

BEI Energy Update

This update is produced three times weekly by the Brilliant Energy Institute.

Date: Mar. 13, 2023

Top news

Energy Transition:

Strategy:

[Canada releases its Taxonomy Roadmap Report – Government of Canada](#)

The Sustainable Finance Action Council (SFAC) released its “Taxonomy Roadmap Report” to establish standardized and science-based definitions of climate-compatible investments. Backed by the 25 largest financial institutions in the country, which participated in the process as members of the Taxonomy Technical Expert Group (TTEG), the Canadian Green and Transition Financial Taxonomy Framework laid out in the *Roadmap Report* is key to aligning capital flows with Canada’s climate targets and economic opportunities. The “green” label would apply to low-to-no carbon projects or activities that accelerate Canada’s clean energy transition. The “transition” label would apply to projects that substantially reduce emissions from hard-to-decarbonize sectors. Transition-labelled projects would also have limited lifespans and avoid making it either harder or more expensive to transition to net zero in the future.

[UK & France sign new renewable energy partnership – Energy Digital](#)

On March 10, the UK and French governments signed an energy partnership that will mean greater regional and global energy security, as well as delivering secure, green, affordable energy for both countries. They have both committed to further cooperation on civil nuclear. The aim is to take advantage of the growth potential in both countries' nuclear sectors. The agreement has the potential to increase electricity interconnection with France by up to 2 thirds, subject to regulatory approval, which will support the UK’s ambition to have at least 18 GW of interconnection capacity by 2030. The UK aims to achieve a low-carbon hydrogen production capacity of up to 10GW by 2030, creating over 12,000 jobs and attracting over £9 billion in private investment. The partnership signed today aligns with this ambition, as France plans to incorporate low-carbon hydrogen into their own power system.

[US and EU to launch new talks on critical minerals trade in green tech race – Financial Times | Energy](#)

US and EU officials will launch new talks on trade in critical minerals as Ursula von der Leyen visits the White House on Friday, in a move EU officials hope will boost its companies’ access to America’s green subsidies. US officials said the talks would help the two sides build secure supply chains for electric vehicle batteries. In turn, EU officials hope a deal will make its supplies of raw and processed critical minerals eligible for generous US subsidies under Biden’s flagship climate legislation. The US Inflation Reduction provides tax credits for groups that source parts and materials from countries with which the US has a free trade agreement. That excludes the EU and Japan, which lack such deals with the US.

Technologies:

Nuclear:

[Seaborg joins TerraPraxis coal-to-nuclear initiative – World Nuclear News](#)

TerraPraxis and Danish floating nuclear power plant developer Seaborg have agreed to assess Seaborg's Compact Molten Salt Reactor (CMSR) as a potential heat source to support the rapid decarbonisation of the global coal fleet. TerraPraxis's Repowering Coal programme was launched at COP26 in Glasgow in November 2021. It is aimed at integrating clean heat sources with existing infrastructure at coal-fired power plants by developing a standardised building system and project delivery model for the fast, low-cost, and repeatable repurposing of 2400 carbon-intensive coal plants (with a combined capacity of 2 TWe) to run on emission-free heat (advanced fission, fusion, and geothermal) by 2050.

[X-Energy and Cavendish Nuclear's SMR plan for Hartlepool – World Nuclear News](#)

X-Energy UK Holdings and Cavendish Nuclear are developing proposals for small modular reactors (SMRs) in the UK and have "identified Hartlepool as a preferred location" - welcoming EDF's announcement that the existing nuclear power plant will operate for an extra two years, to 2026. X-Energy and Cavendish have applied to the UK's Future Nuclear Enabling Fund to support a Generic Design Assessment of the Xe-100 SMR and also supply chain development for the first proposed project.

[NuScale places first order for SMR long-lead materials – World Nuclear News](#)

Small modular reactor (SMR) developer NuScale Power has placed its first upper reactor pressure vessel (RPV) long-lead material production order with Doosan Enerbility. The order is for materials essential to commence manufacturing of the first NuScale Power Modules that are scheduled to be in commercial operation at the Utah Associated Municipal Power Systems' (UAMPS) Carbon Free Power Project (CFPP). The CFPP is to be built at the US Department of Energy's Idaho National Laboratory site and will use six of NuScale's 77 MWe power modules to generate 462 MWe of electricity. The plant has been pencilled in to begin operations as soon as 2029, and UAMPS is working to submit an application for a construction and operation licence to the US Nuclear Regulatory Commission in January 2024.

