

Environmental, Social and Governance Report 2022



Environmental, Social and Governance Report

This Environmental, Social and Governance (“ESG”) Report provides an overview of Besi’s ESG activities in 2022 including a discussion of the following topics:

- Overview
- Materiality assessment
- Strategy
- Initiatives
- Governance
- Reporting framework
- Environmental impact
- People wellbeing
- Responsible business

A year of progress

Besi began more active engagement in ESG management and reporting starting in 2020 which included the development of various short- and long-term targets for 2022 and 2030, respectively, using 2019 data as a baseline for comparison. Since 2020, we have identified and commenced work on 78 initiatives associated with our ESG pillars (Environmental Impact, People Wellbeing and Responsible Business). Many of these initiatives have lessened Besi’s ESG impact including reduced levels, on a relative basis, of emissions, energy, waste and water usage. We are pleased to report that approximately 80% of our 2022 targets have been met or exceeded due to continued focus on the ESG topics most material to Besi’s business and stakeholders, the successful execution of initiatives and the commitment of our workforce. As a result of Besi’s successful performance against initial targets set for 2022 and 2030, we have updated our targets for 2024 and 2030.

Besi received external recognition for its ESG efforts this year. We achieved a rating of “A” in the updated MSCI ESG Ratings Assessment, up from “BBB” in 2021. We were also included in the AEX ESG index. Such index identifies the 25 companies within the combined AEX (large cap) and AMX (mid cap) indices demonstrating best in class ESG practices as per criteria assessed by Sustainalytics. Inclusion in the index occurred prior to the improvement of Besi’s ESG Risk Rating to 15.3 as per Sustainalytics in September 2022 versus 17.8 in 2021. In addition, the Malaysian Ministry of Energy and Natural Resources named Besi as the winner of the Energy Performance Contracting award in 2022. The award recognized our efforts to retrofit an air handling unit at Besi’s Malaysian site which experienced a 46% reduction in monthly energy consumption.

Besi has continued to build on its ESG accomplishments in recent years expanding the scale and scope of our initiatives and reporting activities with a focus on materiality, clarity and transparency. For example, we conducted a climate-related scenario analysis

this year with the aid of a third-party consultant to further validate our climate strategy and have begun alignment with the Taskforce on Climate-related Financial Disclosure’s (“TCFD”) recommendations. In addition, Ernst & Young Accountants LLP provided reasonable assurance on our materiality assessment and limited assurance on the Environmental, Social and Governance Report included in the Annual Report 2022. Their assurance report is included in Other Information.

In addition, we made considerable progress with defined goals, ambitions and activities whose adoption and acceptance have been well received by our organization. For example, the sustainable design of our products is a top ESG priority as we seek to enhance future revenue growth with a lower impact on the environment. Toward this end, we launched several sustainable design initiatives last year focused on design to cost, quality and sustainability. Such initiatives focused on upgraded versions of our mainstream die bonding product line as well as new wafer level assembly platforms such as hybrid bonding and next generation TCB systems. In particular, we began participation in a project with the University of Applied Sciences and Arts (Lucerne, Switzerland) (“UASA”) to identify potential areas of cooperation with respect to environmentally friendly product design. Internal R&D projects were also begun to analyze product lifecycles in multiple product groups to further extend their useful lives. Further, we conducted eco-design workshops for our employees on the environmental impact of raw material selection. We expect these activities to bring value to our customers in terms of better yield, throughput, energy conservation and efficiency, lower material consumption and total cost of ownership. The successful collaboration with UASA identified opportunities to reduce Besi’s energy consumption and improve the environmental performance of our Die Attach product platforms. In addition, we collectively created roadmaps which have the potential to achieve absolute energy savings of approximately 10% per platform over the next ten years. Such potential savings are important as Besi’s die attach revenue represented approximately 80% of our total revenue in 2022.




Besi’s Asian facilities comprise substantially all of our production and supply chain activities and have a different ESG risk profile than our European operations. We conduct site visits, questionnaires and stakeholder interviews at our Asian facilities to ensure that temporary and contracted third party workers adhere to the standards outlined in Besi’s Supplier Code of Conduct. As a result, the percentage of purchasing volume which was audited and which signed the Conflict Free Sourcing Initiative (“CFSI”) and Code of Conduct Supplier Agreements (GWA/GPC) increased in 2022 versus 2021. In reaction to climate events such as severe flooding in Malaysia during the fourth quarter of 2021 and extended drought in China in 2022, we implemented additional measures, systems, procedures and changes to the design of our facilities so that Besi’s operations are better prepared for extreme weather events in the future.

Materiality assessment

In 2020, Besi’s management team conducted a review of the ESG topics most material to its business and identified 12 topics. Such topics formed the basis of our ESG approach and foundation of three strategic pillars: Environmental Impact, People Wellbeing and Responsible Business. In 2021, we conducted a full assessment of the material topics identified in 2020 by engaging in a four-stage materiality assessment involving an industry trend analysis (including consideration of SASB standards for the semiconductor industry), peer group benchmarking, key investor research and broader stakeholder outreach including employees, customers and suppliers. The assessment served to substantiate Besi’s current strategy and understanding of material topics with the collaboration of key stakeholder groups to validate their areas of interest. In addition, the perspective of investors as a key stakeholder was captured in the research phase and factored into the final assessment. The assessment highlighted a variety of important themes of which we prioritized four focus areas, (i) energy use and renewable energy, (ii) sustainable design (iii) health and safety and (vi) diversity and inclusion where we can have the most significant positive impact in the short term. In 2022, Besi re-evaluated its 2021 materiality assessment and concluded that the material topics are still valid.

We intend to update our materiality analysis on a bi-annual basis. As such, we plan to conduct an assessment of material topics in 2023 including a ‘double materiality’ analysis, in line with the preparation for the upcoming requirements of the Corporate Sustainability Reporting Directive (“CSRD”). In addition, Besi recognises increased interest expressed by stakeholders to report information as to their dependence on biodiversity and ecosystems. As a result, we intend to address this topic in our next materiality assessment so as to mitigate negative impacts and promote positive impacts wherever possible.

The ranking of topics of importance per stakeholder group is listed below for each of Besi’s three process pillars: Environmental Impact, People Wellbeing and Responsible Business:

Strategic Pillars	Material topics	Customers	Suppliers
<p>1. Environmental Impact</p> 	<p>Employees</p> <ol style="list-style-type: none"> 1. Energy use and renewable energy 2. Carbon emissions 3. Sustainable design 4. Waste and hazardous waste disposal 5. Water use 	<ol style="list-style-type: none"> 1. { Sustainable design Energy use and renewable energy Waste and hazardous waste disposal 4. Carbon emissions 5. Water use 	<ol style="list-style-type: none"> 1. Waste and hazardous waste disposal 2. Carbon emissions 3. Energy use and renewable energy 4. Sustainable design 5. Water use
<p>2. People Wellbeing</p> 	<ol style="list-style-type: none"> 1. Employee health and safety 2. Employee engagement 3. Diversity and inclusion 	<ol style="list-style-type: none"> 1. Employee health and safety 2. Diversity and inclusion 3. Employee engagement 	<ol style="list-style-type: none"> 1. Employee health and safety 2. Employee engagement 3. Diversity and inclusion
<p>3. Responsible Business</p> 	<ol style="list-style-type: none"> 1. Ethics and compliance 2. Responsible supply chain 3. Community impact 4. Tax practices 	<ol style="list-style-type: none"> 1. Ethics and compliance 2. Responsible supply chain 3. Tax practices 4. Community impact 	<ol style="list-style-type: none"> 1. Ethics and compliance 2. Responsible supply chain 3. Community impact 4. Tax practices

Strategic pillars












Material topics

● Priority focus area

2024 targets*

2030 targets*

Relevant SDGs

Environmental Impact 	Energy use and renewable energy	15% Reduction in fuel consumption	11% Increase in electricity	75% Renewable energy globally	25% Reduction in fuel consumption	25% Increase in electricity	90% Renewable energy globally	   		
	Carbon emissions	62% Reduction in Scope 1 & 2 carbon emissions	12% Reduction in Scope 3 carbon emissions		58% Reduction in Scope 1 & 2 carbon emissions	20% Reduction in Scope 3 carbon emissions				
	Waste and hazardous waste disposal	15% Reduction in total waste	20% Reduction in hazardous waste		18% Reduction in total waste	20% Reduction in hazardous waste				
	Water use	2% Reduction in water consumption			5% Reduction in water consumption					
	Sustainable design	Develop priority targets for sustainable system design			Achieve priority targets for sustainable system design					
People Wellbeing 	Diversity and inclusion	Increase % female employees in workforce to ≥19%	Increase % female employees in management to ≥21%	Maintain % local nationals in management ≥86%	Increase % female employees in workforce to ≥20%	Increase % female employees in management to ≥23%	Maintain % local nationals in management ≥86%	  		
	Employee health and safety	Safety incident record of 0								
	Employee engagement and career development	Maintain employee engagement ≥85%	Remain above high-tech benchmark	Increase investment in employee training to ≥21 working hours per employee per year	Maintain employee engagement ≥85%	Remain above high-tech benchmark	Increase investment in employee training to ≥21 working hours per employee per year			
Responsible Business 	Ethics and compliance	Whistleblower procedure in place. Prompt response to violations by Besi senior management								
	Responsible supply chain	70% Purchasing Volume ("PV") audited	75% PV to sign Self Assessment Questionnaire in our Code of Conduct	77% PV to sign General Work Agreement or General Procurement Contract	73% PV to sign Conflict-Free Sourcing Initiative	75% PV audited	85% PV to sign Self Assessment Questionnaire in our Code of Conduct		85% PV to sign General Work Agreement or General Procurement Contract	80% PV to sign Conflict-Free Sourcing Initiative
	Community impact	Report on Besi hours volunteered, monetary donations and education projects supported								
Tax practices	Comprehensive compliance with tax obligations where factual economic activities take place									

* All targets are based on estimated reductions relative to 2021 baseline levels.

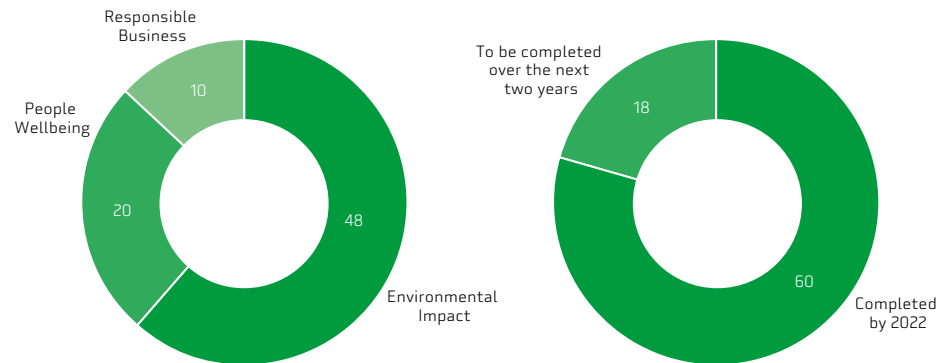
ESG Strategy

Within the three strategic pillars confirmed by our materiality assessment, Besi's ESG strategy has identified twelve material topics and formalized a range of short and long-term targets against which we have committed to report. Besi follows the objectives of the UN Sustainable Development Goals ("SDGs"). These 17 interlinked goals are designed to be a blueprint for achievement by 2030 of a better and more sustainable future. SDG objectives comprise a number of goals informing our thinking and approach to sustainable business growth. We have aligned the SDGs to which we can make the greatest contribution with our strategic pillars.

ESG initiatives

We identified and commenced work on 75 initiatives in 2021 and added 3 new initiatives in 2022. At the end of 2022, a total of 60 initiatives were completed with 18 scheduled to be completed over the next two years. The charts below indicate the distribution of the ESG initiatives per major pillar and detail Besi's progress against such initiatives.

TOTAL OF 78 INITIATIVES



ESG topics and initiatives are widely supported by Besi employees at all levels of the organization including management, development personnel and production staff. Besi's November 2021 employee engagement survey demonstrated a high level of participation (94% of total employees) and widespread awareness (90% of respondents) of our ESG pillars and sustainability objectives which form an important basis for future engagement and adoption of ESG targets by the organization.

ESG governance

Besi's ESG focus and strategic initiatives are integrated into our Company. The Board of Management is responsible for setting Besi's ESG strategy and targets as well as its implementation and execution. The Supervisory Board has oversight responsibility for Besi's ESG strategy. ESG issues are assessed throughout the year by the management team including resource allocation and capital investment.

As such, Besi's ESG governance and approach is fully aligned with its hierarchical structure. SVPs and facility management monitor and track progress against ESG-related goals. Progress is then reported to the Board of Management and discussed in detail at Besi's monthly management meeting. Incentives are provided to all such employees for performance against certain specific ESG targets which forms a portion of their variable compensation. The Supervisory Board is updated by the Board of Management as to Besi's progress on a quarterly basis.

All of Besi's production sites have environmental, health and safety ("EHS") officers and committees and a health and safety management structure. These committees have representatives from each department responsible for the inspection, enforcement and promotion of EHS matters in the workplace. EHS inspections are conducted quarterly to identify and address any unsafe acts and conditions which may exist. Employees also regularly receive EHS training. In addition, we have implemented externally certified ISO 9001 and ISO 14001 management systems to manage quality and environmental as well as health and safety topics in our operations.

ESG reporting framework

Reporting scope

The data in this ESG report covers all entities that belong to the scope of the Consolidated Financial Statements (see Note 2 to the Consolidated Financial Statements, section "Principles of consolidation") excluding the following "Environmental Impact" data:

- Energy data for 4 and water data for 7 sales and service offices due to their immaterial significance.
- Scope 3 inbound freight emissions from our Dutch Plating research and development site due to their immaterial significance.

Besi is continuously enhancing its ESG methodology and data collection to ensure that all material impacts are included in the ESG report. For example, Besi's Scope 3 CO₂e emissions resulting from inbound freight for our Malaysian facilities were added in 2022. Freight emissions from our Swiss and Singapore research and development sites were also added. Comparable numbers for prior years were not adjusted due to lack of data.



Mangrove tree planting Besi APac employees, October 2022

External reporting frameworks

This report comprises the sustainability reporting by Besi. As part of our expanded reporting activities, we have reviewed the most appropriate external frameworks in order to enhance and broaden Besi's ESG strategy. In addition, we have made an analysis of the various current external frameworks and aligned our reporting principles as much as possible, to ensure that they are appropriately aligned with our business and operations.

We have prepared the sustainability information in the Annual Report 2022 with reference to the GRI universal standards for the 1. Foundation, 2. General disclosures and 3. Material topics, including the reporting principles as included in chapter 4 in GRI 1. Foundation. We refer to Annex 2 of our ESG report 2022 available on our website, www.besi.com, for our GRI content index.

Furthermore, the Sustainability Accounting Standards Board ("SASB") published 77 industry standards to enable business to communicate financially material information to their investors. We believe that the semiconductor industry-specific standards and metrics provided by the SASB¹ are appropriate for a company of Besi's business and size. When material topics are not covered by SASB, we apply topic specific disclosures from the Global Reporting Initiative ("GRI") and/or our own developed criteria whenever possible. A majority of the requisite information for GRI compliance is available and presented on our website including a list of the key topics, metrics and disclosures necessary for compliance with SASB as well as a list of material topics with their respective reporting criteria. Besi is required to comply with CSRD commencing in 2025 based on calendar year 2024 data. In addition, we will assess other frameworks as well as the IFRS Sustainability Disclosure Standards of the International Sustainability Standards Board ("ISSB") and the Taskforce for Nature-related Financial Disclosures ("TNFD").

