

WORLD POWER SYSTEMS REVIEW

1 October 2022

15 September 2022

Biden administration awards \$900M to 35 states for EV charging network as automakers ramp up battery plans

President Joe Biden was at the Detroit Auto Show on Wednesday to announce the NEVI funding approvals and test drive new vehicles. He vowed "the great American road trip is going to be fully electrified." The president has set a goal for half of new U.S. car sales to be electric by 2030. Experts say achieving that level of EV adoption will require expanding domestic battery production capacity, in part due to purchasing requirements tied to federal incentives. The Federal Highway Administration has said it is working to develop rules for how formula NEVI funds can be spent, and indicated it will finalize that rulemaking "expeditiously." The rules would set standards for the national charging network, and the agency said it is considering a waiver from domestic purchase requirements "that will allow a short ramp up period for the domestic manufacturing of EV charging."

Global battery production is now dominated by China, but U.S. automakers are working quickly to onshore that industry. EV purchase incentives also hinge on components manufactured in the U.S. Ford is building three new battery plants in the U.S. with a total capacity of 129 GWh, and production is expected to start by 2025. "Our next generation of EVs are coming, leveraging advances in cell chemistry, battery pack design and battery management software," Charles Poon, Ford's global director of electrified systems engineering, said Wednesday at the Novi Battery Show, outside of Detroit. The conference is hosted by Informa, which recently purchased Industry Dive. Poon said Ford plans to deliver 2 million EVs by 2026, but added that its strategy depends the development of sustainable supply chains, including recycling battery materials. Nickel and lithium costs "may increase by another eight- and 11-fold by the end of the decade," he said. "We estimate by 2035, as much as 30% of battery materials can be met by recycling, and we're working hard to make sure the ecosystem will be ready." Ford on Wednesday also instituted new requirements for dealerships to sell its electric vehicles, including making investments in EV charging. GM is targeting annual global EV sales of more than 1 million by 2025 and is developing four of its own battery plants.

The company is overhauling its manufacturing process to embrace an electric future, and in tandem is focused on developing new battery chemistries. Through a joint venture with LG Chem, the auto manufacturer says it will reduce battery cell costs below \$100/kWh. "With the new technology that we have, we honestly don't know the bottom there," said Tim Grewe, GM's general director of electrification strategy and cell engineering. Toyota is also building battery plants, Volkswagen is eyeing U.S. production and Tesla has Gigafactories in Nevada and New York. The partnerships are about more than just securing battery cells, however, said Robert Galyen, formerly the chief technology officer at CATL, the world's largest battery manufacturer. "Joint ventures are a big deal right now. It's another way of shielding the car manufacturers and the [original equipment manufacturers] from the legal system," Galyen said. "We see lots of battery companies and a lot of car companies partnering with each other. ... Because if a joint venture makes the battery, it's their sole responsibility to make sure that battery system is safe," Galyen said. "And then the court system will not go after the OEM. So it's a great way of protecting the OEMs." The same approach "cascades not only from the OEMs and the car battery manufacturers, but it goes right down to the supply chain," Galyen said. "Many of the supply chain guys are getting partnerships established with the battery manufacturers in a way that they can do more cost-effective business."

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

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Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy

Today, the Biden-Harris Administration is launching coordinated actions to develop new floating offshore wind platforms, an emerging clean energy technology that will help the United States lead on offshore wind. In tandem with President Biden's economic and clean energy agenda, these actions will create good-paying jobs, lower energy costs for families, and strengthen U.S. energy security.

Since taking office, President Biden's vision and leadership has jumpstarted the American offshore wind industry and made America a magnet for clean energy investments. The President set a bold goal of deploying 30 gigawatts (GW) of offshore wind by 2030, enough to power 10 million homes with clean energy, support 77,000 jobs, and spur private investment up and down the supply chain. Conventional offshore wind turbines can be secured directly to the sea floor in shallow waters near the East Coast and the Gulf of Mexico.

However, deep-water areas that require floating platforms are home to two-thirds of America's offshore wind energy potential, including along the West Coast and in the Gulf of Maine. The Administration's new actions will capture this vast potential to power millions of homes and businesses, grow new manufacturing and maritime industries at home, and tackle the climate crisis.

