WORLD POWER SYSTEMS REVIEW

15 November 2024

1 November 2024

RWE secures final permit for 1.1GW Thor offshore wind farm in Denmark

RWE has received the offshore construction permit for its 1.1GW Thor offshore wind farm in the Danish North Sea.

Granted by the Danish Energy Agency, the approval marks the final regulatory clearance needed for the company to initiate offshore construction. RWE plans to commence offshore work in spring 2025. Located roughly 22km off the west coast of Jutland, the Danish offshore wind facility will feature 72 SG 14-236 DD wind turbines from Siemens Gamesa. Half of the turbines will incorporate CO2-reduced steel towers, and 40 will be equipped with recyclable rotor blades.

The project is expected to generate enough clean energy to power over one million households in Denmark. Cable installation and the construction of an onshore substation in the municipality of Lemvig for the Thor project are currently underway. RWE aims to prepare the seabed for foundation installations in early 2025, with the turbine installation phase scheduled to begin in 2026.

The Thor offshore wind farm is projected to be fully operational by the end of 2027. The German energy company intends to carry out turbine installations from the port of Esbjerg, with the port of Thorsminde serving as the primary base for operations and maintenance. This operations hub is expected to bring 50-60 jobs to the local community.

RWE offshore wind chief operating officer Thomas Michel said: “With our Thor project we are delivering Denmark’s largest offshore wind farm to date. But it is not just the size of the project that makes us ambitious. “We are also leading the way with investments in new sustainable technology with recyclable rotor blades and turbine towers made of greener steel.” Last year, in April, RWE selected the preferred suppliers for all main components, including wind turbines, jacket foundations and transmission systems for the Thor offshore wind farm.

In a separate announcement, RWE revealed it has signed a 15-year power purchase agreement (PPA) with electric vehicle (EV) manufacturer Rivian for the electricity from the 127MW Champion wind project in West Texas, US. Under the PPA, electricity from RWE’s upgraded windfarm in Nolan and Mitchell Counties will help supply Rivian’s fast-charging network, the Rivian Adventure Network, with clean energy.

NS Energy
http://www.nsenergybusiness.com/

4 November 2024

FERC rejects interconnection pact for Talen-Amazon data center deal at nuclear plant

FERC’s decision is a surprise to investors, according to the investment firm Jefferies. “From our extensive investor conversations ... very few investors, including us, expected an outright FERC rejection of the ISA,” the company said Sunday. Jefferies expects a “sharp negative share response” for Constellation Energy, Talen, Vistra and Public Service Enterprise Group — companies that own nuclear power plants that could serve data centers.

Constellation’s shares fell 12.6% to $225.65/share on Monday morning, while Talen stock dropped 8% to $160/share, PSEG dipped 4.8% to $33.10/share and Vistra declined 6.3% to $112/share.

FERC’s order likely adds to uncertainty about the agency’s position on co-location, according to ClearView Energy Partners. “Amid this ambiguity, data centers could pursue more virtual power purchase agreements, at least in the near term, but we are skeptical that interest in co-location with existing, new (or reopened) power plants could completely wane,” the research firm said Monday.

The decision comes as data center companies have been exploring co-locating their facilities at existing power plants. FERC held a technical conference on the issue on Friday during which one of the main issues was ensuring that co-located load paid its fair share of grid costs.

In the move that led to FERC's decision on the ISA, Talen Energy said in March it sold a data center campus in Pennsylvania to Amazon's cloud computing unit, Amazon Web Services, for $650 million. Talen intends to sell power to AWS from its 2,228-MW stake in the Susquehanna nuclear power plant, according to the company. AWS has agreed to buy power from Talen in 120-MW increments for the data center, which could grow to 960 MW, according to Talen. To facilitate the sale of power to the co-located data center, PJM in June asked FERC to approve an amended ISA among the grid operator, Susquehanna Nuclear and PPL Electric Utilities. The amended ISA would have increased the behind-the-meter connection between the power plant and the co-located data center to 480 MW from 300 MW in the existing ISA.

American Electric Power and Exelon — on behalf of their utilities — challenged the ISA, in part because they claim it could cause an annual shift of up to $140 million in transmission costs onto PJM ratepayers.

In its decision, FERC said PJM failed to meet its high burden to show that its pro forma ISA was inadequate for the Talen-Amazon arrangement at the Susquehanna nuclear plant. PJM claims that the proposed amendments in the ISA address specific circumstances around the Susquehanna interconnection, and that its approval by FERC could be limited to those circumstances, according to Christie and See. However, significant aspects of the proposed non-conforming ISA provisions rely heavily on a co-location guidance document PJM issued after a stakeholder process failed to reach an agreement on rules for co-locating load, according to the decision.

"This raises questions regarding whether PJM intends to offer these terms to all similarly situated interconnection customers," Christie and See said. "We conclude that these provisions demonstrate that PJM has not met its burden to show that these provisions are necessary for any interest unique to the interconnection of the Susquehanna [power plant.]"

In his dissent, Phillips said the "first of its kind" co-location arrangement raised unique issues that warrant a non-conforming ISA. Phillips said he would have accepted the proposed ISA and required PJM to submit regular filings to provide transparency into the arrangement's operations, including on disputed issues, such as back-up service.

