

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

Wind power triumphs: UK's energy mix breezes past fossil fuels- Energy Live

<https://www.energylivenews.com/2023/09/14/wind-power-triumphs-uks-energy-mix-breezes-past-fossil-fuels/>

In a considerable milestone for the UK's energy landscape, wind power has now surpassed fossil fuels in installed capacity. According to an analysis by Imperial College London for Drax Electric Insights, wind capacity reached 27.9GW in June, exceeding the 27.7GW installed capacity of gas generation. This marks the first time in over a century that wind capacity has outstripped gas generation. Notably, gas power station output declined by 23 per cent in Q2 2023 compared to the previous year, while coal power station output plummeted by 75 per cent. Moreover, carbon dioxide emissions from electricity production dropped to under ten million tonnes in Q2 2023.

BEI News

The BEI team takes part in two clean energy events this Saturday, Sept. 16

<https://www.linkedin.com/feed/update/urn:li:activity:7107703139616661504>

https://www.linkedin.com/posts/hashirjaffry313_lcoy-canada-2023-activity-7108125810976313345-L9v7?utm_source=share&utm_medium=member_desktop

The Brilliant Energy team has a busy weekend ahead. This Saturday, Sept. 16, BEI work-integrated learning students will be on hand with other members of the Ontario Tech University team at the Ontario Power Generation Community Open House at the Darlington Energy Complex, 1855 Energy Dr., Clarington. The same day, Executive Director Jacquie Hoornweg will moderate the panel, Low-Carbon Energy, at Canada's Local Conference of Youth (LCOY) hybrid conference, organized on behalf of the Official Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC). Canadian hosting partners include the University Network of Excellence in Nuclear Engineering, the UBC Faculty of Forestry and the Human and Nature Youth Club.

Ontario Tech News

Ontario Tech continues to affirm international leadership on nuclear energy research and development

<https://news.ontariotechu.ca/archives/2023/09/ontario-tech-continues-to-affirm-international-leadership-on-nuclear-energy-research-and-development.php>

Ontario Tech University, a leader in SMR research, showcased its expertise at the *IAEA Workshop* in China. Ontario Tech is driving advancements in Small Modular Reactor (SMR) technology through its education, training, and research programs. The university is working to support Canada's efforts to decarbonize energy systems through the deployment of SMRs, such as the Darlington New Nuclear Project in Ontario. The Darlington project is set to have one operational unit by 2029 with plans for three more in the 2030s, pending regulatory approvals. This project aims to generate 1,200MW of electricity, meeting the needs of about 1.2 million homes and supporting electrification in Ontario. Ontario Tech's role as the IAEA Collaborating Centre for Canada underscores its commitment to clean energy research, including SMRs and hybrid nuclear-renewable systems.

Energy Policy

UK invests £45.7m to lower business energy costs - Energy Live

<https://www.energylivenews.com/2023/09/13/uk-invests-45-7m-to-lower-business-energy-costs/>

The United Kingdom has allocated £45.7 million to support innovative projects aimed at reducing emissions and promoting domestic energy use. Among the recipients is Tweed Valley Maltings, part of Simpsons Malt, a family business dating back to 1963. They will establish a low carbon energy centre powered by wind-generated electricity, with the goal of reducing expenses and emissions. This funding supports 26 businesses, including Danfoss in Edinburgh, working on enhancing energy efficiency in excavators, and Digital Realty, upgrading data halls for energy efficiency. Minister Amanda Solloway emphasizes this support as a step toward achieving the net-zero goal by 2050.

How eight committed cities are cutting carbon emissions - WISE

https://wise.uwaterloo.ca/news1/research-stories/how_eight_committed_cities_are_cutting_carbon_emissions

Waterloo Institute for Sustainable Energy's researcher Amelia Clarke and her team have conducted a study focused on local governments' pivotal role in battling climate change, especially in urban areas responsible for 75 per cent of global carbon emissions. Through in-depth analysis, they identified common strategies in eight municipalities committed to deep decarbonization, ranging from large cities like Vancouver and New York to smaller centres. These strategies encompass key sectors such as electricity production, buildings, transportation, waste management, and carbon sinks. While some prioritize direct greenhouse gas emissions, others aim higher by targeting indirect emissions and embodied greenhouse gases. Clarke's research provides an essential roadmap for future decarbonization efforts globally.

