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.

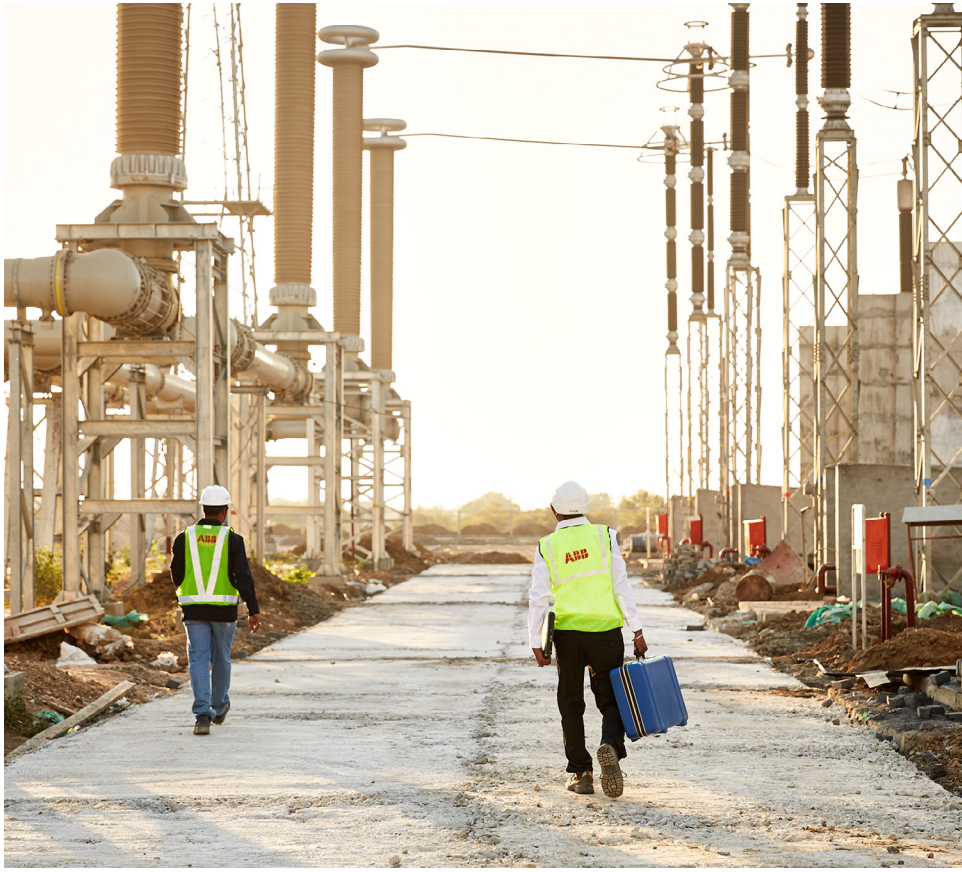
Over the past year, we performed well towards our 2020 target, with our eco-efficiency portfolio accounting for 56 percent of ABB's revenue in 2017.

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
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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.

Case study
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