



SF<sub>6</sub>-free gas-insulated switchgear, and transformers with biodegradable insulating fluids. Applications that have potential short- and long-term environmental impacts, such as oil extraction, nuclear power generation and military uses, have been excluded.

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

## Energy efficiency

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

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

Case study  
**Sustainable  
underground mining**

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

## Advanced engineering helps improve sustainable solutions

Sheri Straw – Duke Energy Corporation  
[ABB Stakeholder Panel](#)

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

Sustainable engineering from ABB can also be found in the high-performance turbochargers we manufacture for use in ships, power stations, generator sets, diesel locomotives and other large vehicles. ABB is a leader in the manufacture and maintenance of turbochargers for large diesel and gasoline engines. The latest

turbocharger designs can reduce exhaust gas temperatures, enable an increase in boost pressure and reduce fuel consumption.

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



**up to 50 percent**  
increase in capacity of  
transmission networks

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

## Renewable energy

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

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