,126,198	1,110,213	1,550,090
Total	4,404,138	4,921,622*	5,352,316	6,055,952

\*Corrected data



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## Measuring to Manage Progress

- A new management information system, FOCUS, went into service in October 2017, after three years of planning and testing. Combining several different systems, FOCUS provides a one-stop display to help manage safety, compliance, incidents, process excellence, and more. FOCUS enables multiple users being able to input data, makes information sharing easy and intuitive, and aligns with key corporate goals. The new system enables our front-line supervisors to enter incident information in real-time and provide more information about incidents. Both of these improvements help create a better corrective action process.
- Koppers commitment to the American Chemistry Council’s Responsible Care® standards were enhanced in 2017, as the company moved to comply with revised industry standard RC14001. The new standard calls for: a more prescriptive focus on leadership commitment and involvement; greater focus on stakeholders that can impact or be impacted by our operations; and two-way communication among all parties, rather than top-down communication internally, aligning perfectly with the principles behind **Zero Harm**.
- A collection of global company leaders and plant managers gathered at the second annual **Zero Harm-Zero Waste** Forum to review successes, share best practices, and learn about new employee engagement programs and waste reduction initiatives. The Forum continues to foster leadership development and promote collaboration among global employees.
- Members of the Koppers Board of Directors’ Safety, Health & Environmental Committee, along with members of the company’s senior leadership team, again made periodic trips to company facilities to interact with team members and get a true sense of progress and the work remaining to achieve long-term safety and sustainability goals. Leroy Ball, President and Chief Executive Officer, visited 19 different Koppers facilities globally in 2017. In most visits, Leroy allocates substantial time to meet with site safety councils to gain as much practical information and perspective on safety practices and issues as possible.
- As part of Koppers continued commitment to reduce emissions, a new naphthalene distillation facility in Stickney, Illinois, promises to reduce vehicle emissions by processing raw material onsite, rather than transporting it hundreds of miles. An additional scrubber will limit emissions from the plant itself. **The new plant is expected to eliminate hundreds of truck, rail, and barge shipments each year compared to current operations.** Previously, different intermediate streams were processed in separate operations located in Follansbee, West Virginia, Clairton, Pennsylvania and Stickney. Koppers has invested more than \$65 million to consolidate all processing activities at Stickney, thus avoiding unnecessary transportation of materials.
- At our new distillation facility at Nyborg in Denmark, capacity has been doubled while **energy consumption has decreased by 25%**, and emissions of sulfur oxides (contributors to acid rain) and nitrogen oxides (contributors to airborne pollutants) have plummeted. Sulfur oxides, in fact, have dropped significantly from 159,000 kilotons in 2015 to 12,000 kilotons in 2017 (figures corrected from 2017 corporate sustainability brochure).
- At Koppers Australian wood treating sites, we replaced our entire loader fleet with fuel-efficient Volvo machinery, **reducing diesel consumption by approximately 30%** and lowering the number of hours those vehicles need to be in service, with the corresponding reduction in emissions.
- A long-term aggressive energy management plan in place at our facility in Mayfield, Australia, continues to drive reductions in energy consumption and greenhouse gases. The plant is currently exploring plans with a third party to use waste heat to generate electricity, then purchase that electricity at a discounted rate.

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## Measuring to Manage Progress *(continued from last page)*

- An onsite fire at the Koppers facility in Auckland, New Zealand, in April 2017 damaged both the production plant and nearby administrative offices. While losing power, gas, and water, the facility maintained operations and did not miss any deliveries. Koppers decided to build a new facility with improved safety features, primarily eliminating any human contact with chemicals of any kind.
- When severe weather threatened the Koppers plant in Somerville, Texas, with possible flooding and high winds, leadership there drew on experience from a 2016 flood, placing concrete barriers to block water from going into treating facility from a creek behind the building. Even after suffering 19 inches of rain over three days, that preparation paid off, as the plant experienced no damage.

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- At our Nyborg, Denmark, plant, waste heat from the distillation process gets sent to a district grid to provide heat to homes, helping to reduce the operation and corresponding emissions of coal-burning power plants.
- Water runoff systems at multiple Koppers facilities reuse water in the manufacturing processes. In Australia alone, more than 11 million liters of rainwater was captured and reused in 2017.

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## Social

At Koppers, Zero Harm means that people come first. That includes ongoing support of area activities and organizations working to create a better tomorrow.

