

WORLD POWER SYSTEMS REVIEW

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Hungary PM announces closure of nuclear plant due to heatwave

Hungarian Prime Minister Péter Magyar announced on Sunday the shutdown of the country's sole nuclear power plant after record-low water levels in the Danube river forced its first halt in 44 years.

The move marks the latest stage in an energy crisis triggered by prolonged drought and extreme heat across Europe. The nuclear plant in Paks, south of Budapest – normally providing around a third of the central European country's electricity needs – is cooled by water pumped from the Danube river, which has dropped to record low levels due to lack of rain and successive heatwaves since May.

"Due to the further drop in the Danube's water level, one of the last two generating units at the Paks Nuclear Power Plant will be shut down at 1:30 a.m.," Magyar posted on X. "As a result, the plant's output will fall to just 240 megawatts, and tomorrow it will be completely shut down for the first time in 44 years," he added. On Friday, the plant's operator said declining water levels could force Paks to be taken completely offline around the middle of next week. National weather service HungaroMet forecast highs of over 40C over the coming days. A 42C peak predicted for Thursday would match the national temperature record set earlier this summer.

Euractiv

<http://www.euractiv.com/>

3 August 2026

Romania blasts rocks to reroute cooling Danube water to nuclear reactor

Romania blew up a rock outcrop on Monday to help redirect vital cooling water from the drought-hit Danube river to its sole working nuclear reactor, an unprecedented measure underlining the scale of an energy crunch across the region.

In neighbouring Hungary, authorities said they might be able to eke out two more days of power from their only atomic plant, which has been hit by falling levels in the Danube that it also relies on as a coolant.

Heat and drought have lowered river levels across large parts of Europe, raising concerns about water supplies, river transport and power generation. Both governments have asked people and companies to cut power use to ease demand. Car-making plants run in Romania by Renault-owned Dacia, opens new tab and Ford, opens new tab had agreed to halt production until August 19, voluntarily reducing power consumption by some 200 MW, Prime Minister Ilie Bolojan said.

"Drought-related difficulties are amplified by limited trans-border connections with central and western Europe," Bolojan said. "There is limited import capacity."

The Romanian unit of Ford clarified that the production halt for summer holidays had been scheduled in advance. Romanian state-owned nuclear power producer Nuclearelectrica, which normally generates a fifth of the country's electricity needs, had to shut down one of its two reactors early last week as river levels fell. Monday's controlled explosion sent a tower of water and rubble into the air. Authorities said it would clear the way to build a temporary dam which would send more water to the river channel where the remaining Cernavoda reactor sits

The work would finish on Wednesday, the navy said.

"Any day past Wednesday or Thursday that the nuclear power plant functions is a gain," Defence Minister Radu Miruta said. "A day of it functioning is three times more efficient than the costs of this operation."

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Further upstream, Hungary — which had earlier warned it might have to shut down its Paks nuclear plant as early as Sunday — said it could operate at its current reduced capacity until Monday or Tuesday, offering a small reprieve. The 2-gigawatt Paks plant, which normally generates about half of the country's electricity, was running at just over 10% of its capacity on Monday after the Danube fell to a record low.

"Today, and maybe tomorrow the last turbine producing 240 megawatts can keep working," Hungarian Prime Minister Peter Magyar said. "This is very good news, as the complete shutdown of the plant can be avoided on one of the days with the highest consumption," he added. He later said forecasts of Danube water levels for the next few days had become "slightly more optimistic". Voluntary cuts in power usage by households and companies, made after a government appeal, had reduced demand by 700 MW on Sunday, significantly easing pressure on the grid, the prime minister said.

Pharma company Richter, opens new tab said on Monday it would reduce its electricity consumption by more than 50% over the next three weeks, and offered a daily 4 MW of electricity produced by its solar energy park.

Reuters

<http://www.reuters.com/>

3 August 2026

Data center approvals in Texas halted until audits completed, Gov. Greg Abbott says

Amid growing public backlash to the rapid buildout of data centers across Texas, Gov. Greg Abbott on Monday announced a moratorium on the approval of data centers until regulatory agencies can audit proposed data centers seeking connection to the state's electric grid.

It is unclear how long the audit will take, but the effort is Abbott's strongest effort yet to slow the development of these data centers statewide and underscores how little information members of the public, including state leaders, know about the facilities. Abbott is asking the Public Utility Commission of Texas and the Electric Reliability Council of Texas to ensure data center developers provide information on tax breaks they will receive; power use and generation; water use and cooling operations; efforts to reduce impacts on local communities; and ownership of the facility. Any projects that fail Abbott's ordered "comprehensive verification and audit" should be denied connection to the grid, the governor said.

"Our top priority is to protect Texans' safety and quality of life," Abbott wrote in a statement. "Any project that fails to comply with the requirements set forth by the PUCT and ERCOT, and by state law, must be denied connection to the Texas grid. Simply put, Texans must come first." Abbott's letter to the PUCT and ERCOT directs them to conduct the audit on all data centers advancing through ERCOT's interconnection queue, or the line for energy intensive projects seeking connection to the electric grid. ERCOT is currently tracking more than 1,800 projects in the queue, representing over 474 gigawatts of electricity, or more than five times the grid's record for peak demand, according to ERCOT. Approximately 90% of the new power requests are data centers, Abbott said.

