

# **WORLD POWER SYSTEMS REVIEW**

**15 October 2023**

**2 October 2023**

## **Netherlands officially inaugurates 1.5GW Hollandse Kust Zuid offshore wind farm**

Swedish power company Vattenfall has announced the completion of construction and official inauguration of the Hollandse Kust Zuid offshore wind farm in the Dutch North Sea. The King of the Netherlands, Willem-Alexander has officially inaugurated the offshore wind farm, which is said to be the world's largest offshore wind farm.

Hollandse Kust Zuid wind facility is located 18km to 36km off the coasts of Scheveningen and Zandvoort towns, in the Dutch North Sea, and will be serviced out of the port of IJmuiden. With a total of 139 turbines, the wind farm will have 1.5GW capacity and generate adequate clean electricity to power around 1.5 million households, once it is fully operational in 2024. Hollandse Kust Zuid is connected to the Dutch grid through two offshore substations, which will be developed and operated by the Dutch transmission system operator (TSO) TenneT.

Vattenfall wind business area head Helene Biström said: "Vattenfall aims to be a leader in the energy transition and offshore wind is essential for energy security and to achieve Net Zero. "The realisation of a project of this magnitude makes me really proud and today is a great example of what we can achieve when partnering with industry. Hollandse Kust Zuid will not only contribute to reduce BASF's carbon footprint but will also help meet local businesses and households demand for fossil-free electricity." The offshore wind farm is owned by Vattenfall, together with Germany-based chemical company Badische Anilin- und Sodafabrik (BASF) and financial services company Allianz.

It was built using several advanced techniques, such as a double bubble screen to reduce underwater noise and enlarged holes in the foundations to offer shelter for marine life. The scour protection was constructed using boulders and rocks of different sizes, and several artificial rock reefs were added to the sites, making them attractive to marine life. Three turbines in the project are equipped with recently developed recyclable blades, which use a resin that can easily dissolve after the working life of the turbines.

Furthermore, Hollandse Kust Zuid has been the world's first subsidy-free wind farm, and its grid connection is publicly funded, as part of the Dutch offshore wind policy. BASF board of executive directors chairman Martin Bruder Müller said: "Around half of the electricity from Hollandse Kust Zuid will be used to reduce the carbon footprint of our products at BASF sites in Europe. "To be part of making that happen makes me also personally very proud and happy. This marks another milestone on our way to climate-neutral production of chemicals." Allianz CEO Oliver Bate said: "I am delighted that today we are opening our first direct investment in an offshore wind farm, together with BASF and Vattenfall. This underlines the ability of partnerships to catalyse action and bring climate solutions to life."

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

**2 October 2023**

## **Iberdrola taps Singapore's GIC for Brazilian transmission co-investments**

The Spanish renewable energy major and Singapore's sovereign wealth fund GIC secured approval from both the National Electrical Energy Agency (ANEEL) and the Administrative Council for Economic Defense (CADE) for the collaboration.

Under the agreement, the companies will collaborate by co-investing in operational transmission assets in Brazil, including Jalapão, Santa Luzia, Dourados, Atibaia, Biguaçu, Sobral, Narandiba and Rio Formoso, totalling 1,865km of power lines, with an average concession period of 25 years. The agreement, initially announced in April, involves an investment of €456 million (\$482.2 million). Iberdrola, through its Brazilian subsidiary,

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Neoenergia, will hold a 50% stake in this venture, valued at approximately €228 million (\$241 million). Iberdrola and GIC have also entered a framework agreement to participate jointly in future tenders for new electricity transmission assets in the country. This arrangement will also relieve Neoenergia from the debt consolidation of the operational assets, as outlined in the terms of the transaction.

This latest transaction is part of Iberdrola's non-essential asset rotation programme, which has already been fully executed, in support of the company's extensive investment plan totalling €47 billion (\$49.7 billion). GIC, a global investment firm founded in 1981, has had prior strategic engagements in the country and with Iberdrola. Earlier this year in April, the firm purchased 50% of eight transmission assets from Neoenergia.

*Smart Energy*  
<http://www.smart-energy.com/>

**2 October 2023**

## **Major reform implemented to WA's electricity market to enable the energy transition**

Yesterday, Western Australia's Wholesale Electricity Market (WEM) commenced operating with new capabilities developed to support the state's energy transformation. As part of the Western Australian Government's Energy Transformation Strategy (ETS), AEMO in collaboration with government agencies, industry and market participants, has delivered extensive reforms to the WEM, which went live on 1 October 2023.

The WEM facilitates the buying and selling of electricity for the South West Interconnected System (SWIS), WA's main power system, which provides electricity to about 1.2 million residential and business customers via 7,500 km of transmission and 93,350 km of distribution power lines.

