

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

Weekly newsletter

March 1, 2024

Top News

BEI News

The energy sector's current and future skills and talent needs remain a top discussion point. Industry and academia are changing approaches to student talent engagement to support development and access to careers in energy. Ontario Tech Engineering students engaged with nuclear industry leaders during a January 31 [Industry Night](#), organized by the NAYGN chapter. The event connected nearly 100 students with experts from Kinectrics, NPX, Aecon, GE Hitachi, and Westinghouse, addressing the growing demand for skilled professionals in the global push to triple nuclear energy capacity by 2050. NAYGN, founded in 1999, plays a pivotal role in fostering leadership skills and industry connections within the nuclear sector.

In another [collaborative effort](#), Ontario Tech University's Engineering students in the energy sector received a \$750,000 grant from the [RBC Foundation](#) for the [Student Enrichment Program \(SEP\)](#). With over 825 students anticipated to be enrolled in the next four years, the SEP, managed by the Partnerships Office, collaborates with industry partners like Aecon, AtkinsRéalis, CNL, Westinghouse, and Elexicon Energy. This initiative, supported by key industry players, focuses on developing 'green skills' to meet industry demands and connect students with diverse career paths in the evolving energy sector.

Energy Policy

Bill supporting development of nuclear energy powers to pass in Kentucky Senate

<https://ottawa.citynews.ca/2024/02/26/bill-supporting-development-of-nuclear-energy-powers-to-pass-in-kentucky-senate/>

The Kentucky Senate voted overwhelmingly (34-0) to advance Senate Bill 198, aimed at fostering nuclear energy development in the state. Sponsored by Republican Sen. Danny Carroll, the bill establishes the Kentucky Nuclear Energy Development Authority, emphasizing a diverse energy approach. The nonregulatory authority will collaborate with stakeholders, conduct site suitability studies, and promote a "nuclear energy

ecosystem." Carroll asserts that nuclear energy is crucial for Kentucky's future while recognizing the continued importance of other energy sources. The bill now heads to the House for further consideration.

Alberta to ban renewables on prime land, declare no-build zones for wind turbines (Paywall)

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The Alberta government has introduced new rules that restricts renewable energy projects, particularly wind power, from large portions of prime land, citing concerns about the impact on agriculture and tourism. The changes, set to take effect on March 1, include a ban on new projects in areas with good irrigation capabilities unless it can be proven that they won't hinder agricultural activities. Buffer zones of 35 kilometers will be established around protected areas, limiting new wind-power projects in those zones. Developers will be responsible for covering cleanup costs, raising concerns in the renewable energy sector about stymied growth and increased uncertainty.

Building Infrastructure

Germany plans to enable underground storage of carbon dioxide at offshore sites

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Germany plans to facilitate underground carbon storage at offshore sites to address emissions from hard-to-abate sectors like cement production. The proposed "carbon management strategy" by Vice Chancellor Robert Habeck aims to transport and store carbon dioxide beneath the sea in Germany's economic zone. The plan excludes marine conservation areas but may consider land storage if approved by German state governments. Habeck contends that carbon capture and storage technology has matured and is necessary for achieving climate neutrality, emphasizing the urgency to combat climate change. Critics argue that carbon capture is unproven at scale and less effective than renewable alternatives.

How mapping out goals could help Charlottetown Airport fly into a greener future

<https://www.cbc.ca/news/canada/prince-edward-island/pei-charlottetown-airport-sustainability-plan-1.7122521>

The Charlottetown Airport Authority has introduced its first sustainability plan to reduce its environmental impact over the next five years. The plan aims to cut carbon emissions by 15 per cent per passenger by 2028, using 2017 as the baseline year, with a long-term goal of achieving net-zero emissions by 2050. The strategy also focuses on enhancing community relations, promoting diversity and inclusion, and improving risk and crisis management. Doug Newson, Charlottetown Airport CEO, highlighted initiatives such as adding LED lighting, transitioning to alternative heat sources, and incorporating renewable energy options in new buildings or major renovations.

