

WORLD POWER SYSTEMS REVIEW

15 June 2022

1 June 2022

China says a third of electricity will come from renewables by 2025

China will aim to ensure that its grids source about 33% of power from renewable sources by 2025, up from 28.8% in 2020, the state planning agency said on Wednesday in a new "five-year plan" for the renewable sector.

China's total renewable energy consumption is set to reach about 1 billion tonnes of standard coal equivalent (TCE) by 2025, as the country bids to raise the share of non-fossil fuels in total energy use to 20%, the National Development and Reform Commission (NDRC) said.

Non-fossil fuels accounted for 15.4% of total primary energy consumption in 2020. China, the biggest source of climate-warming greenhouse gases, has pledged to raise total wind and solar capacity to 1,200 gigawatts by 2030, almost double the current rate, with plans to build large-scale renewable energy bases in northwestern desert regions.

Climate groups were hoping that China would set a strict energy consumption target for 2025 as it prepares to bring total greenhouse gas emissions to a peak before 2030. Though China has yet to announce a formal energy cap, the new non-fossil fuel energy consumption figure implies that total primary energy use could reach 5 billion tonnes of standard coal by 2025. The NDRC said renewables would account for more than half of new energy consumption growth from 2021-2025 period, but China still has leeway to build more fossil fuel-fired power plants over the period as it focuses on improving energy security.

China is aiming to start cutting coal consumption in 2026, but in the meantime could put as much as 150 gigawatts of new coal capacity into operation by then, according to research from the State Grid.

Reuters

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

1 June 2022

Power restored after massive outage in Prague

The almost hour-long power outage that hit parts of Prague this morning was caused by a technical defect on a substation. It affected thousands of households, public transport, some hospitals, schools, ministries, and offices. Hospitals have their reserve energy generators and none of them had to restrict operations. The blackout occurred at 08:48 am and lasted until 09:40 am, when the staff of energy company PRE staff corrected the defect at the substation in Chodov.

Due to the outage, tram operation collapsed in the city on the right bank of the Vltava and the metro's C line did not operate for nine minutes. It also caused minor outages of Internet networks in a part of Prague, but most operators cope with it thanks to their reserve generators. Some websites temporarily went offline.

Expats.cz

<http://www.expats.cz/>

2 June 2022

Construction officially starts on the largest wind farm in Australia

Set to become one of the largest onshore wind farms in the world, the MacIntyre Wind Farm precinct has begun work in Queensland in a major boost for the state's renewable energy and job opportunities.

The 620-worker, \$2 billion project is Queensland's first publicly-owned and operated wind farm and establishes the state's second Renewable Energy Zone (REZ). The entire MacIntyre precinct will be operational in 2024. The 1,026MW precinct consists of two wind

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farms – the proposed 103MW Karara Wind Farm to be owned and operated by the Queensland Government’s low-emissions generator and retailer CleanCo Queensland, and the 923MW MacIntyre Wind Farm that will be owned and operated by ACCIONA Energy Australia. Queensland Treasurer, Cameron Dick, said the project represented not just more renewable energy for Queensland, but a major boost for jobs and regional opportunities. “This project will create 400 project jobs during construction and support a further 220 transmission jobs,” Mr Dick said. “It will inject more than \$500m into the Southern Downs and Darling Downs regional economy during construction and provide renewable, affordable power for businesses across the region well into the future.”

Queensland Minister for Energy, Renewables and Hydrogen, Mick de Brenni, said the mega-project was supporting more than 600 construction and transmission jobs. “As well as the 400 Wind farm construction and 220 transmission connection jobs, the zero emissions MacIntyre Wind Farm power will fuel decent, secure jobs in energy-intensive industries, in particular nearby manufacturing.” Mr. de Brenni said the mega project was further evidence of the Queensland Government’s long-standing commitment to renewables, which would keep downward pressure on electricity prices. The MacIntyre Precinct being delivered in partnership with ACCIONA, takes in the MacIntyre Wind Farm, boasting 162 turbines, and the 103MW Karara Wind Farm which will host a further 18 turbines.