EU Taxonomy

The EU Taxonomy is a green classification system for investment purposes that translates the EU's climate and environmental objectives into criteria for specific economic activities. The EU Taxonomy Regulation was established in July 2020 to stimulate and increase insight into "sustainable financing and investments". It establishes six environmental objectives of which climate change mitigation and climate change adaptation became effective in 2021. The taxonomy framework provisions effective on the date of the Annual Report 2022 requires Besi to disclose the proportion of its taxonomy-eligible activities and non-eligible economic activities in its total turnover, capital and operational expenditure, as well as certain qualitative information. We used the delegated act ((EU) 2021/2139) to identify activities that are eligible. However, none of our revenue-generating activities were included in line with the core activities of Besi as this delegated act related to the first two objectives only applies to sectors with very high CO₂ emissions. Consequently, none of Besi' revenues were eligible under this delegated act during 2022 (0%). All revenues were non-eligible (100%).

For our capital expenditures ("CapEx"), we screened (EU) 2021/2139. Besi only has capital expenditure additions which potentially meet the conditions related to the purchase of output from Taxonomy-aligned economic activities and individual measures enabling the target activities to become low-carbon or to lead to greenhouse gas reductions. The capital expenditures of purchased output is not aligned with the EU Taxonomy. As such the purchased output is qualified as Taxonomy-non-eligible capital expenditures activities. All capital expenditures were non-eligible (100%).

¹ The SASB Standards became a resource of the IFRS Foundation as of August 1, 2022, upon consolidation of the Value Reporting Foundation (which housed the SASB Standards and the Integrated Reporting Framework) into the IFRS Foundation.

Similar to capital expenditures, we screened (EU) 2021/2139, assessed for relevant operational expenditures (“OpEx”) activities and have not identified any material eligible operational expenditure. Total operational expenditures are determined based on the 2022 non-capitalized costs that relate to research and development, building renovation, short-term lease, maintenance and repair, and any other direct expenditures relating to day-to-day servicing of property, plant and equipment. Non-eligible operational expenditures were 100%.

Our accounting principles for determining revenue, capital expenditures and operating expenses under the EU Taxonomy are aligned with the accounting principles included in Note 2 to the Consolidated Financial Statements. Operating expenses per EU Taxonomy have a different definition and are a subset of the operating expenses included in the Financial Statements.

Economic activities	Code(s)	Absolute Turnover 2022 (€ thousands)	Proportion of turnover 2022 (%)
<i>A. Eligible activities</i>			
A.1 Eligible Taxonomy-aligned activities		-	0%
A.2. Eligible not Taxonomy aligned activities		-	0%
Total (A.1 + A.2)		-	0%
<i>B. Taxonomy-non-eligible activities</i>			
Turnover of Taxonomy-non-eligible activities (B)		722,870	100%
Total (A+B)		722,870	100%

Economic activities	Code(s)	Absolute CapEx 2022 (€ thousands)	Proportion of CapEx 2022 (%)
<i>A. Eligible activities</i>			
A.1 Eligible Taxonomy-aligned activities		-	0%
A.2. Eligible not Taxonomy aligned activities		-	0%
Total (A.1 + A.2)		-	0%
<i>B. Taxonomy-non-eligible activities</i>			
CapEx of Taxonomy-non-eligible activities (B)		6,543	100%
Total (A+B)		6,543	100%

Economic activities	Code(s)	Absolute OpEx 2022 (€ thousands)	Proportion of OpEx 2022 (%)
<i>A. Eligible activities</i>			
A.1 Eligible Taxonomy-aligned activities		-	0%
A.2. Eligible not Taxonomy aligned activities		-	0%
Total (A.1 + A.2)		-	0%
<i>B. Taxonomy-non-eligible activities</i>			
OpEx of Taxonomy-non-eligible activities (B)		52,584	100%
Total (A+B)		52,584	100%

Besi's product portfolio is not yet covered in the classification system of the EU Taxonomy regulations. However, we deliver systems which can potentially be used by our customers for a variety of environmentally friendly applications as set forth in the following table:

Potential green activity by our customers	Application	Contribution by Besi
Power transmission	Electrical vehicles	<ul style="list-style-type: none"> Our new equipment generations are used in the fabrication of advanced power packages for automotive and industrial applications enabling more efficient power conversion and reduced power dissipation.
Communication	5G cellular networks	<ul style="list-style-type: none"> Our advanced SiP technologies allow for faster, more secure, more efficient and higher bandwidth transmission and reception in 5G cellular networks.
More efficient high-end computing	Data centers/ Autonomous driving	<ul style="list-style-type: none"> Our next generation die bonding systems allow for ever greater contact density per chip or SiP so as to require less power usage and heat dissipation for data transfer and a reduction of overall power usage per bit for both data center and autonomous driving applications.
Less waste	General	<ul style="list-style-type: none"> We continuously optimize our systems for reduced material consumption during customer operation in the areas of epoxy and molding compounds as well as the conversion to water-based chemicals in our plating process technologies in order to reduce waste. We increase the throughput and yield and reduce the waste generation of our systems during customer operation by shortening learning curves and reducing operator interference.
Circular economy	General	<ul style="list-style-type: none"> We offer upgrades, retrofits and conversion kits to customers to extend the useful lives of our systems. Some of our equipment has been running at customer sites for more than ten years. Some customers sell our equipment to third parties in the secondary market further extending the useful lives of our systems. We reduce the energy consumption of our systems with comparable output by optimizing process cycles and component selection. We work with scientific institutes to further optimize our systems' material and energy usage and increase their recycling potential. We reduce transport-based emissions via local manufacturing and the usage of alternative freight methods. We reuse packaging in our operations in order to reduce waste and enhance sustainability.
Solar	Solar cells	<ul style="list-style-type: none"> Our solar cell plating technology realizes higher efficiencies and lower waste generation than comparable screen printing technologies.

TCFD

Besi recognizes the adverse effects caused by the emerging climate change crisis and carefully monitors the impact of climate change on our operations. In addition, we recognize increasing interest from customers and investors on climate topics and support the activities of the Taskforce on Climate-related Financial Disclosures (“TCFD”). Our objective is to comply with its recommendations to provide greater transparency in the reporting of climate-related risks and opportunities. Additionally, we have used TCFD’s guidance and conducted a climate change risk assessment using various scenarios to inform the development of Besi’s climate strategy.

Besi has made certain climate-related disclosures as part of the Annual Report 2022 in our first-year reporting against TCFD recommendations. An overview of all TCFD topics and relevant disclosures including the climate-related scenario analysis used for compliance with TCFD, are available on our website www.besi.com.

Our key stakeholders

Besi regularly engages with stakeholders to identify business and performance opportunities, issues and risks in order to better assess its long-term sustainable value creation model. Insights are gathered through a variety of channels including dialogue with investors and customers, management reviews, employee surveys and internal and external audits. We listen to our stakeholders, strive to be as responsive as possible and to exceed their expectations.

We identify key stakeholders according to Besi’s impact on their interests as well as their ability to influence our strategy and objectives. Our key stakeholders include shareholders, suppliers, customers, employees, local communities, society and local governments.

Stakeholder group	Why we engage	How we engage
Shareholders	<ul style="list-style-type: none"> Shareholders expect Besi to protect their investment and provide a competitive return on capital while operating responsibly as a corporate citizen. Both existing and new investors have shown increased interest in ESG and have specific ESG criteria with which to evaluate Besi’s performance. 	<ul style="list-style-type: none"> Shareholders are engaged through an active investor relations program including quarterly and annual conference calls, roadshows, conferences, analyst presentations and Besi’s Annual General Meeting (“AGM”). We maintain close contact with investors in Europe, North America and Asia. We conduct regular meetings with investment professionals and encourage them to ask questions during our earnings calls, meetings, conferences and at our AGM. We engage in important face-to-face dialogue and receive valuable feedback about our business and ESG topics.
Suppliers	<ul style="list-style-type: none"> Maintaining a responsible supply chain is an important part of our Responsible Business pillar. A high quality, flexible and scalable supply chain is critical to satisfying customer needs in a cyclical business and to the long-term success of our business. We seek to build long-term, mutually beneficial relationships with our suppliers. We are expanding our efforts to ensure that all suppliers can match Besi’s own environmental and ethical standards. 	<ul style="list-style-type: none"> We engage with suppliers through direct dialogue, site visits and audits. We perform annual third-party external audits for all significant production and development facilities with respect to supplier ISO 9001 and ISO 14001 capabilities. We work together with suppliers to lower our joint environmental footprint, create sustainable products and supply chains and assess and mitigate social, health, safety and ethical risks.

Stakeholder group	Why we engage	How we engage
Customers	<ul style="list-style-type: none"> • Building strong relationships is important to attract customers and to our revenue growth. • Providing superior customer support is critical to maintaining strong relationships. • Besi's customers increasingly seek products that are sustainable, environmentally friendly and ethically produced. • Our ESG strategy is formulated with sustainable design as a key component. 	<ul style="list-style-type: none"> • Customer satisfaction is an important measure to gauge customer fulfilment. • We have a very experienced team of 252 sales and service people globally which maintain customer relationships and engage key customers on topics such as device roadmaps, assembly equipment requirements and future market trends. • We conduct annual customer satisfaction surveys to assess existing relationships and identify areas for improvement. • Customer satisfaction scores have increased over the past five years. In 2022, customers were particularly satisfied with the reliability, durability and performance of Besi's systems. • We engage with customers to ensure that our products meet their environmental and social standards.
Employees	<ul style="list-style-type: none"> • Besi considers satisfied and engaged employees as a key ingredient for its successful growth. • Employees expect Besi to have high social and ethical standards in the conduct of its business. • Employees also expect us to provide them with equal treatment and opportunities, safe working conditions and career development potential. • Our ESG performance and engagement will become increasingly important to attracting and retaining talent. 	<ul style="list-style-type: none"> • We promote an atmosphere of open dialogue between managers and employees. During performance appraisals, both employees and managers are encouraged to voice their concerns in a collegial exchange. • Employee interests are also communicated in a more institutional way via local European Works Council representations. • In Europe, we hold meetings with Works Councils twice a year to listen to the views of employees and communities. • We conduct Town Hall meetings for all employees on a quarterly basis to inform them as to current business and financial developments. • We have launched ESG resource pages in certain locations to educate and engage our employees about Besi's ESG strategy and progress. • We conduct bi-annual employee engagement surveys. Our most recent 2021 COVID-19 pulse survey had a high level of participation (94%) and level of engagement (90%). • The survey indicated that employees get along well together, were able to connect well despite the varying working arrangements throughout the Company and had strong feelings of trust between team members. • Employees also had a strong understanding and motivation to contribute to Besi's business and ESG objectives and felt they were well supported from a safety standpoint during the pandemic. • We used the results of the survey to improve areas in which the Company under-performed and made changes both company-wide and at the facility-level. • We conducted a sustainable design training in Austria and Switzerland to help engineers promote sustainable design in next generation product development.

Stakeholder group	Why we engage	How we engage
Local communities and society	<ul style="list-style-type: none"> • Besi relies on the health, wellbeing and stability of local communities in the regions where we operate. • We aim to have a positive impact on communities through good corporate and employee conduct. • Society expects Besi to respect national and international laws and regulations, minimize our negative impacts and provide transparency on economic, environmental and social topics. 	<ul style="list-style-type: none"> • Besi invests in many community projects, particularly in Asia. • Senior managers review any concerns raised by local communities. They try to communicate any issues which may arise to all stakeholders as well as best practices for successful resolution. • We abide by appropriate social, ethical and environmental standards in our operations. • We meet or exceed minimum legal and regulatory compliance levels. • We engage in responsible tax practices. • We pay our fair share of taxation in all jurisdictions in which we have operations. • Local governments expect compliance with local laws, regulations and care for the health, safety and security of their communities. • Many countries pay close attention to ESG topics in light of increased concern over serious environmental issues. • We use European social and ethical standards wherever possible in all our operations. • We participate in dialogue with local chambers of commerce as appropriate. • We do not participate in lobbying activities or make political contributions.



Beach clean-up event Besi Singapore employees, October 2022


ENVIRONMENTAL IMPACT

Besi is committed to reducing its environmental impact, resource consumption and the carbon footprint of its operations which includes increasing the sustainability of the components, modules and systems we produce and purchase from third parties. Material topics of this pillar include a reduction of carbon emissions and overall usage of energy, waste, water and hazardous materials. It also focuses on integrating sustainable design processes into Besi's development activities and increasing the utilization of renewable energy sources.

As a result of Besi's successful performance against initial targets set for 2022 and 2030, we have updated our targets for 2024 and 2030 and changed the base year for target setting from 2019 to 2021.





Set forth below are Besi's material topics related to its Environmental Impact process pillar, progress in 2022 and its targets for 2024:

Material topic	2022 progress update versus actual 2021	2022 progress update versus targets 2022	2024 target versus 2021 base year
Energy use and renewable energy	<ul style="list-style-type: none"> Fuel consumption declined on both absolute (16%) and relative basis (12%). 10% increase of electricity usage on a relative basis. 100% renewable energy achieved at European operations up from 92%. 76% renewable energy utilized globally. Completed climate change assessment with aid of third-party consultant. Began reporting under TCFD framework with relevant disclosures wherever possible. Renewable energy usage increased at Besi APac sites. <p>Projects realized at Besi APac:</p> <ul style="list-style-type: none"> Replaced all lighting with LED lighting in Malaysia. Optimized energy usage of air conditioning unit in Malaysia. Replaced all computer monitors in Malaysia with more energy efficient computer monitors. <p>Projects realized at Besi European operations:</p> <ul style="list-style-type: none"> Replaced all computer monitors in Switzerland with more energy efficient computer monitors. Relocation of Plating Group based in the Netherlands to a smaller, more energy efficient location. 	<ul style="list-style-type: none"> Fuel Consumption: Fuel intensity of 2.9 Kwh/€million revenue realized versus target of 4.6 Kwh/€million revenue (37% outperformance). Electricity Consumption: Electricity intensity of 23 Kwh/€million revenue achieved versus target of 35 Kwh/€million revenue (34% outperformance). Renewable Energy Europe: Met 100% Renewable Energy European target set in 2020. Renewable Energy Global: 76% renewable energy global achieved in 2022 versus 25% target (51 point outperformance) mainly as a result of the accelerated implementation of renewable energy usage in Asia. 	<ul style="list-style-type: none"> 15% reduction in fuel consumption. 11% increase due to change in product mix with increased cleanroom requirements. 75% renewable energy utilized globally.