ERCOT and the PUCT are already conducting a review of some of the projects in the queue through a process known as "batch zero." It is unclear if Abbott wants agencies to audit those projects or all those currently in the queue. Following Abbott's directive, ERCOT said Monday they are putting the batch zero review on pause. There is no state or federal government database of the facilities, but the Texas Tribune has identified at least 335 data centers operating in Texas. The state is currently the second largest market for the facilities in the country, behind Virginia, and is poised to take the top spot. The Tribune has identified at least 248 planned data centers coming to the state, although hundreds more in lesser

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development phases have lined up in the power queue. While Abbott's directive pauses the approval of new data centers seeking connection to the ERCOT grid, some data centers are building on-site power generation that allows them to bypass traditional connection to the grid. The ERCOT region also does not include the entirety of the state, like El Paso, which has seen the development of several large data centers.

The Data Center Coalition, a trade group that represents some of the nation's largest tech companies, said it was hopeful Abbott's directive could separate responsible developers from irresponsible ones and urged regulators to quickly conduct the audits. "Done correctly, this review can showcase the good actors in the data center industry rather than delaying them unnecessarily, ensuring Texas will continue to be the national leader in economic development," the organization's spokesman Dan Diorio wrote in a statement Monday. Lawmakers have spent much of this year seeking clarity about the facilities' electricity use, water use and access to tax incentives as the Legislature considers tighter regulation of the industry.

Abbott cited the failure of some data centers to comply with a recent PUCT's survey measuring water and power usage as the reason the audit was needed because it hinders the agencies' ability to make informed decisions. Developed by the PUCT in collaboration with the Texas Water Development Board, the survey collects information about a data center's water consumption, cooling systems, water sources, electricity demand and whether facilities are connected to the state's electric grid or have their own on-site power source such as a gas-fired power plant. The responses are meant to inform long-term state water planning.

State law requires the PUCT to share the data with the water development board and state environmental regulators and to submit a report to the governor and the Legislative Budget Board by the end of the year.

The Texas Tribune
<http://www.texastribune.org/>

4 August 2026

China approves eight new reactors

China's State Council has approved the construction of four nuclear power projects comprising eight generating units. Total investment in the projects is estimated at more than CNY170bn (\$25.2bn). The projects include two units each in Zhejiang, Guangdong, Liaoning and Shandong provinces.

The newly approved nuclear projects include two units each for phase II of Jinqimen NPP in East China's Zhejiang Province, phase III of Taipingling NPP in South China's Guangdong Province, Phase I of the Zhuanghe NPP in Northeast China's Liaoning Province, and Laiyang NPP in East China's Shandong Province. Phase II of CNNC's Jinqimen NPP will use China's third-generation Hualong One Version 2.0 technology and will include private capital participation. Once fully completed, the six-unit site will support power supply and green transition in Zhejiang and the Yangtze River Delta. The upgraded Hualong One Version 2.0 will also be deployed at the Taipingling plant, with each unit having a capacity of 1,217 MWe megawatt, CGN Power Co said. Once complete, the six-unit plant is expected to generate over 55 TWh annually. Phase I of CNNC's new Zhuanghe NPP will use standard Hualong One technology.

The new Laiyang plant will construct two 1,543 MWe Guohe One units – China's independent third-generation technology, SPIC Industry-Finance Holdings Co said. The project marks the start of large-scale, standardised construction of Guohe One units. Once complete, the six-unit Laiyang project, with total investment of CNY128.3bn, is set to become China's biggest NPP by installed capacity. China has approved 49 nuclear reactors

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since 2022, with a total investment of nearly CNY1,000bn signalling a new phase of rapid development for the Chinese nuclear power industry. Hualong One is a third-generation, pressurised water developed by CNNC and CGN. Ten Hualong One units are in commercial operation, both domestically and internationally, with 37 more approved or already under construction. Guohe One is a third-generation nuclear power technology developed by State Power Investment Corporation (SPIC), with fully autonomous intellectual property rights. The first Guohe One unit of the Rongcheng nuclear power project in Shandong has already entered commercial operation, while the second unit is in the commissioning phase. In April, China's total installed nuclear power capacity was put at 125 GWe, with 60 nuclear units in commercial operation and 36 under construction.

Nuclear Engineering International
<http://www.neimagazine.com>

4 August 2026

Another blow to SEE power production: TPP Pljevlja goes offline

Despite the grid outage at the Pljevlja coal power plant, Montenegro's power system remains stable and all consumers are supplied, according to the state power utility Elektroprivreda Crne Gore.

Power generation issues across Southeast Europe show no signs of slowing down. Following the shutdown of Hungary's Paks nuclear plant, a 50% capacity reduction at Romania's Cernavodă facility, and record-low hydro output throughout nearly the entire region, Montenegro now faces its own set of challenges. Unlike its neighbors, Montenegro's troubles weren't caused by drought. The Pljevlja thermal power plant has been offline since Sunday, Elektroprivreda Crne Gore (EPCG) stressed. According to the company, the facility lost all external power supply following a disruption at a transmission switchyard managed by the transmission system operator (TSO) CGES. This event occurred outside the plant and was not caused by the company's equipment failure or any internal system issue, EPCG explained.

