WORLD POWER SYSTEMS REVIEW

15 December 2024

2 December 2024

AEMO: Minimum operational demand

The following quotes can be attributed to AEMO's Executive General Manager – Operations, Michael Gatt. Australia's electricity system was originally designed for power to flow from large power stations through a network of substations and power lines into homes and businesses.

Today, electricity from millions of rooftop solar systems feed back into the grid, which can at times generate enough power to meet half of total demand across the National Electricity Market. As the market operator, we're aware that high contributions of rooftop solar coinciding with certain system conditions needs to be carefully managed to ensure electricity reliability and grid security while managing power system risks.

For several years, AEMO has flagged these emerging risks and with the support of state governments and network operators are developing appropriate emergency solutions. AEMO's 'Supporting secure operation with high levels of distributed resources' report provides stakeholders with a status assessment on some of the new capabilities required to securely operate the NEM in periods with high levels of generation from rooftop solar and low demand.

AEMO does not want to directly control people's rooftop solar.

In rare circumstances AEMO may need to take action to secure the grid, such as directing off grid-scale generation, to solve these emergency events which often occur at the same time as unplanned generation and transmission outages. However, after all these actions have been exhausted, the temporary management of rooftop solar by network operators under state government solar management programs may still be required although we expect this may only occur in very rare circumstances. These actions assist in keeping the power system secure, while also enabling the growth of rooftop solar installations.

AEMO is supporting the continued uptake of rooftop solar, residential batteries and electric vehicles while maintaining reliable electricity support through a secure grid. We're doing this by contributing to new market designs, trials and research, which will continue through the National CER Roadmap, approved by Australia's Energy Ministers in July. The CER Roadmap sets out an overarching vision and plan to unlock CER at scale and identifies measures to "unleash the full potential of CER" by establishing the required mechanisms, tools and systems.

This includes measures to support ongoing power system security, particularly the requirement for backstop mechanisms to be in place by the end of 2025 for emergency response to ensure operational security when required. It also includes reforms to increase the opportunities for market participation of CER, including through enhanced coordination, allowing customers to respond to market-based incentives which will also help meet the challenges of low operational demand.

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

3 December 2024

AEMO prepares for summer 2024-25

AEMO has briefed the energy industry on system readiness and reliability for the upcoming summer across Australia's east and west coast power systems. Forecasts indicate average to above-average temperatures for most of the country, coupled with potential above-average rainfall and possible flooding in parts of South Australia, Queensland, Victoria, and parts of Western Australia.

AEMO's Executive General Manager of Operations, Michael Gatt, stated that months of preparation have been undertaken to support the reliability of Australia's power systems over the summer period. "The advice is temperatures will be similar to last summer for most of Australia, with potential for above average rainfall and flooding in some states," Mr Gatt said. "Fuel storage levels are normal across the National Electricity Market (NEM). Gas supply levels need to be carefully managed if used to support peak electricity demand periods on the east coast, particularly in Victoria.

"Synchronous generation availability, coal, gas and hydro, is expected to be similar to previous summer periods, noting the return of Callide C in Queensland and some reduced capacity in NSW, TAS and SA, including the mothballing of Snuggery and Port Lincoln power stations," he said. Since September last year, 3,175 megawatts (MW) of new generation and storage projects have been commissioned to full output in the NEM. These include grid-scale solar (1,010 MW) wind (940 MW) and batteries (750 MW).

A further 750 MW of projects are on track to reach full capacity in December, providing further generation for when we need it the most. "In the last week of spring, challenging operational conditions emerged in New South Wales, with limited localised issues and no widespread customer impacts," Mr Gatt said. "Batteries played an important role in managing that situation, so it is pleasing that ahead of summer available battery generation has grown by 58% across the NEM.

AEMO also has prepared procedures for managing minimum system load conditions which can occur during sunny days with mild temperatures and low demand. These occur primarily on weekends or public holidays when electricity usage is generally reduced. AEMO will work with businesses to manage planned transmission and generation outages for necessary maintenance.

