WORLD POWER SYSTEMS REVIEW

15 September 2025

1 September 2025

China takes global lead with record-breaking 26 MW offshore wind turbine

China's Dongfang Electric has installed a 26-megawatt offshore wind turbine, seizing the title of the world's most powerful from Siemens Gamesa's 21.5 MW unit in Denmark.

The state-owned manufacturer announced that the prototype has been placed at a testing and certification base, marking a milestone in turbine engineering. The machine, the largest globally in both capacity and size, features a blade wheel diameter of more than 310 meters (1,107 feet) and a hub height of 185 meters (607 feet). Earlier this month, Dongfang shipped the world's heaviest nacelle, along with its three giant blades, to the site.

Designed for offshore areas with wind speeds of eight meters per second and above, the turbine can produce 100 gigawatt-hours of electricity annually with average winds of 10 meters per second. That output is enough to power 55,000 homes, cutting coal consumption by 30,000 tons and reducing carbon dioxide emissions by 80,000 tons.

The system is engineered to withstand winds of up to 200 kilometers per hour, according to Dongfang. The installation underscores China's growing dominance in offshore wind energy. This year, the country is expected to install nearly three out of every four of the world's new offshore turbines, Bloomberg reported. That compares with setbacks in the U.S., Europe, and Japan, where projects have stalled amid high financing costs, supply chain strains, and declining subsidies. China's advantages lie in integrated supply chains, state-backed financing, policy support, and rapid technological improvements.

"You have this playground of a big and diverse market that provides domestic companies with a platform of skills and innovation needed to build their global competitiveness," Yujia Han, a researcher with Global Energy Monitor. The country's largest turbine makers, including Dongfang, Goldwind, and Ming Yang Smart Energy, are pushing beyond domestic waters. But while they benefit from lower production costs and vast local demand, foreign expansion has proven slower, partly due to limited operational track records and political scrutiny overseas.

The contrast is stark with Western players. Industry leaders such as Denmark's Orsted, Siemens Gamesa, and General Electric have been squeezed by rising component prices, high interest rates, and wavering government support. Japan's Mitsubishi recently withdrew from three offshore projects, while a German auction ended without a single bid as costs climbed.

Interesting Engineering
http://interestingengineering.com/

1 September 2025

Energy Sector Digitalisation Plan sets out new path for digitalisation in energy

To achieve a sustainable future in Great Britain, it will be vital to effectively digitalise the energy sector. Working in collaboration with the Department for Energy Security and Net Zero, Ofgem, the Royal Academy of Engineering, industry partners and wider stakeholders, we've published the first Energy Sector Digitalisation Plan. In the plan, we've set out a roadmap to improve the sector's existing digital public infrastructure.

As Great Britain's electricity system evolves through the delivery of Clean Power by 2030 and Net Zero by 2050 it's critical that the energy sector has a robust digital infrastructure to support this transition and to enable seamless integration across energy systems, other economic sectors and wider society.

Building on expertise from across the industry to review, consolidate and map current digitalisation efforts against future system needs, the Sector Digitalisation Plan identifies 16

clear and deliverable actions that are needed to make Clean Power by 2030 a reality and the organisations that can best deliver these outcomes.

Energy sector digitalisation requires close collaboration. As a result, the actions outlined are shared across multiple stakeholders – including the Department for Energy Security and Net Zero (DESNZ), the Retail Energy Code company (RECCo), the Data Communications Company (DCC), Elexon, NESO, among other industry partners.

The Sector Digitalisation Plan is an iterative document. Future iterations of the Sector Digitalisation Plan will incorporate ongoing sector feedback and identify new owners to deliver existing gaps where suitable owners have not so far been identified. This will ensure the plan evolves in line with technology, policy and system needs.

NESO
http://www.neso.energy/

2 September 2025

Trump administration axes $679M in offshore wind infrastructure funding

The U.S. Department of Transportation is withdrawing or terminating $679 million in funding for 12 port and infrastructure upgrades that would support offshore wind projects, it announced Friday. “As part of the Department of Transportation’s review of all discretionary grant programs with obligated and unobligated projects, USDOT identified 12 offshore wind grants and project selections that were not aligned with the goals and priorities of the administration,” the department said in a release.

The defunded projects include the Sparrows Point Steel Marshalling Port Project, which had been awarded $47.3 million in Port Infrastructure Development Program; the Arthur Kill Terminal, an offshore wind port in New York, which had been allocated $48 million in PIDP funding; and the Humboldt Bay Offshore Wind Heavy Lift Multipurpose Marine Terminal, which had been allocated $426.7 million in Nationally Significant Freight and Highway Projects funding.

The department’s release said the Trump administration has “refocused” DOT and its Maritime Administration “on rebuilding America’s shipbuilding capacity, unleashing more reliable, traditional forms of energy, and utilizing the nation’s bountiful natural resources to unleash American energy.” “Where possible, funding from these projects will be recompeted to address critical port upgrades and other core infrastructure needs of the United States,” DOT said.

