

Brilliant Energy Institute

Office of the Vice President Research and Innovation
Ontario Tech University

BEI Energy News

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BEI News

BEI asks the experts: Jennifer McKellar - BEI LinkedIn

<https://www.linkedin.com/feed/update/urn:li:activity:7087067745623674880>

The Brilliant Energy Institute's (BEI) new feature asks energy experts what they are reading, watching or listening to. This week, we're highlighting Dr. Jennifer McKellar:

The Expert: Dr. Jennifer McKellar is an Associate Professor and the Graduate Program Director in the Department of Energy and Nuclear Engineering at Ontario Tech University. She is a licensed Professional Engineer in Ontario and is an Ontario Tech Research Excellence Chair. Dr. McKellar undertakes techno-economic and environmental assessments of energy systems, with the goal of supporting decision-making by government and industry.

Dr. McKellar's Recommendation: "Thinking, Fast and Slow" by Daniel Kahneman (book): <https://bit.ly/3JUjkvi>

Why This Piece? "Transforming our energy systems ultimately requires that we make decisions on which technologies to use, where and when. These decisions are complex, with technical, economic, environmental and social aspects. Understanding how we make decisions and how to avoid some of the common pitfalls will help us end up with better solutions to the energy challenges currently before us."

Energy Policy

Canada has gone big to match US clean-tech subsidies, report finds – but not big enough - The Globe and Mail (Paywall)

<https://www.theglobeandmail.com/business/article-canada-clean-tech-subsidies-report/>

Canada will continue to trail the US in incentives for low-carbon sectors, even after new policies announced in the federal budget, according to new research by think tanks Clean Prosperity and Transition Accelerator. Globe and Mail received the report in advance of its release. The report finds Canada should be at no significant financial disadvantage in attracting investment in wind, solar and other forms of non-emitting power, once a pair of clean-electricity tax credits are in place. Though there are other areas where the authors of the report call for deeper and more

urgent collaborations between government and the private sector, clearly set growth targets, and identifying policy tools to achieve them. The report proposes policy paths that include production tax credits, carbon contracts for differences, and tweaks to promised investment tax credits to allow both capital expenditures as well as financing costs to qualify.

Closer dialogue between producers and consumers needed to ensure security of gas supply - International Energy Agency

<https://www.iea.org/news/closer-dialogue-between-producers-and-consumers-needed-to-ensure-security-of-gas-supply>

The global energy crisis, triggered by Russia's invasion of Ukraine, led to a transformation in natural gas markets, necessitating increased cooperation for supply security and emissions reduction. Tensions in gas markets have eased since 2023, requiring a need for deeper coordination among market participants and there exists a high demand for integrating low-emissions gases to reduce greenhouse gas emissions, according to the International Energy Agency's (IEA) new report, *Global Gas Security Review 2023*. The 12th LNG Producer-Consumer Conference, co-organized by the IEA and Japan's Ministry of Economy, Trade and Industry, will provide a crucial forum for discussions among stakeholders, addressing challenges and opportunities in the global gas market.

Oil sands can't meet federal emissions targets without production cuts, analysis finds - The Globe and Mail (Paywall)

<https://www.theglobeandmail.com/business/article-oil-sands-cant-meet-federal-emissions-targets-without-production-cuts/>

Canada's oil sands face the prospect of reducing more than 1.3 million barrels per day of potential production to comply with the country's 2030 federal emissions-reduction targets. This reduction could result in the loss of around 5,400 to 9,500 jobs, according to an analysis by S&P Global. The federal climate plan requires the oil and gas sector reduce emissions to 42 per cent below 2019 levels by 2030, but Alberta's government and the industry have raised concerns about the feasibility of meeting these goals. While carbon capture technology and nuclear reactors offer potential solutions to bridge the emissions gap, critics remain skeptical regarding the industry's dedication to emission reduction.

