

WORLD POWER SYSTEMS REVIEW

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California unveils proposal to keep Diablo Canyon nuclear plant open with \$1.4B loan to PG&E

California Gov. Gavin Newsom, D, is proposing to keep the two units of the Diablo Canyon nuclear plant online until 2029 and 2030 – as opposed to shuttering the facility entirely by 2025 – while also exploring the option of extending the plant’s life through 2035. Proposed legislative language released Friday includes a \$1.4 billion loan from the state’s general fund to Pacific Gas & Electric, the operator of the plant, to cover the cost of relicensing the 2.2 GW nuclear plant. The legislation also outlines the terms of the loan agreement, including the circumstances under which the utility would repay the loan. PG&E understands that state leaders’ discussions to potentially extend operations at the Diablo Canyon plant are progressing, “and we stand ready to support should there be a change in state policy, to help ensure grid reliability for our customers and all Californians at the lowest possible cost,” utility spokesperson Suzanne Hosn said in an emailed statement.

California regulators in 2018 approved a plan to retire Diablo Canyon, the state’s last nuclear plant, by 2024 and 2025. However, stakeholders have more recently been exploring the potential benefits of keeping the plant open beyond that timeframe – last year, researchers at Stanford University and the Massachusetts Institute of Technology published a report concluding that California could reduce power sector emissions by 10% from 2017 levels and save \$2.6 billion by keeping the plant online through 2035.

PG&E Corp. CEO Patti Poppe said during the company’s earnings call in late July that the utility was exploring the possibility of keeping the plant operating, but that doing so wouldn’t be easy as it would require legislation and navigating a complicated relicensing process. The draft legislation released last week outlines a pathway for the plant to receive the state and federal regulatory approvals it will require to stay online. It would direct the California Public Utilities Commission to keep the plant’s two units online through Oct. 31, 2029, and Oct. 31, 2030, respectively. By 2026, regulators would need to decide whether to keep the plant open for even longer, but no later than 2035.

A limited term extension of the Diablo Canyon plant is warranted to ensure reliability as California aims to decarbonize its grid by 2045, the governor’s office said in an overview of the proposal. However, extending the life of the plant would not interfere with the state’s plans to procure additional clean energy resources, it added. Last summer, the CPUC directed power providers to procure 11.5 GW of new, clean electricity resources to help replace the Diablo Canyon plant as well as a suite of natural gas plants set to retire in the coming years.

“In the face of extreme heat, wildfires, and other extreme events that strain our current electrical system, the state is focused on maintaining energy reliability while accelerating efforts to combat climate change,” a spokesperson in the governor’s office said in a statement, adding that, “the Governor supports keeping all options on the table as we build out our plan to ensure reliable energy this summer and beyond.” However, the proposal drew criticism from some environmental advocates. Legislators should reject the proposal out of hand, Environment California, Friends of the Earth and the Natural Resources Defense Council said in a statement. The groups said the proposal includes sweeping exemptions from environmental regulations and the \$1.4 billion loan to PG&E may never be returned to taxpayers. “With Governor Newsom and the legislature working to appropriate climate budget funds and advance ambitious climate legislation in the waning days of the legislative session, this proposal is a dangerous and costly distraction,” they added.

Utility Dive

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

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Southwest Power Pool announces new western energy market initiative commitment

As Southwest Power Pool (SPP) prepares to publish its Markets+ service offering in November 2022, it is already attracting interested customers in the Western Interconnection. Bonneville Power Administration, a federal agency serving nearly 3 million people in the Pacific Northwest, is the first western utility to formally commit to funding further development of SPP's Markets+.

"This is a logical next step in our exploration of day-ahead markets," said John Hairston, BPA administrator. "By participating in SPP's process, Bonneville and our customers can help shape the market design in a way that ensures it could work with our statutory obligations and support our customers' needs and interests."

Markets+ is a conceptual bundle of services proposed by SPP that would centralize day-ahead and real-time unit commitment and dispatch, provide hurdle-free transmission service across its footprint and pave the way for the reliable integration of a rapidly growing fleet of renewable generation. For utilities that see value in these services but who aren't ready to pursue full membership in a regional transmission organization (RTO) at this time, Markets+ provides a voluntary, incremental opportunity to realize significant benefits.