The decision creates a national security risk, according to Phillips. "Maintaining our nation's leadership in this 'era defining' technology will require a massive and unprecedented investment in the data centers necessary to develop and operate those AI models," Phillips said. "And make no mistake: Access to reliable electricity is the lifeblood of those data centers. I am deeply concerned that in failing to demonstrate regulatory leadership and flexibility we are putting at risk our country's pole position on this critically important issue." Christie and See said Phillips failed to show how they made a legal mistake in their decision. "The dissent makes generalized claims about alleged adverse impacts that the order will have on reliability and national security, but offers no details about how the order will impinge on either," they said.

In a concurrence, Christie said he has an open mind on co-location issues. "Co-location arrangements of the type presented here present an array of complicated, nuanced and multifaceted issues, which collectively could have huge ramifications for both grid reliability and consumer costs," Christie said. "Were we to approve this proposal at this time, as the dissent advocates, we would be setting a precedent that would be used to justify identical or similar arrangements in future cases." Talen is evaluating its options after

FERC's decision, with a focus on commercial solutions, the independent power producer said in a statement Sunday.

"FERC's decision will have a chilling effect on economic development in states such as Pennsylvania, Ohio, and New Jersey," Talen said. "The data center economy will require an all-of-the-above approach to satisfy the increased demand, including co-location such as Talen's arrangement with AWS, hybrids that co-locate primary power behind the meter while using grid power for back-up, and front-of-the-meter connections to utility transmission."

Exelon said it appreciates FERC creating an opportunity to consider co-located load in a holistic way. "Exelon is excited about the economic possibilities data centers can bring to the communities we serve, and we also believe the U.S. needs to be a leader in artificial intelligence," the Chicago-based company said in a statement. "However, the energy demands must be met in a way that is fair to all customers."

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

4 November 2024

ENTSO-E publishes the Interim (Factual) Report on the Grid incident in South-East Europe of last June

On Friday, 21 June 2024, a significant incident occurred in South-East Europe (SEE), which led to a major disruption in the power system of Continental Europe (CE). The incident resulted in a substantial loss of the capacity of supplying power with the consequence of disruption to meet temporally the electricity demand. This incident affected Albania (OST), Bosnia and Herzegovina (NOSBiH), Montenegro (CGES), and Croatia (HOPS). The event was characterised by a series of single episodes occurring in the transmission network, which led in the transmission network, which ultimately led to a (partial) blackout in these four countries.

ENTSO-E publishes the Interim (Factual) Report which provides a description of the system conditions before the incident, recounts the evolution those conditions during the event, as well as the steps taken directly after the incident took place. Furthermore, it outlines the communication between the coordination centres/synchronous area monitors and the TSOs. It also includes the assessment of the incident based on the Incident Classification Scale (ICS) Methodology (developed in accordance with Regulation (EU) 2019/943), according to which the incident is classified as a scale 3.

This Interim (Factual) Report is the result of an intensive process to collect and prepare data about the event which started immediately after its resolution. This report is to serve as basis for further investigation by an Expert Panel (composed of ENTSO-E, ACER and National Regulatory Authorities) shall prepare a Final Report.

ENTSO-E
http://www.entsoe.eu

5 November 2024

Sweden rejects Baltic Sea wind farms, citing defense concerns

Sweden has rejected applications to build 13 offshore wind farms in the Baltic Sea due to defence concerns, while giving the go-ahead to one on its west coast, the government said on Monday. Defence Minister Pal Jonson told a press conference that building wind farms in the Baltic Sea would pose defence risks, not least by making it harder to detect and shoot down missiles using Sweden's Patriot batteries in case of a conflict.

Jonson said Baltic wind farms could halve the time Sweden had to react to a missile attack to just one minute. Sweden's capital is just 500 kilometres (311 miles) from the Russian exclave of Kaliningrad. "In the current, very serious international security climate

with Sweden where it is and with Kaliningrad where it is ... the Swedish armed forces judge it would bring unacceptable risks and the government also has that view," Jonson told reporters.

The decision raises questions over how Sweden can meet its plans to double annual electricity production to around 300 terawatt-hours (TWh) over the next two decades.

Demand is expected to soar as industry and the transport sector phase out using fossil fuels. Plans for "green" production of steel, batteries and fertilisers in the Arctic north also depend on plentiful cheap, clean electricity. The government's plan is to build out nuclear power. It aims to have an additional 2,500 megawatts of nuclear power by 2035 and 10 new reactors a decade later, but critics say demand is expected to rise faster than new reactors can be built.

The government did give the go-ahead on Monday to the Poseidon wind farm off the west coast, which should produce around 5.5 TWh of electricity a year, if it is built. State-owned utility Vattenfall said in September it was halting development of its planned Kriegers Flak project - also off the west coast - after the government scrapped subsidies for coupling offshore wind to the electricity grid.

Poseidon is the third offshore wind project to get the green light since the government took power in 2022. A further 10 applications are still waiting for a government decision. Wind power, almost exclusively land-based, accounted for 21% of Sweden's electricity generation in 2023. Hydro power provides around 40% and nuclear 29%.