Material topic	2022 progress update versus actual 2021	2022 progress update versus targets 2022	2024 target versus 2021 base year
Carbon emissions	<ul style="list-style-type: none"> • Scope 1 & 2 emissions intensity declined by 64%. • Absolute Scope 1 & 2 emissions declined by 65%. • Scope 3 emissions intensity declined by 14% (30% on comparable basis). • Absolute Scope 3 emissions declined by 17%, even including inbound freight emissions for Malaysian production facility and freight emissions for Swiss and Singapore R&D sites which were not included in 2021 (32% on comparable basis). • Increased deployment of hybrid and electric vehicles across Europe with charging points installed at Besi sites in Austria, Switzerland and the Netherlands. 	<ul style="list-style-type: none"> • Scope 1 & 2 emissions: Direct emission intensity of 5.2 tCO₂/€million revenue achieved versus target of 21.2 tCO₂/€million revenue (75% outperformance) mainly as a result of the accelerated implementation of renewable energy usage in Asia. • Scope 3 emissions: Direct emission intensity of 13.6 tCO₂e/€million revenue achieved versus target 18.7 tCO₂e/€million revenue (27% outperformance) mainly as a result of the accelerated implementation of renewable energy usage in Asia and zero travel policy due to COVID-19. 	<ul style="list-style-type: none"> • 62% reduction in Scope 1 & 2 carbon emissions. • 12% reduction in Scope 3 carbon emissions.
Waste and hazardous waste disposal	<ul style="list-style-type: none"> • Waste and hazardous waste disposal declined by 3%. • Relative waste kg/€million revenue increased by 0.9%. • Completion of cleanroom production facilities at Besi Austria and Besi APac. • Work commenced on Singapore cleanroom facility for customer process/support. 	<ul style="list-style-type: none"> • Total Waste: Total waste intensity of 319 kg/€million revenue achieved versus target of 413 kg/€million revenue (23% outperformance). • Hazardous Waste: Hazardous waste intensity of 24 kg/€million revenue achieved versus 57 kg/€million revenue (58% outperformance). 	<ul style="list-style-type: none"> • 15% reduction in total waste. • 20% reduction in hazardous waste.
Water withdrawal	<ul style="list-style-type: none"> • Relative water withdrawal increased by 12%. • Project undertaken to find alternative cooling system in Malaysia. 	<ul style="list-style-type: none"> • Water intensity: Total water intensity of 46 m³/€million revenue achieved versus target of 74 m³/€million revenue (38% outperformance). 	<ul style="list-style-type: none"> • 2% reduction in water withdrawal.
Sustainable design	<ul style="list-style-type: none"> • Projects underway to analyze product lifecycles in multiple product groups. • Participated in joint project with Lucerne University of Applied Sciences and Arts (Switzerland) to identify potential areas of cooperation with respect to environmentally friendly product design. Identified potential energy savings for die attach platforms of approximately 10%. • Began wastewater treatment project in collaboration with Copernicus Institute of Sustainable Development at Utrecht University to measure ecological footprint of Besi's plating systems. 	<ul style="list-style-type: none"> • Roadmaps, priorities and initiatives developed for sustainable system design in accordance with targets. 	<ul style="list-style-type: none"> • Develop additional targets for sustainable system design.

SDG alignment

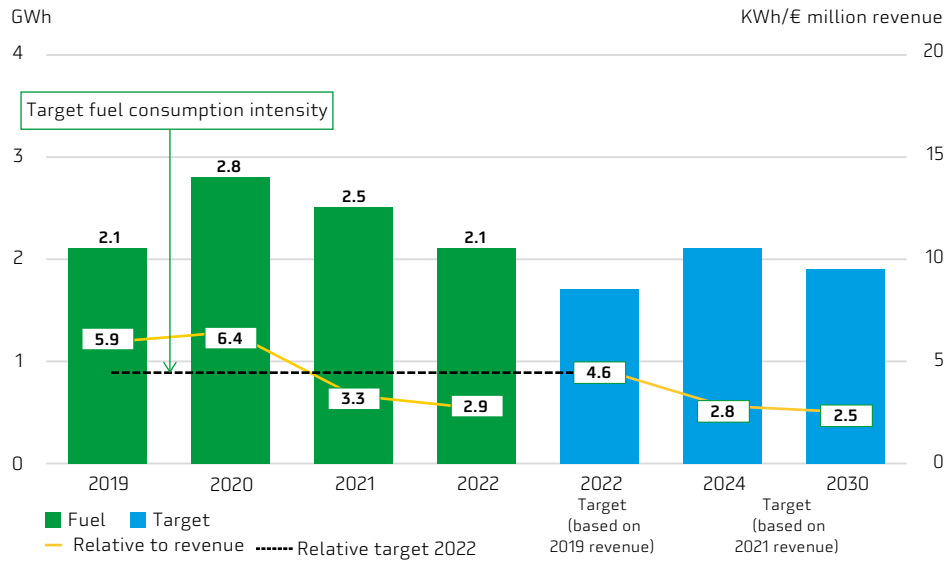
The following SDGs align with the Environmental Impact pillar of Besi's ESG strategy:

Goal/description	How we contribute
 <p>Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>We increased the percentage of renewable energy used across our operations to 76% in 2022 which was significantly in excess of the 25% renewable energy target set for 2022. Our revised 2024 target is 75%.</p>
 <p>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>We conduct life cycle assessments as a means of reducing our products' environmental footprint while increasing their efficiency and recyclable content. In addition, we have collaborative projects underway with a number of European universities to increase Besi's sustainable system design for each successive product generation.</p>
 <p>Ensure sustainable consumption and production patterns</p>	<p>The availability and conservation of natural resources is one of today's largest global challenges. We accept our responsibility by concentrating on the procurement of environmentally friendly materials, reducing waste and packaging in our supply chain for product manufacturing and increasing our participation in the circular economy.</p>
 <p>Take urgent action to combat climate change and its impacts</p>	<p>We recognize the urgent global challenge of reducing greenhouse gas emissions. We contribute to this effort by investigating innovative systems and solutions to help reduce emissions during their entire use phase and by providing a transparent overview of greenhouse gas emissions as part of our Annual Report. In this regard, we significantly outperformed 2022 targets for Scope 1, 2 and 3 emissions and fuel and electricity intensity this year and set new challenging goals for achievement by 2024 and 2030. Our long term objective is to reach net-zero carbon emissions by 2050 in recognition of the global ecological and societal imperatives caused by climate change.</p>

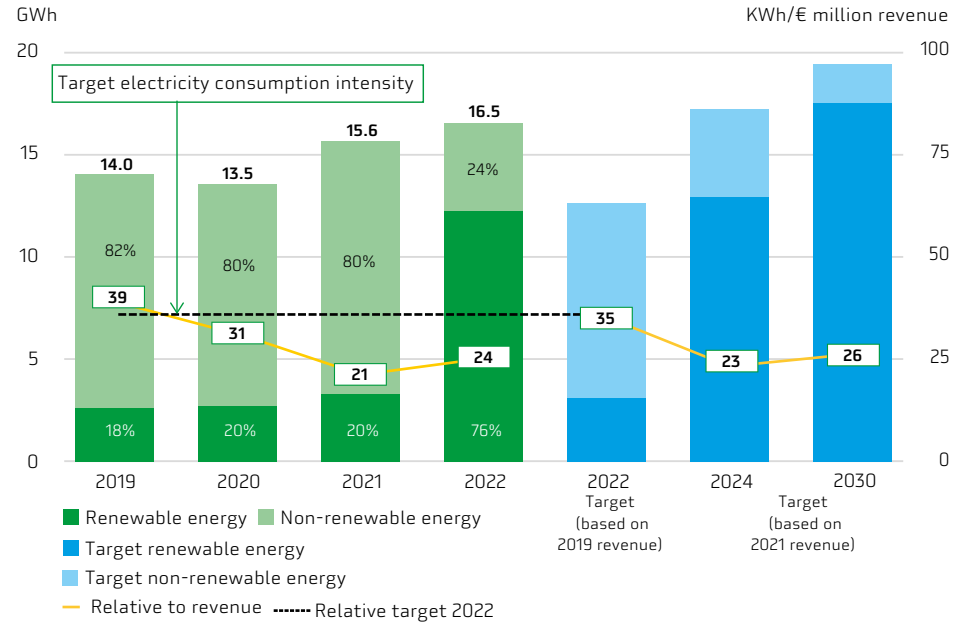
Energy use and renewable energy

We seek to decrease our energy usage via a reduction of fuel and electricity consumption and increased utilization of renewable energy sources.

FUEL CONSUMPTION



ELECTRICITY CONSUMPTION



Besi has achieved relative reductions in its fuel and overall energy consumption over the past three years and significantly outperformed 2022 target reduction levels on a relative basis as a result of concerted efforts by senior and local management. We utilize renewable energy sources at many of our locations worldwide including all of our European operations. Some of our energy conservation efforts have been mitigated by increased fresh air ventilation necessary at many office sites in response to the COVID-19 pandemic.

Installation of solar power reduced energy usage at Besi APac and Besi Austria

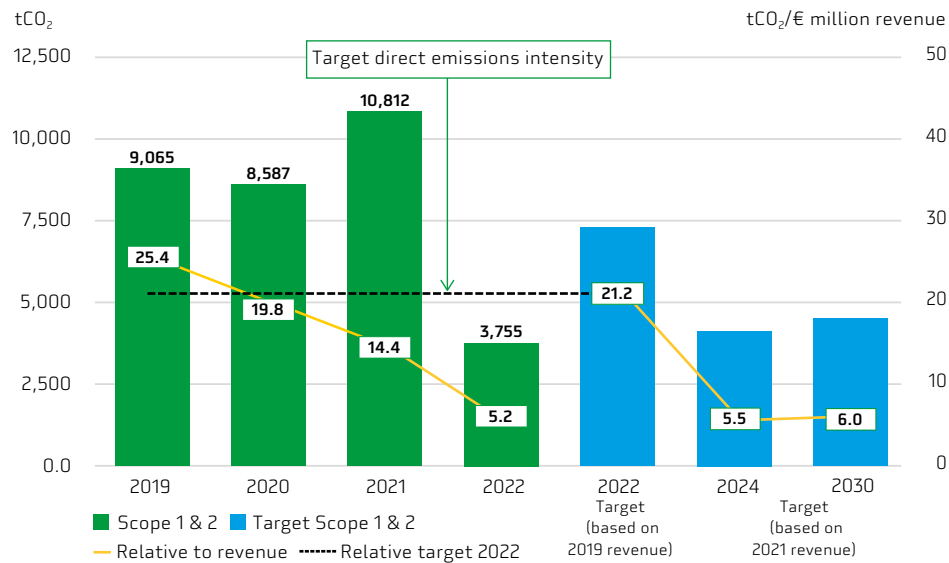
We installed solar roof and photovoltaics systems over the past two years at our Besi APac and Besi Austria facilities to help reduce aggregate energy consumption. The solar cells utilized were produced using Besi’s equipment.

Carbon emissions

Reducing Besi's carbon footprint is a key focus of our ESG strategy. In reporting carbon emissions levels, we have adopted the standards and methodology put forth by the Greenhouse Gas Protocol, an independent standard which divides emissions into three scopes:

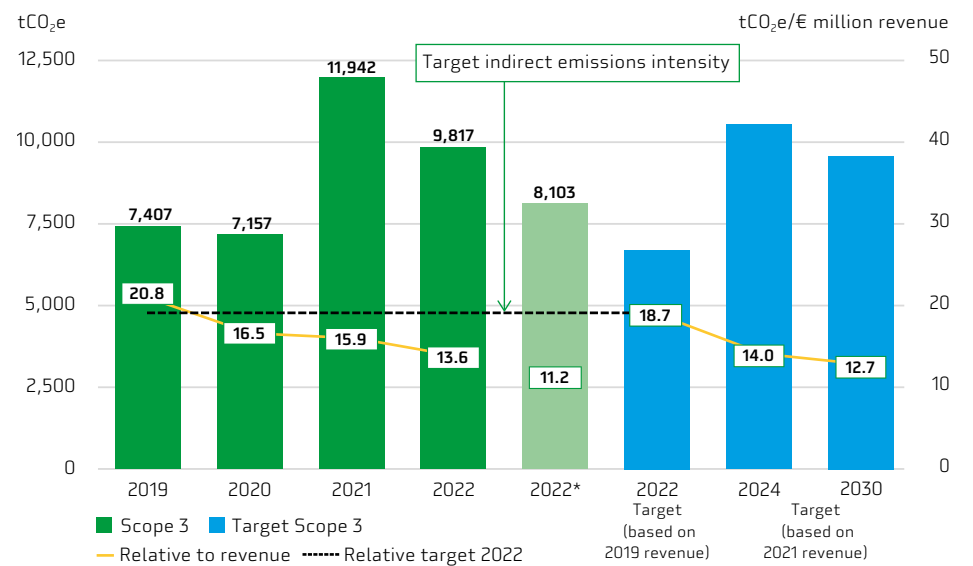
- *Scope 1 emissions:* cover direct greenhouse gas ("GHG") emissions resulting from day-to-day business activities. This category includes on-site fuel combustion such as gas boilers as well as manufacturing, transport and fugitive emissions.
- *Scope 2 emissions:* cover indirect GHG emissions which result from the electricity, heat and steam we purchase from external sources.
- *Scope 3 emissions:* include our emissions resulting from freight transport, business flights and for our non-renewable electricity consumption, transmission and distribution losses and well-to-tank, except for the exclusions as mentioned in the Reporting Scope section.

DIRECT EMISSIONS



Our ambition is to reduce carbon emissions intensity (carbon emissions/revenue) across all three reporting scopes. Toward this end, Besi has reduced its direct emissions intensity since 2019 by 20.2 tCO₂ emissions/€million revenue, or 80%, as a result of the accelerated implementation of renewable energy usage in Asia. Furthermore, Besi has reduced its indirect emissions intensity since 2019 by 7.2 tCO₂e emissions/€million revenue, or 35%, reflecting progress in the areas of transportation, freight and travel as well as the beneficial impact of our product mix and changes to our business model from more flexible working arrangements in response to the global pandemic. In 2022, Besi performed significantly better than the Scope 1, 2 and 3 emissions intensity targets for 2022 set in 2020.

INDIRECT EMISSIONS



* Adjusted to exclude inbound freight emissions for our production facility in Malaysia and freight emissions for our Swiss and Singapore research and development sites (not included in 2021).

Our Malaysian facility recognized at the National Energy Awards

The Malaysian Ministry of Energy and Natural Resources named Besi APac as the winner of the Energy Performance Contracting award for 2022. The award recognized our efforts to retrofit an air handling unit at Besi's Malaysian site which experienced a 46% reduction in monthly energy consumption.

Waste and hazardous waste disposal

We seek to reduce the waste and hazardous waste produced by our operations wherever possible. In all facilities, waste separation systems are in place and the re-use, reduce, recycle concept is well established. The principal focus is the reduction of waste used in the packaging process wherein we use materials such as plastic, wood and cardboard to ensure proper protection. We have experienced 61% and 24% reductions in our hazardous and non-hazardous waste intensity, respectively, since 2019. In addition, Besi performed significantly better than the 2022 waste intensity targets.

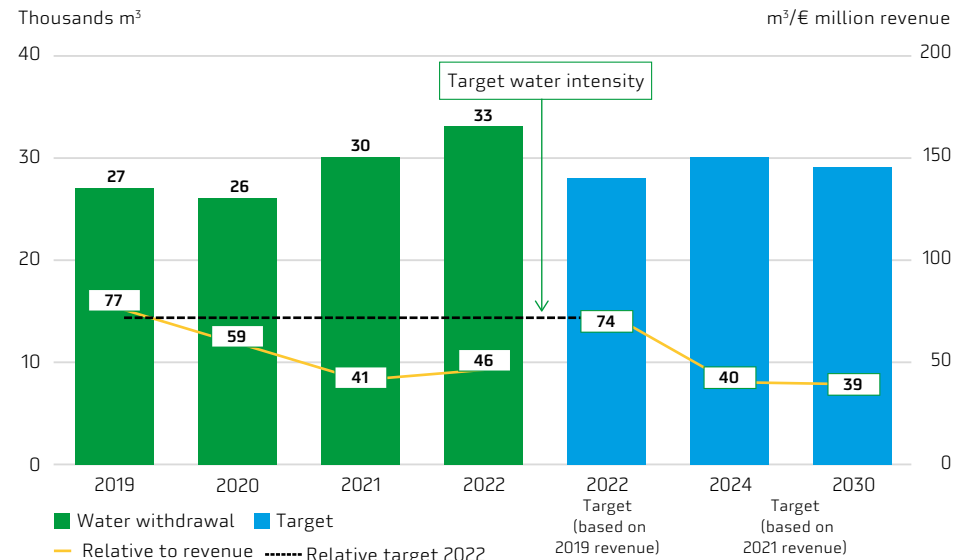
WASTE



Water withdrawal

Water conservation is another priority. Virtually all water used in our operations is discharged back into local water systems. As a result, our net usage is limited. In addition, Besi does not operate in any regions with a high or very high water risk as defined by the World Resources Institute. Besi utilized approximately 33 million liters of fresh water in its operations in 2022 of which approximately 85% was utilized in our Asian production operations. Water withdrawal intensity has decreased since 2019 by 40.3%.