[Regulatory progress for continued operation of Diablo Canyon – World Nuclear News](#)

The US Nuclear Regulatory Commission (NRC) has granted an exemption allowing the two units to continue operating while the agency considers Pacific Gas & Electric Co's (PG&E) application to renew the plant's licence, after the California Energy Commission (CEC) also approved a recommendation that Diablo Canyon should continue operating until 2030 to ensure grid reliability. Diablo Canyon unit 1's current licence expires in November 2024 and unit 2's in August 2025. PG&E applied to renew the licences in November 2009, but withdrew the application in 2018 after agreeing to close the plant at the end of its current licences. In September 2022 - as California's energy grid saw its highest-ever peak demand during a record-breaking heatwave - the state passed a law allowing the units to continue to operate until 2030 to ensure a reliable energy system.

Energy Storage:

[rPlus Hydro submits final license application for 1,000 MW White Pine Pumped Storage – Renewable Energy World](#)

rPlus Hydro LLLP has submitted a final license application to the Federal Energy Regulatory Commission for its 1,000 MW White Pine Pumped Storage project in White Pine County, Nev. FERC will now begin the environmental review and licensing process for White Pine Pumped Storage with local, state, and federal agencies. Construction could start as early as 2025. The proposed White Pine Pumped Storage project is expected to provide eight hours of energy storage at its full capacity of 1,000 MW, which is equivalent to about an eighth of Nevada's peak power demand on a hot summer day. The project represents more than a \$2.5 billion investment in Nevada's energy infrastructure and will support Nevada's move toward the clean energy goals adopted by its legislators and approved by its voters, according to a release.

[VW prioritises North American battery plant over Europe as it seeks €10 billion from US – Financial Times | Energy](#)

Volkswagen is putting on hold a planned battery plant in eastern Europe and prioritising a similar facility in North America after estimating it could receive €10 billion in US incentives. The decision is the latest fallout from Joe Biden's \$369bn package of subsidies and tax incentives for green technology that is luring European companies to the US. Volkswagen told EU officials last week that it expected to reap €9 billion - €10 billion in subsidies and loans from the US president's Inflation Reduction Act and other US schemes over the lifetime of the factory, according to people at the meeting.

Solar Energy:

[US solar power installations slow in setback for climate goals – Financial Times | Energy](#)

The pace of new US solar power installations decelerated last year for the first time since 2018, undercutting goals to cut carbon emissions from electricity supplies. The 20.2 gigawatts of added generating capacity amounted to a 16 per cent decline from 2021 as a result of "policy-driven supply constraints". The drop came despite state-level clean energy incentives and run against US president Joe Biden's goal of halving emissions by the end of the decade. Installations are expected to rebound this year, in part thanks to new federal green subsidies included in the landmark Inflation Reduction Act which passed last August. However, solar trade groups warn the government support does little to relieve other impediments to the country's energy transition.

Hydrogen:

[Leaked document: Germany will need to import 50-70% of its hydrogen by 2030, and that share will only grow – Hydrogen Insight](#)

A leaked draft of a new update to Germany's 2020 national hydrogen strategy shows the country will rely mostly on imported hydrogen (50% -70% by 2030) and that this import share will increase over time. The document also states that the country plans to double its 2030 target for green hydrogen production from 5GW in the 2020 strategy to 10GW of installed electrolyser capacity. Germany will also look at establishing a national reserve for hydrogen and H₂ derivatives.

[Oil giant Total reveals 30GW green hydrogen pipeline in Australia as it exits gigawatt-scale HyEnergy project – Hydrogen Insight](#)

French oil major TotalEnergies' renewables arm, Total Eren, has built a green hydrogen project pipeline of up to 30GW in Australia, after a team of 40 spent the past 18 months identifying potential developments, it revealed today. That capacity of green hydrogen projects would require more renewable energy than all the wind and solar power currently installed across Australia. But Total Eren also confirmed today that it had exited the HyEnergy green hydrogen project in Gascoyne, Western Australia, which was to be powered by 8GW of wind and solar as part of a partnership with local developer Province Resources.

Minerals:

[Ottawa mulls ramping up critical minerals funding to ensure 'level playing field' with big-spending Biden administration – The Globe and Mail](#)

Ottawa is considering a major new round of spending on critical minerals that could help Canada become more competitive with the United States and boost the fortunes of junior miners struggling to raise funds after the federal crackdown on Chinese investment. Ottawa in last year's federal budget committed to spending \$3.8 billion over eight years. In a bid to help smaller companies, Minister Wilkinson on Tuesday announced \$14 million in much-needed funding for junior miners. The recipients were Sherritt International, E3 Lithium, FPX Nickel Corp., Search Minerals, Geomega Resources and Prairie Lithium. The federal Critical Minerals Technology and Innovation Program will receive \$144 million, \$79 million will go toward improving geoscience and mapping to help government scientists identify early-stage minerals projects, and \$40 million will be directed toward improving Indigenous consultation and regulatory dialogue in northern Canada.