AEMO Executive General Manager WA and Strategy Kate Ryan said the existing market was no longer fit-for-purpose to facilitate the state's energy transition to net zero emissions. "Only a decade ago, more than 90% of all electricity used in WA's main power system was generated by burning coal and gas. Today, the wind and the sun account for around a third of our annual electricity supply, peaking at about 84%, at times. These reforms modernise the power system in Western Australia and lay the foundations for it to run on growing levels of renewables, while delivering secure, reliable and affordable energy to consumers," she said.

The reformed WEM will also provide a more competitive market matching real-time demand for electricity with the lowest cost sources of generation, while maintaining power system security and reliability. AEMO's WEM Reform program involved an immense amount of work in developing new capabilities and associated processes and systems. The program also focused on supporting AEMO and market participants in preparing for the new market. "AEMO's significant reform package to the WEM lays the groundwork for an orderly transition to cleaner, more affordable and reliable electricity in the SWIS," Ms Ryan said.

The new market will bring key benefits, including:

- Encouraging and facilitating future investment needed to maintain system security and reliability as the energy transition picks-up pace.
- Developing a modernised grid that can cope with high levels of renewable energy and new technologies, including grid-scale battery storage.
- Overcoming technical issues that resulted in dispatching more costly generation, which will allow more low-cost renewable energy into the grid.

AEMO has engaged with market participants and industry throughout the WEM Reform process by holding regular forums, working groups and trials to prepare for the new market. "Delivering this complex reform is a terrific example of the collaboration across

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AEMO, government, industry and market bodies that will be needed to navigate the energy transition,” Ms. Ryan said.

**AEMO**

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

## **3 October 2023**

### **Celtic Sea floating offshore wind leasing round increased to 4.5GW**

The new update outlines three Project Development Areas (PDAs) that will increase the overall available capacity through Round 5, from a possible 4GW to up to 4.5GW. Round 5 is expected to be the first phase of development in the Celtic Sea. This phase will see an upfront Habitats Regulation Assessment, a programme of marine surveys and collaboration with the Electricity System Operator on a coordinated approach to grid design. In 2021, The Crown Estate first set out plans to explore viable options for a potential leasing opportunity in the area and has been working to resolve a number of spatial considerations and policy drivers potentially impacting project development.

This latest update follows a period of stakeholder engagement on proposals set out in July this year over how to best use the space in the Celtic Sea.

Based on this feedback, The Crown Estate has confirmed that:

- Three PDAs of roughly equal size will be made available to bidders, as opposed to the previously proposed four PDAs of varying sizes
- As a result of this change, the overall capacity available through Round 5 has increased from a possible 4GW to up to 4.5GW
- No bidder will be able to secure an Agreement for Lease for more than one PDA

The Crown Estate has also updated its design to optimise the seabed providing developers with more developable space in each of the three areas.

Gus Jaspert, managing director Marine at The Crown Estate, commented in a statement: “Round 5 is set to be one of the biggest projects of its kind in the world, and will be a game changer for the UK’s energy security and net zero ambitions.

According to The Crown Estate, a programme of aerial marine surveys has started in order to gather data for developers. Specially-equipped aeroplanes will gather data on the sea birds and marine mammals around the project sites and more widely in the Celtic Sea. The data will be used to aid decision making and lesson project risk. Comprehensive technical specifications for the whole programme of surveys will be published later this month, giving a complete picture of the data that will eventually be available. The UK government aims to deliver up to 5GW of floating wind by 2030, with the goal of further expansion thereafter.

**Power Engineering**

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

## **3 October 2023**

### **Adani commissions Khargar-Vikhroli transmission line**

Khargar Vikhroli Transmission Limited (KVTL), which will enable additional power to be brought into Mumbai and thus enable in meeting the city’s growing and future electricity demand, is commissioned. Built by Adani Energy Solutions Limited (earlier known as Adani Transmission Limited), the energy solution, transmission and distribution arm of the Adani portfolio, the project is critical for Mumbai as the existing capacity of the transmission corridor is not sufficient to carry further power into the city.

Mumbai witnessed grid failure twice in recent times – on 27 February 2022, and on 12 October 2020; localities across the metropolis went dark for a considerable period. The

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Kharghar-Vikhroli line will bring additional 1,000 MW reliable power to Mumbai city as a solution to mitigate any such incidents in the future.

With this project's commissioning, Mumbai gets a 400 KV grid within its municipal geography, bringing enhanced import capability within its electricity grid and improving reliability and stability. For consumers, it provides that much more sustainability to commuting through bullet trains, Metro Rail and city railways, as also for commercial and residential establishments.

KVTL comprises approximately 74 circuit kilometres of 400 kV and 220 kV transmission lines, along with a 1,500 MVA 400kV Gas Insulated Substation (GIS) at Vikhroli, the first 400KV substation of its kind in Mumbai. Occupying approximately 9,500 sq m area, it has the most compact design when it comes to 400 KV substations. Its unique design vertically stacks 400kV and 220kV GIS, thus minimizing space requirements.