“The precinct will be one of the largest wind farms in the southern hemisphere and is a signal to global investors that Queensland is ready to support low emissions, job creating industry, onshore,” Mr. de Brenni said. Minister de Brenni said the Queensland Government was also investing more than \$2 billion to supercharge renewable energy supply and significant battery storage to produce cheaper, cleaner energy and the decent, secure jobs it would create across Queensland. CleanCo Chair, Jacqui Walters, said it was a major step with the renewable energy generated by the MacIntyre Precinct helping to support CleanCo to deliver reliable, clean energy solutions at a competitive price for customers helping them thrive in a net zero future. “With the capacity to supply the equivalent of nearly 700,000 homes, this massive MacIntyre project will substantially boost renewable energy supply in Queensland helping our industries, businesses and communities to achieve their sustainability goals,” Ms Walters said. “Today represents a major step forward for CleanCo as we celebrate the future offtake of energy from the MacIntyre project and as our Board makes its final decisions on the Karara Wind Farm.”

CleanCo’s power purchase agreement for 400MW from the MacIntyre Wind Farm will contribute to the 1,400MW of new renewable energy it is bringing to market by 2025 to support the energy transformation in Queensland. ACCIONA Energia, Managing Director, Brett Wickham, said as the largest onshore wind farm in the southern hemisphere, the MacIntyre Precinct is bringing significant social and economic benefits not just to the Downs but to the whole of Queensland. “I believe MacIntyre is the start of a golden age of renewable energy in Australia. One that takes full advantage of our renewable resources with projects that help drive and develop our regional economies,” Mr Wickham said. “It is great to be working alongside CleanCo to deliver this major project for Queensland and its residents.”

Goondiwindi Regional Council Mayor, Lawrence Springborg, said “It’s wonderful to see that the Goondiwindi Region is once again the region of choice for innovative, pioneering projects such as the ACCIONA MacIntyre Wind Farm. Powerlink Chief Executive, Paul Simshauser, said on-ground work had started this month to deliver two new switching stations and 65km of new transmission line to connect the massive wind precinct to the grid.

Energy

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

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Japan's trial of a deep ocean turbine could offer limitless renewable energy

Japan is both power-hungry and fossil-fuel reliant making for a bad combination but that could all soon change. The nation has now successfully tested a system relying on the deep ocean that could provide a reliable steady form of renewable energy, according to a report by Bloomberg published Tuesday. The invention comes from Japanese heavy machinery maker IHI Corp. The company has been developing a subsea turbine that harnesses the energy in deep ocean currents for over ten years.

The giant sea turbine called Kairyu looks like a 330-ton airplane. It features two counter-rotating turbine fans that are connected by a massive fuselage and it functions by floating while anchoring to the sea floor at a depth of 30-50 meters (100-160 feet). IHI Corp. has ambitious plans to site the turbines in one of the world's strongest currents (the Kuroshio Current) and transmit the power via seabed cables. Japan's New Energy and Industrial Technology Development Organization (NEDO) speculates that this current could potentially generate as much as 200 gigawatts of reliable energy. This is the equivalent of 60% of Japan's present generating capacity. "Ocean currents have an advantage in terms of their accessibility in Japan," Ken Takagi, a professor of ocean technology policy at the University of Tokyo Graduate School of Frontier Sciences, told Bloomberg. "Wind power is more geographically suited to Europe, which is exposed to predominant westerly winds and is located at higher latitudes."

Japan has been looking into renewable energy as a viable option for providing its citizens with energy, especially after the Fukushima nuclear disaster. Most of its investments so far have been in wind and solar. The nation is already the world's third-largest generator of solar power and has made ambitious investments in offshore wind. But neither of these energy sources could provide the stability and reliability that power systems based on ocean currents generate. For comparison purposes, ocean currents have a capacity factor of 50 to 70 percent, while onshore wind has 29 percent and solar has 15 percent.