This funding clawback is the latest in a series of moves from President Donald Trump to reverse course on federal support for offshore wind. Last month the U.S. Department of Commerce opened a probe into wind turbine imports, setting the stage for new tariffs, and it rescinded all “wind energy areas” the Biden administration had designated for future lease sales on the U.S. Outer Continental Shelf.

Also last month, the Department of the Interior issued a stop work order to the 700-MW Revolution Wind project and said in court that it intends to revoke the approved construction and operations plan for US Wind’s 2.2 GW Maryland Offshore Wind project off the coast of Maryland and Delaware.

“Wasteful, wind projects are using resources that could otherwise go towards revitalizing America’s maritime industry,” U.S. Transportation Secretary Sean Duffy said in the department’s release. “Joe Biden and Pete Buttigieg bent over backwards to use transportation dollars for their Green New Scam agenda while ignoring the dire needs of our shipbuilding industry.”

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

2 September 2025

Project Marinus passes feedback loop assessment

On 15 August 2025, AEMO confirmed that Project Marinus passed the feedback loop assessment, validating its alignment with the optimal development path (ODP) in the 2024 ISP. The total cost of the project is $7.57 billion, with Stage 1 at $5.035 billion and Stage 2 at $2.535 billion.

Feedback loop confirmation allows the Australian Energy Regulator (AER) to make a determination on efficient and prudent forecast expenditure for an actionable ISP project proposed in a Transmission Network Service Provider's contingent project application. Project Marinus is a proposed 1,500-megawatt (MW) interconnector between Victoria and Tasmania, delivered in two 750 MW stages by Marinus Link Pty Ltd, and includes upgrades to the Tasmanian transmission network delivered by TasNetworks. The feedback loop is the process whereby a Transmission Network Service Provider may seek confirmation from AEMO that the preferred option identified in the Regulatory Investment Test for Transmission (RIT-T) remains aligned with the optimal development path (ODP) in the most recent draft or final Integrated System Plan (ISP).

On 11 July 2025, TasNetworks requested a feedback loop assessment of Project Marinus. The letter containing the request was co-signed by Marinus Link Pty Ltd. In undertaking the feedback loop, AEMO re-assessed the selection of the ODP identified in the 2024 ISP based on the inputs, assumptions and scenarios used to determine that ODP. This required an update of the cost benefit analysis for the 2024 ISP using the information for Project Marinus provided in the feedback loop request. AEMO's feedback loop assessment confirms that:

- Project Marinus addresses the relevant identified need specified, and aligns with the ODP referred to, in the 2024 ISP, and
- the total cost of the project ($7,570 million), including Stage 1 ($5,035 million) and Stage 2 ($2,535 million), does not change the status of the actionable ISP project as part of the ODP specified in the 2024 ISP.

AEMO
http://www.aemo.com.au/

3 September 2025

Artificial neural network tool to detect wildfire-sparking powerline faults

A project run by Eaton and NREL has developed a tool that can detect powerline faults otherwise difficult to detect, enabling utility companies to reduce the chance of both power outages and wildfires. The tool was developed by the power management company alongside the US's National Renewable Energy Laboratory (NREL) via a project funded by the US Army Construction Engineering Research Laboratory (CERL).

Commenting in a release was Richard Bryce, a senior researcher in power systems at NREL and lead on the project: "The intention here is to enhance resilience in the power system and to enable faster responses during extreme events. "We want to provide utility companies with the tools for a more resilient power system with better reliability and security for customers that mitigates the potential for wildfires caused by high-impedance faults."

The project was designed to use machine learning to detect high-impedance (HiZ) faults, which is when an energised conductor, such as a fallen wire, comes into contact with the ground, causing a short. An HiZ fault produces a small amount of energy and are often not detected. But they can cause sparks that ignite flammable material in the area, which can ultimately lead to a wildfire.

For the project, Eaton conducted extensive evaluations in a simulated environment. The scenarios accounted for various downed-conductor events, such as different ground surfaces like grass and gravel, moisture levels, common US tree species, and other external considerations. The resulting data was shared with NREL's research team. Using NREL's grid simulation capabilities and field data from multiple US utility companies, researchers were able to inject the data into the computer-aided design platform PSCAD (Power Systems Computer Aided Design). This then created a large dataset that included more HiZ fault scenarios than what could be produced in the field or in a controlled laboratory setting, says NREL in a release.

These simulated HiZ fault scenarios and datasets were used to train an ensemble of artificial neural networks (ANNs). These were down-selected to the most effective at identifying HiZ fault states, resulting in the tool, which NREL says is all but ready for real power systems. Once the ANN ensemble detects a fault, utility companies can prioritise sending resources quickly to that area to reduce the chance of both power outages and wildfires. "There were pieces that came together beautifully for this project in a way that's unique to NREL," said Bryce. "We had testing through our partnership with Eaton that provided real data that is experimentally derived, and then we were able to leverage NREL's high-performance computing and machine learning to provide a solution to utilities which has a very significant, immediate real-world impact." NREL says their team is working with utilities across the country, as well as international partners, to generalise the technology, increasing the scalability of the algorithm to be broadly applicable in the US and beyond.