Reuters
http://www.reuters.com/

8 November 2024

Low wind output in Europe causes price spike

This is according to insights released by Montel Analytics this week, which showed a spike in day-ahead prices and power imports as a result of low wind generation.

“There is no wind in the centre and north of Europe. There is a battle for that power, which is causing the shortage,” said Jean-Paul Harreman, managing director at Montel Analytics. According to Montel, two evening hours saw a peak of EUR 800/MWh, while spot baseload for Thursday saw a near two-year high. And while Thursday’s day-ahead market was less tight, the most expensive hour still hit EUR 408.26/MWh.

Harreman added: “Oil or pumped storage are likely the marginal units in the merit order. However, at the prices we are seeing, it is more likely an effect of scarcity and bidding strategies than a pure reflection of marginal cost of power production.” Montel predicts scenarios like this could reoccur in winter, as temperatures drop together with a further drop in levels of wind generation. The analytics firm suggests German wind power generation could deliver less than 0.5GW in the early evening.

Harremen explained that winter demand has not reached its peak yet and will add additional pressure once it does. “Demand is not at top levels yet. French nuclear is foreseen to provide around 8GW of additional generation to the market in Europe but if it gets colder, French demand will add additional pressure as it is very temperature sensitive.” Having shut its nuclear capacity in 2023 and returning many coal units to stand-by grid reserve, Germany’s generation capacity has decreased significantly. According to Ember, Germany’s largest source of electricity is wind (27.2%), which overtook coal (26.8%) in 2023. Its share of wind and solar (39%) is three times the global average (13%). In 2000, coal generated 52% of the country’s electricity, but by 2023 this had fallen to 26.8%.

Power Engineering
http://www.powerengineeringint.com/

8 November 2024

Cuba left reeling after Category 3 hurricane ravages island and knocks out power grid

Cuba was left reeling Thursday after a fierce Category 3 hurricane ripped across the island, destroying hundreds of homes, knocking out the country's power grid and damaging other infrastructure.

No fatalities were immediately reported in Cuba, and Hurricane Rafael had weakened to a Category 2 storm as it swirled across the gulf toward Mexico where heavy rains were expected in the coming days. Rafael crossed a western portion of Cuba on Wednesday evening about 75 kilometers (45 miles) west of Havana, where José Ignacio Dimas returned home from his night shift as a security guard to find his apartment building in the historic center of the city had collapsed. More than 461 homes collapsed because of the hurricane, Cuban authorities said. More than 283,000 people from across the country had been evacuated from their homes, 98,300 of which were in Havana, according to authorities.

Streets across the western swath of the country were riddled with utility poles, wires and trees. Lázaro Guerra, electricity director for the Ministry of Energy and Mines, said power had been partially restored in the island's western region and that generation units were powering back up. But he warned that restoring power would be slow-going as crews took safety precautions.

On Thursday morning, the hurricane was located about 260 miles (420 kilometers) west-northwest of Havana. It had maximum sustained winds of 105 mph (165 kph) and was moving west-northwest at 9 mph (15 kph).

Thousands of customers in Jamaica and Little Cayman remained without power as crews worked to restore electricity after the storm. Rafael was expected to keep weakening as it spins over open waters and heads toward northern Mexico, although the hurricane center warned there was "above average uncertainty" in the storm's future track.

Meanwhile, many Cubans were left picking up the pieces from Wednesday night, after a rocky few weeks in the Caribbean nation. In October, the island was hit by a one-two punch. First, it was hit by island-wide blackouts stretching on for days, a product of the island's energy crisis. Shortly after, it was slapped by powerful hurricane that struck the eastern part of the island and killed at least six people.

Classes and public transport were suspended on parts of the island and authorities canceled flights in and out of Havana and Varadero. Thousands of people in the west of the island had been evacuated as a preventative measure.

Rafael is the 17th named storm of the season. The National Oceanic and Atmospheric Administration predicted the 2024 hurricane season was likely to be well above average, with between 17 and 25 named storms. The forecast called for as many as 13 hurricanes and four major hurricanes. An average Atlantic hurricane season produces 14 named storms, seven of them hurricanes and three major hurricanes.

AP News
http://apnews.com

8 November 2024

Poland opens largest gas power plant, supplying 5% of national electricity demand

Poland's largest gas-fired power station, which will supply enough electricity to meet 5% of national demand, has gone into operation. Its operator, state-owned PGE, which is Poland's biggest power producer, claims that the plant is "one of the most modern in Europe".

The investment "will strengthen Poland's energy security and ensure a stable energy supply for more than 3 million households," Dariusz Marzec, PGE's CEO, declared at the launch ceremony.

The PGE Gryfino Dolna Odra power station, which cost over 3.7 billion zloty (€856 million) to develop, is located in the West Pomerania province in northwest Poland and consists of two gas-steam units, each with a gross capacity of 683 MW. Its nominal efficiency exceeds 63%, which PGE says makes it over 70% more efficient than old coal-fired units. Poland still relies on coal to produce almost two thirds of its electricity, by far the highest proportion in Europe, but has in recent years been moving towards lower-emission sources.

