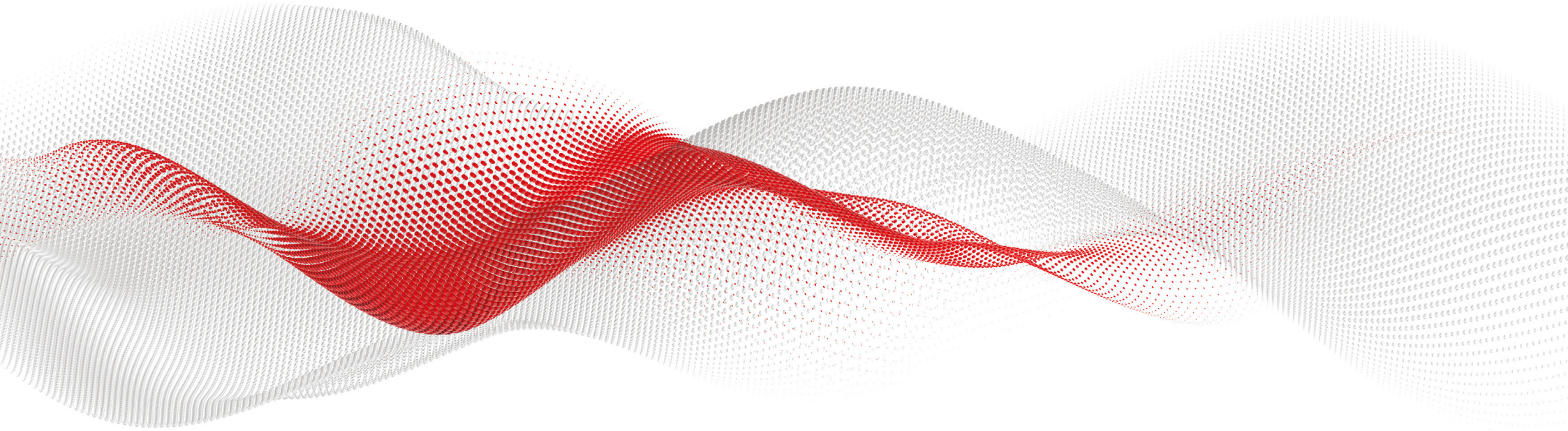


SUSTAINABILITY REPORT 2018

Shaping a sustainable world

ABB at a glance

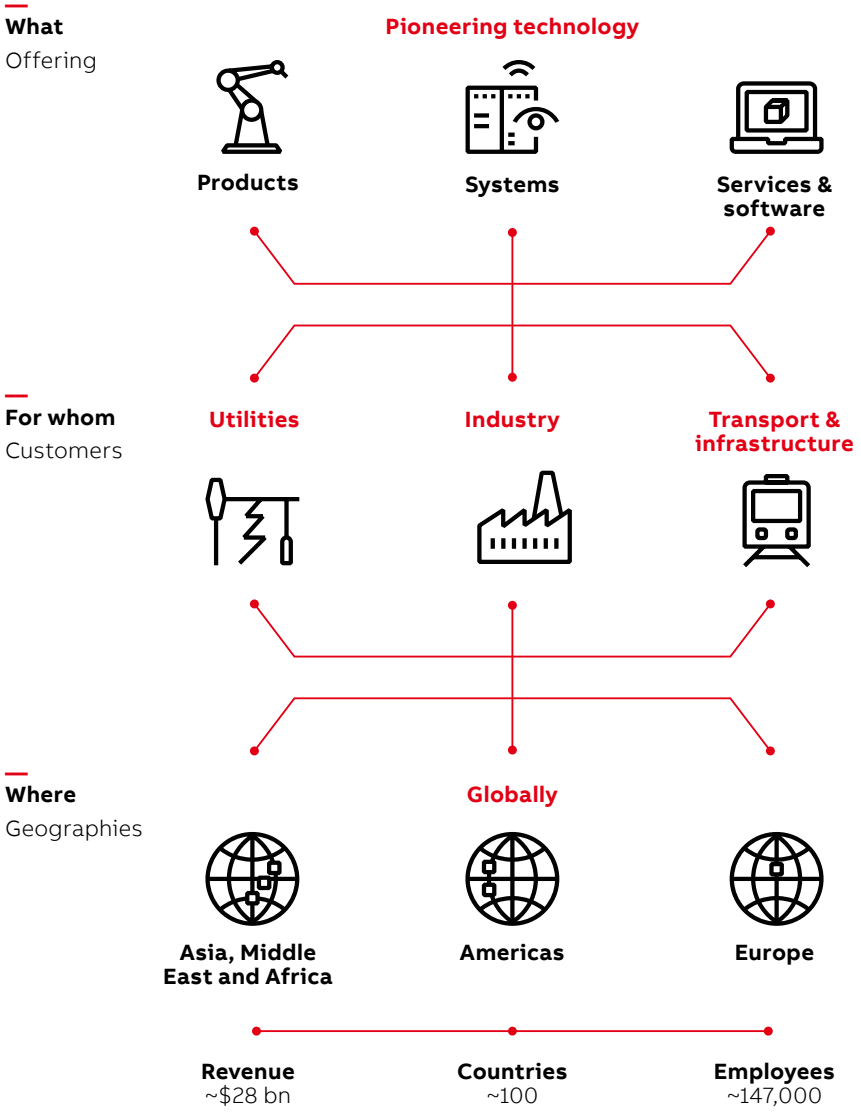
ABB is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally.

Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products.

As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future.

ABB operates in more than 100 countries with about 147,000 employees.

abb.com



Contents

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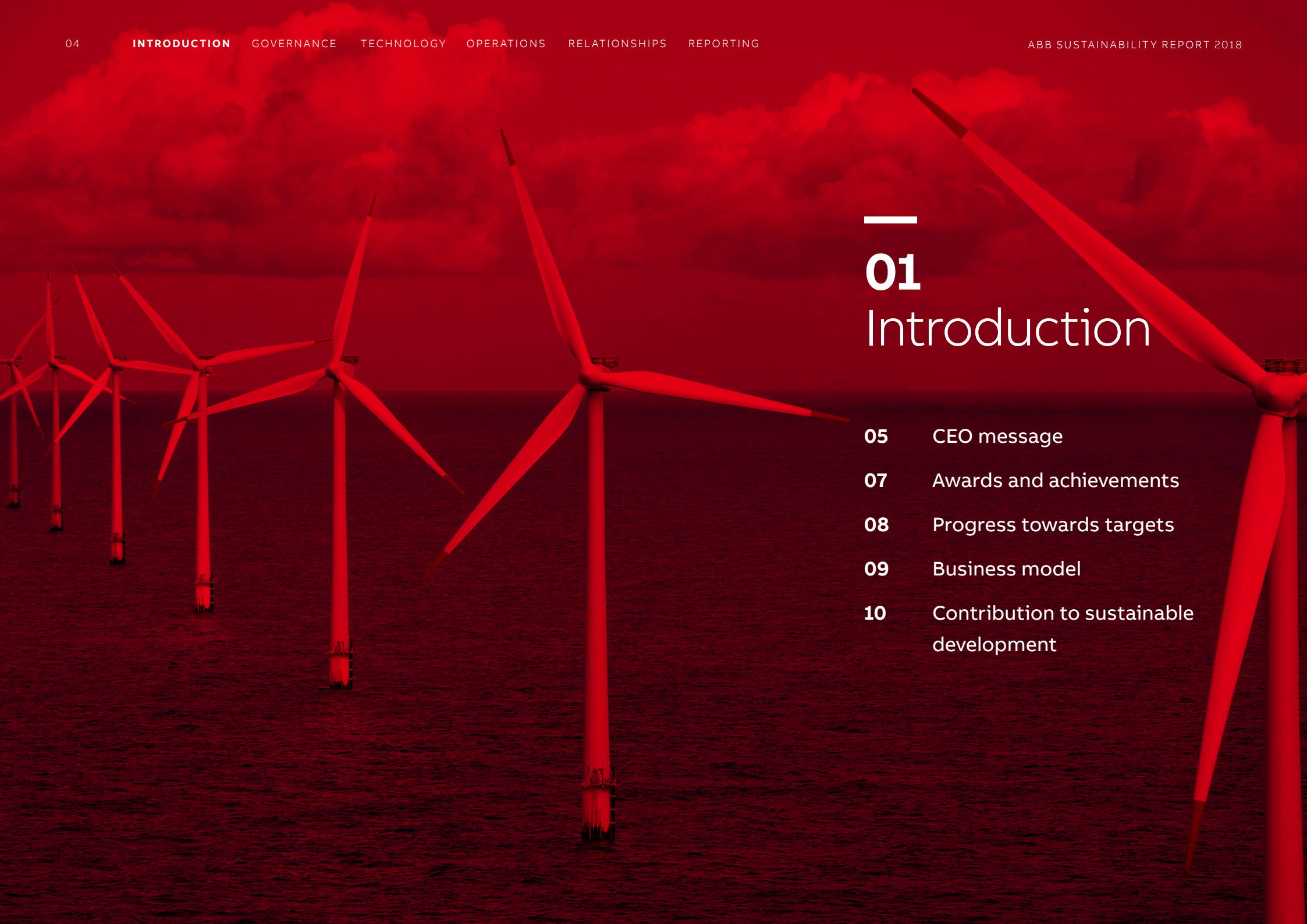


01 Introduction

CEO MESSAGE

Innovating for sustainability

Advanced solutions that help our customers improve energy efficiency and productivity while extending the life cycles of their equipment and reducing waste are at the core of our value proposition

Our world is undergoing transformational technological change. The Energy and Fourth Industrial Revolutions are profoundly influencing the way we power our societies, produce our goods, as well as how we work, live and move. In the years to come, digitalization and other advanced technologies such as artificial intelligence will increasingly provide the basis for a sustainable and resilient global economy.

As a pioneering technology leader serving utilities, industry and transport & infrastructure customers around the world, ABB has long encouraged the early and rapid adoption of sustainable technologies. At the center of our value proposition are innovative solutions that help our customers improve energy efficiency and productivity while extending the life cycles of their equipment and reducing waste. In this way, we enable the global community to achieve many of the targets that underlie seven of the United Nations' Sustainable Development Goals (SDGs), and we contribute directly or indirectly to the achievement of the other 10 SDGs.

Now we are further strengthening our focus on digital industries with three decisive actions that will shape our business for leadership and further improve our ability to deliver on sustainability goals:

1. To focus our portfolio on digital industries, we have agreed to divest our Power Grids business to Hitachi.
2. We will simplify our business model and organization by discontinuing our legacy matrix structure to achieve zero-distance to customers, increased agility in decision-making, and a stronger entrepreneurial culture within our businesses.
3. And we will shape four leading businesses – Electrification, Industrial Automation, Motion and Discrete Automation - in line with the way our customers operate.

These actions will support our values-based culture and drive growth, efficiency and sustainability across our operations. Moreover, they will result in clearer lines of accountability that will enable us to better manage our direct and indirect impacts on the environment, meet the sustainability expectations of our stakeholders, and leverage business opportunities related to our eco-efficiency portfolio.

Contributing to climate goals

ABB is a firm supporter of the Paris Agreement. We consider it a crucial opportunity to limit global warming and avert potential devastating consequences of climate change. Already, more than half of our global revenues are derived from technologies that directly address the causes of climate change. Among the revolutionary, energy-saving innovations that have emerged from our research centers: a high-power electric vehicle charger that can add up to 200 kilometers of range in just eight minutes; electrically powered Azipod propulsion systems for ships, which significantly reduce fuel consumption and emissions; and the ABB Ability™ Smart Sensor, which converts almost any low-voltage electric motor into a wirelessly connected, energy-efficient device.

Our commitment to combatting climate change includes limiting the environmental impact of our own operations. In 2013 we set ourselves ambitious sustainability objectives and I am pleased to report that we continue to make positive progress on all but one of our 11 objectives.

Among ABB's other notable environmental achievements in 2018, we met our 2020 target for reduced emissions of volatile organic compounds while decreasing our energy consumption, carbon emissions and waste production. Due to the opening of two new facilities, ABB's water withdrawals in areas of high water stress increased slightly in 2018, reversing a long-term trend.

Collaborating for sustainability
Beyond our own operations, ABB actively encourages and supports innovation by collaborating with leading technical institutes and universities, and by investing in and working with innovative startups. ABB is an active participant in the United Nations-driven "Sustainable Energy for All" initiative, which is working toward the Sustainable Development Goal of "affordable, reliable, sustainable and modern energy for all." In addition, we have been a strategic partner of the World Economic Forum (WEF) for more than a decade; this past year, I was pleased to champion e-mobility at the WEF annual meeting in Davos, Switzerland and to demonstrate to the assembled leaders that EV charging infrastructure technology is ready for implementation on a large scale.

As a pioneering technology leader, we are attentive to the societal impact of our technologies. The Fourth Industrial Revolution promises to help alleviate poverty and raise living standards, yet it is also unfolding at an unprecedented pace, with significant implications for the workforce and workplace of the future, as well as for education and training. To meet this challenge, we are working to explore ways to adjust educational systems. Through the Global Apprenticeship Network we will seek to address key questions about the shape of our workforce into the future. At the January 2019 WEF meeting, we joined other global companies in launching the Global Alliance for YOUth to help young people obtain the skills they need to work and thrive in the 21st century. Our goal is to impact the lives of 6 million young people by 2022.

On our core value pair of safety and integrity, we reduced the number of recordable incidents for employees by 20 percent compared with 2017. Tragically, however, four people lost their lives while working for ABB in 2018: one employee and three contractors. These incidents were fully investigated to understand their root causes and we will increase our already considerable efforts to achieve zero incidents.

On social KPIs, our progress has been significant, although we recognize further effort will be needed to deliver on gender diversity in senior management.

Measuring and rewarding sustainability
Based on the feedback and recommendations of ABB's Sustainability Report Review Panel concerning the 2017 ABB Sustainability Report, the Compensation and Benefits Committee has agreed to establish a bonus structure throughout the company from executive level to operational level that encourages safety.

With 2020 fast approaching, ABB has initiated a process to engage formally with key stakeholders and conduct a comprehensive materiality review. We will develop our post-2020 sustainability objectives based upon our findings. I am confident that these new objectives will raise the bar for sustainability in our industry.

In a history spanning more than 130 years, ABB's pioneering technologies have helped to make the modern world possible. Today, as a leader focused on digital industries, we are deploying our new innovations to make our societies more sustainable. We continue to move towards our objective: to run the world without consuming the earth.

Ulrich Spiesshofer
Chief Executive Officer

AWARDS AND ACHIEVEMENTS

A job well done

ABB's technologies, operations and people were recognized in 2018 for their role in making the world a better, more sustainable place

Pioneering technology

ABB **ranked No. 8 on Fortune magazine's list of companies that are "changing the world"** for the company's leadership in e-mobility and electric vehicle charging

ABB named 2018 Company of the Year for digital grid communications by Frost & Sullivan

ABB won the prestigious **Golden Amper** 2018 award for its ABB Ability™ Manufacturing Operations Management Process and Production Intelligence application suite

ABB's new PVS-175-TL string inverter recognized as **the leading photovoltaic product innovation** at the 2018 Intersolar Awards

ABB ranked **No. 1 for distributed control systems globally** by the ARC Advisory Group

ABB's Azipod® propulsion secured its **100th cruise ship order** in 2018; this gearless propulsion system improves fuel efficiency by up to 20 percent

Responsible operations

ABB, Inc. received the EPA's **Excellence in Site Re-Use Award** in recognition of its commitment and dedication for remediating the Henry's Knob Mine Superfund Site

ABB's Supplier Sustainability Development Program was named **Supply Chain Initiative of the Year** at the seventh Manufacturing Supply Chain Summit in Mumbai

ABB's motors and generators facility in Shelby, North Carolina, USA, achieved **zero-waste status**

Ranked No. 13 in the **Responsible Sourcing Network's** independent benchmarking study

ABB Belgium recognized as **Lean and Green** for mobility program by Connekt

75% of our manufacturing and service sites are covered by a certified **environmental management system** (ISO 14001 or equivalent)

85% of our employees are covered by a certified **occupational health and safety management system** (OHSAS 18000 or equivalent)

Responsible relationships

2018 **Ethisphere Compliance Leader** and **Anti-Bribery Management System Verification**

ABB UAE awarded **CSR label 2018** by Dubai Chamber of Commerce and Industry

For the fourth consecutive year, ABB Egypt was ranked **First Employer of choice** at the 2018 Engineerex Employment fair

Winner of the **2018 Volusia Manufacturing Association award** for the corporate responsibility activities of ABB employees at its site in Ormond Beach, Florida, USA

ABB China named **2018 Excellent Volunteer Partner** by FESCO, Beijing

ABB Germany **recognized by Bertelsmann Stiftung** as a family-friendly workplace in 2018

Universum ranked ABB the **most attractive employer** for engineering students in Switzerland

External accreditation

2018 FTSE4Good Global Index

2018 EcoVadis Gold

2018 Oekom Prime Status

2018 Ethibel Sustainability Index Excellence Global

2019 Corporate Knights Global 100 Index

PROGRESS TOWARDS TARGETS

On track towards our 2020 targets

ABB is committed to maintaining its positive momentum

ABB's nine sustainability objectives with 11 measures and targets are designed to ensure we reach our overarching goal by 2020: recognition as a leading contributor to a more sustainable world through our business offerings and sustainable business practices.