WATER WITHDRAWAL



Sustainable design

Besi develops high quality, premium priced system solutions for customers offering leading edge reliability, accuracy, throughput, system uptime, yield of defect free devices, longevity and low environmental impact. We have implemented externally certified ISO 9001 and ISO 14001 management systems to manage quality and environmental issues in our production operations. Our development efforts focus on system efficiency both in terms of environmental impact and productivity/cost savings with a particular emphasis on:

- Leading edge product innovation.
- Energy efficiency.
- Recycling potential of applied production materials.
- Recycled content used in our products.
- Exclusion of hazardous components in our systems.
- Exclusion of conflict materials from our design process.

Process and software testing MMA Besi Austria



We prioritize sustainable design in our system development efforts and conduct life cycle assessments as a means of reducing their environmental footprint while increasing their efficiency and recyclable content. As a result, we can provide customers a low total cost of ownership and an attractive return on initial investment while promoting sustainability themes.

In 2021, we launched several sustainable design initiatives focused on design to cost, quality and sustainability. Such initiatives were focused on upgraded versions of our mainstream die bonding product lines as well as for new wafer level assembly platforms such as hybrid bonding and next generation TCB systems. We have also participated in a project with the University of Applied Sciences and Arts (Lucerne, Switzerland) to identify potential areas of cooperation with respect to environmentally friendly product design. Internal projects were also commenced to analyze product lifecycles in multiple product groups to further extend their useful lives. In addition, we began a wastewater treatment project in collaboration with Copernicus Institute of Sustainable Development at Utrecht University to measure the ecological footprint of Besi's systems. We expect these activities to bring value to our customers in terms of better yield, throughput, energy conservation and efficiency, lower material consumption and total cost of ownership.

Besi systems can also be customized, reconfigured and redeployed for other production purposes over their product lifespan thus extending their useful life as well as reducing their environmental impact and raw material consumption. Customer utilization of our extensive global network of field service and spare parts also helps customers extend the useful life of Besi's systems.

Future energy reduction priorities

- Realization of sustainable design initiatives.
- Enhance energy efficiency of our facilities.
- Reduction of discretionary travel as much as possible.
- Continued improvements in natural resource consumption.
- Reduced consumption of office supplies where possible.

Besi Switzerland collaborating on environmentally friendly product design




In 2021, we commenced participation in a project with the Lucerne University of Applied Sciences and Arts (Switzerland) to identify potential fields of interest for more environmentally friendly product design. Different scenarios involving customers, production locations and processes were examined. The various scenarios demonstrated a range of environmental influences. As a result of our collaborative efforts, we expect to see initial energy savings realized for our die attach platforms beginning in 2023 with the potential to achieve absolute energy savings of approximately 10% per platform over the next ten years.


PEOPLE WELLBEING

Material issue	2022 progress update versus actual 2021	2022 progress update versus 2022 target	2024 target versus 2021 base year
Diversity and inclusion	<ul style="list-style-type: none"> Female managers as % of total managers increased from 18% in 2021 to 20% in 2022. 17% female employees as % of total employees, similar to 2021. Local managers as % of total managers increased from 87% in 2021 to 88% in 2022. 	<ul style="list-style-type: none"> Met target of 20% female managers in workforce. Underperformed female employee target of 19%. 17% achieved in 2022. Achieved ratio of local managers to total managers of 88% in 2022 which exceeded target of 85%. 	<ul style="list-style-type: none"> Increase % of female employees in management to >21%. Increase % of female employees as % of total employees to >19%. Maintain % of local nationals in management >85%.
Health and safety	<ul style="list-style-type: none"> COVID-19 protocols and vaccination programs maintained. Six incidents reported of which two were incidents with absence above four days, three were incidents with minor absence (less than four days) and one incident with first aid cases in which the employee could resume work immediately after treatment. No fatalities reported. Besi facilities in Austria, Malaysia, Singapore and Switzerland now ISO 45001 compliant. 	<ul style="list-style-type: none"> Target of zero safety incidents not achieved. 	<ul style="list-style-type: none"> Achieve safety incident record of zero.
Employee engagement and career development	<ul style="list-style-type: none"> Overall training hours per employee increased from 26 hours to 31 hours (+19%). Most training hours were conducted in China including government sponsored online training. Internal and external training provided for onboarding of new R&D management in connection with new organization structure. ESG resource page launched at certain locations to educate and engage employees about Besi's ESG strategy and progress. Monthly open-door meetings with management introduced at Besi Netherlands. Results of 2021 employee engagement survey utilized to improve areas of weakness identified both at Company and facility-level. Two European Works Council meetings conducted to hear views of employees and communities. Quarterly Town Hall meetings for all employees conducted to share business progress. Employee turnover increased slightly from 10% in 2021 to 11% in 2022. 	<ul style="list-style-type: none"> Average training hours per employee increased to 31 hours versus target of 23 hours (35% outperformance). Global COVID-19 pulse survey carried out by Willis Towers Watson indicated high level of participation (94%) and high level of engagement (90%). 	<ul style="list-style-type: none"> Maintain employee engagement >85%. Remain above high-tech benchmark. Maintain investment in employee training >21 working hours per employee per year.

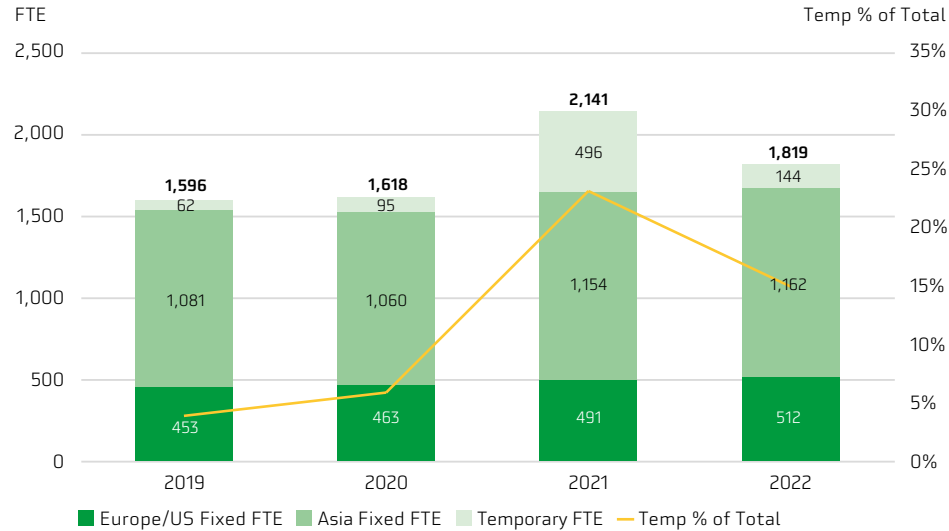
SDG alignment

The following SDGs align with the People Wellbeing pillar of Besi's ESG strategy:

Goal/description	How we contribute
 <p>Ensure healthy lives and promote well-being for all at all ages</p>	<p>Employee health, safety and wellbeing are material topics. Besi's production sites have EHS officers and committees and a health and safety management system and procedures. EHS committees are responsible for the inspection, enforcement and promotion of health and safety matters in the workplace. Employees also regularly receive EHS training.</p>
 <p>Achieve gender equality and empower all women and girls</p>	<p>We are committed to improving gender diversity across all operations and providing equal opportunities for all employees. We increased the percentage of women in management to 20% in 2022 which met our target. We are committed to further increasing the percentage of women in management and women in the workforce but recognize the difficulties achieving such goals per region due to the limited number of qualified personnel available.</p>
 <p>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	<p>We are committed to providing a safe and secure working environment for all employees. All employees are made aware of their rights including the right to freedom of association and collective bargaining.</p>

Besi is committed to being a good employer and promoting a workplace culture supporting the achievement of its business and ESG objectives. We comply with all applicable employment laws and regulations in the countries in which we operate. All employees are made aware of their rights including the right to freedom of association and collective bargaining. We seek to be a preferred employer by emphasizing the diversity, health, safety and wellbeing of our employees, flexible working arrangements and career growth and development.

HEADCOUNT TRENDS



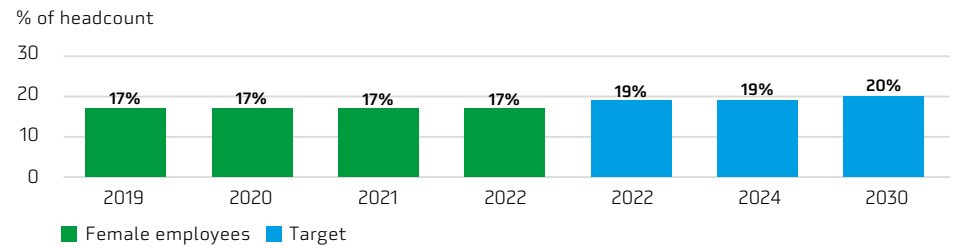
Topic	2019	2020	2021	2022
Employee turnover	16%	7%	10%	11%
New hires	6%	8%	19%	11%

As indicated in the table above, employee turnover has reduced since 2019 and the percentage of new hires increased significantly in light of improving industry conditions. In 2022, such metrics were adversely affected by a renewed industry downturn which began in the second quarter of the year.

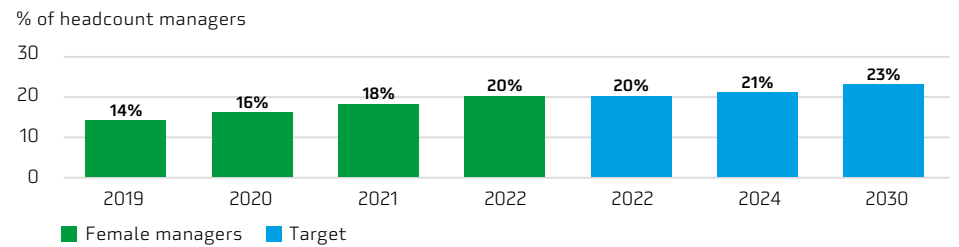
Diversity and inclusion

Besi values and encourages cultural, age and gender diversity in its workforce and management believing it helps broaden our perspective and contribute to growth. Diversity and inclusion is a priority topic in Besi's ESG strategy with improved gender diversity across all operations the most immediate focus. We also recognize the importance of diversity in recruiting. Many of our sites engage with local universities to drive growth in diversity representation. Our Code of Conduct also emphasizes equal opportunity for all employees and applicants.

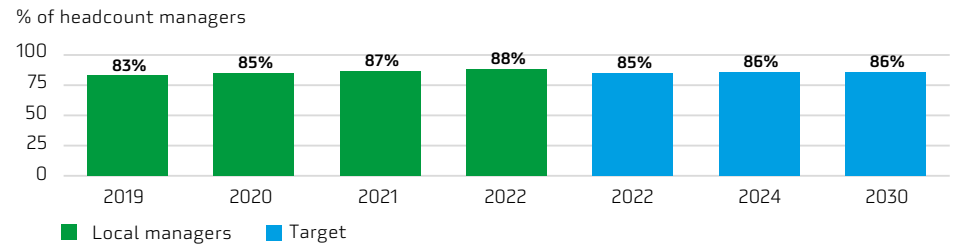
FEMALE EMPLOYEES



FEMALE MANAGERS



LOCAL MANAGERS



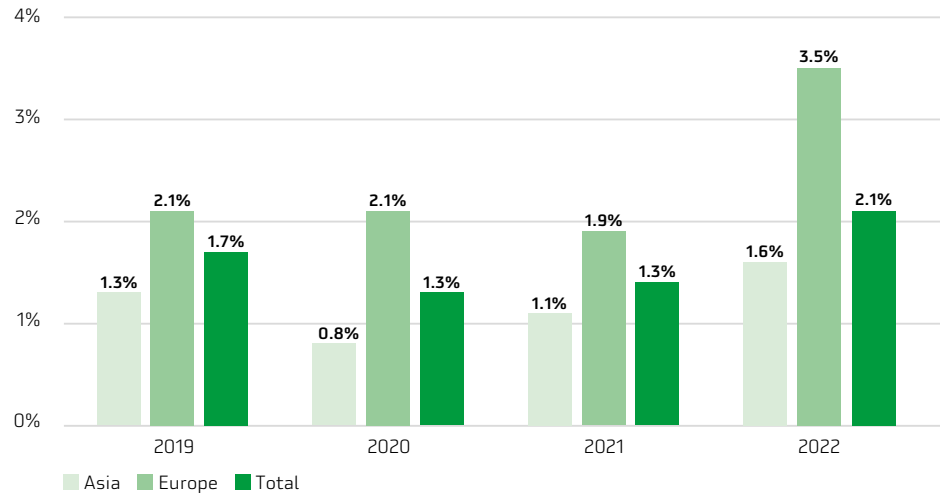
Besi's diversity efforts indicate progress as measured by an increasing percentage of female managers and local managers in the workforce over the past three years.

Employee health and safety

Employee health and safety represents another material ESG topic. Besi monitors incidents in the workplace at all locations worldwide. Incidents are grouped into categories by severity: (i) fatalities, (ii) major absences (more than four days), (iii) minor absences (less than four days) and (iv) first aid cases in which employees can resume work immediately after treatment or the following day. Safety hazards at Besi are limited. There were six safety incidents recorded last year at Besi’s Malaysian and Austrian operations of which two resulted in major absences and none of which were fatal. In general, incidents are few as our production facilities are predominantly clean environments with no heavy chemicals present. In addition, there were no legal proceedings related to health and safety incidents in 2022. We are committed to be compliant with all local laws. Our facilities in Austria, Malaysia, Singapore and Switzerland are ISO 45001 compliant. We expect our Dutch and Chinese facilities to be ISO 45001 compliant and certified by the end of 2023.

SICKNESS RATE

% of headcount



Besi Netherlands

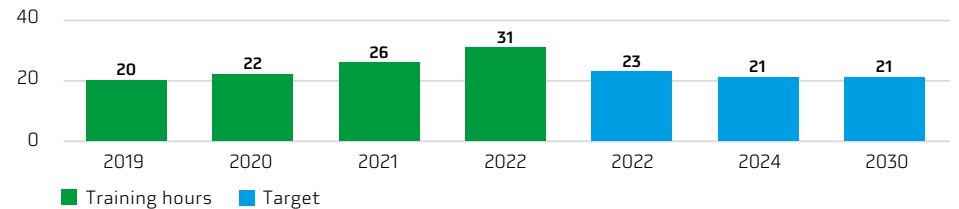
Work has been undertaken at our Duiven, the Netherlands facilities to optimize safe working conditions for employees and to limit their exposure to molding compounds. This will be accomplished through changes to the building infrastructure and separation of the molding compound working zones from the facility’s other activities. We anticipate receipt of the ISO 45001 certification at this site in 2023 which represents a further external validation of Besi’s occupational health and safety management system.

Employee engagement and career development

One of Besi’s principal challenges is to attract, motivate and retain skilled workers critical to our success in a highly competitive semiconductor equipment industry. A key component of our strategy is training and talent development for which we provide a variety of educational programs across the Company. In addition, we monitor employee engagement and satisfaction across all regional operations and conduct surveys to assess our relative success in such activities. The 2022 figure was positively impacted by a Chinese government sponsored online training.