The new plant "has been designed to meet the most stringent emission limits," claims PGE, with emissions of dust and sulphur oxides reduced to almost zero. Its emission rate is estimated at 330g carbon dioxide (CO2) per kWh of generated electricity, which is almost three times lower than in coal-fired units.

The launch of the power station was welcomed by deputy climate minister Miłosz Motyka, who said that it will "not only have a direct impact on the stability of the electricity system, i.e. on security, but is also another step in the transformation of our economy". "Gas investment is a very important part of the energy transition and the move towards climate neutrality," added Robert Kropiwnicki, deputy minister of state assets. "We are constantly expanding the RES [renewable energy] system," said Kropiwnicki, but renewables "need parallel stable energy sources working as a base, and at the moment there is no more flexible capacity than gas capacity".

Just this week, Poland was forced to import energy from neighbouring Germany, Sweden and Ukraine as a lack of wind led to a decline in energy production from wind turbines, reports Business Insider Polska. Both Poland's previous government, which left office in December 2023, and its current one has committed to a strategy to phase out coal and reduce emissions, in particular by developing renewable and nuclear power.

However, the country's first nuclear plant is not scheduled to go online until 2035 at the earliest and gas is also seen as playing a vital role. Its share of the energy mix is set to rise to between 15% and 31% by 2030, up from 8.5% last year, according to estimates published by the Polish Economic Institute.

Last year, PGE unveiled plans to achieve climate neutrality by 2040, ten years earlier than previously planned. However, it withdrew from that strategy less than a week later following complaints from coal miners, a politically influential group.

Notes from Poland
http://notesfrompoland.com/

12 November 2024

Ukraine can no longer buy electricity from Europe

A wave of additional emergency power outages swept across Ukraine on November 11. The thing is that on that day, energy traders lost the opportunity to buy the necessary capacity in Europe. The price turned out to be so exorbitant that local legislation blocked the conclusion of contracts, even if someone decided to buy at a huge price.

In countries from which Ukraine usually imports electricity, its price has literally skyrocketed. Quotes have approached 900 euros per MWh during peak hours. Ukrainian companies simply cannot afford to buy the necessary lots. In addition, there is a price limit on the local exchange, set by law, which makes selling European electricity there impossible.

On November 11 and 12, wholesale electricity prices in Hungary, Romania and Bulgaria jumped to a record high. On average, by 72-95% per day, i.e. above 200 euros per MWh. However, during peak hours, wholesale electricity prices increased several times.

Thus, in Hungary, prices increased to 737 euros per MWh on November 11 and to 895 euros per MWh on November 12.

In Romania, the wholesale price of electricity during peak hours on November 11 reached 584 euros. In Slovakia – 244 euros. In Poland, on November 12, wholesale electricity will cost up to 330 euros per MWh during peak hours. Such data is published by Nord Pool, HUPX and Energy price.eu.

As you can see, the price jump was very significant for Europe, and for Ukraine, it was practically prohibitive. The drop in electricity imports from the EU to Ukraine is also due to the fact that current prices significantly exceed the price limits on the Ukrainian Energy Exchange, which are set by the national regulator. According to the law, they should not be higher than 200 euros per MWh.

With the current cost in the European Union, the Ukrainian energy system will not see imported capacity for a very long time, unless the legislation is changed and someone is found who will buy it at a price that is unaffordable for Ukrainians.

Reporter
http://topcor.ru/

12 November 2024

Feasibility study for Black Sea underwater cable project ready

In support of the Biden-Harris Administration's Investing in America agenda, today the U.S. The feasibility study for the Black Sea underwater power cable project has been completed, First Deputy Prime Minister of Georgia and Minister of Economy and Sustainable Development Levan Davitashvili said at the "Ministerial Dialogue: Expanding Investment to Triple Renewable Energy Use and Double Energy Efficiency" held within the framework of COP9.

Davitashvili noted that they are preparing to conduct thorough, detailed research in the Black Sea: "Georgia is one of four countries that signed an agreement on the development of the Green Energy Corridor in the South Caucasus. Georgia is among the first countries to join the project." He also noted that this project is very important for Europe's energy security.

On December 17, 2022, Azerbaijan, Georgia, Romania, and Hungary signed a strategic partnership agreement in Bucharest regarding the construction of the Black Sea underwater power cable. The cable's transmission capacity is 1 GW, with a length of 1,195 km. In June 2023, Bulgaria announced its joining to the project.

In May 2024, energy operators from Azerbaijan, Romania, Georgia, and Hungary signed a memorandum on establishing a joint venture within the framework of implementing the Black Sea Energy project. The cable will be laid within 3-4 years. The European Commission plans to allocate 2.3 billion euros for the project.

