WORLD POWER SYSTEMS REVIEW

1 November 2026

15 October 2026

NERC's Computational Loads Standards Pass Final Ballot, Advance to Board Adoption

NERC's foundational Computational Loads Reliability Standards and their associated implementation plans have passed final ballot, marking a significant milestone in an accelerated effort to address emerging reliability risks associated with the rapid growth of large electrical loads, including data centers and artificial intelligence facilities. The proposed standards will now be sent to the NERC Board of Trustees (Board) to request adoption. Once adopted by the Board, NERC will file the Reliability Standards for Project 2026-02 Computational Loads with the Federal Energy Regulatory Commission (FERC) for final regulatory approval in the United States. NERC will also coordinate with applicable governmental authorities in Canada on appropriate next steps.

Developed through extensive collaboration among NERC and Regional Entity staff, the electric industry, data center and cryptocurrency industry participants, technical experts, and other stakeholders, the proposed standards establish requirements to support the reliable integration of large computational loads into the bulk power system. They build on insights from NERC's Level 3 Essential Action Alert issued in May 2026, incident reviews, and the work of the Large Loads Working Group (LLWG). For more information about NERC's ongoing work with large loads and opportunities for stakeholder engagement, please visit the Large Loads Action Plan page and see the Q3 2026 Update.

NERC

http://www.nerc.com/

15 October 2026

First Utility-Scale Enhanced Geothermal Plant Goes Live Fervo Energy begins selling electricity in Utah

The geothermal startup Fervo Energy is now selling power to the grid from its Cape Station project in Utah—marking the first time a utility-scale, next-generation geothermal facility has achieved such a feat worldwide.

The Houston-based firm turned on an initial 33-megawatt unit late last week and has been testing and ramping up output since. On Thursday, Fervo will officially begin commercial operations, supplying carbon-free electricity to Shell Energy, a retail power provider in California.

Cape Station, a $2 billion project that will eventually be 500 MW, is unique among the world's commercial geothermal plants. While other facilities draw on naturally occurring hot water and steam, Fervo has engineered its own geothermal resource deep underground. The startup uses drilling techniques from the oil and gas industry to create reservoirs in hot, dry rocks that generate steam to produce electricity.

"Traditional geothermal would have never been done in southern Utah," says Dawn Owens, Fervo's senior vice president and head of development and commercial markets.

With the first unit online, Fervo says it is working to commission two more 33-MW power blocks by 1 January, 2027. The project's remaining 400 MW—which is supported by a new agreement with Google—is under construction and slated to come online in 2028.

Fervo already operates a 3.5-MW commercial pilot plant in Nevada, which went online in late 2023. Owens says the pilot, called Project Red, was important for demonstrating the technology itself. But firing up Cape Station proves that Fervo's approach can achieve utility scale and export power to wider markets.

Fervo, which went public in May, is leading the fast-growing movement to develop clean, always-on geothermal power to meet soaring demand from data centers and balance growing supplies of intermittent solar and wind energy.

Next-generation geothermal firms have raised billions of dollars in private capital in recent years to develop and deploy technologies that can harness energy in harsh, deep environments. Today, geothermal represents just 0.4 percent of total U.S. electricity generation every year. Expanding geothermal's share of the mix will require not just building more projects like Cape Station but also tackling high upfront drilling costs and other economic and regulatory barriers—all while working to limit potential impacts on communities and the environment, experts say.

"Fervo's first power achievement shows investors the size and scale of the opportunity to fuel many more such milestones across developers and sites in the future," says Mitchell Smith, who serves as grid lead for the Mountain West Geothermal Consortium. The bipartisan initiative is calling for increased public and private financing "to help bring more projects online responsibly and at the speed of demand," he added.

Fervo has declined to disclose the terms of its power purchase agreements for in-progress and future development, which together represent about 1,000 MW, or enough to power roughly 1 million U.S. homes every year. Phase 1 of Cape Station is set to deliver power at $7,000 per kilowatt, while Phase 2 should come at $5,500 per kilowatt, the company previously told Canary Media. (By comparison, the average cost to build a natural gas–fired power plant was $2,157 per kilowatt in 2025.)