Our sustainability objectives cover three areas: pioneering technology, responsible operations and responsible relationships. These areas all have a direct or indirect impact on ABB's business success, and our Executive Committee and external stakeholder panel reaffirmed that our 2020 measures and targets for them remain material to ABB's business.

We have made quantifiable progress on all measures in 2018 except water consumption in areas of water stress, and are pleased to present our achievements in this report.

ABB has now entered a period of major transformation. Over the course of 2019 we will sharpen ABB's focus as a leader in digital industries, work on the divestment of Power Grids, and simplify our business model. These changes will not impact ABB's firm commitment to address its key economic, environmental and social impacts.

ABB has started work to revise its baseline 2013 data to reflect changes in the company that would otherwise compromise the consistency and relevance of reported social and environmental information.

Pioneering technology

Objective	Measure	2020 Target	2018 Performance	Page
Products, solutions and services	Increase share of ABB eco-efficiency portfolio	**60%** of revenue	**57%** →	16

Responsible operations

Objective	Measure	2020 Target	2018 Performance	Page
Safe operations	Reduce employee total injury frequency rate	**<0.7**	**0.58** √	23
Climate action	Reduce greenhouse gas emissions (GHG)	**by 40%** (vs 2013)	**36%** →	25
Resource efficiency	Reduce water consumption in water-stressed areas	**by 25%** (vs 2013)	**12%** ⟳	27
	Reduce waste sent for disposal	**by 20%** (vs 2013)	**18%** →	27
Right materials	Reduce emissions from VOCs	**by 25%** (vs 2013)	**27%** √	29
Responsible sourcing	Closure of identified risks from supplier assessments	**>65%**	**76%** √	31

Responsible relationships

Objective	Measure	2020 Target	2018 Performance	Page
Integrity	Employees trained on integrity	**>96%**	**98%** √	34
Human rights	Training for specific job roles exposed to human rights risks	**2 campaigns** per year	**2** √	36
Our people	Increase women in senior management [1]	**by 30%** (vs 2017)	**10.5%** ⟳	38
	Employees covered by the ABB well-being program	**>70%**	**67%** →	38

1 This indicator focuses on senior leadership and includes employees in hay grades 1 to 7.

√ Achieved → On track ⟳ In progress X Not on track

BUSINESS MODEL

Designed to deliver sustainable growth

ABB creates value for all its stakeholders

ABB engages with an extensive range of business partners across our entire value chain to serve our customers and create sustainable, profitable growth for our shareholders. To this end, we seek to forge long-term relationships with all of our customers, suppliers, partners, employees and communities.

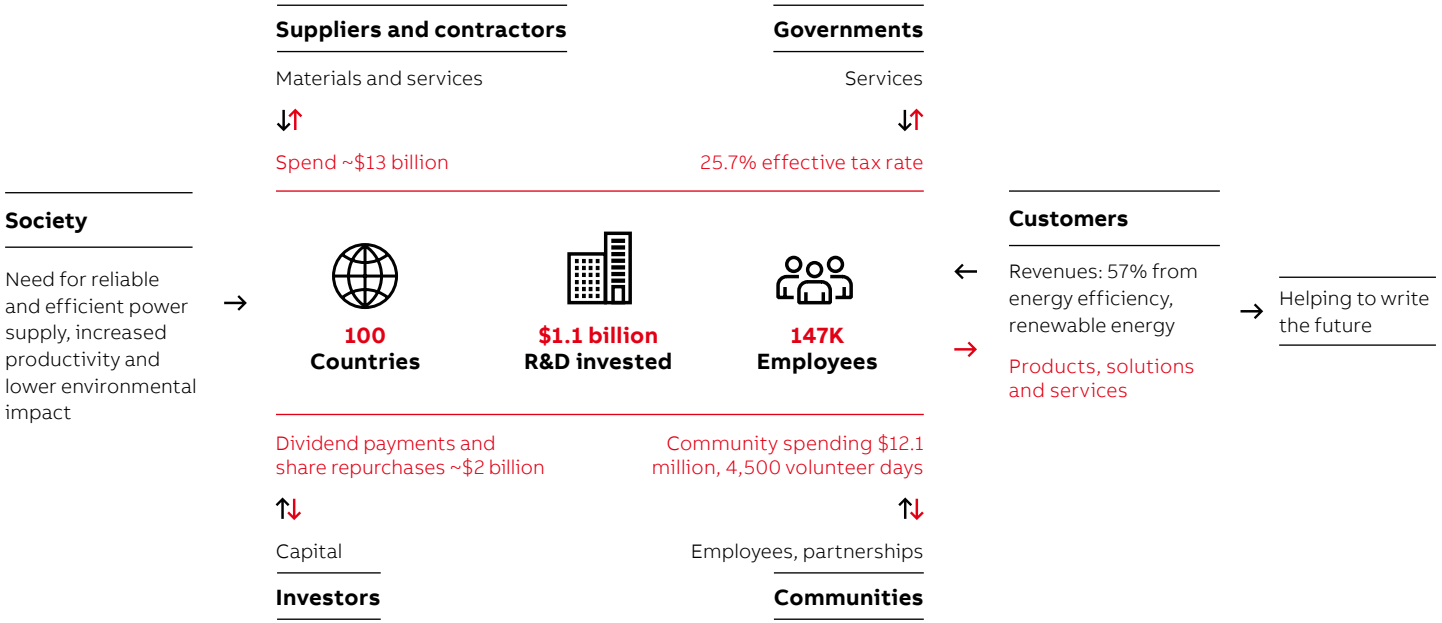
When procuring raw materials, components and services, our approach is to work with highly rated suppliers who abide by all applicable standards of quality, operational excellence, social and environmental responsibility, and business ethics. We cooperate with select suppliers through ABB's Supplier Sustainability Development Program; this program not only enables suppliers to realize further performance improvements but also generates additional value and benefits for their employees and communities.

ABB's production processes and product designs give due consideration to legal, strategic, customer, environmental, and health and safety requirements. Our practice of engaging regularly with customers, suppliers, partners, regulators, academics and other relevant parties enables us to adjust rapidly to changing markets, hone our innovative edge and create value for our customers and for society at large.

ABB's tax position reflects our corporate strategy and is consistent with applicable tax laws and international best-practice guidelines, including the OECD Guidelines for Multinational Enterprises. ABB has elected for voluntary country-by-country reporting in Switzerland, our domicile. Further information about our tax policy is available on our website.

To maintain our position as a pioneering technology leader and meet the legitimate expectations of our stakeholders, we rely on our ability to attract, develop and retain the best available talent. ABB increases its attractiveness as an employer by engaging with different segments of society and working to enhance its standing within the community. These relationships provide our company with the credibility and trust it needs to lead in digital industries and create shared value for all stakeholders.

ABB value chain



CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

Energizing the Sustainable Development Goals

With its pioneering technologies, ABB is helping to address the economic, social, environmental and governance challenges defined by the SDGs

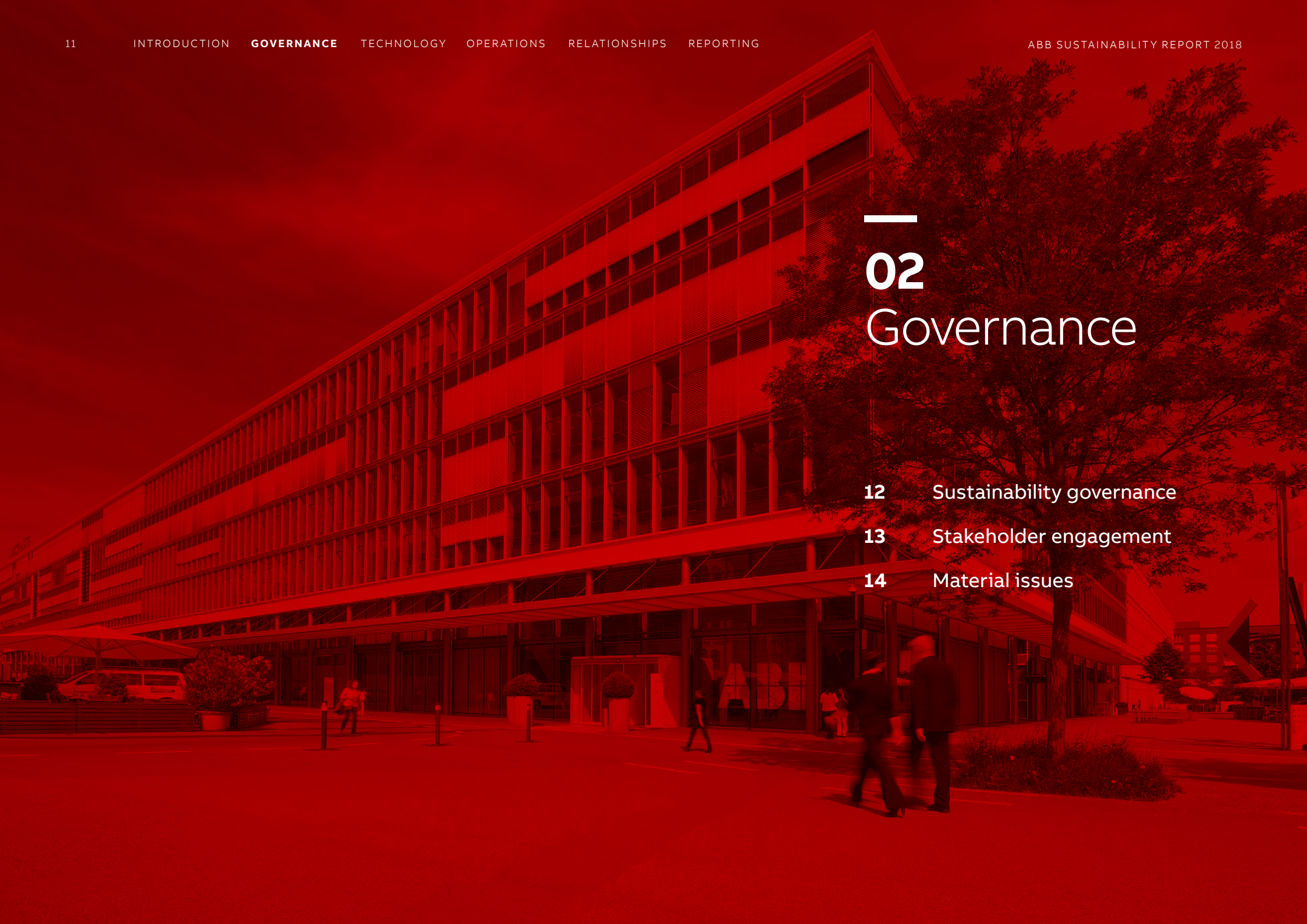
In order to identify the SDGs where ABB can have the most impact, we used the GAPFRAME framework to pinpoint the five “Grand Challenges” (waste, equal opportunity, clean energy, innovation and carbon) that overlap with our material issues. These five challenges translate to the seven SDGs where we can have the most impact.

The SDGs and their underlying targets reveal new market opportunities for innovative companies such as ABB. According to the “Better Business, Better World” report from the Business & Sustainable Development Commission, related potential business opportunities are estimated to exceed US$5 trillion in the following areas: building solutions, urban infrastructure, clean energy, energy efficiency and mobility systems.

ABB is already active in many of these fields and aims to enhance its market leadership by identifying additional areas where its products, solutions and services can be deployed with maximum impact.

The graphic on this page identifies the seven SDGs where we can have the most impact, as well as highlighting our direct and indirect contributions to the remaining 10 SDGs.

ABB makes a significant contribution to all 17 SDGs.
Examples can be found by clicking on the SDG icons.



02 Governance

SUSTAINABILITY GOVERNANCE

Integrated governance enables ABB to deliver on its promises

Sustainability principles and considerations are embedded in ABB's business strategy and guide what we manufacture, how we operate, and the way we behave towards stakeholders

Structures and responsibilities
The Board of Directors is responsible for the overall stewardship of the ABB Group, which includes oversight of sustainability and corporate responsibility. As part of its stewardship role, the board is responsible for ensuring that our products and people are safe, the environment is protected, and human rights are protected. It has ultimate responsibility for realizing ABB's 2020 sustainability strategy.

The ABB Sustainability Board, made up of the entire Executive Committee and chaired by the CEO, is accountable for sustainability within ABB. It meets twice a year and oversees how sustainability policies and programs support business goals and aspirations, monitoring progress against ABB's nine sustainability objectives. Jean-Christoph Deslarzes, Member of the Group Executive Committee and Chief Human Resources Officer, has overall responsibility for ABB's health, safety, environment, security and sustainability (HSE/SA) performance and the implementation and progress of ABB's sustainability strategy.

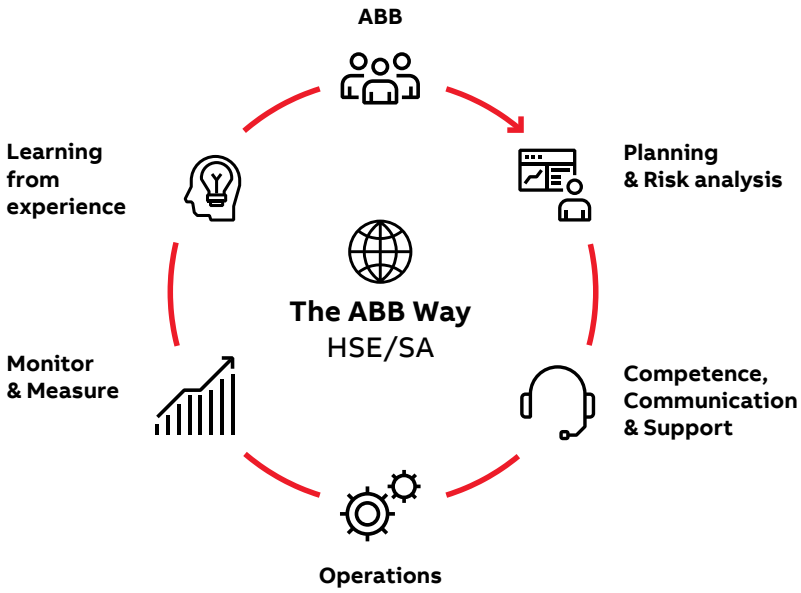
Michael Cooke, Senior Vice President Global HSE and Sustainability Affairs, is responsible for overall delivery of sustainability matters, reporting to Mr. Deslarzes. The HSE/SA management team is operational in focus, meets bi-monthly and is led by Mr. Cooke.

