

WORLD POWER SYSTEMS REVIEW

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Vistra Joins Rush for Dispatchable Generation Loans

Vistra, Texas' largest generator, said May 30 it plans to add nearly 2 GW of gas-fired capacity to the ERCOT grid over the next year by investing in existing power plants to increase their output. The capacity additions will help meet ERCOT's and the Public Utility Commission's desire for more dispatchable (i.e., thermal) generation necessary to meet the state's growing demand. "Texas is in the enviable position of experiencing sustained economic growth, which includes rapidly increasing power demand as a result of population growth and electrification activities in a number of areas, including transportation, data centers, manufacturing and industrial activities," Vistra CEO Jim Burke said in a news release.

Vistra said it was filing a notice of intent to seek disbursements from the \$5 billion Texas Energy Fund (TEF)'s Generation Loan Program. The program is designed to drive more dispatchable energy to the ERCOT system. The PUC said June 1 it had received 125 notices of intent totaling \$38.9 billion in financing for 55.9 GW of proposed dispatchable projects, fulfilling the hopes of some participants that the TEF would be oversubscribed (56455). Formal applications now can be submitted by entities that submitted a notice of intent. Completed loan applications must be filed by July 27. The first disbursements, financing up to 60% of a loan, should be issued by Dec. 31, 2025. The commission established the TEF in March because of state legislation passed last year. Qualifying projects must add at least 100 MW of dispatchable capacity to the grid. The PUC says the program can support up to 10 GW of new or upgraded generation capacity in ERCOT.

Through Luminant, its generation subsidiary, Vistra plans to:

- Build up to 860 MW of advanced, simple-cycle peaker plants in West Texas, supporting the increased power demands of the state's oil and gas industry.
- Repower its coal-fired Coletto Creek Power Plant as a gas-fired unit and use the existing infrastructure to provide up to 600 MW of capacity when the coal plant retires in 2027 to comply with EPA rules.
- Complete several upgrade projects at its existing gas plants, adding more than 500 MW of summer capacity and 100 MW of winter capacity.

All three projects are based on market reforms passed during the 2023 legislative session that include new ancillary services, the performance credit mechanism and an effective reliability standard. The company said implementation could offer the regulatory framework needed to incentivize long-term investments in the grid. "Since the market opened to competition, over \$100 billion has been invested by a wide range of investors in a variety of power generation technologies to meet the growing needs of Texans," Burke said. "The ERCOT market has a history of attracting generation owners who put their capital at risk when there are investment signals. "The projects are contingent upon other factors, including state and federal environmental regulations and long-term wholesale trends that continue to support gas generation, Vistra said.

RTO Insider

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

3 June 2024

Queensland Gold Mine to Be Converted to USD-4.7bn Pumped Hydro Site

Evolution Mining, the owner and operator of a gold mine in Queensland, Australia, and advisory firm ICA Partners propose to build a 20,000-MWh pumped hydro storage facility at the site of the open-pit mine nearing its end of lifecycle.

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The partners have lodged the project's Environmental Impact Statement (EIS) with state authorities, according to an announcement released on Wednesday. The Mount Rawdon pumped hydro project is planned to be realised at an investment of some AUD 7 billion (USD 4.66bn/EUR 4.29bn). If greenlit, the scheme will create a complex that will provide firming capacity and supplying up to two million homes in Queensland.

Findings from the feasibility study have shown that the project is "economically and socially attractive and will be the lowest cost pumped hydro generation project per megawatt of capacity in Australia."

"We are very proud that Mt Rawdon will be the first operating gold mine that, upon reaching the end of its mining life, will be repurposed as a significant renewable asset critical to Australia's clean energy future," said Jake Klein, executive chair of Evolution Mining.

Renewablesnow
<http://renewablesnow.com/>

4 June 2024

Belgium, Germany mull hybrid interconnector

Belgian energy minister Tinne Van der Straeten and German energy state secretary Philipp Nimmermann have agreed to investigate the development of a hybrid interconnection between the offshore wind farms of both countries.

Although the two countries don't share a direct sea border because the Netherlands is situated between them, they have announced plans for future cooperation aimed at developing a meshed offshore grid in the North Sea. The ministers have instructed the Belgian and German grid operators to investigate the options for this network project, involving, if necessary, other countries and grid operators in the evaluation of the project. The new interconnector will complement the ALEGrO interconnection, the first direct electrical link between the two countries that has been operational since 2020, with a follow-up project already in progress.