Today's actions will position the U.S. to lead the world on floating offshore wind technology. Globally, only 0.1 GW of floating offshore wind has been deployed to date, compared with over 50 GW of fixed-bottom offshore wind. America will seize this opportunity to be a frontrunner on floating offshore wind technologies, as part of President Biden's plan for a clean energy economy built by American workers. Today, White House National Climate Advisor Gina McCarthy, Energy Secretary Jennifer Granholm, and Interior Secretary Deb Haaland are joining state officials to announce:

- **New Floating Offshore Wind Shot™ to Lower Costs by 70 Percent:** Through the Energy Earthshot™ program, the Administration will create a new Floating Offshore Wind Shot to accelerate breakthroughs across engineering, manufacturing, and other innovation areas. The Floating Offshore Wind Shot will aim to reduce the costs of floating technologies by more than 70% by 2035, to \$45 per megawatt-hour.
- **New Goal to Reach 15 GW by 2035:** The Administration will advance lease areas in deep waters in order to deploy 15 GW of floating offshore wind capacity by 2035—building on the President's existing goal of deploying 30 GW of offshore wind by 2030, which will be largely met using fixed-bottom technology.
- **Research & Development Investments:** To support these goals, this week the Administration launched a new prize competition for floating offshore wind platform technologies; initiatives funded by the Bipartisan Infrastructure Law to develop modeling tools for project design and to analyze port needs.

These new goals, initiatives, and investments focus on floating technologies and build on the Administration's all-of-government approach to developing offshore wind while advancing environmental justice, protecting biodiversity, and promoting ocean co-use. Through the Inflation Reduction Act, President Biden secured clean energy tax credits that will further accelerate this new American industry and a thriving domestic supply chain, with support for Made in America wind turbine blades, fixed-bottom and floating platforms, installation vessels, and more.

The White House
<http://www.whitehouse.gov/>

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Ireland will create a giant \$130 million battery that will power the entire country for about three minutes

The Prime Minister of Ireland, Michael Martin, announced the construction of a giant energy storage facility. It is assumed that the full reserve will be enough for 3-4 minutes of operation of the entire country.

The battery is being built as part of the Shannonbridge B program, in which \$130 million will be invested. The design capacity of the energy storage will be 170 MW*h. The key goal of the program is to support the generation of electricity from unstable renewable sources. The Irish government plans to put the storage facility into operation in 2024. 150 specialists are involved in the construction. The battery storage facility will receive a synchronous capacitor, which will be used to provide normal voltage levels to the grid. Ireland is the European leader in determined energy storage capacity. According to experts from Delta-EE, the country will have 1.4 GW of hybrid energy storage capacity by the end of 2022, compared to 5 GW across the European Union. The Shannonbridge B project will provide Ireland with 97.2 MW of additional capacity.

Gagadget.com
<http://gagadget.com/>

15 September 2022

Colombia grid connection queue hits almost 60GW

Colombia is considering power grid connection requests for generation projects totaling almost 60GW of installed capacity, according to the latest figures published by energy ministry planning unit UPME.

Of the 58.75GW submitted for review by developers, 73% is for solar projects, 20% wind, 3% distributed generators, 3% natural gas and 1% hydropower. Capacity is shared among 843 projects, of which 318 are in a "transport commentary" phase while 234 have been "returned for observation." Another 233 are under evaluation while the remaining 58 are being "reviewed for completeness," according to UPME. Most of the requests are for projects in the Caribbean coastal region, where the majority of Colombia's solar and wind initiatives are being built.

Cesar department is home to the largest project portfolio, in capacity terms, with 102 requests totaling 9,158MW. It is followed by La Guajira (49 requests, 8,750MW), Bolívar (86 requests, 7,109MW) and Córdoba (53 requests 3,994MW). UPME has said that steps to overhaul grid capacity requirements could free up 10GW for new generation projects. Changes introduced in the past year include greater flexibility related to annual deadlines for capacity requests and access to more detailed information in the so-called one stop shop for projects in both the regional transmission (STR) and local distribution (SDL) networks.

Bnamericas
<http://www.bnamericas.com/>

16 September 2022

The isolated operation test of Lithuania's electricity system postponed

Litgrid, the Lithuanian electricity transmission system operator, informs that the isolated operation test of the Lithuanian electricity system planned for this September has been postponed. The decision was taken in consideration of the situation on the electricity market, including high energy prices, as well as to ensure the maximum capacity of the electricity interconnections between the countries in the region. The date of the postponed test will be clarified once it has been agreed with regional partners.