TRAINING

Hours/employee



Future priorities


- Improve gender diversity across all locations.
- Maintain the health and safety of all employees including the maintenance of selected COVID-19 protocols related to travel, corporate gatherings and testing.
- Continue to improve Besi’s management systems and gain external certification wherever possible.


RESPONSIBLE BUSINESS

Material issue	2022 progress update versus actual 2021	2022 progress update versus 2022 target	2024 targets versus 2021 base year
Ethics and compliance	<ul style="list-style-type: none"> No reported violations of Besi's Code of Conduct. Training provided to all new employees. 	<ul style="list-style-type: none"> No reported violations of Besi's Code of Conduct. Training provided to all new employees. 	<ul style="list-style-type: none"> Increase employee training participation as it relates to Besi's Code of Conduct.
Responsible supply chain	<p>Significant improvements achieved in 2022:</p> <ul style="list-style-type: none"> % of Purchase Volume ("PV") to sign General Work Agreement ("GWA") or General Procurement Contract ("GPC") increased to 77% versus 64%. % of PV to sign CFSI increased to 73% versus 66%. % of PV compliant with RoHS directive remained stable at 94%. % of PV to sign Self Assessment Questionnaire ("SAQ") as to our Code of Conduct decreased to 62% versus 63% (66% of PV signed SAQ for production facilities). % of PV audited increased to 63% versus 59% (67% of PV audited for production facilities). 	<ul style="list-style-type: none"> 77% of PV signed GWA or GPC overperformed target of 75%. 73% of PV signed CFSI overperformed target of 70%. 62% of PV signed SAQ underperformed target of 75%. 63% of PV audited underperformed target of 65%. 	<ul style="list-style-type: none"> 77% of PV to sign GWA or GPC. 73% of PV to sign CFSI. 75% of PV to sign SAQ as to our Code of Conduct. 70% of PV audited.
Community impact	<ul style="list-style-type: none"> Supported various local charities within the regions we operate. Supported local technical schools through donations of employee time. Volunteered employee hours to local initiatives. 	<ul style="list-style-type: none"> Evaluating additional disclosure as to number of hours volunteered and monetary donations. 	<ul style="list-style-type: none"> Report on Besi hours volunteered, monetary donations and education projects supported.
Tax practices	<ul style="list-style-type: none"> Compliant with tax obligations where factual economic activities take place. 	<ul style="list-style-type: none"> Compliant with tax obligations where factual economic activities take place. 	<ul style="list-style-type: none"> Compliant with tax obligations where factual economic activities take place.

SDG alignment

The following SDG aligns with the Responsible Business pillar of Besi's ESG strategy:

Goal/description	How we contribute
 <p>Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p>	<p>Besi's Code of Conduct and Whistleblower procedure guide the activities of our employees. All new employees are required to sign the Code of Conduct and undertake training upon hiring. All other employees undergo training on a regular basis. Besi's Supplier Code of Conduct outlines the standards expected of our suppliers in areas such as human rights, product quality, health and safety and the environment.</p>

Besi operates in a responsible and sustainable manner for the benefit of all stakeholders. We are committed to the UN Universal Declaration of Human Rights, adhere to high ethical standards and expect the same commitment from key stakeholders, particularly across our supply chain. We strive to have a positive impact on the communities and countries in which we operate via charitable activities, by following responsible tax practices and by maintaining open, constructive and mutually respectful relations with tax authorities.

Ethics and compliance

The importance of appropriate anti-corruption and human rights policies has increased with the expansion of Besi's Asian operations, supply chain and logistics activities. In this regard, Besi has a Code of Conduct and Whistleblower procedure (both of which are available on our website) to guide employee activities and to set out the responsibilities, procedures and support functions in reporting violations. All employees are required to sign our Code of Conduct and undertake training upon hiring. In addition, we conduct training for all employees globally on a regular basis. Furthermore, Besi's Code of Conduct prohibits anti-competitive practices. There were no legal proceedings associated with anti-competitive behavior during 2021 or 2022.

Our confidential Whistleblower procedure enables employees to report suspected cases of misconduct. These cases are investigated immediately and overseen by local management and the Board of Management, who have responsibility for approving appropriate corrective measures.

Responsible supply chain

Besi adheres to high ethical standards and expects the same from its suppliers. As such, we have three policies to promote a sustainable supply chain: a Conflict Minerals Policy, a Supply Chain Policy and a Supplier Code of Conduct based on the code set forth by the Responsible Business Alliance ("RBA"). The Code of Conduct is based on international norms and standards including the Universal Declaration of Human Rights, ILO International Labor Standards and the OECD Guidelines for Multinational Enterprises. Besi's Supply Chain Policy and Code of Conduct have been fully in accordance with RBA requirements since 2018. In addition, we seek to align our operations and supply chain with the Restriction of Hazardous Substances ("RoHS") directive. In 2022, 94% of our relevant purchasing volume was compliant with the RoHS directive, equal to 2021.

Besi is committed to improving the sustainability of its supply chain. Our supply chain activities include the sourcing of raw materials, components and semi-finished products from vendors. The issue of conflict minerals is an important topic for supply chain management, particularly in Europe and the United States. We seek to minimize the impact of conflict minerals wherever possible. In 2022, Conflict Mineral Reporting Template

Questionnaires were filed representing approximately 73% of material related purchasing volume from our suppliers, a significant increase versus 66% in 2021.

With respect to human rights, we follow the RBA Code of Conduct both in our production facilities and supply chain. Labour standards in the RBA Code of Conduct include:

- Freely chosen employment
- Young workers
- Working hours
- Wages and benefits
- Humane treatment
- Non-discrimination/non-harassment
- Freedom of association

Besi has achieved gold status with the RBA which is externally audited and accredited.

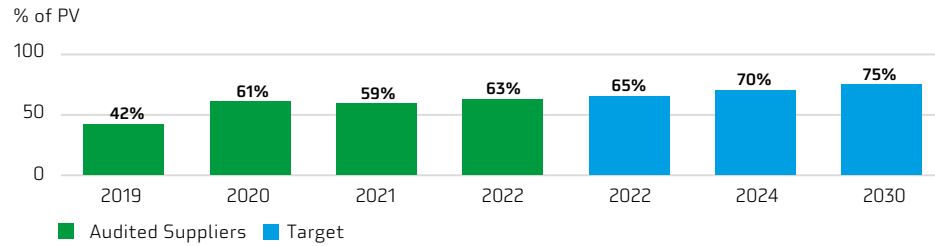
In 2022, 61 suppliers were responsible for approximately 80% of Besi's total purchasing volume. As a result, we established a risk map matrix to assess the importance, reliability, financial condition and sustainability of all suppliers on a regular basis. Besi evaluates suppliers by means of its quarterly business review process under which we regularly conduct performance reviews and key supplier audits. In 2022, we increased the number of supplier performance reviews and audits to 63% of our total purchasing volume, up versus 59% in 2021.

In addition, progress was made in 2022 on ESG-related topics and targets through engagement with suppliers. We set expectations as to the type of ESG information required of them ahead of Besi's annual Supplier Day. Additionally, we began collecting RBA and ESG information as part of the scorecard used in supplier audits. We also plan to implement and enforce a GWA framework in 2023 that includes ESG criteria. Our initial efforts will focus on CO₂ emissions in Besi's supply chain as part of overall Scope 3 emissions reduction efforts. Other supply chain initiatives include prioritizing local sourcing and emphasizing strategic purchasing.

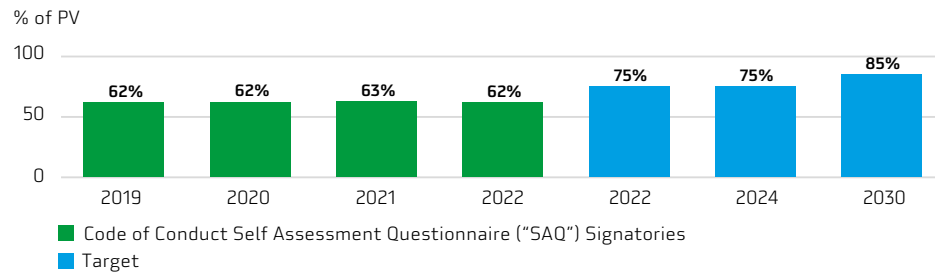
2022 continued to be a challenging year in terms of supply chain disruptions which prevented us from achieving all of our targets related to responsible supply chain.

SUPPLY CHAIN

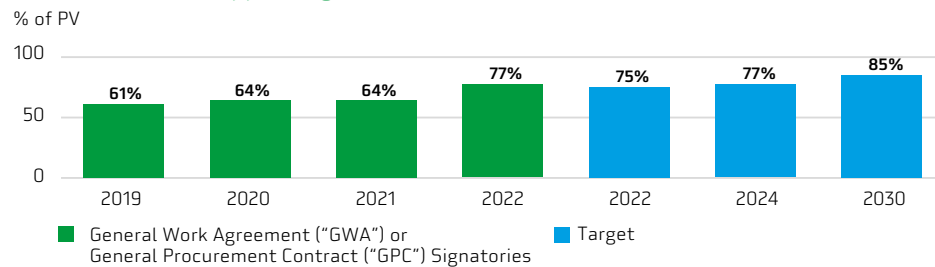
Purchasing Volume ("PV") Audited



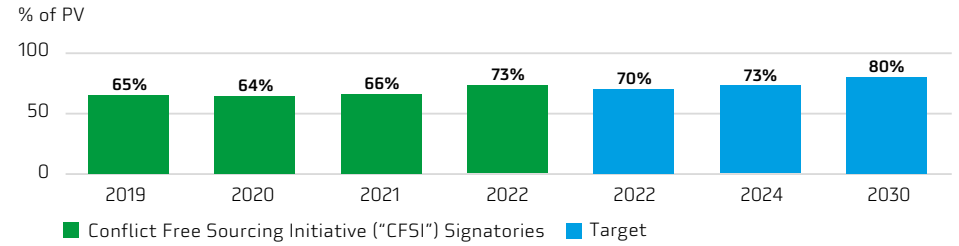
Self Assessment Questionnaire



Code of Conduct Supplier Agreements



Conflict Free Sourcing Initiative



Community impact

Besi supports activities in the local communities in which it operates, particularly in Asia where the assistance is more greatly needed. Activities undertaken in 2022 included a beach cleanup in collaboration with a non-profit organization supporting Singapore's marine coastal habitat, with 50 of our employees volunteering for 4 hours, therefore 200 hours in total. In addition, Besi created a fund for employees impacted by Malaysian floods, continued its long-term support of the Ideas Academy (a refugee school) with additional donations and 60 of its staff and volunteered for a charity which plants Mangrove trees. Employees also participated in a charity bike ride to raise funding for innovative solutions to social issues such as hunger and urban poverty.

In China, we design training schemes each year for our interns at a Leshan technical school, assigning experienced leaders to visit and provide instruction.

At Besi Netherlands, our employees volunteered for the NLdoet, the largest volunteer campaign in the Netherlands to refurbish furniture, prepare food and assist nursing home residents with travel outside the facility. Besi Netherlands also conducted a Christmas promotion to raise funds for Just in Time 4 Heroes, a charity that helps families with children suffering from life threatening illnesses.

In Austria, we support local technical universities and schools through donations, active interchange, and dialogue. Moreover, Besi hosted a Girls Day which is a career orientation project for girls and young women. Points of contact were created between female students and future-oriented professions in the fields of crafts, technology, natural sciences, and computer science. Career orientation days were also held throughout the year.

Besi APac partnership with the Ideas Academy

Besi APac continued its long-term partnership with the Ideas Academy which provides high quality, affordable virtual education combined with physical classes for students in Kuala Lumpur.

Tax practices

Besi's global tax policy views taxation, including the payment and collection of taxes, as an integral part of its business and an important part of its social responsibility and contribution to society. Besi's tax policy is aligned with its ESG Strategy and follows the principle of responsible tax practices whereby Besi's legitimate interests, reputation and corporate social responsibility are taken into consideration. In this respect, the interests of all stakeholders are taken into consideration including customers, shareholders, local governments and the communities and countries in which Besi operates. Besi's global tax policy is available on our website.

It consists of the following principles:

- We commit to paying taxes on time and in accordance with all applicable laws and regulations.
- Our tax policy follows Besi's business. As such, our profits are allocated to the countries in which business value is created, taxes are paid and where factual economic activities are executed. In addition, all transactions must have a business rationale.
- Intra-group transactions are entered into on an arm's length basis and adhere to the guidelines issued by the Organization for Economic Co-operation and Development ("OECD").
- We strive to comply with the letter and spirit of applicable tax laws and regulations and are guided by relevant international standards.
- We seek a competitive, stable, sustainable and explainable effective corporate tax rate whereby tax incentives and subsidies are used. Any tax optimization must be based on opportunities provided by law or case law and must be aligned with our business and objectives.
- Besi doesn't undertake transactions whose sole purpose is to create an abusive tax result. In addition, Besi does not use artificial tax structures in tax haven jurisdictions as defined by the OECD.
- We seek to establish and maintain an open and constructive dialogue with tax authorities and other government bodies in all jurisdictions where we operate based on the disclosure of all relevant facts and circumstances. We discuss important fiscal aspects upfront with the relevant tax authorities if questions arise as to proper taxation policy. We also seek rulings from tax authorities to confirm the applicable treatment.

The effective tax rate for 2022 was 12.6% (2021: 7.1%). Similar to 2021, income tax expense for the 2022 fiscal year was affected by foreign tax rates, non-deductible expenses, tax-exempt income, tax credits, changes in valuation allowances on deferred tax assets and benefits from preferential tax regimes legislated by the countries concerned in order to promote economic development and investment. Further details regarding income tax expense are provided in Note 29 to the Consolidated Financial Statements.

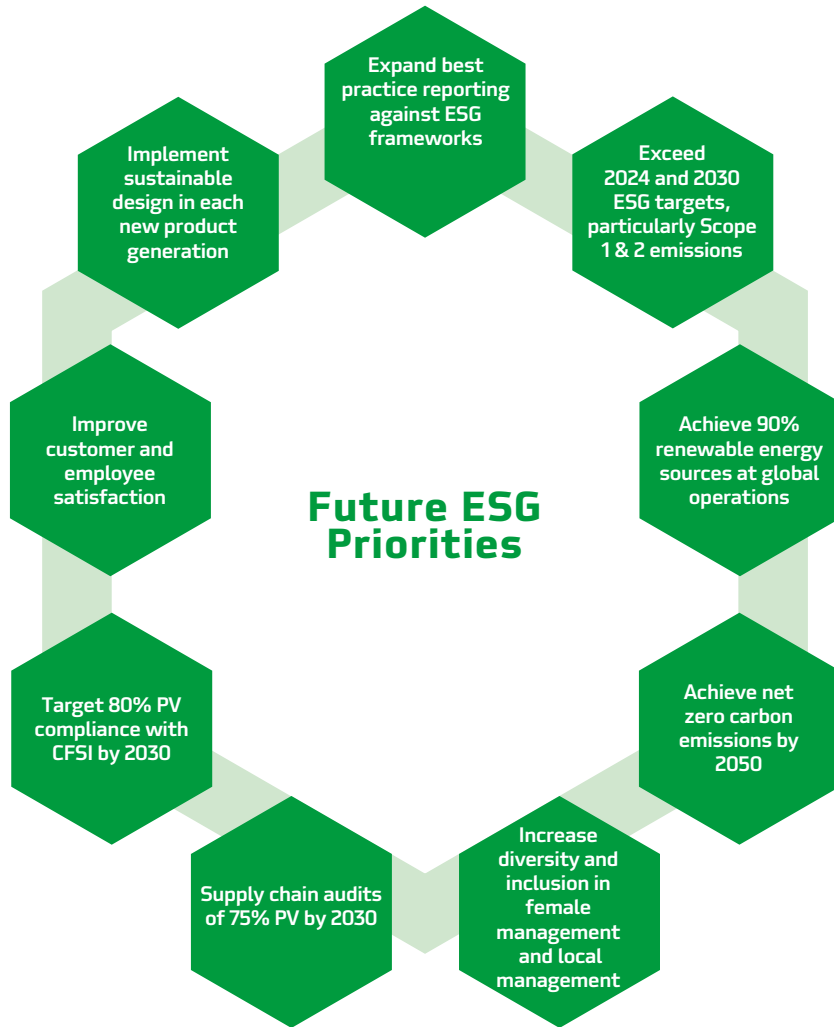
Future priorities

- Conduct supply chain audits representing 75% of Besi's purchasing volume by 2030 in accordance with new supply chain risk matrix.
- Enhance our supplier evaluation process in the areas of lead time, quality and technological capabilities.
- Encourage more suppliers to join the CFSI such that 80% of Besi's purchasing volume has signed by 2030.