Smart-Energy
http://www.smart-energy.com/

4 September 2025

30 MW French Floating Offshore Wind Pilot Project Stands Complete

Developed by Ocean Winds and Banque des Territoires, EFGL is now the first floating offshore wind farm in the Occitanie region to complete its offshore turbine installation phase.

"EFGL is not only a first for France but a global benchmark for floating offshore wind. It showcases the industrial maturity, precision, and collaboration needed to bring floating wind to commercial scale. For OW, this reflects our 15 years of leadership in floating technology," said Marc Hirt, Country Manager for France for Ocean Winds.

"OW is eager to keep working in the Occitanie region, proud to be a first step and an example of the beneficial impacts such projects bring, not only in green energy production but also in local dynamism, job opportunities, and a shared sense of pride." Assembled at Port-La Nouvelle and towed 16 kilometres offshore, the Vestas 10 MW turbines stand ready for the final stage of cable and grid connection works. These works will be carried out by the French transmission system operator (TSO) Réseau de Transport d'Électricité (RTE) before the turbines begin delivering renewable energy to approximately 50,000 inhabitants each year.

The 30 MW EFGL floating wind farm consists of three Vestas V164-10.0 MW turbines mounted on Principle Power's WindFloat semi-submersible floating foundations, which were delivered by Eiffage Métal, Smulders, and their subcontractor Geodis. The project is the world's first nature-inclusive floating wind farm, with artificial marine habitats (biohuts) installed at sea to enhance biodiversity, said Ocean Winds. According to the company, the installation of EFGL paves the way for larger developments, including the Eoliennes Flottantes d'Occitanie (EFLO), a 250 MW floating offshore wind project awarded to Ocean Winds and Banque des Territoires in late 2024.

Offshore.biz
http://www.offshorewind.biz/

4 September 2025

Trump escalates war against offshore wind as Danish developer strikes back

The Trump Administration ratcheted up its war against offshore wind this week, saying in court filings that it intends to revoke the permit of New England Wind, a project planned near the coast of Massachusetts and Rhode Island that would have generated up to 2.6 GW of power.

The administration has targeted at least five different wind projects off the East Coast in various stages of development through stop work orders or moving to revoke permits. The Danish renewable energy company Ørsted filed a lawsuit this week asking a judge to immediately lift a stop work order the administration issued to its project, Revolution Wind, a 700-MW project off the coast of Rhode Island and Connecticut that Ørsted says is 80% complete.

The Trump administration has offered a variety of theories in different settings for its actions against wind projects, including invoking national security and the safety of marine wildlife. In court filings, wind energy developers have made similar allegations that the administration's actions are driven by the politics and preferences of President Donald Trump, not substantiated problems with the projects. Some analysts have warned that the administration's actions against permitted wind projects could affect energy project financing across the board — not just for wind.

"The current administration is clearly pushing an agenda favoring fossil fuels and nuclear power," Dennis Wamsted, an analyst with the Institute for Energy Economics and Financial Analysis, wrote in a Sept. 3 post. "But a banker being asked to loan money for such a project — whether a multi-billion-dollar interstate gas pipeline or a new nuclear facility — likely will think hard before lending money to a project that could be stopped at the 11th hour by a future administration." Wamsted said the uncertainty around permitting and construction is eroding trust in the federal government and is likely to raise financing costs for some projects. The Oceantic Network, an offshore wind trade group, said in a statement that the government was undermining a "40-state, $25 billion domestic supply chain while holding American business investments hostage."

"Halting construction and revoking permits on approved projects after years of thorough agency review will raise electricity prices for millions across the country, jeopardize billions of dollars in private investment, threaten our national shipbuilding, steel, and manufacturing supply chains, and undermine our nation's energy security," said Sam Salustro, Oceantic's senior vice president of policy and market strategy. "This is from a political playbook that should make every industry worry whether they will be targeted by this administration or the next."

On Thursday, Ørsted filed a lawsuit in the U.S. District Court for the District of Columbia seeking emergency injunctive relief and asking the judge to vacate an Aug. 22 stop work order issued by the Bureau of Ocean Energy Management.

In its complaint, the company said it spent approximately $5 billion and went through a comprehensive review process that spanned three presidential administrations before receiving approval from 15 federal and state agencies. It said it will incur over $1 billion in breakaway costs if the project is cancelled, and said the stop work order meets the Administrative Procedure Act's standard for an unlawful, arbitrary, and capricious action. "If unabated, the Stop Work Order will inflict devastating and irreparable harm on Revolution Wind," the complaint says. "The Stop Work Order also impairs Revolution Wind's ability to meet its contractual obligations to deliver power pursuant to twenty-year Power Purchase Agreements."

ISO New England issued a statement last month that expressed concern over the stop work order issued to Revolution Wind, saying, “The ISO is expecting this project to come online and it is included in our analyses of near-term and future grid reliability.” “Delaying the project will increase risks to reliability,” it said.