"Over the last several months, SPP has been encouraged by the level of engagement among utilities like Bonneville Power Administration, plus public interest groups, state commissions, and others interested in seeing Markets+ become a reality," said SPP President and CEO Barbara Sugg. "With their input on the challenges and opportunities of ensuring electric reliability in the west, and our experience designing, building and administering electricity markets, we're confident we can deliver a market that brings tremendous value to a new part of the country."

Since December 2021, SPP has been working with western stakeholders to learn what they'd like to see out of its proposed day-ahead and real-time market. Based on its potential customers' input, SPP will develop the Markets+ draft service offering, which will explain how the proposed service will address things like governance structure, market design and transmission availability.

In a letter Aug. 12 to the Public Power Council Executive Committee, Bonneville Power Administration (BPA) announced their commitment to support and fully evaluate SPP's Markets+. Though it has not made a decision to join the market, BPA is the first entity to commit to help fund the investigation phase of Markets+.

SPP staff met with western stakeholders Aug. 9-10 in Portland, Oregon to review work done on the service offering and discuss outstanding items and next steps. The draft service offering will be distributed Sept. 30, followed by a public comment period, with the final service offering distributed Nov. 18. Interested parties will commitment to funding further market development in early 2023.

SPP

<http://spp.org/>

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Ukrainian energy operator requested emergency assistance from Romania

The Ukrainian power system operator requested emergency assistance in Romania. Ukraine may no longer have enough capacity due to the situation around the Zaporozhye nuclear power plant.

"On Sunday from 16:01 to 21:30, the Romanian operator Transelectrica provided emergency assistance to Ukraine. The total volume is 1375 mwh", – reports the Ukrainian telegram channel Top Energy. The reason for the emergency was not named. The

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Ukrenergo operator did not report on the request for emergency assistance. Earlier, Ukraine applied for emergency assistance to Belarus. But she did it in winter, when the country's energy system did not have enough capacity. Perhaps now Ukraine also lacks capacity due to the situation around the Zaporozhye nuclear power plant, which is the largest in the country and in Europe.

Head of Administration of the Zaporozhye Region Evgeny Balitsky declared a week ago that because of the shelling at the station, only two of the six power units are operating, and then not at full capacity. The operation of the nuclear power plant is also threatened by missile attacks on the neighboring Kakhovskaya hydroelectric power station. "Currently, we have three hydraulic units in operation. Before hitting the area of the northern end, there were four hydraulic units. But due to the fact that there was a danger of an oil spill as a result of falling and scattering of fragments, the sixth (number 6) hydraulic unit was decommissioned to ensure the safety of the station," the acting director of the station said two days ago Arseniy Zelensky. He added that as a result of the shelling, the station also lost backup power for its own needs.

The share of nuclear generation in the total electricity production in Ukraine exceeds 50%, and the capacity of all six units of the Zaporozhye NPP of 6 GW is 43% of the capacity of all four nuclear power plants in Ukraine. In winter, the nuclear power plant operator Energoatom put all units of the nuclear power plant into operation in order to eliminate the shortage of electricity in the country. In summer, electricity consumption is lower, but far from all thermal power plants, hydroelectric power stations and reactors of other nuclear power plants are currently operating in Ukraine. Energoatom reported that in August Zaporozhye NPP received the right to provide a frequency support reserve in the trading zone of the united energy system of Ukraine. Meanwhile, the operator Ukrenergo stopped publishing data on consumption and generation in Ukraine back in the spring.

Oops Top

<http://oopstop.com/>

17 August 2022

China: Largest module installed at Sanmen 3

The cuboid-shaped CA20 module comprises plant and equipment for used fuel storage, transmission, the heat exchanger and waste collection, among other things. The module measures 20.5 metres long, 14.1 metres wide and 20.9 metres high. At 7.36 am on 16 August, after a series of hoisting operations, the CA20 module of the unit was moved into place, the company said. The total weight of the hoisting was more than 1000 tonnes, and it was carried out using a 2600-tonne crawler crane. Over 1800 cubic yards (1376 cubic metres) of concrete will now be poured to fill the walls of the CA20 module.

