



 SUSTAINABILITY REPORT 2017

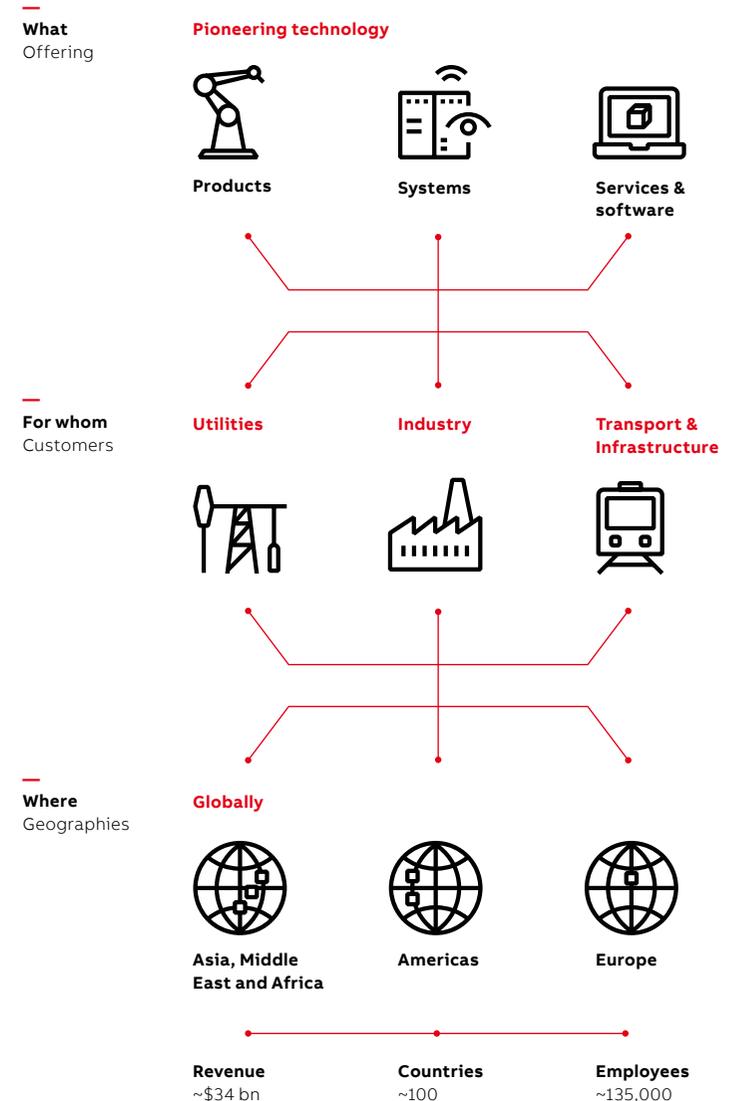
**Let's write the future.**  
Together.

## ABB in summary

ABB is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, 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 of 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 135,000 employees.

[abb.com](http://abb.com)



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## CEO LETTER



## We can run the world without consuming the earth

Sustainable technologies lie at the heart of ABB's business. More than half of our global revenues come from solutions that directly address the causes of climate change, and a large part of our value proposition is centered on improving the energy efficiency of our customers' operations while reducing downtime and waste.

With our ABB Ability™ offering of digital solutions, launched in 2017, we have an innovative and truly digital portfolio for customers in utilities, industry and transport & infrastructure that is based on two clear value propositions: bringing electricity from any power plant to any plug; and automating industries from natural resources to finished products.

As a pioneering technology leader, ABB contributes to the delivery of many of the United Nations' Sustainable Development Goals (SDGs). We have identified seven where we can have the most impact and we are seeking to maximize our contribution to the specific targets of these SDGs. Our technologies are transforming the way energy is generated and delivered; helping industries increase productivity to generate more jobs and greater prosperity; and improving the urban environment with e-mobility and smart buildings and infrastructure.

For ABB, 2017 was a transition year. We streamlined and strengthened ABB, in accordance with our Next Level strategy, further executing on the plan that began in 2014. Key milestones were the acquisition of B&R (Bernecker + Rainer Industrie-Elektronik GmbH), which closed a historic gap in our automation portfolio, giving ABB the most comprehensive industrial automation offering in

the industry; and our white-collar productivity program, which has delivered a simpler, more agile ABB, increased our customer focus, and improved the efficiency of our business and support functions. The launch of ABB Ability – with more than 210 digital solutions – strengthened our global leadership in energy-efficient automation and control for industry, as well as in electrification and power transmission and distribution.



**75% lowering**  
of carbon emissions  
through our microgrid  
on Robben Island

These advances were exemplified by the microgrid system we installed on South Africa's Robben Island, the World Heritage Site and museum where Nelson Mandela was imprisoned during apartheid. The island previously relied on diesel generators but now uses ABB technology to run a solar-hybrid microgrid, operated remotely from Cape Town, nine kilometers away. The microgrid is expected to lower fuel costs and carbon emissions by 75 percent.

Complementing ABB's expertise in power grids is our leadership in electric-vehicle charging solutions.

We have one of the world's largest installed base of fast-charging stations for electric vehicles, with more than 6,000 in 57 countries, and we are partnering with cities and bus companies all over the world to install high-power charging solutions for electric buses. In 2017, our innovative "TOSA" flash-charging technology, which recharges buses in 20-second bursts at stops while passengers are embarking and disembarking, went into service in Geneva and was chosen for a new bus line in the French city of Nantes.



**40% reduction**  
in the need for onboard  
fossil fuel using our Azipod  
ship propulsion units

ABB's sustainable transport solutions extend to railways and trains, as well as to oceangoing tankers, freighters and cruise ships, which increasingly use electric propulsion to ply the world's waters more cleanly and efficiently. ABB's propulsion units, known as Azipod systems, power vessels with steerable, high-efficiency, electric-drive propellers that makes ships significantly more maneuverable and can reduce the need for onboard fossil fuels by 40 percent or more.

ABB supports the Paris Agreement and views it as a critical opportunity to accelerate the shift to renewables and e-mobility as well as dramatically improve energy efficiency. ABB's commitment to a sustainable future underlies our full participation in the UN-led "Sustainable Energy for All" initiative.

ABB's efforts to drive safety and integrity continued in 2017. We refined our targets for safety and security according to a single metric to strengthen our focus on reducing injuries, and introduced a single ISO-compliant HSE (health, safety and environment) management system. We made progress on reducing injuries – 91 fewer incidents than were recorded in 2016 – but tragically three people died working for ABB last year. It is our clear objective to eliminate fatalities and to bring injuries down to negligible levels and we will not rest until this is achieved.

Following the unfortunate embezzlement scheme that was exposed in our South Korean subsidiary in February 2017, the company took swift and decisive action. We identified the relevant control issues and remediated the material weakness in our internal controls and replaced the management team in South Korea.

Our robust sustainability framework, adopted in 2013, prioritizes pioneering technology, responsible operations and responsible relationships. It clearly articulates how ABB creates value across a wide range of stakeholder issues. In 2017, we consulted with both internal and external stakeholders on our nine current sustainability objectives to explore how these measures and targets could be updated and improved. That process resulted in many of the reporting changes described in this report. For the first time, we have introduced ambitious targets to reduce greenhouse gas emissions and improve gender equality in our senior management team.



Sincerely,

Handwritten signature of Ulrich Spiesshofer in black ink.

**Ulrich Spiesshofer**  
Chief Executive Officer

## AWARDS AND ACHIEVEMENTS

# A job well done

ABB continues to be recognized for its leading contributions to a sustainable future



## External accreditation

ABB India recognized as **2017 Overall Sustainability Champion** by Tata Steel Ltd.

2017 FTSE4Good Global Index



FTSE4Good

EcoVadis Gold in 2017



2017 Oekom Prime Status



## Pioneering technology

\$12.5 million **grant from the Research Council of Norway** to support the development of subsea power systems

2017 North American **Digital Grid Communication Company of the Year Award** from Frost & Sullivan

ABB Ability Smart Sensor won the **Golden Amper 2017 award**

ABB Greece received the **GREEN4SEA Technology Award** for providing variable-frequency drive upgrades for seawater cooling pumps and engine room ventilation fans

ABB Finland's fault-locating technology was awarded **2017 Network Initiative of the Year**

ABB India received the 2017 **India Smart Grid Foundation Innovation Award**

2017 Zinnov Award for **Great Place to Innovate**



## Responsible operations

Winner of the International SOS Foundation 2017 **Duty of Care Award** for Innovation

ABB plant in Bolingbrook, Illinois, USA, was awarded the **2017 Platinum Supplier Quality Award** by Caterpillar Inc.

ABB new Campus Montreal received **LEED Silver** accreditation from the Canadian Green Building Council

ABB Colombia received the **Andesco Award for Best Environmental Performance**

ABB plant in New Berlin, Wisconsin, USA, received the **Green Masters** designation from the Wisconsin Sustainable Business Council

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

84% of our employees are covered by a certified **occupational health and safety management system** (OHSAS 18000 or equivalent)



## Responsible relationships

2017 **Ethisphere Compliance Leader Verification and Anti-Corruption Program Certification**

ABB Mexico ranked **No. 1 for Social Responsibility** by Empresas Responsables 2017

Recognized as an **Empresa Pró-Ética** (Pro-Ethics Company) by the Instituto Ethos and the Government of Brazil

Awarded 2017 **Best Corporate Social Responsibility Programme** in South Africa

ABB Austria ranked as a **Top Employer** by Trend in 2017

Universum ranked ABB as the **most attractive employer** in Switzerland

Busch-Jaeger Germany, part of the ABB Group, was awarded **TOP National Employer** by Focus Business, for a family-friendly workplace

## PROGRESS TOWARDS TARGETS

# Making good on our new targets and measures

After careful consideration, ABB has updated its targets for 2020

ABB's structure of nine sustainability objectives demonstrates how we are addressing the issues identified in our last major materiality assessment conducted in 2013. For the past three years ABB has been reporting on progress in the form of our main activities and achievements towards our 2020 targets.

As a midpoint, the year 2017 presented an excellent opportunity to review whether our original measures and targets remained appropriate and relevant to the business and our stakeholders.

In the closing months of the year, we conducted an internal review to solicit input from our stakeholder panel and our Executive Committee. After careful analysis, we agreed to streamline the number of measures we report on from 21 to 11, and to update the targets for the business to achieve by 2020. We also decided to create a new framework to group the nine objectives into three core themes.

Some of the new measures require the implementation of plans and processes that cannot be applied retroactively. Thus, we are unable to report on human rights and gender but will do so in our 2018 report. We made positive progress on the other nine measures.

We are committed to delivering on our updated 2020 targets, which are key enablers of our business strategy.



## Pioneering technology

Objective	2020 Target (vs 2013)	2017 Performance	Link to page
Products, services & solutions	Increase share of ABB eco-efficiency portfolio	60% of revenue	56%  13



## Responsible operations

Objective	2020 Target (vs 2013)	2017 Performance	Link to page
Safe operations	Reduction in total incident frequency rate	<0.7	0.73  18
Climate action	Reduce greenhouse gas emissions (GHG)	by 40%	33%  20
Resource efficiency	Reduce water consumption in water-stressed areas	by 25%	19%  22
	Reduce waste sent for disposal	by 20%	15%  22
Right materials	Reduce emissions from VOCs	by 25%	19%  23
Responsible sourcing	Closure of identified risks from supplier assessments	>65%	72%  25



## Responsible relationships

Objective	2020 Target (vs 2013)	2017 Performance	Link to page
Integrity	Employees trained on integrity	>96%	96.5%  28
Human rights	Training for specific job roles exposed to human rights risks	2 campaigns per year	New*  30
Our people	Increase women in senior management	by 30% (vs 2017)	New*  32
	Employees covered by the ABB well-being program	70%	59%  32

 Achieved

 On track

 In progress

 Not on track

\* data available from 2018

BUSINESS MODEL

# Designed to deliver sustainable growth

ABB's business creates sustainable value for all its stakeholders

Throughout our value chain, ABB interacts with a wide range of business partners in order to serve our customers and generate sustainable and profitable growth for our shareholders. To this end, we build long-term relationships with suppliers, customers, partners, employees and the communities in which we operate.