Earlier this week, BOEM joined with a group that had been suing it to stop the New England Wind project, asking a judge to issue a new briefing schedule in light of “Federal Defendants’ forthcoming motion for voluntary remand.” BOEM is “in the process of reconsidering its approval” for the New England Wind project, it said, and plans to “move no later than October 10 to remand and, separately, to vacate BOEM’s approval.” New England Wind’s developer, Avangrid, had not filed a response as of Thursday, according to the docket.

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

4 September 2025

Poland begins preparation for first NPP

Poland has taken a step forward in its nuclear energy programme with the approval of preparatory works for the country’s first nuclear power plant (NPP). The Pomeranian Voivode (local governor), has issued a permit to state-owned Polskie Elektrownie Jądrowe (PEJ) for the initial stage of site development at Lubiatowo-Kopalino in the Choczewo municipality of Pomerania.

The permit covers surveying, construction of temporary facilities, fencing, vegetation clearance and terrain levelling across an area of about 330 hectares. Preparatory works will begin with staking out the site, while archaeological checks and inspections for unexploded ordnance will continue in parallel. Tree and shrub removal is scheduled to begin in late October or early November and is expected to be completed by spring 2026.

PEJ said the authorisation follows more than 18 months of environmental and geological studies, including the relocation of protected plant and animal species, in line with requirements set by the General Director for Environmental Protection. Geological surveys at the site have been ongoing since 2023.

“The beginning of preparatory works is an important landmark in our project,” said PEJ President Marek Woszczyk, noting the cooperation of regional authorities in keeping the project on schedule.

In November 2022, the Polish government selected Westinghouse AP1000 reactor technology for the project. In September 2023, PEJ signed an engineering services contract with Westinghouse and Bechtel to finalise a site-specific design. The plant will consist of three AP1000 units built by the Westinghouse-Bechtel consortium.

According to Poland’s draft Nuclear Energy Programme, the first reactor is planned to begin commercial operation in 2033. The total investment is estimated at PLN 192 billion (USD 49 billion), making it one of the largest infrastructure projects in the country’s history.

NEI
http://www.neimagazine.com

4 September 2025

MISO announces first 10 ERAS projects

MISO announced today the first 10 projects to be evaluated under its new Expedited Resource Addition Study (ERAS) process, an innovative effort aimed at fast-tracking needed generation projects across the region.

The first 10 projects comprise five natural gas, three solar, one wind and one battery for a total installed capacity of approximately 5,300 MW. The projects have in-service dates ranging from January 2027 to August 2028.

"The first 10 projects cover all three regions of MISO, stretching from Louisiana to Minnesota," said Jennifer Curran, MISO's Senior Vice President, Planning and Operations. "ERAS is a critical tool we can use to support reliability as we work toward long-term improvements in the interconnection process and each project must meet rigorous standards to make sure only necessary and feasible proposals move forward."

To date, 47 projects representing more than 26,500 MW proposed new capacity have been submitted into ERAS. MISO determined the first 10 projects being studied met all eligibility requirements and will now begin interconnection studies while continuing to evaluate for completeness the 37 remaining projects. ERAS will study up to 10 projects per quarter, with a maximum of 68 projects before the program sunsets on Aug. 31, 2027.

"Collectively, the ERAS projects, MISO's Long Range Transmission Plan (LRTP) and our approach to expedited transmission projects are critical for meeting load growth, spurring economic development and ensuring reliability for the 45 million people in our footprint," added Curran. "MISO's comprehensive approach of advancing LRTP Tranches 1 and 2.1 as well as ERAS allows us to meet our customer needs faster."

MISO
http://www.misoenergy.org/

6 September 2025

Minesto and Partners Move Forward With Faroe Islands Tidal Energy Project

Swedish tidal energy developer Minesto has launched work on a SEK 25 million (€2.2 million) microgrid project in the Faroe Islands, awarded by the Swedish Energy Agency. The project is designed to establish a turnkey microgrid installation in Vestmanna, providing renewable energy solutions for local use and with potential applications globally.

Minesto, in cooperation with partners Sev, Capture Energy, and IVL, recently held a 1.5-day planning and project setup workshop at its headquarters in Gothenburg. The workshop marked the formal start of preparations for the project, outlining key technical and organizational steps.

Johannes Huffmeier, COO of Minesto, stated: "We are off to a good start delivering a tidal energy microgrid system with the capacity to offer base-load renewable energy to both local needs in the Faroe Islands and further to millions of users on a global market." His comments underscored the company's focus on scalability and the wider application of its technology. Alongside the microgrid development, Minesto is cooperating with Sev and other local stakeholders to integrate two end-user applications. These include supporting the electrification of EV charging and an industrial process in Vestmanna, both aimed at reducing fossil fuel consumption. The integration is expected to demonstrate practical value and customer benefits of tidal energy systems.

Martin Edlund, CEO of Minesto, emphasized this approach: "Right at the start, we want to add delivery of tidal energy into electrification applications for the customer value of our microgrid to be proven and demonstrated. Small-scale electrification to reduce CO2 emissions is a core component in the global energy transition as well as in our sales growth projections." His remarks highlighted the link between local applications and broader commercial opportunities.