Dutch students University of Twente visiting Besi Singapore, August 2022



BESI'S FUTURE ESG PRIORITIES



Appendices to the Environmental, Social and Governance Report 2022

Annex 1: SASB Reference Table 2022	29
Annex 2: GRI Reference Table 2022	31
Annex 3: Reporting Criteria Material Topics Environmental, Social and Governance	38
Annex 4: Taskforce on Climate-related Financial Disclosures	40

Annex 1: SASB Reference Table 2022

Sustainability Accounting Standards Board (SASB) Alignment

Topic	Accounting Metrics	Code	Disclosure	Disclosure Location
Greenhouse Gas Emissions	(1) Gross global Scope 1 emissions and (2) Amount of total emissions from perfluorinated compounds	TC-SC-110a.1	(1) Scope 1: 335 Metric Tonnes CO ₂ e (2) Besi does not have emissions from perfluorinated compounds	Annual Report 2022, page 65 Environmental impact
Greenhouse Gas Emissions	Discussion 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	TC-SC-110a.2	Reducing Besi's carbon footprint is a key focus of Besi's ESG strategy. Our ambition is to reduce carbon emissions intensity (carbon emissions/revenue) across all three reporting scopes. Besi has reduced its direct emissions (Scope 1 & 2) intensity by 65% compared to 2021.	Annual Report 2022, page 62 Environmental impact
Energy Management in Manufacturing	(1) Total energy consumed, (2) Percentage grid electricity, and (3) Percentage renewable	TC-SC-130a.1	(1) 16.5 GWh energy consumed (2) 15.9 GWh grid electricity consumed, 96% of total energy consumption (3) 76% renewable energy utilized globally	Annual Report 2022, page 64 Environmental impact
Water Management	(1) Total water withdrawn, and (2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	TC-SC-140a.1	Besi consumed approximately 33 million liters of fresh water in its operations in 2022, of which approximately 85% was utilized in our Asian production operations. Virtually all water used in our operations is discharged back into local water systems. As a result, our net usage is limited. We do not operate in any regions with a high or very highwater risk as defined by the World Resources Institute.	Annual Report 2022, page 66 Environmental impact
Waste Management	(1) Amount of hazardous waste from manufacturing, and (2) Percentage recycled	TC-SC-150a.1	(1) 17.2 tons (2) 22%	Annual Report 2022, page 66 Environmental impact
Employee Health & Safety	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	TC-SC-320a.1	Employee health and safety represents material topic for Besi. In our Annual Report we disclose how Besi assesses, monitors and reduces exposure of employees to human health hazards.	Annual Report 2022, page 71 People wellbeing
Employee Health & Safety	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	TC-SC-320a.2	There were no legal proceedings related to health and safety incidents in 2022.	Annual Report 2022, page 71 People wellbeing
Recruiting & Managing a Global & Skilled Workforce	Percentage of employees that are (1) Foreign nationals, and (2) Located offshore	TC-SC-330a.1	(1) Besi is a global company with headquarters in Duiven, the Netherlands. We operate seven facilities in Asia and Europe for production and development activities as well as ten sales and service offices across Europe, Asia and North America. We employed a total staff of 1,675 fixed and 144 temporary personnel at December 31, 2022, of whom approximately 67% were based in Asia and 33% were based in Europe and North America. Based on the foreign nationals per facility we have determined this metric at 10% for Besi as a whole. However, we do not believe that disclosing a single percentage of foreign nationals is a useful metric for our business. We disclose additional metrics, such as local managers and training hours, which in our view are a more effective metrics for assessing this aspect. (2) 1%	N/A

Topic	Accounting Metrics	Code	Disclosure	Disclosure Location
Product Lifecycle Management	Percentage of products by revenue that contain IEC 62474 declarable substances	TC-SC-410a.1	We provide disclosure on our approach to responsible supply chain. We seek to align our operations and supply chain with the Restriction of Hazardous Substances (RoHS) directive. Further Besi has a Conflict Minerals Policy in place. We will investigate to start a project for supplier confirmation that the purchased materials do not contain IEC 62474 declarable substances.	Annual Report 2022, page 73 Responsible business
Product Lifecycle Management	Processor energy efficiency at a system-level for: (1) Servers, (2) Desktops, and (3) Laptops	TC-SC-410a.2	Besi does not disclose single percentages for these product categories, given that we are engaged in the development, production, marketing and sales of back-end equipment for the semiconductor industry and not in the actual manufacturing of processors.	N/A
Materials Sourcing	Description of the management of risks associated with the use of critical materials	TC-SC-440a.1	Besi discloses its risk management process in which we have identified the following risk: Besi depends on its suppliers for critical raw materials, components and subassemblies on a timely basis. If suppliers do not deliver their products on a timely basis, particularly during a large order ramp, our revenue, customer relationships and market share could be materially and adversely affected.	Annual Report 2022, page 86 Risk management
IP Protection & Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	TC-SC-520a.1	There were no legal proceedings associated with anti-competitive behavior during 2021 or 2022.	Annual Report 2022, page 73 Responsible business
Total production	The entity shall disclose total production from its own manufacturing facilities and those with which it contracts for manufacturing services. For semiconductor equipment manufacturers the total production shall be reported on a per unit basis. For semiconductor device manufacturers the total production shall be reported consistent with International SEMATECH Manufacturing Initiative's Semiconductor Key Environment Performance Indicators Guidance, Technology Transfer #09125069A-ENG.	TC-SC-000.A	Besi's total production amounted to 1,159 machines.	Annual Report 2022, page 37 Strategy
Percentage of production from owned facilities	Percentage of production from owned facilities	TC-SC-000.B	100% production from own facilities.	N/A

Annex 2: GRI Reference Table 2022

GRI content index

Statement of use	BE Semiconductor Industries N.V. has reported the information cited in this GRI content index for the period January 1, 2022 - December 31, 2022 with reference to the GRI Standards.
GRI 1 used	GRI 1: Foundation 2021

In the table below, reference is made to the Annual Report 2022, which can be downloaded at <https://www.besi.com/investor-relations/financial-reports-and-publications/financial-reports/> Further reference is made to the Code of Conduct, Whistleblower procedure, Supplier Code of Conduct and Global Tax Policy, all available at <https://www.besi.com/investor-relations/corporate-governance/> Annex 1: SASB Reference Table 2022 and Annex 3: Reporting Criteria Material Topics Environmental, Social and Governance are included in the ESG Report 2022, which can be downloaded at <https://www.besi.com/investor-relations/financial-reports-and-publications/>

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 2: General Disclosures 2021	2-1 Organizational details	Annual Report 2022	Corporate Information	196
	2-2 Entities included in the organization's sustainability reporting	Annual Report 2022	Financial Statements - Principles of Consolidation	141 & 142
	2-3 Reporting period, frequency and contact point	Annual Report 2022	The Environmental, Social and Governance Report covering the period January 1, 2022 - December 31, 2022 is included in the Annual Report 2022. For questions on this report, please contact our Investor Relations, for contact details see https://www.besi.com/investor-relations/	N/A
	2-4 Restatements of information	Annual Report 2022	Environmental, Social and Governance - Reporting scope	54
	2-5 External assurance	Annual Report 2022	Other Information - Assurance Report of the Independent Auditor on BE Semiconductor Industries N.V.'s sustainability information.	203
	2-6 Activities, value chain and other business relationships	Annual Report 2022	Company Profile	4-5
	2-7 Employees	Annual Report 2022	Key highlights - Headcount data	6
	2-8 Workers who are not employees	Annual Report 2022	Key highlights - Headcount data Workers who are not employees amount to 98 of which 7% relates to production, 65% to research and development, 25% to customer support and 3% to other.	6
	2-9 Governance structure and composition	Annual Report 2022	Corporate Governance	100
	2-10 Nomination and selection of the highest governance body	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54
	2-11 Chair of the highest governance body	Annual Report 2022	Corporate Governance	100
	2-12 Role of the highest governance body in overseeing the management of impacts	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54
	2-13 Delegation of responsibility for managing impacts	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54
	2-14 Role of the highest governance body in sustainability reporting	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
	2-15 Conflicts of interest	Annual Report 2022	Corporate Governance - Board of Management - Conflicts of Interest Corporate Governance - Supervisory Board - Conflicts of Interest	100 101
	2-16 Communication of critical concerns	Annual Report 2022	Report of the Supervisory Board - Supervisory Board meeting topics	131 & 132
	2-17 Collective knowledge of the highest governance body	Annual Report 2022	Board of Management and Supervisory Board Members	135
	2-18 Evaluation of the performance of the highest governance body	Annual Report 2022	Report of the Supervisory Board - Supervisory Board meeting topics	131 & 132
	2-19 Remuneration policies	Annual Report 2022	Remuneration Report - Remuneration structure	114 - 117
	2-20 Process to determine remuneration	Annual Report 2022	Remuneration Report - Introduction, shareholder dissent on remuneration	106, 107 & 109
	2-21 Annual total compensation ratio	Annual Report 2022	Remuneration Report - Remuneration of the Board of Management	127
	2-22 Statement on sustainable development strategy	Annual Report 2022	Environmental, Social and Governance - ESG strategy	54
	2-23 Policy commitments	Annual Report 2022	Environmental, Social and Governance - People Wellbeing & Responsible Business	69 & 72 - 74
	2-24 Embedding policy commitments	Annual Report 2022	Environmental, Social and Governance - Responsible Business	72 - 74
	2-25 Processes to remediate negative impacts	Annual Report 2022 Code of Conduct Whistleblower procedure Supplier Code of Conduct	Annual Report 2022 - Environmental, Social and Governance - Responsible Business - Ethics and compliance Code of Conduct, Whistleblower procedure and Supplier Code of Conduct	72 & 73
	2-26 Mechanisms for seeking advice and raising concerns	Annual Report 2022 Code of Conduct Whistleblower procedure Supplier Code of Conduct	Annual Report 2022 - Environmental, Social and Governance - Responsible Business - Ethics and compliance Code of Conduct, Whistleblower procedure and Supplier Code of Conduct	72 & 73
	2-27 Compliance with laws and regulations	Annual Report 2022	Annual Report 2022 - Risk Management - Risk appetite / Legal and compliance risks There were no significant instances of non-compliance with laws and regulations during the reporting period.	81 & 91 - 92
	2-28 Membership associations	N/A	We do not participate in a significant role in industry associations, other membership associations, and national or international advocacy organizations.	N/A
	2-29 Approach to stakeholder engagement	Annual Report 2022	Environmental, Social and Governance - Our key stakeholders	58 - 60
	2-30 Collective bargaining agreements	Annual Report 2022	23% of our fixed employees is subjected to collective bargaining agreements. For employees not covered by collective bargaining agreements see Environmental, Social and Governance - People Wellbeing	69
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Annual Report 2022	Environmental, Social and Governance - Materiality assessment	52
	3-2 List of material topics	Annual Report 2022	Environmental, Social and Governance - Materiality assessment	52
	3-3 Management of material topics	Annual Report 2022	Environmental, Social and Governance - ESG initiatives Environmental, Social and Governance - ESG governance	54

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Annual Report 2022	Financial Statements 2022 - Consolidated Statement of Operations	138
	201-2 Financial implications and other risks and opportunities due to climate change	Annual Report 2022	Risks and Risk Management - Risk factors - Strategic risks Environmental, Social and Governance - TCFD	83 & 84 58
	201-3 Defined benefit plan obligations and other retirement plans	Annual Report 2022	Financial Statements 2022 - Notes to the Consolidated Financial Statements - Note 25. Employee benefits	167 - 173
	201-4 Financial assistance received from government	N/A	Research and development subsidies and credits available to offset research and development expenses were € 6.7 million in 2022. R&D grants have been received from the EU, from the Österreichische Forschungsförderungsgesellschaft and from local governments.	N/A
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Annual Report 2022 Supplier Code of Conduct	Environmental, Social and Governance - Responsible Business - Responsible supply chain Supplier Code of Conduct: Wages and benefits	73 3
	202-2 Proportion of senior management hired from the local community	Annual Report 2022	Environmental, Social and Governance - People Wellbeing - Diversity and Inclusion	70
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	N/A	Infrastructure investments and services supported is not applicable	N/A
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Annual Report 2022	Environmental, Social and Governance - Responsible Business - Responsible supply chain 70.6% of our material related purchasing volume is sourced in Asia.	72 & 73
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Annual Report 2022	Risks and Risk Management - Risk factors - Operational risks & Legal and Compliance risks	89 & 92
	205-2 Communication and training about anti-corruption policies and procedures	Annual Report 2022 Supplier Code of Conduct	Report of the Supervisory Board - Supervisory Board meeting topics	132
			Training provided to all new employees, see Environmental, Social and Governance - Responsible business - Ethics and compliance Supplier Code of Conduct, see Environmental, Social and Governance - Responsible business - Responsible supply chain Supplier Code of Conduct: Business Ethics	72 - 73 72 - 73 5
205-3 Confirmed incidents of corruption and actions taken	N/A	No reported incidents of corruption	N/A	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Annual Report 2022	Not applicable, in 2022 there were not such legal proceedings Environmental, Social and Governance - Responsible Business - Ethics and compliance	73
GRI 207: Tax 2019	207-1 Approach to tax	Annual Report 2022 Global Tax Policy	Environmental, Social and Governance - Responsible Business Tax practices Global Tax Policy	75
	207-2 Tax governance, control, and risk management	Annual Report 2022	Environmental, Social and Governance - Responsible Business Tax practices	75
	207-3 Stakeholder engagement and management of concerns related to tax	Annual Report 2022	Environmental, Social and Governance - Responsible Business Tax practices	75
	207-4 Country-by-country reporting	N/A	Not required for Besi given its revenue level	N/A

