

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

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Top News

Multiple Xe-100 SMRs planned for Washington State - World Nuclear News

<https://www.world-nuclear-news.org/Articles/Multiple-Xe-100-SMRs-planned-for-Washington-State>

Energy Northwest, a US-based public utility company, and X-Energy, a US-based nuclear energy company and parent company of X-energy Canada, signed a joint development agreement to deploy up to 12 Xe-100 small modular reactors (SMRs) in central Washington State. The Xe-100 is an 80 MWe high-temperature gas-cooled reactor, scalable to 320 MWe, using tristructural isotropic (TRISO) particle fuel. The project aims to provide carbon-free power and optimize grid use of clean energy resources. Under the agreement, both companies will work together towards licensing, regulatory matters, and project delivery. The first Xe-100 module is targeted to be operational by 2030. In July 2022, X-energy Canada and Ontario Power Generation signed a framework agreement to pursue opportunities to deploy Xe-100s for industrial applications in Canada.

BEI News

BEI Clean energy campus series: Geothermal system – BEI LinkedIn

<https://www.linkedin.com/feed/update/urn:li:activity:7087828164957147136>

BEI has started a new series on its LinkedIn channel to raise visibility of the clean energy infrastructure right here at Ontario Tech University. Did you know Ontario Tech is home to one of North America's largest geothermal systems? The 1,500-ton on-campus Borehole Thermal Energy Storage System heats and cools the campus buildings through 370 bore holes extending 180 metres deep, beneath the 7,500 square-metre quad at the heart of the campus. It does this efficiently and without greenhouse gas emissions. The geothermal system is just one part of the university's commitment to environmental responsibility and innovative solutions.

Ontario Tech News

Ontario Tech's commitment to sustainability – BEI LinkedIn

<https://www.linkedin.com/feed/update/urn:li:activity:7087794526668419072>

Ontario Tech University's Office of Sustainability and Campus Infrastructure (OCIS) drives the campus community's sustainability efforts. In recent months, OCIS led various initiatives including tree-planting, campus clean ups, biodiversity inventory events, and invasive plant removal sessions. In June, faculty, staff and student volunteers removed invasive phragmites from the campus grounds. Rather than disposing of the phragmites and creating more waste, the Toronto Zoo picked up the phragmites to feed to the zoo's rhinos.

Energy Policy

Iraq's massive TotalEnergies oil deal heralds new revenue-sharing formula - The Globe and Mail (Pay Wall)

<https://www.theglobeandmail.com/business/industry-news/energy-and-resources/article-iraqs-massive-totalenergies-oil-deal-heralds-new-revenue-sharing/>

Iran secured a US\$27 billion oil deal with TotalEnergies, a French multinational integrated energy and petroleum company, adopting a revenue-sharing model to attract foreign investors. Under the agreement, TotalEnergies will hold a 45 per cent stake in the Ratawi oil field's revenues, while Basra Oil Co. and QatarEnergy will have 30 per cent and 25 per cent, respectively. The deal includes plans for a 1 GW solar power plant, a gas processing facility, and a sea water supply project. The solar plant is expected to commence operations in 2025, followed by the gas recovery aspect in 2027.

Federal funding announced to upgrade Charlottetown buildings and advance climate action in Stratford, PEI - Natural Resources Canada

<https://www.canada.ca/en/natural-resources-canada/news/2023/07/mp-casey-and-fcm-announce-federal-funds-to-upgrade-charlottetown-buildings-and-advance-climate-action-in-stratford-pe.html>

The Government of Canada and the Federation of Canadian Municipalities signed a memorandum of understanding to combat climate change. As an outcome of the agreement, Prince Edward Island received \$1.87 million from the Green Municipal Fund for two projects. Charlottetown received funding to upgrade their city hall, fire hall, and community centre, with the goal of achieving a 30 per cent energy reduction and saving \$90,000 annually. Additionally, Stratford received a \$30,000 grant to develop a comprehensive greenhouse gas reduction plan.