When sourcing raw materials, components and services, our approach is to partner with best-in-class suppliers who adhere to similar standards of quality, operational excellence, business ethics, and social and environmental responsibility. ABB's Supplier Sustainability Development Program supports further performance improvements for selected suppliers, and by doing so, it generates additional benefits for them, their employees and their communities.

Our design and manufacturing processes give appropriate consideration to legal, strategic, customer, environmental, and health and safety requirements. By engaging in regular interactions with customers, suppliers, regulators, academics and other relevant parties, we are better able to respond to the changing market environment, retain our innovative edge and create value for our customers and society.

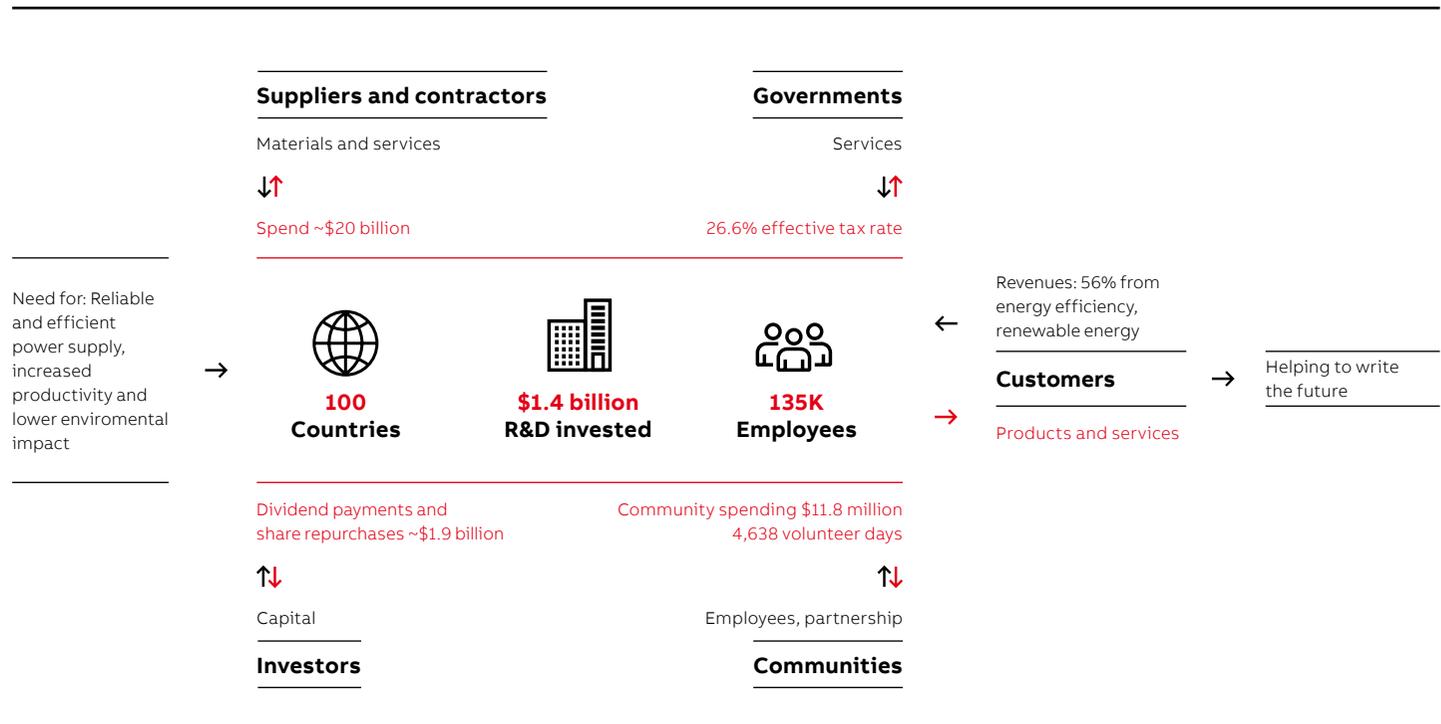
ABB's tax position reflects our corporate strategy and is consistent with applicable tax laws and international best-practice guidelines such as the

OECD Guidelines for Multinational Enterprises. Further information about our tax policy is available on our [website](#).

Our ability to maintain technological leadership and meet the legitimate expectations of our stakeholders depends on our ability to attract,

develop and retain the right talent. ABB improves its ability to appeal to the best employees by engaging with different parts of society and securing our standing within the communities in which we operate. These relationships enable us to drive the future of digitalization and create mutual value.

## ABB value chain

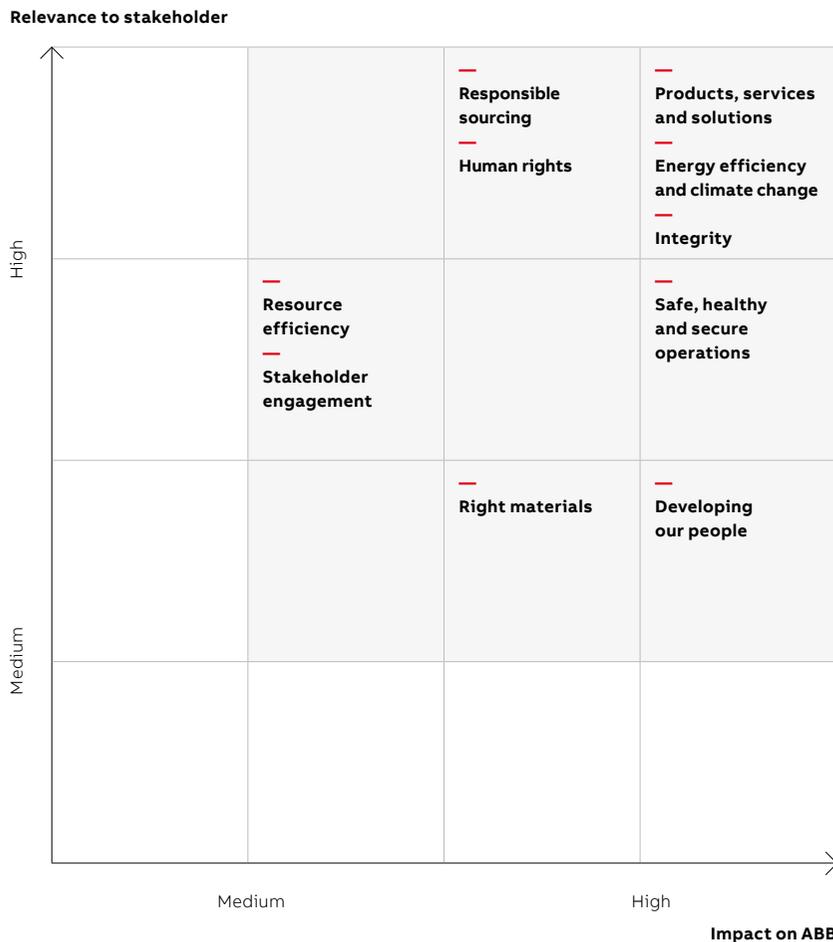


MATERIALITY AND STAKEHOLDER ENGAGEMENT

# Building enduring partnerships with stakeholders

ABB’s ongoing dialogue with people, businesses and wider society is central to achieving progress in sustainability

## 2017 materiality matrix



### Stakeholder engagement

At ABB, we build long-lasting, value-creating partnerships with our stakeholders, who include our customers, suppliers, business partners, employees and the communities in which we operate.

We make use of a periodic survey to gauge customer satisfaction and help our company improve its operations. We also compile, evaluate, track and analyze all customer complaints using a single, global system that enables us to resolve problems efficiently.

Our Supplier Sustainability Development Program seeks to ensure that ABB’s suppliers meet environmental, health and safety, labor and human rights standards and requirements. The program assesses and reviews suppliers’ sustainability performance, initiates improvements and provides suppliers with training that builds their capacity to ensure that issues are recognized and addressed.

To connect with ABB’s investors, we have held regular roadshows over the past four years. In 2017, events were organized in Paris and Zurich. We also engage in individual meetings with fund managers and analysts. We contribute to the social and economic progress of the communities in which ABB is present, and engage with representatives of civil

society, unions and the media on an ongoing basis. Additionally, we have maintained longstanding relationships with several NGOs, United Nations agencies and the World Business Council for Sustainable Development.

### Materiality

From 2010 to 2011, we conducted a major survey of our stakeholders to fundamentally reassess a range of material issues. Among the 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.

In 2015, ABB created a sustainability report review panel comprised of key external stakeholders to study our approach to sustainable development. The panel also reviewed the company’s most material issues. Our current materiality matrix incorporates their feedback and recommendations, which have enhanced our sustainability reporting. In 2017, the panel provided further constructive inputs on our nine sustainability objectives. Their assessment and ABB’s response to the panel’s recommendations are available [online](#).

## CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

## Energizing the Sustainable Development Goals

With its pioneering technologies, ABB is helping to meet many of the underlying targets of the SDGs

In January 2016, 193 UN member states adopted the 2030 Agenda, taking on 17 Sustainable Development Goals (SDGs) for people, the planet and prosperity. The SDGs and their related targets address the most important economic, social, environmental and governance challenges of our time and stimulate transformational changes. We recognize that achieving these goals requires businesses to contribute their fair share.

Our structured analysis identified seven SDGs where we can have the most impact. Our products, services and solutions not only enable SDG 7 (affordable and clean energy), which is one of our core businesses, but also SDGs 6, 8, 9, 11, 12 and 17.

Over the coming years, we will seek to maximize our contribution to the specific targets associated with these seven SDGs, where we can have the highest impact. For the remaining 10 SDGs, we will continue to contribute directly and indirectly, through our technology and by operating our business responsibly.

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



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## 02

# Pioneering technology

13

Products, services and solutions



PRODUCTS, SERVICES AND SOLUTIONS

## Pioneering innovative technologies for more than 130 years

Around the globe, ABB drives efficiency, safety and productivity in utilities, industry, and transport & infrastructure

With a heritage of innovation spanning more than 130 years, ABB takes pride in developing and deploying technologies that stimulate economic growth and directly improve people's lives.

In 2017, we revised the measures and 2020 targets for our products, solutions and services to focus on our eco-efficiency portfolio. This portfolio delivers positive use-phase impacts in three areas: energy efficiency, renewable energy and resource efficiency. Going forward, our target is to drive the growth of this eco-efficiency portfolio, aiming for it to account for 60 percent of ABB's total revenue by 2020, supported by substantial investment in research and development.

The rationale behind these changes lies in ABB's deep commitment to running the world without consuming the earth. Our new measures and targets not only reflect this aspiration, but will also serve to propel our company on a new growth path – one that is fueled by sustainability-oriented innovation.

Over the past year, we performed well towards our 2020 target, with our eco-efficiency portfolio accounting for 56 percent of ABB's revenue in 2017.

### Sustainable energy

ABB is committed to realizing the vision enshrined in Sustainable Development Goal 7 – ensuring access for all to affordable, reliable and sustainable energy.

Our Group provides much of the technology needed to make this goal a reality. One of our solutions 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. We recently installed such a microgrid on Robben Island in South Africa, to power the museum and conference center located in the historic former prison of Nelson Mandela.

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 alternating current into direct current for transmission, then back to AC 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, like cities.



Case study  
**ABB enables access to electricity in Africa**  
[Click here to reveal](#)

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 to where it is needed. HVDC is the most reliable and efficient way to ensure that renewable energy reaches consumers.