In addition to the new project, Minesto has been implementing organizational changes to align its operations for commercial rollout. In July, the company completed a reorganization that included geographic consolidation, a more streamlined management structure, and closer integration of product development. These measures have resulted in

a 35% reduction in fixed costs, strengthening the company's financial position for future projects. Minesto has also announced new leadership appointments. Just a few days ago, the company confirmed the appointment of a new chief financial officer (CFO), who will assume the role in October. The appointment is seen as a step to further support Minesto's transition toward commercialization and growth in international markets.

Through this project in the Faroe Islands, Minesto aims to combine tidal energy with microgrid technology to demonstrate practical applications and strengthen its position in the renewable energy sector. The initiative reflects the company's strategy of advancing innovation, enhancing customer value, and contributing to the global shift toward sustainable energy.

Offshore-Energy
http://www.offshore-energy.biz/

7 September 2025

MISO 2025 Tx Expansion Estimate Drops Slightly to $12.4B

The cost estimate for MISO's 2025 Transmission Expansion Plan (MTEP 25) has fallen slightly from previous estimates to $12.36 billion. MISO previously clocked MTEP 25 at $13.1 billion and 444 projects, driven by growing load. (See MISO 2025 Transmission Planning Cycle Rises to $13B.) The newest version includes 10 fewer projects.

The RTO said MTEP 25 "is shaping up to be another significant year driven by load growth and reliability." According to the grid operator, MTEP 25 includes 1,930 miles of transmission lines (44% of which are new) that would accommodate nearly 11.6 GW of spot load additions.

The 2024 MTEP included $6.7 billion worth of projects. That figure does not include the $22 billion second long-range transmission portfolio that was technically included under the annual planning cycle.

MTEP 25 contains $3.44 billion in baseline reliability projects as dictated by NERC standards, $673 million in projects necessary for generator interconnections, nearly $5 billion in projects for load growth, $1.38 billion in projects to address the age and condition of existing facilities, $1.3 billion in projects to satisfy locally defined reliability criteria and $489 million to address more general local needs.

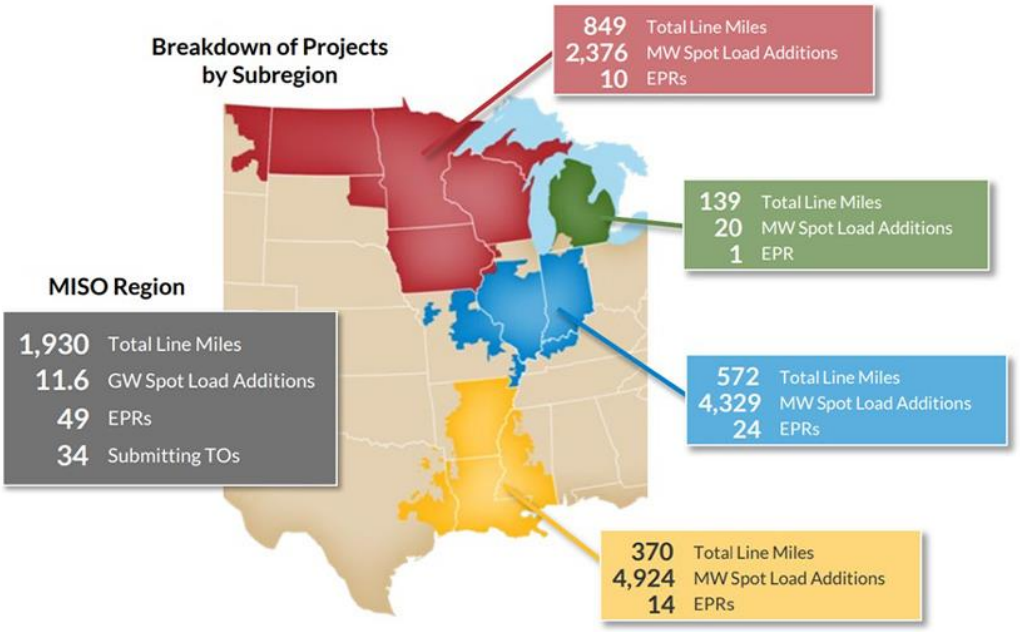
Louisiana is set to receive the most investment this year, at more than $3.4 billion. The amount is split between baseline reliability projects and those needed to meet load growth. MTEP 25's 10 most expensive projects account for 44% of the portfolio's total cost, with four of the 10 in Louisiana. Entergy Louisiana's Cargas 500-kV station and Smalling 500-230-kV station project in the northern part of the state is the year's most expensive, at $1.2 billion. Entergy Louisiana said the project is necessary to support new customer load. The work would be located near a proposed Meta data center slated for Richland Parish.

Entergy Louisiana's Babel-to-Webre 500-kV baseline reliability project takes the second-most expensive slot at almost $1.1 billion.

