Brilliant Energy Institute

BEI Energy News

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Top News

Ontario Tech Energy News

Ontario Tech, OPG and Mitacs collaborating to study environmental impact of low-carbon electricity generation – BEI LinkedIn

https://www.linkedin.com/feed/update/urn:li:activity:7066833017754849280

Ontario Tech University researchers, including Dr. Jennifer McKellar, Dr. Kirk Atkinson and Dr. Xianke Lin, are launching an Ontario-focused investigation to evaluate the environmental impacts and costs of technologies used to supply low-carbon electricity. The two-year study is jointly funded by Ontario Power Generation and Mitacs, and will recruit multiple postdoctoral fellows, PhD and master's students for several internships to assist with the research.

Energy Policy

G7 summit: Three key takeaways for net zero action, nature and the circular economy – World Economic Forum

https://www.weforum.org/agenda/2023/05/g7-3-takeaways-climate-crisis-energy-and-plastics-circular-economy/

The leaders of the G7 nations, the U.S., the U.K., Canada, Germany, France, Italy, Japan and the European Union (EU), met for a summit in Hiroshima, Japan from May 19 to 21. The leaders provided more certainty on the phase-out of fossil fuels. The G7 communiqué uses wording that effectively rules out any power generation that is not using carbon capture technology. The leaders committed to collectively increase offshore wind capacity to 150 GW, based on each country's existing targets and solar photovoltaic to more than 1 TW by 2030. The U.S., Japan and Italy joined the multi-national coalition that Germany, France, Canada, the U.K. and the EU are already a part of, to reduce additional plastic pollution to zero by 2040.

G7 summit: 'Prioritize hydrogen use in industry and transport, and new fossil gas infrastructure' – Hydrogen Insight

https://www.hydrogeninsight.com/policy/g7-leaders-prioritise-hydrogen-use-in-industry-and-transport-and-new-fossil-gas-infrastructure/2-1-1454126

The leaders of the Group of Seven (G7) nations, the U.S., the U.K., Canada, Germany, France, Italy, Japan and the EU, have called for the prioritization of hydrogen use in industry and transportation, as well as endorsed public financing of fossil gas infrastructure as long as it can later be converted to hydrogen. The leaders also emphasized the need for international standards and certification for low-carbon and renewable hydrogen, based on a common methodology to calculate lifetime greenhouse gas emissions. The leaders also acknowledged the efforts of some countries to explore the use of hydrogen in the power sector, including Japan's use of co-firing coal with hydrogen-derived ammonia.

Canada, South Korea agree to work together on clean-energy supply chains – BNN Bloomberg

https://www.bnnbloomberg.ca/canada-south-korea-agree-to-work-together-on-clean-energy-supply-chains-1.1921387

The Prime Minister of Canada, Justin Trudeau, signed a memorandum of understanding with South Korea during his first official visit to the country. Both countries have agreed to cooperate on developing supply chains for critical minerals needed for electric vehicles, the clean energy transition, energy security and to reduce their dependency on China. The visit aims to strengthen economic ties between both countries and discussed youth mobility, North Korean relations and Indo-Pacific defence strategies.

Energy Systems

Masdar and Uzbekistan sign agreement to develop clean energy – Energy Digital

https://energydigital.com/articles/masdar-uzbekistan-sign-agreement-to-develop-clean-energy

Masdar, a United Arab Emirates-based renewable energy company, has signed a joint development agreement with Uzbekistan's Ministry of Energy and the Ministry of Investments, Industry and Trade to develop more than 2 GW of solar and wind projects and 500 MWh of battery energy storage at multiple sites across Central Asia. Masdar has completed five projects in Uzbekistan, the 100 MW Nur Navoi Solar Project, 500 MW Zarafshan wind farm,

and three solar projects in Jizzakh, Samarkand, and Sherabad with a combined capacity of 900 MW.

Technologies

Nuclear

Romania's NuScale SMR plan gets funding up to USD$275 million – World Nuclear News

https://www.world-nuclear-news.org/Articles/NuScale-s-Romanian-SMR-plan-gets-USD275-million-bo

The U.S., Japan, South Korea and the United Arab Emirates announced funding of up to USD$275 million to advance the deployment of a NuScale Power Corporation VOYGR small modular reactor (SMR) plant in Romania. It also includes Letters of Interest from the U.S. Export-Import Bank (EXIM) and the U.S. International Development Finance Corporation (DFC) for potential financial support. The funding was announced during the G7 leaders' summit and is a part of their plan to mobilize USD$600 billion under the *Partnership for Global Infrastructure and Investment*. The partners involved in the project are the Japan Bank for International Cooperation, DS Private Equity (Korea), EXIM Bank Romania, Nuclearelectrica, Nova Power & Gas, Emirates Nuclear Energy Corporation, the U.S. DFC and the U.S. EXIM.