Along with slashing drilling costs, enhanced geothermal projects could improve their economics by delivering power when it's most valuable to utilities, according to researchers. While geothermal plants traditionally provide around-the-clock, baseload power, next-generation facilities might operate flexibly during certain periods—like in the evening, when solar output declines—to reduce overall grid costs. Geothermal plants could also operate "behind the meter" to directly power data centers so that the costs of adding new electricity capacity aren't passed on to utility customers, Owens says.

"We've been saying all along that our technology makes geothermal more scalable and affordable in more places," she says. On Cape Station's powering-up, she adds, "That's just something no next-generation geothermal company has ever been able to do before."

IEEE Spectrum
http://spectrum.ieee.org/

15 October 2026

Brazil's PDE 2036 Projects R$ 3.3 Trillion Energy Investment And 7.2 GW Battery Storage

Brazil's Ministry of Mines and Energy (MME) has launched a public consultation on the Ten-Year Energy Expansion Plan (PDE) 2036, outlining the country's energy demand, supply, infrastructure requirements and investment outlook for the next decade. The proposed plan estimates investments of R$ 3.3 trillion across the energy sector between 2027 and 2036 to strengthen infrastructure, support growing consumption and improve long-term energy security.

According to the projections, Brazil's electricity consumption is expected to grow at an average annual rate of around 3.4%, reaching 979 terawatt-hours (TWh) by 2036. Total electricity generation is projected to increase to 1,133 TWh, compared with the expected current level of 829 TWh. The plan anticipates a gradual rise in renewable energy's contribution to the country's overall energy mix, from 50.2% to 51.2%. Renewables are also expected to maintain a share of close to 90% in Brazil's electricity generation mix.

Wind and solar power are projected to play a major role in meeting future electricity demand. Together, these sources are expected to account for approximately one-third of total electricity generation over the next ten years, reflecting their growing importance in Brazil's energy transition.

The plan also identifies increasing electricity consumption from data centres as an emerging challenge. Demand from these facilities is forecast to rise tenfold, from 3 TWh to 30 TWh by 2036. To support grid reliability and manage fluctuations in renewable electricity generation, the proposal includes 7.2 GW of battery energy storage systems and 2 GW of reversible hydroelectric power capacity.

Distributed energy generation is another key area covered in the projections. Brazil's micro and mini distributed generation segment, known as MMGD, is expected to expand from 50 GW to 92 GW of installed capacity. This growth would reflect the increasing adoption of self-generation systems by households, businesses and other electricity consumers.

The PDE 2036 proposal is organised into four chapters covering the overall plan, energy demand, energy supply and future sector challenges. The fourth chapter invites contributions from companies, industry experts, institutions and citizens.

Interested stakeholders can submit comments and recommendations through the official MME portal and the Participatory Brazil platform until November 6. Following the consultation, the MME and the Energy Research Company (EPE) will evaluate the submissions before preparing the final report.

Solar Quarter
http://solarquarter.com/

15 October 2026

Labor Approves Southern Hemisphere's Biggest Wind Farm

The Carroll Labor Government has approved the largest wind farm in the southern hemisphere. The Warracknabeal Energy Park is set to power up to 1.2 million homes – driving energy bills down.

Once complete, the 219-turbine wind farm would deliver more than 1.5 gigawatts of renewable energy – delivering around 11.8 per cent of Victoria's future energy needs. The project is expected to create almost 950 jobs during construction, with ongoing local jobs once operational.

The site will also host a two 300 megawatt battery energy storage system (BESS) to help power homes. The BESS will soak up and store cheap renewable energy during the day that can be pumped back into the grid at times of peak demand – delivering cheaper energy bills and reliable electricity to Victorian homes and businesses. The Warracknabeal Energy Park has gone through Victoria's rigorous EES process, including technical studies, community consultation and a public inquiry.

Victoria has the cheapest power in Australia because Labor has invested in renewables – the cheapest form of energy. Projects like this are critical to delivering Victoria's nation-leading renewable energy targets of 65 per cent by 2030 and 95 per cent by 2035. Only Labor is getting on with building the renewable energy projects needed to keep power bills down and secure Victoria's energy future.