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"Having assessed the situation on the electricity market, we have decided to postpone the isolated operation test of the Lithuanian electricity system. We are changing the timing of the test for several reasons: firstly, to avoid constraints on the capacity of the electricity interconnectors in the region during the test, which has an impact on electricity prices. Secondly, we plan to expand the scope of the test to include a strategically important 200 MW electricity storage system in Lithuania, as well as other newly built infrastructure. We also expect regional partners to join the test. Thirdly, we are saving costs - we expect that during the test the prices of electricity resources will be back to their usual range and the costs of the test will be lower," says Rokas Masiulis, Litgrid CEO.

Litgrid already carried out two important power system tests last year. The first partial isolated test of Lithuania's electricity system was successfully carried out in 2020. In 2021, Litgrid, together with the Polish transmission system operator PSE, carried out an emergency test of the Polish electricity system through the extended LitPol Link, which will be used to synchronise all the Baltic countries' electricity grids with Continental Europe. "This year, a study on the isolated operation was carried out, information systems were prepared, dispatchers were trained, the country's most important electricity consumers were tested, and the country's major power plants were tested. We will use the time before the test to prepare and integrate the new electricity system infrastructure into the test programme and to work with our strategic partners," says Rokas Masiulis.

Litgrid

<http://www.litgrid.eu/>

19 September 2022

Fingrid has updated its estimate of the adequacy of electricity in the coming winter: Changes in strategic reserve and the availability of imports

Fingrid has updated its estimate of the adequacy of electricity in the coming winter based on changes in the Energy Authority's peak load reserve decision and the power balance in Southern Sweden. The situation is largely unchanged in other regards, as war continues to rage on European soil and the energy market remains in an extraordinary state, causing uncertainties around the availability of electricity. As a result of these great uncertainties, people in Finland should be prepared for power outages caused by possible electricity shortages this coming winter.

The power balance in Finland is the same in this updated assessment as it was in Fingrid's first estimate, which was published on 22 August 2022. The Energy Authority decided to discontinue the procurement of strategic reserve, which was earlier estimated to offer a capacity of 600 megawatts. However, the available domestic supply on market terms is expected to increase correspondingly – by approximately 600 megawatts – as some of the power plants that were included in the previous peak load reserve season will now be put on the market. For example, Fortum has taken steps to prepare the Meri-Pori power plant for commercial operation.

One significant factor affecting the adequacy of electricity is the availability of imported electricity, as Finland has imported substantial amounts of electricity from Sweden and Estonia during times of peak consumption. The availability of imports from Southern Sweden was impacted by the announcement of a delay in the maintenance of the Ringhals 4 nuclear power plant, keeping it offline until the end of January. Consequently, the Swedish transmission system operator, Svenska kraftnät, has warned of an elevated risk of power cuts in Southern Sweden.

Fingrid

<http://www.fingrid.fi/>

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19 September 2022

Global offshore wind alliance launches

A new multi-stakeholder alliance has been set up with the aim of driving installed global offshore wind capacity up 670%, from 57GW in 2021 to 380GW in 2030. On 19 September, representatives from the Danish, US and other governments, the International Renewable Energy Agency (IRENA), the Global Wind Energy Council (GWEC) and the offshore wind industry met at a public event in New York to discuss how to unleash the potential of offshore wind.

IRENA, GWEC and the Government of Denmark are creating a new Global Offshore Wind Alliance (GOWA) whose ambition is to create a global driving force for the uptake of offshore wind. Danish Minister for Climate, Energy and Utilities, Dan Jørgensen said: “A massive increase in energy from offshore wind is key to fight climate change, phase out fossil fuels and strengthen energy security. Laura Daniel-Davis, Principal Deputy Assistant Secretary – Land and Minerals Management, Department of the Interior, US, said: “While each country needs to take its own domestic action to address climate change, the current crisis requires us to all work together to make meaningful progress. “The Global Offshore Wind Alliance will give us an opportunity to do just that, and the US intends to become a member when it is formally launched later this year.

“We recognise the value in global cooperation on offshore wind and the critical need for each country to do its part in tackling the climate crisis, and we hope that many others will join us as well. It’s through collaboration that we can build a more sustainable future for everyone.” Ben Backwell, CEO, Global Wind Energy Council added: “The wind industry is uniting with governments and UN institutions on a mission to drive a 670% uplift in installed global wind capacity by 2030. “There couldn’t be a more crucial time for this alliance. “With offshore wind, the world has an effective solution for adding large amounts of zero carbon power at affordable costs, while creating jobs and new investments in industry and infrastructure all around the world.”