Report News Agency
http://report.az/

12 November 2024

Biden-Harris Administration Establishes Bold U.S. Government Targets for Safely and Responsibly Expanding U.S. Nuclear Energy

Since Day One, the Biden-Harris Administration has taken historic action to tackle climate change and invest in America. The Administration has pursued the most ambitious clean energy agenda in our nation's history and has taken key steps to ensure that nuclear energy is poised to play a key role in the clean energy transition. Nuclear power currently delivers about 20% of the nation's electricity and half of America's carbon-free power in a safe, clean, reliable, and affordable way to communities across the country. Nuclear power

plants also support local economies through sustained, high-paying jobs and contributions to the tax base to help ensure that communities are not left behind by the United States' transition to clean energy. Increased investment in the safe and responsible deployment of nuclear energy and associated supply chains will strengthen our national security, increase energy reliability and resilience, grow America's economy, and restore American leadership and global competitiveness in this critical industry. The U.S. government is supporting the responsible deployment of domestic nuclear energy in a manner that considers all communities and advances core values and commitments on public health, safety, environmental protection, environmental justice, meaningful community engagement, community benefits, energy affordability, and Tribal sovereignty.

That's why the Biden-Harris Administration is establishing domestic nuclear energy deployment targets as part of an ambitious, first-of-its-kind framework outlining actions that the U.S. government can take to safely and responsibly expand nuclear energy capacity in the United States.

As outlined in this framework, the United States will aim to deploy 200 GW of net new nuclear energy capacity by 2050, at least tripling current U.S. capacity. The net new capacity gains are anticipated to come from multiple sources, including building new nuclear power plants, uprating existing reactors, and restarting reactors that have retired for economic reasons.

Achieving this long-term target will be enabled by achieving the following nearer term targets:

- Jumpstarting the nuclear energy deployment ecosystem with 35 GW of new capacity by 2035 that will be operating or under construction in the United States.
- Accelerating the capability of the nuclear energy deployment ecosystem by ramping to a sustained pace of producing 15 GW per year in the United States by 2040, in support of both U.S. and global project deployments.

These targets reflect ambitious but achievable goals to serve as a call to action for the nuclear energy industry and signal that the U.S. government is working and will continue to work to facilitate the safe and responsible deployment of nuclear energy and related infrastructure and job creation. The targets aim to restore and exceed the U.S. nuclear energy industry's deployment capacity decades ago. Achieving these targets into a new era of nuclear energy deployment will require active collaboration among all public and private stakeholders in the domestic and international nuclear power sector. Expanding U.S. nuclear energy capacity in accordance with these targets will:

- Generate hundreds of thousands of sustainable, good-paying jobs in the United States;
- Strengthen domestic nuclear energy supply chains and American manufacturing;
- Enhance energy reliability, grid resilience, and affordability
- Support the goal of achieving a net-zero emissions economy by no later than 2050; and
- Reinforce American leadership and global competitiveness in nuclear energy technology and innovation.

The framework establishes a set of guiding principles for successfully scaling up nuclear energy in the United States in a manner that advances core values and commitments, including ensuring public health and safety protecting the environment, ensuring energy affordability, meaningfully engaging with communities and delivering local community benefits, honoring Tribal sovereignty, advancing environmental justice, and promoting national security.

The Biden-Harris Administration's framework for safely and responsibly expanding nuclear energy builds on existing efforts across the Department of Energy, Nuclear Regulatory Commission, Department of Defense, and other agencies by outlining actions

that the U.S. government can take, within existing statutory authorities to expand nuclear energy, in collaboration with the private sector and power customers. This framework outlines over 30 specific actions across nine key pillars:

- Building new large, gigawatt-scale reactors
- Building small modular reactors (SMRs)
- Building microreactors
- Extending and expanding existing reactors, through license renewals, power uprates, and restarting recently retired reactors
- Improving licensing and permitting
- Developing the workforce
- Developing component supply chains
- Developing fuel cycle supply chains
- Managing spent nuclear fuel

Recognizing the urgency of acting to combat the climate crisis, as well as the economic and national security benefits of investing in a broad scope of American climate solutions, the U.S. government is working to responsibly deploy domestic nuclear energy in line with our core values. At the same time, the framework recognizes the importance of tackling the harms of past domestic nuclear programs, including by investing in and prioritizing the cleanup of abandoned uranium mine waste in local communities and on Tribal lands. To help achieve these objectives and inform implementation of this Framework, the Administration is launching Tribal consultation and will issue a Request for Information seeking public comment.

This is a critical moment for American nuclear energy. By acting with urgency and purpose, we can achieve a safe, clean, reliable, and affordable electricity system to power our homes, businesses, and industries while tackling the climate crisis and investing in America's future.

WH.GOV
http://www.whitehouse.gov/

12 November 2024

Empowering Great Britain for a clean and flexible energy future with the next generation of interconnectors

In a major boost for energy security and the shift to clean power, Ofgem has today approved five major new undersea energy links which will further harness the vast potential of North Sea wind and help power millions of homes.

With Great Britain expected to be a net exporter of energy by 2030* the greenlit projects will capitalise on the growing amount of homegrown wind power by providing additional channels for exporting in times of energy surplus and importing during times of more limited domestic supply. Two of the projects will also create Great Britain's first ever Offshore Hybrid Assets (OHAs) which can directly feed energy generated by offshore wind farms into both our own and European grids.

The new connections will keep consumer costs as low as possible through Ofgem's cap and floor rules which limit revenue for interconnectors.