[China set to tighten grip over global cobalt supply as price hits 32-month low – Financial Times | Energy](#)

China is set to tighten its grip on global cobalt supply, as the price of the key mineral for electric-car batteries hits a 32-month low off the back of a surge in production. Over the next two years, China's share of cobalt production is expected to reach half of global output, up from 44% at present. The increase comes despite western efforts to gain control over supply chains for critical minerals such as cobalt, lithium and nickel, which are essential for making electric-car batteries. Chinese refining activity reached 140,000 tonnes in 2022, more than double its level of five years ago, as volumes processed in the rest of the world stagnated at the 40,000 tonnes mark, handing Asia's largest economy a 77% global share of refining capacity. China's growing role in cobalt supply comes as a 12-month rally for the metal has spun into reverse, with prices dropping 60% to \$16 a pound, from their peak above \$40 a pound in May.

Fossil Fuel:

[Saudi Aramco posts record \\$161 billion profit on back of strong crude prices – Financial Times | Energy](#)

Saudi Aramco reported record profits of \$161 billion in 2022 and increased its payout to shareholders as the largely state-owned oil company cashed in on a tumultuous year in energy markets. The huge profits complete a record set of earnings for the world's biggest oil and gas companies after fossil fuel prices soared last year due to disruption from Russia's full-scale invasion of Ukraine. They are the world's biggest crude producer and one of the few companies with excess production capacity that can be used by the Saudi Arabian government to increase or decrease supply in line with global demand. It increased output through 2022 before Saudi Arabia, in partnership with other members of the OPEC cartel, defied US pressure and cut production in November in response to what it said was a weaker outlook for demand. Last year, it produced 11.5mn barrels a day of crude oil and other liquids, representing about 10 per cent of the world's crude supply.

[UK pension funds threaten to vote against BP and Shell directors over climate targets – Financial Times | Energy](#)

USS and Borders to Coast are two of the UK's largest pension schemes, overseeing £130 billion in assets. They will vote against the renewal of top directors at BP and Shell at their annual meetings unless both companies improve their commitments to tackling carbon emissions. The plan by the USS and Borders to Coast, which invests the retirement pot of 1 million local authority workers, was part of efforts to push oil companies and banks to make faster progress on climate change pledges. BP and Shell have committed to achieve net zero carbon emissions by 2050. But they have drawn criticism from environmentalists and some shareholders for not overhauling their businesses more quickly. Those concerns have been exacerbated by BP's decision to pare back its commitment to cutting oil and gas output by 2030 as well as comments from Shell's newly appointed chief executive that the group might produce more oil for longer.

Other happenings to note

[Trans Mountain Pipeline Construction to be completed in 2023 but costs balloon again, this time to \\$30.9 billion – Energy Now](#)

The estimated cost of the Trans Mountain pipeline expansion project has increased once again, this time to \$30.9 billion. Trans Mountain Corp. blamed the latest cost overruns on a number of factors, including inflation, labour and supply chain challenges, flooding in B.C. and unexpected major archeological discoveries along the route. The new price tag is a 44% increase from the \$21.4 billion cost projection placed on the pipeline expansion project a year ago, and more than double an earlier estimate of \$12.6 billion.

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[Pathways Alliance injects \\$10 million to advance oil sands CCS pipeline – Energy Now](#)

Canada's oil sands producers have taken a \$10 million step toward building one of the world's largest carbon capture and storage (CCS) projects. Engineering firm Wood will now begin design work on the 400-kilometer pipeline to be the backbone of the project, connecting an initial 14 oil sands facilities to a storage hub in northern Alberta. The project, being developed by the Pathways Alliance, is expected to remove up to 12 million tonnes of emissions annually by 2030, at a development cost of \$16.5 billion.

[UK grid smashes new green record with 'longest time' on record – Energy Live News](#)

The UK grid ran on 100% clean electricity for 25 hours in December. That's according to a new report by the Imperial College London shows that clean power, which includes renewable energy sources – biomass, hydro, wind and solar – as well as nuclear has broken the record for the volume of clean surplus power produced, an estimated 2.9GW. The report notes there were nearly 100 hours where the grid delivered more clean power than it needed last year. Analysts added that on 30th December, Britain saw a record of 3GW of surplus clean power produced – clear power sources produced more than 26.4GW while demand was only 23.4GW.