Brilliant Energy Institute

Office of the Vice President Research and Innovation

Ontario Tech University

BEI Energy News

Produced twice weekly

Aug 17, 2023

See you in September!

Please note: BEI Energy News will take a short hiatus starting Aug. 22 to allow our Newsroom students a well-deserved break before the new semester begins. We will return with all the latest news, twice weekly beginning Sept. 5.

Brilliant Energy Institute News

BEI and Ontario Tech welcomes COG to campus – BEI LinkedIn

https://www.linkedin.com/feed/update/urn:li:activity:7097925232010694656

The Brilliant Energy Institute (BEI) joined Ontario Tech University President Steven Murphy, colleagues in the research office and in the engineering faculty to welcome CANDU Owners Group (COG) to campus, Aug. 14. We learned about COG programs and in exchange, shared information on the university's role in the nuclear industry's talent and research pipeline. The COG team toured the university's research facilities including the Nuclear Simulation Laboratory, the Subcritical Assembly Project, the Clean Energy Research Lab, and others. We look forward to finding more ways to collaborate to strengthen nuclear excellence.

Ontario Tech Energy News

Ontario Tech recognizes student researchers at Undergraduate Research Awards – BEI LinkedIn

https://www.linkedin.com/feed/update/urn:li:activity:7097975780290265088

Ontario Tech University celebrated student research on Aug. 16 at the university's annual Undergraduate Research Awards, now in its 17th year. The event is led by the Office of Research Services within the Office of the Vice-President Research and Innovation. Forty undergraduate student researchers were recognized. Among the projects were energy-related topics like nuclear decommissioning, hybrid energy systems and sustainable energy techniques. Faculty supervisors were also celebrated for their commitment to student research and experiential learning.

Energy Policy

Saskatchewan premier says federal net-zero electricity targets would double power rates – CBC News

https://www.cbc.ca/news/canada/saskatoon/experts-say-net-zero-electricity-targets-are-possible-in-sask-1.6937188

Scott Moe, the Premier of Saskatchewan, and other officials from the province expressed skepticism regarding the recently released draft Clean Electricity Regulations. Brett Dolter, a University of Regina economics professor, said Saskatchewan could transition to clean energy by utilizing new gas plants with Carbon Capture and Storage (CCS) technology and leveraging wind and solar power. He added, CCS infrastructure will become mandatory by January 2025, supported by a 50 per cent federal tax credit.

Technologies

Nuclear

US regulator approves SMR emergency preparedness rule – World Nuclear News

https://www.world-nuclear-news.org/Articles/US-regulator-OKs-SMR-emergency-preparedness-rule

The US Nuclear Regulatory Commission is issuing a final rule and a regulatory guide that applies risk-informed, performance-based emergency preparedness requirements to small modular reactors (SMRs) and other new technologies. The rule is expected to be published in the Federal Register later this year and will become effective 30 days after publication. The requirements include a scalable method to determine the size of the offsite emergency planning zone around a facility. The applicants and licensees for SMRs and other new technologies can use the new rule in developing a performance-based emergency preparedness programme as an alternative to the current requirements.

Commonwealth Fusion awarded US DOE grants – Nuclear Engineering International

https://www.neimagazine.com/news/newscommonwealth-fusion-awarded-us-doe-grants-11076965

Commonwealth Fusion Systems (CFS), an American nuclear fusion power company, was awarded three grants by the US Department of Energy (DOE) to support research and development projects with the University of California, Berkeley, Princeton Plasma Physics Lab, and University of California, Los Angeles. The funding was provided through DOE's Innovation Network for Fusion Energy, a program intended to promote fusion energy development through public-private research partnerships. The funded projects include research on electrochemical evaluation of hydrogen concentration and diffusivity, deuterium retention in boron dust and the ARC reactor's divertor design and plasma.

Wind Energy

BluEarth Renewables begins operations at Hand Hills Wind Facility in Alberta – Energy Now

https://energynow.ca/2023/08/bluearth-renewables-begins-operations-at-hand-hills-wind-facility-in-alberta/

BluEarth Renewables, a North American renewable energy power developer and operator, announced the start of commercial operations at its 145 MW Hand Hills Wind Facility near Drumheller, AB. The facility is worth more than $250 million and consists of 29 wind turbines, a substation, and related infrastructure. BluEarth signed a long-term power purchase agreement with Shell Energy North America, a multinational energy company, in April 2021 for the electricity and related emission offsets from 100 MW of the facility's capacity. The facility is estimated to power around 68,000 homes annually and created more than 175 jobs during construction.

Solar Energy

Siemens to begin manufacturing solar inverters in US – Renewable Energy World

https://www.renewableenergyworld.com/solar/utility-scale/siemens-to-begin-manufacturing-solar-inverters-in-u-s/

Siemens, a German multinational technology company, announced its plans to manufacture photovoltaic string inverters at its facility in Wisconsin, US. The facility is owned and operated by Sanmina, an American electronics manufacturing company. Siemens plans to produce utility-scale solar components in this facility to serve the US market. The facility is expected to begin operations in early 2024 and scale up to a capacity of 5,200 BPTL3 string inverters (800MW) per year. The string inverters ranging from 125 to 155 kW will be manufactured with a California Energy Commission efficiency of 99 per cent. The inverters are designed for 1000 or 1500-volt DC solar array input and can be used for either decentralized or virtual central design architectures.

Fossil Fuels

Occidental Petroleum buying BC-based Carbon Engineering for US$1.1 billion – The Globe and Mail (Paywall)

https://www.theglobeandmail.com/business/article-occidental-petroleum-carbon-engineering-acquisition/

Occidental Petroleum, an American company engaged in hydrocarbon exploration, is buying BC-based Carbon Engineering for US$1.1 billion to accelerate the development of facilities deploying carbon capture technologies. Carbon Engineering is operating a pilot plant using its direct-air-capture (DAC) technology in Squamish, BC. 1PointFive, a subsidiary of Occidental Petroleum, is building a DAC plant in West Texas, US and is using Carbon Engineering's technology in the facility. This facility is one of the two DAC hubs that received US$1.2 billion in

funding from the US Department of Energy recently. The project is estimated to remove 30 million tonnes of CO2 a year and is expected to cost US$30 billion.

Grid Management

New York announces US$11 million in funding for solving grid challenges – Renewable Energy World

https://www.renewableenergyworld.com/solar/utility-scale/new-york-announces-11m-in-funding-for-solving-grid-challenges/

The Government of New York announced US$11 million in funding for the fourth round of the Future Grid Challenge, a program offering funding to grid technology companies and research institutions that address challenges related to power grid planning and operations. Administered by the New York State Energy Research and Development Authority (NYSEDRA), the challenge welcomes proposals for advanced grid technologies, with up to US$3 million per project available. This funding builds on NYSERDA's Grid Modernization Program, which provides US$133 million until 2026, to advance a smarter and more resilient electric grid. The submission deadline is Oct. 26, 2023.

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)