Premier of Victoria
http://www.premier.vic.gov.au/

15 October 2026

China Connects Milestone 1 GW Solar + CSP Hybrid, Combining PV With Eight-Hour Thermal Storage

China has connected a 1 GW hybrid solar power project in Qinghai province, combining conventional solar photovoltaic (PV) generation with concentrated solar power (CSP) and thermal energy storage in an effort to improve the flexibility of renewable electricity supply.

The Gonghe project, located in the Talatan solar park in northwestern China, comprises a 900 MW PV installation and a 100 MW molten-salt tower CSP plant. PowerChina completed the project's grid connection on October 1, 2026. The project integrates three functions: photovoltaic generation, solar-thermal storage and electric-to-heat conversion. Its significance lies in the way these technologies work together, allowing some daytime solar energy to be stored as heat and used to generate electricity when sunlight weakens or demand rises in the evening.

The CSP facility features a 219-metre receiver tower surrounded by 10,310 heliostats, which concentrate sunlight onto the receiver to heat molten salt. The stored heat can subsequently be used to produce steam and drive a turbine. The CSP plant has eight hours of thermal storage capacity. In addition, a 20 MW electric heater can convert surplus electricity from the adjacent PV installation into heat for storage, creating another route to use solar generation that might otherwise be curtailed.

The eight-hour storage specification applies to the 100 MW CSP plant, rather than the entire 1 GW project. Nevertheless, the arrangement illustrates how solar generation and storage can be integrated within a single power complex. The solar installation contains approximately 1.9 million modules. The hybrid facility is expected to generate around 2.2 TWh of electricity annually, according to PowerChina's reported estimates. The project is also expected to save approximately 690,000 tonnes of standard coal and avoid around 2.07 million tonnes of carbon dioxide emissions annually. These are projected figures, rather than independently verified operating results.

Inside China’s 1 GW Hybrid Project

Inside China's 1 GW Hybrid Project

900 MW Solar PV (approx. 1.9 million modules)	100 MW Solar Thermal Molten Salt–tower and turbine
8 hours Thermal Storage CSP Components Only	2.2 TWh Expected Annual Output Reported Project Estimate

Unlike batteries that allow for storage of excess solar energy during daytime for use later, a CSP plant offers another option by retaining energy as heat and converting it back into electricity when required. The Gonghe project combines both approaches to collecting solar energy. Its thermal plant receives concentrated sunlight directly, while the electric heater allows surplus PV electricity to contribute to thermal storage. The latter feature could help improve utilisation of the overall solar resource, although actual benefits will depend on operating conditions, conversion losses and grid requirements.

This distinction is important. The facility does not make the entire 1 GW installation continuously dispatchable, nor does its eight-hour storage rating mean that the whole project can deliver 1 GW for eight hours after sunset. Instead, it adds a controllable generation component to a much larger PV installation.

The project is part of China's broader effort to develop large renewable-energy bases in resource-rich western and northern regions while improving the ability of clean generation to meet demand at different times of day. China has also set a wider policy direction for concentrated solar power. Guidelines issued by the National Development and Reform

Commission and National Energy Administration in December 2025 targeted approximately 15 GW of installed CSP capacity by 2030, alongside efforts to bring CSP generation costs closer to those of coal-fired power.

For the solar industry, Gonghe offers a demonstration of how conventional PV, thermal storage and electric heating can be combined rather than developed as separate assets. The commercial test will be whether the added flexibility justifies the additional capital and operating costs. Actual generation profiles, storage utilisation, curtailment reductions and the cost of electricity delivered during peak-demand hours will be important indicators to watch. As solar capacity continues to expand, the ability to deliver electricity beyond daylight hours could become as important as the cost of generating it at noon. China's hybrid project offers one possible route towards that goal.