AESL braved a number of challenges while laying the line, mainly in surmounting difficult terrain, but these were overcome with the use of technology and innovation. For instance, six towers were constructed in creeks using heavy rigs on floating barges. In urban areas, height restrictions in some locations were overcome by adopting special horizontal configuration towers.

The KVTL project starts in the Kharghar area of Navi Mumbai, traverses through its urban locations and terminates at Vikhroli in Mumbai city. The project includes the following major elements:

- 400 kV/220 kV GIS Vikhroli substation, having 1500 MVA transformation capacity
- Air Insulated System switchyard at Kharghar
- 400 kV double/multi circuit Kharghar-Vikhroli line
- 400 kV loop in loop out (LILo) on Talegaon-Kalwa line at Vikhroli
- 220 kV LILo on Trombay-Salsette line at Vikhroli

*NS Energy*

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

**3 October 2023**

## **Environmental permit awarded for Princess Elisabeth Island, a key link in our future energy supply**

Construction of the Belgian energy island will start early next year. North Sea Minister Vincent Van Quickenborne has approved the relevant environmental permit. A consortium comprising Belgian marine construction companies DEME and Jan De Nul has already started preparing the site where it will build the caissons (concrete foundations) in Vlissingen (North Sea Port). In the meantime, Elia is putting the final touches on a nature-inclusive design for the island that will be submitted later this year. Together with outside experts, the design was examined to determine which items could be adjusted or added with a view to boosting biodiversity on and around the island.

Princess Elisabeth Island will be an energy hub 45 km off the coast connecting new wind farms and additional interconnectors (to the UK and Denmark) to Belgium's onshore power grid. Obtaining the permit, which Elia applied for in January 2023, is a key condition for building the world's first artificial energy island in the North Sea. Construction will take around two years (March 2024 to August 2026). In late June 2023, an environmental permit was granted for the construction of caissons on the premises of Verbrugge Zeeland Terminals at Bijleveldhaven, a location in North Sea Port where the 23 concrete caissons (each of which is approximately 60 m long, 30 m wide and 30 m high) will be built, launched, stored and, in the summers of 2024 and 2025, towed to the offshore location and immersed. Afterwards the island will be sand fill reclaimed and prepared for the construction of the high-voltage electrical infrastructure.

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Whilst the construction work is being undertaken in Vlissingen, the Princess Elisabeth Island project will be coordinated from Port Oostend. Project logistics and engineering activities will be moved over to the newly renovated Stapelhuis warehouse in early November 2023. More specifically, around 80 jobs will be involved.

For months now, Elia has been working with experts from public and private institutions, universities and non-governmental organisations to optimally integrate the energy island's infrastructure into the marine environment. In opting for a nature-inclusive design, the island's potential for marine biodiversity has been fully exploited. Based on this research, specific measures will be formulated that will then be submitted later this year and ultimately integrated into the island's design.

*Elia*

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

**3 October 2023**

## **DEWA commissions second unit in 950MW fourth phase of MBR Solar Park**

Dubai Electricity and Water Authority (DEWA) said that it has commissioned the 200MW second unit of the parabolic basin complex in the 950MW fourth phase of the Mohammed bin Rashid Al Maktoum (MBR) Solar Park in the UAE. The fourth phase of the solar park in Dubai utilises the independent power producer (IPP) model. It entails investments of up to AED15.78bn (\$4.3bn). By leveraging three hybrid technologies, the fourth phase of the MBR Solar Park will generate enough electricity to power up nearly 320,000 residences with clean energy.

The fourth phase comprises a 600MW parabolic basin complex with three units of 200MW each, a 100MW solar power tower based on molten salt technology, and 250MW photovoltaic (PV) solar panels. According to DEWA, this phase includes the installation of over 790,000 PV solar panels and more than 63,600 parabolic trough collectors (PT). DEWA said that the fourth phase of the MBR Solar Park is the largest single-site project in the world that brings together concentrated solar power (CSP) and PV technologies. Furthermore, the fourth phase is estimated to reduce carbon emissions by 1.6 million tons per year. Overall, the MBR Solar Park is planned to have a production capacity of 5GW by 2030 with investments totalling AED50bn (\$13.61bn).