Renews.biz
<http://renews.biz/>

22 September 2022

Amazon Drives Renewable Energy Push With 71 New Projects

Amazon.com Inc said on Wednesday it would add 2.7 gigawatts of clean energy capacity through several new projects as it seeks to use 100% renewable energy across its business by 2025. Amazon's renewable energy projects would total 379 after the addition of the 71 new ones and it expects to generate 50,000 gigawatt hours (GWh) of clean energy from its entire portfolio, equivalent of powering 4.6 million U.S. homes each year. The new projects include three large-scale plants in the Indian state of Rajasthan with a capacity of 420 megawatts (MW), rooftop solar projects in France and Austria, and its first solar farm in Poland. Amazon-backed Infinium said on Tuesday it would provide the online retail giant with low-carbon electrofuels that would replace the diesel fuel used in the company's transportation fleet.

World-Energy
<http://www.world-energy.org/>

23 September 2022

Estonian authorities urged residents to prepare for possible power outages

Russia announced that it has canceled a power network isolation test planned for Kaliningrad this Saturday, but this isolation test may take place at some other time. People

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should be aware of the possible risk of a power outage and be prepared for such an event, Prime Minister Kaja Kallas said in appearance on Friday morning. An isolation test was supposed to take place in the Russian exclave of Kaliningrad on Saturday, but Estonian authorities were notified Thursday that this scheduled test is nonetheless canceled. "We have been preparing for years for desynchronization, i.e. for disconnecting from the Russian frequency band, but should Russia do so suddenly, it's possible we could see power outages," the prime minister explained. She urged people to calmly think through how to get by should the power be out for a while.

Err.ee

<http://news.err.ee/>

22 September 2022

Further update on the trading capacity with Ukraine/Moldova

On 20 September, the Transmission System Operators (TSOs) of the Continental Europe Synchronous area agreed to increase the trade capacity with Ukraine/Moldova to 300 MW, day and night. It is an increase of 50 MW during night hours. This will apply as of 23 September 2022. The possibility of further increasing trade capacity will be assessed regularly based on power system stability and security considerations.

Commercial electricity exchanges with the Ukraine/Moldova power system started on 30 June on the interconnection between Ukraine and Romania, followed by the Ukraine-Slovakia interconnection on 7 July. Electricity trading on the other interconnections (Ukraine-Hungary and Moldova-Romania) is expected to follow. The opening of trade capacity with Ukraine/Moldova was made possible after the TSOs of Continental Europe confirmed on 28 June 2022 that the technical pre-conditions had been fulfilled to allow commercial exchanges of electricity between Ukraine and the neighbouring countries. The start of commercial exchanges of electricity followed the successful synchronization of the Continental Europe power system and the Ukraine/Moldova power system on 16 March 2022 and the welcoming of Ukrenergo as observer member of ENTSO-E on 26 April 2022.

ENTSO-E

<http://www.entsoe.eu/>

23 September 2022

Elia Group, re.alto and Volkswagen subsidiary Elli sign agreement to accelerate the integration of electric vehicles into the electricity system and further decarbonise society

Elia Group, its corporate start-up re.alto, and Elli, a subsidiary of the Volkswagen Group that bundles together the Group's activities related to charging and energy solutions, have signed an MoU which highlights their joint vision regarding the integration of EVs into the electricity grid. The wide-spread adoption of EVs will be one of society's fastest and most effective routes to abating climate change in the coming decade. Additionally, EV batteries will be able contribute to keeping the grid in balance as the share of renewables in the energy mix increases. This can only occur if consumers are encouraged to valorise their flexibility, aligning their charging behaviour with the availability of affordable green energy. Consumers will then become active players in the energy transition. Over the next few years, the MoU's signatories will identify possible barriers to EV integration and explore how to showcase its benefits, for example by developing demonstrators.

- The three signatories will focus on removing barriers to the integration of EVs into the electricity system to deliver value both for consumers and the electricity and mobility sectors.
- The memorandum of understanding (MoU) includes four pillars of exploration: price signals/incentives; market design; trusted data; and data security and safe connectivity.

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- The MoU is closely aligned with Elia Group's focus on consumer centricity and Volkswagen Group's commitment to accelerating the shift to sustainable electric mobility.