Additionally, the new OHAs will:

- maximise the efficiency of both interconnection and transmission by providing one-stop connections which can transmit electricity from windfarms to grids when they are generating, and which can provide more interconnector capacity at other times

- cut down on the footprint of infrastructure needed by combining both interconnection and offshore wind connection into a single asset, thereby reducing community and environmental impacts as well as costs
- make Great Britain a world leader in this emerging new energy technology

Akshay Kaul, Director General for Infrastructure at Ofgem, said: "We've carefully assessed all the proposed projects and only approved those ones which deliver for consumers in terms of value, viability and energy security.

"As we shift to a clean power system more reliant on intermittent wind and solar energy, these new connections will help harness the vast potential of the North Sea and play a key role in making our energy supply cheaper and less reliant on volatile foreign gas markets and associated price spikes.

He added: "With Britain expected to become a net energy exporter in the 2030s, these connections will equip us with world leading technology to export more of our surplus clean power overseas. They will also provide greater access to energy imports, which together with domestic low carbon energy sources such as nuclear and biomass, will provide vital back-up energy sources when renewable generation is more limited here."

The greenlit new projects are:

Interconnectors:

- Tarchon Energy Interconnector this 610km subsea cable between East Anglia and Niederlangen, Germany would deliver upto 1.4GW of electricity capacity.
- Mares Connect this 190km subsea cable between Bodelwyddan, North Wales, to the Republic of Ireland, which will deliver 0.75GW of additional electricity capacity
- LirIC this approximately 142km subsea electricity interconnector between Kilroot in Northern Ireland to Hunterston in Ayrshire, Scotland will deliver 0.7GW of additional electricity capacity

OHA (Offshore Hybrid Assets):

- LionLink this OHA will connect Dutch offshore windfarms to the GB grid with an onshore landing point in Suffolk and providing upto 1.8GW of clean electricity to each country
- Nautilus, this OHA will connect Belgium offshore windfarms to the GB grid, coming ashore at the Isle of Grain in Kent, and providing upto 1.4GW of offshore wind to each country through subsea electricity cables.

The new projects are all expected to be complete and operational by the end of 2032.

Ofgem
http://www.ofgem.gov.uk/

13 November 2024

Solar stocks plummet, market is "wildly emotional" about Trump

In the trading day following the announcement that Donald Trump was elected U.S. president in the 2024 election, solar stocks took a nosedive.

The Invesco Solar ETF (TAN) fell 11%, major U.S. manufacturer First Solar was down 12%, inverter manufacturers Enphase and SolarEdge pulled back roughly 19%, residential solar installer Sunrun was down 26% and its competitor Sunnova has crashed over 50%. Utility-scale solar tracker manufacturer Nextracker fell about 6.5%, while its competitor Array Technologies has dropped nearly 20%. The solar stock market has broadly continued to dwindle in the wake of the election result.

John Berger, chairman, president and chief executive officer of residential solar and battery energy storage provider Sunnova joined CNBC for "Closing Bell Overtime" to discuss the market fallout, which he believes is divorced from reality. "The market is out of control in the sense of wildly emotional, lot of speculation," said Berger.

Sunnova went public under the first Trump administration and hit a share price all-time high of $54 a share during that administration. Since then, high interest rates and regulatory challenges have slowed growth, but the steady rise in electricity prices and increasing electricity demand keep the fundamentals of residential solar strong. Berger said that the market is reacting fearfully to potential repeals of clean energy tax credits within the Inflation Reduction Act (IRA), but this risk is being overblown. He pointed to the hundreds of billions of dollars in investments in Republican districts that have been generated by manufacturing tax credits within IRA.

"We don't think the IRA will change much, maybe around the edges a little bit, but it's been so successful. Looking at domestic manufacturing, which both parties agree with, of solar panels, batteries, inverters, and electric vehicles… About 85% of those capital investments are in Republican districts," said Berger.

Analysts have generally agreed that the 45X manufacturing tax credit and the 10% domestic content bonus within the IRA are likely to be sustained under a Trump presidency. Bringing back U.S. manufacturing jobs is something both sides of the aisle are supporting.

Raymond James analyst Pavel Molchanov said the fears of tax credit repeal are "overblown." As for Sunnova, the company appears to have preemptively altered its business model to thrive in a Trump administration. The company in September required that all new installations contain enough U.S.-made components to qualify for the domestic content bonus, a significant cash generation opportunity for the company.

Berger said that Sunnova may soon move to 100% made-in-the-USA parts, which would not only support the U.S. manufacturing boom by creating demand for U.S. products, but would also insulate the company from tariffs, which have been a central strategy of the Trump administration's plans. Today, most solar products are imported to the U.S., largely from Chinese companies. In a tariff-heavy Trump administration, solar components could become a lot more expensive. However, for Sunnova, a fully U.S.-based supply chain essentially makes the company tariff-immune.

"Our company doesn't buy much that's not made here anymore, and we're likely to not buy anything that isn't made here in the near future," said Berger. Despite the recent crash and burn for Sunnova's stock, Berger remains highly optimistic about the near-term. The company has shifted strategy to slow growth and focus on cash generation to convert on upcoming debt that is due to be paid. The company laid out a cash generation guidance of $100 million in 2024, and that is forecast to balloon to $350 million for 2025 and $400 million in 2026. Some of the cash generation will be attributed to converting tax credits, including the domestic content bonus.