“Commissioning the 200MW second unit of the parabolic basin complex in the fourth phase increased the solar park’s production capacity to 2,627MW, and DEWA’s total production capacity to 15,117MW.” DEWA has commissioned 717MW from the fourth phase of the MBR Solar Park to date. Noor Energy 1 was established as a project company to design, build, and operate the fourth phase of the solar park by DEWA and the ACWA Power-led consortium. DEWA, ACWA Power, and the Chinese Silk Road Fund hold 51%, 25%, and 24% stakes in the company, respectively. DEWA revealed that the construction of the first unit of the fourth phase project of 100MW capacity from the solar tower and 217MW from PV solar panels are also fully complete. The third unit of 200MW from the parabolic basin complex and 33MW from PV solar panels are 87.1% complete. Last month, Masdar and DEWA signed an agreement worth up to AED5.51bn to develop and operate the 1.8GW sixth phase of the MBR Solar Park.

*NS Energy*

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

**5 October 2023**

## **China's highest altitude wind farm connected to power grid at full capacity**

China's highest altitude wind farm located in the Xizang Autonomous Region has been connected to the power grid at full capacity, according to a statement issued on

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Wednesday by the China Three Gorges Corporation, the project developer. Located in Zhegu Town of Comai County, the turbines of the wind farm were installed at 5,000-5,200 meters above sea level.

CGTN

<http://news.cgtn.com/>

**5 October 2023**

## **India Building Two More Controversial Hydropower Projects on Chenab River**

India has started constructing two more controversial hydro projects – Kiru and Kwar — on the Chenab River with designs that are in sheer breach of the provisions of the Indus Waters Treaty (IWT) 1960.

Islamabad and New Delhi are already in a legal battle in the court of arbitration and neutral expert, the two international forums on the faulty designs of 330MW Kishanganga and 850MW Ratle hydropower projects being built on Pakistan's rivers. Pakistan has objected to the designs of the Kiru hydropower project which has the capacity to generate 624MW and the Kwar hydroelectric power project of 540MW in its recent interaction with India at the level of the Permanent Indus Waters Commission (PIWC). India is bound to share the designs of its projects with Pakistan under the Indus Waters Treaty.

The Kiru hydropower project is being built along the Chenab River near the villages of Patharnakki and Kiru, approximately 42kms from Kishtwar. It will be located between Kirthai-II hydroelectric project to its upstream and Kwar hydroelectric project to its downstream. As per India, Kwar is a run-of-river project. The net head of the project will be 56.6 meters. The total number of penstocks, pipes or long channels that carry water down from the hydroelectric reservoir to the turbines inside the actual power station, is expected to be four in number. The penstock length will be 236 meters. The penstock diameter will be 5.65 meters. The project is expected to generate 1,975.54 GWh of electricity. The hydropower project consists of four turbines, each with 135MW nameplate capacity.

“Yes, India has shared with us some days back the designs of the two more projects that it is planning to construct on the Chenab river upstream Ratle hydropower project,” a senior official of Pakistan's Commission of Indus Waters told The News. “We have submitted our objections on the designs of both the projects on the components which include spillways, freeboard, and pondages. India is repeating the violations of the design-related provisions of the Indus Waters Treaty (IWT) 1960 in the designs of its projects despite Pakistan's repeated objections. Similar faulty designs that have been adopted in the Kishanganga and Ratle projects are being repeated by India in more hydropower projects on Pakistan's rivers,” the official added.

Right now, both the countries are fighting a legal battle in the court of arbitration (CoA) and neutral expert (NE) in The Hague against the faulty designs of the Kishanganga project built on the Jhelum River and the Ratle project being constructed by India on the Chenab River. Pakistan deems its case is very strong and if it wins in the court of arbitration and NE, then India would not be able to erect future projects on Pakistan's rivers with designs violative of the IWT.

Coming to the Kiru project, as per Indian media, the 624MW Kiru hydroelectric project is being developed as a run-of-river scheme in the Kishtwar district of Indian Illegally Occupied Jammu and Kashmir (IIOJK). The project is being developed by the Chenab Valley Power Projects (CVPPPL) joint venture (JV) between National Hydroelectric Power (NHPC, 51%) and Jammu & Kashmir State Power Development (JKSPDC, 49%). The Indian Ministry of Environment Forests and Climate Change (MoEF&CC) awarded environmental clearance for the hydroelectric project in 2016, while the foundation stone was laid in February 2019. The project is being constructed at an estimated cost of

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Rs42.88bn (\$609.71m) and is expected to start commercial operations in July 2025. The Cabinet Committee on Economic Affairs (CCEA) approved the investment in the project in March 2019. The project will include the construction of a 135m-high concrete gravity dam near Kiru.

A 700m-long, 9m-diameter horseshoe shape diversion tunnel with upstream and downstream cofferdams is being created to divert the flow of the river to enable the dam construction. The flood control structures will include four orifice-type spillways and two crest spillways, which will serve the requirements for flood release and reservoir flushing. Other major components of the project will include an underground powerhouse, four pressure shafts, and four tailrace tunnels.

