

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

This update is produced twice weekly by the Brilliant Energy Institute

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Top news

Brilliant Energy Institute News

BEI Executive Director presents at EPEX Conference about Ontario's hydrogen hub development – BEI LinkedIn

<https://www.linkedin.com/feed/update/urn:li:activity:7075112711302344704>

At the Ontario Petroleum Institute's recent hybrid EPEX 2023 conference, Brilliant Energy Institute (BEI) Executive Director Jacquie Hoornweg talked about the development of hydrogen hubs across Ontario, including in Durham Region. This includes extensive hydrogen research, testing and commercialization at Ontario Tech University. The research and development in the university's labs and in its ACE Core Research Facility are complemented by policy and deployment collaboration supported by BEI, working with many partners in industry, municipalities and government. Together, we can strengthen the role hydrogen plays to effectively and safely decarbonize Ontario and Canada's energy systems for vibrant communities in the net-zero economy.

See Jacquie's full presentation here: <https://bit.ly/442wQF2>

Energy Policy

Growth in global oil demand is set to slow significantly by 2028 - IEA

<https://www.iea.org/news/growth-in-global-oil-demand-is-set-to-slow-significantly-by-2028>

The International Energy Agency (IEA) released its *Oil 2023: Analysis and forecast to 2028* report. The report finds that global oil demand growth is expected to slow as the world embraces cleaner energy technologies. By 2028, demand is projected to rise six per cent to 105.7 million barrels per day (mb/d), supported by petrochemical and aviation sectors. However, annual growth will dwindle from 2.4 mb/d in 2022 to 0.4 mb/d in 2028, signaling a peak in demand. Oil consumption for transport fuels will decline after 2026 due to the adoption of electric vehicles, biofuels, and fuel efficiency improvements.

At IEA conference, 45 governments endorse goal of doubling global energy efficiency progress by 2030 – IEA

<https://www.iea.org/news/at-iea-conference-45-governments-endorse-goal-of-doubling-global-energy-efficiency-progress-by-2030>

Ministers from 45 governments have pledged to prioritize energy efficiency and support stronger policy action at the Global Conference on Energy Efficiency, organized by the International Energy Agency (IEA). The goal is to double the global rate of energy efficiency improvements by the end of the decade, promoting sustainable economic growth and achieving net zero emissions. The ministers emphasized the critical role of energy efficiency in improving living standards, energy security, and the clean energy transition. They called for increased ambition and policy implementation aligned with the Paris Agreement. The conference brought together over 600 participants from 90 countries and will be followed by the next conference in Nairobi, Kenya, in 2024.

Resource Development

DOE selects 12 programs to grow solar workforce in underserved communities - Renewable Energy World

<https://www.renewableenergyworld.com/solar/doe-selects-12-programs-to-grow-solar-workforce-in-underserved-communities/>

The U.S. Department of Energy (DOE) announced the selection of 12 projects in 13 states to expand the solar energy workforce in underserved communities. With a funding of USD\$13.5 million, including USD\$10 million from the Bipartisan Infrastructure Law, the program aims to address the underrepresentation of Hispanic, Black, and Indigenous workers in the solar industry. The selected initiatives involve partnerships between industry, tribal organizations, unions, community colleges, and local governments. Through pre-apprenticeship programs, training tracks, and workforce development pipelines, the DOE aims to cultivate an inclusive workforce while accelerating the deployment of solar energy technologies. The initiative aligns with the decarbonization goals of the Biden-Harris Administration.

Energy Systems

Manufacturing

Canada invests in first-of-its-kind filtration technology in Grande Prairie to help reduce carbon emissions- Natural Resources Canada

<https://www.canada.ca/en/natural-resources-canada/news/2023/06/government-of-canada-invests-in-first-of-its-kind-filtration-technology-in-grande-prairie-to-help-reduce-carbon-emissions.html>

The Canadian government is investing over CAD\$3.6 million in International Paper Company, in collaboration with Via Separations Inc., for the implementation of a filtration technology. The technology aims to reduce the energy intensity and carbon emissions associated with the kraft pulping process in the pulp and paper industry. The project is funded through the Investments in Forest Industry Transformation program and enables the International Paper Company to deploy Via's Black Liquor Concentration System at commercial scale. The project, located in Grande Prairie, Alberta, demonstrates the potential for pulp mills to adopt innovative low-carbon solutions and contribute to net-zero emissions while fostering clean tech innovation.

