



The IEC and the Sustainable Development Goals

Energy – the golden thread

Energy, and especially electricity, is the golden thread that impacts most of the 17 Sustainable Development Goals (SDGs) and beyond that, the development of every nation and economy.

The United Nations has recognized Energy as a cornerstone for economic development, facilitating poverty and hunger reduction efforts, improving education, women's empowerment and healthcare.

IEC work directly impacts 12 of the 17 SDGs. It provides the technical foundation for the whole energy chain and all equipment that is driven by electricity. IEC work improves the safety of devices, workers and populations. It enables Energy Efficiency gains and increases resilience and long-term viability of infrastructure while reducing cost.



↘ Night fishing, Lake Victoria, Kenya. Fishermen dragging nets at night using a lamp charged by solar power. This lamp is comprised of an 11-watt bulb that produces approximately 600 lumens and lasts for about eight hours. (VOLKER STEGER/ SCIENCE PHOTO LIBRARY)

SDG 7 Energy: Core to all SDGs

IEC work enables all forms of power generation – on-grid and off-grid use of good quality renewable solar, wind, marine and hydro energy generation. The IEC provides the technical foundation for rural electrification, microgrids, low voltage direct current (LVDC) applications and safer, more reliable, more efficient devices, bringing sustainable electricity and light to cities and economies.

IEC International Standards provide the methodologies, processes and specifications that are needed to compare and verify Energy Efficiency claims. Often used in regulations, they enable the broad roll out and technology transfer of more energy efficient technologies.

IEC work underpins energy research and energy infrastructure investment – IEC International Standards are often an integral part of energy tenders, for example by the World Bank. They help reassure investors about the long-term soundness of infrastructure investments.

They can be used to build new energy systems or upgrade and expand existing energy infrastructure. With their help cost can be reduced and long-term investment viability is ensured because products and spare parts can be bought anywhere in the world.



SDG 1 End poverty

IEC work for SDG 1 facilitates access to new technologies and basic services such as electricity and water supply. Access to reliable electric power is often the first step in overcoming poverty.



SDG 2 End hunger

Today, more than 1/3 of food produced is not eaten. Food waste is the third largest emitter of greenhouse gases.

Through the strengthening of the cold chain post-harvest and slaughter, food waste and greenhouse gas emissions could be halved to directly help reduce world hunger. IEC work provides the foundation for domestic and industrial cooling systems and helps improve agricultural productivity, for example through irrigation technologies and pumps.



SDG 3 Good health

The cooling and proper conservation of medicines and vaccines is the first step towards better health.

IEC work also provides the technical foundation for all essential medical devices that are used in disease prevention, diagnosis and treatment.



SDG 4 Education and learning

The IEC provides the technical foundation for much of the electrical and electronic hardware that supports education, including communication technology, computers, routers, video, and radio.



SDG 6 Water and sanitation

Supplying water requires a large number of electrical and electronic water management systems, which all rely on IEC work. Pumps extract water, transport it from wells through pipelines to purification, filtration and desalination systems. Even in the simplest water treatment plants, pumps, valves and scrapers are needed. More modern systems also include a myriad of sensors that control the length of flow, for example, on taps, toilets or irrigation systems.



SDG 8 Decent work and economic growth

IEC International Standards together with testing and verification increase the safety of electric tools and of the workers who use them.

The IEC can help implement and upgrade technology solutions with a view of improving production efficiency.



SDG 9 Resilient infrastructure and sustainable industrialization

IEC International Standards together with testing and verification support the development of quality infrastructure and of better quality and safer electric and electronic products. They also encourage innovation and technology transfer. IEC work also helps improve the resilience and faster restoration of electrical and electronic infrastructure and basic services in the face of disasters. The IEC also addresses developing countries' needs through a programme that encourages their use of IEC International Standards and Conformity Assessment Systems at no cost.



SDG 11 Sustainable cities and communities

IEC work increases the resilience and sustainability of cities and impacts all on-grid and off-grid energy generation. It also addresses all aspects of urbanization that involve electrical or electronic hardware for communication or data collection.

The IEC covers every imaginable transportation technology and the whole supporting electrical and electronic infrastructure.



SDG 12 Responsible consumption and production

IEC work provides the technical foundation for many types of harvesting, storage, production and cooling technologies.

IEC International Standards together with the IEC Conformity Assessment Systems can help control the use of hazardous substances in the manufacturing of electrical and electronic devices.



SDG 13 Climate change action

IEC International Standards, together with testing and verification, help strengthen disaster resilience of infrastructures and cities. They help mitigate disaster risks and accelerate disaster recovery, reducing overall disaster impact. IEC work also provides the globally relevant solid technical foundation to make new, sustainable energy solutions broadly marketable.



SDG 17 Strengthen global partnership for sustainable development

IEC International Standards contain a vast amount of technical know-how and expertise, providing developing countries with the means to design and build better products that can be exported. When developing countries and their manufacturers use IEC International Standards together with the IEC Conformity Assessment Systems, they are able to participate in global value chains and access more markets faster and more efficiently. IEC International Standards support the development and use of environmentally sound technologies. The IEC global platform fosters multi-stakeholder partnerships that share knowledge and expertise, supporting the achievement of the SDGs.

The IEC is a partner of the United Nations Sustainable Energy for All initiative (SE4ALL). In this context the IEC provides a series of Technical Specifications with a focus on off-grid energy access for rural electrification. It also prepares Technical Specifications for solar home system

About the IEC

The IEC (International Electrotechnical Commission) is the world's leading organization that prepares and publishes globally relevant International Standards for all electric and electronic devices and systems. It brings together 170 countries, representing 99.1% of the world population and 99.2% of world energy generation. Around 20 000 experts cooperate on the global IEC platform to ensure that products work safely and efficiently with each other everywhere.

The IEC also supports all forms of conformity assessment and administers four Conformity



kits, Renewable Energy mini-grid systems, low voltage DC, and energy efficient appliances for use in off-grid applications.

Assessment Systems that certify that components, equipment and systems used in homes, offices, healthcare facilities, public spaces, transportation, manufacturing, explosive environments and during energy generation conform to them.

The IEC Affiliate Country Programme offers developing countries a free-of-cost participation in the IEC.

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