

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

Weekly newsletter

January 26, 2024

BEI News

For Canada to meet its climate action obligations and reach net zero by 2050, greenhouse gas (GHG) emissions from commercial buildings must be reduced by 47.4 megatons. This level of reduction requires urgent action from the buildings sector to decarbonize operations.

On January 24th, BEI attended the launch of the [Durham Greener Buildings](#) program, a benchmarking and disclosure program that supports building owners participating in the provincial [Energy and Water Reporting Benchmarking \(EWRB\) program](#) by helping them to measure, report and take action on efficiency and conservation opportunities. Durham Region has partnered with Windfall Ecology Centre to administer the program and collect information on buildings in the region.

The event included a panel discussion with Steven Pacifico (Zero Carbon Building Accelerator Program, [Toronto 2030 District](#)), Caroline Karvonen ([BOMA Toronto](#)), and Bryan Purcell ([The Atmospheric Fund](#)), who highlighted the importance of benchmarking, comprehensive policy and regulation and how stakeholder engagement and hands-on support are critical to drive participation and adoption.

Building Infrastructure

Government of Canada Contributes \$13.5 Million to Advance Innovative Forest Technologies and Clean Energy Projects in British Columbia

<https://www.canada.ca/en/natural-resources-canada/news/2024/01/government-of-canada-contributes-135-million-to-advance-innovative-forest-technologies-and-clean-energy-projects-in-british-columbia.html>

The Canadian Government, led by the Honourable Jonathan Wilkinson, Minister of Energy and Natural Resources, announces an investment of \$13.5 million in two forest industry transformation projects and six clean energy projects in British Columbia. The funding, provided through the Investments in Forest Industry Transformation (IFIT) and Clean Energy for Rural and Remote Communities (CERRC) programs, supports initiatives ranging from renewable microgrid projects and wave energy demonstration to innovative wood stabilization processes and robotic processing lines for mass timber. These projects aim to advance sustainable economic growth, reduce emissions, and create employment opportunities in communities across the province.

Government of Canada and FCM Invest \$9.3 Million to Construct a New Net-Zero Fire Station in Peterborough

<https://www.canada.ca/en/natural-resources-canada/news/2024/01/government-of-canada-and-fcm-invest-93-million-to-construct-a-new-net-zero-fire-station-in-peterborough.html>

The Government of Canada, in collaboration with the Federation of Canadian Municipalities (FCM), allocates \$9.3 million from the Green Municipal Fund to construct a net-zero fire station in Peterborough, Ontario. The innovative design incorporates renewable energy sources, such as solar panels and ground source heat pumps, along with mass timber construction and water-saving features. The new station aims to achieve net-zero emissions, contribute to climate goals, and save an estimated \$24,270 per year in operational costs. The investment aligns with Canada's commitment to sustainability and supports local initiatives to reduce greenhouse gas emissions from public buildings.

Electric Vehicles

Businesses transitioning to electric fleets need to take careful consideration

[Businesses transitioning to electric fleets need to take careful consideration \(thestar.com\)](https://www.thestar.com/business/2024/01/24/businesses-transitioning-to-electric-fleets-need-to-take-careful-consideration/)

As some businesses in Canada look to transition their vehicle fleets to meet zero-emissions goals, experts caution that the journey won't be easy. Challenges include charging time, optimizing delivery routes, battery life in cold weather, obtaining electrification permits, and choosing efficient chargers. Companies like Ikea Canada, which is expanding its electric delivery fleet, emphasize the need for a shift in mindset and meticulous planning to overcome these hurdles. While larger companies have dedicated teams and resources, smaller-scale businesses may find limitations due to factors like charging infrastructure and vehicle range for long-distance deliveries.