But not all is bright for IHI Corp. The company has many obstacles to overcome before its sea turbine could be viable as it's much more complicated to install a system underwater than it is to experiment with onshore facilities. This is because underwater systems have to be tough enough to withstand the aggressive and hostile conditions of deep ocean currents. "Unlike Europe, which has a long history of the North Sea Oil exploration, Japan has had little experience with offshore construction," added Takagi.

"Japan isn't blessed with a lot of alternative energy sources," he said. "People may say that this is just a dream, but we need to try everything to achieve zero carbon." One thing is for sure. If Japan proves successful at building this new power generator, it will have taken a giant step forward toward clean, green, and safe energy production.

Interesting Engineering

<http://interestingengineering.com/>

6 June 2022

Environmental activity held in Greece

On May 26, the "Joining hands with clean energy, sharing a better life" emergency rescue simulation was held at a wind farm in Thrace, Greece. This was one of the open day activities for China Energy Europe Renewable Energy designed to deepen knowledge and understanding of green and clean energy among local Greek youth, enhance the emergency rescue capability of enterprises and increase the environmental protection and safety awareness of employees and local residents.

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The emergency rescue simulated two "accidents" in which wind turbine maintenance personnel were rescued from being trapped in the 70-meter-high nacelle due to unexpected situations. by using a life-saving basket for transportation and by using ropes to perform a real-life exercise to descend directly from the high-altitude spot to the ground. The whole process was orderly and operated quickly, which demonstrated the coordination of the wind farm and the No.4 EMAK emergency rescue team. Afterward, guests saw the training equipment and rescue facilities of the team and had a warm exchange with team members. Students who observed the simulation said that it was thrilling to watch.

Xiao Junzheng, Chinese ambassador to Greece, Christos Metios, governor of Eastern Macedonia and Thrace in Greece, Marios Apostolidis, general of the Middle Macedonia-Eastern Macedonia and Thrace Fire Service, members of the No.4 EMAK of Komotini and teachers and students from Komotini No.8 Primary School participated.

On May 24th, two days before the activity, the Europe Renewable Energy and Komotini No.8 Primary School jointly held "New Energy, New Hope and New Future" session to share information on new energy with local children. The company expressed hope while delivering green electricity to the Greek people it will put the safety of employees and enterprises first and continue to foster the development of the next generation so as to contribute to local education, green development and environmental protection.

China Daily

<http://www.chinadaily.com.cn/>

6 June 2022

Norway announces big new offshore wind targets

Norway's Prime Minister Jonas Gahr Støre announced on 11 May that Norway aims to allocate 30 GW of offshore wind capacity by 2040. This will produce almost as much new electricity as Norway consumes in total today. The construction of the new wind farms will take place over the next 20 years. Norway doesn't have any commercial-scale offshore wind farms today. But they have already identified two zones for development and are planning to run an auction for a 1.5 GW floating wind farm in one of them next year. They'll now start working to identify other zones and to simplify the permitting procedures for offshore wind farms.

Offshore wind in Norway will be a combination of conventional bottom-fixed and floating wind farms. So, the new announcement is a big boost for floating offshore wind in Europe. Currently Europe has only three floating wind farms with a total capacity of just over 100 MW. Several more are under development and planning. And Governments in Europe are announcing significant new targets for floating wind.

The announcement is also good news for Norway's and Europe's offshore wind industry. More commercial-scale wind farms will help grow Europe's floating wind supply chain and further reduce the costs of floating wind. A recent Menon Economics study found that floating offshore wind could provide as many as 52,000 new jobs in Norway by 2050. Norway is already one of the leaders in the development of floating wind technology and will benefit from having a strong domestic market for floating wind. Norwegian players could take 5-14% of the global floating wind market, equivalent to a turnover of 9.5bn according to the Menon Economics study.