The administrations involved and the Belgian and German grid operators are said to regularly discuss progress in order to submit a final report to the ministers during the next North Sea summit. The report should include information about the costs and benefits, potential schedule, and any obstacles that need to be overcome. The two countries have set clear and ambitious targets for offshore wind energy. Belgium aims for a capacity of 6 GW by 2030 and 8 GW by 2040, while Germany foresees at least 30 GW by 2030 and 70 GW by 2045.

Germany launched two tenders earlier this year. The first tender targeted two regions in the North Sea, offering a total offshore wind capacity of 2.5 GW. Subsequently, in February, the second tender was launched for three pre-examined areas also located in the North Sea, with a combined capacity of 5.5 GW.

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

5 June 2024

SPP files expanded regional transmission organization tariff to include western entities

Southwest Power Pool (SPP) reached a significant milestone June 4, when it filed with the Federal Energy Regulatory Commission (FERC) amendments to its tariff that include provisions specific to its western members. Pending FERC's approval, SPP will become the first organization in the U.S. to provide full regional transmission organization (RTO) services in both the Eastern and Western Interconnections of the nation's power grid beginning in early 2026.

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“Years of collaboration among SPP staff, existing RTO members and western entities has resulted in a revised tariff that meets the unique needs of all the entities we serve, and I couldn’t be more thrilled,” said SPP President and CEO Barbara Sugg. “The revised RTO tariff improves the reliability of the electric grid and provides economic benefits for entities in both the Eastern and Western Interconnections.”

The entities pursuing RTO membership or expanded participation as part of the expansion of the SPP RTO are Basin Electric Power Cooperative; Colorado Springs Utilities; Deseret Power Electric Cooperative; the Municipal Energy Agency of Nebraska (MEAN); Platte River Power Authority; Tri-State Generation and Transmission Association; and the Western Area Power Administration Colorado River Storage Project, Rocky Mountain region and Upper Great Plains region. These are the first western entities to participate in SPP’s Integrated Marketplace in the Western Interconnection.

“As we pursue a new energy future, we’re excited the RTO effort has reached this milestone,” said Travas Deal, Colorado Springs Utilities chief executive officer. “The RTO offers unprecedented access to regional transmission and generation resources that will help us reach our emission reduction goals, add more renewable energy, manage customer costs and ensure the reliability of our electric grid.”

Expansion of the SPP RTO will create economic and reliability benefits for all member companies through access to a larger generation fleet, greater geographic diversity and increased efficiencies in SPP’s energy markets by using an optimized solution across the direct current (DC) ties that connect the Eastern and Western Interconnections. Optimization of the DC ties’ use will increase resilience by leveraging diverse resources via the 510 MW of bi-directional DC tie capability. An estimate of more than \$200M in annual benefit is expected for the joining western entities, adding to the \$2.8B in benefits currently realized by existing RTO members.

“SPP’s potential RTO expansion into the Western Interconnect will help us to reduce our overall carbon footprint for MEAN’s power resources through the economic dispatch of a wholesale power market and maximize operational efficiencies of renewable resources,” said Brad Hans, Director of Wholesale Operations for MEAN. “As a member of SPP’s RTO in the Eastern Interconnect for several years, MEAN recognizes the benefits of participating in that market and the energy cost savings it provides as well as SPP’s member-driven business model.”

SPP’s inclusive and transparent governance structure will accommodate expansion of the RTO in the West with minimal impact to current processes. Representatives from the seven western entities will serve on the SPP Members Committee and the Markets and Operations Policy Committee. The Regional State Committee, which is comprised of regulatory commissioners from states in the RTO footprint, will grow by four seats representing the four states included in western expansion: Arizona, Colorado, Utah and Wyoming. A limited number of western-specific working groups will focus on issues impacting the western members.

“We enthusiastically look forward to Tri-State’s participation in the western expansion of the SPP RTO, which will reliably and cost-effectively advance our energy transition, while meeting our greenhouse gas reduction goals,” said Tri-State Generation and Transmission Association CEO Duane Highley. “The full benefits of the RTO, including a day-ahead market, an ancillary services market, efficient regional transmission planning, common transmission tariff and participatory governance model help us to further reduce costs for our cooperative members across the West.”

SPP has been engaged with parties interested in evaluating the benefits and requirements of RTO membership since October 20, 2020. The SPP board of directors approved the initial RTO expansion terms and conditions in July 2021, the DC tie terms and

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conditions in July 2022 and the WAPA Colorado River Storage Project terms and conditions in January 2023. The expansion of the SPP RTO is scheduled to go live April 1, 2026.