This team is responsible for ensuring that plans and actions are aligned with ABB's business needs and corporate strategy. It initiates and coordinates sustainability policies, strategies, plans, actions, budget and resources and takes corrective actions when needed. The HSE/SA management team comprises the Head of Safety, Head of Environment, Head of Health, Head of Security, Head of Sustainability and Head of Corporate Responsibility. The Sustainability Affairs annual plan aligns all programs, processes and resources to ensure effective, efficient and collaborative actions across all of these functional areas to support the business, improve performance, reduce risk and create value.

At the local level, Country Sustainability Boards have been established to uphold good sustainability governance and assure compliance with local legislation and ABB's standards and customer expectations. Overall, the sustainability network is supported by a team of roughly 800 employees, full-time and part-time, at headquarters and around the world.

A global HSE/SA management system
In 2017, we introduced the ABB Way, a global management system that updates all of our management and control standards for health, safety, the environment, security and sustainability. The ABB Way is creating clear and common expectations in all our global businesses.

2018 was a key year for implementation: Our target is for all ABB sites to be aligned with the new management system by January 2020. This system establishes the required minimum standards that are to be implemented and embedded into all ABB operations and activities, and it incorporates an extensive global audit assurance program. The structure of the HSE/SA management system is based on internationally recognized sustainability standards, principles and commitments, including ISO 45001 and ISO 14001:2015.



STAKEHOLDER ENGAGEMENT

Building enduring partnerships with stakeholders

A company is a core component of society, and ABB's activities are closely monitored to ensure we abide by relevant laws and regulations, meet the expectations of our stakeholders, and achieve the high standards we set for ourselves

Our approach is to engage in meaningful dialogue and collaboration with stakeholders to clarify ABB's positions and policies and, at times, to understand different viewpoints.

Customers
In recent years, customers have sought increased assurance that ABB offerings have been responsibly produced and will deliver on their promise of greater resource efficiency and reduced energy use. We continue to meet with customers and answer their regular requests for information about the sustainability of our offerings and how we manage all kinds of risk. Our ability to provide detailed information on most issues underscores our reputation as a pioneering technology leader and a trusted supplier with robust risk management policies and processes in place.

Investors
In 2018, ABB engaged in one-on-one meetings with dedicated sustainability fund managers and analysts and participated in a sustainability conference in Paris. An increased number of socially responsible fund managers, as well as mainstream investors, showed interest in our environmental, social and governance (ESG) performance and its impact on our business and our risk management. Areas of focus included revenue growth prospects from our eco-efficient portfolio and how ABB managed integrity issues, particularly in high-risk countries.

Suppliers
As a company with a global supply chain, we are in daily contact with suppliers to discuss business-related issues. Our business aims are clear: We seek high quality, low costs and on-time delivery of products. We work hard to ensure that our suppliers meet not only our business needs, but also our sustainability requirements and standards. These efforts are managed through our Supplier Sustainability Development Program (SSDP), which focuses on assessing conditions at our suppliers' sites and working with them to improve their sustainability performance.

Employees
As our company embarks on a period of transformation, it is critical that employees fully understand our strategy and their role in creating ABB's future. As part of a comprehensive and transparent communications program, which began in 2018 and is ongoing, we held local town hall meetings at various sites and published detailed information on internal news portals. We strive to provide employees with as many opportunities as possible to provide feedback and ask questions.

Public policy
ABB strengthened its global government relations capability in 2018 to engage consistently with policymakers around the world on discussions related to ABB technologies, such as climate, energy and industrial policy, and the opportunities of digitalization, artificial intelligence and clean transport. Among many interactions with policymakers, ABB had a significant presence at the COP24 climate conference in Katowice, Poland.

Community
ABB contributed to 620 community projects and charities worldwide, with a focus on supporting education and healthcare. Globally, our employees and companies donated approximately US$12.1 million and provided 4,500 person-days of volunteer time. More information can be found on page 40.

External partnerships
We continued to develop and promote solutions to shared global challenges by working with external partners. In 2018, ABB launched a partnership with the Nobel Foundation to celebrate science and innovation and inspire the next generation of pioneers. ABB has been a strategic partner of the World Economic Forum for over a decade, remains an active contributor to the World Business Council for Sustainable Development's Low Carbon Technology Partnerships initiative, is a delivery partner in several of Sustainable Energy for All's accelerator programs and in United for Efficiency, and has served as a member of the International Committee of the Red Cross's Corporate Support Group since 2005.

MATERIAL ISSUES

Refining our priorities

Through our unique business offering and practices, we are working to be recognized as a leading contributor to a sustainable world

2018 materiality matrix Click issues to reveal

Identification of key stakeholder issues
In 2010 and 2011 ABB conducted a major stakeholder survey that helped it fundamentally reassess a range of material issues. Among the survey's 600 respondents were senior ABB executives, employees from ABB businesses in different countries, customers, and external stakeholders with specialized knowledge in key sustainability areas such as climate change, the environment and human rights.

We also benchmarked the key sustainability focus areas of peer companies and mapped regulatory risks and macro trends to help us establish a comprehensive view of current sustainability issues. We then scored the relevance of the key issues identified to stakeholders and mapped ABB's material sustainability-related issues.

The resulting materiality matrix shaped the development of our 2020 sustainability strategy; we continue to use this matrix, with only minor changes.

External stakeholder panel
Since 2015, ABB has sought input and advice from an external stakeholder panel that reviews our material sustainability issues, our approach to sustainable development and our annual Sustainability Report. Panel members represent our key market and non-market stakeholders and are selected for their knowledge and skills related to sustainable development issues. We strive to achieve geographical and gender balance in the composition of the panel. In 2018, five of the seven panel members had served in previous years.

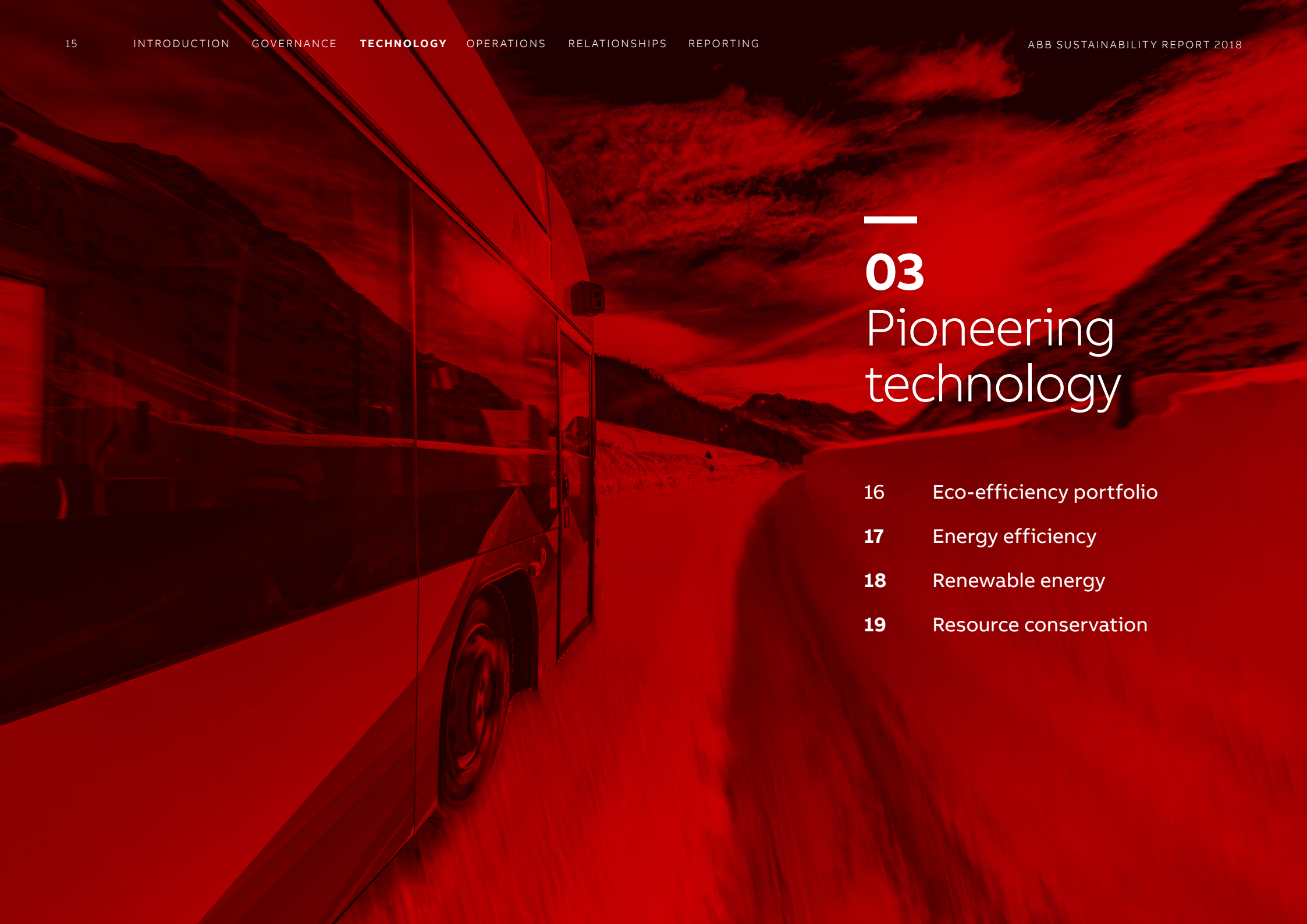
ABB's "bottom-up" approach represents a new and innovative way for global businesses to review and determine their material issues

Shankar Venkateswaran – TERI
ABB Stakeholder Panel

Panel meetings are held via conference call and chaired by an external facilitator. The majority of panel members join these calls; those who are unable to participate are interviewed separately at a later date.

As in years past, in 2018 the panel's feedback helped to shape our Sustainability Report and provided input for the further development of our programs. The statement released by this year's panel is available online.

A changing world
ABB's transformation plan, in combination with the approaching conclusion of our 2020 sustainability targets, requires us to take further action. To develop ABB's post-2020 sustainability objectives, we have initiated a process to formally engage with key stakeholders and embarked on a comprehensive materiality review. We aim to complete interviews with more than 600 stakeholders to understand and address what is important to ABB and its external stakeholders going forward.



03 Pioneering technology

PIONEERING TECHNOLOGY

Products, solutions and services for eco-efficiency

ABB enables its customers in the utilities, industry, and transport & infrastructure sectors to conserve resources and become more sustainable and efficient

ABB has a history of innovation going back more than 130 years, and it takes pride in its track record of developing pioneering technologies that contribute to global eco-efficiency while stimulating economic growth and improving people's lives.

ABB's considerable portfolio of eco-efficient products, solutions and services delivers tangible benefits in three critical areas: energy efficiency, renewable energy and resource efficiency. These benefits are vital to the ongoing effort to achieve the goal of the 2015 Paris Agreement.

57 percent
revenue from eco-efficiency portfolio

Meeting this goal will depend on transitioning to a decarbonized energy system that is connected, digital, smart and distributed. This evolution will directly impact stakeholders of every kind, both individually and at the level of enterprises and governments. It will be disruptive to certain business models and lifestyles, but will also open the door to new models and drive the further development of new technologies.

It must be emphasized that, with continuing urbanization, population growth and economic growth, demand for energy will continue to rise. At the same time, we must work hard to reduce emissions of greenhouse gases. The generation of more power has an important role to play in achieving the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015. SDG 7 seeks to ensure access to affordable, reliable, sustainable and modern energy for all.

Since 2014, ABB has established one clear, central target for our products, solutions and services: for our eco-efficiency portfolio to account for 60 percent of ABB's total revenue by 2020. Over the past year, we performed well against this target; our eco-efficiency portfolio grew steadily and accounted for 57 percent of ABB's revenue in 2018.

ABB reviews all of its products, systems and services according to a robust methodology that determines which offerings should be included or excluded from its eco-efficiency portfolio. Consequently, the energy efficiency portion of this portfolio includes variable frequency drives, energy-efficient motors (IE3 or higher), and flexible alternating current transmission systems; the renewable energy portion includes solar inverters, microgrids, long-distance power transmission systems and asset performance and resource management solutions; and the resource efficiency portion includes industrial robotic solutions, sustainable transportation solutions, control systems for water, power and other facilities,

Case study
The low-emission future of shipping

Read more

SF_6-free gas-insulated switchgear, and transformers with biodegradable insulating fluids. Applications that have potential short- and long-term environmental impacts, such as oil extraction, nuclear power generation and military uses, have been excluded.

ABB Ability™, our Group's comprehensive digital offering, is a central component of our eco-efficiency portfolio. ABB Ability connects the world's largest installed base of industrial devices – more than 70 million of them – to industry-leading digital solutions in sectors as diverse as marine shipping, mining, paper milling, printing and food and beverage processing.

Energy efficiency

ABB is committed to realizing the vision that underlies SDG 7 – which is to ensure access to affordable, reliable, sustainable and modern energy for all – and SDG 12 – calling for responsible consumption and production. ABB provides much of the technology that will be needed to make these goals a reality.

In particular, SDG 7 sets five targets for 2030. These include ensuring universal access to affordable, reliable, modern energy services; increasing the share of renewable energy in the global energy mix; doubling the global rate of improvement in energy efficiency; enhancing international cooperation to facilitate access

Case study
Sustainable underground mining
Read more

to clean energy research and technologies and promoting investment in energy infrastructure and clean energy technologies; and expanding infrastructure and upgrading technology for modern, sustainable energy services for all in developing countries.

Advanced engineering helps improve sustainable solutions

Sheri Straw – Duke Energy Corporation
ABB Stakeholder Panel

With respect to SDG 7's third target, SDG 7.3 – improving energy efficiency – ABB's high-efficiency motors, generators and drives are among the solutions offered by ABB with this purpose in mind. They are designed to be flexible, making it possible to optimize all processes and controls, and they are built to be reliable, so as to reduce downtime. Most of all, they are extremely efficient, offering significant reductions in power consumption. Electric motors account for roughly 28 percent of the world's electricity consumption. They are often larger than necessary and are run at full speed, even when it is not needed. Fitting every inefficient motor with an ABB variable-speed drive would result in energy savings equivalent to the output of 286 power plants. ABB offers a comprehensive range of reliable and high-efficiency motors, drives and generators for all applications.

Sustainable engineering from ABB can also be found in the high-performance turbochargers we manufacture for use in ships, power stations, generator sets, diesel locomotives and other large vehicles. ABB is a leader in the manufacture and maintenance of turbochargers for large diesel and gasoline engines. The latest turbocharger designs can reduce exhaust gas temperatures, enable an increase in boost pressure and reduce fuel consumption.

Another technology from ABB, flexible alternating current transmission systems, or FACTS, is playing an important role in integrating renewable energy and distributed generation sources into mainstream power grids. FACTS covers a range of power-electronics-based technologies that radically increase the capacity of transmission networks – by up to 50 percent – while maintaining or improving voltage stability and grid reliability. They are vital to the development of modern smart grids and can be implemented with minimal infrastructure and environmental impacts. ABB pioneered early solutions in this field in the 1950s and continues to push the boundaries of what can be accomplished with power electronics in the field of transmission.

up to 50 percent
increase in capacity of transmission networks

ABB Ability interacts with these solutions and many others to track and analyze operational data and then make adjustments in real time to ensure optimal energy efficiency.

Renewable energy

In addition to supporting the clean energy mandate specified by SDG 7.2 – increasing the share of renewables – ABB is committed to enabling the ideals enshrined in SDG 11, which calls for sustainable cities and communities. These goals cannot be achieved without the successful,

Case study
Transformers designed for the latest generation of offshore wind turbines

Read more

widespread integration of renewable energy into our systems of transport and production.

Among ABB's many activities in the field of renewable energy, the company is one of the leading global manufacturers of solar inverters, which convert the direct current (DC) power generated by photovoltaic systems into alternating current (AC) power to be fed into the grid. ABB solar inverters draw on more than 40 years of experience and the latest advances in inverter and power converter technology. Among many other projects in 2018, ABB provided its TRIO-50 string inverters for two large solar farms in Chile, where the high average solar irradiance has made photovoltaic power plants an increasingly important part of the country's energy mix.