Canada's hope to be a global power in the energy transition needs a strategic push

<https://www.theglobeandmail.com/business/article-canadas-hope-to-be-a-global-power-in-the-energy-transition-needs-a/>

A new report warns that Canada's ambition to become a global power in the low-carbon transition could be at risk without a strategic national plan. The study emphasizes the need for Canada to align its diplomacy, trade, and public policy to capitalize on its competitive strengths. The report highlights that without a comprehensive strategy, Canada risks losing out in the expanding clean energy sector, where other major players like the United States, China, and the European Union are investing heavily. The study specifically emphasizes the importance of Canada providing key ingredients for battery and renewable energy supply chains to counter China's dominance.

Electric Vehicles

Funding supports a feasibility study for the electrification of school bus fleets in Atlantic Canada

<https://www.canada.ca/en/office-infrastructure/news/2024/02/funding-supports-a-feasibility-study-for-the-electrification-of-school-bus-fleets-in-atlantic-canada0.html>

The federal government, along with the provinces of New Brunswick, Newfoundland and Labrador, and Nova Scotia, is investing a combined \$495,000 in a feasibility study for the electrification of provincially owned school bus fleets in Atlantic Canada. The study aims to develop a roadmap that enhances knowledge of zero-emission transportation, covering infrastructure requirements, emissions reduction, long-term cost savings, and preparedness for deployments. The initiative targets transitioning up to 1,250 school buses in New Brunswick, 326 in Newfoundland and Labrador, and 1,300 in Nova Scotia to electric power, contributing to a cleaner and more sustainable future for school transportation in the region. The federal government is investing \$396,000 through the Zero Emission Transit Fund, while the Council of Atlantic Ministers of Education and Training is contributing \$99,000.

Nuclear

AECL and AtkinsRéalis partner to accelerate development of Candu Monark reactor

<https://www.neimagazine.com/news/newsaecl-and-atkinsrealis-partner-to-accelerate-development-of-candu-monark-reactor-11551469/>

Canadian federal Crown corporation Atomic Energy of Canada Limited (AECL) and AtkinsRéalis, part of the SNC-Lavalin Group, have signed a memorandum of understanding (MOU) to collaborate on the deployment of Candu reactors in Canada and internationally. The collaboration will include an expanded intellectual property

licensing agreement (IPLA) to accelerate the development of Candu reactor technology, including the new Candu Monark reactor. The expanded agreement reflects changing priorities since the initial IPLA was signed in 2011. The Candu Monark reactor features a larger output of 1,000 MWe, improved cost per megawatt-hour, and a longer operating life of 70 years. The technology aims to contribute to a cleaner and more sustainable energy future.

Ottawa pledging \$50M for Bruce Power nuclear plant expansion

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The Canadian federal government is allocating \$50 million for preliminary work on the expansion of the Bruce Power nuclear plant. The funding will be drawn from the Clean Electricity Pre-development Program, a fund under Natural Resources Canada dedicated to preparatory efforts for substantial clean electricity initiatives. The expansion plans include launching Indigenous consultations, obtaining regulatory approvals, and preparing the construction site. This move is part of Ontario's strategy to decarbonize and expand its electrical grid, with Bruce Power planning to add 4,800 megawatts of output to nearly double the capacity of the existing plant.

Fossil Fuels

Slow shift to green fuel degrees 'jeopardises energy transition'

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A study by researchers at the Norwegian Institute of International Affairs (Nupi) warns that universities globally have been slow to shift the focus of energy-related degrees towards renewables, contributing to a skills shortage amid the need for a rapid transition away from fossil fuels. The study found that 68 per cent of energy degrees focus on fossil fuels, while only 32 per cent focus on renewables. At the current rate of change, degrees in renewable energy will not fully replace fossil fuel courses until 2107, which is incompatible with climate change mitigation goals under the Paris Agreement. The authors suggest closing fossil fuel programs and replacing them with degrees in renewable energy to avoid jeopardizing the energy transition.

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.

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