SPP

<http://spp.org/>

5 June 2024

Entergy proposes gas-fired power plants in Southeast Texas totaling 1.2 GW, continuing state's gas boom

More than 42 GW of gas capacity have been proposed for Texas, reflecting increased electricity demand associated with growth in population and industry, including data centers and electrification. Most of the state is served by the Electric Reliability Council of Texas, where developers are applying for \$5 billion in low-interest loans backed by the Texas Energy Fund voters authorized in November. Entergy Texas participates in the Midcontinent Independent System Operator market, but has indicated it will leverage grants from non-ERCOT portions of the fund "to make necessary resiliency investments at an affordable cost." Entergy's proposed Lone Star and Legend gas plants would require a more than \$2 billion investment by the utility.

The 754-MW, \$1.46 billion Legend Power Station is a combined cycle combustion turbine facility proposed for Port Arthur, Texas. The project includes carbon capture technology and a hydrogen-capable combustion turbine. The 453-MW, \$753 million Lone Star Power Station is a combustion turbine facility proposed near Cleveland, Texas, and will also include a hydrogen-capable turbine.

The proposed plants "will address the critical need for increased power generation capacity, support increased economic activity throughout the region, and pave the way for sustainable energy solutions that will benefit Southeast Texas for decades to come," Entergy Texas President and CEO Eliecer Viamontes said in a statement.

The plants will bring a total of \$2.8 billion in economic benefits to the region, he said. Those benefits would involve increased reliability for projects such as Sempra Infrastructure's Port Arthur LNG terminal project, which is under construction. The project facilities will include two natural gas liquefaction trains and construction of new gas pipelines.

"We are pleased to see Entergy Texas progress its initiatives to serve Southeast Texas through additional power generation, and especially through the eventual utilization of low carbon solutions, including carbon capture, hydrogen generation and renewables," Justin Bird, CEO of Sempra Infrastructure and executive vice president at Sempra, said in a statement. Entergy Texas has been adding resources in recent years. These include starting operations at a new 993-MW gas plant, contracting a 150-MW solar facility and beginning construction on a 1,215-MW gas plant. "But that's still not enough to support the extraordinary growth we're seeing in Southeast Texas," Viamontes said.

Utility Dive

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

6 June 2024

NYISO Releases Power Trends 2024

The New York Independent System Operator (NYISO) today released Power Trends 2024, the company's flagship publication that discusses the key issues and challenges shaping the grid of the future. Incorporating new data and metrics, the report also summarizes work by the NYISO to maintain reliability and advance competitive electric markets through the grid in transition.

"We're pleased to publish Power Trends 2024 and provide a comprehensive look at the state of the electric grid during this time of significant change. Among several important

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takeaways, this year's Power Trends demonstrates that competitive electric markets continue to provide the most powerful and least-cost vehicle available to speed investment in the electric system," said Rich Dewey, President and CEO of the New York Independent System Operator.

Key messages in Power Trends 2024 include:

- Public policies are driving rapid change in the electric system in the state, impacting how electricity is produced, transmitted, and consumed.
- Electrification programs and economic development initiatives are driving projected demand higher. Generator deactivations are outpacing new supply additions. Together, these forces are narrowing reliability margins across New York.
- The potential for delays in construction of new supply and transmission, higher than forecasted demand, and extreme weather are threatening reliability of the grid.

NYISO

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

6 June 2024

World's largest solar plant goes online in China

China Green Electricity Investment of Tianjin, a subsidiary of China Green Development Group (CGDG), has switched on the 3.5 GW Midong PV farm in Urumqi, China's Xinjiang region. The PV facility is currently the world's largest solar plant. Prior to commissioning, Chinese state-owned utility Huanghe Hydropower Development started operating the world's largest solar park, a 2.2 GW facility, in October 2020.

China Construction Eighth Engineering Division Corp and Power Construction Corporation of China (PowerChina) carried out the construction of the Mindong project in stages. The installation required an investment of CNY 15.45 billion. It features more than 5.26 million 650 W monocrystalline bifacial double-glass PV panels supplied by an unnamed manufacturer. The extensive infrastructure of the project includes the installation of 1.23 million supporting piles, five 220 kV booster stations, and more than 208 km of transmission lines connecting the array to the grid via a 750 kV substation.

China Green Development Group (CGDG), established in December 2020, is a major energy investment entity under the central Chinese government, succeeding the former State Grid-owned Luneng Group. Managed directly by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), CGDG focuses on the investment, construction, and management of renewable energy projects. The group aims to achieve more than 20 GW of renewable energy installations by the end of 2024.

- The statewide grid is projected to become a winter-peaking system in the 2030s, primarily driven by electrification of space heating and transportation. The switch to a winter peak introduces new reliability concerns related to fuel security that the NYISO is working to address through changes to planning and market rules.