"Should high electricity demand coupled with unplanned transmission and generation outages threaten reliability, recalling outages may be required," he said. In August, AEMO published the 2024 NEM Electricity Statement of Opportunities, forecasting possible reliability gaps in New South Wales (265 MW), South Australia (200 MW) and Victoria (10 MW) this summer. In response, AEMO is tendering for Interim Reliability Reserves (IRR) to address the gaps in New South Wales and South Australia.

Additionally, emergency reserve providers are on standby to address short-notice requirements across the NEM. In Western Australia's Wholesale Electricity Market (WEM), synchronous generation availability is expected to be similar to last summer. The Collie and Kwinana 2 Batteries will have a capacity of around 425 MW once fully operational. Additionally, Muja 6 (~190 MW) will be operating in 'reserve outage mode' until its retirement on 1 April 2025. To fill a residual shortfall identified for the upcoming summer, AEMO is tendering for up to 285 MW in supplementary capacity, with contracts to take effect from 1 December 2024.

"We've had a strong response to the supplementary capacity tender, and once we have finished negotiating those contracts, AEMO will publish the amount procured," Mr Gatt said. "Across Australia, AEMO has undertaken extensive preparation ahead of summer. However, risks remain and AEMO will continue to monitor the situation and take the necessary actions if required," he added.

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

4 December 2024

EDF extending lifespan of four UK nuclear power stations

EDF Energy has announced it is extending the lifespan of four of its nuclear power stations in the UK. Torness, in East Lothian, Scotland's last remaining nuclear power station,

and Heysham 2, in Lancashire, will now continue generating energy for another two years up until 2030.

The Hartlepool and Heysham 1 power plants will continue for one extra year until 2027. EDF Energy believes extending the lifespan of the plants will not only bolster energy security by bridging the gap before EDF's Hinkley Point C nuclear power station in Somerset begins generating electricity in 2030 but also support plans for the rapid expansion of renewables by helping to maintain grid stability. It believes the decision will also help limit the UK's dependence on imported gas, with a further 45TWh of output displacing around 9.3bn. m3 of gas over the extended lifetimes.

Labour made explicit in its manifesto before the recent General Election that it will extend the lifetime of existing plants. The plan to extend Torness was supported by the SNP. Torness began operation in 1988. In 2016, a decision was made to extend the life of the power plant until 2030 but a discovery of cracks in graphite bricks which were used to construct the reactor cores of some advanced gas-cooled power stations led to a review of the decision.

It was later announced in 2021 that the closure dates for Torness and Heysham 2 would be brought forward by two years to 2028. EDF has now stated it has spent years studying the progress of the cracking and it feels they have more of an understanding of the issues, where regular inspections will be carried out to allow the plants to continue safe operation. The decision to extend the lifespans of all four sites has been made following a year-long review into each plant.

EDF also now plans to invest £1.3bn into its five operating nuclear power plants (Hartlepool, Heysham 1, Heysham 2, Sizewell B and Torness) between 2025 to 2027. This investment will be on top of the £8bn ainvested since 2009 to safely extend operating lifetimes. Nuclear Industry Association chief executive Tom Greatrex said: "These extensions will cut bills, cut emissions, and protect jobs for communities that need them. "They represent the single biggest contribution to Clean Power 2030 this year and are vital to propping up our shaky grid. "The margin between us and blackouts is a few hundred megawatts, and these stations are 4,700 megawatts.

"The AGRs [Advanced Gas-cooled Reactors] are the most productive clean energy assets in our history and their extra output will cut over 9 billion cubic metres of gas use and save over 16M.t of CO2. "However, their generating lives can not be repeatedly extended – so as welcome as this news is – it is not a substitute for getting on and building new nuclear capacity at Sizewell C, a fleet of SMRs and a project at Wylfa to ensure a clean, secure, reliable power system for the long term."