Indigenous and Community Engagement

SON Water Walkers seek clarity from long journey around territory - The Kincardine News

<https://www.kincardineneews.com/news/local-news/son-water-walkers-seek-clarity-from-long-journey-around-territory-2>

Saugeen Ojibway Nation (SON) Water Walkers, led by women from Chippewas of Nawash and Saugeen First Nations, embark on a historic 600 kilometre journey around their traditional territory. Hundreds are participating while carrying a kettle of water and an eagle staff. The walk was originally meant to raise awareness about water pollution, but now also serves as an opportunity for the group to observe the land as they make decisions on possible projects in

their territory. The projects include the TC Energy-SON pumped storage facility in Meaford, the Nuclear Waste Management Organization's geological repository for high-level nuclear waste in South Bruce and the potential expansion of the Bruce Power nuclear plant.

Energy Systems

Building Infrastructure

Canada and British Columbia invest in green upgrades at West Vancouver Memorial Library - Infrastructure Canada

<https://www.canada.ca/en/office-infrastructure/news/2023/07/the-governments-of-canada-and-british-columbia-invest-in-green-upgrades-at-west-vancouver-memorial-library.html>

The West Vancouver Memorial Library is set to undergo a major upgrade following a joint investment of more than \$950,000. The project will replace the library's natural gas heating system with hydronic baseboard heating, reconfigure ventilation, and upgrade the electrical system, resulting in reduced greenhouse gas emissions and improved energy efficiency. The Government of Canada will contribute \$190,941 through the Green Infrastructure Stream of the Investing in Canada Infrastructure Program, with the Government of British Columbia investing \$509,145 and the District of West Vancouver contributing \$254,621.

Electric Vehicles

Hundreds of new charging stations installed across the US for DHL's growing electric fleet - Renewable Energy World

<https://www.renewableenergyworld.com/storage/infrastructure/hundreds-of-new-charging-stations-installed-across-u-s-for-dhls-growing-electric-fleet/>

DHL Express, an international logistics firm, expands its electric fleet towards a zero-emissions future through a partnership with PowerFlex, a provider of renewable energy infrastructure headquartered in the US. Together, they installed 415 charging stations at DHL service centres in major US markets. The chargers, equipped with PowerFlex X, an energy management software, and Adaptive Load Management, which optimizes power usage and double charging capacity compared to unmanaged charging. PowerFlex also provides full-suite services for the project, ensuring efficient operations and maintenance.

Technologies

Nuclear

Korean and Polish construction firms team up for nuclear projects - World Nuclear News

<https://www.world-nuclear-news.org/Articles/Korean,-Polish-construction-firms-team-up-for-nucl>

KGHM Polska Miedź SA, a Polish multinational mining corporation, and Samsung C&T, a South Korean construction and engineering company signed a memorandum of understanding to implement low and zero-emission technologies, including Small Modular Reactors (SMR). The collaboration aims to foster a dedicated working group for exchanging information and conducting analysis in selected project areas. KGHM's President Tomasz Zdzikot said around half of the energy consumed by KGHM will be from their own production, including renewables. Additionally, KGHM's partnership with NuScale Power is set to deploy Poland's first NuScale VOYGR SMR power plant by 2029. The Ministry of Climate and Environment granted a decision in principle for the construction of this modular nuclear power plant.

Hydrogen

Green electricity pioneer to launch world's first hydrogen-powered airline early next year - Hydrogen Insight

<https://www.hydrogeninsight.com/transport/green-electricity-pioneer-to-launch-world-s-first-hydrogen-powered-airline-early-next-year/2-1-1487300>

Dale Vince, founder of UK-based energy company Ecotricity, plans to launch the world's first hydrogen-powered airline "Ecojet" in 2024. Initially using kerosene while awaiting regulatory clearance for hydrogen engines, the 19-seater flights will connect Edinburgh and Southampton. ZeroAvia, a UK-based hydrogen-powered aircraft developer, will retrofit the planes with green hydrogen-powered fuel cell engines in 2025, ensuring emission-free flights. ZeroAvia's 600 kW powertrains promise cost-efficiency compared to kerosene engines, with commercial flights targeted by 2025. Vince aims to price match existing airlines on fares, making carbon-free flying accessible.

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)