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Annual Report 2022	<p>Environmental, Social and Governance - Environmental impact - Energy use and renewable energy.</p> <p>The 2022 fuel consumption of 2.1 GWh consists of:</p> <ul style="list-style-type: none"> - Gas 1.0 GWh (non-renewable) - Gasoline 0.1 GWh (non-renewable) - Diesel 0.3 GWh (non-renewable) - City Heating 0.7 GWh (of which 81% sustainable generated) <p>Within the 2022 electricity consumption of 16.5 GWh 0.3 GWh relates to purchased cooling.</p> <p>The data on the energy consumption is derived from meter readings and/or invoices from suppliers. In case the energy consumption is included in the rent an estimate is made of Besi's share in the total energy consumption of the building.</p> <p>General available conversion factors are used to convert the energy usage into GWh. For conversion factors see Annex 3: Reporting Criteria Material Topics Environmental, Social and Governance.</p>	61 - 64
	302-3 Energy intensity	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Energy use and renewable energy.	61 - 64
	302-4 Reduction of energy consumption	Annual Report 2022	<p>Environmental, Social and Governance - Environmental impact - Energy use and renewable energy.</p> <p>In 2023 we will further investigate the disclosure of the amount of reductions in energy as a direct result of conservation and efficiency initiatives (if applicable).</p>	61 - 65
	302-5 Reductions in energy requirements of products and services	Annual Report 2022	<p>Environmental, Social and Governance - Environmental impact - Sustainable design</p> <p>In 2023 we further will investigate the required disclosures (if applicable).</p>	67
	GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Water withdrawal
303-3 Water withdrawal		Annual Report 2022	<p>Environmental, Social and Governance - Environmental impact - Water withdrawal</p> <p>99% of the water withdrawal consists of third-party water and 1% relates to groundwater.</p>	66
303-4 Water discharge		Annual Report 2022	Environmental, Social and Governance - Environmental impact - Water withdrawal	66
303-5 Water consumption		Annual Report 2022	Environmental, Social and Governance - Environmental impact - Water withdrawal	66
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	N/A	Besi does not own, lease, manage operational sites in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. Therefore biodiversity is not determined to be a material topic.	N/A
	304-2 Significant impacts of activities, products and services on biodiversity	N/A	Biodiversity is not determined to be a material topic.	N/A
	304-3 Habitats protected or restored	N/A	Biodiversity is not determined to be a material topic.	N/A
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	N/A	Biodiversity is not determined to be a material topic.	N/A

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Carbon emissions Scope 1: 335 Metric Tonnes CO ₂ e	62 & 65
	305-2 Energy indirect (Scope 2) GHG emissions	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Carbon emissions Scope 2: 3,420 Metric Tonnes CO ₂	62 & 65
	305-3 Other indirect (Scope 3) GHG emissions	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Carbon emissions Scope 3: 9,817 Metric Tonnes CO ₂ e	62 & 65
	305-4 GHG emissions intensity	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Carbon emissions	62 & 65
	305-5 Reduction of GHG emissions	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Environmental impact	62 & 65
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Waste and hazardous waste disposal The disclosed waste related impacts relate to waste generated in Besi's own activities.	62 & 66
	306-3 Waste generated	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Waste and hazardous waste disposal	62 & 66
	306-4 Waste diverted from disposal	Annual Report 2022 Annex 1: SASB Reference Table 2022	Environmental, Social and Governance - Environmental impact - Waste and hazardous waste disposal The recycling percentage of hazardous waste amounts to approximately 22%. See also Annex 1: SASB Reference Table 2022 for the disclosure of the recycling percentage for hazardous waste. The recycling percentage of non-hazardous waste amounts to approximately 48%.	62 & 66
	306-5 Waste directed to disposal	Annual Report 2022	Environmental, Social and Governance - Environmental impact - Waste and hazardous waste disposal In 2023 it will be investigated if the disclosures on waste disposal can be further detailed with a breakdown of the disposal operations.	62 & 66
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Annual Report 2022	Environmental, Social and Governance - Responsible Business - Responsible supply chain In 2022 progress was made on ESG-related topics and targets through engagement with suppliers. We set expectations as to the type of ESG information required of them ahead of Besi's annual Supplier Day. Additionally, we began collecting RBA and ESG information as part of the scorecard used in supplier audits. We also plan to implement and enforce a GWA framework in 2023 that includes ESG criteria. Our initial efforts will focus on CO ₂ emissions in Besi's supply chain as part of overall Scope 3 emissions reduction efforts.	73
	308-2 Negative environmental impacts in the supply chain and actions taken	Annual Report 2022	Environmental, Social and Governance - Responsible Business - Responsible supply chain In 2022 progress was made on ESG-related topics and targets through engagement with suppliers. We set expectations as to the type of ESG information required of them ahead of Besi's annual Supplier Day. Additionally, we began collecting RBA and ESG information as part of the scorecard used in supplier audits. We also plan to implement and enforce a GWA framework in 2023 that includes ESG criteria. Our initial efforts will focus on CO ₂ emissions in Besi's supply chain as part of overall Scope 3 emissions reduction efforts.	73
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Annual Report 2022	Environmental, Social and Governance - People Wellbeing, table new hires and employee turnover	70
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	N/A	There is no distinction made in the benefits between full-time employees and temporary or part-time employees.	N/A

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 402: Labor/ Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Annual Report 2022	Besi is committed to being a good employer and promoting a workplace culture supporting the achievement of its business and ESG objectives. We comply with all applicable employment laws and regulations in the countries in which we operate.	69
			Risk Management - Risk appetite Besi strives to be fully compliant with its Code of Conduct and all applicable national and international laws and regulations in the markets and jurisdictions in which it operates. Besi seeks to comply with all environmental and labor laws and uses its best efforts to comply with best practice standards in the jurisdictions in which Besi operates. For the minimum notice periods regarding operational changes Besi follows local labor laws.	81
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing - Employee health and safety	54 68 & 71
	403-2 Hazard identification, risk assessment, and incident investigation	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing - Employee health and safety	54 68 & 71
	403-3 Occupational health services	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing - Employee health and safety	54 68 & 71
	403-4 Worker participation, consultation, and communication on occupational health and safety	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing (employee engagement survey)	54 68
	403-5 Worker training on occupational health and safety	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54
	403-6 Promotion of worker health	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing - Employee health and safety	54 68 & 71
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Annual Report 2022	Environmental, Social and Governance - ESG Governance Environmental, Social and Governance - People Wellbeing - Employee health and safety	54 68 & 71
	403-8 Workers covered by an occupational health and safety management system	Annual Report 2022	Environmental, Social and Governance - ESG Governance	54
	403-9 Work-related injuries	Annual Report 2022	Environmental, Social and Governance - People Wellbeing - Employee health and safety	68 & 71
	403-10 Work-related ill health	N/A	We operate in a clean environment with no heavy chemicals present, reference is made to Environmental, Social and Governance - People wellbeing - Employee health and safety	71
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Annual Report 2022	Environmental, Social and Governance - People Wellbeing - Employee engagement and career development Breakdown per gender: - 33 average hours of training per male employee - 24 average hours of training per female employee Breakdown per employee category to be included in 2023/2024	68 & 71
	404-2 Programs for upgrading employee skills and transition assistance programs	Annual Report 2022	Environmental, Social and Governance - People Wellbeing - Employee engagement and career development	68 & 71
	404-3 Percentage of employees receiving regular performance and career development reviews	N/A	All employees receive annually a regular performance and career development review.	N/A

GRI Standard	Disclosure	Location	Section/remarks	Page(s)
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Annual Report 2022	Diversity Supervisory Board reference is made to page 135 of the Annual Report 2022 for details and further to the report of the Supervisory Board - Composition and diversity. Corporate Governance - Diversity and inclusion Diversity Employees: Environmental, Social and Governance - People Wellbeing - Diversity and inclusion. Besi does currently not include an overview of age groups; will be included in 2023/2024.	130 & 135 101 68 & 70
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	N/A	No reported incidents of discrimination	N/A
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Annual Report 2022 Supplier Code of Conduct	Environmental, Social and Governance - Responsible Business - Resonsible supply chain. Supplier Code of Conduct: Freedom of association and collective bargaining	73 3
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Annual Report 2022 Supplier Code of Conduct	Environmental, Social and Governance - Responsible Business - Resonsible supply chain. Supplier Code of Conduct: Child/underage labor	73 3
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Annual Report 2022 Supplier Code of Conduct	Environmental, Social and Governance - Responsible Business - Resonsible supply chain. Supplier Code of Conduct: Forced labor	73 3
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	N/A	No reported incidents of violations involving rights of indigenous people	N/A
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Annual Report 2022	Environmental, Social and Governance - Responsible Business - Community Impact	74
	413-2 Operations with significant actual and potential negative impacts on local communities	N/A	Not applicable	N/A
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Annual Report 2022	Environmental, Social and Governance - Responsible Business - Resonsible supply chain. In 2022 progress was made on ESG-related topics and targets through engagement with suppliers. We set expectations as to the type of ESG information required of them ahead of Besi's annual Supplier Day. Additionally, we began collecting RBA and ESG information as part of the scorecard used in supplier audits. We also plan to implement and enforce a GWA framework in 2023 that includes ESG criteria. Our initial efforts will focus on CO ₂ emissions in Besi's supply chain as part of overall Scope 3 emissions reduction efforts.	73
	414-2 Negative social impacts in the supply chain and actions taken	Supplier Code of Conduct	Supplier Code of Conduct: Business Ethics	5 & 6
GRI 415: Public Policy 2016	415-1 Political contributions	N/A	No political contributions	N/A
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Data Privacy Statement	No substantiated complaints received	N/A

Annex 3: Reporting Criteria Material Topics Environmental, Social and Governance

Pillar	Topic	Code	Reference	Remark
Environmental Impact	Energy and renewable energy	SASB	<ul style="list-style-type: none"> TC-SC-130a.1 	The percentage grid electricity is included in Annex 1: SASB Reference Table 2022.
		GRI	<ul style="list-style-type: none"> GRI 302-1 and GRI 302-3 	<p>In Annex 2: GRI Reference Table 2022 a breakdown of the energy and fuel consumption is included.</p> <p>The data on the energy consumption is derived from meter readings and/or invoices from suppliers. In case the energy consumption is included in the rent an estimate is made of Besi's share in the total energy consumption of the building.</p> <p>General available conversion factors are used to convert the energy usage into GWh:</p> <p>Gasoline: 1 liter = 8.9 kWh</p> <p>Diesel: 1 liter = 10 kWh</p> <p>Gas: 1 m³ = 9,769 kWh</p>
	Carbon emissions	SASB	<ul style="list-style-type: none"> TC-SC-110a.1 and TC-SC-110a.2 	SASB only includes Scope 1 emissions, Besi discloses also Scope 2 and 3 emissions
		GRI	<ul style="list-style-type: none"> GRI 305-1, 305-2 (location based), 305-3 and 305-4 	
	Waste and hazardous material use	SASB	<ul style="list-style-type: none"> TC-SC-150a.1 (Hazardous waste) 	Percentage of hazardous waste recycled is included in Annex 1: SASB Reference Table 2022.
		GRI	<ul style="list-style-type: none"> GRI 306-3, no breakdown by composition will be included 	
	Water use	SASB	<ul style="list-style-type: none"> TC-SC-140a.1 	
	Sustainable design	Own	<ul style="list-style-type: none"> Besi shall report the following: A description of the approach to sustainable design, including: <ul style="list-style-type: none"> - a general description of sustainable design including the main focus areas; - the approach regarding sustainable design as a means of reducing the environmental impact; - the inclusion of product life cycle assessment as part of sustainable design; - whether systems can be customized, reconfigured and redeployed for other production purposes over their product life span, thus extending their useful life and reducing the environmental impact; - whether initiatives have been deployed regarding the extension of the useful life of products delivered. 	

Pillar	Topic	Code	Reference	Remark
People Wellbeing	Diversity and inclusion	GRI	<ul style="list-style-type: none"> GRI 405-1-b.i 	The definition of manager is: an employee of job grade manager or above and managing team members.
		Own	<ul style="list-style-type: none"> Disclose percentage of women of the total fixed headcount Disclose percentage of total female managers of total managers Disclose percentage of local national management of total management 	
	Employee health and safety	SASB	TC-5C-320a.1 and TC-5C-320a.2	
		Own	<ul style="list-style-type: none"> Disclose sickness rate as % of working days (calculation based on headcount) Disclose total number of incidents in the workplace Incidents are grouped into categories by severity: (i) fatalities, (ii) major absences (of more than four days), (iii) minor absences (of less than four days) and (iv) first aid cases in which employees can resume work immediately after treatment or the following day. 	
	Employee engagement and career development	GRI	<ul style="list-style-type: none"> GRI 404-1 and GRI 404-2-a, Besi will only include the average training hours per employee and per gender, no breakdown will be provided in employee category 	
		Own	<ul style="list-style-type: none"> Disclose employee engagement as calculated by external advisor 	
Responsible Business	Ethics and compliance	GRI	<ul style="list-style-type: none"> GRI 206 	
		Own	<ul style="list-style-type: none"> Disclose reported violations of Besi's Code of Conduct 	
	Responsible supply chain	Own	<ul style="list-style-type: none"> Disclose the percentage of purchase volume audited by Besi. Disclose the percentage of suppliers who have signed the Self-Assessment Questionnaires, Code of Conduct Supplier Agreements and Conflict Free Sourcing Initiative. <p>Number of suppliers which signed the various target documents is determined with corresponding purchasing volume.</p> <p>Based on data above, the % for responsible business is calculated</p>	
	Community impact	Own	<ul style="list-style-type: none"> Disclose how Besi supports activities in the local communities in which it operates. 	
	Tax practices	GRI	<ul style="list-style-type: none"> GRI 207-1, GRI 207-2 and GRI 207-3 	
Other	Topic	Code	Reference	Remark
Material topics	Material Topics	GRI	GRI 3	

Annex 4: Taskforce on Climate-related Financial Disclosures

TCFD

Besi recognizes the adverse effects caused by the emerging climate change crisis and carefully monitors the impact of climate change on our operations. In addition, we recognize increasing interest from customers and investors on climate topics and support the activities of the Taskforce on Climate-related Financial Disclosures (“TCFD”). Our objective is to comply with its recommendations to provide greater transparency in the reporting of climate-related risks and opportunities. Additionally, we have used TCFD’s guidance and conducted a climate change risk assessment using various scenarios to inform the development of Besi’s climate strategy.

This is our first-year reporting against TCFD recommendations and have made climate-related disclosures in the Annual Report 2022 broadly in line with their recommendations on the following topics:

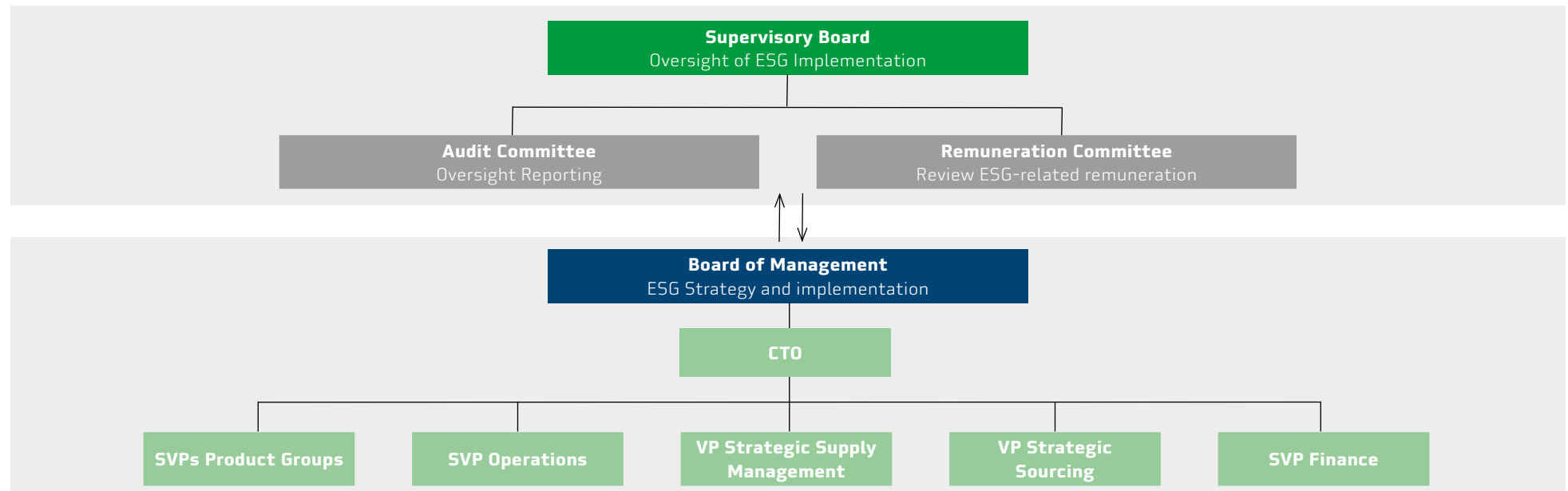
- Governance (all recommended disclosures)
- Strategy (all recommended disclosures)
- Risk management (all recommended disclosures)
- Metrics and targets (all recommended disclosure)

In the future, we intend to evaluate our practices and consider opportunities to enhance disclosures on an ongoing basis so as to incorporate and expand best practice reporting against ESG frameworks.