"Equinor is excited about the ambitions the Norwegian Government has announced for offshore wind, and we are ready to take part in this development, for both bottom fixed and floating. Equinor is currently constructing the world's largest floating offshore wind farm, the Hywind Tampen, offshore Norway. Hywind Tampen will provide wind power to two of our oil and gas installations at the Norwegian Continental Shelf, commissioned later this

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year, potentially saving 200.000 tons of CO2 emissions yearly", says Beate Myking, Senior Vice President Renewable Solutions at WindEurope member Equinor.

The Norwegian Government is aiming for a step-by-step allocation of the additional sea space. They say the next offshore licencing round will be opened in 2025. But uncertainty remains around the execution of the Government plans: Norway does not have a precise expansion target for 2030, nor a clear licensing and auction schedule for the years up to 2040. The exact split between bottom-fixed and floating projects remains unclear. Clarity on licensing schedules and auction design will be crucial to ensure the necessary predictability to unlock wind energy investments.

WindEurope also calls upon the Norwegian Government to accelerate the development of the wind farms in the first two zones, Utsira Nord and Sørilige Nordsjø II, specifically to clarify the auction rules and timelines and the grid/transmission arrangements. Given its location and large sea space, Norway could become an important exporter of renewable electricity to mainland Europe. The Norwegian Government has said it will explore "various grid solutions". Cables with two-way power flow, radials to Europe and radials to Norway, will be considered for each project call.

In their recent Esbjerg Declaration the Heads of Government of Belgium, Denmark, Germany and the Netherlands committed to jointly develop 150 GW of offshore wind in the North Sea and to collaborate on innovative grid solutions such as hybrid offshore wind farms and energy islands. Norway should seek to work together with those EU countries and vice-versa. Together - and with the UK - they can build the North Sea offshore grid of the future, enhance cross-border electricity flows and strengthen Europe's energy security. The Norwegian Government will involve the fishing industry, local communities and other important sea space users in the allocation of the new offshore wind areas. Between each allocation round the Government will evaluate the consequences of operational wind farms for fishing and other maritime industries. The Government is also exploring different models for a ground tax on offshore wind to ensure that a part of the profits will be shared with local communities.

EE Online

<http://electricenergyonline.com/>

6 June 2022

The Baltic transmission system operators have decided to stop purchasing electricity from Russia

Baltic Transmission System Operators (TSOs) - Estonian "Elering", Latvian AS "Augstsprieguma tīkls" (AST) and Lithuanian "Litgrid" have agreed to make changes in balancing the Baltic energy system to reduce dependence on the Russian energy system - from June 1 the balance of consumption and generation in the Baltics will be ensured mainly with the balancing capacities available on the Baltic, Nordic and Polish markets.

The Baltic power system operates synchronously with the Russian interconnected power system, which ensures frequency stability and balance between consumption and generation in the Baltic power system. "In view of the growing difficulties for Inter RAO companies to settle with banks, as well as the fact that due to financial risks Nord Pool has suspended cooperation with Inter RAO, Baltic TSOs have agreed to stop purchasing balancing electricity from Inter RAO from June 1st to rule out the need to make payments to a Russian company," says Gatis Junghāns, a board member of AST.

The changes introduced by the electricity transmission system operators will reduce the dependence of the Baltic States on the Russian energy system, and will contribute to ensuring the balance of electricity of the Baltic power system with the balancing capacities in the Baltic Sea region. The Baltic power system will continue to operate synchronously

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with the Russian interconnected power system until the synchronization of the Baltic power system with the continental European power system in 2025. AST continues to implement the program for synchronization of the Latvian power system with the European power system, including the reconstruction of two 330 kV power transmission lines to Estonia by 2025, construction of three synchronous compensators to ensure system frequency stability, construction of an 80 MW battery storage system to ensure power system balancing reserves, to create an automatic generation control system, as well as other projects. The synchronization program is also being implemented in Estonia, Lithuania and Poland.