Elia

<http://www.elia.be/>

23 September 2022

Doel 3: Shutdown confirmed for Friday despite politicians' pleas

Despite calls from members of the Federal Government to postpone the dismantling of the Doel 3 nuclear reactor, both the operator Engie and the reactor's director have confirmed that it will be permanently shut down on Friday. In 2003, the Federal Government passed a law that nuclear reactors would have to stop producing electricity 40 years after their installation. This was in part an agreement to appease the Green parties in government who have been noteworthy for their long-standing opposition to nuclear power. In spite of this, the Doel 1 and 2, as well as the Tihange 1 reactors (that started producing power in 1985) were allowed to extend their operations until 2025. The same extension was then applied to Belgium's most recent reactors, Doel 4 and Tihange 3, earlier this year. This decision comes in light of the energy crisis that has engulfed Europe and is intended to guarantee energy security in Belgium. Discussions between the Belgian Government and Engie are currently taking place to decide how they will now run until 2035.

All eyes are now turned to the Doel 3 and Tihange 2 reactors, whose shutdowns were scheduled for 2022 and 2023 respectively. After strong arguments on both sides, it was announced on 23 September that Doel 3 will be permanently dismantled and will cease all production by 1 October onwards. However, on 14 September, the Federal Interior Minister Annelies Verlinden threw a spanner in the works by calling for the planned closure to be delayed. Verlinden, who is also in charge of nuclear safety, had sought to postpone the closure as momentum gathered for nuclear energy as a stable and dependable source of electricity. Keeping the reactor open would safeguard over 50% of Belgium's yearly electricity needs. In the days that followed, intense media coverage focussed on the potential postponement. But after discussions with the reactor's management and operators, the postponement was scrapped.

Engie spokesperson Nele Scheerlinck confirmed to The Brussels Times that no plans are now in place to prolong the reactor's operation: "The decision was made years ago," Scheerlinck said. "To change plans at such short notice is just not feasible." Other than the logistical challenges that renewing the reactor would bring, there are also legal barriers that would need to be overcome: "It is legally prohibited for the reactor to produce any more electricity after 1 October 2022," Scheerlinck stated. This is written into Engie's operating licence.

Furthermore, the power plant's director Peter Moens told Belga News Agency that delaying the shutdown was "neither wise nor advisable", not least given that most of the staff working on the reactor have already planned to work elsewhere. So, was the much-vaunted delay only an internal government discussion? "We did not receive any request (from ministers) for these reactors to be kept open," Scheerlinck asserted. To that end, one could assume that Verlinden, like many other politicians in times of crisis, did not want to be seen as passive in the face of Belgium's huge energy problems. By publically supporting the nuclear option without actually going through the necessary legal motions to ensure the reactors would be prolonged, did Verlinden genuinely try to save Belgium's reactors or was she simply posturing?

The Brussels Times

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

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MISO's Generator Interconnection Queue cycle set new record

This year, MISO received another record-setting number of submittals during the 2022 Generator Interconnection Queue (GIQ) application period. The interconnection requests included 956 applications representing approximately 171 GW of new generation across the MISO footprint – 164 GW (or 96 percent) of which are renewable or storage resources. Last year queue applications totaled 487 for 77 GW.

The 2022 submittals exceeded the previous all-time high for a third year in a row. The volume of requests reflects an acceleration of the resource transition, a trend identified in MISO's Renewable Integration Impact Assessment (RIIA) and by initial trends identified in the Regional Resource Assessment. MISO refers to the joint responsibility to ensure this transition occurs in a reliable and orderly manner as the Reliability Imperative.

"At this point, we are experiencing exponential growth in the queue," said Andy Witmeier, director – resource utilization at MISO. "The current applications continue to be heavily weighted with renewables and standalone storage requests again tripling the amount submitted the previous year." Solar projects (84 GW) continue to represent the single-highest category this year followed by hybrid projects (34 GW) and storage projects (32 GW). Wind projects totaled about 14 GW. In July, MISO's board approved 18 transmission projects representing \$10.3 billion in new investment through Tranche 1 of its Long Range Transmission Planning (LRTP) effort. These projects will add significant new transmission capacity to the grid and will be included in the 2022 GIQ studies. Additionally, Congress' approval of the Inflation Reduction Act increases the production tax credits available to renewable energy sources.