Of note, TPP Pljevlja generates around 40% of the country's electricity. In the coming days, the unit will undergo a full cooldown process, according to EPCG. A decision on restarting the plant will only be made once all technical analyses are complete.

A total loss of external power supply represents one of the most complex emergency scenarios for thermal power generation. Despite difficult conditions on the regional power market, EPCG continues to secure a reliable supply for all customers.

"Although current market conditions are further strained by reduced regional output, driven by multiple nuclear plant outages and unfavorable hydrology, EPCG is successfully maintaining grid stability and ensuring uninterrupted power delivery to both households and businesses," the utility said. Of note, severe drought has pushed the Danube to critically low water levels. Cooling water shortages have impacted the Paks and Cernavoda nuclear plants, while the Đerdap 1 and Đerdap 2 hydropower plants are down to just 20% and 30% of their normal output.

Balkan Green Energy News
<http://balkangreenenergynews.com/>

5 August 2026

Historical Breakthrough: Mongolia and China unite energy networks for the first time

A new open distribution substation (ODS) 220 kV "Zes-Oyu" has been launched in Mongolia, marking an important step towards diversifying energy resources. The project was fully funded by the "Oyu Tolgoi" company. This substation includes six inputs and a 3-kilometer overhead power line, allowing for the import of electricity from Inner Mongolia

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(China) during peak winter loads. Thus, Mongolia is ending its half-century dependence on a single electricity supplier.

The scale of the work on the construction of the substation is impressive: the project was implemented with the participation of more than 20 local companies and 2000 Mongolian engineers. The total labor input amounted to over 600,000 man-hours. All construction work was completed without a single case of injury, which demonstrates high safety standards.

The opening ceremony was attended by key figures in the energy sector, including Mongolia's Minister of Energy Naidalaa Badrah. He emphasized the importance of the new distribution complex for the country, noting that it will enable the import of up to 80 MW of power and enhance the reliability of energy supply in the South Gobi region. This is a historic moment, as Mongolia and China are connecting their energy systems directly for the first time.

Key facts about the project include:

- Safety and scale: More than 20 national companies and over 2000 Mongolian specialists are working on the project, completing it without accidents.
- Technical specifications: The substation includes six inputs and a 3 km overhead power line.
- Relief for the Central Energy System: The imported capacity of 80 MW will reduce the load on the country's energy system.

The commissioning of the ODS "Zes-Oyu" and its connection to the energy system of Inner Mongolia opens new horizons for international cooperation. For the past five decades, Mongolia has been exclusively linked to Russia and is now gaining the opportunity to diversify its energy sources.

[Open.kg](http://open.kg/)
<http://open.kg/>

5 August 2026

Slovenian nuclear plant Krško to cut output, adding pressure to Southeast Europe's power supply

Nuclear power plant Krško in Slovenia is reducing its reactor power to 80% due to persistent extreme hydrological and meteorological conditions in the Sava River, according to a statement by NEK, the plant's operator. The move marks another blow to the stability of electricity supply in Southeast Europe caused by high temperatures and low water levels in the Danube and Sava rivers.

The announcement from Krško comes as the last remaining reactor of Hungary's four-unit nuclear power plant Paks is barely working, while Romania is struggling to keep one of the two Cernavodă nuclear plant's reactors running.

As previously announced, Krško will gradually reduce reactor power overnight into Thursday, August 6. If current hydrological and meteorological conditions persist or worsen, reactor power will be further lowered, according to the statement.

The facility will return to full-power operation once conditions improve, said the operator of the nuclear power plant, shared by Slovenia and Croatia. The Krško nuclear power plant uses water from the Sava for cooling. The measure is necessary to ensure compliance with the environmental consent provisions, which require that the daily average temperature of the Sava at the point of mixing in the Brežice hydropower plant's basin must not exceed 28°C and that the average daily temperature increase must not be more than 3°C, according to the statement.

NEK noted that it had managed to maintain Krško's full-power operation throughout the recent hot months, while mitigating thermal impacts on the Sava by using its cooling

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tower, along with other systems and components. The last time the nuclear power plant operated at reduced power due to Sava temperature and flow constraints was in 2003, when it had to run at reduced capacity for over 90 days.

Balkan Green Energy News
<http://balkangreenenergynews.com/>

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Aviva backs landmark energy storage pilot safety project

The incidence of fires at battery energy storage system (BESS) sites is becoming a significant factor in project development and insurance underwriting, driven by rapid global deployment and high-profile incidents. Individual site failures remain at a statistically low rate, but this specific fire risk issue has been elevated by the severity of consequential events such as thermal runaway and local planning opposition.

In response major renewable energy insurer Aviva has partnered with Accure Battery Intelligence to embed predictive battery analytics into its risk framework. It means that BESS operators that actively monitor safety can now unlock preferential insurance conditions.