Saur Energy
http://www.saurenergy.com/

16 October 2026

METLEN and Karatzis launch 330MW energy storage facility in Thessaly

Greece has opened a stand-alone battery energy storage system (BESS) in Larissa, Thessaly, following a joint investment by METLEN and the Karatzis Group of Companies. The facility has a power capacity of 330MW and an energy storage capability of 790MW-hours (MWh). The inauguration event was attended by senior government officials including Prime Minister Kyriakos Mitsotakis and Minister of Environment and Energy Stavros Papastavrou. METLEN and the Karatzis Group developed the project through a joint investment vehicle. The Karatzis Group holds a 51% interest while METLEN retains a 49% stake.

METLEN took responsibility for the construction, operational management and maintenance, leveraging its experience in energy storage infrastructure. The project is expected to enhance the flexibility and resilience of Greece’s electricity grid, supporting the integration of renewable energy sources. According to the companies, the facility is seen as an important piece of infrastructure for both the national and wider European energy market.

METLEN executive chairman Evangelos Mytilineos said: “I am particularly proud that today, here in Thessaly, we are inaugurating Greece’s largest stand-alone energy storage facility in eastern Europe and one of the largest across the European Union. “This project reflects the new reality of the energy system, as storage, alongside grids and interconnections, is essential if we are to use the clean energy we generate with efficiency and provide businesses and consumers with a more reliable and predictable energy supply.”

The investment received loan support from the EU’s Recovery and Resilience Facility – NextGenerationEU. The partnership between METLEN and the Karatzis Group was highlighted as a key factor in the timely and effective delivery of the project. In March 2026, the PPC Group and METLEN formed a joint venture to develop BESS projects totalling up to 1.5GW and 3GW-hours across Romania, Bulgaria and Italy.

Power Technology
http://www.power-technology.com/

19 October 2026

50Hertz installs substations for 927-MW Gennaker offshore wind farm

German transmission system operator 50Hertz has completed the installation of two offshore substations which will support the transportation of electricity from the 927-MW Gennaker offshore wind farm in the German Baltic Sea. The substations, OSS Darss and OSS Zingst, have been set up in coastal waters off the Fischland-Darss-Zingst peninsula, 50Hertz said on Friday. The two facilities are part of the OST-6-1 grid connection system

currently being built by 50Hertz. The platforms were designed, built, installed and commissioned by a joint venture between Dutch-Belgian companies HSM Offshore Energy, Smulders and Iv-Offshore & Energy.

The substations will collect electricity generated by Gennaker's 63 wind turbines, increasing the voltage to 220 kV from 66 kV. After that, three cable systems will transport the electricity towards the coast. The entire grid connection cable route is around 90 km (55.92 miles), including up to 53 km through the Baltic Sea and around 35 km on land. The grid connection system is designed to transmit 927 MW. Based on the current schedule, commissioning is planned for 2028.

Gennaker is being developed by a joint venture between Hamburg-based Skyborn Renewables and municipal utility Stadtwerke Muenchen GmbH (SWM). SWM became involved in the wind farm after it acquired a 25% stake earlier in 2026. A financial close on the project was reached in September.

Renewables Now
http://renewablesnow.com/

19 October 2026

FERC approves ISO-NE 'asset condition' transmission review process

ISO New England will review utility-planned "asset condition" projects — local transmission refurbishment projects that have generally received little regulatory oversight — under a process approved Friday by the Federal Energy Regulatory Commission.

While already acting as an interim reviewer for some projects this year, ISO-NE plans to take on the formal advisory role in January. Under the plan, ISO-NE will review and report its conclusions on asset condition projects, including a project's need, its cost-effectiveness and potential alternatives.

In separate concurring statements, FERC commissioners David Rosner and Judy Chang urged other grid operators to adopt similar review processes. "In the context of growing demand and an aging electric grid, building trust and confidence in the need for infrastructure will only serve to expedite permitting and improve the likelihood that projects are ultimately constructed," Rosner said.

Asset condition projects are typically utility-planned projects aimed at repairing or replacing aging transmission infrastructure. Often, they can be built with little regulatory oversight compared to other types of projects. Because of that, they have drawn criticism in New England and other regions as well (in the PJM Interconnection, they are called "local" projects). Ohio's ratepayer advocate in August urged FERC to address its pending complaint over local transmission projects, saying that since it was filed Ohio utilities have planned more than $4.3 billion in local transmission with inadequate oversight.