Danish companies support SMR use for ammonia production in Indonesia – Nuclear Engineering International

https://www.neimagazine.com/news/newsdanish-companies-support-smr-use-for-ammonia-production-in-indonesia-10876912

Danish companies Topsoe, Alfa Laval, Copenhagen Atomics and Aalborg signed an agreement with Indonesian companies Pupuk Katlim and Pertamina New & Renewable Energy to support a project where small modular reactors (SMRs) are used to produce energy for ammonia production. The project would produce 1 GWe from 25 SMRs supplied by Copenhagen Atomics and the facility would be in the province of East Kalimantan. The project is expected to begin operations by 2028 and have a lifetime of at least 50 years. The USD$4 billion project is estimated to reduce emissions by 1.7 million tonnes of carbon dioxide compared to traditional natural gas fertilizer production.

Hydrogen

World's first commercial-scale green steel plant on track for FID after ordering 700 MW of hydrogen electrolyzers – Hydrogen Insight

https://www.hydrogeninsight.com/industrial/worlds-first-commercial-scale-green-steel-plant-on-track-for-fid-after-ordering-700mw-of-hydrogen-electrolysers/2-1-1454069

H2 Green Steel, a Swedish startup, is proceeding towards a final investment decision (FID) on its green steel facility and has ordered more than 700MW of alkaline electrolyzers from German manufacturer Thyssenkrupp Nucera. The plant is in Boden, Sweden and is expected to begin operations in 2025, making it the world's first commercial-scale green steel plant. This plant is expected to produce 2.5 million tonnes of steel a year by the end of 2025, and up to five million tonnes by 2030.

Neom formally reaches FID on giant green hydrogen complex – Hydrogen Insight

https://www.hydrogeninsight.com/production/neom-formally-reaches-fid-on-giant-green-hydrogen-complex-as-partners-ink-financing-deals-worth-8-4bn/2-1-1454268

Saudi Arabia's 2.2 GW Neom green hydrogen and ammonia project has reached final investment decision (FID). Its partners, U.S. industrial gases firm Air Products, Saudi state-owned Neom Company and Saudi renewable developer ACWA Power, signed agreements worth USD$8.4 billion with 23 local, regional and international lenders for the project. The project is expected to begin operations in 2026 and aims to produce 600 tonnes of hydrogen per day as feedstock for ammonia, powered by 4 GW of solar and wind energy.

Critical Minerals

Ford to buy lithium for its EV batteries from Quebec's Nemaska Lithium – Global News

https://globalnews.ca/news/9715305/quebec-ford-lithium-deal/

Nemaska Lithium, a Canadian mining company, has signed an 11-year agreement with Ford Motor Co. to sell up to 13,000 tonnes of lithium hydroxide per year, produced at their factory in Bécancour, Quebec, and spodumene concentrate. The company's Whabouchi mine is expected to begin production of lithium ore in 2025. This ore would then be processed at Becancour plant upon its opening in 2026. Nemaska Lithium's integrated project is planned to be the first one to produce lithium hydroxide in Québec and Ford aims to use this sustainable source of lithium to help it scale production of electric vehicles and make those vehicles more

accessible to customers.

Grid Management

U.S. approves major transmission line for renewable energy in Western states – Renewable Energy World

https://www.renewableenergyworld.com/solar/us-greenlights-major-transmission-line-for-renewable-energy-in-western-states/

The U.S. government has approved a proposed multibillion-dollar transmission line, the SunZia project, to transmit wind-generated electricity from the rural plains of New Mexico to big cities in the West. New Mexico's renewable energy authority and California's Pattern Energy are a part of the project. The transmission line is roughly 836 kilometres long, with networks of substations to transmit wind and solar power to Arizona and California. The project is expected to begin construction this year and be completed within three years. Pattern Energy announced their long-term purchase agreements with Shell Energy North America and the University of California for a portion of the electricity that will be flowing through the SunZia project.

Thank you.

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