The CAP1000 reactor design - the Chinese version of the AP1000 - uses modular construction techniques, enabling large structural modules to be built at factories and then installed at the site. This means that more construction activities can take place at the same time, reducing the time taken to build a plant as well as offering economic and quality control benefits. The construction of two new reactors at each of the Sanmen, Haiyang and Lufeng nuclear power plant sites in China was approved by the country's State Council on 20 April this year. The approvals were for Sanmen units 3 and 4, Haiyang 3 and 4 and units 5 and 6 of the Lufeng plant. The Sanmen and Haiyang plants are already home to two Westinghouse AP1000 units each, and two CAP1000 units were approved for Phase II (units 3 and 4) of each plant. In May, CNNC signed contracts for the civil construction of the nuclear islands and installation engineering for the planned second phases of the Sanmen and Haiyang nuclear power plants. China Nuclear Industry 22 Construction Company was contracted to carry out the civil construction of the Sanmen Phase II nuclear island, while China Nuclear

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Industry 24 Construction Company will conduct the civil construction of the Haiyang Phase II nuclear island. Meanwhile, China Nuclear Industry Fifth Construction Company (CNI5) has been contracted to undertake the nuclear island installation work at all four units.

The first safety-related concrete was poured for the nuclear island of Sanmen 3 on 28 June, marking the official start of its construction. Phase I of the Sanmen plant began operating in 2018. Sanmen 1 was the world's first AP1000 to start up, achieving first criticality - a sustained chain reaction - on 22 June and grid connection on 2 July. It reached full power operation for the first time on 14 August and entered commercial operation on 21 September. Sanmen 2 attained first criticality on 17 August and was connected to the grid on 24 August. The reactor entered commercial operation on 5 November.

World Nuclear News

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

17 August 2022

China's worst heatwave in 60 years is forcing factories to close

China's Sichuan province has ordered all factories to shut down for six days to ease a power shortage in the region as a scorching heat wave sweeps across the country. Sichuan is a key manufacturing location for the semiconductor and solar panel industries and the power rationing will hit factories belonging to some of the world's biggest electronics companies, including Apple supplier Foxconn and Intel. The province is also China's lithium mining hub — a key component of electric car batteries — and the shutdown may push up the cost of the raw material, analysts said.

China is facing its fiercest heat wave in six decades, with temperatures crossing 40 degrees Celsius (104 degrees Fahrenheit) in dozens of cities. The extreme heat has caused a spike in demand for air conditioning in offices and homes, putting pressure on the power grid. The drought has also depleted river water levels, reducing the amount of electricity produced at hydropower plants.

Sichuan, one of China's largest provinces with 84 million people, told 19 out of 21 cities in the region to suspend production at all factories from Monday to Saturday, according to an "urgent notice" issued on Sunday by the provincial government and the state grid. The decision was made to ensure that enough power is available for residential use, the notice said. The southwestern province — which is also a key hydropower hub in China — has been gripped by extreme heat and drought since July. Since August 7, the heat wave in the province has intensified to "the most extreme level in six decades," and average rainfall has dropped by 51% from same period in previous years. The province's top officials warned Monday that Sichuan is currently facing the "most severe and extreme moment" in power supply, according to government-run Sichuan Daily. Luzhou, a city in Sichuan, announced last week that it would shut off the city's street lights during the night to conserve power and alleviate the pressure on the electricity grid.

Sichuan is rich in mineral resources like lithium and polysilicon — key raw materials in the solar photovoltaic and electronics industry. Many international semiconductor companies have plants in Sichuan, including Texas Instruments, Intel, Onsemi, and Foxconn. Chinese lithium battery giant CATL, which supplies batteries to Tesla, also has a factory in the region. Shutting down factories for the week could tighten the supply of polysilicon and lithium and push prices higher, Daiwa Capital analysts said in a note to clients. Several Chinese companies have warned their production could be affected by the Sichuan power cut, including Sichuan Haowu Electromechanical, an auto part manufacturer, and Sichuan Lutianhua, which produces fertilizers and chemical products.

Apart from Sichuan, other major Chinese provinces — including Jiangsu, Anhui, and Zhejiang — have also urged business and households to conserve power as the heat wave

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has depleted electric supplies. In some regions, offices have been ordered to increase their AC temperature to above 26 degrees Celsius or shut down lift services for the first three floors, so as to conserve electricity.