Energy Secretary Ed Miliband said: "These extensions are a major win for our energy independence. "We can't achieve clean power by 2030 without nuclear, which provides an all important steady supply of homegrown clean energy." A spokesperson for the Office for Nuclear Regulation (ONR) said: "As the independent nuclear regulator, we are conscious of the nation's energy challenges and government aspirations to achieve net zero.

"To this end, we will always endeavour to regulate in an enabling manner, working constructively with EDF on its lifetime extension ambitions, while ensuring it achieves the required standards of safety and security in the most practical way. "Although their plant life extension decisions do not need formal regulatory assessment or permissioning by ONR, it is a requirement of the site licence that operations be carried out under a valid safety case.

"Several safety cases at each station are likely to require updating to achieve EDF's stated ambitions, together with investment in plant to sustain equipment reliability, all while ensuring that the necessary people and skills are available. "The ongoing safety of operations at any nuclear site must be fully demonstrated to us as part of ongoing regulation which will be informed though our extensive inspection and assessment regime." EDF

nuclear operations business managing director Mark Hartley said: “Today's decision is testament to EDF's ongoing investment in the UK’s nuclear fleet and the hard work of the employees and suppliers supporting these sites.

“When EDF acquired these stations in 2009 they were all due to end generation by early 2023 which would have left the UK with just one generating nuclear station at Sizewell B. Careful stewardship and around £8bn of investment since 2009 has seen several life extensions for these stations and much higher output than was predicted.”

New Civil Engineer
http://www.newcivilengineer.com/

4 December 2024

Solar paint by Mercedes could boost electric vehicle range by 7,456 miles

A top car manufacturing company is developing a new type of paint that could generate electricity. Mercedes-Benz’s engineers believe that their solar paint could revolutionize electric vehicles.

The new PV coating will consist of innovative solar modules, which will be applied to the car body in a way similar to a wafer-thin paste. The 5 micrometers thick paint, which is thinner than a human hair, could cover an area of 11 square meters. Mercedes-Benz claims the paint could generate enough energy to power a vehicle for up to 7,456 miles (12,000 kilometers) annually under ideal conditions.

Currently, the company’s research is underway for the new type of solar modules.

The photovoltaic surface can be applied to any substrate, and the protective layer is a new type of nanoparticle-based paint that allows 94% of solar energy to pass through. At a weight of 50 grams per square meter, Mercedes-Benz is working to ensure the coating can cover all exterior surfaces of a vehicle, regardless of shape or angle, reported PV Magazine.

Mercedes-Benz claims that these solar cells have a high efficiency of 20 percent. The energy generated by the solar cells is used to drive or feed directly into the high-voltage battery. The photovoltaic system is permanently active and also generates energy when the vehicle is switched off. In the future, this could be a highly effective solution for increased electric range and fewer charging stops. The company maintains that the amount of energy produced depends on levels of shade, intensity of the sun, and geographical location.

Mercedes-Benz drivers in Stuttgart, Germany, drive an average of 32 miles per day. Around 62 percent of this distance would be covered using solar energy. In Los Angeles, there is even a surplus of solar energy. It could be used for 100 percent of their driving, on average, and the surplus of energy could be fed directly into the home network via bidirectional charging, according to Mercedes.This highly efficient solar paint contains no rare earth elements or silicon, relying only on non-toxic, readily available raw materials. It is easy to recycle and considerably cheaper to produce than conventional solar modules. The Mercedes-Benz research department is currently working to enable the use of the new solar paint on all exterior vehicle surfaces – regardless of shape or angle, as mentioned in a press release.

Interesting Engineering
http://interestingengineering.com/

5 December 2024

Millions in Cuba remain in dark after nationwide blackout

Cuba said it was generating only enough electricity to cover about 1/6th of peak demand late on Wednesday, hours after its national grid collapsed leaving millions without power.

