Powering the next industrial wave:

Global electricity demand surges through 2027

Global electricity demand is entering a new era of growth, with the International Energy Agency (IEA) projecting a 3.9% annual increase through 2027.

This surge—driven by rising industrial production, increasing air conditioning usage, accelerating electrification, and the rapid expansion of data centres—reflects a world wired for transformation. **Following a 4.3% rise in 2024, electricity demand is forecast to rise now on track to grow by an unprecedented 3,500 TWh over the next three years**—equivalent to Japan's total annual consumption added every year.

Emerging markets lead the charge

Emerging economies will power this growth, accounting for 85% of the global increase. China alone saw a 7% rise in consumption in 2024, and its demand is expected to grow 6% annually through 2027, fuelled by industrialisation and technological expansion. India, meanwhile, is forecast to grow even faster at 6.3% annually, outpacing its decade-long average. In contrast, 600 million people in sub-Saharan Africa still lack access to electricity, highlighting persistent disparities.

> "Rising industrial production increasing air conditioning usage, accelerating electrification rapid expansion of data centres"

What it means for Southeast Asia

For ASEAN's wire, cable, tube, and electrical infrastructure sectors, these shifts signal long-term opportunity.

From grid expansion and renewable integration to HV transmission networks and electrification, the region stands at the forefront of a power-hungry, tech-driven industrial future. As demand accelerates, the importance of resilient, efficient, and sustainable solutions across the electrical and industrial value chains has never been greater.

Advanced economies see a rebound in demand
After years of stagnation, advanced economies are showing renewed momentum. The United States registered a 2% increase in 2024, with projections showing steady 2% annual growth, equivalent to adding California's total electricity use over three years. In the EU, demand is gradually recovering and is expected to reach pre-pandemic levels by 2027, bolstered by the adoption of electric vehicles and heat pumps.

Renewables to meet nearly all new demand
Renewable energy is expected to meet 95% of new demand. In 2025, renewables will generate more than one-third of global electricity, overtaking coal for the first time. Solar PV will drive half of that growth, with output increasing by 600 TWh annually—equal to Korea's total consumption. Wind power will account for one-third of the increase, while nuclear is expected to hit new highs, particularly in China, India, Korea, and France.

Emissions to plateau as clean energy expands
Global carbon dioxide (CO2) emissions from electricity generation are expected to plateau at around 13,800 million tonnes annually through 2027, despite a 1% increase in 2024. The rapid expansion of renewables and nuclear energy will limit fossil fuel-fired generation, with the share of coal-fired electricity dropping below 33%—a first for the 21st century.

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This article was contributed by CRU, Official Knowledge Partner of Wire & Tube and GIFA & METEC Southeast Asia, and adapted for publication by Messe Düsseldorf Asia.