AST

<http://www.ast.lv/>

7 June 2022

Transmission system operators from Estonia, Latvia, Lithuania, and Poland signed the agreements in the framework of CEF program for the synchronization Phase 2 part II projects

AST, Elering, Litgrid and PSE, the electricity transmission system operators (TSOs) of the Baltic countries and Poland, signed the grant agreement with the European Climate, Infrastructure and Environment Executive Agency (CINEA) for EUR 170 million of EU support which will help to finance the planned investments under the project Phase 2 part II of the Baltic Synchronisation.

The grant agreements assume the financial contributions of the following amounts: Polish PSE – EUR 75 million, Latvian AST - EUR 37 million, Lithuanian Litgrid – EUR 31 million, and Estonian Elering – EUR 27 million. Funds will be spent on enhancing power lines and substations, implementation of battery energy storage systems, as well as boosting IT control systems and power automatics. The total amount of synchronisation Phase 2 part II eligible costs is EUR 230 million, where 75% will be cofounded from CEF.

"Synchronisation will ensure energy security in the region as the Baltic countries disconnect from the Russian-controlled energy system and start to operate together with their European partners. This is an important project not only for us, but also for Europe as a whole, and we have seen this once again by receiving the maximum amount of support possible. In total, it will amount to almost three quarters of the funds needed to connect the Baltic States.", says Rokas Masiulis, CEO of Litgrid.

The European TSOs community is consequently implementing the synchronisation process of three Baltic States' electricity systems with the Continental European Synchronous Area. They are currently operating together with the Russia-controlled IPS/UPS system. Additional infrastructure will not only allow for a smooth synchronization process but also enable new market opportunities and strengthen the regional energy security. CEF is the key EU funding instrument, established to promote growth, jobs, and competitiveness through targeted infrastructure investment at the European level. It supports the development of high-performing, sustainable, and efficiently interconnected trans-European energy networks.

Litgrid

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

7 June 2022

Statkraft anticipates a renaissance for flexible hydropower

Statkraft, Europe's biggest producer of renewable energy, today (June 7) sent a license application for a major modernization of the Folgefonn hydropower scheme in Hardanger, Norway, to the Norwegian Water Resources and Energy Directorate (NVE). Electrification and new industry development are expected to increase demand for

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renewable energy. Higher demand combined with more energy from variable renewable energy sources will increase the need for flexible power production. Hydropower will contribute with both higher capacity and more power production.

This license application requests an increase in installed capacity from 250 MW to 880 MW. The project would provide 70-80 GWh of new clean energy into the power system, which corresponds to the electricity consumption of 5,000 households. It is 40 years since Statkraft last submitted a license application for such a large hydropower project. The modernization will make the Mauranger II power plant Norway's fifth largest in terms of capacity. "We expect that in the future, there will be an increased need for more flexibility and capacity. We can contribute to this by upgrading our hydropower plants. The increased need for power and a recently adapted hydropower taxation mean that it is now possible to implement large projects and Statkraft is now submitting a license application for Folgefonn. The need for more flexible power production can lead to a renaissance for existing Norwegian hydropower plants," says Statkraft's CEO Christian Rynning-Tønnesen.

The modernization of the Mauranger power plant would contribute with significantly more capacity into Western Norway's power system, and together with the development of the grid, it will be part of the solution to this challenge. The project would also support Norway's offshore wind plans and new industrial development. The modernization represents a substantial investment into mainland Norway. It will take about 3 years before detailed planning can begin. Construction could start in 2026. The impact on nature associated with the project will be limited. Environmental considerations will be part of the licensing process.