ABB pioneered HVDC over 60 years ago and has continued to refine the technology, developing ultra-high-voltage direct current (UHVDC) and "HVDC Light." HVDC plays an important part in a stronger, smarter and greener grid, and ABB is one of the world's foremost providers of HVDC systems.

Sustainable engineering from ABB can also be found in digital substations – a key component in next-generation grids, because they enable smarter and greener power systems. The digital substation is an innovative concept that uses fiber-optic current sensors to eliminate much of the copper cabling used in older facilities and connects the latest electrical devices to digital sensors and cloud computing. These cutting-edge substations send real-time operating data to the utilities that run them; ABB Ability enables the operator to use that data to make better operational decisions and optimize maintenance scheduling. The end results include lower maintenance costs, smaller and more efficient facilities, reduced environmental impacts and improved worker safety.

These are just a few of the technologies ABB has developed to use energy more responsibly and to enable the ongoing transition to renewables. Others include a wide range of solar inverter applications and home automation systems,

such as Mylos free@home, which makes it possible to build truly smart homes. Moreover, our company is working to ensure that the efficient new grid systems now being installed around the world are built from greener components. Our latest single-phase transformers use biodegradable esters as insulating fluids in place of conventional petroleum

derivatives. The use of ester fluids at higher voltage levels has resulted in a safer and greener high-performance transformer solution. ABB's world-first 420 kilovolt single-phase transformers offer an environmentally friendly, energy-efficient and reliable high-voltage alternative for a sustainable future.

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Case study  
**Harnessing wind power**  
[Click here to reveal](#)



## Industrial productivity

As so many of the products and services sold by ABB relate directly to issues of sustainability, it is not possible to provide an exhaustive account of them all. Yet, it is worth highlighting the substantial gains in efficiency and productivity generated over the past year by ABB Ability, our Group's comprehensive digital offering, which consolidates and analyzes data from across the industrial internet and provides customers with automated, data-driven information and insights about processes and machinery to increase the uptime, speed and yield attainable from their assets.

ABB Ability connects one of the world's largest installed bases of industrial devices – more than 70 million of them – to industry-leading digital solutions in sectors as diverse as marine, mining, paper milling, printing and food and beverage processing.

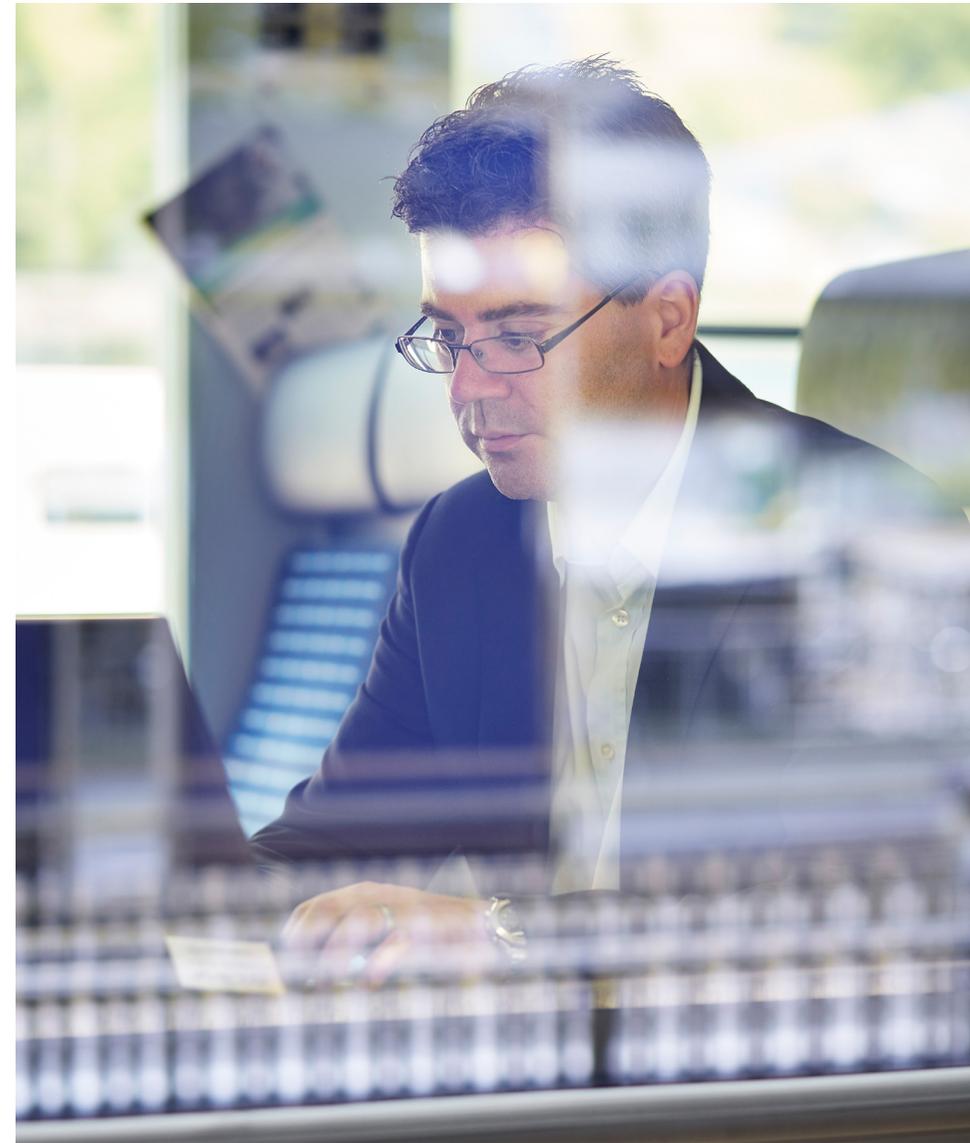
The ABB Ability Smart Sensor, when used to connect low-voltage electric motors to the industrial internet, allows them to be monitored continuously. The installation of these sensors can result in a 10 percent reduction in energy consumption. If all the low-voltage motors around the world were equipped with them, the resulting energy savings would equal the energy output of about 100 large power plants.

## Sustainable transport

ABB is a pioneer in the field of e-mobility, having played a key role in the development of electrified railways and urban transit systems. In 2018, ABB initiated a partnership with Formula E, the first fully electric international FIA motorsport class, bringing its name and technology leadership to the racing series, now known as the “ABB FIA Formula E Championship.” ABB entered this partnership with Formula E both to promote the rapid adoption of electric vehicles and to emphasize our own role as the world's largest provider of fast-charging equipment for electric cars and buses.

In the fight against climate change, transport technologies present a tremendous opportunity. Fossil-fuel-powered vehicles account for roughly a quarter of the world's energy consumption and greenhouse gas emissions. Switching to cleaner forms of transport will also significantly reduce emissions of carbon monoxide, sulfur dioxide and particulates. Sustainable transport represents a vital aspect of Sustainable Development Goal 9 – building resilient infrastructure – and Sustainable Development Goal 11 – making cities and settlements inclusive, safe and resilient.

Sustainable transportation solutions make up an important part of ABB's extensive portfolio of clean, energy-efficient technologies. We have worked particularly hard in recent years to expand our position as one of the world's leading providers of EV fast-charging stations, with more than 6,000 chargers installed in 57 countries. As just one example, ABB's charging systems are now being deployed in a growing network of stations along Germany's motorways. The company's car chargers can be found in



Case study  
**A reliable power supply for  
 Warsaw's second metro line**  
[Click here to reveal](#)



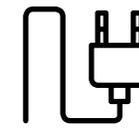
networks in Russia, the Netherlands, the United States, Canada, Iceland, Bulgaria and beyond. In some cases, these units can replenish an EV's batteries in as little as 10 minutes.

New, electric, high-capacity buses that use ABB's robotic flash-charging technology and onboard traction equipment have gone into service in Switzerland in the past year and are scheduled to debut in Nantes, France, in 2018. The flash-charging units are built into bus shelters and boost the vehicle's batteries in the 20 seconds or so spent at the stop. That boost makes it possible to reduce the size and weight of the bus's battery pack significantly.

ABB also provides many of the electric power supply technologies relied upon around the world for urban rapid transit systems and high-speed railway lines. One recent breakthrough in this field is the Effilight traction transformer – onboard equipment that delivers power to an electric train's motors. With a patented cell design that can reduce the amount of insulating oil required by up to 70 percent, ABB's Effilight technology also reduces the weight of a transformer by up to 20 percent and provides more energy-efficient operation – meeting two of the rail industry's top priorities.

Fuel efficiency is a major concern for maritime shipping as well, and ABB is heavily engaged in this field. Used in cruise ships and oceangoing freighters, ABB's Azipod propulsion systems consist of steerable, high-efficiency electric-drive propellers contained in pods located

outside the hull. The Azipod makes ships significantly more maneuverable and can reduce their use of fossil fuels by 40 percent or more.



**more than 6,000**  
chargers installed  
in 57 countries

ABB technology, using sophisticated sensors and edge computing, also makes ships easier to monitor and maintain; the number of ship visits by ABB service engineers can be reduced in this way by as much as 70 percent. ABB Ability offers the shipping industry a wide range of decision support functions. With six dedicated ABB Ability Collaborative Operations Centers serving the marine sector around the world, shipping companies now rely on remote monitoring and diagnostics services with access to ABB experts 24/7. Today, more than 700 large vessels are connected to these services.

ABB technologies are making possible a multitude of other novel, clean transportation solutions – like solar-powered charging stations for electric rickshaws in Jabalpur, India. Seemingly small advances like these are helping cities around the world curb major sources of noise and pollution.

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# 03

## Responsible operations

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## SAFE OPERATIONS

## Working to eliminate workplace incidents altogether

Safety and security are embedded in ABB's values and explicit in its policies

We apply best practices in safeguarding our personnel, contractors and other third parties, while we do the utmost to protect our assets, the resilience of our business, and our reputation.

Safety at ABB is a line responsibility, and we do everything to ensure our managers and our people have the skills, knowledge and resources to fulfill this responsibility. Our annual plans, developed to reflect our business needs, always demonstrate our commitment to safety. Likewise, we have put in place extensive security programs to mitigate travel- and work-related risks and we continue to strengthen ABB's resilience by providing training to crisis management task forces at site, country and regional levels.



**0.73**

TRIFR rate at the end of 2017

In 2017, we refined ABB's 2020 targets for safety and security into a single metric – the employee total recordable injury frequency rate (TRIFR)\*. Our immediate goal is to reduce TRIFR, the most comprehensive and reliable lagging measure of our safety performance, to less than 0.7 by 2020. While we continue to maintain many other safety and security indicators across our operations,

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

we made this change in order to maintain our sharp focus on reducing injuries.

We have performed well in this regard; at the end of 2017 our TRIFR stood at 0.73. This equates to 91 fewer incidents than were recorded in 2016, an 8 percent improvement. Over the past five years, our program has delivered consistent reductions to ABB's incident rate, and we have improved our TRIFR by 37 percent since 2013. Because no TRIFR rate above zero can be considered acceptable, we remain committed to eliminating incidents altogether and are well positioned to meet our 2020 target. To this end, we expanded our Safety Masterclass to ensure our leaders have the

necessary information, skills and tools to prioritize safety on a daily basis. We also improved our investigation processes, focusing on high-potential incidents to determine how to take action before people are injured.

Despite the sustained progress towards our key safety indicator, one employee and two contractors died during 2017 while working on our behalf. The incidents highlighted the importance of our arrangements for working with contractors and with electricity. Our recently introduced accountability framework increasingly ensures that all categories of contractors are incorporated within our control framework and, following on





from our work on electrical safety training in 2017, we are reinforcing and adding specialist resources to our electrical safety network, building enhanced global support to our businesses in this critical area of safety.