In New England, transmission owners expect to add about $5 billion in asset condition projects by 2034, including about $1.3 billion next year, according to a June ISO-NE presentation.

In May, New England ratepayer advocates filed a complaint at FERC over a roughly $360 million asset condition project planned by Eversource Energy in New Hampshire.

The increased transparency offered by ISO-NE's asset condition reviewer plan, which was backed by stakeholders, including states, may provide increased confidence in the utilities' projects, according to FERC. "Taken together, we find that the proposed functions of the Asset Condition Reviewer will help bring greater visibility into the need for and planning of Asset Condition Projects in ISO-NE," the agency said.

The review process will give states and stakeholders the ability to provide more input at earlier stages of asset condition project development and help make sure that planned projects and utility asset condition programs are cost-effective, FERC said. In her concurring

statement, Chang called on other regions to create similar arrangements, saying it would benefit consumers and stakeholders. ISO-NE and other regions should also consider extending the expert review and assessment role to "other types of local transmission projects, beyond what New England categorizes as asset condition projects," Chang said.

New Hampshire Consumer Advocate Donald Kreis, who represents the state's residential ratepayers, said he is "cautiously optimistic that the asset condition reviewer paradigm will make a meaningful difference." Eversource withdrew one of the two projects considered by ISO-NE as an interim asset condition reviewer, an "outcome we deem noteworthy," Kreis said in an email to Utility Dive on Monday. "I hope this heralds the end of unconstrained asset condition spending in New England."

In its decision last month to pause its plans for an $82.4 million project near Boston, Eversource pushed back on a finding by an ISO-NE consultant that the utility failed to show its project was needed in the near-term. The utility said the point of proactive planning is to carry out such projects before grid reliability is threatened. "Requiring evidence of physical deterioration or impending failure before replacing a facility that cannot be effectively inspected establishes a threshold that a utility cannot meet without experiencing the very failure the replacement program is intended to prevent," Eversource said. The utility company said it is "troubled" by ISO-NE's apparent position that an asset condition project should proceed only when a transmission owner shows "specific, concrete evidence" that its equipment is deteriorating.

Utility Dive
http://www.utilitydive.com/

19 October 2026

India shelves coal import mandate for power plants, Bloomberg News reports

India has shelved a proposal to mandate coal imports to boost reducing stockpiles at the country's power plants, Bloomberg News reported on Monday, citing people familiar with the matter.

The government has recently discussed a plan to ask power plants to blend imported grades with domestic coal to alleviate the current supply crunch, the report said. Reuters could not immediately verify the report.

The government typically mandates coal imports to supplement dwindling domestic stockpiles, but multi-year high thermal coal prices have made seaborne shipments unattractive at a time the US-Israel war with Iran is already driving up energy import bills. Policymakers instead asked Coal India (COAL.NS), opens new tab to increase output and the railway to help secure transport to power stations, Bloomberg reported.

The report comes after India ordered more than 100 captive coal-fired power plants to operate at maximum capacity from October 1 through year-end to meet what it expects will be a rise in electricity demand. Many Indian coal-fired power plants are operating at critically low fuel levels due to a surge in power demand amid hotter-than-usual weather linked to El Niño.

Reuters
http://www.reuters.com/

20 October 2026

Energy Department Announces New Investments to Strengthen America's Power Grid and Lower Electricity Costs

The U.S. Department of Energy (DOE) today announced approximately $967 million in additional funding through its Grid Resilience State and Tribal Formula Grant program to

modernize critical energy infrastructure, lower electricity costs and strengthen America's power grid. The funding will support locally driven projects across states, territories, and tribes to upgrade critical infrastructure, prevent power disruptions, and meet growing electricity demand while helping lower costs for American families and businesses.

The investment advances President Trump's American energy dominance agenda. Projects funded through the program will help states, territories, and tribes invest in infrastructure improvements that protect against disruptive events, improve system performance, and ensure communities and businesses have dependable power when they need it most.