This year, 49 projects went through MISO's expedited project review and were cleared to begin construction before MISO's Board of Directors votes on approving this year's transmission package in December. At a Sept. 5 West Subregional Planning Meeting, Joseph Dunn, MISO director of transmission planning, said the "tremendous" number of expedited review requests were brought on by load growth.

MISO's modeling for MTEP 25 assumes projects from the second long-range transmission portfolio enter the scene on schedule in 2035. Five MISO states — the majority of which won't contain a project — are trying to revoke the cost-sharing of the $22 billion portfolio, which would put the projects in jeopardy. This year's transmission expansion package also contains a blast from the past, as Northern States Power has entered a $92

million maintenance project for a 345-kV line that was part of MISO's 2011 multi-value project portfolio.



According to MISO, any maintenance on multi-value projects must be classified under the multi-value category. MISO plans to publicly post its MTEP 25 report Sept. 29, kicking off a two-week comment period for stakeholders. The grid operator will preview a more final MTEP 25 report at the Oct. 8 Planning Advisory Committee meeting.

RTO Insider
http://www.rtoinsider.com/

8 September 2025

National Grid deploys drones beyond visual line of sight in 'world first'

National Grid has launched drones from data solutions firm sees.ai, calling it the world's first centralised, autonomous aerial inspection capability for electricity infrastructure.

The deployment follows a four-year innovation programme, says National Grid, marking the transition from research and development to business-as-usual operations. The system allows drones to fly Beyond Visual Line of Sight (BVLOS) close to live power infrastructure, piloted from a central control room. Drones will be used to capture images and data of National Grid's infrastructure, primarily high-voltage towers (pylons) and conductors (cables). This data is then used to help to inform National Grid's maintenance and investment programmes across its transmission network in England and Wales.

Automised asset inspection using drones delivers significant benefits, including by increasing the speed, efficiency and consistency of data processing and reducing the risk and environmental impact of other methods of data capture. These new automated capabilities will allow National Grid's skilled line workers and helicopter fleet to focus on other specialist tasks that require human performance, helping to manage workload and keep the networks operating safely and efficiently.

By combining centralised oversight with autonomous capabilities, National Grid says the tech delivers AI- and machine learning-optimised close inspection data with exceptional

efficiency and safety. Commenting in a release was Kathryn Fairhurst, overhead line operations director at National Grid: "This rollout underscores our commitment to use innovative technologies to manage and upgrade our network.

"By handling non-intrusive inspection tasks, this technology enables our highly skilled lineworkers to focus more efficiently on the complex, hands-on work that requires human expertise, and will form an important part of how we continue to manage our assets and deliver a safe and reliable network."

UK science minister Lord Vallance, said: "Government backing has helped sees.ai develop from early-stage research into a thriving commercial partnership with a major UK company in the National Grid, keeping energy workers safe and demonstrating the benefit of public investment in pilot tech projects. "We want to see more innovations like drone technology becoming viable solutions that benefit people's lives, which is why our Regulatory Innovation Office is working with companies and regulators like the Civil Aviation Authority to cut unnecessary red tape and unlock discoveries which can grow our economy."

The autonomous inspection deployment is part of National Grid's broader digitalisation strategy to support the UK's transition to clean energy. National Grid inspects steelwork and components each year across its transmission network in England and Wales, comprising 7,200km of overhead line, 300 substations and 22,000 pylons.

Smart-Energy
http://www.smart-energy.com/

8 September 2025

AMDA Bags Permit for 1GW Wind Farm

A 1GW wind project in South Africa has reached a key milestone, becoming the largest permitted wind energy facility in the country. The Carissa Wind Energy Facility (WEF), developed by AMDA Developments, will be built near Beaufort West in the Western Cape and will feature 154 turbines.

The project has secured environmental authorisation (EA) following a comprehensive environmental impact assessment (EIA) carried out by Blue Crane Environmental. The Department of Forestry, Fisheries, and the Environment (DFFE) approved the process within an expedited timeframe, made possible by the project's Strategic Infrastructure Project (SIP) status.

Head of AMDA's South African operations Piero Granelli said: "Development projects always present unique challenges, but we are thrilled to have successfully navigated this milestone. Since 2010, AMDA has grown its renewable energy portfolio in South Africa to over 5000MW. We commend Blue Crane for their dedication to meeting strict permitting timelines without compromising on environmental integrity, and we appreciate the DFFE's clear guidance throughout the process."

Hive Hydrogen South Africa will serve as the offtaker for the project's output. Clean electricity generated by the Carissa WEF will be directed to Hive Hydrogen's planned green ammonia production facility at the Port of Ngqura (Coega) in the Eastern Cape. The integration of wind power into green hydrogen production is expected to support the development of sustainable fuel supply chains and industrial growth in the region.

Chairman of Hive Hydrogen South Africa Thulani Gcabashe commented: "We are delighted that our Carissa wind project has achieved this major milestone. We have been constantly impressed by the professionalism, thoroughness and efficiency of the environmental impact assessment conducted by Blue Crane and managed by AMDA."

The Carissa project represents an important advancement in South Africa's renewable energy landscape, supporting both national energy diversification goals and emerging opportunities in hydrogen production. The alignment between renewable

generation and downstream industrial applications such as green ammonia demonstrates the role large-scale infrastructure projects can play in creating new value chains.