The powerhouse will be located on the left bank of the river near Kiru. The powerhouse cavern will be 182m-long, 23.6m-wide, and 51.2m-high. It will include four vertical Francis turbines, each with a power generating capacity of 156MW, with a rated head of 117.98 meters. A 137m-long, 17m-wide, and 15m-high transformer-cum-draft tube gate cavern will also be created as part of the powerhouse complex. The four pressure shafts will have an internal diameter of 5.5 meters and lengths ranging between 316 meters and 322 meters. The horseshoe-shaped concrete-lined tailrace tunnels will have a diameter of 7 meters and lengths ranging from 165 meters to 190 meters.

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

**5 October 2023**

### **Foundation stone laid for 1,440 MW pumped storage project in Madhya Pradesh**

Honourable Chief Minister of Madhya Pradesh Shri Shivraj Singh Chouhan has virtually inaugurated work on a 1,440 MW pumped storage project in Madhya Pradesh, India. The project, being completed by Greenko Group, will be the country's largest pumped storage facility, according to a release. The company did not name the project, but it appears to be Gandhisagar (or Gandhi Sagar). The project in Neemuch district has a capacity of 1,440 MW, with storage for 7.5 hours. Greenko said the project will be expanded to 1,920 MW with storage of 6 hours, to provide a storage of nearly 11 GWh daily, but did not provide a timeline for this.

The overall investment will total INR115 billion (US\$1.4 billion) over the next three years, and it will generate 4,800 jobs during construction and 200 jobs after completion of the construction. It will be completed within 30 months, as against the allocated period of 36 months by statutory authorities. When completed, the project will be able to integrate more than 7,000 MW of renewable capacity, Greenko Group said. This off-stream open-loop project envisages the construction of a new off-stream upper reservoir, and the existing Gandhi Sagar Reservoir will be used as the lower reservoir. The proposed upper reservoir will be made by construction of a 5,970-m-long and a 35-m-tall asphalt faced rockfill embankment dam (AFRD).

"The inauguration marks a milestone in India's clean energy efforts," said Anil Kumar Chalamalasetty, group chief executive officer and managing director, Greenko Group. "It is a moment of great pride for Greenko that we have pioneered to deliver 24/7 dispatchable renewable energy solution, for industrial decarbonization and energy transition. Achieving this is made possible through national level policy backing and the forward-thinking guidance of the Honourable Chief Minister of Madhya Pradesh, Shri Shivraj Singh Chouhan ji. Greenko is committed to facilitate a comprehensive shift towards carbon-free energy through integrated solutions." Greenko Group has an installed capacity base of 7.3 GW across solar, wind and hydro generation technologies spread over ~100+ projects across

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15 states. Greenko is building 30 GWh of lowest-cost storage capacity as part of its plan to develop an energy storage cloud platform of 100 GWh.

*Hydro Review*

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

**5 October 2023**

## **Germany Approves Bringing Coal-Fired Power Plants Back Online This Winter**

Germany's cabinet on Wednesday approved putting on-reserve lignite-fired power plants back online from October until the end of March 2024, the economy ministry said, as a step to replace scarce natural gas this winter and avoid shortages. Berlin reactivated coal-fired power plants and extended their lifespans, with a total output of 1.9 gigawatt hours generated last winter. Despite gas bottlenecks easing since last winter with new liquefied natural gas (LNG) terminal deliveries, coal-fired power plants will be reactivated and the government will make proposals by summer next year on how to offset increased carbon dioxide these plants will generate this winter.

*Reuters*

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

**5 October 2023**

## **Indian PM inaugurates first unit of Telangana Super Thermal Power Project**

Indian Prime Minister Narendra Modi has inaugurated the first 800MW unit of phase 1 of the 4GW Telangana Super Thermal Power Project in Telangana, India. Located near Ramagundam in Peddapalli district, the thermal power project is being developed in two phases by the Indian government-owned integrated power utility National Thermal Power Corporation (NTPC). NTPC is constructing the first phase of the Indian super thermal power plant within the MGR unloading bulb of its Ramagundam Super Thermal Power Station.

Phase 1 of the Telangana Super Thermal Power Project comprises two units of 800MW each, totalling 1.6GW. NTPC will add 2.4GW to the project by including three 800MW units in phase 2. The super thermal power project's phase 1 entails an approved investment of INR109.98bn (\$1.32bn). It will deliver 85% of the power generated to Telangana. Prime Minister Modi said: "Smooth supply of electricity gives momentum to growth of industries in a state."

By leveraging ultra-supercritical technology, the Telangana Super Thermal Power Project will supply low-cost power to the Indian state. Besides, the pit-head power station is projected to provide a boost to the economic development of Telangana. Furthermore, the Telangana Super Thermal Power Project is anticipated to become one of the most environmentally compliant power stations in the country by reducing specific coal consumption and carbon dioxide emissions. The foundation stone for the Indian super thermal power project was laid in 2016 by Prime Minister Modi. Prior to that, the final environment impact assessment report of the project was published in mid-2015. In 2018, NTPC awarded GE Power India a contract worth INR3.09bn (\$37m) for installing a flue gas desulphurisation (FGD) system at the phase 1 of Telangana Super Thermal Power Project.