The National Electric Union (UNE) said it was producing 533 MW of electricity by evening, still just a fraction of typical dinnertime demand of between 3,000 and 3,200 megawatts, leaving a majority of Cubans in the dark as night fell across the Caribbean island. Earlier, the communist-run government said it would prioritize returning power to hospitals and water pumping facilities. Schools and non-essential government services were closed until further notice.

Lights flickered on across parts of the capital Havana late on Wednesday. The local electric company said more than 260,000 clients had seen power restored. It was the latest in a string of nationwide blackouts of Cuba's antiquated and increasingly frail power generation system. This year, Cuba's grid fell into near-total disarray, stressed by fuel shortages, natural disaster and economic crisis.

Dwindling oil imports from Venezuela, Russia and Mexico pushed the island's obsolete and struggling oil-fired power plants into full crisis several months ago. Hours-long rolling blackouts and severe shortages of food, medicine and water have made life increasingly unbearable for many Cubans, who in recent years have fled the island in record-breaking numbers. Cuba blames the crisis on U.S. sanctions, which complicate financial transactions and the purchase of fuel.

The Wednesday morning blackout was triggered by a failure at the Antonio Guiteras power plant in Matanzas, the island's top electricity producer, which shut down at around 2 a.m. local time. Several other major power plants were undergoing maintenance and were offline when the Matanzas plant failed, starving the grid of electricity and leading to the nationwide collapse, the energy minister said. Havana hotel worker Danielis Mora woke up frustrated and confused, like many Havana residents, who experience regular blackouts.

"I didn't know it was a total blackout again," Mora said. "Where I am living ... there is no gas either, if there is no electricity there is no way to make food, it has to be with firewood, or charcoal." Scattered protests have erupted over the past two months over the repeated power failures as well as water, gas and food shortages. Cuba's decrepit and long obsolete grid collapsed multiple times in October as fuel supplies dwindled and Hurricane Oscar struck the far eastern end of the island, then again in November with the passage of Hurricane Rafael. Cuba`s government last week issued a decree ordering state and private businesses to generate more of their own electricity from renewable resources. The regulations also require businesses to limit their use of air conditioning, among other measures, as the country wrestles with the increasingly dire energy crisis.

Reuters
http://www.reuters.com/

5 December 2024

One of Cuba's largest power plants halted operations due to a glitch

A new, widespread power outage plunged Cuba into darkness on Wednesday after one of the island's major power plants failed, leaving millions without electricity and forcing authorities to suspend classes and work activities indefinitely. The Electric Union, the state-run power company, attributed the incident to the shutdown of the Antonio Guiteras Thermoelectric Plant in Matanzas province, east of Havana. The blackout, which occurred shortly after 2 a.m., affected the entire nation, the company said on X.

As of Wednesday morning, power began to be restored gradually in some parts of the country, including Havana. Cuba's Minister of Energy and Mines Vicente de la O said later in a televised address that service would be fully restored by Thursday.

On Oct. 18, the island suffered a significant blackout that, added to the passage of Hurricane Oscar two days later, left the island without electricity for several days. Weeks later, Hurricane Rafael's strong winds triggered another system-wide blackout that left the

national energy system disconnected again. Cuba's power grid has been plagued by frequent outages in recent months, with more than half of the country experiencing power cuts during peak hours. The outages are primarily caused by fuel shortages and aging infrastructure. In many parts of the island, electricity is crucial for cooking and water pumping.

The blackouts — caused in part by failures in old thermoelectric plants — are devastating, impacting families, schools and businesses. Cuba gets its power from large thermoelectric plants like Antonio Guiteras and some smaller ones, which run on crude oil. While the island produces about half of its own crude oil, it must import the remainder, which can be difficult — and costly — due to U.S. sanctions. It has historically relied on allies like Venezuela and Russia for cheaper fuel supplies.

Cuba has been working on a project to upgrade the island's electrical grid through the use of alternative power sources. The construction of 31 centers to generate solar energy is under way and expected to be completed next year. Cuba's economic crisis has worsened in recent years, leading to food and fuel shortages, mounting inflation and a loss of purchasing power —and forcing thousands to flee, mainly to the U.S. but also Spain and other Latin American countries.