Another ABB technology that is playing an important role in integrating renewable energy into mainstream power grids is high-voltage direct current, or HVDC. By converting AC power into DC power for transmission, then back to AC power for consumption, we can transmit power with minimal losses over long distances. That makes it possible to connect remotely located energy sources to major consumption centers, such as cities. HVDC systems are now delivering electricity generated by hydro, wind and solar plants to millions of consumers every day. Many of the best renewable generation sites are in remote locations – mountaintops, deserts and seas – so the electricity produced must cross vast distances to get where it is needed. HVDC is the most reliable and efficient way to ensure that renewable energy reaches consumers, and it plays an important part in a stronger, smarter and greener grid.

Another ABB solution for renewables is the microgrid – a small-scale electric grid that can run largely on renewables such as wind or solar, reducing or even eliminating the need for diesel generators in places that lack reliable grid connections. This technology is ideal for remote locations, such as Kodiak Island in Alaska, where an ABB microgrid that relies heavily on wind power and flywheel energy storage has improved the community's power supply and dramatically reduced the use of fossil-fueled generators.

Among activities such as these, the company is leveraging ABB Ability on multiple fronts to ensure that renewable energy can be successfully integrated into the global energy mix on a large scale, while maintaining and even improving reliability and cost efficiency. For instance, our ABB Ability Ellipse APM (asset performance management) software ensures that the high-voltage switchgear and transformers necessary for long-distance transmission of renewable power can be counted on to serve the needs of the grid – even at times of peak demand. ABB Ability DERMS is a resource management solution for distributed energy resources. As a module of our network management platform, it aids grid operators in integrating power from sources such as rooftop solar installations and battery storage systems.

Resource conservation

In the realm of resource conservation, ABB offers a range of solutions that support SDGs 6 (clean water), 12 (responsible consumption and production), 13 (climate action), 14 (life below water) and 15 (life on land). Each of these goals calls on society to minimize waste and the dispersion of pollutants into the environment.

Case study
Solar power for a research station in Antarctica

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For example, a target associated with SDG 6 aims to improve water quality by reducing pollution and substantially increasing water-use efficiency by 2030. SDG 12 has a target focused on the sustainable management and efficient use of natural resources and the environmentally sound management of chemicals. SDG 13 targets mechanisms to raise capacity for effective climate change-related planning and management in the least developed countries, among others. A target associated with SDG 14 aims to secure a reduction in marine pollution of all kinds and the sustainable management of marine and coastal ecosystems. SDG 15 has a target focused on the conservation and sustainable use of terrestrial and inland freshwater ecosystems, the sustainable management of forests and the halt of desertification.

As an example of how we are contributing to these goals, ABB is a global leader in industrial robotic solutions that can be used to reduce waste in production processes. The proper application of robotics in a factory setting improves quality control, reduces the number of units produced that are faulty or unusable, and limits the amount of waste material generated by production. For example, the IRB 340 FlexPicker – a robot designed for high-speed pick-and-place tasks, capable of 150 picks per minute – can be used to dramatically reduce the breakage of food items being packed for shipping. Paint robots like the IRB 5500 save paint as well as time, by spraying surfaces with near-perfect uniformity. The use of these machines also requires less factory space than previous painting processes.

Sustainable transportation solutions make up an important part of ABB's extensive portfolio of clean, resource-efficient technologies. We have worked particularly hard in recent years to expand our position as the world's leading provider of EV fast-charging stations, with more than 8,500 chargers installed in 69 countries. For example, ABB's charging systems are being deployed in a growing network of stations along Germany's motorways. The company's car chargers can now be found in networks across Europe, Russia, the United States, Canada, Iceland, and beyond. The most powerful ABB chargers are capable of adding 200 kilometers of range to a vehicle in just eight minutes.

ABB has special expertise in the field of water conservation, particularly in terms of helping water service providers achieve high levels of reliability and sustainable management. We help water companies achieve their targets for SDG 6 through our solutions for optimizing processes and minimizing leaks and water losses in distribution networks and transmission systems. We also provide flood-protection and smart-sewerage solutions that prevent wastewater from becoming a sanitation problem during heavy rains and floods. These solutions incorporate process expertise, integrated electrical and automation systems and life cycle services, enabling us to optimize water processes and reduce energy consumption while monitoring water quality and minimizing leaks.

Case study
Improving wastewater treatment

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Many of these solutions are built around a control system architecture known as supervisory control and data acquisition, or SCADA. ABB SCADA solutions can be applied to a range of automated systems, including water processing systems and power plants. ABB incorporates SCADA into its ABB Ability Symphony Plus automation solution, providing users with a comprehensive view of their plants by integrating data from all areas and systems, including remote SCADA systems. The control system's open architecture can seamlessly consolidate and rationalize plant data and enhance operator responses to changing conditions, improving both plant safety and uptime. ABB also offers the MicroSCADA Pro solution for application at the station level and a distributed generation solution to integrate and manage renewables, like photovoltaic and wind installations. ABB was recognized by the ARC Advisory Group, a technology advisory firm, as the global leader in large-scale SCADA projects.

more than 10,000
chargers installed in 73 countries

ABB Ability Symphony Plus is one of the most widely used DCS and SCADA systems in water applications worldwide. Symphony Plus maximizes efficiency and reliability through automation, integration and optimization of an entire plant, network or facility. Symphony Plus is part of the ABB Ability portfolio of unified, cross-industry digital solutions that enable businesses to harness the power of the industrial internet. Since its launch in 2011, ABB Ability Symphony Plus has been implemented in more than 6,800 new installations, on top of the thousands of plants that have chosen to upgrade to it.

ABB additionally contributes to resource efficiency with sustainable solutions related to power management and distribution. These include a comprehensive range of high-voltage circuit breakers and switchgear with AirPlus™, a family of eco-efficient gases consisting of components of air (O_2, N_2, CO_2) and fluoroketones. The AirPlus solutions avoid using SF_6, a greenhouse gas that requires careful handling. Replacing SF_6 with AirPlus reduces the global warming potential by almost 100 percent compared to that of SF_6, significantly lowering environmental impacts.

In a similar development, ABB has emerged as a leader in the design and production of dry-type transformers. In contrast to oil-insulated transformers, which contain thousands of liters of flammable oil, dry transformers are insulated with air and non-flammable solid insulation material, eliminating oil leaks and dramatically reducing the risk of fire. Dry transformers also provide an alternative to gas-insulated transformers and are safer to maintain and operate. One of ABB's recent innovations is the world's first digital dry-type transformer. The ABB Ability TXpert Dry is a smart transformer equipped with sensors that collect data and subject them to powerful analytics, enabling key functionality such as power quality monitoring, self-supervision and lifecycle assessment. Due to its dry-type design, digitalization and little or zero maintenance, these new transformers offer enhanced safety and data security, increased uptime and optimized operations.

These represent just a few examples of ABB technologies that are enabling an advanced approach to eco-efficiency on the part of utilities, industry, and transport and infrastructure operators around the globe.

Case study
Digital water management solution

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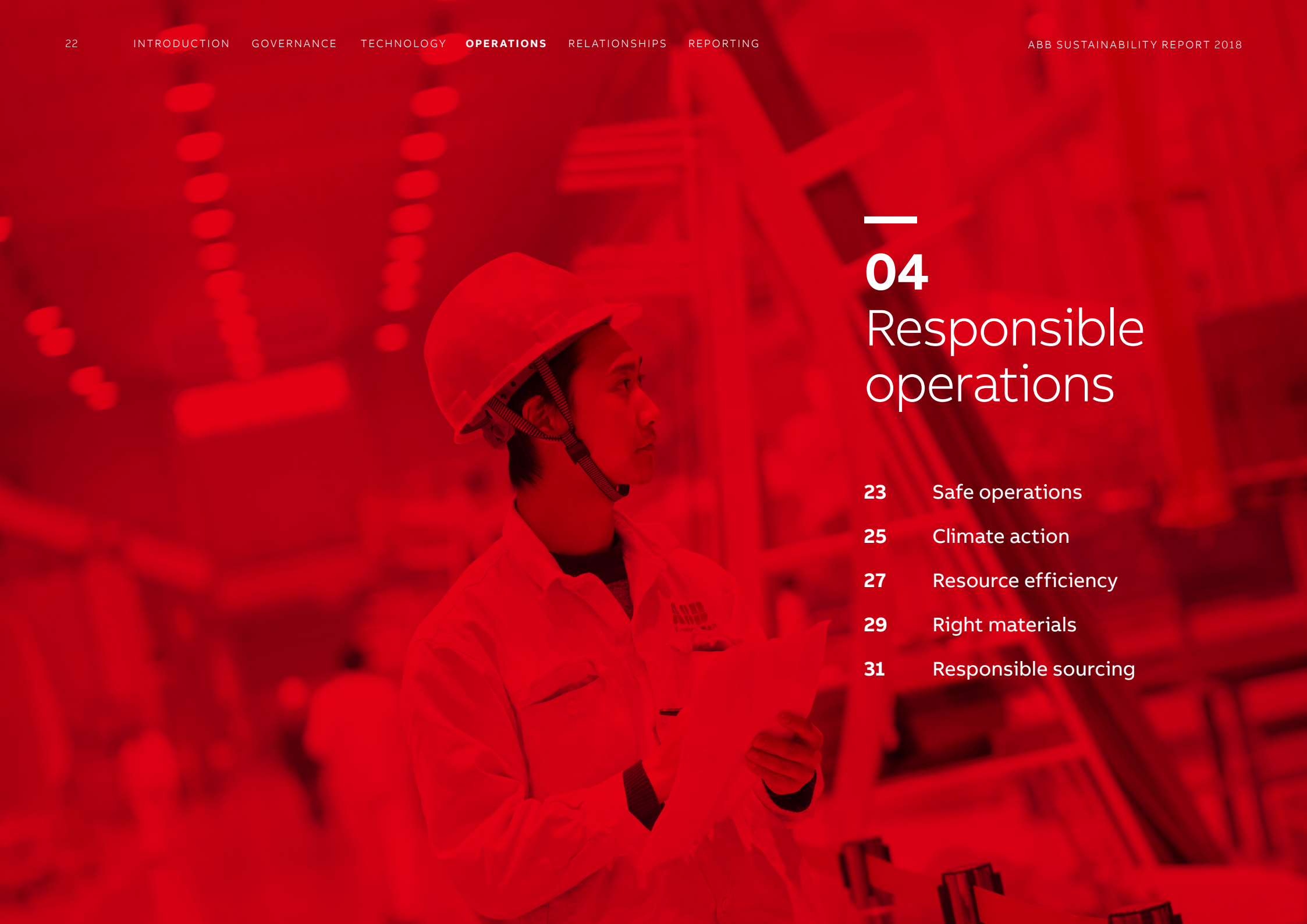
Digitally-enabled flowmeters optimize water consumption

▸ Play video



04 Responsible operations

SAFE OPERATIONS

Leveraging clarity of accountability and lessons learned to eliminate incidents

ABB's paramount concern is to provide for the safety and security of its people and its assets

Health and safety is at the center of everything we do. Our first priority is to assure the health and safety of all ABB employees; this priority is embedded into our core values.

A significant area of focus for the company in 2018 was the implementation of the ABB Way. This new HSE/SA global management system is a key element of our sustainability governance framework, and its implementation has enabled us to reduce our more than 300 independently certified HSE/SA management systems down to one standard system for everyone.

As an investor, we're interested in the connection between a company's sustainability efforts and the health of the business

Laura Kunkemueller – Mellon
ABB Stakeholder Panel

Implementing the ABB Way has clarified and simplified our expectations for performance, while enhancing awareness and knowledge of performance requirements across the organization. Once this single management system was firmly established, we were able to increasingly define and consolidate our health, environment and security performance standards. In parallel with this project, we successfully implemented further global applications from our new information systems (IS) platform for HSE/SA management.

Together, the common standards and the IS platform provide the strong foundations for ABB's performance and will support our continued drive towards zero incidents.

Our target for safety and security is to reduce the employee total recordable injury frequency rate (TRIFR) to less than 0.7 by 2020. We performed well in 2018, with our employee TRIFR ending the year at 0.58, down from 0.75 in 2017. This continued progressive improvement to industry standards represents 251 fewer lost time injuries than the previous year. While we are currently ahead of our 2020 target, we are fully aware that past performance is no guarantee of future results. That is why we are committed to maintaining our strong positive momentum, and to working toward achieving a TRIFR of zero.

Regrettably, even though the indicators are all positive, ABB also sustained four fatalities in 2018. Under ABB's new, improved common standards for investigations and revised processes for the training and assignment of lead investigators to all levels of incidents, these unfortunate incidents were thoroughly investigated to understand their root causes, take action to mitigate them, and derive all possible lessons learned. For example,

Case study
The ABB Life-Saving Rules

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we are now working to improve our initial evaluation processes for contractors and approved service providers; our goal is to maintain high levels of competence among all those engaged to work on ABB's behalf.

ABB's global independent HSE/SA audit and assurance program is also proving to be a valuable means of enhancing the company's knowledge and skills. In 2018, the first full year of this program, we completed nearly 200 individual standardized assurance audits across our businesses and global operations. These audits, which provided excellent opportunities for engagement and learning for local teams, are well received, and all action items are recorded, followed up, and tracked to completion.

Throughout the year, we continued to enhance our global safety programs, including those related to key risks, project safety, contractor management and electrical safety. In these areas, our Center of Expertise was able to gather knowledge from specialists around the world and leverage it to develop solutions and efficiently run our programs. A newly introduced program of particular note in 2018 was the ABB Life-Saving Rules. These issue-based rules complement our existing safety commitment and represent another aspect of our drive to bring clarity, simplicity and enhanced learning to all employees and contractors working on behalf of ABB.

In the coming years, we expect our sharp focus, strong programs and dedicated teams will continue to increase the safety of ABB's operations and reduce the number of incidents across the organization.

CLIMATE ACTION

Contributing to climate goals with pioneering technologies

International and national measures to mitigate climate change are essential business drivers for ABB

In partnership with our stakeholders, we are getting closer to achieving each of our climate action goals.

ABB supports the Paris Agreement, which came into force in November 2016, and considers it a critical opportunity to limit global warming and mitigate the potentially devastating consequences of climate change. We are committed to reducing the greenhouse gas (GHG) emissions that stem from our use of fossil energy and transportation and from the handling of sulfur hexafluoride gas (SF_6).

Setting a Science-Based Target is an important step for ABB; one that will provide the financial sector with hard data

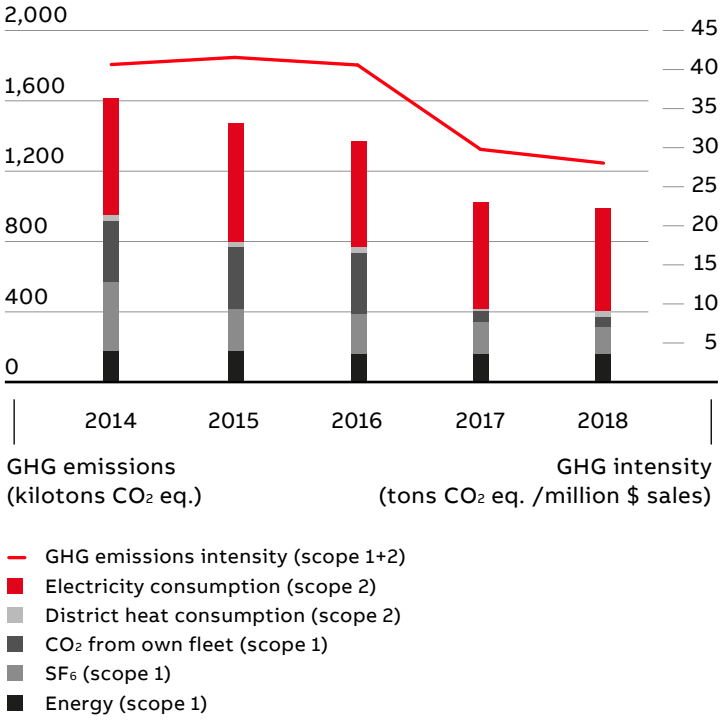
Eva Axelsson – Swedbank Robur
ABB Stakeholder Panel

ABB also engages in initiatives and partnerships with businesses, governments and non-governmental organizations around the world to raise awareness of the need to further decarbonize society. Among many others, we are active participants in the United Nations driven “Sustainable Energy for All” initiative, the Alliance of CEO Climate Leaders, and the Science Based Targets (SBT) initiative. For the SBT initiative, ABB has committed to establishing a science-based GHG emissions target for our post-2020 sustainability objectives, and is currently working to calculate what this target should be. Our primary contribution to the mitigation of climate change is via the development of pioneering technologies that enable utilities, industry and customers in transport and infrastructure to improve their performance and energy efficiency while reducing emissions.