The two companies will together run a pilot project with the aim of supporting improved data transparency for battery energy storage system assets. Monitoring would be through Accure's own platform, which serves as a safety and performance monitoring solution for BESS owners and operators. It is said by Accure to be an independent service. It uses field data and analytics to detect irregular battery behaviour, identify elevated safety risks, and enable early fault detection that supports early corrective action. The platform is used by asset owners and operators to strengthen operational oversight across grid-scale storage sites.

Under the two-year pilot framework, eligible Aviva clients can benefit from preferential 'onboarding' fees with Accure. Kai-Philipp Kairies, CEO and co-founder of Accure Battery Intelligence, said: "BESS owners are expected to show that safety risks are actively managed. Accure's unique predictive analytics create transparency and accountability at the asset level. We are encouraged to see this approach recognised in a way that translates into improved insurance conditions for operators."

The collaboration reflects a growing focus within the insurance market on data-backed risk management for BESS assets. As deployment accelerates, insurers are placing greater emphasis on preventive measures and documented safety controls.

Modern Power Systems
<http://www.modernpowersystems.com/>

10 August 2026

Amazon plans massive gas-fired power plant for AI data center in Texas

The project, known as "GW Ranch," would include 35 gas turbines and could become the largest natural gas-fired power plant ever built in the United States. Amazon has acquired land and obtained permits for the site, while satellite images reportedly show clearing work already under way. The company has also submitted building applications for the first three data center buildings.

The facility is expected to operate initially as an isolated power system, separate from the Texas electricity grid, in order to avoid grid connection bottlenecks. Amazon said generating power on-site would prevent additional pressure on electricity prices for Texas households. The company also said the campus would be gradually connected to the public grid once sufficient capacity becomes available.

The scale of the project has raised environmental concerns. A permit issued by Texas authorities allows the power plant to emit up to 33 million tons of carbon dioxide per year. If

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emissions reached that level, the facility would become the largest single source of pollution in the United States, surpassing even the country's highest-emitting coal-fired power plant. The project also appears to conflict with Amazon's own climate goals. Under its "Climate Pledge," the company has committed to achieving net-zero carbon emissions by 2040. However, Amazon's emissions have been rising again in recent years. Amazon said the project would use only saline groundwater, which is unsuitable for agriculture or drinking, for cooling purposes. The company also said it has enabled around 10 gigawatts of carbon-free energy through 40 projects for its existing data centers in Texas.

The plan comes amid growing public resistance in the United States to the rapid expansion of AI data centers. Local residents have raised concerns about noise, air pollution, land use, water consumption in drought-prone areas, pressure on power grids and rising energy costs. In several states and municipalities, protests have already led to construction halts and moratoriums. Amazon's project reflects a broader trend among major technology companies seeking independent power supplies for AI infrastructure. Microsoft, Google and Meta are also increasingly turning to grid-independent natural gas projects. Since the beginning of 2025, nearly 60 such "behind-the-meter" projects with a combined capacity of 90 gigawatts have been announced in the United States. Microsoft, for example, is working with Chevron on a 2-gigawatt gas power plant in Pecos County.

The GW Ranch campus, developed by Pacifico Energy, is expected to later include solar power and battery storage. Amazon is also reportedly negotiating another project in Pennsylvania involving a 4.5-gigawatt gas power plant.

At the same time, major U.S. cloud providers are looking to nuclear power as a long-term energy source for AI data centers. Microsoft has reached an agreement with Constellation Energy to restart the decommissioned Three Mile Island Unit 1 reactor in Pennsylvania and purchase its electricity from 2028. Amazon has bought a stake in a nuclear power plant from Talen Energy, while Google is investing in future small modular reactor contracts. The U.S. government under President Donald Trump is supporting nuclear energy expansion through financial and regulatory measures as part of efforts to maintain leadership in artificial intelligence. However, nuclear projects continue to face bureaucratic obstacles, grid-related concerns and unresolved nuclear waste issues. As a result, natural gas-fired power plants are expected to continue filling near-term electricity gaps for AI data centers.

Saur Energy

<http://www.saurenergy.com/>

11 August 2026

PJM, Dominion Review Large Load Transfer Event

PJM is evaluating potential changes to interconnection reliability requirements, including existing and future ride-through standards and practices for Large Loads, specifically computational loads such as data centers and crypto-mining facilities, in the wake of a July 22 event that saw nearly 4,000 MW of data center load trip offline unexpectedly in Virginia. It was the largest such event in PJM history.

The grid did not experience significant reliability impacts but did experience a high imbalance between generation and load and large swings in voltage and frequency. PJM and Dominion operators quickly took controlling actions, as data centers disconnected from the grid and switched to backup generation in reaction to a system fault.

At the Aug. 6 meeting of PJM's Operating Committee, PJM and Dominion discussed preliminary findings from the event, system impacts and work underway to develop standards to reliably integrate the operation of such computational loads on the bulk power system. According to Dominion's preliminary investigation, at 7:56 a.m. that Wednesday, a

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mechanical failure caused a 230 kV line to be automatically removed from service in Northern Virginia. As the fault was properly removed from the system, data centers in the Dominion zone unexpectedly disconnected from the grid. This caused spikes in voltage and system frequency.