NRP
http://www.npr.org

5 December 2024

Eco Wave Power to launch Israel's inaugural wave energy project

Eco Wave Power Global, a leader in onshore wave energy technology, is set to inaugurate Israel's first wave energy project in collaboration with EDF Renewables Israel. The pilot station, located at Warehouse 2 in Jaffa Port, will be launched on 5 December 2024. The project is a major step forward in utilising wave energy for electricity generation, contributing to sustainable energy efforts. Its launch also highlights a significant advancement in reducing greenhouse gas emissions and promoting sustainable energy. It positions Tel Aviv-Yafo as a hub of innovation in renewable energy.

Israel's President Isaac Herzog stated: "It is not every day that we have the privilege of combining innovation and pioneering in one significant moment, as reflected in the inauguration of the power station being launched on Thursday. This initiative brings with it an important message: the supply of electricity directly from the waves of the sea to the homes of Israel's citizens.

"Recent years have strengthened the understanding that the transition from polluting energy production to renewable energy sources constitutes a vital national and strategic interest." Herzog emphasised that the ongoing conflict [in Gaza and Lebanon] has further reinforced this principle, demonstrating the importance of diversifying and decentralising Israel's energy market sources along with developing energy storage resources and infrastructure.

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

6 December 2024

Failed offshore auction highlights how Denmark missed winds of change

Denmark's failure to attract any bids in an offshore wind power tender this week stems from a rigid auction model, a failure to adapt to a changed economic reality for renewable energy projects and rising competition, analysts said on Friday.

The outcome was a blow to Denmark, home to turbine maker Vestas and offshore wind developer Orsted, opens new tab, which has been a pioneer in onshore and offshore

wind power. The tender for at least 3 gigawatts (GW) of capacity in the Danish North Sea offered no subsidies, instead inviting competition for payments over 30 years to the state, which would also own a 20% stake in each of the tendered projects.

"The way the auction design is made reflects the past market and not the current costs of building offshore wind," said Soren Lassen, head of global offshore wind research at Wood Mackenzie.

Instead of taking from developers, the Danish government should consider what they can provide them with, he added. The Danish system does not offer any subsidies or revenue stabilisation which makes it less attractive for developers compared to similar offshore wind auctions in Poland, the Netherlands and Britain, industry lobby group WindEurope said.

"Denmark's uncapped negative bidding creates an unhealthy race to the bottom and unnecessarily increases the upfront costs for offshore wind developers," WindEurope said in a statement. In addition, Denmark does not pay for the costly grid connection to the offshore wind farms.

Denmark's Climate and Energy Minister Lars Aagard told Reuters that the conditions for the tender were agreed at a time when market conditions were much more favourable, paving the way to build wind farms at sea with no subsidies. In 2021, Denmark's tender for the 1 GW Thor wind farm was so hotly contested by developers willing to pay for the rights, it was decided in a lottery won by Germany's RWE (RWEG.DE), opens new tab.

However, over the past three years, the offshore wind industry has been hit by surging costs, rising interest rates and supply chain bottlenecks. "They are challenged on both the cost side and the revenue side," Aagard said. Developers also faced uncertain electricity prices. "We have an electricity system that has a lot of renewable energy," said Brian Vad Mathiesen, professor in energy planning and renewable energy systems at Aalborg University.

"In order to increase that amount you have to redesign consumption patterns," he added. Using excess power generated by wind at times when it is not needed by users to produce so-called green hydrogen is one potential solution to the problem, but development has stalled. Denmark's latest tender is part of a wider political agreement to install at least 6 GW of new offshore wind capacity by 2030, and making adjustments ahead of further tenders will be complicated, said Rikke Noergaard, chief commercial officer at analysis firm Aegir Insights.

However, a potential delay to the Danish plans may not be all negative, she added. "Just looking at the big developers' pipeline, most of them filled up their pipeline until 2030, but there's a lot of room after 2030," Noergaard said.