*NS Energy*

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

**6 October 2023**

## **Indian PM inaugurates first unit of Telangana Super Thermal Power Project**

Indian Prime Minister Narendra Modi has inaugurated the first 800MW unit of phase 1 of the 4GW Telangana Super Thermal Power Project in Telangana, India. Located near Ramagundam in Peddapalli district, the thermal power project is being developed in two



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phases by the Indian government-owned integrated power utility National Thermal Power Corporation (NTPC).

NTPC is constructing the first phase of the Indian super thermal power plant within the MGR unloading bulb of its Ramagundam Super Thermal Power Station. Phase 1 of the Telangana Super Thermal Power Project comprises two units of 800MW each, totalling 1.6GW. NTPC will add 2.4GW to the project by including three 800MW units in phase 2.

The super thermal power project's phase 1 entails an approved investment of INR109.98bn (\$1.32bn). It will deliver 85% of the power generated to Telangana. Prime Minister Modi said: "Smooth supply of electricity gives momentum to growth of industries in a state." By leveraging ultra-supercritical technology, the Telangana Super Thermal Power Project will supply low-cost power to the Indian state. Besides, the pit-head power station is projected to provide a boost to the economic development of Telangana.

Furthermore, the Telangana Super Thermal Power Project is anticipated to become one of the most environmentally compliant power stations in the country by reducing specific coal consumption and carbon dioxide emissions. The foundation stone for the Indian super thermal power project was laid in 2016 by Prime Minister Modi. Prior to that, the final environment impact assessment report of the project was published in mid-2015. In 2018, NTPC awarded GE Power India a contract worth INR3.09bn (\$37m) for installing a flue gas desulphurisation (FGD) system at the phase 1 of Telangana Super Thermal Power Project.

*World Energy*

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

**9 October 2023**

## **California governor signs bill to speed utility interconnections**

California Gov. Gavin Newsom, D, on Saturday announced he signed SB 410, aimed at speeding customer interconnections to the utility grid and helping the state to electrify buildings and vehicles. "It is imperative that we accurately plan, prepare, and prioritize the connection and energization of customers," he wrote in a signing statement.

Distribution system improvements can take six months to a year in some areas of the state and are slowing customer adoption of clean energy appliances, according to bill sponsor Sen. Josh Becker, D.

SB 410 was among a slate of clean energy bills Newsom signed over the weekend. Others included measures to improve efficiency in large buildings, allow the state to buy clean energy, speed offshore wind development and build out clean energy transportation. SB 410, known as the Powering Up Californians Act, directs the California Public Utilities Commission to set average and target time periods for grid connections and upgrades. It is supported by several clean energy groups while Pacific Gas & Electric has expressed concern about the balance between speed and safety when it comes to grid upgrades. SB 410 is a key initiative to speed adoption of electric vehicles, according to the Environmental Defense Fund.

"Delays in connecting new electric vehicle chargers to the grid jeopardize the ease of access required to propel the transition away from fossil fuels," Katelyn Roedner Sutter, EDF's California state director, said in a statement. "These new requirements on utilities to develop the infrastructure to support this change and the accompanying growth in energy demand will prove vital." The law directs the CPUC to set "reasonable average and maximum target energization time periods" by Sept. 30, 2024. Regulators will also set utility reporting requirements "so that electrical corporation performance can be tracked and improved."

The reporting, which will be required at least annually, will include data on the average, median, and standard deviation times for interconnection requests that exceed

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target maximum timelines. The bill also requires the CPUC to ensure that utilities “have sufficient and timely recovery of costs,” and allows for the commission to utilize a balancing mechanism for energization costs that exceed authorized rates. “I am signing this bill because many of its provisions address this acute and critical issue with accountability metrics and a new, one-time revenue stream, with sensible customer protections,” Newsom wrote. Advanced Energy United said interconnection delays are “a major obstacle” to customer adoption of clean energy technologies. SB 410 “helps break through the logjam,” said Emilie Olson, a senior principal who manages Advanced Energy United’s legislative engagements in California and Colorado.

“The bill enables faster interconnection timelines and increased transparency for utilities so they can make evaluations more quickly and speed up wired connections from homes and businesses to the grid,” Olson said after the bill passed the state’s legislature in September. Pacific Gas & Electric is the state’s largest utility and has faced scrutiny over interconnection delays. The utility previously expressed concerns about the legislation but in an emailed statement said the new law “rightfully addresses the urgent need to fund the capacity and energization work necessary to power the state’s electrification goals. SB 410 will bring certainty about our ability to serve our customers by setting reasonable average and maximum time periods for energizing customers, and by establishing a framework for utilities to report compliance with those time periods,” the utility said.