ABB’s current target for climate action is to reduce our GHG emissions by 40 percent by 2020 from a 2013 baseline. We performed well against this target in 2018, as ABB’s total GHG emissions (Scope 1 and 2) decreased to 988 kilotons, representing a 3.2 percent reduction from 2017 and a 36 percent reduction from 2013. Our achievements to date are due in part to an improved methodology for monitoring emissions from our vehicle fleet. On its own, this new methodology accounted for 19 percentage points of the GHG emissions reduction we reported on in 2017.

All of our organizational units are obliged to assess their respective opportunities to cut emissions and energy consumption. In 2018, we provided the sites with comprehensive guidance and upgraded the quarterly HSE/SA dashboard for management teams across ABB; it now displays a straightforward climate KPI to help drive progress.

Total greenhouse gas (GHG) emissions (Scope 1 and 2) and GHG intensity



Emissions of SF_6 gas from our operations continued to decline in 2018, amounting to a nearly 50 percent reduction from 2013. Groupwide measures to improve the handling of SF_6 are serving to reduce accidental leakage, thereby further shrinking our carbon footprint.

We achieved further emissions reductions thanks to initiatives to reduce the carbon intensity of our energy sources. Compared to 2013, we have reduced our use of fossil-fuel oil and diesel by more than 40 percent, while our use of biofuels has nearly doubled and now constitutes a similar share of our energy as fossil-fuel oil and diesel.

In several European countries we purchase all of our electricity from renewable sources. In 2018, 237 GWh, or 15.1 percent, of all electricity used by ABB, was purchased as certified “green” electricity, an increase of 4.5 percentage points over 2017. More of our facilities are also installing on-site photovoltaic power plants; ABB’s production of solar power for its own use nearly doubled in 2018.

At present, the more than 230 energy efficiency projects underway at ABB sites around the world are projected to deliver more than 50 GWh of annual savings, or 2.0 percent of ABB’s total energy use.

We are progressively introducing energy monitoring and management systems at several ABB sites. The number of sites with certified energy management systems has more than doubled over the last two years. For example, in 2018 ABB Finland implemented a certified energy management system and installed ABB Ability cpmPlus Energy Manager software packages at all its sites. The system, which can track the progress of energy initiatives on live dashboards, paid for itself in less than four months by lowering ABB Finland’s energy bills.

Also in 2018, ABB Real Estate’s energy savings program reported a total of US$6.3 million annual savings from 190 completed, ongoing and planned energy saving projects in ABB buildings. ABB Real Estate’s next step will be to work with our Integrated Facility Management (IFM) suppliers to reduce the consumption of energy at all ABB IFM sites around the world.

Case study
ABB boosts renewables and power reliability at its own facilities

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RESOURCE EFFICIENCY

Making our operations smart and sustainable

ABB is progressively reducing the environmental footprint of its sites around the world

In our drive to reduce ABB's environmental impact, we are optimizing our use of resources, minimizing waste from our operations, increasing the share of waste that is reused or recycled, and ensuring that the products we produce and the materials we use comply with our own and our stakeholders' standards.

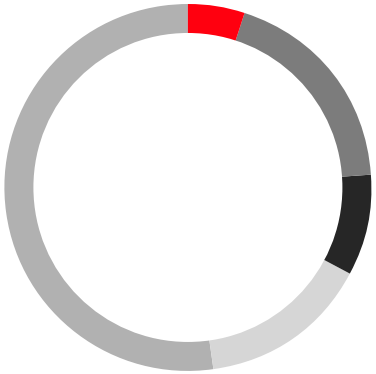
In the area of resource efficiency, we have established two targets. The first target is to reduce absolute water withdrawals by 25 percent from 2013 to 2020 at facilities located in watersheds with medium to extremely high baseline water stress. Even though most of our manufacturing processes do not consume significant amounts of water, ABB remains committed to reducing the water impacts of its operations. We use the World Resources Institute's Aqueduct global water risk tool to map our facilities and classify them according to the level of baseline water stress of the local watershed. Of the 554 ABB locations mapped in 2018, 73 face an extremely high level of water stress, 109 face a high level, and 94 face a medium-to-high level.

For all ABB sites in stressed watersheds, total water withdrawals in 2018 were 12 percent lower than the 2013 baseline. The addition of new ABB sites in China and the Middle East contributed to a 3 percent increase to ABB's withdrawals in stressed watersheds compared to 2017. Thanks to structural changes at several ABB sites in Europe, in 2018 ABB's total water use went down by 5 percent, to 8,800 kilotons.

Our primary water-saving practice is the use of closed-loop systems, which saved 75 percent of all industrial water use and 47 percent of all cooling water use at ABB sites worldwide. There are more than 20 ongoing water reduction projects running across ABB in 2018. For example, by improving the closed loop technology for its board and paper machine, ABB's transformer insulation material site in Roigheim, Germany, saved 144 kilotons of freshwater in 2018, 50 percent more than was saved in 2017.

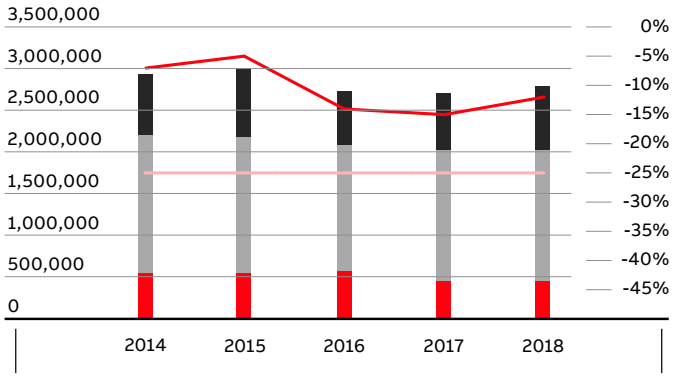
One important water-related initiative in 2018 was to significantly simplify the way we report on ABB's use of water. This change will make it easier to monitor ABB's water use and track our progress against our targets. Another important step was improving the ability of our business lines to track their performance regarding resource efficiency, and our business leaders

Distribution of water withdrawal in 2018 (2013)



- Extremely high 5% (5%)
- High 19% (20%)
- Medium to high 9% (8%)
- Low to medium 15% (21%)
- Low 52% (43%)
- No data 0% (3%)

Water withdrawal in water-stressed areas 2014–18



For details see indicator 303-1 on page 44.

have been fully briefed on the reasons why resource efficiency, water management, waste reduction and recycling are important to ABB.

This improvement has significantly increased, at all levels, our business lines' accountability for the environmental impacts of their operations. It has not only contributed to our achievements related to our 2020 water target, but also to our second resource-efficiency target, which is to reduce the share of waste ABB sends to final disposal – both hazardous and non-hazardous – by 20 percent from 2013 to 2020.

In 2018, we reduced the proportion of waste sent to final disposal to 16 percent, compared to 20 percent in 2013. In-house recycling and reuse, mainly of packaging materials and thermoplastics, reduced the amount of waste by 1,800 tons. Compared to 2017, we reduced the amount of hazardous waste ABB sends for final disposal by more than 20 percent to 6,200 tons. More than 90 recycling and waste reduction projects were underway at ABB in 2018.

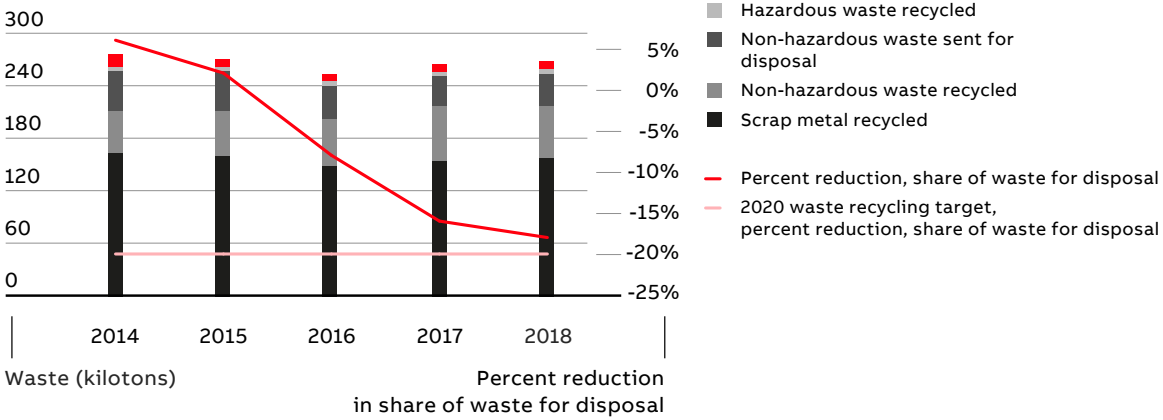
For example, ABB's manufacturing site for solar inverters in Terranuova Bracciolini, Italy, started recycling the metal parts from inverters taken back from customers; this initiative saves roughly 100 tons of metal and more than US$450,000 every year.

It is critically important for industry to work toward the creation of a circular economy

Prof. Dr. Volker Hoffmann – ETH Zurich
ABB Stakeholder Panel

To support the achievement of our waste reduction target in 2018, we shared best practices across ABB and provided further guidance on how to reduce waste generation and increase recycling rates.

Waste and recycling



Case study
Eliminating waste at ABB facilities

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RIGHT MATERIALS

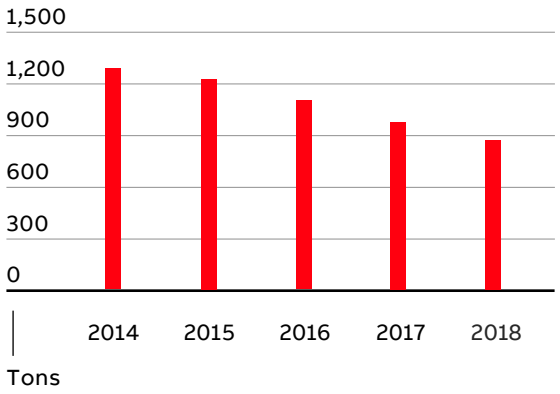
Eliminating unsafe substances

ABB is phasing out hazardous substances from products and processes wherever possible

To expedite the reduction of hazardous substances in our operations, we have compiled the ABB List of Prohibited and Restricted Substances. This list, which is updated regularly in line with international regulations, applies to all our operations, including sourcing of goods, product development, production processes, products, packaging materials, service activities and construction sites.

As regulatory compliance is also part of ABB's Global Terms and Conditions for suppliers and our Supplier Code of Conduct, we have developed a companion guide to the list to support suppliers' understanding of their obligations. These obligations include their ongoing partnership with us to identify and prevent restricted substances and conflict minerals from entering ABB's supply chain, as outlined in the ABB Policy on Conflict Minerals.

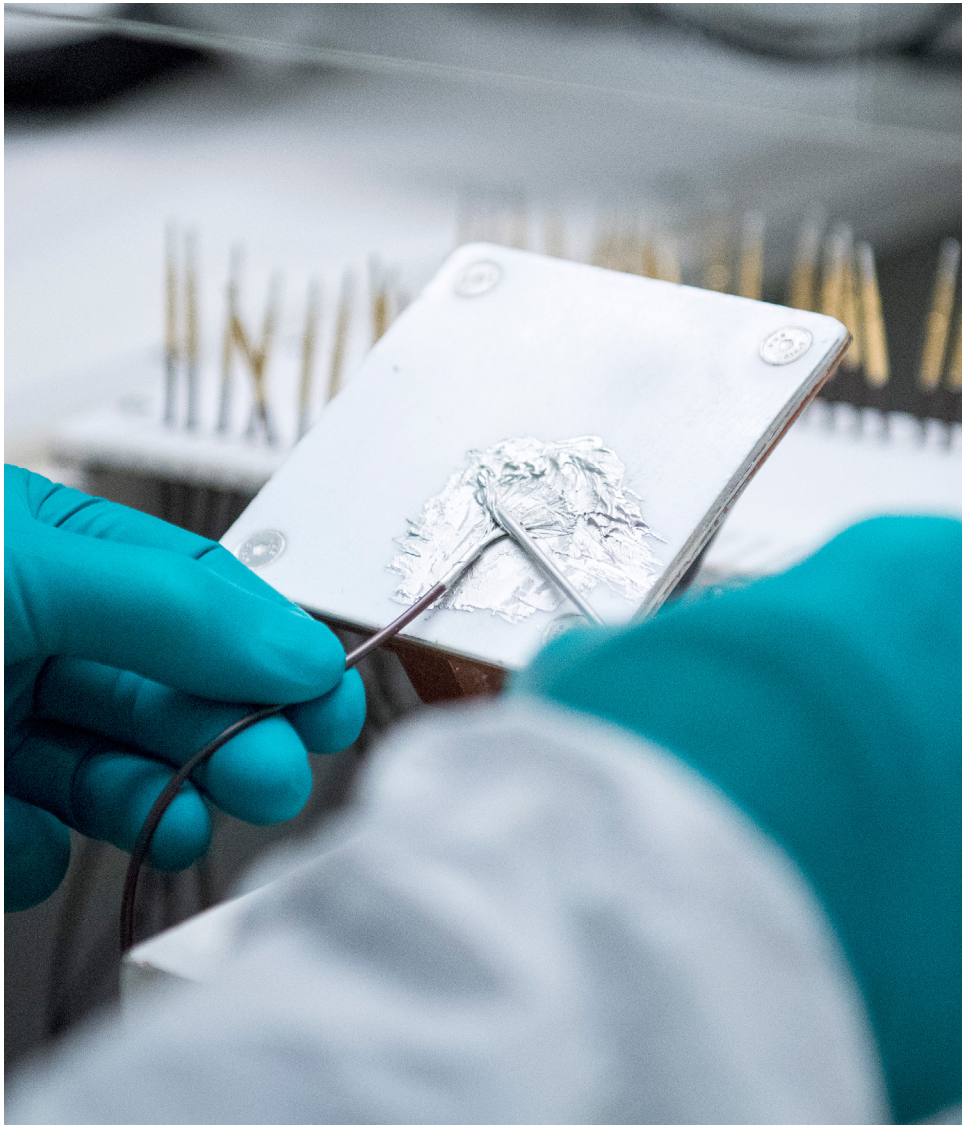
Emissions of volatile organic compounds



For hazardous substances, our 2020 target is to reduce ABB's emissions of volatile organic compounds (VOCs) by 25 percent from 2013. This target further sharpens our strong focus on reducing the use of substances that are harmful to human health and the environment.

We performed well against our 2020 target over the past year, as our VOC emissions decreased by 11 percent compared to the year before. This means ABB has surpassed the 25 percent reduction target we set for 2020. Since 2013, ABB has reduced its VOC emissions by 27 percent, and we are committed to achieving even greater reductions in the years to come. We achieved this result through measures such as switching to paints and varnishes with less VOCs and the installation of more active carbon filters and other such equipment at our sites.

Since 2015, we have made tremendous progress in our effort to phase hazardous materials out of ABB's production processes. We have reduced our use of chlorinated paraffins by 100 percent, dimethyl phthalate by 100 percent, lead chromate pigments



by 87 percent, boric acid by 83 percent, amines by 61 percent, and aluminosilicates by 46 percent. Major initiatives, such as the screening program ABB's Electrification Products division set up in 2018 with its suppliers to monitor and eliminate hazardous substances from components supplied to ABB, are key to our continued success in this important endeavor.