- NYISO's interconnection processes is evolving to balance developer flexibility with the need to manage the process to more stringent timeframes. Efforts are underway to make this process more efficient while protecting grid reliability.

- New emission-free resources are needed to meet the goals of the Climate Leadership and Community Protection Act (CLCPA). Those resources are not yet available on a commercial scale.

- The NYISO's wholesale electricity markets are an important tool to attract necessary investments to facilitate the transition of the grid in the coming decades.

To learn more, read Power Trends 2024.

Visit the Power Trends 2024 landing page to download additional materials.

About the New York ISO

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The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.

[pv-magazine](http://www.pv-magazine.com/)

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

8 June 2024

Solar Energy UK: 50GW of Solar Needed by 2030 Alongside of 30GW Energy Storage

Solar Energy UK has published a manifesto stating that 50GW of solar is needed by 2030, with 30GW of zero-carbon energy storage. In the first 100 days, it calls on the next government to publish a roadmap for achieving this. By the end of this year, the UK will have about 20GW of solar generation capacity in place, with 8GW of energy storage. The goals set out by Solar Energy UK would increase this capacity in line with the current government's target of 70GW of solar by 2035. The manifesto sets out five actions the solar and energy storage industries need from the government: embrace UK solar, bring the benefits of solar and storage home, turbocharge the network for net zero, build the skills for British green jobs and implement a renewables-first approach to market reform.

According to Solar Energy UK, the barriers to fully embracing solar are the inconsistent planning system and the symbiotic relationship between energy security, food security and restoring nature being overlooked. "We do not have to choose one over the other, and solar can play a key role in all of them," the manifesto states. It is also crucial for the next government to deliver consistent planning decisions. On this topic, Solar Energy UK stated that failing to respect established national policy has overturned solar planning refusals more than any other kind of development. This, in turn, has negatively impacted investment and needlessly extended the UK's reliance on fossil fuels.

A key mission of Solar Energy UK's manifesto is to bring the benefits of both solar and storage to the nation. The organisation references the popularity of rooftop solar, which recently surpassed 1.5 million small-scale installations. Despite this growing popularity, the manifesto outlines that the government still has a role in ensuring that solar and storage technologies are available for low-income households and communities that want to invest in their own projects on schools and other public buildings. Utility-scale developments for solar and battery storage also offer opportunities which the government could support with the right market signals, particularly via the creation of a national target for the technology. Speaking exclusively to Solar Power Portal, Solar Energy UK CEO Chris Hewett emphasised the need to set an energy storage target to facilitate new renewable energy generation technologies. Hewett said: "There needs to be a target for energy storage for two reasons: one is so the industry itself can see where the direction is so it's not left up to guesswork, but also when regulators talk about flexibility in the market, they don't often distinguish between high carbon flexibility or using batteries. We know that flexibility needs to be delivered by 100% zero carbon technology."

The next aspect of the manifesto focuses on "turbocharging the network" for net zero. This area focuses specifically on grid connections, an energy system aspect that currently jeopardises net zero prospects. On the topic, Solar Energy UK calls on the next government to ensure that Ofgem allows greater and faster investment in the grid, improving operator service and modernising grid management.

The manifesto also touches on green jobs. To reach net zero, the government must offer the British workforce opportunities to transition into renewable energy and provide the required maintenance in a net zero Britain. The manifesto outlines that the next government

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should work with the industry to promote career opportunities, with a network of green skills hubs offering training in regions where we know that renewables deployment will be extensive. Government support is also needed to expand domestic manufacturing of solar-related technologies, such as switchgear, cabling, batteries, and mounting systems. Discussing the importance of developing green jobs for the industry, Chris Hewett told Solar Power Portal: “No one in the industry is saying there is an opportunity for PV module manufacturing in the UK. That’s not a sensible way to look at the supply chain. You want to examine battery manufacturing, mounting, and potentially even inverters in the medium term. “There is also potential for future technologies like flexible solar and thin film. Innovators in the UK are developing those products, so we want to support those as much as possible.”

The manifesto also touches on the need for the UK to remain competitive with other markets such as the EU, US, China, India and others. To ensure this, Solar Energy UK states that the next government must ensure that solar and energy storage has a level playing field with other energy technologies and other countries. One crucial area in bolstering solar capacity is the Contracts for Difference (CfD) scheme, which has proven successful for the solar industry in recent years. Solar Energy UK states that more than 11GW of solar capacity is approved and awaiting construction. However, the current budget for Allocation Round 6 of the CfD scheme will facilitate the development of less than 2GW, putting targets at risk. Hewett told Solar Power Portal that this is one of the primary areas that must be addressed to support solar.