CNN

<http://cnn.com/>

18 August 2022

PJM Files Comments on FERC's Transmission Planning and Cost Allocation NOPR

PJM filed comments with the Federal Energy Regulatory Commission on Wednesday, August 17, in response to the agency's Notice of Proposed Rulemaking on regional electric transmission planning and cost allocation. FERC's proposed rule addresses the need for the nation's energy infrastructure to be more resilient and reliable in preparation for a changing resource mix, while also achieving cost savings for consumers.

In its comments, PJM generally agrees with the fundamental premises underlying FERC's NOPR, and generally supports FERC's proposed reforms aimed at requiring more expansive forward-looking, long-term scenario planning to meet transmission needs driven by changes in the resource mix. "The facilitation of transmission investment will help enhance reliability, reduce power costs, and will address the nation's changing resource mix," said Ken Seiler, Vice President – Planning. "PJM agrees that a longer-term, forward-looking approach to transmission planning can help to achieve these goals."

In general, PJM believes that a final rule by FERC should:

- Address enhanced reliability and resilience in intermediate- and long-term transmission planning processes, while maintaining existing processes for short-term reliability and market efficiency planning
- Strengthen interregional transfer capability in light of the nation's changing resource mix
 - Include a uniform, nationwide policy regarding a right of first refusal
 - Require that transmission planners use a 15-year long-term transmission planning horizon for scenario development and assessment instead of a 20-year look
 - Examine the additional factors transmission providers should consider as they identify transmission needs driven by changes in resource mix and demand
 - Require transmission providers to develop future scenarios that transmission planners could use to examine reliability trends that could justify grid expansion, while maintaining regional flexibility regarding the number of scenarios to be studied
 - Clarify the process and requirements pursuant to which FERC intends to require transmission providers to specify the criteria by which they will identify and evaluate transmission facilities for potential selection under the proposed long-term planning process
 - Allow for state and stakeholder feedback and input into the development of long-term transmission planning scenarios and cost allocation methodologies for facilities selected pursuant to the new long-term planning process, while clarifying that the NOPR was not intending to force reconsideration of existing cost allocation methods
 - Allow for regional flexibility with respect to the categories of benefits that transmission providers must analyze associated with transmission facilities that address needs driven by changes in resource mix and electricity demand, while also providing for a subset of benefits that should be considered nationwide
 - Avoid an inference that Dynamic Line Ratings and Advanced Power Flow Control devices can serve as long-term substitute solutions to meet system reliability needs
 - Rather than requiring that transmission needs identified in the interconnection queue drive regional transmission planning decisions, use an alternative, more case-specific and flexible approach that builds on and is better synchronized with the interconnection

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process and market developments, and accommodates topologies as diverse as those in PJM without pinpointing geographic zones with the potential for large amounts of new generation. FERC issued its NOPR on April 21, 2022, which followed the agency's Advanced Notice of Proposed Rulemaking issued in July 2021. It represents FERC's most significant action on transmission planning and cost allocation in more than a decade.

Inside Lines PJM
<http://insidelines.pjm.com/>

18 August 2022

ACWA Power signs deals for USD 12bn of clean energy, H2 in Uzbekistan

Saudi Arabia's ACWA Power Co on Thursday announced the signing of three major energy agreements with the government of Uzbekistan, envisaging total investment of USD 12 billion (EUR 11.8bn), including in what is expected to be the world's largest single-site wind farm.

The Riyadh-based company has signed a heads of terms agreement with Uzbekistan's Ministry of Energy and Ministry of Investment & Foreign Trade for the development of the previously-unveiled 1.5-GW onshore wind project in the region of Karakalpakstan. The new deal will serve as the foundation for the signing of a power purchase agreement (PPA) and an investment agreement in relation to the project, ACWA Power said. The wind project is seen to reach its financial close by the end of next year and become fully operational by the first quarter of 2026.

In addition, the company has agreed on a plan with US industrial gases supplier Air Products to invest in local green hydrogen production. The pair are already working on similar projects in Saudi Arabia and Oman. Last but not the least, ACWA Power has sealed an investment cooperation agreement (ICA) with the two ministries to collaborate on the development of gas-to-power, wind power, hydroelectric and green hydrogen projects worth a combined USD 10 billion over a period of five years, starting in 2023.