Nuclear

What's to Come for Nuclear in 2024

<https://www.nei.org/news/2024/whats-to-come-for-nuclear-in-2024>

In 2024 several events and advancements are planned for the nuclear energy sector. The International Atomic Energy Agency (IAEA) and Belgium are hosting the inaugural nuclear energy summit in Brussels from March 21-22, 2024, providing a platform for global discussions on increasing nuclear energy usage. Vogtle 4, the next advanced nuclear reactor in the United States, is projected to go live in the late fourth quarter of 2023 or the first quarter of 2024, contributing to the clean energy landscape. Additionally, there's a focus on increasing High-Assay, Low-Enriched Uranium (HALEU) capacity, with Centrus Energy planning to boost production to 900 kilograms in 2024. Legislative efforts are underway to expand energy standards, address regulatory challenges, and promote the growth of nuclear energy domestically.

Nuclear output to reach new record by 2025, says IEA

<https://www.world-nuclear-news.org/Articles/Nuclear-output-to-reach-new-record-by-2025,-says-IEA>

The International Energy Agency (IEA) predicts that global nuclear power generation will grow by almost three per cent annually, reaching a new record high by 2025. The forecast is part of the IEA's Electricity 2024 report, which indicates that low-emission sources, including nuclear power, will account for almost half of the world's electricity generation by 2026. The increase in electricity generation from renewables and nuclear is expected to drive structural declines in the power sector's emissions. The IEA anticipates that global nuclear generation will be almost 10 per cent higher in 2026 compared to 2023, with an additional 29 GW of new nuclear capacity expected to come online between 2024 and 2026.

Solar Energy

Construction of largest solar facility in Saskatchewan set for 2025

<https://globalnews.ca/news/10241580/construction-largest-solar-facility-saskatchewan-2025/>

SaskPower has announced that Iyuhána Solar LP, a contractor supported by First Nations, will build, and operate the largest solar facility in Saskatchewan near Estevan. The 100-megawatt facility, set to begin construction in 2025 and operational by December 2026, aims to generate enough power for 25,000 homes. The project is part of SaskPower's commitment to achieving net-zero emissions by 2050 and reflects ongoing collaboration with Indigenous Peoples. Developed in partnership with Greenwood Sustainable Infrastructure, Saturn

Power, and Ocean Man First Nation, the initiative will provide employment and revenue opportunities for local communities.

Hydrogen

Cipher Neutron's Research Division Receives Funding from Molymet, to Accelerate the Development of Rhenium-Based AEM Electrolysers

<https://nationalpost.com/pmnbusiness-wire-news-releases-pmn/cipher-neutrons-research-division-receives-funding-from-molymet-to-accelerate-the-development-of-rhenium-based-aem-electrolysers>

Cipher Neutron Inc., a Canadian company specializing in AEM Electrolysers for Green Hydrogen production, has received funding from Molymet to expedite the development of Rhenium-Based Anion Exchange Membrane (AEM) Electrolyser Technology. The collaboration aims to leverage Rhenium as a cost-effective catalyst, offering catalytic properties similar to platinum group metals but at a lower cost. This initiative aligns with Cipher Neutron's strategy to maintain leadership in AEM Electrolysers and could potentially enhance the performance and durability of their existing technology. Molymet, a Chilean Rhenium industry leader, will also purchase Cipher Neutron's AEM Electrolyser Technology for hydrogen production.

The CHFCA announces new Tax Advisory collaboration with Deloitte Canada

<https://www.chfca.ca/2024/01/22/the-chfca-announces-new-tax-advisory-collaboration-with-deloitte-canada/>

The Canadian Hydrogen and Fuel Cell Association (CHFCA) has announced a collaboration with Deloitte Canada in a new Tax Advisory capacity. Deloitte will provide general tax and technical advice to the CHFCA, focusing on government incentives, particularly the Clean Hydrogen Investment Tax Credit. The partnership aims to assist CHFCA members in maximizing their potential within the hydrogen sector and contributing to Canada's sustainable energy goals. Deloitte will work closely with association members, offering comments on specific tax incentives and conducting a preliminary review of members' eligibility.

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)