- While we believe financial assistance is key, we ascribe equal value to making a difference through volunteerism and raising awareness. This approach moves Koppers closer to the goal of becoming an “employer of choice” that regularly attracts top talent and retains that talent long-term as valued team members.
- Employees worldwide volunteer to assemble charitable walk teams, mentor students, enhance local STEM education initiatives, care for the elderly, assist at homeless shelters, and provide hands-on help to those affected by natural disasters.
- The Koppers leadership team devotes significant time and energy in support of important causes with major partners including the American Heart Association, American Red Cross, JDRF, Leukemia and Lymphoma Society, National Kidney Foundation and United Way.



- Devastation left across Texas by Hurricane Harvey generated a tremendous response from Koppers employees volunteering to help. About 30 employees took their own boats to Houston to rescue flood victims from houses, mucked out houses in LaGrange, and hosted and fed evacuees who came to our facility in Somerville, Texas, for help. The company provided full pay to these volunteers as they spent time away from Koppers. Also, more than \$25,000 in donations from corporate and personal sources were given to the local Red Cross for disaster relief services.
- In 2017, Koppers was named a “**Best Place to Work**” in Pittsburgh after being nominated for the first time ever. CEO Leroy Ball earned distinction among those identified as Top CEOs of the Year by the Pittsburgh Business Times. The Koppers Board of Directors received honors as the Pittsburgh Public Company Board of the Year in recognition of overseeing our transition to a global leader in wood-treatment technologies.



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- Koppers commitment to Zero Harm involves engaging external stakeholders to understand their concerns about company operations and connecting on a regular basis with communities and industry organizations. We actively work to anticipate and evaluate community and industry needs as part of demonstrating our corporate citizenship. Some examples of this involvement include:
  - Community Advisory Panels, which offer a forum for sharing facility information, observations, and ideas regarding improvement opportunities.
  - Participation in local emergency planning and response activities, to assist in keeping local communities safe.
  - Support for local volunteer efforts in the form of either direct employee involvement or financial contributions.
  - Transparent reporting of sustainability data, to inform our stakeholders.
  - Participation in industry associations, to better understand the perspectives of key audiences such as regulators and product safety groups. The organizations that we support include:
    - American Chemistry Council (Responsible Care®)
    - American Coke and Coal Chemicals Institute
    - American Railway Engineering and Maintenance-of-Way Association
    - American Wood Protection Association
    - Association of American Railroads
    - Go Rail
    - Carbon Disclosure Project
    - Pavement Coatings Technology Council
    - Railway Tie Association
    - Treated Wood Council

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## Economic

- Koppers provided more than \$136 million in salary and wages to its employees worldwide. These wages serve to sustain our employees and their families and ultimately become part of the financial foundation of the communities where our operations are located and our employees live.
- In addition to wages, Koppers paid corporate income taxes and a variety of other corporate taxes globally of nearly \$42 million in 2017.
- Koppers employees around the world contribute more than \$37 million to their national, state, and local governments through the taxes paid on their income from the company.
- Koppers economic impact to society from wages and taxes exceeded \$215 million in 2017. We are proud to provide products and services that help our customers be successful while at the same time contributing economically to society.
- Regarding the company’s contribution to regional economies, charitable services, sports, and the arts, Koppers partners with many organizations where we operate in order to support their efforts. Koppers direct charitable giving totaled more than \$754,000.
- Koppers positively impacts local economies the world over. In Kenya, for example, Koppers has engaged local providers to design and build a new production plant for one of its chemical products. By locating manufacturing closer to its end market, Koppers can lower costs while contributing significantly to regional engineering, design, and construction companies, thereby boosting the local economy.
- In the U.S., one of the most impressive examples of Koppers assisting a regional economy can be found along the South Side of Chicago, where the Stickney plant is experiencing a major expansion and upgrade. This facility has a long legacy of providing employment in the area, with the ongoing construction project providing jobs to about 200 contractors, representing millions in local investment — one of few major companies expanding employment in that area.

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## Seeking Your Valuable Feedback

As society continues to evaluate and act on major concepts and concerns, Koppers will continue to adapt accordingly. Maintaining a primary focus on the safety of our employees, the well-being of our communities, and the protection of the larger environment can – and must – coexist with the successful operation of our company. That is what we believe at Koppers. This defines **Zero Harm**, the foundational attitude and approach to our business.

We are committed to continuing our sustainability efforts so that the next generation and those that follow can live in a society that is safe, healthy, and prosperous.

The pledge to operate in a sustainable manner never ends, and this pledge requires us to always look for a better way. Koppers will keep working to operate as a responsible corporate citizen regarding effective sustainability strategies and practices through our focus on advancing and deepening a **Zero Harm** culture.

We will continue to provide regular updates on our actions and our progress, and invite your feedback to maintain a productive dialogue with our customers, suppliers, neighbors, and all other stakeholders.