The three deals were signed during today's visit to Saudi Arabia by Uzbek President Shavkat Mirziyoyev. The projects they relate to are expected to help Uzbekistan diversify its energy mix. The country aims to have 8 GW and 12 GW of solar and wind capacity by 2026 and 2030, respectively. It has pledged to hit a 30% renewable power share by the end of the decade and to become net zero by 2050. According to Mohammad Abunayyan, chairman of ACWA Power, the three new agreements make Uzbekistan the company's second-largest country for overall investment. ACWA Power is already building two 500-MW wind parks in the Bukhara region and a 100-MW wind farm in Karakalpakstan in addition to a 1.5-GW thermal power plant.

Renewables Now
<http://renewablesnow.com/>

18 August 2022

National Grid ESO confirms early detail of winter coal contracts

At the request of BEIS, the ESO has agreed contracts with Drax and EDF to extend the life of coal fired power plants this winter. The new winter contingency contracts will only be used as a last resort and to ensure resilience and security of supply. Total capacity of 1940MW will be available from the following coal units:

- 2 x 400MW units at West Burton A
- 2 x 570MW units at Drax

Negotiations continue with a third generator for a fifth coal unit. The upfront cost is expected to be in the region of £220m to £420m. The cost will be determined by whether a fifth coal unit is added and how much coal will be procured. These units will be available

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from 1 October 2022 until 31 March 2023, with costs recovered through BSUoS between 1 October 2022 and 31 March 2023. The costs will be spread equally between these days. The units contracted will not be available to the open market and will only be dispatched at the request of ESO. These contracts are only intended to be used when all commercial options have been exhausted within the Balancing Mechanism.

NGESO

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

18 August 2022

SWEL's Waveline Magnet Concept Generates Electricity from Ocean Waves, Looks Like a Spine

A unique spine-like floating device designed by a startup based in Cyprus promises to harness the energy of the waves and convert it into electricity. The world is looking for ways renewable sources can be used to meet our increasing energy demands. With the goal of reducing carbon emissions, the major question remains as to why sea and ocean waves have not been tapped into yet.



Various approaches have been attempted to do so. From floating buoys to underwater generators that look into tap into pressure differences, all have failed to deliver a technology that can be scaled up. However, of late, there has been some success. Earlier this month, we reported how an Australian company has been powering homes with its unique wave energy converter for over a year now. Now, a floating spine-like contraption has shown promise too.

Cyprus-based Sea Wave Energy Limited (SWEL) has been working on its technology to capture energy from the waves for over a decade now. Earlier this year, the company unveiled the prototype called the Waveline Magnet, which comprises several floating platforms linked to each other to give it a floating-spine-like appearance.

The modular and flexible system is designed so that the energy generator can seamlessly follow the movement of the waves. This, according to the company, allows the device control over how much energy is extracted from the wave in a controlled and non-disruptive manner.

Interesting Engineerig

<http://interestingengineering.com/>

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OPSI supports complaint against PJM that seeks tighter transmission project oversight

OPSI's comments relate to a complaint that American Municipal Power, the Office of the People's Counsel for the District of Columbia and the PJM Industrial Customer Coalition filed late last month. The complaint contends that PJM has for years been skirting its own rules by failing to enter into DEAs for all regional transmission projects, including ones that are designed to meet immediate reliability needs and others that are selected outside of competitive processes.

DEAs have provisions that set milestones for project development, provide remedies if a developer misses the milestones and require PJM to act on missed deadlines, according to the complaint. They also require a designated entity to provide PJM with a letter of credit or cash security equal to 3% of the project's estimated cost. The complaint was filed amid growing concern that incumbent utilities are increasingly building transmission lines that fall outside competitive processes and that have less oversight.

The complaint could affect nearly 500 pending transmission projects, including some under construction, according to OPSI, which urged FERC to address the issue under a fast-track procedure as the complainants requested. "The longer the commission waits to require PJM to enforce its [operating agreement,] the longer consumers will miss out on the cost containment benefits DEAs provide consumers," the state regulators said. "If the commission does not take action, PJM has indicated that it intends to continue to interpret its [operating agreement] in a way that is harmful to consumers and will seek to memorialize that interpretation."

FERC has previously rejected PJM efforts to change its DEA requirements, according to the complaint. AMP, the District of Columbia's ratepayer advocate and PJM industrial customers pointed to several examples of what they said were the harmful effects of PJM's failure to require DEAs in many cases. Allegheny Power Systems, for example, revised the cost estimate last year for an immediate-need reliability project from \$41.4 million to \$143.4 million, they said. If there had been a DEA in place for the project, PJM would have been required to reevaluate the project, according to the complaint. PJM, however, contends its operating agreement contains "ambiguous" language defining a designated entity, according to an Aug. 9 presentation by the grid operator's staff.