In 2018, we strengthened the cross-functional material compliance team that we formed in 2017 by adding new members to its roster. The team's mission is to facilitate a standardized and systematic approach to the increasingly complex material compliance regulations we face in our global markets, based on best practices. In 2018, the team launched a newly updated material compliance portal to better spotlight business-critical information. The team also conducted the first set of live trainings using a new webinar training package to educate employees on the REACH regulation, RoHS directive and the ABB List of Prohibited and Restricted Substances. Feedback on this webinar, titled "REACH, RoHS and ABB List at a glance," from ABB's business units was positive. The company-wide release of this webinar is part of ABB's HSE/SA business plan for 2019.

Additional initiatives include the introduction of new control standards for R&D and product development, a new approach to supporting supplier communication processes that enable ABB to perform active due diligence, and simplifying reporting processes for hazardous substances and VOCs used in ABB's operation. This last initiative will markedly improve the quality of our reported data.

In 2018, 37 projects were underway to reduce and phase out hazardous substances and VOC emissions. Due to the variety of products and manufacturing processes across our organization, hazardous substances are generally reduced on a site-by-site basis.

For example, our electric motor factory in Weaverville, North Carolina, USA, redesigned its Sleevoil bearings offering so they could use tin instead of lead in this product. This step reduced the annual amount of lead ABB sells and distributes around the world by 58 tons, while reducing the amount of lead-bearing hazardous waste at the Weaverville site by 4.5 tons.

Case study
Phasing out lead at ABB Sweden

Read more

RESPONSIBLE SOURCING

Forging a sustainable supply chain

ABB's robust policies and procedures ensure we address the social and environmental impacts of our procurement processes

ABB closely monitors the sustainability performance of its suppliers. The Supplier Code of Conduct (SCoC), published in 16 different languages, communicates our expectations and performance standards to existing and potential business partners. It is one of our suppliers' contractual obligations, as part of ABB's general terms and conditions. In 2018, we updated our routine procurement processes to include sustainability parameters at the stage of qualification and performance evaluation.

True partnerships rely on responsibility, transparency and a "one team approach"

Barbara Myrczek – Fideltronik
ABB Stakeholder Panel

We continue to deploy a special intervention, the Supplier Sustainability Development Program (SSDP), to proactively screen and prioritize (using a combination of geographical, category and economic factors) the sustainability risks posed by suppliers, evaluate their adherence to the SCoC, and engage with them where necessary. The SSDP involves supplier trainings, onsite assessments and collaboration with suppliers to find sustainable solutions. The SSDP assesses supplier performance on 42 parameters across general management, working conditions, safety, environment, and associated local regulatory requirements.

Every year, ABB trains, coaches and assesses hundreds of suppliers on sustainability topics. In a continuous process, old risks are closed and new ones are identified each year. The time required to close these risks typically ranges from eight months to over a year, in the case of complex issues that may require a collaborative effort to resolve. Since 2015, we have identified an average of 760 new risks each year. Due to the ongoing identification of new risks and the time required to mitigate them, our closure rate for identified risks can never be 100 percent.

Our 2020 target is to close 65 percent or more of identified risks from supplier assessments. In 2018, ABB is on track to exceed our target, closing 76 percent of identified risks by Q4 2018, up from 72 percent in 2017. We achieved this strong result by using all of the expertise, knowledge, resources and best practices at our disposal to support our suppliers. For every area of noncompliance identified during our supplier assessments, we launch a major supplier support action to systematically address each issue in turn. Our support actions include capacity building, customized participatory workshops, sharing best practices, jointly implemented collaborative programs, and transfer of knowledge and

expertise. In 2018, this proactive approach resulted in a better supplier response and improved performance standards.

Among other key initiatives in 2018, we designed a participatory workshop for ABB suppliers in India, China, Saudi Arabia and Indonesia on the local legal requirements that correspond with ABB's SSDP requirements. We also launched support programs in China, India, Turkey, Bulgaria and Poland to work hand-in-hand with suppliers to find innovative solutions for some of the chronic challenges they face regarding working conditions. On the technical side, an ABB pilot project used a business intelligence tool to reduce the manual intervention in our data reporting processes. We will deploy this tool across ABB in 2019.

During our supplier assessments in 2018, a supplier audit uncovered one instance where a large supplier in Malaysia routinely retained the passports of its migrant workers. When these workers applied for the return of their passports, a third-party employment agency would retain one month's salary until the worker returned to the supplier. Further details on this incident and the corrective measures taken by ABB can be found in the case study featured on page 36 of this report.

In 2018, we assessed 190 suppliers, identifying 676 risks. We mitigated 674 risks during this period. In other activities to support responsible sourcing, we trained 136 ABB employees and 415 suppliers during the year. Click here to learn more about how ABB defines risk.

Case study
Sustainability measures improve efficiency
Read more

05 Responsible relationships

INTEGRITY

Doing business the right way

ABB has zero-tolerance for violations of the law or the ABB Code of Conduct

To help ensure we reliably create long-term sustainable value for all ABB stakeholders, we have established five value pairs that serve as the backbone of our business.

The “Safety & Integrity” value pair is the bedrock of our organization. It affirms that we do not conduct business in a way that puts people at risk or involves unethical practices. Everyone who works for or with ABB must meet our integrity standards. These standards, which are made clear in our ABB Code of Conduct and our Supplier Code of Conduct, are underpinned by a robust set of internal policies and instructions.

In 2018, we started “Integrity Starts with You,” a new training course on the ABB Code of Conduct. Launched during Q1 2018, the course achieved a completion rate of 98 percent. In addition to our integrity e-learning curriculum, during Q2 2018 we provided our employees with a training course on global data protection; at the end of 2018 this course had achieved a completion rate of 96 percent. Both courses were rolled out to nearly 98,000 employees, and we are pleased by the high completion rates that were achieved. Due to long-term absences,

Case study
Anti-Bribery Management System
Read more

organizational changes and timing issues, among other reasons, it is not possible to achieve a completion rate of 100 percent.

Integrity training has always been a key metric for us, as we consider raising awareness of integrity risks to be a vital preventative measure. In addition to our efforts to prevent ethical lapses, our detection and resolution mechanisms remain fundamental pillars of our integrity program.

ABB's commitment to high integrity standards is demonstrated by its comprehensive employee training and impactful communications

Jermyn Brooks – Transparency International
ABB Stakeholder Panel

ABB's integrity program continues to be recognized externally for its excellence. In 2018, we retained our Ethisphere Compliance Leader Verification seal of recognition for the sixth consecutive year, and we received an Ethisphere Anti-Bribery Management Systems Verification seal of recognition.

Multiple channels are available to all ABB employees to report integrity concerns, including a web-based reporting system and a business ethics telephone hotline run by a third party, available at all hours in over 180 languages. Every reported concern is treated confidentially. An ethics hotline for our stakeholders is also available. All reports received are reviewed and appropriately investigated; exposures are mitigated, and disciplinary actions are taken as applicable and appropriate, including termination of employment. ABB enforces a strict, zero-tolerance policy for violations of the law or the ABB Code of Conduct.

We work to create an environment free of harassment. Harassment – be it face-to-face, written, electronic or verbal – is not tolerated. We seek to make all employees feel welcome and comfortable at ABB; to achieve this, we are constantly working to ensure that our employees, their coworkers and anyone who has business dealings with ABB are not harassed. There appears to have been an increase in willingness to report harassment in 2018, likely due in part to increased public awareness of the topic.

There is a clear dedication to integrity across the business and strong interest in further efforts to develop the integrity program, which is fully supported by senior management and the Board of Directors. We strive to maintain an environment where employees comply with both the letter and the spirit of our integrity rules. As befits a pioneering technology leader, ABB is committed to deploying data analytics and other advanced tools to help us become smarter about how and where we focus our integrity initiatives. Such measures will help us improve ABB's integrity program on an ongoing basis as our business grows and changes.

In 2018, the company did not face any significant fines or sanctions for non-compliance with laws and regulations. For further information, please refer to the Commitments and Contingencies note in the Notes to the Consolidated Financial Statements contained in the ABB Group Annual Report.

HUMAN RIGHTS

Embedding human rights throughout our business

ABB's actions are guided by the knowledge that human rights impact every link in the value chain

Everyone who works for us, either as a direct ABB employee or indirectly through our supply chain, is expected to behave with respect for the dignity of the individual and for the importance of each individual's human rights. ABB fully acknowledges its responsibility to abide by the International Bill of Human Rights, and is committed to implementing the UN Guiding Principles on Business and Human Rights. In addition, the ABB Supplier Code of Conduct, the ABB Policy Combating Trafficking in Persons, and our Human Rights Policy emphasize that ABB does not tolerate modern slavery or human trafficking.

Since our first formal Human Rights Policy was published in 2007, we have worked to integrate these principles into our decision-making processes and included them in many of our due diligence activities, including the risk review process for screening major projects.

Major human rights issues of interest to our external stakeholders include conflict minerals, human trafficking and child labor. We work to ensure our policies and principles regarding these and other topics are implemented and observed along our value chain. In particular, this means engaging with our employees and our supply chain partners to raise awareness and improve performance where needed.

Case study
Combating modern slavery
Read more

Our 2020 target for human rights is to conduct two training campaigns per year for employees whose roles expose them to human rights risks. In 2018, we made good progress toward this target, providing face-to-face human rights training sessions for 60 members of ABB's HSE/SA network. These colleagues are managers and specialists who support and guide ABB businesses in the areas of health, safety, environment, security and corporate responsibility.

We also provided specialist training to the regional coordinators of ABB's Supplier Sustainability Development Program (SSDP), enabling them to better support their local SSDP colleagues and suppliers in program implementation, risk analysis and problem solving. Additionally, we started work to incorporate human rights topics into the competence development programs for ABB's marketing and sales managers.

In 2018, ABB continued the capacity-building program for its human rights champions network. To complement the training materials already available, we created a detailed development curriculum to guide their study of the legal and normative frameworks relating to the corporate responsibility to respect human rights, as well as how to identify, prioritize and avoid risks, based on examples from the business. The curriculum, which involves homework assignments, research and collaboration with other members of the learning cohort, will be rolled out in 2019.

In 2018, we also continued to map internal processes related to risk identification and risk assessment and to improve the way in which human rights and broader sustainability considerations are embedded in day-to-day business analysis and decision-making processes. This work will be reinforced and expanded in 2019 by members of ABB's human rights champions network.

ABB continues to work to limit our exposure to conflict minerals and assist industry-wide efforts to source minerals from legitimate mines that do not contribute to human rights abuses in the Democratic Republic of Congo. In May 2018, we filed our fifth Conflict Minerals Report with the U.S. Securities and Exchange Commission. For the fourth year running, ABB was recognized for responsible sourcing of minerals by an independent benchmark study, "Mining the Disclosures 2018" from the Responsible Sourcing Network.

ABB recognizes that the increasing sophistication of automated systems will have far-reaching implications for work and employment. In addition to examining the potential impacts of digitalization on our own workforce, we sponsored research by the Economist Intelligence Unit to assess how well-prepared 25 countries are for the challenges and opportunities of intelligent automation. The findings highlighted the need for a systematic policy response by government, as well as the importance of engagement and collaboration between different sectors of society.

As part of our collaborative efforts, ABB signed a Pledge to America's Workers, further committing the company to enhancing career opportunities for each of its 24,000 workers in the United States through an initiative that complements ABB's employee development and leadership efforts worldwide.

OUR PEOPLE

Investing in the people of ABB

ABB highly values its employees and is committed to supporting them

People are our most important strategic asset, so ABB continually invests in their personal and professional development. By providing them with the best available tools, programs and opportunities, we are empowering them to build rewarding careers, enjoy their personal lives and improve their overall health, resilience and sense of well-being.

30 percent
increase targeted for women in senior management

Our 2020 targets for people and community are to increase the number of women in senior management positions by 30 percent from 2017 and to increase the proportion of employees covered by ABB's well-being program to 70 percent. Gender diversity and the health, well-being and resilience of our workforce are strategic priorities for ABB, with significant implications for our performance.

We made progress toward these targets over the past year. At present, 19 percent of the middle and senior managers at ABB are women, up from 18 percent in 2017, as are 10.5 percent of our senior leadership, up from 9.8 percent in 2017. We continued our focused efforts to raise these numbers by 2020. Additionally, by the end of 2018 more than 67 percent of our employees were covered by ABB's well-being program, up from 58 percent in 2017. We achieved these results thanks to a combination of ongoing and newly introduced initiatives.

People
To drive equitable gender representation in our workforce, we rely on the gender diversity framework that ABB implemented and reported on in 2017. Actions dictated by this framework include shortlisting women during recruitment drives, including a focus on female leaders at the ABB Executive Committee monthly meeting, creating opportunities for women to be mentored by senior leaders, and implementing flexible working practices. Even though 11 women were appointed to senior leadership positions in 2018, this result did not move us significantly closer to achieving our 2020 gender representation target; we are carefully reviewing this matter and plan to take corrective actions based upon our findings.

In addition to these gender diversity initiatives, in 2018 we standardized our approach to the Capability and Workforce Planning process across all our businesses. Launched in 2016, this process enables us to forecast our future talent needs, identify gaps in our people's skills and competencies, and take action as necessary. We also used elements of this process to drive people development initiatives across ABB.

Case study
Global mentoring and development program
Read more

In addition, in 2018 we finalized the rollout of a global learning management system for all our employees. By the end of 2018, this system had 126,000 registered users, who completed 167,000 e-training sessions.

Over the past year, we extended the scope of our “Come to the Edge” leadership program. Launched in 2017, this program was designed to drive cultural change at ABB by engaging the top 200 leaders at our company. We rolled out this program to 2,000 more senior managers in 2018, expanding its impact on our organization. While we are actively working to shape ABB’s culture, an external force is also driving change within our organization: digitalization. In response, in 2018 our Human Resources function drafted a white paper that identifies the key competencies our people will need to adapt and the developmental, organizational and cultural actions ABB must take to support them.

167,000
e-training sessions completed by 126,000 registered users

Health and well-being
Our success in raising employee participation in ABB’s well-being program in 2018 was achieved thanks to the inclusion of health topics on the agendas of country-level HSE/SA boards and to management’s commitment to allocating resources in support of local well-being programs. In addition, the presence of health-related indicators on the HSE/SA dashboard enabled management to monitor their progress toward achieving their targets. By providing country-level organizations with more readily accessible data, they gained greater insight into the distribution and determinants of the health conditions of their employees. We also strongly encouraged them to invest in building a culture of health by quantifying the value added by health measures for employees and for their productivity.

142
instructors conducted resilience training in 26 languages

ABB asks its entities around the world to provide employees with a “no smoking” policy, a smoking cessation program, and any three of the following programs: healthy nutrition, physical fitness, mental health, vaccination, voluntary medical checks, promotion of good ergonomics, and addiction prevention. In 2018, we started monitoring employees’ level of engagement with these well-being programs; our objective is to learn more about our employees’ preferences, and to increase their engagement by tailoring our programs and implementation strategies to meet their changing needs over time.

Our resilience building program, which aims to bolster our people’s coping skills when they face challenges either at work or at home, is a major pillar of ABB’s health plan. This program helps our people to be more relaxed, healthier and productive by teaching them how to thrive under pressure. We believe this program is building a culture of flexible thinking within ABB, where people welcome new challenges with open arms. In 2018, we provided resilience training to more than 28,000 employees in 60 countries; 142 internal instructors conducted resilience training sessions in 26 languages.

Case study
ABB Ergonomics Program ready for 2019
Read more

COMMUNITY ENGAGEMENT

A tradition of social engagement

As a part of society, ABB contributes to economic and social progress in many different ways

We take pride in ABB's long tradition of supporting the communities in which our people live and work. Our approach is to combine strategic corporate partnerships with country-level education and healthcare projects. Through our contributions, we support the achievement of SDG 3 (good health and well-being), SDG 4 (quality education) and SDG 11 (sustainable cities and communities), and are making a difference in people's lives and our corporate reputation, particularly in the communities where our business operates.