"We're in a great spot going into what we believe will be a very strong Trump economy," he concluded.

pv-magazine
http://pv-magazine-usa.com/

13 November 2024

New York's Electric Grid Prepared to Meet Winter Demand

Adequate supplies are in place to meet electricity demand under forecasted conditions for the coming winter according to the New York Independent System Operator's (NYISO) annual assessment, which also highlights future concerns, including declining reliability margins and fuel availability to the generation fleet.

"The findings of our annual assessment show adequate resources to serve electric demand this winter," said Aaron Markham, Vice President of Operations for the New York Independent System Operator. "However, disruptions in fuel supplies to generators could result in operational challenges, especially during extreme winter weather conditions."

The NYISO's 2024-2025 Winter Assessment found that 29,514 megawatts (MW) of power resources are available to meet a forecasted peak demand of 23,800 MW. Last winter, peak demand reached 22,754 MW on January 17, 2024. The all-time record for winter peak demand was 25,738 MW on January 7, 2014. Peak demand is a measurement of the average total electric demand by consumers for a one-hour period. One megawatt of electricity can serve approximately 800-1,000 homes. As New York moves closer to becoming a winter-peaking system, expected by the middle of the next decade, NYISO continues to voice concerns about declining reliability margins.

The NYISO's winter assessment also finds that disruptions in fuel supplies may result in operational challenges given system reliance on firm fuel generation during extreme cold weather events. NYISO monitors regional fuel supplies and surveys most generating stations to review preparations for the upcoming winter, including fuel switching capabilities, fuel procurement and cold-weather preventative maintenance. There is also close and ongoing coordination by the NYISO with New York State agencies, other grid operators, and the natural gas industry, including the Interstate Natural Gas Association of America, the Natural Gas Supply association, and the Northeast Gas Association.

NYISO
http://www.nyiso.com/

13 November 2024

Cadillac introduces electric 3-row SUV VISTIQ starting at $78,790

Cadillac is introducing the 2026 Cadillac VISTIQ, a luxury three-row SUV. VISTIQ will be sold globally, including in the US and Canada, with production starting in early 2025 at General Motors' Spring Hill Manufacturing plant in Tennessee.

VISTIQ's standard dual motor all-wheel drive system delivers a powerful driving experience. Standard chassis damping control and available Air Ride Adaptive suspension, combined with GM's purpose-built electric drivetrain, contribute to VISTIQ's smooth ride and handling. VISTIQ includes a 102 kWh battery pack and offers 615 horsepower and 650 lb-ft (880 N·m) of near-instant torque. Cadillac estimates VISTIQ will offer 300 miles of range.

Additional performance features include:

- Available Active Rear Steer improves driver maneuverability and turning diameter, making the vehicle feel smaller and more agile.
- Available 23-inch wheels provide elevated performance with luxurious styling. Other wheel choices include standard 21-inch wheels and available 22-inch wheels.
- Road Noise Cancellation provides a quieter cabin.

VISTIQ comes equipped with Vehicle-to-Home (V2H) Bidirectional Charging capabilities, which when paired with the available GM Energy V2H Bundle, allows for the transfer of electric power from the vehicle and a properly equipped home during a blackout.

Green Car Congress
http://www.greencarcongress.com/

14 November 2024

Generative AI deployment at Diablo Canyon is a first for US nuclear power sector: PG&E

Pacific Gas & Electric is deploying Atomic Canyon's Neutron Enterprise solution at its 2,256-MW Diablo Canyon nuclear plant in what would be the first-ever on-site use of generative AI at a U.S. nuclear power facility, the companies said Wednesday.

Built and run on an NVIDIA AI platform, Neutron Enterprise will "transform document search and retrieval, and deliver significant cost savings and improved operational efficiency," the companies said. The solution could dramatically reduce plant employees' time spent searching Diablo Canyon's vast records management system and eventually play a more direct role in nuclear plant construction and operations, executives at Diablo Canyon and Atomic Canyon told Utility Dive.

This initial deployment, set to begin in early 2025, previews a much wider range of potential use cases for generative AI at the plant, including data analysis, maintenance, operations, design and engineering functions, Diablo Canyon Vice President of Business and Technical Services Maureen Zawalick said.

Diablo Canyon's records management system has millions of pages of documents from its more than 40 years of existence, many of which were converted to PDF from obsolete formats like microfiche, Atomic Canyon co-founder and CEO Trey Lauderdale told Utility Dive.

Searching and analyzing these records is far more complicated and time-consuming than a typical Internet query.

An operational issue at the plant might necessitate "hours or days of work" to search the records management system for relevant terms, download data to Excel and create equations to analyze the information, all as preamble to the development and implementation of a solution to the problem, Zawalick said. A well-tuned AI solution could do much of the legwork in "seconds," she added.

"[The question is] how can we maximize our human power toward decision-making and data analysis," she said. "This will help a lot for our maintenance strategy and our overall operational efficiency," though PG&E won't have hard data on time savings and avoided maintenance until the tool has been in use for some time, she added.