In 2017, we introduced the "ABB Way," a single Group management system for health, safety and environment (HSE), security and corporate responsibility. This project, our most significant HSE initiative of the year, updated and extended all our control standards for safety. The ABB Way also incorporates, for the first time, a complete ISO-compliant HSE management system. The ABB Way will be implemented across our business over the next two years, simplifying our approach and improving our shared knowledge and understanding of safety requirements.

HSE lead managers have been assigned to every ABB facility to ensure that HSE responsibilities are delegated across all our sites. Over the past year, we have established more than 50 formal country HSE and sustainability boards to uphold good governance and assure compliance with local legislation, liability requirements, ABB's standards and customer expectations.

In 2017 we worked with the business continuity teams of the newly established shared service centers to align their emergency and crisis response procedures with ABB's overall crisis management processes. The four main hubs in Xiamen, Bangalore, Kraków/Tallinn and San Luis Potosi underwent crisis scenario training with representatives from their respective country crisis taskforces to test the plans.

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Case study  
**Person In Charge of Work**  
[Click here to reveal](#)

CLIMATE ACTION

# Contributing to climate goals with pioneering technologies

ABB understands the consequences of climate change and is committed to decarbonizing its own operations

We support the Paris Agreement, which came into force in November 2016, and consider it a critical opportunity to limit global warming and avert the potentially devastating consequences of climate change. We are committed to reducing our own greenhouse gas (GHG) emissions, stemming both from our use of energy and transport and from the handling of sulfur hexafluoride gas (SF<sub>6</sub>).

ABB is also an active participant in the United Nations-driven "Sustainable Energy for All" initiative, which is working towards the goal of providing affordable, reliable and sustainable energy for everyone on the planet. The company is contributing to climate goals with pioneering technologies that enable utilities, industry and transport & infrastructure customers to improve their energy efficiency and operational performance while reducing waste.

In 2017, we refined the 2020 measures and targets for climate action at ABB. Going forward, our new target is to reduce our GHG emissions by 40 percent by 2020 vs a 2013 baseline. We made this change because we wanted to clearly demonstrate our commitment, drive action across all of our operations, and show the impacts of our efforts.

We performed well towards our 2020 target over the past year, as ABB's total GHG emissions (scope 1 + 2) decreased to 1.03 million tons. This

25.5 percent reduction includes a methodology change in how we monitor emissions from our vehicle fleet. Without this change, our emissions reduction for 2017 would have been 4.6 percent, similar to reductions achieved in 2015 and 2016.

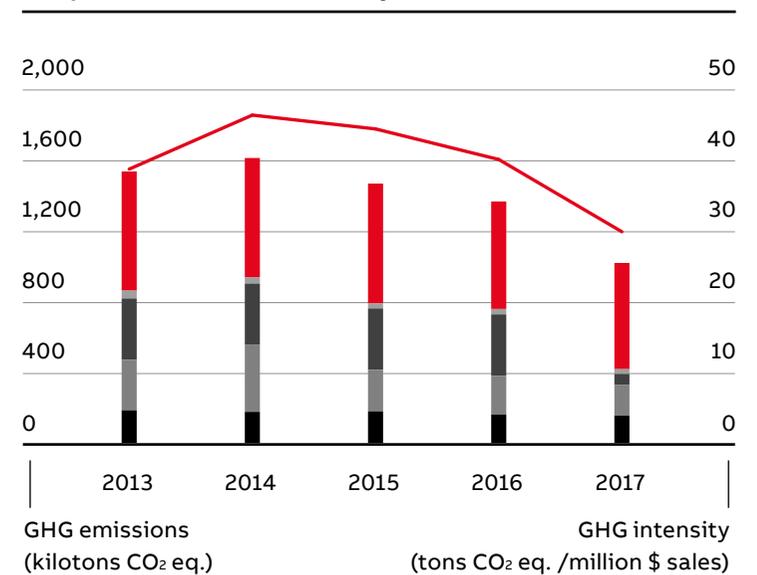
Our emissions of SF<sub>6</sub> from production processes and gas handling continued to decrease in 2017, amounting to a nearly 40 percent reduction from 2013. Measures to improve handling, leak detection and storage procedures for the gas have been undertaken.

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 30 percent, while our use of biofuels has more than doubled and now constitutes a slightly larger share of our energy use than fossil-fuel oil and diesel.

In several European countries we now purchase all of our electricity from renewable sources. In 2017, 165 GWh, or 10.6 percent of all electricity used by ABB, was purchased as certified "green" electricity, an increase of 2.8 percentage points from 2016.

More of our facilities are also installing on-site photovoltaic power plants to reduce their environmental impact and demonstrate our solar

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



- GHG emissions intensity (scope 1+2)
- Electricity consumption (scope 2)
- District heat consumption (scope 2)
- CO<sub>2</sub> from own fleet (scope 1)
- SF<sub>6</sub> (scope 1)
- Energy (scope 1)

capabilities. In 2017, ABB's Real Estate function expanded its energy efficiency program in the US, identifying over 400 technical measures it could apply in ABB's buildings. These measures have the potential to save \$6.8 million annually with an average payback period of 4.7 years. In previous years, the program had already identified 700 technical measures it could apply in our buildings in Europe.

In 2017, more than 250 energy-saving projects were underway at ABB sites, with expected annual energy savings of 35 GWh. Many of these projects addressed the efficiency of compressed air systems and heating, ventilation and cooling processes, while others focused on investing in more efficient equipment, implementing or updating heat recuperation from machines and processes, and improving the energy efficiency of our buildings. The most common and cost-effective projects involved the implementation of energy-efficient lighting solutions at our sites.

In addition, all ABB sites are required to establish energy-saving programs and act to reduce GHG emissions. In 2017, we introduced a quarterly KPI at 300 of our largest manufacturing sites, accounting for 95 percent of ABB's energy usage, to track our progress.



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

# Making our operations smart and sustainable

One of ABB’s top objectives is to reduce the environmental impact of its sites around the world

We work to optimize our use of resources, minimize waste from our operations, increase the share of waste that is reused or recycled, and ensure that the products we produce and the materials we use comply with our own and our stakeholders’ standards.

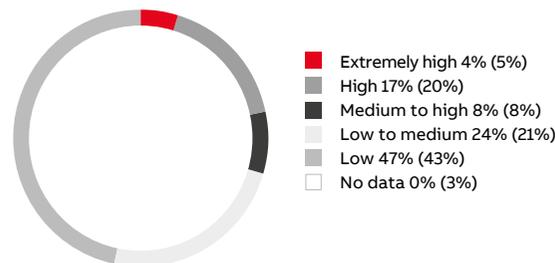
In 2017, no changes were made to our 2020 measures and targets for resource efficiency. Our first target is to reduce absolute water withdrawals by 25 percent between 2013 and 2020 at facilities in watersheds with medium to extremely high baseline water stress. While most of our manufacturing processes do not consume significant amounts of water, ABB is committed

to reducing its water impact where it matters most. We map our facilities using the World Business Council for Sustainable Development’s [Global Water Tool](#) and classify them according to the level of “baseline water stress” of the watershed where they are located. Of the 561 ABB locations mapped in 2017, 81 face an extremely high level of water stress, 118 face a high level, and 89 face a medium to high level.

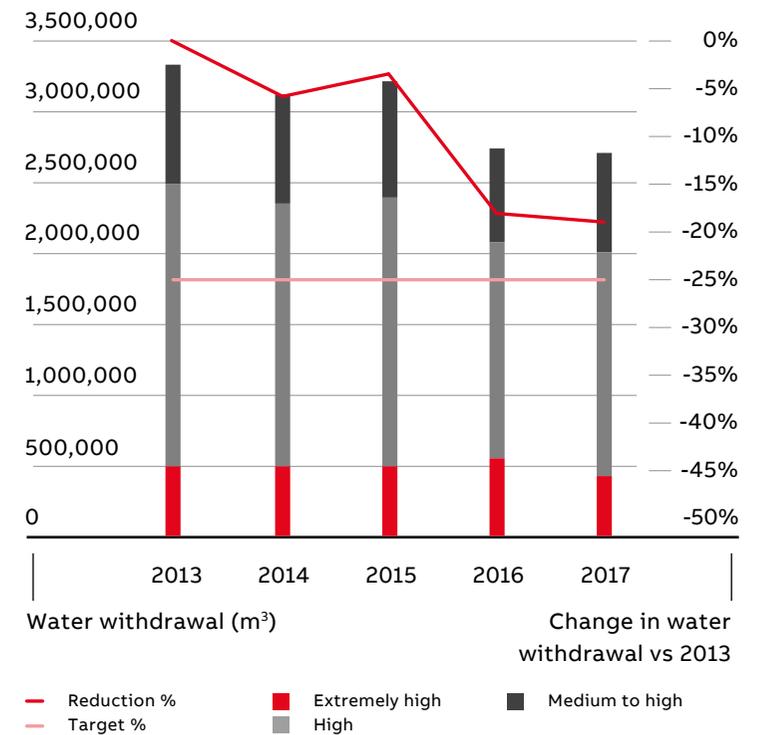
Over the past year, we performed well towards our 2020 water target. For all ABB sites in stressed watersheds, total water withdrawals in 2017 were 19 percent lower than the 2013 baseline. We achieved a 1.1 percent reduction in our withdrawals in stressed watersheds compared to 2016, even as our total water use increased by 2.0 percent.

The 35 water reduction projects we implemented across ABB contributed to these savings. For example, a facility run by our Power Grids division in Beijing – an area facing an extremely high level of water stress – cut water consumption by nearly 50 percent after deploying an automated water control and optimization system at its 26,000-square-meter campus.

### Distribution of water withdrawal in 2017 (2013)



### Water withdrawal in water-stressed areas 2013–17



Our second target is to reduce the amount of waste sent to final disposal – both hazardous and non-hazardous – by 20 percent by 2020. This is measured as the proportion of total waste that is sent for final disposal and compared with a 2013 baseline.

In 2017, we reduced the proportion of waste sent to final disposal to 16.6 percent compared to 19.6 percent in 2013. In-house recycling and reuse, mainly of packaging materials and thermoplastics, reduced the amount of waste by 5,100 tons. Nearly 80 recycling or waste reduction projects were underway in ABB in 2017.