Statkraft continuously assesses the need for rehabilitation and the possibility of upgrading or expanding and re-designing our hydropower plants and is in the process of reviewing our entire hydropower portfolio to evaluate profitable projects. "We believe that there will be more similar projects in the years ahead," says Executive Vice President for Production at Statkraft, Hilde Bakken. Statkraft has invested more than NOK 20 billion in Norwegian hydropower since 2005 and has so far in 2022 opened two hydropower plants, Storlia and Vesle Kjela power plants in Eidfjord municipality and Vinje municipality, respectively. Both Folgefonn, Storlia and Vesle Kjela are profitable projects in existing facilities in already regulated watercourses that will provide new energy with limited impact on nature.

EE Online

<http://electricenergyonline.com/>

8 June 2022

China's massive 2-GW orbital solar power station just got a lot closer

China is looking to space for solar energy, unlike NASA, which shelved the idea due to its complexity and cost two decades ago. According to South China Morning Post, China is slated to begin the first phase of an ambitious solar power plant development in 2028, two years ahead of the original schedule. When the time comes, a trial satellite orbiting the Earth at a distance of roughly 248 miles (400km) will be used to test the technology, a peer-reviewed paper published in the journal Chinese Space Science and Technology on Thursday explains.

The project will beam energy back to Earth from space, potentially reshaping the way every person on the planet receives electricity. The idea of bringing solar power projects to space was popularized by the science-fiction writer Isaac Asimov in 1941. Then, more than two decades ago, a similar energy project had been proposed by NASA but was never developed. Today, the U.K. government is already considering building a \$20.8-billion orbital

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solar power station, with a U.K. Member of Parliament recently suggesting SpaceX might take the proposed solar satellite up to orbit.

Back in 2021, we reported that the tests for the Chinese space solar power plant, which will take place in Chongqing city in Southwestern China, would lead to constructing a huge 1-megawatt solar power station in space by 2030. Now, China has brought forward the solar power plant space station launch. The technology's benefits include the fact that it is always solar noon in space with full sun, and collecting surfaces may receive more powerful sunlight than on Earth. The primary idea is to have a space station equipped with a solar array that converts solar energy into electrical energy. The energy would then be transmitted to Earth through a microwave transmitter or laser emitter. According to the researchers, the satellite would "convert solar energy to microwaves or lasers and direct the energy beams to various targets, including fixed locations on Earth and moving satellites".

The team hopes to limit the amount of energy lost as it travels through the atmosphere by employing microwaves. And as the world's largest manufacturer of solar panel cells, China also intends to increase the station's output after launch steadily. China wants to construct the massive orbiting solar-power space station in four stages. Two years after the first test flight, it plans to launch a more robust plant to a geosynchronous orbit of 22,000 miles in 2030. Although a test station would only produce 10 kilowatts of power, the larger power plant would be capable of transferring 10 megawatts to select military and civilian users by 2035. Then, by 2050, China hopes that the station will be large enough to allow for an output of roughly two gigatonnes.

As of this writing, it's unclear how much it'll cost to launch and run the entire space power station. And undoubtedly, numerous essential engineering challenges need to be overcome first. Nevertheless, it can be said that China is well on its way to testing a potentially game-changing technology that may allow it to capture solar energy at any time of day and change the fabric of the energy industry.

Interesting Engineering
<http://interestingengineering.com/>

10 June 2022

India to Open 4 GW Offshore Wind Tender This Year

India's Ministry of New and Renewable Energy (MNRE) will open the first offshore wind tender in the next three to four months to lease blocks off the state of Tamil Nadu, which can accommodate around 4 GW of offshore wind capacity. This will be the first of eight rounds planned to be held over the next eight years as the country plans to auction areas offshore the states of Tamil Nadu and Gujarat each year until 2030. Until 2025, India will be leasing out offshore wind energy blocks equivalent to 4 GW capacity and will raise this to 5 GW in the following five rounds.

Since the country made the news with offshore wind plans more than a few times over the past several years – but has been slow in reaching the development stage – it is worth noting that the latest announcement from the government comes after a meeting on transmission planning for offshore wind energy projects, one of the key stumbling blocks on the country's path to its first offshore wind farms.

