MINISTRY OF ENERGY AND PETROLEUM

The IEA 9th Annual Global Conference on Energy Efficiency

Special Event: Using digitalisation to boost power system efficiency

Wednesday 22 May 2024: 14:30 – 17:30 EST
Marquee, Safari Park Hotel, Nairobi, Kenya

Event background

Under the IEA Net Zero Emissions by 2050 Scenario, mass deployment of more efficient and digitalised processes, new technologies, increased recycling, and electrification all work to reduce global industrial energy use. Early action will also play a key role in ensuring doubling of energy efficiency progress this decade. Digital technologies can greatly improve the functioning of power grids to help successfully integrate clean energy sources, but a lack of investment in these networks could slow down the energy transition and increase costs, particularly in emerging and developing economies.

Electricity system losses during transmission and distribution can lead to increased strain on power systems while demand for electricity continues to grow, increasing the risk of power outages, reducing overall access and increasing energy costs that constrain economic growth and ultimately impact livelihoods. Globally, it is estimated that the commercial effects of non-technical losses amount to between USD 80 billion to USD 100 billion each year, straining future sustainable economic growth and clean energy transitions. Global average loss rates were around 8% in 2022, but almost double this across Africa at around 15%. Due to electricity outages, each year firms in emerging markets and developing economies experience an efficiency loss of around USD 38 billion due to operating below capacity, sales losses of USD 82 billion, fixed and variable costs for back up electricity generation of USD 65 billion, all of which could amount to almost USD 1.3 trillion through to 2030.

Digital technologies could save USD 1.8 trillion of grid investment globally through to 2050 by extending the lifetime of grids, while also helping to integrate renewables and minimise supply interruptions. Countries often lack tools to monitor the condition of grids and ensure problems are fixed in a timely manner, and the equipment used is often of a low quality and energy efficiency grade, in particular for distribution transformers. Investment in improvements to grid infrastructure has great potential to provide economic opportunities and improve livelihoods.

Organised in partnership with Schneider Electric, this session will bring together leaders from governments, multilateral organisations, private sector and civil society to explore the key actions and enablers that can support a clean energy transition and ensure access to affordabile energy in the long-term. Experts will share insights from around the world on policy, financial and technical solutions for delivering smart, efficient, reliable grids of the future.

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Agenda

14:30 – 14:40	**Opening remarks** • Dr Eng. Joseph Siror, CEO, Kenya Power and Lighting Company • Ifeanyi Odoh, Country President, Schneider Electric
14:40 – 15:40	**Session 1: Investing in digital grids of the future** Digital technologies designed for power systems are instrumental to unlock essential system services required to integrate high shares of variable renewable energy. To unlock these digital opportunities, adequate planning, investment, and policy action are needed. Panellists will discuss how best to leverage investment in the delivery of digital grids of the future. **Moderator:** Carol Koech, Director for Sustainability Thought Leadership, Schneider Electric • Eng. Sally Musonye, Power System Design and Development Engineer, Kitui County, Kenya Power and Lighting Company (KPLC) • Ms Reena Suri, Executive Director, India Smart Grids Forum • Paul Nillesen, Global Power and Utilities Advisory Leader, PwC • Zoisa North-Bond, CEO, Octopus Energy for Business & Octopus Energy Generation • Eng. Harness Mukhongo, Kenya Electricity Generating Company PLC (KenGen) (TBC)
15:40-16:00	**Coffee break**
16:00-17:20	**Session 2: Smart solutions for boosting power system efficiency** Digital technologies could save USD 1.8 trillion of grid investment globally through to 2050 by extending the lifetime of grids, while also helping to integrate renewables, minimise supply interruptions and drive urban transitions. This session will bring together experts to discuss key actions governments and prvate sector can take to integrate smart solutions into power grid planning, including key measures that can address power system losses. **Moderator:** Symphrose Ochieng, Infrastructure Segment & Power Systems Business Leader, Schneider Electric • Stefano Fava, Innovation Technology Senior Specialist, Planet Smart City • Yagouba Traore, Head of Policy Planning Strategy, AFREC • Pankaj Agarwal, CEO, Panitek • Ifeanyi Odoh, Country President, Schneider Electric
17:20-17:30	**Closing remarks**

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