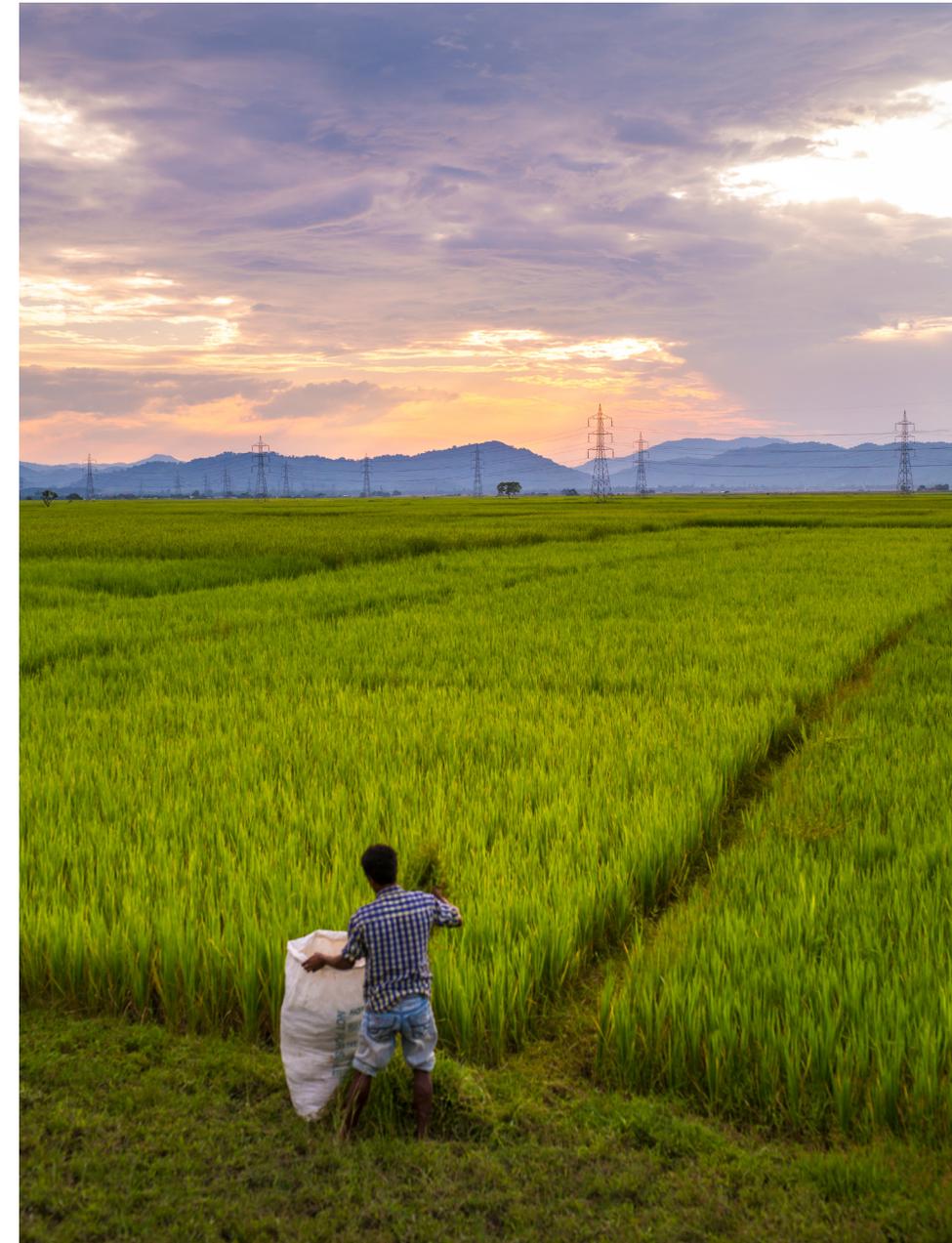
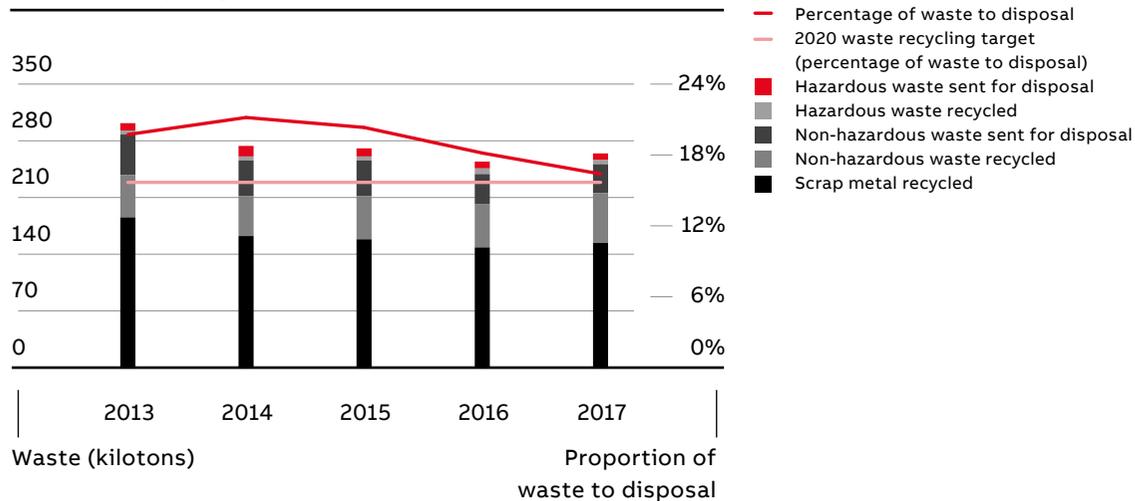
For example, this past year our composites factory in Piteå, Sweden, cut manufacturing scrap by 16 metric tons through process

optimization, an action that will deliver \$65,000 in savings per year. Our semiconductor factory in Prague, Czech Republic, also increased its income from the sale of scrap metal and other waste by \$40,000 by using better sorting methods.

Our most significant new initiative in 2017 to support the achievement of our waste reduction target was the introduction of a quarterly KPI at 300 of our largest manufacturing sites to track progress on sorting and recycling of non-hazardous waste. These sites represent more than 95 percent of ABB's generation of non-hazardous waste. This year we also launched a global control standard on waste management that explicitly states sending waste to landfill should be avoided.

— Case study  
**Collaborating with local farmers in Mysore, India**  
[Click here to reveal](#)

**Waste and recycling**



## RIGHT MATERIALS

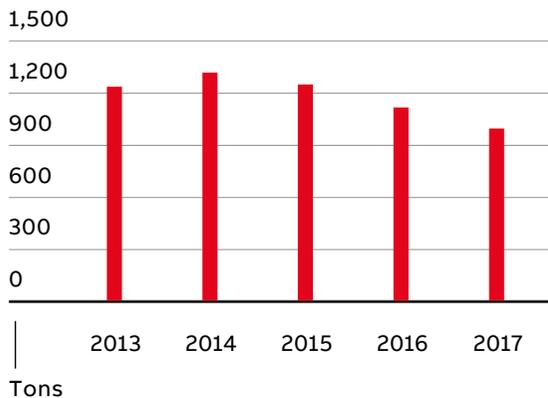
## Eliminating unsafe substances

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

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

This list helps our facilities to comply with regulatory requirements and to ensure the protection of human health and the environment along the value chain. As regulatory compliance is

### Emissions of volatile organic compounds



■ Total volatile organic compounds (tons)

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 "conflict minerals" and restricted substances from entering ABB's supply chain.

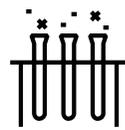
In 2017, we refined ABB's 2020 measures and targets for the materials we use. Going forward, our objective is to reduce our emissions of volatile organic compounds (VOCs) by 25 percent by 2020. This target further strengthens our efforts to reduce the use of substances that are harmful to human health and the environment.

We performed well towards our 2020 target over the past year, as our VOC emissions decreased by 11 percent compared to the year before. We achieved this result through measures such as substituting less harmful products for solvents, recycling solvents in used paint, switching to low-VOC paints, and installing technical equipment to reduce emissions.

In 2017, our most significant initiative was the establishment of a cross-functional material compliance team. Its 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. The team assessed current



efforts in the business units, communication with suppliers and customers, standards, guidelines, tools, trainings and internal expert support. The team also worked with ABB's divisions to develop and release new global standards and guidelines, together with new, globally available webinar training packages on the REACH regulation and the RoHS directive.



**19%**

decrease in VOC  
emissions since 2013

In 2017, 48 projects were underway to reduce and phase out hazardous substances and VOC emissions. ABB's network of environmental

specialists collected and shared best practices from these projects to demonstrate how to phase out hazardous substances and the benefits of doing so. 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, ABB Ltd. in Stonehouse, Great Britain, phased out hexavalent chromium for the etching of plastic cuvettes, replacing it with acidified potassium permanganate. This change maintained quality levels while reducing the risk to human health and the environment. Similarly, at our traction transformer factory in Geneva, Switzerland, we phased out the hazardous substance m-tolylidene di-isocyanate from the

product lines because of the dangers it poses to human health in the supply chain and the risk of future restrictions on its use.

—  
Case study  
**Conflict minerals**  
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## RESPONSIBLE SOURCING

## Forging a sustainable supply chain

ABB works closely with its suppliers to ensure that its sustainability expectations, ambitions and targets are understood and met

At ABB, we have ingrained our sustainability policies into all relevant procedures. As such, we pay close attention to the sustainability performance of our suppliers. ABB's mandatory Supplier Code of Conduct (SCoC), which is published in 16 different languages, communicates our expectations, ambitions and performance targets to existing and potential business partners.

All new suppliers to ABB are required to complete our supplier qualification process, in which we assess the sustainability performance of potential business partners at the initial selection stage, along with other business parameters. To become qualified to do business with ABB, new suppliers must certify their compliance with our SCoC. This aspect of our routine supplier evaluation process reiterates our commitment to responsible sourcing.

We have also implemented a rigorous Supplier Sustainability Development Program (SSDP) to proactively identify and rectify sustainability risks with high-risk suppliers. This targeted intervention program features training and on-site assessments to identify areas for improvement and ensure continuous monitoring. The SSDP assesses the sustainability performance of high-risk suppliers on 42 parameters linked to our SCoC. These parameters cover general management, working conditions, health, safety

and environment and associated key local regulatory requirements. In addition, we develop special training to strengthen our suppliers' knowledge of local regulatory requirements and ABB's parameters.

Every year ABB trains, coaches and assesses hundreds of suppliers on sustainability topics. As this is a continuous process, old risks are closed and new ones identified each year. The time required to close these risks ranges from eight months to over a year for chronic or complex issues, which may require a collaborative effort to resolve. Since 2015, we have identified an average of 788 new risks each year. Due to the ongoing identification of new risks and the time required to mitigate them, the closure rate of identified risks can never be 100 percent, despite our best efforts. Going forward, our measure and target for 2020 is to close 65 percent or more of identified risks from supplier assessments. This target is based on a review of our performance over the past few years.

We exceeded our measure and target for 2020, closing 72 percent of identified risks by the end of 2017. Thanks to our strong focus on supplier development, as opposed to simply conducting audits, we were able to engage our suppliers as partners. This approach allowed us to arrive at solutions that will deliver tangible sustainability improvements.



### SSDP top 10 global non-compliance issues

#### Critical and serious issues

1. Unsafe working practices
2. No first aid or fire-fighting equipment
3. Improper waste management
4. Environmental non-compliance (statutory)
5. Excessive working hours
6. No OHS risk assessment
7. No environmental risk assessment
8. No equipment testing
9. No monitoring of compliance
10. No environmental licenses

In 2017, we expanded the SSDP's footprint to three more countries: Bulgaria, Saudi Arabia and the United Arab Emirates. We assessed 243 suppliers, identifying 833 risks and mitigating 702 of them. In other activities to support responsible sourcing, we trained 533 ABB employees and 327 suppliers during the year.

After analyzing the data collected during our supplier assessments, the most frequent critical and serious issues observed were a lack of understanding of the environmental and occupational health and safety (OHS) risk assessments and a failure to comprehend statutory requirements and legal frameworks.

To address this, we continued to raise awareness through initiatives such as our specially designed OHS workshops. We also designed and implemented a special workshop in India on statutory and legal frameworks. In 2018, we will conduct comparable workshops in other countries.

We also work with suppliers to seek solutions to chronic problems that are embedded in the local socioeconomic fabric. By supporting them with operational data analysis and visits to their factories to identify root causes and potential areas for intervention, we have been able to arrive at mutually satisfactory solutions.



—  
Case study  
**Suyog Electrical**  
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# 04

## Responsible relationships

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## INTEGRITY

## Doing business the right way

How ABB executes its strategy is just as important as achieving its targets

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 (the others being Customer Focus & Quality, Innovation & Speed, Ownership & Performance and Collaboration & Trust). It affirms 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 standards and policies.

In 2017, we finished the training cycle for our new Global Anti-Bribery Essentials training course. Launched during Q3 2016, the course achieved a completion rate of 96.5 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 key pillars of our integrity program.

In the wake of an embezzlement scheme that was exposed in our South Korean subsidiary in February 2017, we identified the relevant control issues and took swift action to remediate the material weakness in our internal controls.

Also, the entire leadership team in South Korea was replaced and appropriate Group-level actions were taken. Finally, we have been aggressively pursuing criminal charges against the individual responsible for the theft and have developed a detailed plan to recover as much of the approximately \$100 million in stolen funds as we can.

