

BEI Energy News

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Electric Vehicles

Adding Context To That Consumer Reports Electric Car Reliability Report

<https://cleantechnica.com/2023/12/03/adding-context-to-that-consumer-reports-electric-car-reliability-report/>

Steve Hanley addresses the findings of the Consumer Reports survey on electric vehicle reliability. The report reveals that EVs experience more problems than traditional cars, primarily due to the growing pains of new technology and manufacturing processes. Notably, Tesla's Model Y has shown improved reliability, earning a recommendation from Consumer Reports. The article highlights that hybrids are the most reliable, while plug-in hybrids face the most challenges. Despite these early issues, the long-term benefits and low maintenance costs of EVs are emphasized, suggesting a promising future for electric transportation.

Nuclear

KHNP touts i-SMR to international audience

<https://www.world-nuclear-news.org/Articles/KHNP-touts-i-SMR-to-international-audience>

Korea Hydro & Nuclear Power (KHNP) has unveiled its new Innovative SMR (i-SMR) technology at the 28th United Nations Climate Change Conference (COP28) in Dubai. The i-SMR, an integrated pressurized water reactor, aims to complete the standard design by the end of 2025 and obtain standard design approval in 2028. The technology, with an electrical output of 170 MWe, is designed for safety, economic feasibility, and flexibility. KHNP has signed memoranda of understanding with Indonesian and Jordanian partners for potential i-SMR deployment, exploring collaboration on economic feasibility, technology, and human/technology exchanges.

UN Atomic Chief Backs Nuclear Power At COP28 As World Reckons With Proliferation

https://www.huffpost.com/entry/cop28-un-nuclear-interview_n_65693075e4b07b937ff425e3

The head of the United Nations nuclear watchdog, Rafael Mariano Grossi, expressed global interest in nuclear energy as a solution to climate change and increasing electricity demands at the COP28 climate talks. Despite the challenges in monitoring nuclear programs, he emphasized the positive shift in perception towards nuclear power. Grossi discussed potential nuclear announcements at the summit, expecting a major agreement, while acknowledging monitoring difficulties, particularly in Iran. The International Atomic Energy Agency director also highlighted the importance of avoiding a domino effect of countries acquiring nuclear weapons and stressed the need for a comprehensive approach in the Middle East.

Further interest in Steady Energy SMR for district heating

<https://www.world-nuclear-news.org/Articles/Further-interest-in-Steady-Energy-SMR-for-district>

Finnish company Steady Energy, developer of the LDR-50 small modular reactor (SMR), has signed a letter of intent with Kuopion Energia, a municipal energy company, allowing for the potential construction of up to five district heating reactors starting in 2030. This agreement comes after a similar one in October with Helsinki's energy company Helen for up to 10 SMRs for district heating. These agreements signify growing interest in developing low-emission and affordable energy technologies for district heating, aiming to transition away from combustion-based heat production. Steady Energy plans to build the world's first district heating plant featuring its LDR-50 SMR by 2030.

Solar Energy

World's Largest Floating Solar Power Plant Taking Shape On Hydropower Plant

<https://cleantechnica.com/2023/12/03/worlds-largest-floating-solar-power-plant-hydropower-reservoir/>

The world's largest floating solar power plant is taking shape at the Cirata hydropower reservoir in West Java, Indonesia. Spearheaded by Masdar and the Indonesian utility PLN, the project aims to expand the current 145-megawatt solar array to 500 megawatts. This initiative not only generates clean energy but also conserves land and optimizes existing hydropower infrastructure. Overcoming challenges like fluctuating

water levels and complex terrain, the project utilizes innovative solutions for stability and efficiency. Additionally, it includes plans for green hydrogen production, highlighting a commitment to sustainable energy. Set to become a model for future projects, this floating solar power plant marks a significant advancement in renewable energy. Operations are anticipated to commence soon, signaling a new era in sustainable power generation.

Hydrogen

Hard-to-abate sectors need to invest nearly \$5 trillion into clean hydrogen to reach net zero: World Economic Forum

<https://www.hydrogeninsight.com/industrial/hard-to-abate-sectors-need-to-invest-nearly-5trn-into-clean-hydrogen-to-reach-net-zero-world-economic-forum/2-1-1563005>

The World Economic Forum and Accenture report estimates a necessary investment of \$13.5 trillion in renewables, clean hydrogen, and CCUS infrastructure for hard-to-abate industries to achieve net zero emissions by 2050. This includes \$4.88 trillion for green and blue hydrogen infrastructure. Significant spending is anticipated in the aviation and shipping sectors, with costs impacting consumer prices. Green hydrogen's high cost may require government support, with the oil and gas sector being a notable exception, able to fund its transition without substantial government grants. The report highlights challenges in decarbonizing industries like steel, cement, and aluminum, and points to a need for public funding and technological cost reductions. Operations in various sectors are expected to commence by 2050, with varying timelines for different industries.

Critical Minerals

Why we need global cooperation on critical mineral supplies

<https://www.weforum.org/agenda/2023/12/why-we-need-global-cooperation-on-critical-mineral-supplies/>

The growing focus on critical minerals essential for technologies supporting the green transition has prompted various nations to announce plans to diversify their clean energy supply chains. However, the drive to de-risk global supply chains, often involving the relocation of production away from China, may lead to increased challenges, such as added costs and social inequity. The author argues that these challenges underscore the need for cooperative frameworks and supply chain partnerships, especially among nations looking to lead in climate action.

Fossil Fuels

Oman's fossil fuel expertise could help drive clean energy transitions, new report shows.

<https://www.iea.org/news/oman-s-fossil-fuel-expertise-could-help-drive-clean-energy-transitions-new-report-shows>

Oman is poised to utilize its fossil fuel expertise in advancing clean energy transitions, a new International Energy Agency (IEA) report reveals. Launched at the IEA's Paris headquarters, the report highlights Oman's capacity to repurpose its oil and gas infrastructure for clean energy, including low-emissions fuels like hydrogen. With oil and gas being major economic drivers, Oman aims to diversify its economy and achieve net zero emissions by 2050. The report, based on surveys from 16 stakeholders, underscores Oman's role as a potential low-emissions hydrogen supplier by 2030. While specific details on the project's commencement and funding were not disclosed, the transition is integral to Oman's sustainable and secure energy future.

Southwest utility plans to close two coal plants, acquire 1.25 GW of renewables

<https://www.solarpowerworldonline.com/2023/12/southwest-utility-plans-to-close-two-coal-plants-acquire-renewables/>

Tri-State Generation and Transmission Association plans to close its Craig Station and Springerville Station Unit 3 coal plants by 2028 and 2031, respectively. The utility aims to acquire 1,250 megawatts of new renewable energy resources by 2031, aligning with a transformative electric resource plan. This plan, developed in collaboration with Western Resource Advocates and others, also seeks funding from the U.S. Department of Agriculture's \$9.7 billion Empowering Rural America program. Tri-State's shift to renewables is expected to result in significant carbon pollution reduction and economic benefits, with the utility anticipating \$1.8 billion in savings and an 89 per cent reduction in greenhouse gas emissions in Colorado by 2030.

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)