Governance

Disclose the organization’s governance around climate-related risks and opportunities.

ESG GOVERNANCE STRUCTURE



Recommended disclosure: a. Describe the board's oversight of climate-related risks and opportunities

Besi's Board of Management is responsible for the direction of our ESG strategy which includes climate-related issues. Developments with respect to Besi's ESG initiatives are discussed regularly with the Supervisory Board where we present progress against goals and targets for climate-related issues.

In 2020, we introduced ESG reporting on a quarterly basis. Reporting data is used to evaluate Besi's ESG progress and risks which includes climate change, natural resources conservation and pollution. Short- and long-term topics are also addressed through measures such as a materiality analysis, key performance indicators for Scope 1, 2 and 3 emissions, water and energy consumption and waste disposal, customer satisfaction and employee engagement metrics, supplier audits, stakeholder dialogue and climate-related scenario analysis.

Recommended disclosure: b. Describe management's role in assessing and managing climate-related risks and opportunities

The Board of Management is responsible for defining and achieving Besi's strategy and ESG objectives. Day-to-day responsibility resides with the SVPs and facility management in their respective departments and locations. Senior management is engaged to (i) assess climate-related issues, (ii) develop climate-related initiatives and (iii) monitor and track progress against Besi's climate-related targets as follows:

- Chief Technology Officer (responsible for developing and promoting sustainable solutions for Besi's assembly equipment).
- SVPs Product Groups (responsible for climate-related aspects associated with sustainable design such as lower material consumption over product life cycles and management of Besi's product group operations).
- SVP Operations (responsible for managing Besi's production sites and for climate change related aspects of operations such as increasing the energy efficiency of its facilities).
- VP Strategic Supply Management (responsible for collection of sustainability related information from our suppliers and monitoring compliance with Besi's responsible supply chain and Supplier Code of Conduct).
- VP Strategic Sourcing (responsible for review and presentation of Besi's progress per ESG initiatives across its facilities and product lines).
- SVP Finance (responsible for ESG data review including data collection, co-ordination of ESG reporting and analysis of target versus actual results).

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning where such information is material.

Recommended disclosure: a. Describe the climate-related risks and opportunities the organization has identified over the short-, medium-, and long-term.

Besi considers climate-related risks and opportunities across three time horizons:

- Short-term (0-2 years): The annual budget includes capital expenditures for our production facilities over a two-year time period.
- Medium-term (period up to 2030): This period is considered the timeframe for major product and market trends in alignment with our five-year planning cycle.
- Long-term (2030 - 2050): Climate risks based on our scenario assessments that align with a 2050 horizon.

The tables below generally describe the climate-related risks considered over the timeframes described above. We plan to further evaluate these risks and their associated business impacts in a more comprehensive manner in future years:

CLIMATE-RELATED RISKS

Category of Climate Risk	Climate Risk Drivers	Main Affected Time Horizon	
Transition Risk	Policy & Legal	Local, state, regional and national regulatory pressure to set more strict energy efficiency and emissions intensity targets for Besi and our value chain.	Medium – Long
	Technology	Uncertainties that surround the development and implementation of carbon reduction and energy efficient technologies for our systems.	Medium – Long
	Market	Uncertainty about the sustainability of sourcing and refining materials essential to Besi’s products.	Short – Medium – Long
	Reputation	Besi will be required (or strongly pressured) to use the Company’s sustainability performance as a key consideration in investment or partnership decisions.	Short – Medium – Long
Physical Risk	Acute	Increased frequency and severity of river floods, cyclones and wildfires.	Short – Medium – Long
	Chronic	Rising air temperatures affecting working conditions, living conditions and the frequency of chronic heat waves.	Long

Recommended disclosure: b. Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy and financial planning.

We have defined our climate-related goals and ambitions with specific targets identified to guide our activities until 2030 and set the objective of net-zero carbon emissions by 2050. We have determined targets per location to reduce our energy and water usage, hazardous and non-hazardous waste and CO₂ emissions. As a result, we are focused on addressing such risks by integrating climate considerations into Besi’s sustainable design efforts, facility investments and energy/resource efficiency as detailed below:

- *Sustainable Design*

Besi continually seeks potential opportunities to develop new ways to assemble semiconductors and components used in advanced electronic applications. We have proactively developed a more efficient and cleaner industry through our products, particularly low carbon products and services in order to help customers operate more efficiently and in a more environmentally friendly and cost saving manner, for instance by introducing products with fewer and lighter materials.

Furthermore, we offer upgrade kits to customers for certain product series which can increase the lifespan of our systems. For more information, please refer to page 18 of our Environmental, Social and Governance Report (“ESG Report”) where we highlight the recent success of our collaboration with the Lucerne University of Applied Sciences and Arts (Switzerland).

These initiatives help ensure that we keep pace with the transition to a net-zero economy by complying with potential regulations, providing energy efficient technology and by maintaining a strong reputation with stakeholders.

- *Facility Investments*

Over the past three years, we have made investments in our facilities to facilitate the adoption of renewable energy technologies. Such investments were targeted to reduce transitional risks and included:

- Purchase and utilization of Solar PV panels at the Besi APac and Besi Austria facilities.
- Renewable energy procurement from local electricity suppliers.
- Installation of E-charge stations at our Austrian, Dutch and Swiss facilities.
- Conversion of company cars from ICE to hybrid or electric.
- Capital spending to reduce the risk of flooding at our Malaysian facility.

We will continue to assess investment opportunities in the future to improve the resilience of our facilities. This assessment includes the prioritization of actions at our most vulnerable locations based on the scenario analysis conducted this year.

- *Energy/Resource Efficiency*

Additionally, we have worked on becoming more energy efficient through the purchase and utilization of more energy-efficient process technologies and the better insulation of our facilities. Such initiatives have included:

- LED light installation.
- Air compressor replacements.
- Upgraded heating, ventilation and air conditioning (HVAC) units.
- Better management of the transport mix of our freight operations with a focus on local sourcing.
- Installation of sun/heat protective foils.
- Implementation of sustainable design methods in certain of our Die Attach platforms.

Recommended disclosure: c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2 °C or lower scenario.

Besi engaged an external consultant in 2022 which conducted a scenario-based climate change risk assessment exercise to determine the potential implications of climate risks on our business. The objective of the exercise was, in part, to strengthen the resilience of our ESG and climate related strategies moving forward.

Intergovernmental Panel on Climate Change ("IPCC") warming scenarios were utilized to build our Besi-specific scenarios. The IPCC provides pathways for assessing the physical impacts of climate change utilizing varying degrees of GHG atmospheric emissions. The majority of the publicly available climate-related scenario assumptions do not directly impact Besi because they focus primarily on transitions for heavy-emitting sectors such as utilities. As such three qualitative transition scenarios were drafted from existing scenarios and trends and then combined with three warming scenarios:

- *Business-as-usual*

RPC 8.5 - Extremely high emissions scenario with the global mean temperature expected to rise by 3.7 °C (2.6-4.9 °C) by the end of the 21st century. The scenario assumes a high dependence on fossil fuels and no policy-driven mitigation.

Qualitative assumptions:

- Limited impact of emissions performance on Besi's reputation and market value.
- Available technologies do not have the capability for large scale emissions reduction.
- Reduced investment in new technologies due to high costs and limited public sector incentives.

- *Delayed transition*

RPC 6.0 - High emissions scenario with global mean temperature expected to rise by 2.2 °C (1.4-3.1 °C) by the end of the century assuming emissions peak around 2080 and then decline.

Qualitative assumptions:

- Inconsistent regulation.
- Uneven impact of emissions performance on Besi's reputation and market value.
- Reduced demand in geographies with high vulnerability and exposure to climate risks.

- *Net-zero*

RPC 2.6 - A stringent pathway with a large regulatory push. The development of new technologies increases the probability of keeping global temperature growth below 2 °C by 2100.

Qualitative assumptions:

- Strict regulation.
- Large impact of emissions performance on Besi's reputation and market value.
- Customers have high interest in more energy efficient/lower emission products which impacts purchasing decisions.

Business impacts

Set forth below is a table which summarizes the results of the scenario analysis. It identifies how each scenario may impact Besi's business and operations and our relative preparedness for each scenario outcome:

	RCP 8.5/Business-as-usual	RCP 6.0/Delayed Transition	RCP 2.6/Net-zero
Physical climate risks	<ul style="list-style-type: none"> Increased acute risk of flooding and heatwaves affecting manufacturing operations and supply chain. Potential for additional disruption to offices and production sites. 		<ul style="list-style-type: none"> Impact of flooding and heatwaves on manufacturing already being observed.
Transition climate risks	<ul style="list-style-type: none"> Well prepared for policy/legal risks. Low potential exposure to carbon pricing. Relatively little pressure from customers on product efficiency. 	<ul style="list-style-type: none"> Uncertain customer behaviour and consumer preferences. Low potential exposure to carbon pricing in the short term. High exposure in the long term. Uneven pressure on product efficiency. 	<ul style="list-style-type: none"> Greater potential exposure to policy/regulatory risks. More potential reputational risk if not net-zero. More significant transition costs. Higher potential exposure to carbon pricing.
Transition opportunities	<ul style="list-style-type: none"> Increased resilience against climate and weather impacts. 	<ul style="list-style-type: none"> Energy and resource efficient product design. Incorporate renewable technologies. Drive decarbonization of upstream supply chain. Improve energy efficiency and associated energy costs. Opportunity to drive customer emissions reduction. 	
Company preparedness on transitional risks			
Policy/Regulation	Well prepared	Well prepared	Under evaluation
Market	Well prepared	Well prepared	Well prepared
Reputation	Well prepared	Under evaluation	Under evaluation
Technology	Well prepared	Well prepared	Under evaluation

The key insights from the scenario analysis are as follows:

- Besi is well prepared for climate-related market risks.
- A delayed or net-zero transition presents Besi with the largest opportunities for growth if we manage the climate-related risks effectively.
- We are currently evaluating ways in which we can further contribute to a net-zero transition.

Risk management

Disclose how the organization identifies, assesses and manages climate-related risks.

Recommended disclosure: a. Describe the organization's processes for identifying and assessing climate-related risks.

Besi's ESG strategy is influenced by important global trends currently such as climate change, natural resource conservation, pollution and the circular economy as well as human challenges such as diversity, human rights and the recruitment of qualified technical personnel. We have internal control and risk management systems in place designed to address and help identify and limit climate-related risk factors as well as other ESG and non-financial risks that could affect both our strategy and business operations. Short- and long-term topics are assessed through measures such as materiality analyses, key performance indicators for Scope 1, 2 and 3 emissions, water usage and waste disposal, customer and employee satisfaction metrics, supplier audits and continuous stakeholder dialogue.

Besi's ESG and non-financial risks are governed by a set of guidelines and instructions including:

- ISO 14001 environmental management certification
- RBA Supplier Certification
- Conflict Minerals Policy
- Code of Conduct
- Supply Chain Policy
- Supplier Code of Conduct
- Code of Ethics for Senior Financial Officer
- Whistleblower procedure
- Guidelines regarding authorizations

Besi regularly evaluates ESG topics deemed important to the conduct of its operations and the development of its corporate culture. We periodically reassess our societal and environmental impact in consideration of stakeholders' concerns and adjust the ranking of high and medium assessment priorities. In 2022, we engaged a third-party consultant to conduct scenario analyses in order to identify potential risks and opportunities relevant to Besi.

Recommended disclosure: b. Describe the organization's processes for managing climate-related risks.

The Board of Management is responsible for the management of internal and external risks associated with Besi's business activities and to guarantee compliance with applicable legislation and regulations. The Board of Management is also responsible for the monitoring and reporting of such identified risks and leading the response across the organization to address any new risks which may arise. In addition, initiatives have been

established for any specific climate change risks identified that are considered material per facility. As a result, targets have been set so that management can track climate-related KPIs and report progress to the Supervisory Board.

Please refer to the 'Risk Management' Section on page 77 of the Annual Report 2022 for more detail on Besi's internal control and risk management systems to manage and mitigate climate-related and other ESG related risks.

Recommended disclosure: c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

Besi's risk management program seeks to identify and control potential risks and events which may affect our strategy, continuity, business and performance. We have identified the following climate-related risks considered to have significant relevance:

- Besi may be materially and adversely affected by the impact of climate change including laws and regulations implemented in response to climate change related issues.
- Asian production and personnel expansion could expose us to additional risks related to corruption and human rights issues in the region.
- Recent regulations and increased customer focus on the usage of conflict minerals in product supply chains may force us to incur additional expenses, make our supply chain more complex and result in damage to Besi's customer reputation.

Please refer to the 'Risk Management' Section on page 77 of the Annual Report 2022 for more information.

Metrics and targets

Disclosure of metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Recommended disclosure: a. Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.

In addition to measuring and disclosing our Scope 1, 2 and 3 emissions and emissions intensity, we track and monitor a number of other climate-related metrics and KPIs to better help us manage climate-related risks and opportunities:

- Fuel and Electricity consumption (Pages 12 and 15 of our ESG Report)
- Renewable Energy consumption (Pages 12 and 15 of our ESG Report)
- Water withdrawal (Pages 13 and 17 of our ESG Report)
- Hazardous and Non-hazardous Waste (Pages 13 and 17 of our ESG Report)
- Percentage of EU Taxonomy-eligible and aligned activities (Pages 6 through 8 of our ESG Report)

Recommended disclosure: b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks

Our Scope 1, 2 and 3 emissions data have been reviewed by a third party, Ernst & Young Accountants LLP, for the years 2021 and 2022 whose assurance report is included in Other Information of the Annual Report 2022. Please refer to page 16 of our ESG Report for information relating to the Scope 3 categories included and methodology used to calculate emissions data.

Emission (tCO ₂)	2019		2020		2021		2022	
	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative
Scope 1	269	0.8	279	0.6	331	0.4	335	0.5
Scope 2	8,796	24.7	8,308	19.2	10,481	14.0	3,420	4.7
Scope 3	7,407	20.8	7,157	16.5	11,942	15.9	9,817	13.6
Total Scope 1, 2 and 3	16,472	46.2	15,744	36.3	22,573	30.1	13,573	18.8

* 2021 and 2022 are the only years for which emissions data have been reviewed by Ernst & Young Accountants LLP, Besi's independent auditor.

We plan to expand our climate-related scenario analysis and disclosure in the future so as to better quantify climate-related risks and opportunities achieved.

Recommended disclosure: c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

In 2021, Besi set the objective of net-zero carbon emissions by 2050 in recognition of the global ecological and societal imperatives caused by climate change. Toward this end, we have set interim emission-intensity targets for our Scope 1, 2 and 3 emissions and other climate related metrics against which progress is measured and disclosed in this ESG report. See pages 12 through 18 for more information on how such metrics help support Besi's climate-related efforts.