ABB’s integrity program is recognized externally for its continued excellence. For the fifth consecutive year, in 2017 we retained our Ethisphere Compliance Leader Verification and Anti-Corruption Program Certification seals. And for the third consecutive year, ABB in Brazil was recognized as a Pró-Ética (Pro-Ethics) company by Instituto Ethos and the Brazilian government, an initiative recognized by the OECD.

The “Safety & Integrity” value pair is the bedrock of our organization. It affirms we do not accept business that puts people at risk or involves unethical practices.

Case study  
**Investments in integrity  
 are paying dividends**  
[Click here to reveal](#)



Multiple channels are available to all ABB employees to report integrity concerns, including web-based reporting and a business ethics 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.

ABB maintains an exemplary integrity program that is integrated into our business and strongly supported by senior management and the Board of Directors. As evidenced by ABB's "Don't Look the Other Way" initiative, a consistent tone has been set from the top of the organization. There is a clear dedication to integrity across the business and strong interest in further efforts to develop the integrity program. 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 2017, 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

## Integrating human rights throughout our company

In 2017, ABB took additional steps to embed human rights into its business processes and activities



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 and human rights of every individual. We fully acknowledge our Group's responsibility to respect the International Bill of Human Rights, and are committed to implementing the UN Guiding Principles on Business and Human Rights.

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. In addition, the ABB Supplier Code of Conduct, the ABB Policy Combating Trafficking in Persons, and our Human Rights Policy all make clear that ABB does not tolerate modern slavery or human trafficking. Furthermore, we are keenly focused on human rights issues of interest to our external stakeholders, such as conflict minerals, human trafficking and child labor, and we work to ensure our policies and principles are implemented and observed along our value chain.

In 2017, we fine-tuned ABB's measures and 2020 targets related to human rights. Going forward, our target is to conduct two training campaigns

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Case study  
**Cross-functional experience  
exchange to improve human  
rights training**  
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per year for employees whose roles expose them to human rights risks. This change was based on feedback from our internal network of human rights advisors and from colleagues attending human rights training sessions, who recommended more in-depth, practical training and advice tailored to specific jobs.

We performed well towards our 2020 target over the past year, providing training sessions in China, India, Singapore and the United Arab Emirates for country managing directors, supply chain specialists, communicators, security managers, trade compliance officers and others, reaching 170 individuals. We also continued to train our internal network of human rights advisors, focusing on supply chain risks, lessons from the ABB Supplier Sustainability Development Program, implementing the UN Guiding Principles, and emerging human rights issues.



**170**

employees trained

In 2017, a key human rights action was taken in relation to the UK Modern Slavery Act, a landmark piece of legislation intended to tackle slavery and trafficking in the operations and supply chains of large businesses. In March, ABB's Board of Directors published a statement acknowledging that successful and effective action must start with top-level leadership and guidance and must also engage employees across the organization.

We also reviewed our Sensitive Countries Protocol, providing our businesses with updated guidance on how to control and limit ABB's exposure to risk when doing business in

sensitive countries and regions. The protocol lists the regions and countries where ABB does not engage in business, as well as the regions and countries where business is subject to extensive due diligence and case-by-case approval by senior management. This assures our exposure is well managed and that our reputational risk is minimized.

There are many different ways we are working to integrate human rights throughout our company.

For example, in 2017 a simple transcription error prior to due diligence on a small project prevented detection of certain human rights risks. Although we later detected and resolved this oversight, the incident prompted us to look again at how we can more efficiently and effectively embed human rights considerations into the project risk review processes. During 2018, we will examine how these processes are implemented and work to develop improvements as necessary.



## OUR PEOPLE AND COMMUNITY

## Giving something back to those who help make ABB possible

ABB is committed to supporting its people and the communities where it operates

At ABB, we make every effort to prepare our people for the future. We empower them to build rewarding professional careers, enjoy their personal lives and improve their overall health, resilience and sense of well-being. We also have a long history of supporting the communities in which we live and work. Our approach is to combine strategic corporate partnerships with country-level education and healthcare projects.

In 2017, we adjusted the 2020 measures and targets for our people and community. By 2020, we now aim to increase the number of women in senior management positions by 30 percent from 2017, and to have 70 percent of our employees covered by ABB's well-being program. We made these adjustments because both gender diversity and the health, well-being and resilience of our workforce are strategic priorities for our group, with significant implications for our collective performance in the years to come.

We performed well towards these new targets over the past year. At present, 16 percent of our middle and senior managers at ABB are women, as are 10 percent of our senior leadership. In 2017 we took firm action to raise these numbers by 2020. Similarly, by the end of 2017, 59 percent of our employees were covered by ABB's well-being program.

We achieved these results thanks to a series of focused and disciplined initiatives. The new gender diversity framework we implemented in 2017

details the concerted actions we must take to create a workforce with better gender balance. These actions include shortlisting women during recruitment drives, creating high-level mentoring opportunities for female talents, ensuring at least 100 women are part of our succession plans for positions from Grades 1 through 8, and committing to increase the percentage of female new-graduate recruits to 30 percent by 2020.

Senior management was instrumental in raising employee participation in ABB's well-being program in 2017. Thanks to the plan they developed and facilitated, we were able to create and disseminate group-level guidance for eight well-being programs (non-smoking, healthy

nutrition, physical fitness, mental health, vaccination, voluntary medical checks, promotion of good ergonomics, and addiction prevention). Following the 2017 launch of an HSE board in each country, the topic of health was included on all country-level agendas, and each country was directed to appoint a well-being coordinator to schedule and run well-being programs that are customized to local needs and preferences. We also created a resilience program to bolster our people's coping skills when they face challenges either at work or at home. To date, we have trained 4,350 employees in 18 countries, with participation from 70 percent of all Executive Committee members, division heads, global business unit managers and function heads.

Case study  
**ABB partners with the Global Challenge initiative to build a healthy, fit and resilient workforce**  
[Click here to reveal](#)



In 2017, ABB contributed to about 680 community projects and charities worldwide. A total of 49 countries out of the 69 reporting on their social activities supported community projects. Employees and ABB's businesses donated approximately \$11.8 million and provided about 4,600 person-days in volunteer work.

ABB also completed installation of a microgrid to support humanitarian work at the main Africa logistics hub of the International Committee of the Red Cross (ICRC) in Nairobi, Kenya. The technology will secure the center's power supply and also enable integration of solar power. At the end of 2017, ABB renewed its decade-long partnership with the ICRC through to 2020. With a new focus on innovation, we will explore areas of cooperation such as the potential for technology to support the ICRC's activities.



**680**

community projects  
supported worldwide

ABB has also been recognized for training a new generation of electrical engineers in Zambia, one of our many country-level education projects. The Coil Winding Insulation and Electrical Manufacturing Exhibition presented ABB with its "Global Outreach Award – Beyond the Factory Floor" for the company's University Partnership Program for Zambia. The program centers on the new engineering program ABB launched at the Copperbelt University and the University of Zambia. The curriculum is designed to enable students to develop both skills and practical experience in topics such as renewable energy and microgrids. Each year, Zambian graduates will also embark on a two-year trainee program with ABB.

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Case study  
**Working with  
underprivileged children**  
[Click here to reveal](#)



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## 05 Reporting indicators

- 36** Approach to sustainability reporting
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## APPROACH TO SUSTAINABILITY REPORTING

## Reporting against GRI Standards

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

ABB's sustainability performance reporting is guided by the Global Reporting Initiative (GRI) Standards, which enable us to present what is material to our business. In this report, our overarching objective is to transparently explain how we address ABB's most prominent economic, environmental and social impacts. Omission from the material issues covered in our report does not mean that the issue is not managed by ABB.

### Reporting boundaries

We cover all ABB Group companies in our formal sustainability reporting system, including wholly owned subsidiaries and majority-owned joint ventures worldwide. A full list of direct and indirect subsidiaries is shown in ABB's 2017 Annual Report.

### Changes in 2017

Entities acquired during 2017 (B&R and Keymile) are not integrated into ABB's environmental and social reporting for the year. In Q1 2017, ABB divested its subsea cable business.

### Data collection processes

We use two online data reporting systems to measure and collect performance data throughout the Group. One system collects monthly health and safety data from all entities in every country, while the other collects annual social data from every country and annual environmental data from every production and service site, as well as the 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, whereas data relating to our environmental performance was sourced from 580 ABB sites and offices, covering approximately 93 percent of our employees. Data on the environmental performance of all remaining employees, who are located at non-manufacturing sites with insignificant impacts, is provided 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 Institute for Environmental Analytics' CO<sub>2</sub> 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 (April 2014). From 2017, emissions from ABB's vehicle fleet are based on lease contract distances and CO<sub>2</sub> per kilometer factors per vehicle.

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

Scope 2 GHG emissions from electricity	Kilotons CO <sub>2</sub> e
Market-based:	606
Location-based:	639

GHG emissions from air travel are calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy (BEIS) in its "2017 Government GHG Conversion Factors for Company Reporting – Methodology Paper for Emission Factors – Final Report."

### Report review panel

For the past three years, we have invited a stakeholder panel to participate in ABB's sustainability reporting process. The panel members represent key stakeholders of the company and are selected for their level of know-how and skills relevant to ABB. The panel is designed to provide us with an external forum to discuss ABB's sustainability approach, give material feedback on our progress, identify ways to help us achieve our 2020 ambitions, and agree upon a panel statement to be published as part of ABB's annual Sustainability Report. The panel statement is published on the [ABB website](#).

### Independent assurance summary

ABB commissioned DNV GL to undertake independent assurance of this Sustainability Report. The assurance was completed using DNV GL's assurance methodology, VeriSustain™, and the report was evaluated for adherence to the principles of stakeholder inclusiveness, materiality, sustainability context, completeness and reliability. Performance data in scope was evaluated against the reliability principle. DNV GL's full Assurance Statement including their "Opinion," "Observations" and "Basis of opinion" is published on [ABB's website](#).

## SUMMARY OF GRI INDICATORS

# ABB Group Sustainability Indicators 2017

## Environmental

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
	<b>Hazardous materials</b>						
	Phthalates (tons)	✓	106	191	878	258	21
	Brominated flame retardants (tons)	✓	0.0	0.0	0.0	1.9	2.9
	Lead in submarine cables (tons)	✓	0.017	8,246	8,376	7,842	7,236
	Organic lead in polymers (tons)	✓	0.29	1.0	1.4	0.1	0.6
	Lead in other products (tons), e.g., backup batteries and counterweights in robots	✓	2,548	3,321	1,684	1,884	2,601
	Cadmium in industrial batteries (tons)	✓	31.1	26.4	0.8	4.4	4.4
	Cadmium in rechargeable batteries (tons)	✓	40.2	45.7	97.5	75.1	67.6
	Cadmium in lead alloy and other uses (tons)	✓	0.4	7.3	6.4	6.0	5.7
	Mercury in products (tons)	✓	0.001	0.002	0.007	0.071	0.012
	SF <sub>6</sub> insulation gas (inflow to ABB facilities) (tons)	✓	1,722	1,653	1,658	1,483	1,438
	SF <sub>6</sub> insulation gas (outflow to customers) (tons)	✓	1,714	1,644	1,648	1,466	1,425
	No. of transformers with PCB oil in ABB facilities	✓	0	0	0	0	1
	No. of capacitors with PCB oil in ABB facilities	✓	0	0	0	0	60
	Mercury in instruments in ABB facilities (tons)	✓	0.215	0.238	0.225	0.320	0.371
<b>302-1</b>	<b>Energy consumption (gigawatt-hours – GWh)</b>						
	Biofuels <sup>a</sup>	✓	64.4	52	46	44	27
	Oil (11.63 MWh/ton)	✓	58.5	71	79	85	94
	Diesel (11.75 MWh/ton) <sup>b</sup>	✓	5.8	9	8	11	0
	Coal (7.56 MWh/ton)	✓	0	0	0	0	4
	Gas <sup>c,d</sup>	✓	684	696	777	749	788
	District heat consumption <sup>c,e</sup>	✓	209	198	181	198	251
	Electricity consumption <sup>c,d,e</sup>	✓	1,561	1,620	1,608	1,628	1,705
	<b>Total energy used</b>	✓	<b>2,582</b>	<b>2,646</b>	<b>2,699</b>	<b>2,716</b>	<b>2,869</b>
	Electricity sold <sup>f</sup>	✓	4.8	2	1	2	n.a.
<b>302-3</b>	<b>Energy intensity (MWh/million \$ sales)</b>	✓	75.26	78.21	75.07	67.11	67.74
<b>302-4</b>	<b>Reduction of energy consumption (GWh)<sup>a</sup></b>		59	53	17	153	n.a.