"Lowering costs and unleashing prosperity are top priorities for President Trump," said U.S. Secretary of Energy Chris Wright. "These commonsense investments provide resources directly to states, territories, and tribes to lower electricity costs and strengthen grid reliability for American businesses and families."

"A strong and dependable grid is the backbone of American economic prosperity," said Office of Electricity Assistant Secretary Katie Jereza. "This funding will help Americans across the country, including our tribal partners, optimize their electricity systems and prepare for future growth while strengthening energy security and deploying technologies that can lower the long-term cost of delivering reliable power."

States, tribes, and U.S. territories can view their funding allocations and application instructions here.

Enegry GOV
http://www.energy.gov/

21 October 2026

New energy to power green transition

China's combined installed capacity of wind and solar power broke through the 2-billion-kilowatt mark by the end of September, marking a historic new stage in the country's renewable energy development and further consolidating the dominant position of green energy in the nation's power structure, said industry experts.

During the first nine months of the year, approximately 170 million kW of new wind and solar capacity were added to the grid, according to the latest data from the National Energy Administration released on Monday. A breakdown of the figures shows that solar power capacity stood at 1.31 billion kW by the end of September, representing a 16.5 percent year-on-year increase. Wind power capacity reached 700 million kW, surging 20.4 percent from a year ago.

The 2-billion-kW scale provides sufficient green electricity to guarantee economic and social development, marking significant achievements in the nation's green and low-carbon transition, said Liu Zhiqiang, deputy director of the planning and development department at the China Electricity Council. "From the perspective of industrial development, this achievement further solidifies China's leading advantages in the global new energy industry chain," Liu said. "It provides strong support for the coordinated development of upstream and downstream industries, such as the research and development of new energy materials, equipment manufacturing and smart operations and maintenance."

Liu added that the sector's rapid expansion is driving regional economic development and employment growth, injecting strong momentum into the cultivation of new quality productive forces. China's wind and solar power capacity has firmly held the top spot globally for many consecutive years. The current 2-billion-kW capacity accounts for approximately half of the world's total new energy installations, vividly demonstrating China's firm determination and remarkable effectiveness in tackling global climate change and advancing the energy transition, Liu noted.

The rapid expansion of new energy is already playing an irreplaceable role in China's broader energy landscape, the NEA said. From January to September, total electricity generated by wind and solar farms hit 1.93 trillion kilowatt-hours, an increase of 193.7 billion kWh compared to the same period last year. Notably, the increment in wind and solar power generation accounted for 64 percent of the country's total new electricity consumption.

The NEA highlighted that the large-scale substitution of traditional fossil fuels is continuously unleashing significant carbon reduction benefits, cementing renewables as the primary driving force behind the nation's green energy transition.

Furthermore, this leapfrog development has bolstered China's national energy security. During the peak summer demand period this year, maximum midday wind and solar output accounted for over 40 percent of the total power load on the days with the highest electricity demand.

This robust performance guaranteed a reliable power supply during daytime usage spikes, effectively aiding the country in navigating the global energy crisis, the administration said. Looking ahead, guided by the goal of building an energy powerhouse, China's new energy development will maintain a strong momentum, Liu said.

As the power system's regulation capabilities improve, electricity market mechanisms are refined and grid integration technologies achieve continuous breakthroughs, new energy will realize a qualitative leap alongside its scale expansion, he said. This will enable a safe and reliable substitution of traditional energy sources, providing solid backing for the realization of the country's dual carbon goals, he said.

China Daily
http://www.chinadailyasia.com/

21 October 2026

IEA: Expanding Power Trade in ASEAN

The ASEAN Power Grid (APG) is central to Southeast Asia's ambition to enhance energy security, affordability and sustainability through regional electricity connectivity. As the region’s electricity demand continues to grow alongside substantial renewable energy resource potential, interconnected power systems can enable resource sharing across wider areas and enhance system reliability.

Recent developments, including the Enhanced APG Memorandum of Understanding (MoU) and the expansion of multilateral trading initiatives, have strengthened momentum to advance the APG from vision to implementation. Scaling power trade in the region to achieve the full APG vision requires enabling conditions to be strengthened across governance, regulatory, technical, and finance and commercial dimensions.