By combining AMDA's development expertise, Blue Crane's environmental oversight, and Hive Hydrogen's industrial demand, the Carissa WEF sets an example of collaborative progress in energy transition initiatives. With its 1GW capacity, the facility will add significant renewable power to the grid while enabling the supply of clean energy for innovative applications in the hydrogen economy.

Renews
http://www.renews.biz/

9 September 2025

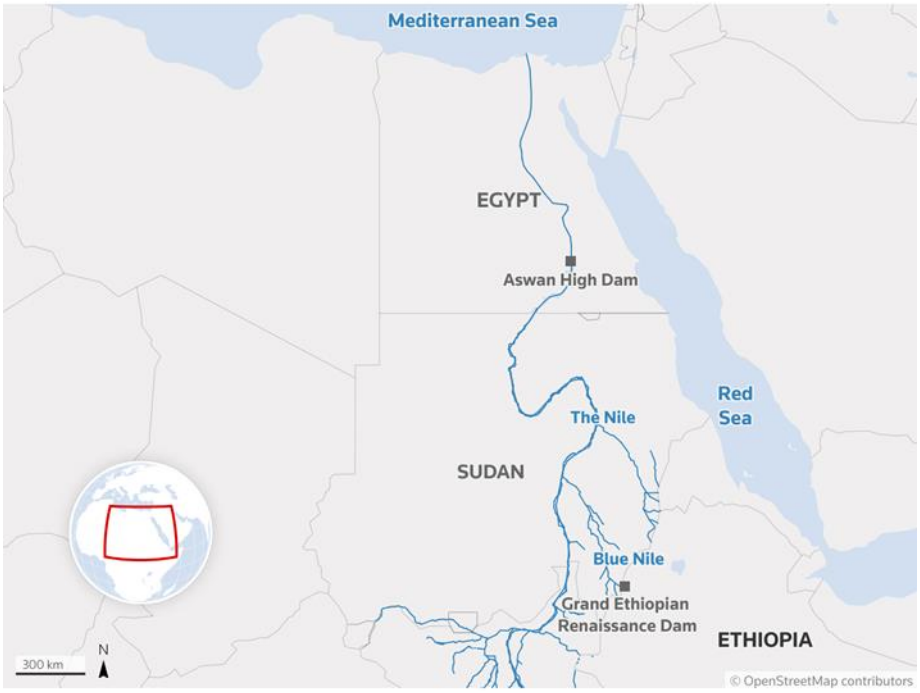
Ethiopia opens Africa's largest hydroelectric dam to Egyptian protest

Ethiopia officially inaugurated Africa's largest hydroelectric dam on Tuesday, a project that will provide energy to millions while deepening a rift with downstream Egypt that has unsettled the region.

Ethiopia, the continent's second most populous nation with over 120 million people, sees the $5 billion Grand Ethiopian Renaissance Dam (GERD) on a tributary of the Nile as central to its economic ambitions.

The dam's output has gradually increased since the first turbine was turned on in 2022, and it reached its maximum 5,150 MW of power on Tuesday. That puts it among the 20 biggest hydroelectric dams in the world, at about one-quarter of the capacity of China's Three Gorges Dam. At a ceremony on Tuesday at the site in Guba, an Ethiopian fighter jet flew low over the mist from the dam's white waters, which plunge 170 metres (558 feet).

Grand Ethiopian Renaissance Dam



Source: Natural Earth, Humanitarian Data Exchange, Reuters

Beneath the canopy of a giant Ethiopian flag, Prime Minister Abiy Ahmed addressed a crowd of dignitaries including the presidents of Somalia, Djibouti and Kenya. "To our (Sudanese and Egyptian) brothers; Ethiopia built the dam to prosper, to electrify the entire region and to change the history of black people," Abiy said. "It is absolutely not to harm its brothers." Abiy has said the dam will improve access to electricity for the almost half the population who had none as recently as 2022, and export the surplus to the region. The

dam's reservoir has flooded an area larger than Greater London, which the government says will provide a steady water supply for irrigation downstream while limiting floods and drought.

Ethiopia's downstream neighbours, however, have watched the project advance with dread since construction began in 2011. Egypt, which built its own Aswan High Dam on the Nile in the 1960s, fears the GERD could restrict its water supply during droughts, and could encourage the construction of other upstream dams. Its Foreign Ministry wrote to the U.N. Security Council saying the inauguration of the dam violated international law.

Egypt, with a population of about 108 million, depends on the Nile for about 90% of its fresh water. Egypt says it reserves the right to "take all the appropriate measures to defend and protect the interests of the Egyptian people". While Egypt has refrained from any direct reprisals against Ethiopia, it has drawn closer in recent years to Addis Ababa's rivals in the Horn of Africa, notably Eritrea.

Sudan, meanwhile, has joined Egypt's calls for legally binding agreements on the dam's filling and operation - but could also benefit from better flood management and access to cheap energy. Ethiopia has been filling the reservoir in phases since 2020, arguing that it would not significantly harm downstream countries.

