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	Energy Summit - Accelerating the New	

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Welcome to **Zeroing In** by Speed & Scale, where we cut through the noise to deliver a data-driven update on progress toward net zero.

ACCELERATING THE NEW: I'm recently back from the <u>Breakthrough Energy</u> Summit. Wow. With over 1,000 innovators, entrepreneurs, policy leaders, and investors in attendance, the excitement at the Summit was palpable and the drive toward solutions energizing (pun intended). Bill Gates said it best: "We'll be measured by scale." Attendees joined sessions and workshops on tackling hardto-abate sectors and expanding the market for clean technologies. The event was held near the city's docks, in a restored warehouse. But instead of age-old commodities lining the halls, <u>BEV portfolio companies</u> showcased their innovations, from the latest in fusion reactors to new ways to reduce methane emissions from cows. Each of these companies is pursuing a technology with the potential to cut more than 500 million tons of emissions per year, accelerating the new. These kinds of innovations give us hope. - Ryan Panchadsaram, co-author of Speed & Scale

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OKRs in the News

🚗 1.0 - Electrify Transportation

- **Electric Flight Takes Off:** Europe is set to <u>launch</u> its first electric passenger flights, marking a significant milestone in sustainable aviation. The one-passenger trial runs, set for July and August, will demonstrate the potential to reduce carbon emissions with electric aircraft (*Skift*).
- **Canada's Tariff Talk:** Canada is <u>considering</u> new tariffs on Chinese EVs to protect its domestic auto industry and address market imbalances amid rising trade tensions (*MarketWatch*).
- **China's EV Conundrum:** From 2009 to 2023, new data estimates subsidies for the Chinese electric vehicle sector <u>totaled</u> a staggering \$231 billion, significantly boosting the industry's growth. Subsidies tripled since 2018 and continue to rise sharply, underscoring the massive financial support fueling China's EV market expansion (*CSIS*).

Industrial Policy Spending for China's EV Sector (US\$, billions)

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	• Fisker's Financial Struggles: Facing significant challenges in scaling its		
		operations and securing sufficient funding to compete in the electric	
		vehicle market, EV startup Fisker <u>filed</u> for bankruptcy (<i>Wall Street</i>	
		Journal).	

• Ferrari Goes Electric: Ferrari <u>opened</u> a dedicated solar-powered manufacturing facility for its first fully electric sports car (*Electrek*).

? 2.0 - Decarbonize the Grid

• **Solar Splash:** The sun took the <u>front cover</u> in a recent edition of The Economist. Driven by technological advancements and falling costs, solar power may <u>become</u> the leading global energy source by the 2040s. The Economist highlighted <u>floating solar power</u> and its range of advantages: efficient land use, higher energy output, and reduced water evaporation (*The Economist*).

- **Nuclear Nudge:** The U.S. Senate <u>passed</u> a bill, which was signed by President Biden, and the Department of Energy <u>proposed</u> a \$900 million fund to support next-generation nuclear reactors. They're expected to be safer, more efficient, and are critical for enhancing energy security and cutting carbon emissions (*Reuters and E&E News*).
- **Fossil Fuel Dominance:** While renewables accounted for 14.6 percent of energy consumption worldwide in 2023, fossil fuels still dominated as the primary source of energy consumption with 81.5 percent, according to the Energy Institute's Statistical Review of World Energy. The Institute also reports record-high global energy consumption and emissions (*Energy Institute*).
- **Opening Up the Nuclear Gates:** Emphasizing the potential of advanced nuclear reactors to provide reliable, zero-emissions energy, Bill Gates <u>announced</u> plans to invest billions in next-generation nuclear power to combat climate change (*Bloomberg*).