Upon the line's failure, the first load drop of 2,970 MW took place when data centers started to transfer away, and system voltage increased, said Brian Starling, Director, System Operations Center for Dominion Energy. When these first Large Loads transferred to backup generation, the loss of their loads prompted high system voltage disturbances. In response, a second wave of 1,099 MW of data centers disconnected and transferred to on-site backup generation. In all, approximately 3,800 MW of Large Load disconnected and transferred without warning, Starling said.

PJM observed overall load drop from 99,984 MW to 96,205 MW. The PJM Control Center quickly dispatched generation down to balance the large change between generation and load, to restore system frequency to 60 Hz and to maintain grid stability. PJM recovered the Balancing Authority Area Control Error Limit within nine minutes, well within NERC standards of 30 minutes, and dispatched reactive power resources to lower system voltage. Area Control Error (ACE) is a measure of the imbalance between sources of power and uses of power.

The July 22 Large Loads transfer was the largest experienced in PJM. Similar events in the Dominion zone caused sudden load transfers of about 1,500 MW each on Feb. 17, 2025, and July 10, 2024. "This was a normally cleared fault," Operating Committee Chair Emanuel Bernabeu said. "They should not disconnect from the grid. These data centers are too sensitive to the kind of voltage that they like, and we feel they are disconnecting too early." Bernabeu noted that PJM and other grid operators experienced similar ride-through challenges with the proliferation of inverter-based generation resources, mostly wind and solar, whose inverters were similarly set to levels that caused them to disconnect from the grid during minor disturbances. PJM and stakeholders approved voluntary ride-through guidelines for these generation resources in 2019. Now the system is facing ride-through challenges on the load side. In next steps, PJM and Dominion will continue to jointly review the event and system impacts with an eye to stakeholder coordination for new standards.

"We are currently evaluating potential enhancements to reliability requirements, with consideration of existing and future industry ride-through standards and practices," said Matthew Wharton, PJM Manager – Reliability Engineering. Computational loads on the grid, which include data centers, crypto mining facilities and others, set their protection system to monitor for sudden change or abnormal voltage levels and may rapidly switch to on-site backup generation in response to grid events, even during routine disturbances that are correctly cleared by transmission protection systems.

This can create reliability issues for the grid because unexpected Large Load transfers from the PJM system have two effects on the system. First, system frequency rises above 60 Hz as a result of the imbalance between generation and load. Second, system voltage rises. Spikes in system frequency and voltage are monitored and controlled because they have potential to damage grid infrastructure and/or prompt further disturbances.

NERC has tentatively defined "computational load" as "load comprised of power demand from information technology equipment, such as servers, storage, and networking hardware." As it stands, computational loads are not subject to NERC Reliability Standards, and computational loads are not a NERC-registered entity.

On July 16, the Federal Energy Regulatory Commission ordered (PDF) NERC to define and create the first phase of enforceable Reliability Standards needed to manage reliability risks posed by computational loads. The FERC order stated, "in light of the unprecedented load growth driven by data centers, it is imperative that NERC address the

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reliability concerns associated with computational loads in a timely manner and with greater certainty than provided by voluntary timelines.” FERC ordered NERC to submit the first phase of new enforcement provisions by Dec. 31, 2026. However, this first phase, Wharton said, will not address the minimum voltage or frequency ride-through requirements for computational loads. Those requirements are expected to be included in NERC Reliability Standards in 2027.

The work to evaluate interconnection requirements for these Large Load facilities will take place in the Planning Committee because “you really need these requirements in place before the load comes on the system,” said David Souder, PJM Executive Director – System Operations.

Insidelines PJM
<http://insidelines.pjm.com/>

11 August 2026

PowerChina's 1.1 GW Solar+Wind project is meant to generate power and stop the desert

POWERCHINA achieved full-capacity grid connection this week for the 1.1 GW Hangjin Banner wind-solar project in Ordos, Inner Mongolia — 800 MW of solar PV paired with 300 MW of wind, expected to generate about 2.4 billion kWh annually for the West Inner Mongolia grid. What makes it more than a routine capacity addition is the design: the project is built under China's Three-North Shelterbelt Forest Program, using PV arrays alongside straw checkerboard barriers and desert vegetation specifically to stabilise shifting sand, treating land restoration and power generation as one construction project, not two.

POWERCHINA also deployed intelligent PV installation robots on site, each capable of installing more than 800 modules a day — a detail that points to where Chinese utility-scale construction is heading as labour costs rise and desert-basin projects multiply across Xinjiang, Gansu, Qinghai and Inner Mongolia. The company ignited the CSP section of a separate 1 GW CSP-PV hybrid project in Xinjiang in April, part of the same broader push to industrialise construction methods for China's remaining desert and Gobi renewable pipeline. India doesn't have China's Gobi desert sized land mass, but it has its own version of the same problem and opportunity: the Wasteland Atlas puts India's degraded and wasteland area at over 55 million hectares, and states including Rajasthan, Gujarat and Ladakh have leaned on exactly this pitch — low-value, low-competing-use land to justify large solar parks at Bhadla, Pavagada and beyond. Of course, the term Wastelands might be a stretch, as these lands do support and are vital to local biodiversity, where India still needs to do much more to ensure equitable and environmentally sustainable use.