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
<b>303-1</b>	<b>Water withdrawal (kilotons)</b>						
	Purchased from water companies <sup>e</sup>	✓	3,678	3,800	4,000	4,200	4,400
	Groundwater extracted by ABB	✓	2,726	2,300	3,200	3,100	3,200
	Surface water extracted by ABB	✓	2,849	3,000	2,400	2,800	2,700
	Collection of rainwater	✓	<100	<100	<100	<100	<100
	Waste water from external source	✓	<100	<100	<100	<100	<100
	<b>Total water withdrawal</b>	✓	<b>9,280</b>	<b>9,100</b>	<b>9,700</b>	<b>10,100</b>	<b>10,300</b>
<b>303-3</b>	<b>Water recycled and reused</b>						
	Volume of water reused and recycled (kilotons)		7,807	10,600	5,200	5,200	5,900
	As percentage of total water withdrawal (%)		84	116	54	51	57
<b>Greenhouse gas (GHG) emissions<sup>h</sup> (kilotons CO<sub>2</sub> equivalent)</b>							
<b>305-1</b>	<b>Scope 1</b>						
	CO <sub>2</sub> from the use of energy <sup>d</sup>	✓	156	163	181	178	187
	SF <sub>6</sub> (in CO <sub>2</sub> equivalents) <sup>i</sup>	✓	175	221	237	382	288
	CO <sub>2</sub> from transport by own fleet <sup>l</sup>	✓	63	350	350	350	350
<b>305-2</b>	<b>Scope 2</b>						
	District heat consumption	✓	28	31	29	35	45
	Electricity consumption <sup>d</sup>	✓	606	614	684	682	680
	<b>Total scope 1 and 2 GHG emissions</b>	✓	<b>1,028</b>	<b>1,379</b>	<b>1,481</b>	<b>1,627</b>	<b>1,550</b>
<b>305-3</b>	<b>Scope 3</b>						
	Air travel <sup>k,l</sup>	✓	150	164	158	171	134
<b>305-4</b>	<b>GHG emissions intensity (tons CO<sub>2</sub> equivalents/million \$)</b>						
	Tons CO <sub>2</sub> equivalents per million \$ sales <sup>l</sup>	✓	34	46	46	45	40
<b>305-7</b>	<b>Emissions of volatile organic compounds (tons)</b>						
	Volatile organic compounds (VOC)	✓	987	1,105	1,223	1,291	1,210
	Chlorinated volatile organic compounds (VOC-Cl)	✓	3	6	13	20	20
	<b>Emissions of NO<sub>x</sub> and SO<sub>x</sub> (tons SO<sub>2</sub> and NO<sub>2</sub>)</b>						
	SO <sub>x</sub> from burning coal		0	0	0	0	3
	SO <sub>x</sub> from burning oil and biofuels		89	82	97	97	89
	NO <sub>x</sub> from burning coal		0	0	0	0	2
	NO <sub>x</sub> from burning oil and biofuels		67	72	73	73	67
	NO <sub>x</sub> from burning gas		148	150	168	162	170

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
<b>306-1</b>	<b>Water discharge by quality and destination (kilotons)</b>						
	Public sewer		3,039	4,200	3,100	3,000	3,600
	treated (percentage)		38%	21%	28%	30%	31%
	untreated (percentage)		62%	79%	72%	70%	69%
	Recipient <sup>m</sup>		444	4,500	2,600	2,900	2,300
	treated (percentage)		81%	15%	90%	90%	87%
	untreated (percentage)		19%	85%	10%	10%	13%
	Hazardous treatment company		45	300	360	400	500
	treated (percentage)		13%	71%	90%	75%	60%
	untreated (percentage)		87%	29%	10%	25%	40%
	External use		0	0	<100	<100	<100
	treated (percentage)		-	-	63%	50%	50%
	untreated (percentage)		-	-	37%	50%	50%
<b>306-2</b>	<b>Waste (kilotons)</b>						
	Scrap metal recycled	✓	153	148	158	162	185
	Non-hazardous waste recycled <sup>c</sup>	✓	61	53	53	49	52
	Non-hazardous waste sent for disposal <sup>c</sup>	✓	36	37	44	44	50
	Hazardous waste recycled <sup>n</sup>	✓	5	7	5	5	5
	Hazardous waste sent for disposal <sup>n</sup>	✓	8	8	10	13	9
	<b>Total waste (generated)</b>	✓	<b>263</b>	<b>254</b>	<b>270</b>	<b>273</b>	<b>301</b>
<b>306-3</b>	<b>Numbers of significant spills<sup>o</sup></b>						
	Oil spills		19	17	11	7	13
	Chemical spills		10	6	1	0	0
	Emissions to air		3	6	11	3	3
	Others		12	9	0	0	4
	<b>Total number of significant spills</b>		<b>44</b>	<b>38</b>	<b>23</b>	<b>10</b>	<b>20</b>

## Social

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
<b>401-1</b>	<b>Total number and rates of new employee hires and employee turnover</b>						
	<b>Total workforce by region (ABB employees)</b>						
	Europe		<b>63,000</b>	61,400	61,600	63,000	65,000
	The Americas		<b>28,800</b>	29,000	30,900	32,200	34,400
	Asia, Middle East and Africa		<b>43,000</b>	41,900	43,300	45,200	48,300
	<b>Total</b>		<b>134,800</b>	<b>132,300</b>	<b>135,800</b>	<b>140,400</b>	<b>147,700</b>
	<b>Employee turnover</b>						
	<b>Turnover of all employees<sup>P</sup></b>						
	Europe		7,105 <b>11%</b>	6,063 10%	5,891 9%	5,877 9%	5,387 9%
	The Americas		3,148 <b>11%</b>	5,338 17%	5,409 17%	5,379 17%	4,760 14%
	Asia, Middle East and Africa		3,749 <b>9%</b>	4,430 11%	4,946 12%	5,701 13%	5,534 13%
	<b>Total employee turnover: ABB Group</b>		<b>14,002 10%</b>	<b>15,831 12%</b>	<b>16,246 12%</b>	<b>16,957 12%</b>	<b>15,681 11%</b>
	<b>Turnover of all female employees<sup>P</sup></b>						
	Europe		2,097 <b>3%</b>	1,571 2%	1,498 2%	1,370 2%	1,217 2%
	The Americas		940 <b>3%</b>	1,265 4%	1,418 5%	1,307 4%	1,026 3%
	Asia, Middle East and Africa		855 <b>2%</b>	882 2%	1,093 3%	1,311 6%	1,358 3%
	<b>Total female employee turnover: ABB Group</b>		<b>3,892 3%</b>	<b>3,718 3%</b>	<b>4,009 3%</b>	<b>3,882 3%</b>	<b>3,601 3%</b>
	<b>Employee hires</b>						
	<b>Hires of all employees<sup>P</sup></b>						
	Europe		6,888 <b>11%</b>	5,656 9%	5,672 9%	6,195 10%	6,086 10%
	The Americas		3,905 <b>13%</b>	3,354 11%	3,573 11%	4,142 13%	4,246 12%
	Asia, Middle East and Africa		4,403 <b>11%</b>	2,920 7%	3,777 9%	5,493 13%	5,219 10%
	<b>Total employee hires: ABB Group</b>		<b>15,196 11%</b>	<b>11,930 9%</b>	<b>13,022 10%</b>	<b>15,830 12%</b>	<b>15,551 11%</b>
	<b>Hires of all female employees<sup>P</sup></b>						
	Europe		2,161 <b>3%</b>	1,681 3%	1,520 2%	1,597 3%	1,453 2%
	The Americas		1,030 <b>3%</b>	937 3%	769 2%	1,010 3%	971 3%
	Asia, Middle East and Africa		900 <b>2%</b>	586 1%	761 2%	1,308 3%	1,467 3%
	<b>Total female employee hires: ABB Group</b>		<b>4,091 3%</b>	<b>3,204 2%</b>	<b>3,050 2%</b>	<b>3,915 3%</b>	<b>3,891 3%</b>

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 <sup>a</sup>
<b>403-2</b>	<b>Occupational health and safety: Injuries, lost days, diseases and fatalities</b>						
	Employee work-related fatalities <sup>t</sup>	✓	1	0	0	1	0
	Incident rate <sup>s</sup>	✓	0.00	0.00	0.00	0.00	0.00
	Employee business travel fatalities <sup>t,u</sup>	✓	1	1	0	0	0
	Incident rate <sup>s</sup>	✓	0.00	0.00	0.00	0.00	0.00
	Contractor work-related fatalities <sup>t</sup>	✓	2	5	2	2	7
	Contractor business travel fatalities <sup>t,u</sup>	✓	0	2	0	0	0
	Members of the public fatalities <sup>f</sup>	✓	0	0	1	0	1
	Employee total recordable incident number <sup>t,v</sup>	✓	1,049	1,140	1,310	1,500	1,664
	Incident rate <sup>s</sup>	✓	0.73	0.79	0.87	0.99	1.09
	Contractor total recordable incident number <sup>t,v</sup>	✓	205	277	343	333	310
	Incident rate <sup>s</sup>	✓	0.52	0.70	0.80	0.78	0.75
	Employee lost time incident number <sup>z</sup>	✓	472	441	531	652	686
	Incident rate <sup>s</sup>	✓	0.33	0.30	0.36	0.43	0.47
	Contractor lost time incident number <sup>z</sup>	✓	95	118	163	200	158
	Incident rate <sup>s</sup>	✓	0.24	0.30	0.38	0.47	0.38
	Employee lost days due to industrial incidents <sup>w</sup>		7,331	6,905	7,831	8,415	10,591
	Days lost rate <sup>s</sup>		5.11	4.78	5.26	5.52	7.75
	Employee occupational health diseases	✓	35	65	46	17	10
	Employee occupational health disease rate <sup>s</sup>	✓	0.02	0.05	0.03	0.01	0.01
	Safety Observation Tours (SOT) conducted <sup>t</sup>	✓	182,265	178,473	139,124	–	–
	SOT rate <sup>s</sup>	✓	1.27	1.24	0.92	–	–
	Hazards reported <sup>t</sup>	✓	585,627	621,849	520,942	–	–
	Hazards reporting rate <sup>s</sup>	✓	4.08	4.31	3.51	–	–
	<b>Data by region</b>						
	<b>Employee work-related fatalities: ABB Group</b>	✓	1	0	0	1	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	1	0	0	0	–
	Asia, Middle East and Africa	✓	0	0	0	1	–
	<b>Employee business travel fatalities: ABB Group</b>	✓	1	1	0	0	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	0	1	0	0	–
	Asia, Middle East and Africa	✓	1	0	0	0	–

