

Zeroing In: The Path to a Greener Future

NET ZERO BY 2045



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ZERO 

Global: Solar energy

Solar industry is off to a strong start in 2024

After achieving record installation growth in 2023, and with Q1 2024 being the second-best quarter ever for the industry, Wood Mackenzie expects the US solar industry to add a similar amount of capacity this year.

[The US solar industry is off to a strong start in the first quarter | Wood Mackenzie](#)

As of August 2024, China has surpassed its 2030 renewable energy target six years early, reaching 1,206 gigawatts (GW) of installed capacity, according to the state-run National Energy Administration.

[China Hits Xi Jinping's Renewable Power Target Six Years Early – BNN Bloomberg](#)

UK: Hydrogen trial powers up UK defence sites

Zero emission technology for electric vehicle charging at military bases

The trial introduced hydrogen-powered generators to charge electric vehicles (EVs) at five key MOD locations, including RAF Leeming and HMS Excellent Portsmouth.

The trial aimed to test the use of green hydrogen to support battery electric vehicle (BEV) charging using zero-emission generators.

[Hydrogen trial powers up UK defence sites – Energy Live News](#)

Scotland: Extend Plus Programme

Glasgow City Council introduced a new programme offered at no cost businesses

Glasgow City Council recognises that reaching Net Zero is a challenge for businesses. To help meet this, the Council has introduced a new programme to offer businesses a free GHG (Greenhouse Gas) Carbon baseline.

The Extend Plus team will support SMEs to complete a GHG (Greenhouse Gas) Carbon Baseline which will serve as a foundation for businesses to understand their current carbon footprint, and detail recommendations for reduction of carbon emissions, potential cost savings and CO2 savings (tonnes per annum).

[Extend Plus Programme – Glasgow City Council](#)

Will AI be helpful or harmful in the fight against climate change?

Recent breakthroughs in artificial intelligence (AI) and the proliferation of user-friendly software libraries have led to AI applications across various sectors, including healthcare, finance and marketing. These advancements have enabled the automation of complex processes. However, the substantial computing power and vast datasets required to train these models raise both ecological and social concerns.

Addressing some of these challenges, the European Commission adopted the AI Act on February 2, 2024. This regulation aims to establish “harmonized rules for artificial intelligence” and introduces a risk assessment framework specific to AI applications. It mandates a set of control and transparency measures to uphold ethical principles and protect fundamental rights.

The final training of GPT-3 is estimated to have emitted 500 tonnes of CO2. For GPT-4, based on leaked information about its training duration, estimates range from 6,000 to 12,000 tonnes of CO2.

[Will AI be helpful or harmful in the fight against climate change? | EcoAct \(eco-act.com\)](#)

Standards



SBTi Releases New Guidance for Building Sector

The Science Based Targets initiative (SBTi) has developed a new framework to guide the building sector towards a sustainable future, specifically 1.5°C-aligned emissions reduction targets.

One major hurdle is the performance gap, where a building's calculated energy use does not match its actual consumption. Another key challenge is the reduction of Scope 3 emissions. Companies often struggle with visibility and monitoring of suppliers' data, as well as engagement gaps between suppliers and procurement teams. The SBTi is addressing these issues by developing a Supplier Engagement Toolkit and reviewing Scope 3 target-setting methods. Focusing on halting fossil fuel installations, cutting operational and embodied emissions and retrofitting inefficient buildings can help the sector make substantial progress towards a sustainable future.

[Buildings - Science Based Targets Initiative Supplier-Engagement-Guidance.pdf \(sciencebasedtargets.org\)](#)

Innovations



Retrofitting electric railways for the future

The International Energy Agency (IEA) reports that rail is one of the most energy-efficient modes of transport, carrying eight per cent of the world's passengers and seven per cent of global freight, while using only two per cent of total transport energy demand.

US-based freight technology company Intramotev wants to help further develop the world's use of rail transport by retrofitting existing trains and networks. The company's battery-electric self-propelled rail car, TugVolt, works like a truck, able to travel and stop in smaller spaces such as mining sites, ports, and manufacturing plant railyards.

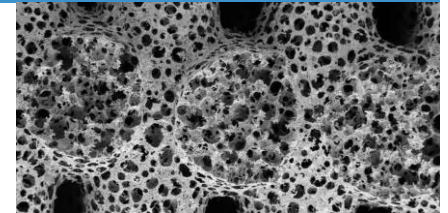
[Intramotev - Rail. Reborn. Ready to Roll.](#)



A solar energy system provides clean power while improving air quality

Conventional solar energy system designs create a microclimate that is not suitable for plants to grow underneath. However, because the Norwegian startup's system uses double-sided solar panels that are mounted vertically rather than horizontally, light and water can reach the rooftop, meaning plant life can thrive below the solar installations. At the same time, because solar panels are less efficient in warmer temperatures, the cooling effect of the greenery boosts power generation. The vertical pre-assembled photovoltaic units are lightweight and can be installed on flat roofs or retrofitted onto an existing green roof without perforating roofing membranes or the structure.

[Over Easy Solar - Vertical Solar Panels for Green Roofs and Flat Roofs](#)



Metal foam cuts data centre energy use

By 2030, an estimated six percent of global energy consumption will be used specifically for cooling data centres.

Atheros' patented manufacturing process creates foam structures with completely open porosity and unparalleled surface area, surpassing traditional solutions by a factor of thousand, which translates into exceptional heat transfer and flow properties. This is ideal for high performance cooling applications: Atheros' metal foams are easily integrated within its customers' existing cooling systems. This way, they address customers' urgent needs of reduced energy consumption and cooling costs.

[atheros - Atheros - English](#)