

# Brilliant Energy Institute

Office of the Vice President Research and Innovation

Ontario Tech University

## BEI Energy News

Weekly newsletter

November 1, 2024

### Top News

#### OntarioTech News

##### **Ontario Tech showcases national leadership in hydrogen energy innovation - OntarioTech**

<https://news.ontariotechu.ca/archives/2024/10/tech-with-a-conscience-ontario-tech-showcases-national-leadership-in-hydrogen-energy-innovation.php>

Ontario Tech University demonstrated its leadership in clean energy research by hosting the Hydrogen Business Council of Canada's annual conference on October 17-18, drawing over 200 industry leaders and researchers to discuss the future of hydrogen technologies. Highlights included Ontario Tech's Hydrogen Commercialization and Demonstration Centre (HCDC), which supported hydrogen prototype development and contributed to Project Arrow, Canada's first zero-emission concept vehicle. The event featured a collaboration with Hydrocool, a startup creating hydrogen-powered refrigeration systems, and provided students the chance to connect with leading industry professionals. The Associate Minister emphasized hydrogen's potential to power Ontario's future and create 100,000 new jobs over the next 25 years.

##### **Ontario Tech hosts 'Critical Climate Week' - OntarioTech**

[https://socialscienceandhumanities.ontariotechu.ca/about/events1.php?fbclid=IwY2xjawGM2vRleHRuA2FibQIxMAABHdheNSQJyDU9q\\_o3N9n63n67x8QK\\_SPXyuKeYfFTC17MFaU-N5UcGxnZsw\\_aem\\_stF5JiOrSI4PYeyDYLUsdw](https://socialscienceandhumanities.ontariotechu.ca/about/events1.php?fbclid=IwY2xjawGM2vRleHRuA2FibQIxMAABHdheNSQJyDU9q_o3N9n63n67x8QK_SPXyuKeYfFTC17MFaU-N5UcGxnZsw_aem_stF5JiOrSI4PYeyDYLUsdw)

Ontario Tech University Faculty of Social Science and Humanities is proud to launch Critical Climate Week, a new annual event focused on pressing yet often overlooked climate issues with various events. This year's theme centres on methane, a greenhouse gas, with support from the NGO Common Earth. Events include a movie night, panel discussion, and student hackathon.

#### Hydrogen

##### **Hydrogen-powered Toyota Mirai hampered by lack of infrastructure – but help is on its way - The Globe and Mail**

<https://www.theglobeandmail.com/drive/mobility/article-hydrogen-powered-toyota-mirai-hampered-by-lack-of->

[infrastructure-but/?intcmp=gift\\_share](#)

Toyota's hydrogen-powered Mirai offers a comfortable, zero-emissions drive but faces significant obstacles in Canada, with only six public refueling stations in British Columbia and Quebec. While the hydrogen industry has plans to expand, including a \$900-million investment to build 21 new stations and three production facilities across Western Canada, the infrastructure is complex and costly. The current limitations of hydrogen refueling underscore the need for further government and private sector support, especially as medium- and heavy-duty trucks emerge as potential game changers in reducing emissions in Canada.

## Energy Policy

### **Westinghouse is Canada's choice for proven and ready now nuclear energy -iPolitics**

<https://www.ipolitics.ca/sponsored/westinghouse-is-canadas-choice-for-proven-and-ready-now-nuclear-energy>

With energy demand in Ontario expected to more than double within 25 years, Westinghouse Electric Company is promoting its AP1000 reactor as a ready-now solution to help Canada achieve a net-zero electricity grid by 2035. As provinces explore nuclear expansion, Westinghouse emphasizes the AP1000's proven reliability, with six units currently operating worldwide and more units under construction. The company, owned by Cameco and Brookfield, emphasizes the economic impact of deploying AP1000 units in Canada, including job creation, GDP growth, and supply chain benefits. Westinghouse argues its technology offers faster, safer, and more cost-effective deployment compared to alternatives still in development.

### **Canada Proposes to Back Oil-Sands Giants' Carbon-Capture Project - EnergyNow**

<https://energynow.ca/2024/10/canada-proposes-to-back-oil-sands-giants-carbon-capture-project/>

The Canada Growth Fund (CGF) is proposing financial backing for a multibillion-dollar carbon-capture project led by Pathways Alliance, a consortium representing 95 per cent of Canada's oil sands production, according to The Globe and Mail. Although negotiations are still in early stages, the proposal aims to advance Pathways' \$16 billion plan to reduce emissions, despite criticism from environmental groups over the project's pace and reliance on public funds. CGF, a \$15 billion public investment vehicle, seeks to attract private capital for low-carbon projects. If finalized, the deal marks a significant push toward cleaner energy infrastructure in Canada's oil sands sector.