After failing to get needed stakeholder support to change the definition in May, PJM now plans to ask FERC for permission to clarify the definition, staff said in the presentation. PJM runs the electric system and wholesale power markets in 13 Mid-Atlantic and Midwestern states plus the District of Columbia.

Utility Dive

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

22 August 2022

Germany's Uniper to restart coal-fired power plant as Gazprom halts supply to Europe

German utility Uniper SE on Monday said it will start producing electricity for the market at its Heyden 4 hard-coal-fired power plant as a three-day halt in Russia's gas supplies to Europe may cause disruptions to power supply. Heyden 4 will start producing electricity from Aug. 29, until April 30, 2023, the utility said in a statement.

The "envisaged operation of Heyden 4 will be restricted due to limitations on the rail transportation capacity of hard coal to the site, which might get lifted once additional transportation capacity becomes available," Uniper said in a statement. In December 2020, Uniper announced that Heyden 4 would stop commercial production as Germany's energy regulator included it on the list of plants that may be shut in return for compensation to fight

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carbon pollution. Since mid-2021, Heyden 4 has supported the electricity system as a reserve power plant, but has not produced any electricity for the market. Shares in Uniper, Germany's top importer of Russian gas, declined 7.7% to hover near a record low as worries about tightening gas supplies from Russia weighed on investors' minds.

Russia will halt natural gas supplies to Europe for three days at the end of the month, energy giant Gazprom said on Friday, piling pressure on the continent as it seeks to refuel ahead of winter. This move by Russia is likely to further cause disruptions, particularly for Germany, as it depends largely on deliveries from Moscow to power its industry.

Reuters

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

23 August 2022

Eskom Considers Cutting Power to Indebted South African Capital

South Africa's state-owned power utility Eskom is considering disconnecting the City of Tshwane, which includes the nation's capital, Pretoria, due to the municipality failing to pay its outstanding debt.

Tshwane breached the electricity supply agreement it has with Eskom by failing to pay 1.6 billion rand (\$93.7 million), which was due and payable on Aug. 17, the utility said in a statement on Twitter on Tuesday.

Eskom "had numerous engagements with the City of Tshwane's management to ensure that the city pays its account," it said. "Nevertheless, these actions have not yielded any results as the city has continued with the same pattern. The inconsistent payments are both untenable and unacceptable."

South African city councils struggle to collect payments for services such as water and electricity from consumers and in turn can't pay their suppliers or maintain infrastructure. Tshwane, home to about 3.3 million people, in February began cutting off electricity and other services to customers whose outstanding debts it said have grown to unsustainable levels.

Bloomberg

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

23 August 2022

TotalEnergies SE: First Power at Scotland's Largest Offshore Wind Farm

TotalEnergies and partner SSE Renewables on Tuesday announced the first power generation from their Seagreen wind farm off the coast of Scotland - a \$4.3 billion project which will be Scotland's largest offshore wind farm.

"This marks a new step in the development of TotalEnergies' offshore activities capacity. This milestone will contribute directly to our objective of reaching 35 GW of renewable electricity capacity worldwide by 2025," said Vincent Stoquart, TotalEnergies' senior vice president for renewables. France's TotalEnergies has been branching out into the fast-growing renewables energy sector and diversifying away from hydrocarbon-centred activities in recent years. In May, TotalEnergies bought 50% of Clearway Energy Group, the fifth-largest renewables company in the United States, while in January this year TotalEnergies also got leasing rights to develop another wind farm in the Orkney region of Scotland.

SSE said the Seagreen project will play a significant role in Britain achieving its renewable energy targets. "The project has already brought several benefits to the local community, the UK supply chain and, once completed, Seagreen will make a significant contribution to Scotland and the UK's ambitious renewable energy targets," said Paul Cooley, SSE Renewables' director of offshore wind. The Seagreen project is expected to

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produce around 5 terawatt hours (TWh) of renewable electricity per year -- enough to power the equivalent of 1.6 million households - by the time it becomes fully operational in the first half of 2023.