Declining electricity consumption in advanced economies is weighing on global demand growth this year - International Energy Agency

<https://www.iea.org/news/declining-electricity-consumption-in-advanced-economies-is-weighing-on-global-demand-growth-this-year>

The European Union's electricity demand is expected to decrease by three per cent due to slow recovery in energy-intensive industries in 2023. Meanwhile, global electricity demand increases by less than two per cent, rebounding to 3.3 per cent in 2024, according to the International

Energy Agency's latest *Electricity Market Report*. By 2024, renewables are projected to surpass fossil fuels, accounting for more than one-third of global electricity generation. China's electricity demand will grow at 5.2 per cent annually, and India's at 6.5 per cent through 2024.

Indigenous and Community Engagement

First Nations' climate lens focuses in on strategy to tackle climate emergency - Windspeaker

<https://windspeaker.com/news/windspeaker-news/first-nations-climate-lens-focuses-strategy-tackle-climate-emergency>

First Nations chiefs passed the *Urgent and Transformative Climate Action through the AFN National Climate Strategy* resolution at the Assembly of First Nations annual general assembly in Halifax, NS from July 10 to 13. This follows the climate emergency declaration by the Vuntut Gwitchin First Nation in 2019, which provided direction to develop the First Nations-led climate strategy, delivered during the assembly. The resolution advocates for Indigenous-led solutions, reframing the climate discourse to prioritize First Nations' rights, self-determination, and knowledge systems, and seeks collaboration with governments to address climate priorities and secure sustainable funding.

Technologies

Nuclear

OPG celebrates the early completion of Darlington Unit 3 - Ontario Power Generation

https://www.opg.com/news-and-media/media_release/opg-celebrates-the-early-completion-of-darlington-unit-3/

Ontario Power Generation (OPG) connected the Darlington Nuclear Generating Station's Unit 3 to the grid 169 days ahead of schedule. The execution phase of the \$12.8 billion clean energy project, which started in 2016, aims to refurbish all four units by 2026. Unit 3's early return provides three terawatt-hours of energy cutting one megatonne of greenhouse gas emissions, the equivalent of taking 300,000 cars off the road for a year. The refurbishment project will generate \$90 billion in benefits and 14,200 jobs annually. Unit 1's refurbishment is expected to be completed by mid-2025 and Unit 4 is expected to be taken offline shortly to begin its refurbishment.

Critical Minerals

Canada launches second call for proposals for critical minerals research development and demonstration program - Natural Resources Canada

<https://www.canada.ca/en/natural-resources-canada/news/2023/07/government-of-canada-launches-second-call-for-proposals-for-critical-minerals-research-development-and-demonstration-program.html>

The Government of Canada announced a second call for proposals for the Critical Minerals Research Development and Demonstration Program, with \$40 million in funding. The second call aims to address a gap in the value chain by moving projects from the pre-commercial stage to demonstration, adoption and integration into domestic and international value chains. Eligible recipients include mining companies, Indigenous groups, academic institutions, and various levels of government with up to \$5 million per project for pilot plant and demonstration projects. The deadline for submitting proposals is Sept. 29, 2023.

Hydropower

NB Power seeks environmental approval for clean energy project at Mactaquac Generating Station - NB Power

<https://www.nbpower.com/en/about-us/news-media-centre/news/2023/nb-power-seeks-environmental-approval-for-clean-energy-project-at-mactaquac-generating-station/>

NB Power is seeking environmental approval to rehabilitate the Mactaquac hydro station. The project involves major repairs, equipment replacement, and improved fish passage, ensuring the station's operation until at least 2068. Construction is scheduled to commence in 2024. NB Power will engage stakeholders and the public to address concerns and ensure a comprehensive approach to the project.

Do you have any milestones, events, or news updates to share with the energy community? Email your submission to BrilliantEnergy@ontariotechu.ca for consideration in an upcoming edition.

Thank you.

The Brilliant Energy Institute news team

brilliantenergyinstitute.ca

(With a little help from ChatGPT)