This report introduces an ASEAN Power Grid Implementation Framework to assess enabling conditions for and barriers to cross-border power trade, and to guide targeted policy and co-ordination efforts. The framework examines two layers: domestic enablers and cross-border co-operation arrangements. These layers are assessed across four dimensions: governance, regulatory, technical, and finance and commercial. The framework is applied to six ASEAN countries and two interconnection corridors to identify implementation gaps, highlight good practices, and support targeted policy and co-ordination efforts.

Drawing on stakeholder consultations, survey inputs, research and international experience, the report examines how co-operation arrangements can evolve alongside the expansion of regional power trade. It identifies practical pathways to strengthen implementation readiness, support project development and investment, and advance cross-border power trade. By providing a structured approach to assessing implementation

challenges and opportunities, the framework aims to support policy makers, regulators, utilities and regional institutions in accelerating progress towards the APG vision.

IEA
http://www.iea.org/

22 October 2026

National Grid trials drone and AI transformer inspections

National Grid Electricity Distribution (NGED) is testing whether drones and artificial intelligence can identify deteriorating electricity network equipment before faults lead to power outages.

The PMT Scan project brings together NGED, software and data science company Softwire, and drone operator Team UAV to assess pole-mounted transformers using aerial photographs and machine learning. These transformers reduce the voltage of electricity carried through distribution networks to levels suitable for homes and businesses. The trial will investigate whether automated image analysis can identify corrosion and other visible defects, providing more consistent information about asset condition. NGED hopes the approach could help engineers prioritise maintenance, reduce unplanned power cuts and limit environmental damage caused by transformer oil leaks.

The project will examine 500 pole-mounted transformers across NGED's licensed distribution areas, including rural locations. Team UAV has captured six photographs of each transformer, producing a dataset of approximately 3,000 images. Softwire's data science team will work with NGED specialists to label the images and train machine-learning models to assess equipment condition. The project will also examine how lighting, weather, location and seasonal changes affect the models' ability to identify defects reliably.

Softwire will develop a prototype web application to display the results.

In a statement, NGED innovation engineer Favour Eboh said: "Pole-mounted transformers play a critical role in delivering electricity to homes and businesses, particularly in rural communities. "This innovation project will explore whether aerial imagery, AI, and computer vision can automate aspects of the condition assessment process, generating more consistent condition data to inform asset health reporting and investment decisions. "Working with Softwire and Team UAV, we will test the technology on an initial set of transformers and assess its potential to support future network asset management."

Mark DeGiovanni, technical lead at Team UAV, said: "Working with NGED and Softwire has been a great opportunity to demonstrate how specialist drone operations and data science can work together. "By combining our experience in infrastructure inspections and data capture with Softwire's expertise in AI and software development, we're helping to explore a more efficient approach to assessing asset condition, with the potential to support better maintenance decisions across electricity networks."

The Engineer
http://www.theengineer.co.uk/

23 October 2026

South Korea's renewable energy capacity overtakes coal for first time

South Korea's installed renewable-energy capacity has surpassed coal-fired capacity for the first time, reaching 41,040 MW on Oct. 21, according to the Korea Power Exchange. That is 283 MW more than the country's 40,757 MW of coal-fired capacity.

Renewables now account for 25.4% of South Korea's installed generation capacity, making them the country's second-largest source of installed capacity after liquefied natural gas (LNG), at 46,788 MW. The gap between renewables and LNG has narrowed to about 5,748 MW, said KPX.

Renewable capacity grew by an average of about 3,504 MW a year between the end of 2020 and the end of 2025, about 4.3 times the roughly 807 MW added annually for LNG. KPX said that if both trends continue, renewables could overtake LNG within two to three years to become South Korea's largest source of installed generation capacity. The Export-Import Bank of Korea said it expects South Korea to install 3.5 GW of solar in 2026.

The figures refer to installed capacity rather than electricity generation.

KPX said it will support the government's target of 100 GW of renewables by 2030 by closely tracking deployment, expanding public data disclosure and working with industry and related agencies.