Neutron Enterprise is built on Atomic Canyon's FERMI AI models, which the company developed specifically for the nuclear energy sector in collaboration with the U.S. Department of Energy's Oak Ridge National Laboratory, PG&E and Atomic Canyon said Atomic Canyon's earlier attempts to train more generalized large-language models on the 53 million pages of records in the U.S. Nuclear Regulatory Commission's Agencywide Documents Access and Management System database were unsuccessful because the models struggled with the super-technical nuclear lexicon, Lauderdale said.

FERMI now "[delivers] results that are 40% more accurate and twice as efficient as existing solutions," Atomic Canyon says. Atomic Canyon took nearly a year to learn more

about Diablo Canyon's operational needs and train the FERMI models, whose optical character recognition capabilities allow them to read digitized documents, Lauderdale said. The company is now installing NVIDIA H100 graphics processing units at the plant to run Neutron Enterprise locally, he added.

Neutron Enterprise is reminiscent of an earlier Lauderdale venture in a highly regulated industry. Though a startup Lauderdale founded in the late 2000s to enable clinical healthcare communications via iPhone eventually gained traction with providers, it faced early pushback from health system administrators concerned about the regulatory and security implications, he recalled.

"People might be cautious when they hear that AI is going to help out at a nuclear power plant," but records retrieval "is a low-risk environment," Lauderdale said.

But Neutron Enterprise could eventually play a larger role in maintenance, operations, design and engineering functions at Diablo Canyon, serving as a "copilot" for plant employees in their day-to-day work, Zawalick said. Generative AI could also assist with cumbersome regulatory processes like those Diablo Canyon recently completed to extend its operational life to 2030, she added.

For its part, Atomic Canyon's hopes for its nuclear AI solutions extend beyond existing plants. For example, improvements in computer vision and wearable augmented-reality devices could streamline onsite documentation requirements and reduce data-gathering errors during nuclear power plant construction, Lauderdale said.

"This is the first major announcement we're making, but our goal is to be the leader in helping both the existing fleet and new construction," he said. "We believe there is a path to safely use AI to help the entire nuclear industry."

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

14 November 2024

MISO shares 2024-25 winter readiness outlook

MISO's annual Winter Readiness Workshop will feature transmission and generation outlooks, and weather forecasts for the upcoming season. The assessment shows adequate resources are available for winter but highlights the potential risks and challenges associated with cold and extreme weather operations.

"Situational awareness is critical for managing the impact of extreme weather events," said JT Smith, executive director – market operations at MISO. "Our seasonal readiness workshops involve coordination with our member utilities, key stakeholders and other industry partners to prepare for uncertainty during the winter months." The weather forecast for MISO varies across the footprint with the North Region trending towards normal temperatures, the Central Region trending slightly warmer than normal and the South Region expected to be above normal and drier than usual. MISO expects winter demand could surpass 107 GW with 122 GW of supply available under normal grid and generation outage conditions, based on the Planning Resource Auction results. The all-time winter record for power demand is 109 GW on Jan. 6, 2017.

"We continue to see the benefits of the seasonal resource adequacy construct," Smith continues. "However, we must continue stakeholder and industry engagement to refine our processes and tools to provide maximum visibility to our operators. This is even more important as we continue to manage reliability through the ongoing energy transition." The two-hour workshop will also include summary results from the annual Generator Winterization Survey, as well as an overview of the emergency power purchase agreements with the Associated Electric Cooperative Inc (Missouri) and the Tennessee Valley Authority. MISO will also provide the results from its Regional Directional Transfer Joint Party

Readiness Workshop. The complete Winter Readiness Workshop agenda and presentation materials are available on the MISO website.

MISO
http://www.misoenergy.org/

14 November 2024

Global Renewables Alliance Urges Action to Boost Global Green Energy Trade at COP29

The Global Renewables Alliance (GRA) has made an urgent appeal at COP29, calling on world leaders to confront the trade barriers that are holding back renewable energy expansion. As the world faces a growing energy crisis and ongoing disruptions to supply chains, GRA leaders have warned that current trade policies could prevent the world from reaching its goal of tripling renewable energy capacity by 2030. The GRA outlined three priorities for international action: aligning global policies on renewable energy development, reducing trade restrictions on environmental goods and services, and supporting green industrialisation in emerging markets.

GRA representatives argue that countries can make renewable energy technology more affordable and accessible by removing tariff and non-tariff barriers, particularly in areas most affected by climate change. The alliance also highlighted the importance of empowering emerging economies to play a greater role in the energy transition by developing their own green energy industries.

This approach, they argue, could drive economic growth, create jobs, and strengthen energy security on a global scale. According to Ana Rovzar, Head of Policy and Partnerships at GRA, “The clean energy industry stands at a critical inflection point.

“Renewables deployment must scale up rapidly to meet our tripling goals, and the global coordination of industrial trade policies will be instrumental to that. “Trade policy encourages growth and innovation of the renewable energy industry and is essential for a just and timely energy transition.”

Global Energy Alliance
http://globalrenewablesalliance.org/