On 9 June, Shri R.K Singh, India's Minister for Power and New and Renewable Energy, together with Secretaries Shri Alok Kumar and Shri Indu Shekhar Chaturvedi, met with the Central Transmission Utility (CTU) to discuss transmission and evacuation infrastructure required for a total of 10 GW of wind projects off the coasts of Gujarat and Tamil Nadu. According to a press release from MNRE, evacuation and transmission of power from offshore pooling substation (PSS) to onshore transmission will be provided free of cost for all offshore wind capacities that will be bid out until 2030. The bidding for the first

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12 GW to be awarded over the next three years will be conducted on a single-stage two-envelope model according to which the government will first pre-qualify developers based on their technical and commercial capabilities. The bidders who qualify will then proceed to the second stage, which will be based on quoted lease fee per square kilometre of seabed area, with the bidder offering the highest lease fee winning the lease rights. According to the World Bank, India has 112 GW of bottom-fixed and 83 GW of floating offshore wind potential, with best opportunities located in Tamil Nadu and Gujarat.

While the country had set an offshore wind target of 5 GW by 2022 and 30 GW by 2030, progress to first steel in the water has been slow. The Ministry of New and Renewable Energy issued draft offshore wind energy lease rules for the development of projects within the country's Exclusive Economic Zone (EEZ) at the beginning of 2019. Later that year, the country's National Institute of Wind Energy (NIWE) launched a tender seeking the turnkey supply of four offshore LiDARs for two sites. Since then, interest in building wind farms offshore India has been increasing.

In May 2020, India's NTPC Ltd. and Oil and Natural Gas Corporation Limited (ONGC) signed an MoU to set up a joint venture company to explore building offshore wind and other renewable energy projects both in India and overseas. The companies did not reveal any information on offshore wind projects specifically.

Earlier this year, RWE Renewables and India's integrated power company Tata Power entered into a partnership to explore the potential for a joint development of offshore wind projects in the country.

[Offshorewind.biz](http://www.offshorewind.biz)
[http://www.offshorewind.biz/](http://www.offshorewind.biz)

13 June 2022

New York awards 159MW of co-located BESS in 2.4GW renewable tender

New York has awarded 22 solar PV projects totalling 2.4GW of power, including six co-located sites with a combined 159MW of battery energy storage systems (BESS). The awards represent the state's largest land-based procurement of renewable energy to-date. The 22 projects will require US\$2.7 billion in investment and some or all should be online by 2025.

Winning co-located projects from developers EDF Renewables (three) and Boralex (one) account for 85% of the 159MW of awarded BESS capacity, with ReneSola Power and Northland Power also adding storage onto their winning solar projects. EDF Renewables, part of the global French state-owned energy group, will deliver three sites with 20MW of BESS each: Columbia Solar Energy Center in Herkimer County, Ridge View Solar Energy Center in Niagara County and Rich Road Solar Energy Center in St. Lawrence County. Columbia and Ridge View are also the largest winning solar projects by power, with 350MWac each, and Rich Road's 250MWac brings EDF's total contribution to 950MW, 40% of the 2,408MW awarded. Boralex is pairing its 250MW Fort Covington Solar Farm with a 77MW/308MWh (four hours) BESS, in Suffolk County, while its four other winning projects are standalone solar: all five total 540MW of solar power.

EDF has not revealed the duration/MWh of its three BESS projects. Though this varies greatly in the state of New York, it may be trending towards four hours with Boralex's winning tender and a Summit Ridge project announced last week both opting for it. And in April, the New York Power Authority (NYPA) began a process of adapting fossil fuel sites to be replaced with four-hour BESS units. Rounding off the winning co-located projects, Northland Power is adding 20MW of storage to its 100MW Alfred Oaks Solar project in Allegany county, while ReneSola Power is pairing its 19.99MW Roosevelt Solar project in St. Lawrence with 2MW of storage.