"These numbers continue to represent the seismic shift occurring on the electric grid highlighting a rapid resource transition to renewable energy," said Witmeier. "It seems the LRTP Tranche 1 approval and Inflation Reduction Act have spurred additional interest this year by enabling and incentivizing new resources to come online. We are working with our stakeholders on the additional regional transmission needed to accommodate this resource shift." The Federal Energy Regulatory Commission (FERC) recently approved MISO's plan to expedite interconnection timelines for new generators. FERC also cited MISO's new approach as a positive example in its recent Notice of Proposed Rulemaking to improve queue processes across the country. The MISO queue currently consists of 769 projects totaling 118 GW – 97% percent of which is renewable or storage. If all the projects submitted this year are accepted as valid applications, the MISO queue would balloon to 289 GW.

MISO

<http://www.misoenergy.org/>

27 September 2022

Vestas Partners with Max Bögl for World's Tallest Onshore Tower for Wind Turbines

Vestas has signed an agreement with LM Wind Power to develop the wind energy supply chain and scale renewables efficiently for the global energy transition. The agreement includes design and manufacturing of blades for V172-7.2 MW wind turbines of the EnVentus platform.

"This new partnership highlights how we are increasingly collaborating with partners in a flexible setup to scale efficiently and build on the foundations we have established across our global supply chain. We aim to leverage LM Wind Power's proven and extensive engineering and manufacturing capabilities coupled with their global footprint to support our customers with high-quality sustainable energy solutions meeting all Vestas standards," says Tommy Rahbek Nielsen, Executive Vice President & Chief Operating Officer of Vestas.

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LM Wind Power will work with Vestas throughout the blade development phase to optimise the blade design, the manufacturing setup and supply globally based on Vestas' specifications and requirements. LM Wind Power will supply the blades from its existing global production footprint and production is scheduled to commence in the second half of 2024.

The new agreement is a continuation of the existing Vestas and LM Wind Power partnership to manufacture V150 blades in Brazil, announced earlier this year. The partnership highlights how Vestas continues to optimize its supply chain and manufacturing setup by building on close strategic partnerships with its key partners leveraging the partners' knowledge, capabilities and global footprint. Sharing manufacturing operations across the renewables industry is more relevant than ever to ensure sites are not sitting idle and creates a flexible, scalable and efficient supply chain that enables industrial scale to meet global net-zero ambitions.

Vestas introduced the V172-7.2 MW wind turbine with global applicability in April 2022. The EnVentus platform now includes four different wind turbine variants, and since the launch of the EnVentus platform in 2019, Vestas has secured orders for more than 6 GW across 15 different markets on four continents.

Ocean Energy Resources
<http://ocean-energyresources.com/>

27 September 2022

AEMO awards contract to improve system security in Murray River REZ

AEMO, in its role as Victorian Planner, has completed the tender process to procure non-network services in the Murray River Renewable Energy Zone (REZ) on behalf of the Victorian Government's Renewable Energy Zone (REZ) Development Plan (RDP).

Following a competitive process, Edify Energy Pty Ltd (Edify Energy) has been awarded a System Support Agreement (SSA) to provide 125 megawatts (MW)/250 megawatt hours (MWh) of services to strengthen the power system and increase generation capacity in the Murray River region. The services will be provided by Edify Energy's stand-alone battery energy storage system, the Koorangie Energy Storage System (KESS), which will utilise grid forming inverters. The project will commence commercial operations in 2025 with a contracted service life of 20 years

In August 2021, a competitive tender process commenced, calling for expressions of interest. After evaluating responses, shortlisted parties were requested to submit detailed submissions and participate in subsequent discussions with a tender evaluation team. Based upon these interactions, and input from the State on the Social Procurement and Local Jobs First tender response, Edify Energy was identified as the preferred tenderer.

The Victorian Minister for Energy, Environment and Climate Change made a Ministerial Order under the National Electricity (Victoria) Act 2005 (NEVA) requiring AEMO to undertake procurement processes for three contestable projects for services to strengthen the system as well as three sets of non-contestable minor network augmentations. This included the procurement of specified non-network services in the Murray River, Western Victoria and South West REZs.

AEMO
<http://aemo.com.au/>

28 September 2022

Queensland announces 'biggest pumped hydro scheme in the world'

Queensland is planning to build two massive pumped hydro facilities, including one on the state's midcoast which is set to provide 5 GW of storage – enough to supply half of

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Queensland's entire energy needs. "These are projects of national significance on a scale not seen since the construction of Snowy Hydro — bigger than Snowy Hydro," the Premier said in her address on the plan. The 2 GW Borumba Pumped Hydro project near Brisbane has been on the cards for some time and is slated for completion by 2030.