😘 3.0 - Fix Food

- Japan Tackles Food Waste: To reduce food waste, activists in Japan are challenging convenience stores—which discard huge amounts of edible food due to conservative expiration dates—to improve inventory management and transparency about food waste practices. The activists' efforts could lower food costs for consumers but court resistance from the convenience store industry (*BBC*).
- White House Takes a Big Bite: Roughly 30 percent of the U.S. food supply is thrown away. In response, the Biden administration <u>unveiled</u> its first national plan to combat food waste, a significant source of climate pollution. The federal strategy encourages behavior changes for both consumers and businesses, research on extending shelf life, and increased food donations. But it still lags behind state and global regulations (*New York Times*).
- **Cow Manure Power:** Home to over 1.7 million cows, California aims to tackle climate change by promoting methane digesters that convert cow manure into clean fuel. While the technology could reduce greenhouse gas emissions, they can also pose health risks, such as respiratory issues caused by ammonia emissions, and incentivize unsustainable agricultural practices (*Associated Press*).

4.0 - Protect Nature

• **Restoring Ecosystems:** The EU took a significant step toward reaching its environmental goals by <u>approving</u> a landmark nature restoration plan after months of wrangling. While the EU had to overcome farmer protests and internal disagreements, they finally adopted this initiative to meet

targets for restoring wildlife and habitats, which must cover at least 20 percent of the region's land and sea by 2030 (*Associated Press*).

- **Saving Old Trees:** The Biden administration proposed a plan to <u>protect</u> old-growth forests threatened by climate change, advancing measures to restrict logging in these areas. The initiative rejects a blanket prohibition on logging, allowing some tree-cutting to lower wildfire risks (*PBS News*).
- An SOS From the Ocean: Protecting the ocean's health is crucial for our planet's well-being. This TED Radio Hour <u>episode</u> dives into the ways we can ensure a sustainable future for our oceans and, subsequently, our planet (*NPR*).

🝃 5.0 - Clean Up Industry

- **Eco-nomic Overhaul:** The passage of the Inflation Reduction Act has spurred investments exceeding \$170 billion in clean energy and advanced technologies, leading the U.S. to the cusp of an industrial <u>transformation</u>. In an op-ed published by Time, CEO of Energy Innovation Sonia Aggarwal notes marked efforts to decarbonize manufacturing, develop sustainable supply chains, and integrate AI and other digital tools to increase energy efficiency. Bottom line: The U.S. is moving toward a more sustainable economy (*Time*).
- **China Slashes Steel:** China is <u>imposing</u> crude steel production cuts in Fujian province. This is part of a broader national move to cut a total of 20 million tons per year and thereby reduce energy consumption and carbon emissions (*Fastmarkets*).
- **Circular Steel Economy:** Researchers at the University of Toronto have <u>developed</u> an electrochemical method to recycle steel by removing copper and other impurities from steel scrap, significantly reducing the industry's carbon emissions. With only 25 percent of steel currently produced from recycled material, the new process could expand the market for high-grade recycled steel (*EurekAlert*).
- **Concrete Efforts for Cleaner Cement:** With cement production contributing about 8 percent of global CO2 emissions, researchers at Harvard Business School have <u>developed</u> an economic framework to identify cost-effective emission reduction strategies. It's designed to help companies aiming to meet Paris Agreement climate targets amid rising global demand for cement (*Harvard Business School*).

🞻 6.0 - Remove Carbon

• **Cash for Carbon:** Salesforce joined Frontier with a \$25 million commitment, a corporate buyers' group committed to carbon removal, while emphasizing the challenges in scaling these carbon removal solutions (*GreenBiz*).

- **Results of Big Tech's Green Push:** Big tech's investment in climate removal technologies continues to pay off. Climate-tech companies are now <u>expanding</u> to commercial applications—such as Climeworks' geothermal-powered Mammoth facility in Iceland, which is expected to remove 36,000 tons of CO2 annually (*Newsweek*).
- **CO2 Crusher:** Carbon removal startup Equatic <u>plans</u> to build a \$100 million facility capable of removing 100,000 tons of CO2 annually (*Forbes*).

