

Brilliant Energy Institute

Office of the Vice President Research and Innovation

Ontario Tech University

BEI Energy News

Produced twice weekly, Tuesdays and Fridays

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Top News

Alberta investing \$7M into Cenovus Energy study on Small Modular Reactors- CBC

<https://www.cbc.ca/news/canada/calgary/world-petroleum-congress-rebecca-schulz-alberta-smrs-1.6971701>

Alberta's provincial government is investing \$7 million from its Technology Innovation and Emissions Reduction fund into a comprehensive study led by Cenovus Energy. The study explores the potential applications of small modular reactors (SMRs) in oilsands operations, with the aim of reducing greenhouse gas emissions. Premier Danielle Smith has tasked her ministers of energy and environment with developing a regulatory framework for SMR technology, which depending on design, can provide up to a third of the generating capacity of traditional nuclear reactors. While there are still uncertainties surrounding costs and efficiency, experts believe SMRs could be a significant step towards emissions reduction in the oilsands. Some environmental groups have expressed concern the study could be a delay tactic by industry but SMRs have potential to provide significant low-carbon power in the net zero 2050 timeframe for many applications. . The total cost of Cenovus' four-year series of studies is \$26.7 million.

\$3 Billion in federal export finance to support Canadian businesses while providing clean energy security for Romania- NRCAN

<https://www.canada.ca/en/natural-resources-canada/news/2023/09/3-billion-in-federal-export-finance-to-support-canadian-businesses-while-providing-clean-energy-security-for-romania.html>

Canada is providing \$3 billion in export financing to Nuclearelectrica S.A. for the construction of two new Canadian CANDU-6 nuclear reactors at the Cernavoda Nuclear Generating Station in Romania. This investment will not only support Canadian jobs but also aid Romania in reducing coal power reliance by 2032 while adding 1,400 megawatts of clean electricity to its grid. The project signifies a critical step in enhancing Europe's energy security in the face of supply shortages and advancing shared climate action goals. With the reactors already operational, this collaboration marks a significant milestone in Canada and Romania's enduring nuclear partnership.

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Ontario Tech News

Ontario Tech University announces historic first donor-named faculty in recognition of transformational philanthropy- OTU News

<https://news.ontariotechu.ca/archives/2023/09/ontario-tech-university-announces-historic-first-donor-named-faculty-in-recognition-of-transformational-philanthropy.php>

Ontario Tech University commemorates its 20th anniversary by renaming the Faculty of Education as the Mitch and Leslie Frazer Faculty of Education, following a \$3 million contribution from the Frazer family. This donation will facilitate the establishment of the Centre for Digital Innovation in Education, dedicated to conducting research and outreach programs to address educational challenges. The centre's primary focus areas encompass equitable education, digital wellness, global competencies, diversity among educators, and innovation in education. The Mitch and Leslie Frazer Faculty of Education upholds principles of equity, diversity, and inclusion and aligns with Ontario Tech's commitment to 'tech with a conscience.'

Indigenous and Community Engagement and Renewable Energy

Sanikiluaq wind project represents the major Nunavut renewable energy policy shift - CBC.

<https://www.cbc.ca/news/canada/north/sanikiluaq-wind-project-anuriquiak-nukkiqsautiit-1.6968052>

Nunavut's Sanikiluaq community is set to reduce its reliance on diesel fuel by half with the imminent signing of an agreement between Qulliq Energy Corporation (QEC) and the Nunavut Nukkiqsautiit Corporation (NNC) for electricity from a windmill project. This marks a significant policy shift in Nunavut as it's the first time QEC will buy electricity from an independent provider, opening doors for more renewable energy projects. The Sanikiluaq wind project has been in development since 2016 and could serve as a model for other communities in Nunavut looking

to transition to sustainable energy. The windmill is expected to generate one megawatt of power with battery storage, benefiting the community of 1,000 people and creating local job opportunities.

Technologies

Nuclear

Regulatory changes needed for new nuclear for maritime - World Nuclear News

<https://www.world-nuclear-news.org/Articles/Regulatory-changes-needed-for-new-nuclear-for-maritime>

During the Core Power-organized conference at London International Shipping Week '23, the shipping industry discussed its aim to decarbonize by 2050, with nuclear power emerging as a potential solution. Nuclear-powered ships and the use of nuclear for alternative fuels are being explored as potential solutions for decarbonizing the shipping industry, driven by increasing energy costs. Small nuclear reactors are considered promising for maritime applications due to their flexibility, particularly with floating power plants. However, regulatory issues, including outdated safety regulations from the 1970s, pose challenges. Core Power emphasizes the need for clear, modern rules to make maritime nuclear a reality. Progress is being made with a consortium, including Core Power, aiming to demonstrate a medium-scale commercial-grade marine reactor around 2032-2035.

Electric Vehicles

Federal investment to deliver 48 New EV chargers across southern Ontario - NRCAN

<https://www.canada.ca/en/natural-resources-canada/news/2023/09/federal-investment-to-deliver-48-new-ev-chargers-across-southern-ontario.html>

The Government of Canada is investing \$229,356 in Hypercharge to install 48 Level 2 EV chargers in 11 parking lots across Southern Ontario. This funding, combined with contributions from Hypercharge, brings the total project value to \$458,712. These chargers will be available by December 2024, contributing to the nationwide effort to create a pan-Canadian network of charging stations. This initiative aims to make electric vehicles more accessible and affordable while reducing greenhouse gas emissions in the transportation sector. Federal incentives of up to \$5,000, along with provincial programs, continue to support EV adoption, with the government extending its purchase or lease incentive program until March 2025, as part of its goal to install 84,500 chargers by 2029.

Hydrogen

United States awards US\$48 million towards H2 research and development - Hydrogen Insight

<https://www.hydrogeninsight.com/innovation/solving-the-liquid-hydrogen-boil-off-problem-us-awards-48m-towards-h2-research-and-development/2-1-1522238>

The US Department of Energy has allocated US\$48 million for hydrogen research and development, primarily focusing on liquid hydrogen storage, and fueling. US\$17.7 million will support projects aimed at improving liquid hydrogen fueling and transfer systems, including the development of a mobile liquid hydrogen fueling station by GTI Energy, high-rate liquid hydrogen fueling for rail by Linde, and a solid-state hydrogen loss recovery system by the Colorado School of Mines. Liquid hydrogen offers higher energy density but presents challenges like boil-off and safety concerns due to extremely low temperatures. These funds aim to address these issues and advance hydrogen technology.

Shell scraps plan to build 48 new hydrogen filling stations in California, for which it had been awarded \$40.6m grant - Hydrogen Insight

<https://www.hydrogeninsight.com/transport/shell-scraps-plan-to-build-48-new-hydrogen-filling-stations-in-california-for-which-it-had-been-awarded-40-6m-grant/2-1-1519894>

Shell has decided not to proceed with its plans to construct 48 new hydrogen filling stations in California, despite having received a government grant of \$40.6 million for the project back in 2020. The company has also closed five of its existing hydrogen refueling stations in the state, leaving only three in operation. Shell cited operational issues for the temporary closures, but it now appears they are permanent. They have rejected the funding allocated for the project, citing political and economic uncertainty, permit difficulties, and high construction costs. The move reflects the challenges facing hydrogen infrastructure development in California, where the cost of hydrogen has made electric vehicles a more cost-effective option.

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
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(With a little help from ChatGPT)