What India's parks have generally not done is fold ecological restoration into the project design the way Hangjin Banner does; Indian utility-scale sites are cleared and levelled for panels, not engineered to fight desertification while they generate power.

The more immediate gap is construction technique, not land policy. An 800-module-a-day installation robot compresses a timeline that, on Indian utility-scale sites, still runs largely on manual and semi-mechanised installation crews. A meaningful cost and schedule lever at a moment when Indian developers are already squeezed on land acquisition and grid-connection delays, the same bottlenecks flagged repeatedly across recent Indian project trackers. Robotic or semi-automated installation hasn't seen serious pilot deployment at Indian utility-scale sites yet, despite India's own module manufacturing base scaling fast enough to make automated downstream installation the logical next efficiency frontier.

Separately, Inner Mongolia Energy Group was named this week as lead developer for two green-power industrial parks totalling 6.67 GW of planned wind and solar, built explicitly to power data centres and computing facilities. China isn't just adding capacity

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faster, it's treating construction speed and land use as design problems to solve, not costs to absorb using automation and fully robotic methods in more and more cases.

Saur Energy

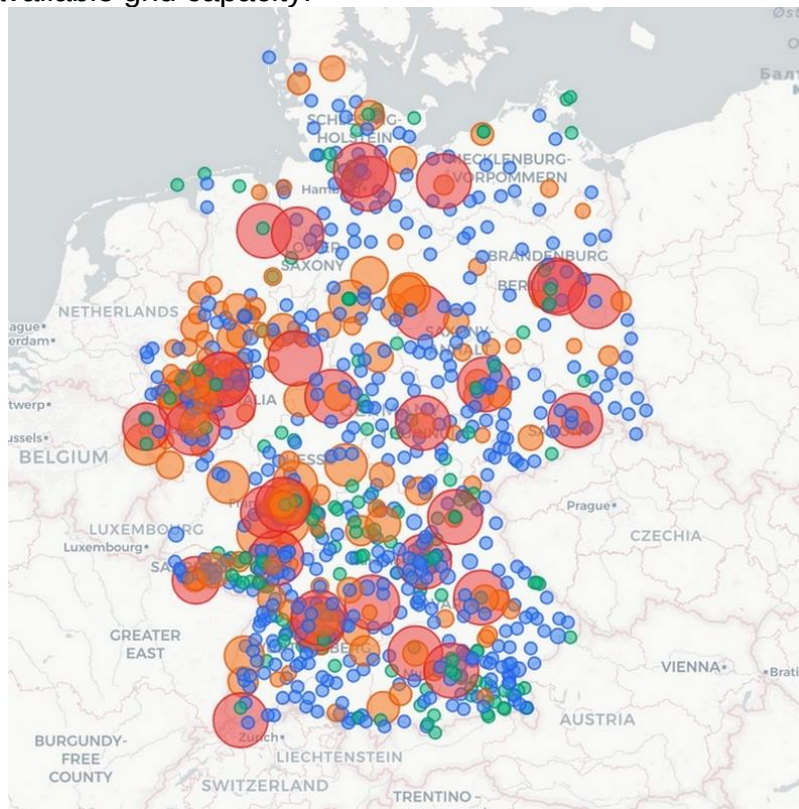
<http://www.saurenergy.com/>

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New online map shows Germany's renewable energy feed-in capacity across distribution grids

Fifty-three photovoltaic systems with a combined capacity of 638 kW feed into the distribution grid operated by Max Peissker in Kaulsdorf, Thuringia, while 575,136 PV systems with a combined capacity of around 13.5 GW feed into the Bayernwerk Netz grid. The figures come from a new, freely accessible online map published by the evu+ initiative, part of the Edna Federal Association for Energy Market & Communication.

Updated every six months, the map shows the number and capacity of generation plants and storage systems connected to the distribution grids of Germany's 871 grid operators. Battery storage systems are also included. Users can analyze the data by grid operator, federal state, generation technology and other criteria. The map does not, however, show available grid capacity.



Martin Käßler, who works in communications and marketing at edna member Fraunhofer IOSB-AST in Ilmenau, created the map with AI assistance, using data from the Core Energy Market Data Register (Marktstammdatenregister). In July, the Federal Network Agency (Bundesnetzagentur) published a map showing supply quality across Germany's distribution grids. It uses different colors to indicate how quickly and comprehensively grid operators are implementing the energy transition and the extent to which they are using digital solutions.

"The frequently voiced criticism that Germany has too many grid operators misses the mark," said Richard Plum, managing director of the edna Federal Association for Energy Market & Communication. "Our new map impressively demonstrates that small and medium-

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sized grid operators, in particular, make an indispensable contribution to electricity supply and security of supply.” According to Plum, these operators are also key drivers of the energy transition, as electricity generation within their grids relies almost entirely on renewable energy sources.