â 7.0 - Win Politics and Policy

- **France Votes For Climate:** The results of France's recent election have <u>provided</u> a sense of relief and optimism among scientists, signaling stronger commitments to environmental protection and sustainable practices (*Salon*).
- Labour Party's Green Surge: The UK's recent election <u>resulted</u> in a victory for the Labour Party, whose ambitious plans include energy efficiency home upgrades, a windfall tax on oil and gas companies to fund clean energy projects, and a goal to achieve a mostly decarbonized electricity grid by 2030 (*Bloomberg*).
- **Green Deal Fatigue:** The results of the recent European Parliament elections could significantly <u>impact</u> the EU's climate policies as the changing political landscape raises uncertainties about the EU's ability to meet its decarbonization targets and maintain its leadership in global climate initiatives (*Atlantic Council*).
- **Trump's Coal Silence:** As the 2024 election campaign picks up, the New York Times <u>reports</u> that Republican candidate Donald Trump now rarely mentions coal miners or makes promises to revive the coal industry—reflecting the economic and political realities of coal's decline during and since his first term (*New York Times*).
- **Green Geopolitics:** Climate action is <u>altering</u> global power dynamics, with sustainable practices becoming central to geopolitical power. Countries that invest in green technologies are gaining influence, while traditional energy-rich states are facing new challenges (*Foreign Affairs*).

\$ 8.0 - Turn Movements into Action

- Slow Corporate Progress: A CDP study <u>reveals</u> that despite a 44 percent increase in companies reporting a 1.5°C plan since 2022, only 2 percent of those companies provide comprehensive information to guarantee the effectiveness of their emissions-cutting strategies (*CDP*).
- **Regulatory Pressure:** The slow pace of credible climate transition planning has <u>led</u> to increasing regulatory pressure, notably the EU's new Corporate Sustainability Due Diligence Directive (*Bloomberg*).

• Energy Access Decline: According to a new <u>report</u> from the International Energy Agency, progress on basic energy access reversed for the first time in a decade. In 2022, 685 million people lacked electricity, 10 million more than in 2021. The biggest factor is population growth in sub-Saharan Africa, which outpaced the building of new electricity infrastructure in the region (*International Energy Agency*).

4 9.0 - Innovate!

- **Charging the Future:** Stanford researchers <u>developed</u> a new "liquid battery" that significantly improves energy storage capabilities, offering a more efficient and cost-effective solution for renewable energy systems (*Stanford News*).
- **Hydrogen Heroics:** Researchers discovered a <u>new method</u> that makes green hydrogen a more viable clean energy option. By using a catalyst that requires 90 percent less iridium, the method will significantly lower production costs (*New Atlas*).

OKR Highlight

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Speakers at the Breakthrough Energy Ventures Summit continued to highlight the power of innovation in scaling the climate crisis. When addressing the significant energy consumption of AI technology, Bill Gates <u>told</u> attendees that the resulting emissions would be counterbalanced by AI-driven innovations in sustainable energy and carbon reduction. The summit also <u>emphasized</u> the need for transformative technology to remove carbon emissions.

Gates has been a long-time advocate for technology's potential to address climate challenges, and as the founder of Breakthrough Energy Ventures, he has committed over \$3.5 billion to tech startups aimed at reducing greenhouse gas emissions and has invested more than \$1 billion to nuclear energy startup Terrapower.

Read more about how we're tracking innovation across five critical areas at <u>speedandscale.com</u>

🐻 10.0 - Invest!

- Sustainable Investing Gaining Momentum: The world's richest families are increasingly <u>directing</u> their investments into combating climate change, with nearly half of family offices having some focus on sustainability (*Financial Times*).
- **Renewables Investment Surge:** KKR's June 2024 infrastructure <u>review</u> highlights a surge in renewable energy investments, thanks to favorable valuations and strong investor interest. The development underscores the potential for sustainable infrastructure, particularly in solar, wind, and battery storage projects, that are driving future growth and resilience (*KKR*).
- **Battery Boom:** Global investment in battery technology is <u>surging</u>, driven by the rapid growth of the EV market. The goal is to improve battery performance, lower costs, and meet rising EV demand, essential for the shift to sustainable transportation (*EV Markets Reports*).
- **Mega Money:** Global energy investment is set to <u>exceed</u> \$3 trillion in 2024, with over \$2 trillion directed toward clean energy technologies such as renewable power, grids and storage, energy efficiency and end-use, nuclear and other clean power, and low-emissions fuels. This marks a significant shift toward sustainable energy, driven by policy support and the growing need for energy security (*International Energy Agency*).

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