Independent research shows that so far, no major disruptions to downstream flow have been recorded, noting favourable rainfall but also the cautious filling of the reservoir during wet seasons over a five-year period. In Ethiopia, which has faced years of internal armed conflict, largely along ethnic lines, the GERD has proven a source of national pride, said Mekdelawit Messay, an Ethiopian water researcher at Florida International University.

"It has been a banner to rally under, and it shows what we can achieve when unified." Local media say 91% of funding came from the state, and the remaining 9% from Ethiopians buying bonds or making donations. Sultan Abdulahi Hassan, a farmer who lives near the dam, said the project had brought electricity to his village. "We now have refrigerators. We can drink cold water. We now use electricity for everything," he said at the launch. While the extra power will help the country's burgeoning bitcoin mining industry, most rural Ethiopians may have to wait a little longer to benefit. Access to electricity in rural areas is often constrained by underdeveloped transmission networks. While urban areas had a 94% electrification rate as of 2022, just 55% of the overall population had electricity, according to the World Bank.

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EIA: Electric grid growing faster than anticipated

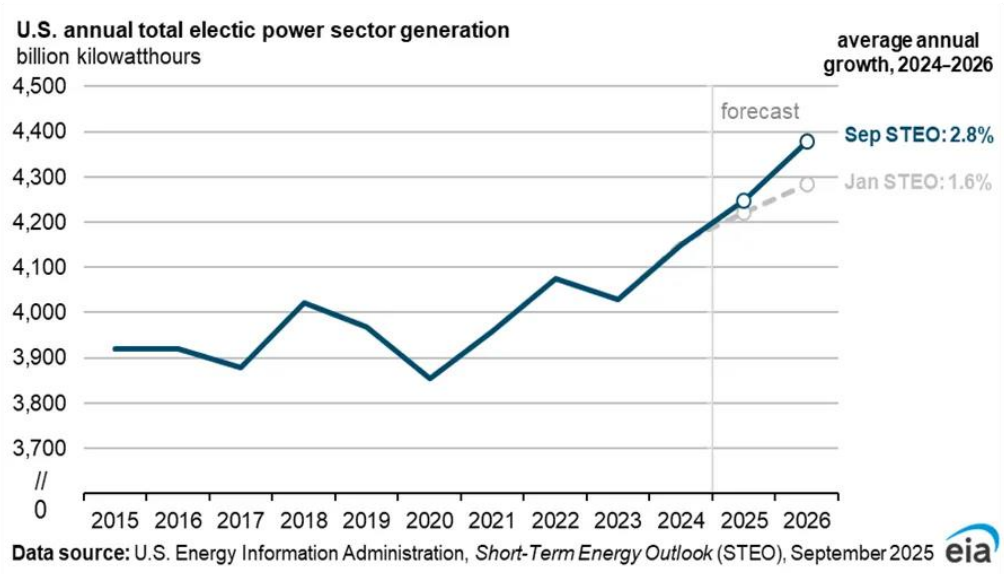
Generation by the electric power sector is expected to grow 2.3% this year and 3% in 2026, exceeding a January forecast of 1.5% growth per year, according to the Energy Information Administration.

“Electricity generation has been growing rapidly this year as a result of growing demand for power from data centers and industrial customers,” EIA said in its Short-Term Energy Outlook, released Tuesday. “The higher growth in generation reflects colder-than-expected weather earlier in 2025 along with the incorporation of load growth assessments by grid operators in the Electric Reliability Council of Texas and PJM systems.”

Meeting that increased demand are increases in generation from “most energy sources” this year, EIA said. The agency forecasts that utility-scale solar will grow the most in 2025, “generating 33%, or 72 billion kilowatthours (BkWh), more electricity this year compared with 2024.” U.S. electricity generation totaled 4,300 BkWh in 2024. EIA expects it to total 4,400 BkWh in 2025 and to rise to 4,530 BkWh in 2026.

"New solar projects account for more than half of the new generating capacity expected to come online this year," EIA said. "Wind, hydropower, and nuclear all grow this year as well. We expect wind will generate 4% more electricity in 2025 than it did in 2024, while we expect hydropower generation will grow by 2%. Nuclear generation will rise slightly this year and about 2% next year with the restart of the Palisades plant in Michigan."

Natural gas generation, on the other hand, is not expected to grow this year – despite record consumption. Natural gas fuel prices are about 40% higher this year than last year, "which is encouraging more coal-fired generation but is also reducing the amount of electricity produced by natural gas-fired generators," EIA said.



Growing international demand and increases in U.S. exports that are outpacing new gas production are in large part driving up natural gas prices. Utilities and hyperscalers looking to meet energy demand from data centers are seeking new gas generation, but the lead time to bring a gas plant online has increased over the last few years.

"We forecast that natural gas-fired power plants will generate 3% less electricity in 2025 than last year," EIA said. "In some regions, such as Texas and the Midwest, increasing generation from solar is also displacing some natural gas-fired generation."

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