

# Brilliant Energy Institute

Office of the Vice President Research and Innovation  
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## BEI Energy News

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### Electric Vehicles

#### **Here's why electrification is about much more than battery electric vehicles**

<https://www.weforum.org/agenda/2023/11/heres-why-electrification-is-much-more-than-battery-electric-vehicles/>

The push for sustainable mobility through electrification extends beyond battery electric vehicles (BEVs), with hybrid and plug-in hybrids playing a crucial role in reducing carbon dioxide (CO<sub>2</sub>) emissions. While BEVs are touted for zero tailpipe emissions, they contribute significantly to CO<sub>2</sub> during battery production. Hybrid and plug-in hybrids, with lower battery capacities, result in fewer upfront emissions. Garrett Motion's analysis emphasizes the need for a mix of electrified powertrains, including hybrids, for a cleaner future in Europe. Challenges like the high cost of batteries and equitable access to electrified transport options also underscore the complexity of achieving widespread BEV adoption.

### Nuclear

#### **French government and EDF reach agreement on nuclear electricity pricing**

<https://www.neimagazine.com/news/newsfrench-government-and-edf-reach-agreement-on-nuclear-electricity-pricing-11306213>

The French government and Electricité de France (EDF) have agreed on a new pricing mechanism for nuclear electricity, setting a reference price of €70 per megawatt-hour with a ceiling of €110/MWh. The deal, announced by Economy Minister Bruno Le Maire, marks a significant shift from the current ARENH system, which will end in 2025. The

new mechanism, which covers all electricity production, features progressive levies similar to income tax, aiming to decouple energy prices from gas prices. EDF, grappling with €65bn in debt, views the agreement as crucial for its financial stability and the funding of France's nuclear program, including the construction of six EPR reactors at a cost of €50bn. The plan, which aligns with European decisions, seeks to balance industry competitiveness, household stability, and EDF's profitability, with implementation expected post-2026

## **US plans production of iridium-192**

<https://www.neimagazine.com/news/newsus-plans-production-of-iridium-192-11306170>

The U.S. Department of Energy (DOE) Isotope Program, in partnership with QSA Global, is set to begin domestic production of iridium-192 (Ir-192), a vital isotope used in industrial gamma ray radiography. This move, marking the end of a 20-year reliance on imports, aims to strengthen the United States' independence from foreign sources and stabilize the supply chain. Iridium-192, with a half-life of 73.8 days, is crucial for non-destructive testing in manufacturing, particularly in industries like shipbuilding, automotive, and aerospace, as well as for integrity assessments in oil and gas pipelines. Production will occur at the Oak Ridge National Laboratory (ORNL), with the goal to start routine irradiations for domestic applications in 2024. This initiative is expected to bolster domestic manufacturing and reinforce U.S. energy independence.

## **Solar Energy**

### **Why oil majors Shell and BP are combining solar energy and agricultural production**

<https://www.cnn.com/2023/11/14/agrivoltaics231106brighamsf.html#:~:text=An%20emerging%20industry%20called%20agrivoltaics,have%20competing%20land%2Duse%20interests.>

Oil giants Shell and BP are teaming up to combine solar power with farming in a new approach called agrivoltaics. This involves using land for both solar panels and agricultural activities like sheep grazing. The idea is to find a compromise between farmers and solar developers who often have conflicting land-use interests. Currently, the U.S. has around five gigawatts of agrivoltaic projects, covering over 35,000 acres. This trend is expected to grow as it helps with community acceptance of solar projects and provides farmers with a steady income. Both Shell and BP, through subsidiaries, are significant players in this emerging industry, with plans for further expansion in the coming years.

## Hydrogen

### **EU to launch second hydrogen auction worth €3bn in spring 2024**

<https://www.hydrogeninsight.com/policy/eu-to-launch-second-hydrogen-auction-worth-3bn-in-spring-2024/2-1-1557616>

The European Commission plans to launch a second hydrogen auction in spring 2024, with a budget of €3 billion. This initiative, part of the European Hydrogen Bank, aims to reduce the cost gap between green and grey hydrogen. The auction will follow an initial €800-million pilot tender offering a fixed premium for hydrogen production. The Commission's goal is to directly link hydrogen producers and consumers, potentially adopting a model similar to Germany's H2 Global scheme. While the pilot is EU-exclusive, there's speculation about an international expansion. Operations for this ambitious project are set to start in 2024, marking a significant step in Europe's green energy transition.

### **Federal government loans EverWind Fuels \$125M for proposed green hydrogen plant**

<https://www.cbc.ca/news/canada/nova-scotia/federal-government-loans-everwind-125-million-for-green-hydrogen-plant-1.7032728>

The federal government is loaning \$125 million to EverWind Fuels for a green hydrogen production plant in Nova Scotia's Strait of Canso. This funding advances the project, making it one of the most significant in the Western Hemisphere. The plant, set in Richmond County's Point Tupper Industrial Park, aims to use wind and solar energy to produce hydrogen from water. With a total investment of over \$3 billion, including EverWind's own \$200 million, the project promises thousands of jobs and a transition away from fossil fuels. The final investment decision is expected early next year, with the project already underway.

## Fossil Fuels

### **Coal use needs to be slashed seven times faster to meet emissions target, analysis finds**

<https://www.cnbc.com/2023/11/17/coal-use-needs-to-be-cut-faster-to-meet-emissions-target-analysis.htm>

Efforts to limit global warming to 1.5 degrees Celsius, a goal set by the Paris Agreement, are falling short, warns the "State of Climate Action 2023" report ahead of the COP28 climate change summit in Dubai. Of 42 indicators, only electric car sales are

on track to meet 2030 targets. The report calls for urgent measures, including phasing out coal seven times faster than current rates, boosting wind and solar power, expanding rapid transit infrastructure, promoting healthier diets, and cutting deforestation rates four times faster by 2030. The report emphasizes the need for drastic, immediate action across sectors to achieve climate goals.

*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  
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*(With a little help from ChatGPT)*