“We’re trying to remove the barriers to private sector investment as much as possible. The first step is the CfD auction round 6. There’s a limited budget, and we know there are an awful lot of projects which are eligible to bid into that; if it looks like there are more projects than they can cope with, then an early ministerial position on raising that budget is something which is in the gift of a new minister,” Hewett said. Another area that the next government must navigate carefully is the Review of Market Arrangements (REMA), which is set to introduce a number of changes to the energy market to ensure its functionality in the changing landscape.

Solar Energy details that the next government should ensure that the Electricity Generator Levy, the Capacity Market, Balancing Mechanisms and REMA attract investment in clean energy with storage and flexibility to provide backup. Discussing REMA, Hewett said: “If you look at the way the energy market is governed through regulation, whether it’s the way CfDs are structured or whether it’s the way that REMA is being taken forward, whether it’s the capacity market and balancing mechanisms or even the generator levy, all of those different economic and regulatory interventions will shape the market. I think a new government needs to look at them and ask how we can ensure a level playing field.”

For REMA, Solar Energy UK urges caution around locational pricing, which could actually deter investment. “We know there is a lot of private capital looking for ways to invest in solar energy and storage at the moment around the world,” Hewett said. “If changes to our regulatory system are going to create more disincentives for that capital to come into the UK renewables market, then that is something we urge the government not to do.”

Solar Power Portal

<http://www.solarpowerportal.co.uk/>

10 June 2024

Adani Green Energy to Invest Over \$1 Billion in Sri Lankan Wind Projects

Adani Green Energy plans to invest over 1 billion USD (Rs.8,351 crore) in setting up wind energy projects in Sri Lanka in what would be the island nation’s single largest foreign direct investment and the biggest ever power project, according to a PTI report.

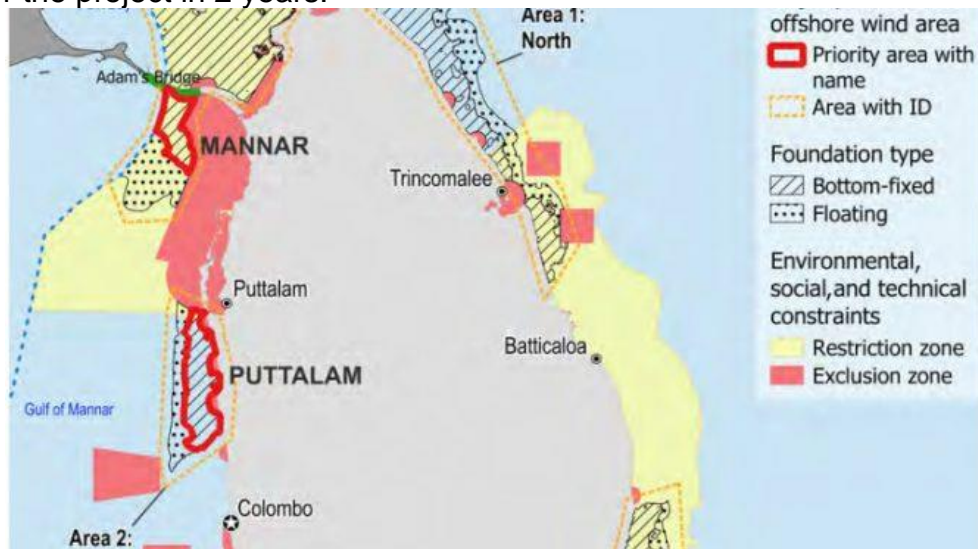
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The company will set up two wind farms in Sri Lanka's Mannar town and Pooneryn village in the north with a total installed capacity of 484 megawatt with a 740 million USD investment. Power transmission infrastructure will see another 290 million USD, two sources with knowledge of the matter told PTI. The projects will not just be Sri Lanka's largest renewable energy project but also the nation's biggest power project to date. Sri Lanka, which suffered from crippling power blackouts and fuel shortages during an economic crisis in 2022, has enacted a new legislation to revamp the country's power sector and attract investment in renewable energy.

The move, which is in line with the commitments made under a 2.9 billion USD aid from the International Monetary Fund (IMF), seeks to reduce losses in the state-run power company Ceylon Electricity Board (CEB) and make the sector more appealing to investors. Adani's project is also strategically important as it would restrict China's economic influence in the Indian Ocean, particularly Sri Lanka's northern region, which is very close to India's southern mainland.

Sources said Adani's project has received Sri Lankan cabinet approval and a power purchase agreement (PPA) is being finalised, post which the Indian giant will begin work and deliver the project in 2 years.



