

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

Weekly newsletter

February 2, 2024

BEI News

This week BEI's Director, Jennifer Alsop, spoke with energy sector leaders about the transition to net zero and the talent implications. Joined by an audience of undergraduate and graduate engineering, business, and science students, the panel spoke about talent needs and the opportunities for up-and-coming talent.

The five-member panel was part of the **Student Enrichment Program**. With financial support from RBC, the program enables students from multiple disciplines to explore opportunities in the energy sector. With contributions and involvement from partners such as Aecon Group Inc., Westinghouse Electric Company, Elexicon Energy Inc., AtkinsRéalis and Canadian Nuclear Laboratories, students participate in field trips, class guest speakers, speed networking events, job fairs, energy tech talks, and more.

The energy transition is also a skills transition. The [Student Enrichment Program](#) helps equip students with the skills to achieve a net zero future.

Energy Policy

Amid confusion from Canadians, Justin Trudeau's government is considering rebrand of carbon pricing: source - Toronto Star (Paywall)

https://www.thestar.com/politics/federal/amid-confusion-from-canadians-justin-trudeaus-government-is-considering-rebrand-of-carbon-pricing-source/article_e10e84e8-bc5f-11ee-8932-2f75e1238baf.html

The Trudeau government is considering renaming its carbon pricing rebate program to address public misunderstandings. The initiative seeks to improve awareness and comprehension of the program. Recent polling has highlighted confusion among Canadians regarding the policy's details. The proposed changes might include a new name and enhanced communication strategies. Details on Timing and budget details for

the rebranding effort remain undisclosed as the government continues to assess the strategy.

Building Infrastructure

Geothermal heat pumps could reduce U.S. electricity demand by as much as 15 per cent

<https://www.renewableenergyworld.com/baseload/geothermal/geothermal-heat-pumps-could-reduce-u-s-electricity-demand-by-as-much-as-15/>

According to new analysis from Oak Ridge National Laboratory (ORNL) and the National Renewable Energy Laboratory (NREL), the widespread installation of geothermal heat pumps, coupled with building envelope improvements, in approximately 70 per cent of U.S. buildings could lead to substantial energy and carbon savings. The researchers estimate that such installations could save up to 593 terawatt-hours of electricity generation annually by 2050, which is approximately 15 per cent of the current annual electricity demand in the United States. Additionally, this could help avoid seven gigatons of carbon-equivalent emissions. The analysis suggests that geothermal heat pump adoption can reduce the need for new grid transmission lines, offering both environmental and economic benefits.

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Nuclear

SaskPower-GEH agreement to advance SMR development

<https://www.world-nuclear-news.org/Articles/SaskPower-GEH-agreement-to-advance-SMR-development>

SaskPower and GE Hitachi Nuclear Energy (GEH) signed an agreement to collaborate on developing small modular reactors (SMRs) in Saskatchewan. The

organizations will focus on project planning, expertise sharing, and supporting workforce and supply chain planning for the BWRX-300 SMR. The collaboration aims to streamline planning and licensing efforts, with SaskPower expected to make a decision in 2029 on whether to proceed with nuclear power in Saskatchewan.

Doug Ford government to refurbish Pickering nuclear plant as demand for electricity grows

<https://www.cbc.ca/news/canada/toronto/ontario-nuclear-power-pickering-refurbishment-electricity-1.7098524>

The Ontario government plans to refurbish the Pickering Nuclear Generating Station, to extend its operation for 30 more years. This move responds to the growing demand for electricity in the province. The project will revamp four Candu reactors from the 1980s, maintaining a 2,000-megawatt output. Expected to be completed by the mid-2030s, the refurbishment project will generate an estimated 11,000 jobs annually and add \$19.4 billion to Ontario's GDP. The project is part of Ontario's strategic plan to increase nuclear power capacity.

Solar Energy

Community solar keeps growing. Here's what we still have to figure out

<https://www.renewableenergyworld.com/podcasts/community-solar-keeps-growing-heres-what-we-still-have-to-figure-out/>

The community solar sector, which has seen significant growth across 41 states and Washington, D.C., is facing saturation in early-adopter states, intensifying competition. Acquiring and retaining low-income customers poses a challenge, with skepticism and verification complexities. In California, a reboot of the community solar program is underway, driven by state law changes in 2022, emphasizing environmental justice and a minimum 51 per cent low-income subscriber requirement. Bruce Stewart, CEO of Perch Energy, highlights these issues and discusses the potential impact of California's community solar program reboot.

Fossil Fuels

Global gas demand set for stronger growth in 2024 despite heightened geopolitical uncertainty

<https://www.iea.org/news/global-gas-demand-set-for-stronger-growth-in-2024-despite-heightened-geopolitical-uncertainty>

The International Energy Agency (IEA) predicts a surge in global gas demand in 2024, driven by colder winter temperatures and easing prices. While emerging economies are expected to lead this increase, geopolitical risks and supply-side concerns could bring renewed price volatility. In 2023, global gas demand grew by 0.5 per cent, with China, North America, Africa, and the Middle East witnessing growth, while Europe saw a 7 per cent decline.. The report highlights the risk of price fluctuations, geopolitical uncertainties, and policy measures impacting global gas markets.

Grid Management

Drought in Western Canada impacting hydropower production as reservoirs run low

https://www.thestar.com/business/drought-in-western-canada-impacting-hydropower-production-as-reservoirs-run-low/article_6f89befc-d881-593c-b0d9-23c88e7dbf1f.html

Severe drought in Western Canada has impacted hydroelectricity generation, leading two hydro-rich provinces, British Columbia (B.C.) and Manitoba, to import power from other jurisdictions due to low reservoir levels. While there's no immediate risk of power shortages, both provinces are grappling with historic dry conditions, and an increase in the frequency and severity of drought. Climate change is posing challenges to hydroelectric producers with B.C. Hydro importing power from Alberta and western U.S. states and Manitoba Hydro supplementing hydro production with natural gas-fired turbines.

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)