Reuters
http://www.reuters.com/

6 December 2024

China issues new rules to support peer-to-peer energy trading

China’s NEA has issued a new policy to support peer-to-peer electricity sales and energy flexibility services. The new “Guidelines on Supporting the Innovative Development of New Business Entities in the Power Sector,” published on Dece. 5, define two categories of new power market players: technology-specific entities and resource aggregation entities.

Technology-specific entities include operators of distributed energy sources such as solar PV, decentralized wind power, and energy storage stations. Resource aggregation entities include operators of virtual power plants and intelligent microgrids that cohesively manage diverse energy assets.

Under the new guidelines, qualified entrants may be exempt from obtaining conventional electricity business licenses, lowering entry barriers and unlocking opportunities for innovation in electricity services. For example, the policy allows "over-the-fence" electricity sales, enabling companies to sell power from distributed solar systems to customers outside their immediate premises but within the same distribution grid zone.

The guidelines also promote local renewable energy consumption by enabling direct connections between renewable generators and consumers. This could reduce reliance on centralized grid infrastructure, addressing one of the final hurdles for distributed solar power adoption.

To ensure system reliability, the policy outlines four operational requirements for new market players: they must be observable, measurable, adjustable, and controllable. It also encourages virtual power plants to aggregate distributed resources and provide essential grid services such as demand response and frequency regulation.

The NEA said the new policies will foster innovation and ensure fairness in cost-sharing. New market participants must shoulder costs for imbalance settlements, deviation penalties, infrastructure usage fees, and applicable government levies.

The guidelines also streamline registration, trading, and settlement processes. Regional electricity trading agencies will establish registration categories and simplify application procedures for new entities. Settlement mechanisms will align with the specific business models and trading activities of these new players, ensuring financial security in transactions, according to the NEA.

Analysts in China have said that the policy will remove remaining barriers for distributed PV projects, potentially unlocking substantial market potential for this segment. By enabling innovative business models such as "over-the-fence" electricity trading and aggregating decentralized resources, the guidelines are expected to accelerate China's energy market reforms and the integration of renewable energy into the grid.

Pv-magazine
http://www.pv-magazine.com/

7 December 2024

Nationwide electric blackout hits Ethiopia

Ethiopia's power grid failed on Saturday evening and triggered a nationwide blackout, state-run Ethiopian Broadcasting Corporation said.

The country's power utility said it had restored electricity to half of the country, including most parts of the capital Addis Ababa, by around 10:20 pm (1920 GMT). The Horn of Africa nation is home to 120 million people, the second largest population in Africa.

It first began generating power from the controversial Grand Ethiopian Renaissance Dam on the Blue Nile in February 2022, and in August that year announced a second turbine had begun producing electricity. Ethiopia sells electricity to Kenya, Sudan and Djibouti and has signed memorandums of understanding with South Sudan, Tanzania and the breakaway Somali region of Somaliland.

Ethiopian Tribune
http://ethiopiantribune.com/

7 December 2024

UK spends over $1.3 billion on forced shutdown of wind farms

The UK is among the world's leading countries in terms of wind energy development. According to the International Renewable Energy Agency (IRENA), the total capacity of onshore and offshore wind turbines in the UK more than doubled between 2014 and 2023 (from 13.1 GW to 30.2 GW), with their share in the energy mix rising from 9% to 29%.

A number of major projects have been implemented in Scotland over the years, including the Seagreen wind farm based 27 km off the coast of Angus, which has 114 wind turbines with a total capacity of 1.1 GW, and the 443 MW Viking wind farm, which was brought into operation in the Shetland Islands this year. Although the two wind farms have enough capacity to supply more than 2 million households, both were suspended this autumn.

