Brilliant Energy Institute

Office of the Vice President Research and Innovation

Ontario Tech University

BEI Energy News

This update is produced twice weekly by the Brilliant Energy Institute

July 4, 2023

Top News

Brilliant Energy Institute News

BEI attends Toronto Board of Trade "Electrifying Ontario's Economy" event – BEI LinkedIn

https://www.linkedin.com/feed/update/urn:li:activity:7082080357730185218

Last week's Toronto Region Board of Trade "Electrifying Ontario's Economy" event presented insights on the opportunities and challenges to be tackled as the province addresses the required growth and decarbonization of the electricity sector. With topics ranging from the role of nuclear to labour strategies, the use of new technologies, and building out the supply chain, the afternoon provided insights on the future of electricity in Ontario and was a showcase of the people leading the way forward.

Thanks to Bruce Power for including the Brilliant Energy Institute (BEI) in the day and to the sponsors, for making it happen.

Energy Systems

Battery Systems

Another government funded battery deal: Northvolt near deal with Canada on $5.3 billion battery plant in Quebec - Energy Now

https://energynow.ca/2023/07/another-government-funded-battery-deal-northvolt-near-deal-with-canada-on-5-3-billion-battery-plant-in-quebec/

Swedish manufacturer Northvolt AB is close to securing a deal to construct a $7 billion electric-vehicle (EV) battery plant near Montreal, Que. The Canadian and Quebec governments are expected to provide financial aid worth billions, like the agreement with Volkswagen AG for an EV battery plant in Ontario. The project in Saint-Basile-le-Grand will include a cathode factory, battery cell assembly line, and recycling facility. If finalized, it would be one of Quebec's largest private-sector investments, aligning with Prime Minister Justin Trudeau's vision for Canada's EV supply chain. Northvolt, known for its partnerships with Volvo, BMW, and Volkswagen, aims to build the "world's greenest battery" and is currently assessing potential locations in the US and Canada.

Electric Vehicles

Canada announces 133 new electric vehicle chargers across Ottawa, echoes 350 ZEV buses - Natural Resources Canada
https://www.canada.ca/en/natural-resources-canada/news/2023/06/minister-fortier-announces-133-new-electric-vehicle-chargers-across-ottawa-echoes-350-zev-buses.html
The Government of Canada announced funding to install 133 new electric vehicle (EV) chargers in Ottawa. The chargers will be in workplaces, multi-unit residential buildings, and public places, creating a comprehensive charging network. The investment, totaling more than $500,000 from the Zero-Emission Vehicle (ZEV) Infrastructure Program, aims to boost EV adoption and support Canada's economy. The chargers will be operational by March 2025, providing EV drivers with increased confidence and convenience. This initiative aligns with Canada's commitment to reducing greenhouse gas emissions and building a sustainable future.

Indigenous and Community Engagement

Canada supports clean, renewable energy with $50 million investment for Indigenous-led wind power in Saskatchewan - Natural Resources Canada
https://www.canada.ca/en/natural-resources-canada/news/2023/06/government-of-canada-supports-clean-renewable-energy-with-50-million-investment-for-indigenous-led-wind-power-in-saskatchewan.html
The Government of Canada announced a $50 million contribution to the Bekevar Wind Power Project in Saskatchewan, in partnership with the Cowessess First Nation and Innagreen Investments. This funding supports Indigenous ownership and participation in renewable

energy generation. The project will supply more than 200 megawatts of clean power, reducing greenhouse gas emissions by approximately 130,000 tonnes per year. It includes 36 turbines, an underground electrical collector system, access roads, a substation, and a transmission line. The initiative advances Canada's goal of a net-zero economy by 2050 and a 100 per cent net-zero-emitting electricity system by 2035.