SB 410 was among a slate of clean energy bills Newsom signed this legislative session. Among others, AB 1373 creates a central procurement process for California to acquire clean energy, SB 48 aims to help improve efficiency in large commercial buildings, and SB 49 allows highway rights-of-way to be utilized for solar, storage and transmission. AB 3, the Offshore Wind and Jobs Act, aims to speed offshore renewable development by upgrading California’s ports. “As one of the biggest economies in the world, what we do here matters beyond our borders,” Laura Deehan, Environment California’s state director, said in a statement about the signings. “With today’s action, Gov. Newsom cements California’s climate leadership.”

*Utility Dive*

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

**10 October 2023**

## **World’s largest offshore wind farm Dogger Bank produces power for the first time**

Dogger Bank is now connected to Britain’s national grid and has started exporting electricity for the first time to British homes and businesses. This is a major milestone in the development of the industry and the transition to a cleaner, more secure energy system.

The 3.6 GW Dogger Bank Wind Farm is being constructed in UK waters 70 nautical miles (130km) off the coast of Yorkshire and in the UK’s North Sea in three 1.2 GW phases known as Dogger Bank A, B and C. The first turbine at Dogger Bank A has started turning and producing electricity. Power from the offshore wind farm is now being transmitted to the UK’s national grid via Dogger Bank’s high-voltage direct current (HVDC) transmission system, marking the first-time use of HVDC technology on a UK wind farm

First power followed the installation of the first of GE Vernova’s Haliade-X 13 MW turbines, one of the largest and most powerful globally, at the Dogger Bank site. This is the first time Haliade-X units have been energized offshore anywhere in the world. Each rotation of the 107m long blades can produce enough energy to power an average British home for two days.

Equinor, as lead operator during the operational phase of the wind farm, will maintain and operate Dogger Bank over its expected 35-year lifetime. Operations and maintenance will be carried out from the recently opened O&M base at the Port of Tyne. The base will

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host around 400 jobs, including staff from the Dogger Bank Wind Farm, Equinor, GE Vernova and North Star.

Dogger Bank sits approximately 130km (80 miles) off the coast of Yorkshire and will occupy an area almost as large as Greater London and nearly twice the size of New York City. When fully complete, its 3.6 GW capacity will comprise 277 offshore turbines capable of producing enough energy to power the equivalent of six million British homes annually.

The first power milestone marks the first of what will eventually be 277, 260-meter-tall turbines providing power from the project. Each of these turbines will be progressively installed and commissioned between now and planned full commercial operation in 2026. When complete, Dogger Bank will be the world's largest offshore wind farm, more than two and a half times the size of the largest offshore wind farm currently in operation.

*Equinor*

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

**12 October 2023**

## **Queensland declares Borumba pumped hydro project as coordinated project**

The government of Queensland has declared Queensland Hydro's 2GW Borumba pumped hydro project in the Australian state as a coordinated project. The declaration given by Queensland's Coordinator-General will enable the Borumba pumped hydro energy storage project to go through a comprehensive assessment of social, economic, and environmental matters. To be developed at Lake Borumba, near Imbil, the Australian pumped hydro project is estimated to entail a total investment of A\$14.2bn (\$9.1bn).

The Borumba project will see the construction of a new upper reservoir and a new dam wall to replace the existing Borumba Dam wall. It is expected to increase Lake Borumba's storage capacity from 46 to 224 gigalitres. According to the Queensland government, geotechnical exploratory drilling has begun on the pumped hydro project in the Southern Queensland Renewable Energy Zone. This will help inform the environmental impact statement (EIS) process, said the government.

Queensland Deputy Premier Steven Miles: "This marks another step forward for the Borumba Pumped Hydro Energy Storage project, and further progress towards our state's future as a clean energy superpower. The Borumba pumped hydro project will expedite the decarbonisation of Queensland's energy system.

It will deliver the long duration energy storage required to achieve the Queensland government's renewable energy targets of 70% by 2032 and 80% by the year 2035. Besides, the Borumba pumped hydro project, at its peak construction, will generate an estimated 2,300 jobs as well as economic opportunities for businesses in Queensland. Queensland Hydro CEO Kieran Cusack said: "Our Borumba Project is a cornerstone of the Queensland Energy and Jobs Plan and presents a world of opportunity for our local communities and businesses – jobs, new industries, regional development, local investment."

*NS Energy*

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

**12 October 2023**

## **Lithuania postpones launch of second offshore wind tender to January 2024**

The Lithuanian government plans to open the country's second offshore wind tender in January 2024 instead of this autumn, with the exact date to be announced in due course. According to a press release from Lithuania's Ministry of Energy, the decision to push back opening the auction came after a consultation held on Tuesday, 10 October, and feedback

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from investors on the global renewable energy sector being affected by the current economic conditions, which in turn affects their plans.