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 <sup>a</sup>
	<b>Contractor work-related fatalities: ABB Group</b>	✓	2	5	2	2	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	1	0	0	0	–
	Asia, Middle East and Africa	✓	1	5	2	2	–
	<b>Contractor business travel fatalities: ABB Group</b>	✓	0	2	0	0	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	0	2	0	0	–
	Asia, Middle East and Africa	✓	0	0	0	0	–
	<b>Employee total recordable incident rate: ABB Group</b>	✓	0.73	0.79	0.88	0.10	–
	Europe	✓	0.86	0.96	1.02	1.16	–
	The Americas	✓	1.17	1.18	1.40	1.57	–
	Asia, Middle East and Africa	✓	0.24	0.27	0.31	0.39	–
	<b>Contractor total recordable incident rate: ABB Group</b>	✓	0.52	0.70	0.80	0.78	–
	Europe	✓	1.38	1.69	1.88	1.97	–
	The Americas	✓	0.96	1.47	1.54	1.40	–
	Asia, Middle East and Africa	✓	0.24	0.35	0.37	0.35	–
	<b>Employee lost time incident rate: ABB Group</b>	✓	0.33	0.30	0.36	0.43	–
	Europe	✓	0.48	0.47	0.56	0.66	–
	The Americas	✓	0.34	0.29	0.33	0.40	–
	Asia, Middle East and Africa	✓	0.09	0.08	0.08	0.12	–
	<b>Contractor lost time incident rate: ABB Group</b>	✓	0.24	0.30	0.38	0.47	–
	Europe	✓	0.73	0.93	1.03	1.38	–
	The Americas	✓	0.35	0.81	0.84	0.86	–
	Asia, Middle East and Africa	✓	0.10	0.07	0.12	0.15	–
	<b>Employee days lost rate: ABB Group</b>		5.11	4.78	5.26	5.52	–
	Europe		6.95	5.98	7.32	8.25	–
	The Americas		6.43	7.81	6.02	8.28	–
	Asia, Middle East and Africa		1.49	0.99	1.74	1.72	–
	<b>Employee occupational health disease rate: ABB Group</b>	✓	0.02	0.05	0.03	0.01	–
	Europe	✓	0.05	0.09	0.06	0.02	–
	The Americas	✓	0.00	0.02	0.02	0.03	–
	Asia, Middle East and Africa	✓	0.00	0.05	0.00	0.00	–

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 <sup>a</sup>
	<b>SOT rate: ABB Group</b>	✓	<b>1.27</b>	1.24	0.92	-	-
	Europe	✓	<b>0.84</b>	0.76	0.51	-	-
	The Americas	✓	<b>1.71</b>	1.87	1.41	-	-
	Asia, Middle East and Africa	✓	<b>1.61</b>	1.53	1.17	-	-
	<b>Hazard rate: ABB Group</b>	✓	<b>4.08</b>	4.31	3.51	-	-
	Europe	✓	<b>3.37</b>	3.65	2.67	-	-
	The Americas	✓	<b>4.81</b>	4.78	4.25	-	-
	Asia, Middle East and Africa	✓	<b>4.64</b>	5.03	4.19	-	-
<b>406-1</b>	<b>Non-discrimination</b>						
	Total number of incidents of discrimination		<b>0</b>	0	0	1	1
	Total number of incidents of harassment		<b>9</b>	5	8	10	10
<b>415-1</b>	<b>Public policy</b>						
	Financial and in-kind political contributions		<b>\$300</b>	\$10,400	\$12,600	\$13,000	0
<b>404-1</b>	<b>Training and education</b>						
	<b>Training per year per employee (average hours)</b>						
	Canada		<b>19</b>	18	30	20	18
	China		<b>17</b>	25	22	26	27
	Finland		<b>13</b>	15	17	19	18
	Germany		<b>18</b>	18	18	18	16
	India		<b>5</b>	3	2	12	12
	Italy		<b>12</b>	10	12	12	19
	Poland		<b>20</b>	12	10	11	12
	Sweden		<b>12</b>	10	10	12	12
	Switzerland		<b>14</b>	15	14	16	20
	US		<b>24</b>	24	27	32	28

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
<b>405-1</b>	<b>Diversity and equal opportunity</b>						
	<b>Composition of governance bodies</b>						
	<b>Board of Directors</b>						
	Women in Board (percentage)		10%	18%	13%	13%	13%
	Age group diversity (percentage)						
	<30 years old		0%	0%	0%	0%	0%
	30–50 years old		0%	0%	0%	0%	0%
	>50 years old		100%	100%	100%	100%	100%
	Number of nationalities		8	10	8	7	7
	<b>Executive Committee</b>						
	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		27%	18%	27%	36%	45%
	>50 years old		73%	82%	73%	64%	55%
	Number of nationalities		8	7	8	8	8
	<b>Employees in senior and middle management</b>						
	Women in senior and middle management		16%	18%	17%	15%	15%
	Men in senior and middle management		84%	82%	83%	85%	85%
	<b>Total workforce (ABB employees)</b>						
	Women in total workforce		23%	23%	23%	22%	22%
	Men in total workforce		77%	77%	77%	78%	78%

- a Biofuels were reported as a separate category in 2017. Biofuel consumption, total energy used, and energy intensity have been restated for 2013–2016, since the use of biofuels was previously not reported at one of our large facilities.
- b Diesel consumption was reported separately for the first time in 2014.
- c Results for these indicators are based on reported data covering 93% of employees in 2017, 97% in 2016, 95% in 2015, 93% in 2014 and 88% in 2013, plus energy use per employee for the remaining employees pro rata. See the Approach to reporting section for more details.
- d Gas and electricity consumption and the associated greenhouse gas (GHG) emissions have been restated for 2013–2015, due to the correction of earlier conversion factor errors at one of our large facilities.
- e ABB Sustainability Performance Reports prior to 2014 included calculated "losses at utilities" for district heat and purchased electricity consumption in total energy consumption. Those loss calculations have been removed.
- f Data for electricity sold was reported for the first time in 2014.
- g Data for reduction of energy consumption was reported for the first time in 2014.
- h See Approach to reporting chapter for more details on GHG emission calculation.
- i In 2015, we updated the factor used to convert SF<sub>6</sub> emissions to CO<sub>2</sub> equivalents to 22,800 kg CO<sub>2</sub>e/kg SF<sub>6</sub>, as recommended by the UK Department of Energy & Climate

- Change in July 2014, and have applied that factor to SF<sub>6</sub> data reported for all years.
- j 2017 data see Approach to reporting; 2013–2016 data was estimated.
- k 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.
- l Data for air travel is calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy in its "2017 Government GHG Conversion Factors for Company Reporting – Methodology Paper for Emission Factors – Final Report."
- m 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.
- n Hazardous waste as classified in the country where it is generated.
- o 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.

- p 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 who leave the organization voluntarily or involuntarily whether due to dismissal, retirement, or death in service or any other reason, are included. However, involuntary turnover arising out of divestments is excluded from the definition.
- q 2013 safety data from Thomas & Betts, a company acquired by ABB during 2012, does not include contractors.
- r Fatalities also include deaths occurring within one year as a result of injuries sustained and commuting is excluded.
- s The number of recorded incidents multiplied by 200,000/total hours worked.
- t Data covers incidents that happened at workplace (ABB facility, customer site, project site).
- u Incidents during air travel on business trips are excluded.
- v Total recordable incidents include fatal, lost-time injuries, serious injuries, medical treatment injuries, occupational diseases and restricted workday cases.
- w Days lost are calendar days and are counted from the day after the incident.
- x Rate is calculated per employee.

## 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 excel at providing clean backup power to regions prone to outages. Microgrids can integrate multiple distributed generation sources, and their benefits are realized almost immediately. One recent installation brought vital power to weavers and tailors in Barmer, India.



## Clean water and sanitation

Advanced technologies from ABB are making access to safe water and sanitation possible in countries across the world. The ABB Ability Distributed Control System will serve as the cornerstone of the water distribution network in New Cairo, Egypt, delivering 500,000 cubic meters of water per day to 2.5 million people.



## Decent work and economic growth

Industrial automation is an effective way to generate growth and strengthen job markets. Robots such as ABB's YuMi are increasing productivity while creating entirely new types of jobs for people. Deonet, a Dutch manufacturer of promotional products, has deployed advanced automation to compete successfully with low-cost overseas manufacturers.



## Industry, innovation and infrastructure

We operate seven corporate research centers, employ 8,500 researchers, and collaborate with more than 70 universities around the world. In 2017 we invested \$1.4bn in R&D and have set ourselves a target to increase the share of revenue from our eco-efficiency portfolio to 60% of our total revenue by 2020.



## Sustainable cities and communities

We provide a foundation for smarter cities by supporting critical infrastructure and enabling the automation of factories, stores, offices and homes. In a recent project for the Southeastern Pennsylvania Transit Authority, ABB developed a hybrid energy storage system that captures excess energy produced by braking trains, reducing energy consumption by 10 percent.



## Responsible consumption and production

Our products, manufacturing processes and supply chain must comply with the "ABB List of Prohibited and Restricted Substances." We monitor the sourcing of certain minerals closely and are phasing out the use of hazardous substances. ABB works closely with its suppliers to support these efforts.



## Partnerships for the goals

United for Efficiency (U4E) is a public-private multi-stakeholder collaboration partnership led by the United Nations Environment Programme. It helps governments develop and implement national and regional strategies for improved energy efficiency. ABB is a founding partner, sharing our know-how on motors and transformers, policies, regulations and standards, and 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 ABB is contributing to global efforts to meet many of the underlying SDG targets



## No poverty

Lack of basic infrastructure keeps nearly two billion people trapped in poverty around the world. In the Democratic Republic of Congo, ABB is addressing the issue of access to electricity with an innovative solution to tap into high-voltage transmission lines to provide power to small communities nearby.



## Zero hunger

ABB is a leader in technologies that enable farms and food producers to improve performance and reduce environmental impacts. In Egypt, low-voltage motors from ABB are used to power the pumps at two fish-farming pilot projects in the Nile Delta, part of an ambitious initiative to expand the country's fishery resources.



## Good health and well-being

Safety and health are a top priority for ABB; our goal is to achieve zero incidents. Our automation solutions help other enterprises pursue the same goal. Automated processes in mining have saved countless lives, and robots from ABB are taking on the dull, dirty and dangerous tasks that no human should have to do.



## Quality education

We support a wide range of educational activities and organizations, including several hundred community engagement programs around the world. The global foundation created to honor former ABB Chairman Jürgen Dormann helps promising engineering students fund their further education. ABB also invests roughly \$11 million annually in employee learning initiatives.



## Gender equality

Our new diversity and inclusiveness framework is designed to expand opportunities for women, especially those already working at ABB. Its first phase focuses on integrating diversity objectives into our talent development processes and raising awareness among employees. We support the Women's Forum to share and learn from best practices at other companies.



## Reduced inequality

ABB actively seeks to address the issue of inequality by recruiting skilled employees from diverse backgrounds and by utilizing local supply chains that generate local jobs. Our extensive business and social commitments are outlined in our Group Code of Conduct, our Ethics, Environment, Social and Human Rights policies, and other internal guidelines.



## Climate action

Taking action to address the causes of climate change is of vital importance to both the environment and the global economy. ABB was one of 79 signatories to an open letter in 2015 urging the world's leaders to reach an ambitious climate deal at COP 21. We have actively participated in all recent COP meetings to encourage countries to deliver on their policies and action plans.



## Life below water

Our integrated marine systems improve operational efficiency and reduce fuel consumption, lessening the environmental impacts of ocean shipping. These include our Azipod® propulsion systems and our marine software and services. We support the research of By the Ocean we Unite, which addresses the major challenge of plastic pollution in the oceans.



## Life on land

We have implemented policies and programs to reduce resource consumption, maximize recycling and eliminate use of hazardous materials. Our eco-efficient products are subjected to life-cycle assessments that encompass long-term environmental consequences. Among our many environmental commitments, we have participated actively in reforestation programs in Costa Rica and Inner Mongolia, China.



## Peace, justice and strong institutions

For over 10 years, ABB has been a member of the corporate support group of the International Committee of the Red Cross, helping to address humanitarian challenges in areas of conflict. In 2017, ABB engineers installed a microgrid solution to deliver reliable power at the International Committee of the Red Cross Logistics Center in Nairobi, Kenya.