While the launch of new capacities usually requires infrastructure modernization, the British grid complex proved unprepared for the large-scale introduction of renewable energy projects. The UK government had to buy the previously privatized National Energy System Operator (NESO, formerly National Grid) to coordinate the connection of new renewable facilities to the grid. However, the problem of lagging construction for new power transmission lines is a global one. According to the International Energy Agency (IEA), global investment in RES development rose by more than 70% from 2019 to 2023 (from $424 billion to $735 billion per year), whereas capital expenditure on the construction of substations and transmission lines only increased by 20% (from $310 billion to $374 billion per year).

Another problem is the dependence of RES on weather conditions. This dependence is usually viewed in terms of energy supply risks during windless and cloudy weather. However, excess generation during the hours of low demand also incurs considerable costs. Construction of storage systems could be a solution, but their use is not yet widespread. According to the Energy Institute, the installed capacity of energy storage systems in the UK totaled less than 1 GW in 2019 and reached only 3.6 GW by the end of 2023 (with the aggregate RES capacity of 55.6 GW). Another solution could be the construction of electrolyzers which could help in redirecting excess electricity towards hydrogen production. However, the infrastructure of green hydrogen is still in its infancy. For instance, the total capacity of electrolyzers across Europe was almost 30% lower in 2023 than that of blue hydrogen production facilities (31.6 million tons per year versus 44.1 million tons per year).

Global Energy
http://globalenergyprize.org/

9 December 2024

Germany Expecting Tight Power Conditions as Wind Output Falls

Low wind output and colder weather is pushing power system margins to the lowest this winter in Germany, with prices likely to rise. Germany's power margin — a measure of the available capacity minus the expected demand — is forecast to drop to the winter's low on Wednesday, according to Bloomberg models. That reflects plunging wind levels, which will dip below 3 gigawatts, as well as power demand creeping above seasonal norms due to colder weather.Europe's largest economy has been hit with multiple windless periods this winter, which has compelled it to either burn fossil fuels or import French electricity. These periods have seen Europe dipping into gas storage at record rates, building fears of how the winter will pan out in the event of more windless periods.

Temperatures in North West Europe are set to remain slightly below seasonal norms this week, pushing up heating demand.Meanwhile, German year-ahead power prices fell to the lowest level since mid-November as fears about the rapid depletion of gas reserves ease slightly due to the current period of milder, windy weather. That situation looks likely to shift in the coming days, though windy conditions are forecast to return next week.

German day-ahead power prices climbed to €140.50 a megawatt-hour, according to broker data.

Bloomberg
http://www.bloomberg.com

10 December 2024

Intersect Power forms strategic partnership with Google and TPG Rise Climate to co-locate data center load and clean power generation

Intersect Power announced today a strategic partnership with Google and TPG Rise Climate ("TPG") to provide scaled renewable power and storage solutions to new data centers. The partnership is designed to deliver gigawatts of new data center capacity across the US with Intersect Power catalyzing a targeted $20 billion in renewable power infrastructure investment by the end of the decade. Intersect Power has already begun financing the partnership's first co-located clean energy project, which is expected to be operational in 2026 and fully complete by 2027.

This innovative 'power-first' approach to data center development represents an evolved model for significantly increasing speed of infrastructure deployment, easing grid burden, and improving overall reliability and affordability for energy customers. By co-locating data center load with large amounts of high capacity factor, low-cost, clean electricity, and added battery storage, data centers can achieve high percentages of renewable energy while reducing the transmission required to connect generation to load over longer distances.

"This partnership is an evolution of the way hyperscalers and power providers have previously worked together. We can and are developing innovative solutions to expand data center capacity while reducing the strain on the grid," said Sheldon Kimber, CEO and Founder of Intersect Power. "Deep, collaborative partnerships combined with creative problem-solving are the only way that we can meet the explosion of AI growth, as well as society's accelerating electricity demand."