“Due to changes in economic circumstances, the situation in the renewable energy sector worldwide is changing dynamically and this is influencing investors’ plans,” said Daiva Garbaliuskaitė, Deputy Minister of Energy. “During the consultation year, our aim is not only to provide them with all the information they need about the planned auction, but also to secure feedback from investors, which will help us to organise a competitive auction on the most attractive terms.”

The Lithuanian Ministry of Energy brought forward an amendment package to the Laws on Renewable Energy and Electricity which facilitates the country’s second 700 MW tender and accelerated tendering procedures in July 2022, with the second offshore wind farm expected to produce its first power as early as 2028. A few days ago, the Ministry of Energy said the European Commission (EC) had approved a EUR 193 million support scheme under which the second offshore wind project, to be selected through a competitive bidding process, would be supported.

During the consultation that the ministry held on 10 October, which led to delaying the tender launch, market participants were also informed about the support scheme now approved by the European Commission, along with discussing the preparations for the auction and its terms and conditions. The support scheme will take the form of a variable premium under a two-way contract for difference (CfD) that would be in effect for 15 years. The premium will be calculated by comparing a reference price, determined in the tender offer, as well as by the market price for electricity. The CfD will see the owner/developer of Lithuania’s second offshore wind farm is entitled to receive aid equal to the difference between the strike price and the market prices for electricity as soon as the market price is below the strike price. However, the owner will have to pay the difference between the two prices to the State as soon as the market price is above the strike price.

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

**12 October 2023**

## **Ofgem explores options amid rising consumer debt**

A consultation on options to protect the energy market and consumers from the risk of rising debt has been launched today by Ofgem.

Figures obtained by the regulator this summer show that energy debt reached £2.6 billion – its highest ever level – due to a combination of the rise in wholesale energy prices, and wider cost of living pressures. Under the terms of the price cap suppliers are able to recoup efficient costs, including unrecoverable debt, through the pricing of their services.

With bad debt levels expected to continue increasing, Ofgem is considering whether or not to add a one-off adjustment to the price cap to reduce the risk of energy firms going bust or leaving the market as a result of unrecoverable debt. The analysis in the paper shows this could result in a temporary rise in consumer bills of up to £17 a year (around £1.50 a month) on average, but is weighed against the risk of customers facing even higher costs and poorer standards of service if suppliers go bust. During the energy crisis, when around 30 suppliers went out of business, every energy customer was charged an extra £82 to cover the costs of ensuring that households were not cut off.

For this comprehensive consultation, Ofgem will engage with industry, consumer groups and the public to consider a range of options, including how to spread the cost of any additional allowance between the varying payment methods. Proposals under consideration would have varying impacts on the bills of customers with different payment types, based on an average increase of £17 across all customers. Ofgem has also made

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clear that, even if approved, any increase would be delayed until the April price cap to protect consumers from rising costs during the winter.

Tim Jarvis, Director General for Markets at Ofgem, said: “We know that households across the country are struggling with wider cost of living challenges, including energy, so any decision to add costs to the price cap is not one we take lightly. However, the scale of unrecoverable debt and the potential risk of suppliers leaving the market or going bust, which passes on even greater costs to households, means we must look at all the regulatory options available to us. Ofgem cannot subsidize energy or force businesses to sell it at a loss and suppliers must be in a position to offer high quality services to customers. We must consider the fairest way to maintain a stable energy market and we will do this in consultation with all our partners to ensure we are protecting the most vulnerable households.”

The consultation is published on the same day as Energy UK published its Winter 2023 Voluntary Debt Commitment. The agreement signed by energy suppliers includes pledges of additional financial support and steps to provide support for customers in debt. The commitment, which is welcomed by Ofgem, comes after it convened Energy UK, suppliers and consumer groups, including Citizens Advice, to work together to raise standards and support consumers in debt. Their commitment sits alongside Ofgem’s work supporting vulnerable customers this winter through Additional Support Credit, levelisation of payment methods, involuntary PPM, Consumer Standards and increased monitoring of near-time indicators of debt. Today Ofgem is also publishing a working paper on its review of operating costs under the cap and announcing it is allowing the temporary Market Stabilisation Charge (MSC) to lapse. Introduced in April 2022 as a temporary measure, the charge was designed to stabilise the domestic energy market as wholesale energy prices surged due to Russia’s invasion of Ukraine. The charge, which requires energy companies who acquire a new customer to pay compensation to the previous supplier, is due to expire on 31 March 2024. That Ofgem has decided not to extend beyond this date is evidence of stability and will help competition return to the market.

***Ofgem***

***<http://www.ofgem.gov.uk/>***