The scale of the bigger facility, called the Pioneer-Burdekin pumped hydro project, has only been revealed today. Dubbing it the "battery of the north," Premier Palaszczuk said: "it will be the largest pumped hydro energy storage in the world, with 5 gigawatts of 24-hour storage and the potential for stage 1 to be completed by 2032." She said the preferred site for the project is 70 kilometres west of Mackay, north of Gladstone.

Pv-magazine

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

28 September 2022

BP, EnBW Apply for Electricity Generation Licences for Two UK Offshore Wind Farms

BP and EnBW, who joined forces to build the Morgan and Mona offshore wind farms in the UK, have filed applications for electricity generation licences for the two projects. The partners secured 60-year leases for the two projects in the UK Round 4 leasing at the beginning of last year, when they also announced they would form a 50-50 joint venture to jointly develop and operate the leases.

The applications submitted to the UK's regulator Ofgem were filed by project companies Mona Offshore Wind Limited and Morgan Offshore Wind Limited on 6 August and 21 September, respectively, and signed by Richard Sandford, who was appointed to lead BP's offshore wind business in the UK earlier this year. The Morgan and Mona project sites are located off the Irish Sea coasts of North West England and North Wales and will accommodate two wind farms with a total installed capacity of up to 3 GW.

BP and EnBW already deployed two metocean buoys and two floating LiDARs as part of the metocean and wind measurement campaign at the two sites, and contracted ABPmer this summer to provide detailed metocean design data for the two offshore wind projects. After being awarded lease rights in February last year, the joint venture said it expected to make four annual payments of GBP 231 million on each lease through option fees before projects reach the final investment decision, and that the projects were expected to be operational in seven years (as of the beginning of 2021).

Offshorewind.biz

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

28 September 2022

Canadian review of eVinci design begins

Westinghouse Electric Company has signed a service agreement with the Canadian Nuclear Safety Commission (CNSC), initiating a pre-licensing vendor design review (VDR) of its eVinci microreactor design. The CNSC offers the VDR as an optional service to provide an assessment of a nuclear power plant design based on a vendor's reactor technology. It is not a required part of the licensing process for a new nuclear power plant, but aims to verify the acceptability of a design with respect to Canadian nuclear regulatory requirements and expectations.

The three phases of the VDR process involve a pre-licensing assessment of compliance with regulatory requirements; an assessment of any potential fundamental barriers to licensing; and a follow-up phase allowing the vendor to respond to findings from the second phase. Westinghouse applied in February 2018 to the CNSC for a VDR of the eVinci. Although it typically takes a few months for the CNSC to establish and sign a service agreement, the CNSC said this time period can vary, depending on: the organisational and

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technical readiness of the vendor; sufficient completeness of the vendor's design activities for the phase of VDR applied for; the vendor's financial readiness to undertake the VDR; and other legal, timing or business aspects that may influence a vendor's decision to proceed.

Westinghouse said it will execute both Phases 1 and 2 of the VDR as a combined programme, "signaling the eVinci microreactor's design and technology maturity". The eVinci microreactor is described as a "small battery" for decentralised generation markets and for microgrids, such as remote communities, remote industrial mines and critical infrastructure. The nominal 5 MWe heat pipe reactor, which has a heat capability of 14 MWt, features a design that Westinghouse says provides competitive and resilient power as well as superior reliability with minimal maintenance. It is small enough to allow for standard transportation methods, making it perfectly suited for remote locations and rapid, on-site deployment. These features, the company says, make it a viable option for places such as mines and off-grid communities.

In May, Westinghouse and the Saskatchewan Research Council (SRC) signed a Memorandum of Understanding on a project to locate an eVinci microreactor in Saskatchewan for the development and testing of industrial, research, and energy use applications. In October 2020, Bruce Power and Westinghouse agreed to pursue applications of Westinghouse's eVinci microreactor programme within Canada. The companies said the agreement supports efforts by the federal and provincial governments to study applications for nuclear technology to reach their goal of a net-zero Canada by 2050.