Adani's tariff is lower than government's own wind power plant and the country's fossil fuel-based power. The project will contribute to Sri Lanka's energy security, generate clean, renewable energy to the tune of 1,500 million units per annum, meeting energy demand of about 0.6 million households. It will also generate 1200 local employment opportunities, displace fossil fuel worth USD 270 million annually and cut CO2 emission by 1.06 million tonnes a year.

Evwind

<http://www.evwind.es>

11 June 2024

Equinor breaks ground on New York offshore wind terminal

Norwegian oil and gas group Equinor ASA on Monday held a groundbreaking at the South Brooklyn Marine Terminal (SBMT) in New York, which will become a hub for offshore wind on the US East Coast. The revitalized port facility will support the company's first US offshore wind project, the 810-MW Empire Wind 1. Last week, Equinor finalized the offtake agreement for the project with the New York State Energy Research and Development Authority (NYSERDA). The Empire Wind plant targets delivering first power in late 2026.

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SBMT is also designed to accommodate future offshore wind projects. Its redevelopment is being executed together with New York City Economic Development Corporation (NYCEDC) and terminal operator Sustainable South Brooklyn Marine Terminal (SSBMT), which is a joint venture of Red Hook Terminals and Industry City. The terminal project will include a staging and pre-assembly site for the Empire Wind 1 turbine components and an onshore substation to connect the wind park directly into the New York City grid. SBMT will also host Empire Wind 1's long-term operations and maintenance base.

RenewablesNow

<http://renewablesnow.com/>

11 June 2024

Construction of Finnish Pilot SMR Plant to Start in 2025

Steady Energy said it is set to start construction of its first LDR-50 district heating reactor pilot plant in Finland next year, with potential sites including the Finnish capital Helsinki and two other cities.

The pilot plant will serve as a full-scale, operational model of the Finnish-designed small modular reactor (SMR). Unlike the actual power plant, the pilot unit will use an electric element to produce heat inside the reactor capsule instead of nuclear fuel. The main purpose is to test operational features and to establish the necessary supply chains with various manufacturers to construct actual plants. The pilot investment is estimated to be about EUR15–20 million (USD16–22 million). Steady Energy said final evaluations of potential sites are under way, with a decision expected by the end of summer. Following this, detailed planning and tendering for construction will commence. After the testing phase, the facility will be used for training and research purposes.

Currently, the proposed locations for the pilot plant include: Salmisaari caves in central Helsinki; Huuhanmäki caves in Kuopio, the regional capital of North Savo in eastern Finland; and the power plant sites at Kymijärvi and Teivaanmäki in Lahti, a regional capital in southern Finland. Steady Energy - which was spun out in May 2023 from the VTT Technical Research Centre of Finland - expects the construction of the first operational LDR-50 district heating plant to begin by 2028, with the first unit expected to be operational by 2030.

Last December, the company signed a letter of intent with municipal energy company Kuopion Energia in Eastern Finland that includes an option for the construction of up to five district heating reactors starting in 2030. That agreement followed a letter of intent signed in October between Steady Energy and Helsinki's energy company Helen for the construction of up to 10 SMRs for district heating. In Finland, more than half of the energy used for heating comes from district heating, which is mostly produced with fossil fuels, peat and biomass. Utilities are seeking ways to swiftly transit away from combustion-based heat production to new and innovative low emission alternatives such as SMRs.

Steady Energy noted that a "significant milestone towards emission-free heating" was achieved in February 2024 when the Finnish Radiation and Nuclear Safety Authority removed the distance-based safety zones for new nuclear plants. This change allows SMRs to be located near residential areas. "Given that district heating plants need to be situated close to urban areas, current city centres often house large coal, peat, gas and oil power plants," the company said. "Replacing these with container-sized small nuclear units will free up valuable land for residents in the heart of cities."

The LDR-50 district heating SMR - with a thermal output of 50 MW - has been under development at VTT since 2020. Designed to operate at around 150°C and below 10 bar (145 psi), Steady Energy says its "operating conditions are less demanding compared with those of traditional reactors, simplifying the technical solutions needed to meet the high

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safety standards of the nuclear industry". It noted that its reactors are affordable enough for municipal utilities to invest in independently. The LDR-50 reactor module is made of two nested pressure vessels, with their intermediate space partially filled with water. When heat removal through the primary heat exchangers is compromised, water in the intermediate space begins to boil, forming an efficient passive heat transfer route into the reactor pool, the company said. The system does not rely on electricity or any mechanical moving parts, which could fail and prevent the cooling function.

world-nuclear-news

<http://www.world-nuclear-news.org/>

12 June 2024

UK offshore wind goals 18 years behind

The UK could miss its 2030 offshore wind targets by as much as 18 years, according to a [report](#) published Friday by the IPPR. The London-based research company said that, given the country's current trend, it is not set to meet its offshore wind targets until at least 2048. To achieve its 50GW ambition by 2030, the IPPR said that the UK must triple installation of offshore wind in the next seven years.