In 2018, ABB contributed to 620 community projects and charities worldwide. A total of 46 countries out of the 69 reporting on their social activities supported community projects. Employees and ABB's businesses donated approximately US$12.1 million and provided about 4,500 person-days in volunteer work.

ABB works with students, schools and universities in a variety of ways, to improve research, especially in science, technology, engineering and mathematics, and to extend educational opportunities to more people. A global foundation set up to honor a former ABB Chairman and Chief Executive, Jürgen Dormann, helps talented but financially disadvantaged engineering students to pursue their studies. The foundation has grown steadily in recent years, and scholarships are now granted to students at 14 partner universities in 13 countries.

Our businesses also support local education initiatives that promote diversity and inclusion, such as a scholarship for female students in Hungary and helping to provide access to education in Pakistan. A long-established program in India supports schools in communities around ABB facilities, while ABB in Brazil provides education and social assistance for underprivileged children. ABB is also involved in a range of projects related to health, such as a medical infrastructure support initiative that donated equipment to a hospital in Egypt that needed to upgrade its electrical distribution network.

ABB has both a strategic and on-the-ground approach to humanitarian assistance. We have a decade-long partnership with the International Committee of the Red Cross (ICRC) that was renewed for three years at the end of 2017, and we are proud to support ICRC's activities related to renewable energy and use of technology in the electrification value chain. In 2018, ABB in the US also launched the ABB Employee Relief Fund, which enables ABB and its employees to provide financial assistance to coworkers in need after a natural disaster.

During the past year, ABB conducted a systematic review of its global community engagement activities to support an internal review of its corporate responsibility approach. The results of this review will help us to restructure our community engagement efforts during 2019, to bring the activities closer to ABB's values and business strategy and to provide value for communities where we operate.

Case study
ABB continues to rebuild lives in the Philippines

Read more

06 Reporting indicators

APPROACH TO SUSTAINABILITY REPORTING

Accurate, comparable and reliable reporting

ABB seeks to provide clear and transparent information on how it measures and discloses its environmental, social and governance impacts

ABB's sustainability reporting is guided by the Global Reporting Initiative (GRI) Standards and the EU directive on non-financial reporting, which enable us to transparently share ABB's material economic, environmental and social impacts and how we manage them. Omission from the material issues addressed in our report does not mean that the issue is not managed by ABB.

Reporting boundaries
Our formal sustainability reporting system covers all ABB Group companies worldwide, including wholly owned subsidiaries and majority-owned joint ventures. A complete list of direct and indirect subsidiaries may be found in ABB's 2018 Annual Report.

Changes in 2018
Entities acquired in the course of 2018 (notably GE Industrial Solutions) are not integrated into ABB's environmental and social reporting for the year. In December 2018, ABB announced the divestment of its Power Grids business to Hitachi and plans to close the sale in the first half of 2020. Until the closing, Power Grids will remain under the management control of ABB and continues to be included in all non-financial reporting.

Data collection processes
We rely on three online data reporting systems to measure and gather performance data from across ABB. Hazards and Sustainability Observation Tours (SOTs) are reported by employees via an end-user global system. Incidents from ABB entities in every country are collected by HSE/SA professionals and entered into a second system. The third system collects annual social data from every country and annual environmental data from every production and service site, as well as a majority of our office locations.

Data in this report relating to health and safety and our social performance covers 99 percent of all ABB employees. Data relating to our environmental performance was sourced from 554 ABB sites and offices, covering approximately 94 percent of our employees. Data on the environmental performance of all remaining employees, who are located at non-manufacturing sites with insignificant impacts, is generated by estimating energy, water and waste parameters pro rata.

Calculation of energy and greenhouse gas data
ABB uses a market-based method to calculate and report scope 2 greenhouse gas (GHG) emissions. For purchased electricity and district heat, we have obtained local emission factors from suppliers. For data prior to 2017, where necessary, we have sourced factors from the International Energy Agency's CO_2 Emissions from Fuel Combustion 2013 databases or from national or regional inventories. Emission factors for fuel used at ABB sites are sourced from the GHG Protocol's Emission Factors from Cross-Sector Tools (March 2017). From 2017, emissions from ABB's vehicle fleet are based on lease contract distances and CO_2 per kilometer factors per vehicle.

Scope 2 GHG emissions for electricity have also been calculated using the location-based method (source IEA) and are provided for comparison below.

Scope 2 GHG emissions from electricity	Kilotons CO_2e
Market-based:	597
Location-based:	564

GHG emissions from air travel are calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy (BEIS) in its "2018 Government GHG Conversion Factors for Company Reporting."

Independent assurance summary
Bureau Veritas UK Limited (BV) has been engaged by ABB Ltd to provide independent assurance over ABB's Sustainability Report 2018, published on the company's website. The aim of this verification is to provide assurance to ABB's stakeholders over the accuracy, reliability and objectivity of the performance data in scope and also ensure that it covers the topics that are material to the business and to the stakeholders. BV's full Assurance Statement is published here.

SUMMARY OF GRI INDICATORS

ABB Group Sustainability Indicators 2018

Environmental

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
	Hazardous materials						
	Phthalates (tons)	√	99	106	191	878	258
	Brominated flame retardants (tons)	√	0.0	0.0	0.0	0.0	1.9
	Lead in submarine cables (tons)		–[1]	0.017	8,246	8,376	7,842
	Organic lead in polymers (tons)	√	0.0	0.29	1.0	1.4	0.1
	Lead in other products (tons), e.g., backup batteries and counterweights in robots	√	2,686	2,548	3,321	1,684	1,884
	Cadmium in batteries (tons)[2]	√	113.3	71.3	53.0	98.3	79.5
	Cadmium in lead alloy and other uses (tons)	√	0.3	0.4	7.3	6.4	6.0
	Mercury in products (tons)	√	0.001	0.001	0.002	0.007	0.071
	SF_6 insulation gas (inflow to ABB facilities) (tons)[3]	√	1,286	1,425	1,653	1,658	1,483
	SF_6 insulation gas (outflow to customers) (tons)[3]	√	1,279	1,417	1,644	1,648	1,466
	No. of transformers with PCB oil in ABB facilities	√	6	0	0	0	0
	No. of capacitors with PCB oil in ABB facilities	√	0	0	0	0	0
	Mercury in instruments in ABB facilities (tons)	√	0.215	0.215	0.238	0.225	0.320
302-1	**Energy consumption (gigawatt-hours – GWh)**						
	Biofuels[4]	√	51.6	64.4	52	46	44
	Oil (11.63 MWh/ton)	√	48.5	58.5	71	79	85
	Diesel (11.75 MWh/ton)	√	4.8	5.8	9	8	11
	Coal (7.56 MWh/ton)	√	0	0	0	0	0
	Gas[5, 6]	√	658	647	658	737	708
	District heat consumption[5]	√	201	209	198	181	198
	Electricity consumption[5, 6]	√	1,571	1,561	1,620	1,608	1,628
	Total energy used	√	**2,535**	**2,546**	**2,607**	**2,658**	**2,675**
	Electricity sold	√	2	5	2	1	2
302-3	**Energy intensity (MWh/million $ sales)[7]**	√	72	74	77	75	67
302-4	**Reduction of energy consumption (GWh)**		11	61	51	17	161

Environmental continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
303-1	**Water withdrawal (kilotons)**						
	Purchased from water companies[5]	√	3,721	3,678	3,800	4,000	4,200
	Groundwater extracted by ABB	√	2,499	2,726	2,300	3,200	3,100
	Surface water extracted by ABB	√	2,561	2,849	3,000	2,400	2,800
	Collection of rainwater	√	<100	<100	<100	<100	<100
	Waste water from external source	√	<100	<100	<100	<100	<100
	Water withdrawal from areas of water stress[8]	√	2,778	2,694	2,730	2,993	2,951
	Total water withdrawal	√	**8,827**	**9,280**	**9,100**	**9,700**	**10,100**
303-3	**Water recycled and reused**						
	Volume of water reused and recycled (kilotons)		7,449	7,807	10,600	5,200	5,200
	As percentage of total water withdrawal (%)		84	84	116	54	51
Greenhouse gas (GHG) emissions[9] (kilotons CO_2 equivalent)							
305-1	**Scope 1**						
	CO_2 from the use of energy[6]	√	148	149	155	173	170
	SF_6 (in CO_2 equivalents)[10]	√	150	175	221	237	382
	CO_2 from transport by own fleet[11]		63	63	350	350	350
305-2	**Scope 2**						
	District heat consumption	√	30	28	31	29	35
	Electricity consumption[6]	√	597	606	614	684	682
	Total scope 1 and 2 GHG emissions	√	**988**	**1,020**	**1,371**	**1,473**	**1,618**
305-3	**Scope 3**						
	Air travel[12, 13]	√	138	150	164	158	171
305-4	**GHG emissions intensity (tons CO_2 equivalents/million $)[14]**						
	Tons CO_2 equivalents per million $ sales	√	32	34	45	46	45
305-7	**Emissions of volatile organic compounds (tons)**						
	Volatile organic compounds (VOC)	√	882	987	1,105	1,223	1,291
	Chlorinated volatile organic compounds (VOC-Cl)[15]	√	4	3	6	13	20
	Emissions of NO_X and SO_X (tons SO_2 and NO_2)						
	SO_X from burning coal		0	0	0	0	0
	SO_X from burning oil and biofuels		72	89	82	97	97
	NO_X from burning coal		0	0	0	0	0
	NO_X from burning oil and biofuels		54	67	72	73	73
	NO_X from burning gas		142	140	142	159	153

Environmental continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
306-1	**Water discharge by quality and destination (kilotons)**						
	Public sewer		6,130	3,039	4,200	3,100	3,000
	treated (percentage)		21%	38%	21%	28%	30%
	untreated (percentage)		79%	62%	79%	72%	70%
	Recipient[16]		761	444	4,500	2,600	2,900
	treated (percentage)		90%	81%	15%	90%	90%
	untreated (percentage)		10%	19%	85%	10%	10%
	Hazardous treatment company		47	45	300	360	400
	treated (percentage)		47%	13%	71%	90%	75%
	untreated (percentage)		53%	87%	29%	10%	25%
	External use		1	0	0	<100	<100
	treated (percentage)		100%	-	-	63%	50%
	untreated (percentage)		-	-	-	37%	50%
306-2	**Waste (kilotons)**						
	Scrap metal recycled	√	156	153	148	158	162
	Non-hazardous waste recycled[5]	√	62	61	53	53	49
	Non-hazardous waste sent for disposal[5]	√	37	36	37	44	44
	Hazardous waste recycled[17]	√	5	5	7	5	5
	Hazardous waste sent for disposal[17]	√	6	8	8	10	13
	Total waste (generated)	√	**266**	**263**	**254**	**270**	**273**
306-3	**Numbers of significant spills[18]**						
	Oil spills		15	19	17	11	7
	Chemical spills		9	10	6	1	0
	Emissions to air		5	3	6	11	3
	Others		14	12	9	0	0
	Total number of significant spills		**43**	**44**	**38**	**23**	**10**

Social

GRI ref.	Indicator description	Data assured	2018		2017		2016		2015		2014	
401-1	**Total number and rates of new employee hires and employee turnover**											
	Total workforce by region (ABB employees)[19]											
	Europe		**68,300**		63,000		61,400		61,600		63,000	
	The Americas		**35,600**		28,800		29,000		30,900		32,200	
	Asia, Middle East and Africa		**42,700**		43,000		41,900		43,300		45,200	
	Total		**146,600**		**134,800**		**132,300**		**135,800**		**140,400**	
	Employee turnover											
	Turnover of all employees[20]											
	Europe		6,509	10%	7,105	11%	6,063	10%	5,891	9%	5,877	9%
	The Americas		3,986	11%	3,148	11%	5,338	17%	5,409	17%	5,379	17%
	Asia, Middle East and Africa		5,127	12%	3,749	9%	4,430	11%	4,946	12%	5,701	13%
	Total employee turnover: ABB Group		**15,622**	**11%**	**14,002**	**10%**	**15,831**	**12%**	**16,246**	**12%**	**16,957**	**12%**
	Turnover of all female employees[20]											
	Europe		2,053	3%	2,097	3%	1,571	2%	1,498	2%	1,370	2%
	The Americas		1,154	3%	940	3%	1,265	4%	1,418	5%	1,307	4%
	Asia, Middle East and Africa		967	2%	855	2%	882	2%	1,093	3%	1,311	6%
	Total female employee turnover: ABB Group		**4,174**	**3%**	**3,892**	**3%**	**3,718**	**3%**	**4,009**	**3%**	**3,882**	**3%**
	Employee hires											
	Hires of all employees[20]											
	Europe		7,848	11%	6,888	11%	5,656	9%	5,672	9%	6,195	10%
	The Americas		3,525	10%	3,905	13%	3,354	11%	3,573	11%	4,142	13%
	Asia, Middle East and Africa		5,281	12%	4,403	11%	2,920	7%	3,777	9%	5,493	13%
	Total employee hires: ABB Group		**16,654**	**11%**	**15,196**	**11%**	**11,930**	**9%**	**13,022**	**10%**	**15,830**	**12%**
	Hires of all female employees[20]											
	Europe		2,442	4%	2,161	3%	1,681	3%	1,520	2%	1,597	3%
	The Americas		950	3%	1,030	3%	937	3%	769	2%	1,010	3%
	Asia, Middle East and Africa		1,076	3%	900	2%	586	1%	761	2%	1,308	3%
	Total female employee hires: ABB Group		**4,468**	**3%**	**4,091**	**3%**	**3,204**	**2%**	**3,050**	**2%**	**3,915**	**3%**

Social continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
403-2	**Occupational health and safety: Injuries, lost days, diseases and fatalities**						
	Employee work-related fatalities[21, 23]	√	**0**	1	0	0	1
	Incident rate[22]	√	**0.00**	0.00	0.00	0.00	0.00
	Employee business travel fatalities[21, 24]	√	**1**	1	1	0	0
	Incident rate[22]	√	**0.00**	0.00	0.00	0.00	0.00
	Contractor work-related fatalities[21, 23]	√	**3**	2	5	2	2
	Contractor business travel fatalities[21, 25]	√	**0**	0	2	0	0
	Members of the public fatalities[21]	√	**0**	0	0	1	0
	Employee total recordable incident number[23, 27]	√	**830**	1,049	1,140	1,310	1,500
	Injury rate[22]	√	**0.58**	0.73	0.79	0.87	0.99
	Contractor total recordable incident number[23, 27]	√	**203**	205	277	343	333
	Injury rate[22]	√	**0.58**	0.52	0.70	0.80	0.78
	Employee lost time incident number[23]	√	**386**	472	441	531	652
	Injury rate[22]	√	**0.27**	0.33	0.30	0.36	0.43
	Contractor lost time incident number[23]	√	**97**	95	118	163	200
	Injury rate[22]	√	**0.28**	0.24	0.30	0.38	0.47
	Employee lost days due to industrial incidents[28]		**6,650**	7,331	6,905	7,831	8,415
	Days lost rate[26]		**4.63**	5.11	4.78	5.26	5.52
	Employee occupational health illness	√	**30**	35	65	46	17
	Employee occupational health illness rate[22]	√	**0.02**	0.02	0.05	0.03	0.01
	Sustainability Observation Tours (SOT) conducted[23]	√	**144,738**	182,265	178,473	139,124	–
	SOT rate[29]	√	**1.01**	1.27	1.24	0.92	–
	Hazards reported[23]	√	**389,733**	585,627	621,849	520,942	–
	Hazards reporting rate[29]	√	**2.72**	4.08	4.31	3.51	–
	Data by region						
	Employee work-related fatalities: ABB Group	√	**0**	1	0	0	1
	Europe	√	**0**	0	0	0	0
	The Americas	√	**0**	1	0	0	0
	Asia, Middle East and Africa	√	**0**	0	0	0	1
	Employee business travel fatalities: ABB Group	√	**1**	1	1	0	0
	Europe	√	**0**	0	0	0	0
	The Americas	√	**0**	0	1	0	0
	Asia, Middle East and Africa	√	**1**	1	0	0	0