Technologies

Nuclear

Permitting submissions made for New Brunswick SMR - World Nuclear News
https://www.world-nuclear-news.org/Articles/Permitting-submissions-made-for-New-Brunswick-SMR
NB Power and ARC Clean Technology Canada Inc. submitted an environmental impact assessment registration document and an application for a site preparation license for the advanced small modular reactor (SMR) project at the Point Lepreau nuclear site in New Brunswick. The move aligns with their goal to achieve net-zero electricity supply by 2035. The ARC-100, a 100 MWe sodium-cooled fast reactor, is expected to be fully operational at the site by 2029. The partners are now entering the public licensing processes, fostering transparency. SMR technology is also planned for Northern New Brunswick, potentially powering hydrogen production and other industries, between 2030 to 2035.

OPG and Bruce Power collaborate on clean energy future - Bruce Power
https://www.brucepower.com/2023/06/29/opg-and-bruce-power-collaborate-on-clean-energy-future/
Ontario Power Generation (OPG) and Bruce Power have released a joint report showcasing their successful collaboration on nuclear refurbishment and Major Component Replacement (MCR) projects. This collaboration has led to cost reduction, increased efficiency, and safe project completion. The Darlington Nuclear Refurbishment Project (DNRP) and Bruce Power MCR Project will provide low-cost, carbon-free, and reliable electricity for the next 30 years. More than 90 per cent of the project expenditures are being spent in Ontario, promoting economic growth and job creation. The DNRP is past the midway point, with Unit 2 complete, Unit 3 returning in Q3 2023, and Unit 1 in the rebuilding phase.

Hydrogen

UAE approves national hydrogen strategy as it aims to become one of the world's leading clean H2 suppliers - Hydrogen Insight

https://www.hydrogeninsight.com/policy/uae-approves-national-hydrogen-strategy-as-it-aims-to-become-one-of-the-world-s-leading-clean-h2-suppliers/2-1-1480383

The United Arab Emirates (UAE) government approved a national hydrogen strategy to reduce emissions in "hard-to-abate" sectors by 25 per cent, by 2031. The strategy includes the development of up to five hydrogen production hubs by 2050. The UAE aims to be a leading low-carbon hydrogen producer and supplier by 2031. Hydrogen will be utilized in heavy industry, road transport, aviation, and sea freight. The strategy is part of the UAE's broader energy plans, which involve tripling renewable energy generation by 2030. The country aims to be among the top 10 global clean hydrogen producers and capture a 25 per cent market share.

Fossil Fuels

Nova Scotia Power plans to burn heavy fuel oil at phased out coal plants - CBC

https://www.cbc.ca/news/canada/nova-scotia/nova-scotia-power-plans-to-burn-heavy-fuel-oil-1.6895930

Nova Scotia Power plans to convert three coal-fired units at the Lingan Generating Station to burn heavy fuel oil after their closure in 2030. The company aims to keep these units operational until 2050. Concerns have been raised by environmental groups and regulators regarding the move, as burning heavy fuel oil is not significantly cleaner than coal. Nova Scotia Power cites federal regulations mandating the phase-out of coal by 2030 as the reason for the switch. The company claims using heavy oil during peak demand periods, which only accounts for about five to 10 percent of the time, is a cost-effective alternative to building new electricity generation capacity.

As BP abandons highly touted offshore oil prospect, ExxonMobil prepares to drill - CBC

https://www.cbc.ca/news/canada/newfoundland-labrador/ephesus-bp-oil-1.6888995

British Petroleum (BP) Canada abandoned its Ephesus exploration well project in the Orphan Basin off the coast of Newfoundland and Labrador, following an unsuccessful drilling campaign. The company chose not to disclose the drilling results, but industry experts suspect no

hydrocarbons were found. This setback adds to the challenges faced by the province's oil and gas industry. Meanwhile, ExxonMobil Canada and Qatar Energy are pressing ahead with their exploration well in the Jeanne d'Arc Basin, contracting the drill rig Hercules for the project. The provincial government is providing financial support to boost the offshore oil and gas industry.

Thank you.

The Brilliant Energy Institute news team
brilliantenergyinstitute.ca
(with a little help from ChatGPT)