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Electric Vehicles

Ottawa's deal to attract VW will cost CAD\$16.3 billion, CAD\$3 billion more than publicly announced - Toronto Star

<https://www.thestar.com/politics/federal/2023/06/14/ottawas-deal-to-lure-vw-will-cost-163b-3b-more-than-publicly-announced-estimates-show.html>

The Parliamentary Budget Office (PBO) estimates the deal to attract Volkswagen's (VW) electric vehicle battery (EV) plant to Canada will cost the federal treasury CAD\$16.3 billion, CAD\$3 billion more than publicly announced. The analysis raises concerns as the Trudeau government is currently engaged in negotiations to prevent another EV battery plant from relocating to the United States. Automaker Stellantis, in collaboration with LG Energy Solution, is seeking similar production subsidies to those provided to VW. The government is still reviewing the PBO report while emphasizing that the VW investment was accounted for in the fiscal framework of the budget. The total cost estimate includes production support, contributions through the Strategic Innovation Fund, and tax adjustments. Talks between Ottawa and Stellantis are at a critical point, with a potential deal announcement expected soon.

Battery Storage

Joe Biden Administration allocates USD\$192 million to advance battery recycling technology – Clean Technica

<https://cleantechnica.com/2023/06/13/192-million-to-advance-battery-recycling-technology-from-joe-biden-administration/>

The U.S. Department of Energy (DOE) has allocated more than USD\$192 million to advance battery recycling technology, support battery research and development (R&D) and continue the Lithium-Ion Battery Recycling Prize. The funding supports President Biden's goal of increasing electric vehicle (EV) sales and strengthening the domestic supply chain. It includes USD\$125 million for consumer electronics battery recycling to enhance recycling economics and establish collection programs. The Advanced Battery R&D Consortium will receive up to USD\$60 million to address critical battery needs for EV manufacturing and expand the domestic supply chain. The DOE also announced USD\$7.4 million for the Battery Recycling Prize's Breakthrough Contest and Phase Four, incentivizing innovative solutions for battery recycling and material recovery.

Technologies

Nuclear

AECL and CNL build on longstanding relationship with the University of New Brunswick through collaborative research agreement – AECL

<https://www.aecl.ca/aecl-cnl-build-on-longstanding-relationship-with-the-university-of-new-brunswick-through-collaborative-research-agreement/>

Atomic Energy of Canada Limited (AECL) and Canadian Nuclear Laboratories (CNL) have signed a Memorandum of Understanding (MOU) with the University of New Brunswick (UNB) to collaborate on research opportunities. This MOU strengthens the existing relationship between AECL, CNL, and UNB, building on their previous collaboration through the Centre for Nuclear Energy Research. The agreement aims to foster closer ties, facilitate knowledge mobilization, promote innovation, and address national and industry challenges. The partnership will focus on areas such as cyber security, hydrogen, medical isotopes, and small modular reactors.

Nuclearelectrica and partners sign MoU for NuScale plants - World Nuclear News

<https://www.world-nuclear-news.org/Articles/Nuclearelectrica-and-partners-sign-MoU-for-NuScale>

Nuclearelectrica, in collaboration with E-INFRA, Nova Power & Gas, Fluor Enterprises, Samsung C&T Corporation, and NuScale Power, signed a memorandum of understanding (MOU) to implement NuScale small modular reactor (SMR) plants in Romania and Central and Eastern Europe. The MOU aims to support the development of NuScale VOYGR power plants, utilizing SMR technology, at the Doicești site in Romania and other potential locations in the region. By leveraging their combined expertise, the collaborative effort seeks to assist regional states in the safe and efficient implementation of SMRs, tailored to meet national energy needs. The Doicești plant, expected to be the first NuScale facility outside the U.S., is projected to commence operations in the future, with an estimated capacity of up to 462 MW.

Hydrogen

Chile unveils \$728 million fund to de-risk green hydrogen projects, backed by European and U.S. banks - Hydrogen Insight

<https://www.hydrogeninsight.com/policy/chile-unveils-728m-fund-to-de-risk-green-hydrogen-projects-backed-by-european-and-us-banks/2-1-1466607>

Chile is launching a USD\$728 million fund to reduce investment risks in its green hydrogen projects, backed by international banks. The fund is called the Corfo Green Hydrogen Finance Program (PFCH2V) and will provide loans covering up to 40 per cent of the electrolyzer project's capital expenditure from Q3 2024. With more than 40 green hydrogen projects in the pipeline, the lack of firm offtake agreements has hindered progress. The fund aims to attract private investment and support Chile's goal of becoming a top renewable hydrogen producer by 2030. The World Bank, European Investment Bank, German development bank KfW, and the U.S.-based International Development Bank are supporting this initiative.

Thank you.

The Brilliant Energy Institute news team

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(With a little help from ChatGPT)