"To realize AI's potential, the growth in electricity demand must be met with new, clean power sources. The scale of AI presents an opportunity to completely rethink data center development — by co-locating them where possible with the grid-connected carbon-free energy that keeps them up and running," said Amanda Peterson Corio, Global Head of Data Center Energy at Google. "We're bringing this opportunity to life by combining pioneers at the intersection of data centers and clean energy development to synchronize load growth with new power generation in a novel way. We hope to replicate this model in multiple markets across the U.S. and around the world."

"Meeting the energy and computing demands of our next generation economy is necessitating the development of new models and partnerships," said Jim Coulter, Executive Chairman of TPG and a Managing Partner of TPG Rise Climate. "By aligning capital, innovation, and ambition, we expect this partnership to achieve unprecedented scale at our first co-located project, and we have set ourselves on a course to deliver several more large scale co-located data centers and clean energy power plants across the US," added Ed Beckley, a Managing Partner of TPG Rise Climate.

Under the terms of the partnership, Intersect Power will build new clean energy assets, with Google providing offtake via newly constructed data center campuses as an anchor tenant in co-located industrial parks. Once built, the Google data center would come online alongside its own clean power, bringing new generation capacity to the grid to meet its own load.

To further its vision throughout the U.S., Intersect Power also announced a more than $800 million funding round led by TPG Rise Climate and Google, with participation from Climate Adaptive Infrastructure and Greenbelt Capital Partners. Morgan Stanley & Co. LLC acted as financial advisor on the transaction.

In close coordination with grid planners, operators, and communities, the companies will continue to develop local clean energy resources that support rural economic

development for both landowners and the local community through job creation, increased tax revenue, and support of local non-profit organizations.

Intersect
http://www.intersectpower.com/

11 December 2024

EU advises members not to give UK greater access to energy market

Brussels is advising EU member states not to allow the UK deeper access to the bloc's electricity markets, despite industry warnings of higher energy bills for consumers and a slower transition to net zero. In a document setting out policy positions on the upcoming "reset" of EU-UK relations, the European Commission said that its "no cherry-picking" principle towards the UK should apply equally to electricity trading. "The UK's decision not to rejoin the single market limits the possibilities for other options to be considered, sectoral participation in the EU energy market would not be in the union's interest and would be contrary to the European Council guidelines," said the document, which was circulated to EU member states.

The advice is contained in a 19-page working paper seen by the Financial Times that sets out the bloc's defensive interests ahead of next year's EU-UK negotiations, but flies in the face of calls for deeper co-operation on energy trading from the renewables industry in both the EU and UK.

"It's extremely disappointing and frankly very shortsighted from the commission," said one senior energy executive. European and British energy companies called jointly in October for the post-Brexit energy trading arrangements between the EU and the UK to be radically rewritten to create a "green energy hub" in the North Sea.

They warned that the existing arrangements were not fit for purpose and, without reform, would impede joint commitments by the UK and eight other countries to generate more than 310GW from offshore wind in the North Sea by 2050. A complex pricing mechanism, known as multi-region loose volume coupling (MRLVC), was included in the EU-UK Trade and Cooperation Agreement but has never come into force because of technical problems.

The document circulated by the Hungarian presidency of the European Council acknowledged that MRLVC implementation had been "more complex than expected" and may not be ready when the energy deal in the TCA expires in June 2026. But it still warned against allowing the UK preferential access to the EU electricity market. Adam Berman, deputy director of the industry lobby group Energy UK, said the electricity trading arrangements in the TCA were "fundamentally unworkable. Better options exist. UK and EU industry have coalesced around a potential solution that respects both sides' political red lines, but it requires political sign off to progress discussions," he said.

In the current electricity trading arrangement, space on the interconnector is auctioned separately to the energy itself — a much less efficient method than auctioning them together. In October the industry jointly proposed a solution that would extend the EU's price-coupling mechanism to the UK market, a step they said could be achieved without reopening the TCA — something both sides have said they do not wish to do. Improved EU-UK co-operation on offshore wind would deliver €44bn in savings to consumers by 2040 and reduce investment costs by 16 per cent, according to a report this month by business consultancy Baringa.

Financial Times
http://www.ft.com/