### **Why provinces are ramping up transmission-line infrastructure - The Globe and Mail**

<https://www.theglobeandmail.com/business/article-why-provinces-are-ramping-up-transmission-line-infrastructure/>

With Canada's electricity demand rising and the goal of achieving net-zero emissions by 2050, provincial utilities are accelerating transmission-line upgrades to support renewable energy and grid resilience. Investments include BC Hydro's \$3.5-billion project and Hydro One's major Ontario expansions, while Alberta and SaskPower are building new transmission lines. However, experts warn that progress is too slow, citing challenges with integrating intermittent renewable power and transforming the aging one-way grid into a bi-directional system. Collaboration across provinces and rapid innovation will be critical to meet growing energy demands, particularly as heating needs intensify during winter.

### **Calgary hosts Canada's largest clean energy conference - Globe News Wire**

<https://www.globenewswire.com/news-release/2024/10/23/2968287/0/en/NEWS-RELEASE-Calgary-hosts-Canada-s-largest-clean-energy-conference.html>

Electricity Transformation Canada 2024 (ETC), held in Calgary from October 21-23, attracted over 2,600 attendees, featured 125 speakers, and hosted 150 exhibitors. The event showcased advancements in wind, solar, and energy storage technologies. Hosted by the Canadian Renewable Energy Association (CanREA), the event emphasized the growing role of clean energy in Canada's future, with discussions focused on affordability, renewables growth, and the need for a diverse energy strategy to meet rising electricity demands. The CanREA President stressed that

Canada must commit to clean energy, with over 10,000 MW of renewable projects in development representing \$20 billion in investment. Next year's ETC will occur in Toronto from October 6-8.

### **Clean Energy, Tourmaline open new stations in Western Canada - Mobility Plaza**

<https://www.mobilityplaza.org/news/39254>

Clean Energy Fuels and Tourmaline Oil have opened two new compressed natural gas (CNG) fueling stations in Calgary and Grande Prairie, creating the first commercial-grade public CNG network in the region. The new stations, together with an existing one in Edmonton, are part of a \$70 million initiative to build 20 stations over the next five years. This network aims to support trucking companies transitioning from diesel to compressed natural gas (CNG). The network, already serving nine major customers and displacing two million litres of diesel, aims to eventually power 3,000 trucks daily. It will accommodate renewable natural gas (RNG) as it becomes available in Canada.

### **Test bench for aboveground compressed air energy storage systems - PV Magazine**

<https://www.pv-magazine.com/2024/10/28/test-bench-for-aboveground-compressed-air-energy-storage-systems/>

Researchers from École de Technologie Supérieure (ÉTS) and Hydro-Québec Research Institute (IREQ) have developed an experimental test bench and numerical model for aboveground compressed air energy storage (CAES), achieving a model accuracy with a mean absolute percentage error (MAPE) below 4 per cent. Using a quasi-steady-state approach, the model simulates how compressed air stores surplus energy and releases it during demand peaks. The study found that system efficiency improves by compressing air at lower temperatures and adding expansion stages, with potential RTE gains of up to 16 per cent. This research offers new insights into flexible CAES solutions for balancing renewable energy production.

### **South Bruce, Ont. votes in favour of allowing underground nuclear waste storage - Financial Post**

<https://financialpost.com/commodities/energy/south-bruce-underground-nuclear-waste-storage>

The Municipality of South Bruce, Ont., has voted 51 per cent in favour of becoming a potential site for Canada's deep geological repository for nuclear waste. This referendum marks South Bruce as the second Ontario community to express willingness, joining Ignace, which approved the project earlier this year. The Nuclear Waste Management Organization plans to select a final location in 2024 for the \$26-billion project, where millions of used nuclear fuel bundles will be stored in underground rooms connected by tunnels. Both the municipality and local First Nation must approve before the project can proceed.

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

Thank you.

The Brilliant Energy Institute news team

[brilliantenergyinstitute.ca](http://brilliantenergyinstitute.ca)

*(With a little help from ChatGPT)*