Ontario Power Generation looks to add megawatts to Ontario's energy supply through Northern Ontario hydro - Orillia Matters

<https://www.orilliamatters.com/spotlight/ontario-power-generation-looks-to-add-megawatts-to-ontarios-energy-supply-through-northern-ontario-hydro-7480500>

Ontario Power Generation (OPG) is addressing a projected energy shortfall by exploring hydroelectric solutions, including untapped potential in Northern Ontario, as part of the goal to double the province's generating capacity in 20 years. Hydroelectric power, known for its reliability and low emissions, aligns with decarbonization efforts. OPG also emphasizes collaboration with Indigenous communities and municipalities, highlighting the economic benefits.

Indigenous and Community Engagement

Wataynikaneyap Power energizes remote First Nation communities - Ontario News

<https://news.ontario.ca/en/release/1003511/wataynikaneyap-power-energizes-remote-first-nation-communities>

North Caribou Lake First Nation celebrates a significant milestone as it connects to Ontario's electricity grid through the *Wataynikaneyap Power Transmission* Project, ending its reliance on costly diesel generation. The project, supported by the Ontario Government with a loan of up to \$1.34 billion, aims to provide reliable and affordable electricity to 16 remote First Nations in northwestern Ontario, benefiting more than 18,000 people. Since its inception, the project has already connected several communities, including North Caribou Lake, Bearskin Lake, and Kingfisher Lake First Nation, with more communities set to join in the coming years. This initiative is intended to foster economic growth and local job opportunities and reduce greenhouse gas emissions and noise pollution.

Technologies

Nuclear

US launches nuclear technologies to expedite the energy transition with SMR support - NEI Magazine

<https://www.neimagazine.com/news/newsus-launched-nuclear-expediting-the-energy-transition-next-for-smr-support-11146882>

The government of United States unveiled a strategic plan to advance the role of nuclear technologies in propelling the clean energy transition during the *Three Seas Initiative Summit* in Bucharest. This initiative capitalizes on Romania's pioneering efforts in Europe, where they are at the forefront of constructing small modular reactors (SMRs) and transforming coal-powered plants into nuclear energy facilities. Alongside this, the US government introduced the Nuclear Expediting the Energy Transition One-Stop Shop, designed to provide European countries with comprehensive project preparation tools and services for streamlined SMR deployment decisions. As part of Project Phoenix, Czechia, Slovakia, and Poland have secured a collective US\$8 million in funding to conduct feasibility studies on transitioning coal facilities into SMRs. The launch event is scheduled for November in Bratislava.

Battery Storage

Japan plans to co-operate with Canada on storage battery supply chains - The Globe and Mail (Paywall)

<https://www.theglobeandmail.com/business/international-business/article-japan-plans-to-co-operate-with-canada-on-storage-battery-supply-chains/>

Japan is set to enhance its collaboration with Canada in the field of storage battery supply chains. Industry Minister Yasutoshi Nishimura is planning to visit Canada as early as Sept. 21 to sign a memorandum of cooperation with Canadian Natural Resources Minister Jonathan Wilkinson. The Japanese government and private sectors intend to establish a supply chain in Canada, focusing on critical mineral exploration and processing for electric vehicles (EVs) and storage battery production. Japan has allocated up to \$2.2 billion to support domestic storage battery production and designated batteries for energy storage as strategically important under an economic security law. The project's start date and funding details are forthcoming.

Solar

Prince Edward Island homeowners still waiting for battery system to store solar power- CBC

<https://www.cbc.ca/news/canada/prince-edward-island/pei-home-battery-storage-solar-power-still-waiting-1.6965544>

Homeowners in Prince Edward Island await regulatory changes to enable home battery storage for their solar panels with another storm approaching. After experiencing the destructive impact of the 2022 storm named 'Fiona,' homeowners are willing to be better prepared by having stored energy available for future emergencies. Environment Minister Steven Myers has expressed support, but the changes, anticipated alongside the upcoming storm, depend on national

electrical code updates expected in spring 2024. These changes would allow homeowners to use their solar-generated power before feeding excess energy to the grid, increasing energy resilience.

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)