According to the report, the UK is also not manufacturing as many wind turbines as it should be. The country does not have any nacelle manufacturing facilities or any large businesses involved in the production of wind towers. The UK currently lags behind European countries such as Denmark, Germany and Spain. Had it carried out wind manufacturing to the same extent as its European counterparts in the past decade, it would have reaped around \$38bn (£29.79bn) in economic activity between 2008 and 2022, claimed the IPPR. The results come despite the fact that the UK has the second-highest offshore wind capacity in the world behind China. In contrast to the UK, China has an established offshore wind manufacturing sector. The Asian nation accounts for three-fifths of the world's manufacturing capacity in wind nacelles and blades, and Chinese businesses dominate the market in building specialised vessels for offshore wind deployment.

The IPPR recommended that the UK revives its wind turbine manufacturing industry to reduce its imports and energy dependence on other countries. Simone Gasperin, associate fellow at IPPR, said: "The UK has missed out from becoming a world leader not just in wind power but also in wind manufacturing. This has cost thousands of jobs, billions for the economy and is putting future net-zero targets for wind deployment at risk." "However, the UK is uniquely placed to become a world leader in manufacturing equipment for offshore wind farms." The report added that the UK Government must encourage offshore wind investment through policy, including a provision for contracts for difference to ensure that developers have long-term contracts and some guarantee of a return on large fixed-capital investment.

Power-Technology

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

12 June 2024

PJM Publishes Updated Brochure Explaining PJM's RTEP Process

PJM has published a refreshed brochure that explains PJM's Regional Transmission Expansion Plan (RTEP) process and PJM's efforts to meet future grid needs.

The brochure, Regional Transmission Expansion Planning: Meeting the Grid's Future Needs, is designed to help facilitate the discussions PJM is having with states on such questions as:

- How does PJM optimize infrastructure investment in the states it serves?

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- How are transmission and interconnection planning enabling state public policy?

- How does regional planning benefit consumers?

PJM's RTEP process identifies transmission system additions and improvements needed for reliable grid operations now and in the future for the 65 million people in the PJM footprint.

PJM Insidelines

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

12 June 2024

DOE Awards \$12 Million to Tribal Communities to Maximize Deployment of Energy Technology

The U.S. Department of Energy (DOE) announced today \$12 million in funding to 13 American Indian and Alaska Native communities across the nation for projects that will reduce energy costs and increase energy security and resiliency. The selected projects will power their homes and communities, make their buildings more energy efficient, and install microgrids for essential services and resiliency – critical elements to reaching the Biden Administration's goal of net-zero carbon emissions by 2050.

Since 2010, DOE's Office of Indian Energy has invested over \$100 million in more than 190 tribal energy projects across the contiguous 48 states and Alaska, valued at over \$180 million. Through these grants, the Office of Indian Energy continues its efforts, in partnership with Native communities, to maximize the deployment of clean energy solutions for the benefit of American Indians and Alaska Natives. Collectively, the selected projects are estimated to result in nearly 3.5 megawatts of clean energy generation and over 3.5 megawatt-hours of battery storage, serving over 1,300 tribal buildings and saving those communities a combined \$1.8 million annually. The awardees are:

- The Akiachak Native Community (Akiachak, AK) will receive \$123,220 to install energy-efficient retrofits, including furnaces in the laundry building, as well as an LED lighting upgrade and installation of setback thermostats, in five essential multi-use buildings in the Akiachak Village.
- The Kipnuk Light Plant, a tribally owned utility of the Native Village of Kipnuk (Kipnuk, AK), will receive \$855,978 to purchase, install, and integrate a battery energy storage system into its standalone community wind diesel grid which will displace over 34,000 gallons of diesel fuel.
- The Metlakatla Indian Community (Annette Island Reserve, AK) will receive \$1,031,110 to complete the electrical intertie between its islanded community and the mainland community of Ketchikan, Alaska.
- The Native Village of Diomed (Diomed, AK) will receive \$222,848 to install energy efficiency measures in the new store in the Village, Alaska's most remote community situated on an island in the Bering Straits.
- The Native Village of Noatak and the Northwest Arctic Borough (Kotzebue, AK) will receive \$1,997,265 to deploy a high-penetration solar PV and battery energy storage hybrid system to integrate with the Village's diesel electric grid, estimated to save the community more than \$178,000 each year.
- The Village of Aniak (Aniak, AK) will receive \$167,948 to install energy retrofits on four essential multi-use buildings and the Village's Community Center.
- The Village of Cheforak (Cheforak, AK), will receive \$854,964 and in cooperation with its community utility Naterkag Light Plant purchase, install, and integrate a battery storage system into its standalone community wind diesel grid.