The association rejects criticism that Germany’s distribution grid landscape is too fragmented. It points to other European countries for comparison. Denmark has around 55 distribution grid operators and Finland 75, giving both countries a grid operator density relative to population size similar to Germany’s. Germany has around 98,000 inhabitants per distribution grid operator. By comparison, Austria has around 75,000 inhabitants per operator, with 120 distribution grid operators in total, while Switzerland has around 15,000 inhabitants per operator and approximately 600 operators.

The Edna Bundesverband Energiemarkt & Kommunikation e.V. focuses on market communication processes, digitalization and IT standardization in the energy sector. Its members include municipal utilities, grid operators and energy suppliers, as well as software manufacturers and IT service providers serving the energy industry.

Pv-magazine

<http://www.pv-magazine.com/>

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Europe’s largest battery comes online in Scotland

The 500 MW/1 GWh Coalburn 1 BESS has entered commercial operations at a former coal mining site in Scotland, according to CIP. The project is now the largest operational BESS in Europe. Construction at the Coalburn 1 site in South Lanarkshire, near Glasgow, began in November 2023 according to CIP’s local development partner Alcemi. CIP divested 50% of the project to insurer Axa IM Alts in April 2025.

Revenues for Coalburn 1 will include a 10-year optimization agreement with SSE, plus a 15-year capacity market contract covering 300 MW of power output, plus a seven-year contract covering 75 MW. The project will be managed by independent renewables company RES, which signed an agreement in July 2025 to manage the site. Coalburn 1 is the first in a trio of 1 GWh BESS projects CIP is developing in Scotland. Coalburn 2 and Devilla are also being built as transmission-connected assets. Battery technology provider e-STORAGE, a subsidiary of Canadian Solar, is supplying all three projects. The fund divested a stake in Devilla in June, sharing risk with outside funds.

Nischal Agarwal, partner at CIP, said the successful delivery of Coalburn 1 was an important milestone for the renewables investor. “As Europe’s largest operational battery energy storage system, Coalburn 1 will enhance the flexibility and resilience of the UK electricity system, support the integration of more renewable power, and contribute to lowering costs for consumers. Alongside Coalburn 2 and Devilla this project demonstrates CIP’s industrial capabilities in developing, commercializing and delivering energy infrastructure at scale.”

CIP is working on a portfolio of battery storage facilities in the United Kingdom with local partner Alcemi. Including Coalburn 1, the portfolio consists of seven grid-scale BESS projects with a combined power output of 4.3 GW.

Pv-magazine

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EnBW installs all turbines at 960MW He Dreiht offshore wind farm

EnBW Energie Baden-Württemberg (EnBW) has completed the installation of all 64 wind turbines at the 960MW He Dreiht offshore wind farm in the German North Sea.

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Danish turbine manufacturer Vestas delivered and installed the turbines, each with a 15MW output. The wind farm is located approximately 85km northwest of Borkum and 110km west of Heligoland.

Technical and electrical commissioning work is set to continue in the coming weeks, with EnBW expecting He Dreiht to become fully operational by late summer. Vestas is investigating after damage was discovered to a rotor blade in late July. Once complete, the wind farm will have the capacity to supply electricity to an estimated 1.1 million households.

EnBW board member for sustainable generation infrastructure Peter Heydecker said: “We have reached another important milestone at He Dreiht following the completion of the wind turbine installation work. “Offshore wind is a domestic, renewable energy source that can generate considerable amounts of electricity for many hours a year, thus playing a key role in maintaining security of supply and decarbonising the electricity system. “As our largest offshore project to date, He Dreiht reflects our continued commitment to expanding renewable energy and advancing our generation portfolio toward climate neutrality.”

EnBW stated the project is being developed without state funding, and the investment totals approximately €2.4bn (\$2.77bn). A consortium of Allianz Global Investors, AIP Management and Norges Bank Investment Management (NBIM) holds a 49.9% stake in He Dreiht, with EnBW retaining the remaining 50.1% stake.

Most electricity produced at the site has already been allocated through long-term power purchase agreements (PPAs). EnBW reported ongoing talks with additional potential buyers for any remaining output. EnBW's offshore office in Hamburg is responsible for coordinating the development of the project. Additional phases will include final technical checks and commissioning works before full commercial operation begins later in the year. In February this year, EnBW signed a 15-year PPA with Google to supply 100MW of clean electricity from the He Dreiht offshore wind farm.

Power-Technology

<http://www.power-technology.com/>

13 August 2026

PJM proposes framework to connect data centers without compromising reliability, affordability

PJM Interconnection today filed its proposed framework to connect new data centers and other Large Load customers that bring their own power supplies consistent with the Ratepayer Protection Pledge.

PJM's proposal also would establish a new Interim Resource Adequacy Service (IRAS) for those new Large Load customers who do not bring their own power supply. When electricity supply on the grid approaches dangerously low levels, a new emergency procedure would notify utilities to reduce or transfer the electricity demand from new Large Load customers ahead of any action that would serve to shut off traditional consumers, including residential consumers.