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“Today’s investments will put us on a path to making New York a greener place to live while also creating new jobs and spurring economic development,” governor Kathy Hochul said. “These projects will allow us to not just meet but exceed our goal of obtaining 70 percent of our electricity from renewable resources (by 2030) and will further cement New York as a national leader in the fight against climate change.” The contracts for the 22 projects include an index REC (renewable energy certificate) structure which will help cushion electricity consumers in the state against spikes in energy prices. The weighted-average all-in development cost of the projects amounts to \$63.08 per megawatt-hour.

Energy Storage News

<http://www.energy-storage.news/>

13 June 2022

Corio unveils plans to build 2.5GW wind farm offshore Australia

Corio Generation, a portfolio company of Macquarie’s Green Investment Group (GIG), has unveiled plans to build a new 2.5GW large-scale offshore wind project in Australian waters. The new offshore wind project, dubbed Great Eastern Offshore Wind, will be located 22km off the Wellington Shire coast in Gippsland, Victoria, Australia. Construction of the project will begin after receiving regulatory approval, completion of ongoing feasibility studies and consultation with local stakeholders. Once completed, Great Eastern Offshore Wind project is expected to supply adequate clean energy to address the electricity needs of nearly 1.6 million Australian households. The project increases Corio’s offshore wind energy projects in Australia to reach 4GW.

Corio’s other project in the country includes the previously announced Great Southern Offshore Wind project, with an installed capacity of up to 1.5GW. Corio Generation CEO Jonathan Cole said: “We see a significant opportunity for offshore wind in Australia, which enjoys an abundance of this natural resource. “This, together with clear regulatory frameworks and government support, means offshore wind can contribute to Australia’s energy transition, as well as support local businesses and jobs in the green economy. While offshore wind is a new technology in Australia, it is well established in countries such as the UK where it is a proven, clean and cost-competitive source of electricity.”

Corio Generation was established in April this year, as a specialist offshore wind business with a team of financial and industrial experts to harness offshore wind energy worldwide. The company has significant global experience in developing offshore wind projects with a track record in Europe and Asia, including Taiwan, South Korea and Japan. It has more than 15GW of offshore wind development portfolio, spanning established and emerging markets, along with floating and traditional fixed-bottom technologies. The offshore wind projects are expected to support the net-zero global energy system while meeting the energy needs of communities and corporate off-takers.

NS Energy

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

14 June 2022

French Govt Could Decide on 'Strategic' EDF Nationalization This Summer

A renationalization of Electricite de France SA could be decided in the coming months if the current government wins a majority in the country's National Assembly, a minister has said. If the coalition backing re-elected President Emmanuel Macron wins a governing majority in second-round voting this weekend, the minister for energy transition, Agnes Pannier-Runacher, will present a policy package aimed at rebalancing and reinforcing France's energy production this summer as part of an acceleration of the energy transition, she told radio station Europe 1 on Tuesday. This could include renationalizing energy

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producer EDF, she said. "The decision isn't definite, but nor is it excluded," Ms. Pannier-Runacher said.

EDF is a major producer of nuclear power but its reactors have suffered lower output lately due to problems related to ageing, and the government is looking to reduce the proportion of nuclear energy the country uses in favor of other sources like solar and wind energy. Nuclear energy would probably in this scenario account for less than 70% of the total, Ms. Pannier-Runacher said.

The government, which holds some 84% of EDF's share capital, will look at the company's financing needs, she said. "We will consider how to guide this group, which is central to the nation and its energy sovereignty," she said, adding that this includes working out how to finance the construction of new nuclear reactors. EDF is a "central and strategic" actor in the energy transition, she added. "If we have a majority in the National Assembly, we will be able to take decisions very quickly," the minister said.

Market Watch
<http://www.marketwatch.com/>