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- Dry Creek Rancheria Band of Pomo Indians (Geyserville, CA) will receive \$556,984 to install solar photovoltaics (PV) on 25 homes and a community building, as well as train 4 to 6 tribal members to install and maintain these systems.
- The Pala Band of Mission Indians (Pala, CA) will receive \$3,000,000 to install solar PV systems and battery storage to provide autonomous operations of multiple essential tribal facilities during emergency situations, providing energy resilience.
- The San Pasqual Band of Mission Indians (Valley Center, CA) will receive \$400,566 to install a tribal co-tenant community-scale solar PV system that will serve 80 households and one Tribal Government building.
- The Seminole Tribe of Florida (Hollywood, FL) will receive \$2,158,593 to install solar PV and battery storage on its rural Reservation of Brighton to power four essential facilities.
- The Quinault Indian Nation (Taholah, WA) will receive \$201,044 to install solar PV and battery storage for critical loads in their new 30,000 square foot community facility.
- The Ute Mountain Ute Tribe (Towaoc, CO), through its Towaoc Housing Solar Initiative, will receive \$427,997 to install solar PV systems on 20 homes and a supportive housing facility in the community.

“Climate change has shown us over and over that our infrastructure is no longer up to the task of providing power to many communities. With extreme heat, raging wildfires, and an increasing strain on our energy grid, it’s time we reimagine what our infrastructure looks like so it can meet the needs of the 21st Century. This project will make sure the Dry Creek Rancheria Tribe has the power they need in a cleaner, safer, and more cost-effective way, and it will serve as a new playbook for communities all around the U.S. to follow,” said U.S. Representative Jared Huffman.

Reuters

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

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Summer Outlook report 2024 released today

ENTSO-E releases its [“Summer Outlook” report](#) today, providing an adequacy assessment of electricity supply for the summer of 2024. The report is a product of the cooperation between European TSOs carried through ENTSO-E. It demonstrates the added value of a pan-European scope for adequacy analysis while complementing adequacy assessments carried out on a national and regional level.

The study is based on a series of simulations aiming to analyse potential situations in the European electricity system. The analysis is performed on a wide range of scenarios, taking into account uncertain and variable factors such as wind, temperature, or generation unit outages. This approach provides a robust picture of the range of possible events that could occur in the electricity system over the coming months. The final assessment confirms that resource adequacy to supply European consumers is sufficient to meet the needs of electrical demand during the summer months.

The situation will have to be monitored in the Republic of Ireland, where, due to an ageing powerplant fleet, some adequacy risks have been identified in cases of unplanned outages during periods of low wind generation. However, the availability of non-market resources significantly alleviates the risk. In addition, residual risks are identified in Malta and Cyprus in an event of high unplanned outages and unfavourable weather conditions when demand is high and renewable energy generation is low. This year, the quality of the data presented in the “Summer Outlook” report was enhanced with two major methodological improvements. Firstly, the use of a new climatic database prepared in cooperation with the Copernicus Climate Change Service enhances the precision of the

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analysis. Secondly, the introduction of a new Pan-European Market Modelling Database led to improved data reliability, and therefore more accurate predictive modelling.

ENTSO-E

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14 June 2024

India Requires \$385B Investment for Power Sector Transition

The country aims to reach 500 GW of renewable energy by 2030.

India will need up to \$385b to meet its energy transition goals specifically for the power sector, backed with consistent policy support, according to a report by Moody's. In a report, Moody's said that India will have to secure around \$190b to \$215b of investment over the next seven years to achieve its target of 500 gigawatts of renewable energy capacity by 2030. To support the capacity growth, India will also need another \$150b to \$170b of investment for electricity transmission and distribution, and energy storage.

Abhishek Tyagi, a Moody's Vice President and Senior Credit Officer, said the sizeable project pipeline will keep the financial leverage of renewable energy firms at a high level over the next two to three years, but the leverage of government-related issuers will stay moderate due to strong balance sheets. "We expect the strong growth in India's renewable energy capacity to continue, although coal will remain a major source of electricity generation over the next 8-10 years," Tyagi added.

Moody's noted that the country was able to raise its renewable energy mix to around 43% by the end of fiscal year 2024 ending in March. On the back of strong policy support. Continuing the support will enable India to make significant progress toward its 2030 transition targets and net-zero goals by 2070.

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