IRAS would apply to new Large Loads that have not brought their own new capacity or had their capacity needs covered through the Reliability Backstop Procurement, a special process designed to fill forecasted capacity shortfalls starting in June 2027. PJM would create and maintain a Large Load Registry to track all Large Loads, existing and new, to provide states, utilities and regulatory agencies with the information they need to apply the IRAS service to Large Load customers if they choose.

The IRAS framework encourages states and the Electrical Distributors that serve their residents to reevaluate and amend the established plans that utilities and other Load Serving Entities (LSEs) follow when directed by PJM to reduce electricity demand, or load. The proposal is intentionally designed to avoid conflicts with state authority by leaving

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established and regulated retail load reduction plans and retail cost allocation to state-level entities, while IRAS provides PJM the necessary tools to address situations where regional power shortages would jeopardize reliability and threaten wider outages.

“The unprecedented addition of large loads, most notably data centers, has given rise to resource adequacy shortfalls – and associated real-time operational issues that IRAS is intended to address,” the filing states. Of 32 GW of growth in forecasted electricity demand between 2024 and 2030, 30 GW is attributed to data centers. To support the IRAS framework, PJM would require utilities and other LSEs to bring new capacity in an amount that equals or exceeds the combined peak demand of the new Large Loads. Failing that, PJM would direct these zones during emergencies to reduce electricity demand in proportion to their area’s share of new Large Load not supported by new generation. This curtailment of service would come before calling on Load Management customers, who are paid in advance to reduce their electricity use when directed by PJM in emergencies. States could use the Large Load Registry to identify which customers would be subject to IRAS.

As laid out in PJM’s filing, this model is consistent with the Ratepayer Protection Pledge introduced in March 2026 and recently expanded in July 2026, which states that new Large Loads will “build, bring, or buy the new generation resources and electricity needed to satisfy their new energy demands, paying the full cost of those resources whether by building, or buying from, new or otherwise additive power plants” because it “advances self-sufficiency and protects Americans from higher prices.”

A Large Load that is ordered to reduce its power usage could receive credit for helping maintain grid reliability. States and their local utilities would manage how these retail costs are shared among customers in affected areas. Large Loads could also waive that compensation consistent with the Ratepayer Protection Pledge to “protect the American people from increased utility bills as a result of the development of these data centers.” The Large Load Registry, a database of information pertaining to Large Loads that will be established and maintained by PJM, will aid PJM in administering IRAS and other Large-Load initiatives to help balance supply and demand. PJM would make this information available to states, utilities and regulators, subject to confidentiality requirements.

Notably, PJM proposes that beginning with the 2029/2030 capacity auction, new Large Loads that do not bring their own new supply to the system will not be included when calculating the future power needs to be procured in those auctions.

PJM requested FERC accept the petition within 60 days. PJM’s IRAS proposal is just one part of a multipronged, ongoing effort directed by the PJM Board of Managers to respond to the challenges stemming from the influx of Large Loads into the PJM region, which included a July 31 proposal to run the Reliability Backstop Procurement process in September and October. PJM also continues to make progress on a broader, holistic review of its capacity market long-term, sustainable solutions to concerns stemming from Large Load additions.

Insidelines PJM
<http://insidelines.pjm.com/>

13 August 2026

World’s largest LFP grid-forming goes online in China

A 1 GW/4 GWh battery energy storage project in China’s Inner Mongolia Autonomous Region was connected to the grid on August 3rd 2026, adding a gigawatt-scale grid-forming energy storage facility to one of the country’s major renewable energy regions.

The DongSu Substation New Energy Storage Special Action project is located near Mandulatu in Sonid Left Banner, Xilingol League. Chinese industry sources reported that

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the plant completed its initial energization and grid connection successfully on the first attempt.

Wanbang Digital Energy invested approximately CNY 3 billion (USD 445 million) in the project, which occupies around 28 hectares. Local government sources have described the facility as the world's largest single-site grid-forming LFP battery storage plant and said this four-hour LFP station is expected to discharge around 1 TWh of electricity annually.

The scale of the DongSu project is therefore significant not only in terms of stored energy, but also in the deployment of grid-forming technology at the gigawatt level.

Unlike conventional grid-following inverters, which rely on an existing voltage and frequency reference, grid-forming inverters can establish and maintain those references themselves. Such systems can provide voltage and frequency support and improve the stability of grids with high penetrations of inverter-based wind and solar generation. Grid-forming resources can also be designed to support black-start operation following a major grid outage.

For Inner Mongolia, where large-scale wind and solar development is placing growing demands on transmission networks and system flexibility, those capabilities make storage much more important than merely energy-shifting function. A project of this size can combine four-hour peak shifting with fast grid-support functions, helping the system accommodate variable renewable generation while reducing its dependence on conventional synchronous generation for stability services.

The commissioning also comes as China moves to accelerate deployment of grid-forming technology. The country's renewable energy plan for the 2026-2030 period, released in July, calls for greater use of grid-forming equipment, high-accuracy power forecasting and integrated dispatch, alongside the development of more "system-friendly" wind and solar projects.

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