Reuters

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

24 August 2022

Japan considers building new nuclear plants in major policy shift

The Japanese government said Wednesday it is considering constructing next-generation nuclear power plants to support its goals of reducing carbon emissions and providing a stable supply of electricity, marking a major shift in its policy of no new nuclear energy.

Extending the maximum service period for the country's existing nuclear reactors beyond 60 years is also under consideration in the plan. Japan was reluctant to concretely discuss nuclear power policy after the March 2011 devastating earthquake and tsunami, which crippled the Fukushima Daiichi plant. "The government will take the lead in various measures to restart our nuclear power plants," Prime Minister Fumio Kishida said at a conference on industrial transformation and decarbonization the same day. The Ministry of Economy, Trade and Industry has been studying the development of next-generation nuclear power plants and previously released the envisioned development process of upgrading reactors with enhanced safety features in the 2030s. The government may adopt this plan. It is also expected to consider effectively extending the operational life of nuclear power plants by not including the periods in which they were shut down while under review by the Nuclear Regulation Authority. But such an extension could spur concerns about the safety of aging reactors that are more prone to accidents.

Following the 2011 Fukushima disaster, Japan introduced stricter safety standards limiting the operation of nuclear reactors to 40 years in principle. But operation for an additional 20 years is possible if safety upgrades are made, and a reactor passes screening by regulators. Japan has set a target for nuclear power generation to account for 20 to 22 percent of its electricity supply in fiscal 2030. Of the 17 nuclear power plants that have already passed screening, 10 have experienced a resumption of operations. Last month, Kishida pledged to restart up to nine of the 10 reactors to prepare for an expected electricity shortage this winter. The remaining seven of the 17 reactors have been out of operation due to delays in receiving approval from local authorities as they await the implementation of safety measures. The government said it aims to bring these reactors back online next year.

In June last year, the No. 3 unit at Kansai Electric Power Co.'s Mihama plant in Fukui Prefecture, central Japan, became the country's first reactor to operate beyond 40 years under the new rules.

Kyodo

<http://kyodonews.net/>

25 August 2022

Rosatom and KHNP have signed a contract to participate in the work on the El-Dabaa NPP project

Rosatom and South Korea's Korea Hydro and Nuclear Power (KHNP) have signed a contract to participate in the work on the El-Dabaa NPP project. This is stated in the message of Rosatom.

In accordance with the contract, KHNP will build 80 buildings and structures at four power units of the Egyptian plant, as well as purchase and supply equipment and materials for the "turbine islands" of the NPP.

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The El-Dabaa nuclear power plant will be built by Rosatom in Egypt. In December 2021, construction of the site of the material and production base of the first and second power units began. Until 2028, four power units of the station with VVER-1200 reactors will be built at the site.

AKM

<http://www.akm.ru/>

26 August 2022

California to install solar panels over canals to fight drought, a first in the U.S.

In an effort to combat the devastating drought conditions hitting California, the Golden State will become the first in the nation to install solar panel canopies over canals.

The \$20 million pilot project funded by the state has been dubbed "Project Nexus." It will consist of an estimated 8,500 feet of solar panels installed over three sections of Turlock Irrigation District (TID) canals in Central California. It is expected to break ground in the fall, and be completed by 2023. The project was first announced back in February. According to TID, the project aims to use water and energy management hand-in-hand. The project is designed to increase renewable power generation, while reducing water evaporation and vegetative growth in canals. TID states that the project will also serve as a "proof of concept" to further study "solar over canal design." The agency cites a 2021 University of California, Merced study, which showed that covering all of the approximately 4,000 miles of public water delivery system infrastructure in the state with solar panels could save an estimated 63 billion gallons of water annually, as well as result in significant energy and cost savings.



"According to the study, the 13 gigawatts of solar power the panels would generate each year would equal about one-sixth of the state's current installed capacity," TID wrote on its website. TID also says the project will also support California Gov. Gavin Newsom's call for 60% of the state's electricity to come from renewable sources by 2030. California has taken multiple steps to combat drought conditions and climate change impacting the state. On Friday, it moved forward with a plan to ban the sale of new gas-powered vehicles by 2035. Last week, officials announced that California would receive \$310 million in federal funding to address the drought. Farmers in Northern California are even growing the drought-resistant plant agave, traditionally grown in Mexico.

CBS News

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