"Our state-of-the-art eVinci microreactor technology will unlock additional potential in remote communities and decentralised industrial sites," said David Durham, President Energy Systems at Westinghouse. "Westinghouse's nuclear battery technology can safely provide heat and power for more than eight years of continuous operations. We look forward to applying this technology across the country while creating local jobs and advancing Canada's energy security and net-zero goals." In December 2021, Westinghouse submitted a pre-application regulatory engagement plan (REP) with the US Nuclear Regulatory Commission (NRC) for its eVinci microreactor, detailing the planned pre-licensing application interactions with the regulator. An REP helps reactor developers' early interactions with NRC staff and can reduce regulatory uncertainty and add predictability to licensing advanced technologies.

World Nuclear News

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

29 September 2022

AGL brings forward closure date of Loy Yang A power plant

AGL Energy has announced it is bringing forward the closure date of its Loy Yang A brown coal-fired power plant in southeast Victoria from 2045 to 2035, writes Gavin Dennett.

Loy Yang A, near Traralgon in the Latrobe Valley, is Australia's single biggest carbon polluting power plant – emitting around 17 million tonnes of greenhouse gas every year – and it generates around 30 per cent of Victoria's electricity needs. AGL is Australia's biggest energy producer and greenhouse gas polluter. The company has faced increased scrutiny and pressure to move to clean energy following its failed demerger in May 2022 and a push from its largest shareholder, billionaire Mike Cannon Brookes who owns a 11.3 per cent stake, to accelerate its transition to renewables.

Back in February 2022, AGL announced Loy Yang A would close in 2045, three years earlier than its originally proposed closure in 2048. At the same time, the company announced it would also close its Bayswater black coal-fired plant in the NSW Hunter Valley

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between 2030 and 2033. These plans remain unchanged despite the amended closure date of Loy Yang A to 2035. "We have the ambition to supply up to 12 gigawatts of renewable and firming capacity up to 2036 to meet our customer demand, estimated to require up to \$20 billion investment," says AGL chair Patricia McKenzie. "Our interim target is up to 5GW of new renewables and firming in place by 2030, funding from a combination of assets on AGL's balance sheet, offtakes and via partnerships, with battery, wind and solar priority investments at this stage."

According to AGL, bringing forward the closure of Loy Yang A by a decade is expected to save 200 million tonnes of carbon dioxide emissions. "Coal is not a commercially viable industry any longer," says Greg Bourne from Australia's Climate Council. "This is a commercial and strategic decision by AGL. It reflects the reality of the rapid move towards a 21st century power grid as well as 21st century economics. "Coal is unable to compete on cost with renewable energy. It is also inflexible, ageing, unreliable and inefficient. "In Australia and globally, renewables backed by storage deliver the cheapest power, and do so without the greenhouse emissions coal and gas produce. "This announcement is further proof that coal power station closures are going to happen sooner and more frequently than companies are currently formally committed to."

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29 September 2022

Cuba slowly begins to restore power after Hurricane Ian knocks out grid

Cuba had restored power to at least some consumers in the majority of its provinces, the state electricity provider said Wednesday, after Hurricane Ian caused the country's grid to completely collapse, turning off the lights for 11 million people.

Cuba's already frail grid, largely dependent on antiquated, Soviet-era oil-fired generation plants and scarce fuel, had been faltering for months ahead of the storm. Hours-long daily blackouts have become routine across much of the island.

But officials said Hurricane Ian had proven too much, knocking out power even in far eastern Cuba, which was largely unaffected by the storm. "The repair work...has allowed the recovery of 224 megawatts, providing service to a part of the consumers in 12 provinces of the country," the state electricity provider said. That 224 megawatts represents approximately 7% of a peak daily load of 3,259 megawatts just prior to the hurricane's arrival, according to official figures. The grid operator said it was still working to recover high-tension wires that had been toppled by the storm in several provinces.

Havana caught the tail end of Ian as it barreled off the island and into the Gulf of Mexico toward Florida, leaving the city of crumbling, decades-old buildings and pot-holed streets in a tangled mess of downed trees, trash and electrical and telephone wire. At least five buildings collapsed completely in Havana, according to official reports, and 68 were partly destroyed. More than 16,000 people were relocated to shelters. Officials gave no estimate of when power would be fully restored to the capital city.

Puerto Rico, further east in the Caribbean, suffered a similar, island-wide blackout after Hurricane Fiona hit there on Sept. 18, prompting outrage among residents. More than 300,000 customers remained without power in Puerto Rico as of Wednesday, out of 1.468 million total customers.

Reuters

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