Social continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
	Contractor work-related fatalities: ABB Group	✓	**3**	2	5	2	2
	Europe	✓	**0**	0	0	0	0
	The Americas	✓	**1**	1	0	0	0
	Asia, Middle East and Africa	✓	**2**	1	5	2	2
	Contractor business travel fatalities: ABB Group	✓	**0**	0	2	0	0
	Europe	✓	**0**	0	0	0	0
	The Americas	✓	**0**	0	2	0	0
	Asia, Middle East and Africa	✓	**0**	0	0	0	0
	Employee total recordable injury rate: ABB Group	✓	**0.58**	0.73	0.79	0.88	0.10
	Europe	✓	**0.66**	0.86	0.96	1.02	1.16
	The Americas	✓	**0.97**	1.17	1.18	1.40	1.57
	Asia, Middle East and Africa	✓	**0.19**	0.24	0.27	0.31	0.39
	Contractor total recordable injury rate: ABB Group	✓	**0.58**	0.52	0.70	0.80	0.78
	Europe	✓	**1.52**	1.38	1.69	1.88	1.97
	The Americas	✓	**0.74**	0.96	1.47	1.54	1.40
	Asia, Middle East and Africa	✓	**0.26**	0.24	0.35	0.37	0.35
	Employee lost time injury rate: ABB Group	✓	**0.27**	0.33	0.30	0.36	0.43
	Europe	✓	**0.39**	0.48	0.47	0.56	0.66
	The Americas	✓	**0.30**	0.34	0.29	0.33	0.40
	Asia, Middle East and Africa	✓	**0.07**	0.09	0.08	0.08	0.12
	Contractor lost time injury rate: ABB Group	✓	**0.28**	0.24	0.30	0.38	0.47
	Europe	✓	**0.91**	0.73	0.93	1.03	1.38
	The Americas	✓	**0.29**	0.35	0.81	0.84	0.86
	Asia, Middle East and Africa	✓	**0.08**	0.10	0.07	0.12	0.15
	Employee days lost rate: ABB Group		**4.63**	5.11	4.78	5.26	5.52
	Europe		**6.19**	6.95	5.98	7.32	8.25
	The Americas		**6.46**	6.43	7.81	6.02	8.28
	Asia, Middle East and Africa		**1.05**	1.49	0.99	1.74	1.72
	Employee occupational health disease rate: ABB Group	✓	**0.02**	0.02	0.05	0.03	0.01
	Europe	✓	**0.04**	0.05	0.09	0.06	0.02
	The Americas	✓	**0.00**	0.00	0.02	0.02	0.03
	Asia, Middle East and Africa	✓	**0.01**	0.00	0.05	0.00	0.00

Social continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
	SOT rate: ABB Group	√	**1.01**	1.27	1.24	0.92	–
	Europe	√	**0.92**	0.84	0.76	0.51	–
	The Americas	√	**1.09**	1.71	1.87	1.41	–
	Asia, Middle East and Africa	√	**1.10**	1.61	1.53	1.17	–
	Hazard rate: ABB Group	√	**2.72**	4.08	4.31	3.51	–
	Europe	√	**2.38**	3.37	3.65	2.67	–
	The Americas	√	**2.66**	4.81	4.78	4.25	–
	Asia, Middle East and Africa	√	**3.28**	4.64	5.03	4.19	–
406-1	**Non-discrimination**						
	Total number of incidents of discrimination		**0**	0	0	0	1
	Total number of incidents of harassment		**25**	9	5	8	10
415-1	**Public policy**						
	Financial and in-kind political contributions		**$11,500**	$300	$10,400	$12,600	$13,000
404-1	**Training and education**						
	Training per year per employee (average hours)						
	China		**16**	17	25	22	26
	Czech Republic		**12**	13	14	14	13
	Finland		**13**	13	15	17	19
	Germany		**18**	18	18	18	18
	India		**12**	5	3	2	12
	Italy		**16**	12	10	12	12
	Poland		**35**	20	12	10	11
	Sweden		**12**	12	10	10	12
	Switzerland		**14**	14	15	14	16
	USA		**16**	24	24	27	32
404-3	**Employees receiving regular performance and career development reviews**[30]						
	Top and senior managers		**89%**	94%	92%	85%	87%
	Middle and lower managers		**93%**	96%	94%	90%	91%
	Other employees		**91%**	91%	91%	87%	88%
	Total workforce		**91%**	91%	92%	87%	88%

Social continued

GRI ref.	Indicator description	Data assured	2018	2017	2016	2015	2014
405-1	**Diversity and equal opportunity**						
	Composition of governance bodies						
	Board of Directors						
	Women in Board (percentage)		**18%**	10%	18%	13%	13%
	Age group diversity (percentage)						
	<30 years old		**0%**	0%	0%	0%	0%
	30–50 years old		**9%**	0%	0%	0%	0%
	>50 years old		**91%**	100%	100%	100%	100%
	Number of nationalities		**7**	8	10	8	7
	Executive Committee						
	Women in Executive Committee (percentage)		**9%**	9%	9%	9%	9%
	Age group diversity total (percentage)						
	<30 years old		**0%**	0%	0%	0%	0%
	30–50 years old		**0%**	27%	18%	27%	36%
	>50 years old		**100%**	73%	82%	73%	64%
	Number of nationalities		**8**	8	7	8	8
	Employees in senior and middle management[31]						
	Women in senior and middle management		**17%**	16%	18%	17%	15%
	Men in senior and middle management		**83%**	84%	82%	83%	85%
	Total workforce (ABB employees)						
	Women in total workforce		**23%**	23%	23%	23%	22%
	Men in total workforce		**77%**	77%	77%	77%	78%

1 Reporting on lead in submarine cables is discontinued from 2018 due to the divestment of our high-voltage cables and cable accessories businesses in Q1 2017.

2 From 2018 we report all cadmium in batteries in one category. Data from 2013–2017 on cadmium in industrial and rechargeable batteries, respectively, have been summed up and are included here.

3 Data on inflow and outflow of SF_6 insulation gas have been restated for 2017, due to an error in the reporting from one site.

4 Biofuels were reported as a separate category in 2017. Biofuel consumption, total energy used, and energy intensity have been restated for 2014–2016, since the use of biofuels was previously not reported at one of our large facilities.

5 Results for these indicators are based on reported data covering 94% of employees in 2018, 93% in 2017, 97% in 2016, 95% in 2015 and 93% in 2014, plus energy use per employee for the remaining employees pro rata. See the Approach to reporting section for more details.

6 Gas and electricity consumption and the associated greenhouse gas (GHG) emissions have been restated for 2014–2017, due to the correction of earlier conversion factor errors at one of our large facilities.

7 Includes sales from Power Grids division.

8 Water withdrawal from areas of water stress have been restated for 2013-2017, due to earlier errors in reporting of water for remediation projects at two sites.

9 See Approach to reporting chapter for more details on GHG emission calculation.

10 In 2015, we updated the factor used to convert SF_6 emissions to CO_2 equivalents to 22,800 kg CO_2e/kg SF_6, as recommended by the UK Department of Energy & Climate Change in July 2014, and have applied that factor to SF_6 data reported for all years.

11 For 2018 we use the same data as for 2017. For 2017 data see Approach to reporting; 2014–2016 data was estimated.

12 The air travel indicator included data from ABB Bulgaria, Croatia, Greece, Kazakhstan and Romania for the first time in 2016 and from ABB China and Thomas & Betts for the first time in 2014.

13 Data for air travel is calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy in its "2018 Government GHG Conversion Factors for Company Reporting – Methodology Paper for Emission Factors – Final Report."

14 The GHG emissions intensity includes Scope 1+2+3 emissions. Includes sales from Power Grids division.

15 Emissions of Chlorinated volatile organic compounds (VOC-Cl) are included in the Volatile organic compounds (VOC) reported in the line above.

16 Cooling water quality remains unchanged by its use at ABB and is discharged without treatment. Data for 2016 exceptionally included discharge of cooling water to recipient.

17 Hazardous waste as classified in the country where it is generated.

18 An environmental incident is regarded as significant if at least one of the following criteria applies to the incident: obligation to inform local authorities or a governmental agency about the incident and/or regulatory violation; inspection by an environmental agency results in a formal complaint; environmental Notice of Violation, a Consent Order or a Potential Responsible Party (PRP) notification; imposition of a penalty or fine; significant impact on an ecosystem; costs related to the incident exceed, or may exceed, $10,000.

19 Includes GE Industrial Solutions acquired in 2018.

20 Includes part-time employees. Turnover rate calculated as number of ABB employees (full- and part-time) leaving during the year/total number of ABB employees (full- and part-time) as at 31 December. For the purpose of this calculation, employees and external workforce who leave the organization voluntarily or involuntarily whether due to dismissal, retirement, end of fixed-term contract or death in service or any other reason, are included. However, involuntary turnover arising out of divestments is excluded from the definition.

21 Fatalities include deaths occurring within one year as a result of injuries sustained and commuting is excluded.

22 The number of recorded incidents multiplied by 200,000/total hours worked.

23 Data covers incidents that happened at workplace (ABB facility, customer site, project site).

24 Includes incidents during business travel by road. Air and rail travels are excluded.

25 Includes incidents during business travel between ABB work place (ABB facility, customer site, project site).

26 The number of days lost multiplied by 200,000/total hours worked.

27 Total recordable incidents include fatal, lost-time incident, serious injury incident, medical treatment incident, occupational illness and restricted workday cases.

28 Days lost are calendar days and are counted from the day after the incident.

29 Rate is calculated per employee.

30 Eligible employees included in ABB HR system. Data covers previous year's cycle with completion by Q1 of the reporting year.

31 This indicator focuses on senior and middle management and includes employees in hay grades 1 to 10.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

ABB enables seven of the United Nations' Sustainable Development Goals

The following case studies illustrate just some of the many ways ABB is enabling the global community to meet many of the underlying SDG targets

Affordable and clean energy
ABB's microgrids, powered by renewable energy, bring electricity to remote places and provide clean backup power to outage-prone regions. Microgrids can integrate multiple distributed generation sources, and their benefits are realized almost immediately. ABB is partnering with the rural arctic communities of Deering and Buckland, Alaska, to install advanced, modular "plug-and-play" microgrids to support the adoption of wind power.

Clean water and sanitation
ABB is helping water companies achieve their own targets for SDG 6 through our solutions and expertise, which optimize processes and minimize leaks and water loss in distribution networks and transmission systems. ABB's distributed control system with integrated leakage and event management for Ho Chi Minh City will reduce non-revenue water loss from 30 percent to 10 percent by digitally monitoring the water network and initiating repairs in near-real time.

Decent work and economic growth
Industrial automation is bringing back jobs to old manufacturing centers, generating new growth. For example, in an old television factory in South Wales, UK, ABB's YuMi robots are helping workers with the assembly of Raspberry Pi, Britain's smallest – and most popular – computer. Automation, in combination with shipping and logistics savings, has made South Wales a cost-effective production base for Raspberry Pi.

Industry, innovation and infrastructure
ABB will to invest €100 million in Austria to build a state-of-the-art innovation and training campus at the home of B&R in Eggelsberg, Upper Austria. It is the largest organic investment in industrial automation in ABB's more than 130-year history and lays the foundation for around 1,000 new high-tech jobs in Austria. This new R&D campus will open in 2020.

Sustainable cities and communities
The key to sustainable urban living is building smarter cities, managed with advanced technologies and systems that will allow them to accommodate swelling populations without overwhelming infrastructure or services. ABB is partnering with the Smart Cities Council and with communities all over the world to make them cleaner, smarter and more sustainable while laying the groundwork for the city of future.

Responsible consumption and production
ABB has taken a significant step towards making its production processes both circular and sustainable by closing a major deal for recycled copper. Installation Products, which is part of ABB's Electrical Products business, was the first to sign a deal with Aurubis, one of our key copper suppliers globally. Aurubis specializes in non-ferrous metals reclamation from scrap.

Partnerships for the goals
ABB is a founding partner of United for Efficiency (U4E), a public-private multi-stakeholder collaboration partnership led by the United Nations Environment Programme. U4E helps governments develop and implement national and regional strategies for improved energy efficiency, and ABB is sharing our expertise in motors and transformers, policies, regulations and standards, as well as potential applications for the best available technologies.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

ABB contributes to ten of the United Nations' Sustainable Development Goals

The following case studies illustrate just some of the many ways in which ABB is contributing to global efforts towards many of the underlying SDG targets

No poverty
In response to Typhoon Haiyan, which devastated the Philippines in 2013, ABB raised over $500,000, donating some of those funds to Gawad Kalinga, a non-profit committed to fighting poverty. Since then, ABB and Gawad Kalinga have worked together on an ABB Global Village, in the province of Negros, providing new homes and critical infrastructure to a small rural community in one of the most severely-hit and poorest areas of the island, helping to give those affected a new start.

Zero hunger
Participants in the ABB 5K road race in Houston, Texas, USA, have the option to run, jog or walk on behalf of Kids' Meals, a first-responder to children five-years-old and under facing debilitating hunger due to extreme poverty. Every year, a number of runners in the ABB 5K commit to raising $250 for hungry children. Kids' Meals delivers free healthy means to the children's doorsteps, and collaborates with their families to help end the cycle of poverty.

Good health and well-being
Since 1979, ABB has successfully delivered and installed safety systems in more than 55 countries for the oil & gas sector, the chemical sector and other major industries. A pioneer in the development of advanced safety technologies, our flagship System 800xA integrated control and safety system provides people, equipment and the environment with the safety, security and protection required for almost any project.

Quality education
As part of its broad effort to support training for skilled manufacturing jobs, ABB pledged in 2018 to embrace apprenticeship programs in the United States, where the company has 24,000 employees. By supporting the lifelong learning of its employees, ABB is creating new and more affordable ways for people to upskill and secure higher-paying jobs.

Gender equality
For the fourth year running, in 2018 ABB Hungary announced its scholarship for female technical university and college students. The program, "ABB mentoring scheme for female students," aims to strengthen the participation of women in technical fields and to provide female students with the opportunity to familiarize themselves with the products, services, and operation of an international company.

Reduced inequality
As a major sponsor of the Special Olympics Germany, ABB has been supporting the games through volunteer helpers since 2000. For the first time ever, ABB's technology contributed to the Olympics in 2018 by providing a charging infrastructure for electric vehicles around the "Olympic Town" in Kiel.

Climate action
ABB is a member of the Alliance of CEO Climate Leaders, an informal group facilitated by the World Economic Forum. Together we signed an open letter ahead of COP24 to confirm our commitment to fast-track solutions to help deliver on an enhanced and more ambitious global action plan to tackle climate change and meet the goals set out at the 2015 Paris Climate Agreement.

Life below water
By the Ocean we Unite, a Dutch foundation, uses advanced solutions supplied by ABB to study, measure and report on the rising concentration of plastics in the ocean. The foundation leverages the ABB Ability Marine Advisory System – OCTOPUS to plan optimal routes for its research vessel, maximizing the ship's fuel efficiency and operational impact. At the same time, ABB Ability Fleet Portal helps the foundation gather and analyze real-time data from the vessel's onboard sensors.

Life on land
ABB recently completed a major life-cycle assessment of HVDC Light Generation 5 M9 to quantify its long-term environmental impact. The study took all materials and transmission losses into account. The study concluded that over the past 10 years, ABB has cut the carbon footprint of HVDC light by 66 percent. After power losses, civil works and construction materials, main circuit equipment and converter valves had the largest environmental impact from a delivery of an ABB HVDC system.

Peace, justice and strong institutions
ABB has a decade-long partnership with the International Committee of the Red Cross (ICRC) that was renewed for three years at the end of 2017. Regular exchanges between ABB and ICRC staff helped identify focus areas to further improve energy efficiencies. ABB will continue to support ICRC's activities related to renewable energy and use of technology in the electrification value chain.

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