The milestone follows a government plan to expand grid capacity for renewables. It aims to raise national transmission-level hosting capacity for renewables from 119 GW to 171 GW by 2030 and distribution-level capacity from 84 GW to 110 GW.

The plan also allows solar projects to connect above normal grid limits, with output curtailed when the network is constrained, and raises the solar connection limit on a distribution line from 14 MW to 16 MW and at a substation from 50 MW to 60 MW. Under the plan, grid connection rights will be linked to a reformed renewable portfolio standard (RPS) from January 2027, with access granted to projects selected through competitive bidding rather than on a first-come, first-served basis.

KPX opened a tender on Sept. 22 for 1,100 MW/6,600 MWh of six-hour energy storage on the mainland, plus 80 MW on Jeju Island, under 15-year contracts, with winners due to be announced in November and commissioning required by February 2029.

South Korea's solar additions surpassed 3.1 GW in 2024 and reached 3.1 GW again in 2025. The country's First Renewable Energy Basic Plan, published earlier this year, includes roughly 56.2 GW of new solar capacity as part of its 100 GW renewables target.

PV-magazive
http://www.pv-magazine.com/

23 October 2026

British electricity supplies secure this winter despite global instability

Britain's electricity supplies are expected to remain secure throughout winter 2026/27

NESO forecasts a 9.5% buffer (5.9 GW surplus) above peak electricity demand, which is comparable to recent winters and higher than during the 2022 energy crisis

The assessment is based on stress-testing 30,000 scenarios for every day of winter, including extreme weather and reduced generator availability The National Energy System Operator (NESO) has today (23 October 2026) published its Winter Outlook, setting out that despite turbulence in international energy markets, Great Britain's electricity margins are sufficient for the forthcoming winter.

The electricity system is expected to remain secure, with a forecast surplus of 5.9 GW, representing a 9.5% buffer of peak winter demand. That is in line with its preliminary assessment earlier in the year and broadly similar to winter 2025/26. The forecast remains comfortably within the government's reliability standard.

Britain's electricity system is supported by a diverse mix of generation technologies, including battery storage, gas-fired power and wind. Together these sources provide resilience and flexibility during periods of high winter demand.

The Winter Outlook includes new and improved modelling of the surplus electricity available for every day between 31 October 2026 and 31 March 2027. NESO uses 30,000 scenarios for each day of winter, stress-testing different weather conditions, electricity demand, wind output and other generator availability.

Today's report comes against a backdrop of continued disruption in global energy markets, with the ongoing conflicts in the Middle East and Ukraine pushing energy prices

higher. Despite this uncertainty, Britain's surplus is expected to be higher than during the 2022 energy crisis, when the system operated securely with smaller margins.

Dr Deborah Petterson, Director of Whole Energy System Resilience at NESO, said:

"Despite continued geopolitical uncertainty and volatility in global energy markets, Britain enters this winter with a resilient and well-prepared electricity system.

"Our Winter Outlook shows we have sufficient margins and a diverse mix of generation sources to meet demand, even during periods of colder weather and higher system stress.

"While we never take resilience for granted, households and businesses can be confident that Great Britain's electricity system remains secure, reliable and among the most resilient in the world."

The Winter Outlook sets out a forecast of electricity margins for the winter, which is the amount of spare electricity available after meeting peak demand. It supports industry preparation and operational planning for the season ahead. Whilst the operational view for winter 2026/27 is positive, with sufficient surplus throughout, like all winters there may still be periods of tighter margins. During these times, NESO's control room may use standard operational tools to increase available electricity supply, as part of its year-round, second-by-second balancing of the network.

These include Electricity Margin Notices, which are used during most winters as a routine signal when additional electricity generation may be needed to further cushion existing margins. They do not indicate a risk to electricity supplies and are part of the normal operation of a reliable electricity system.

NESO works closely with stakeholders across the energy industry to assess whole-system interactions, monitor market conditions, track global events and identify emerging risks. This ensures Britain's electricity system is prepared for the coming winter and resilient to the challenges it may face.

National Gas has also published its Gas Winter Outlook today, showing that Britain has sufficient gas supply this winter, with gas playing an important role in meeting demand on winter days when electricity demand is highest.

NESO
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