



CIO sees underappreciated investment opportunity across the entire energy supply chain and beyond. (UBS)

Earth Day 2023: Celebrating good news

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The UBS Chief Investment Office (CIO) highlights three milestones that overlap with areas where they see promising growth opportunities: energy storage, grid infrastructure, and technological innovation in “hard-to-abate” industries.

1. Battery storage had a record year in 2022, with cumulative operating battery storage capacity increasing 80% in the US, according to the American Clean Power Association.

Battery storage gained traction in 2022, hitting record capacity additions, which should be welcome news for anyone who enjoys keeping the lights on. Batteries and other large capacity energy storage allow intermittent power supplies like wind and solar to provide more predictable and steady supply of energy to the grid. While renewable capacity additions continue to increase, wind and solar are coincidental technologies—meaning they rely on the sun shining and the wind blowing—and thus benefit from storage. Energy storage generally, and batteries specifically, can drive higher system utilization and lower costs for electric power over time.

The Inflation Reduction Act (IRA) created tax incentives for energy storage which is driving new investments across the energy landscape. Incentives are available for both grid storage and “behind-the-meter” applications. The incentives can be larger if batteries manufactured in the US are used. These incentives should help further accelerate technological improvements and cost reductions for energy storage as well as renewable energy broadly.

2. After 18 years, an electric grid transmission line large enough to power 1 million homes and deliver 3GW of power was approved to transmit power from Wyoming to California, Arizona and Nevada.

The approval of this transmission line, albeit 18 years later, is indicative of the increasing recognition that grid infrastructure and transmission is a critical part of the energy transition. The Transmission Facilitation Program (TFP) was launched

alongside the Bipartisan Infrastructure Law in order to develop new transmission lines, and the Department of Energy's "Building a Better Grid" Initiative will dedicate over USD 20bn of investment in the years ahead.

Electric grid transmission is crucial to handle increasing demand for electricity and more varied supplies. In addition, according to the DOE, more than 70% of the nation's grid transmission and power transformers are over 25 years old. The DOE notes this creates vulnerability, but we believe it also creates significant investment opportunity in companies that can benefit from grid infrastructure build-outs or those that provide transmission services.

Permitting legislation remains a possibility in the US in 2023, though the politics of a divided Congress will be an important variable. Laws that govern the siting of solar and wind projects, electricity transmission, gas pipelines and other energy infrastructure need reform to accelerate approvals, ensure appropriate environmental review and assure resource flexibility is considered. There appears to be bipartisan support for the broad strokes of permitting reform. However, odds appear long in 2023.

3. The first flight using 100% sustainable aviation fuel was successfully tested, and the largest carbon capture plant to date came online in September 2022.

Sustainable aviation fuel (SAF) and carbon capture and sequestration are two examples of nascent technologies, small in scale and costly, but that hold promise for abating carbon emissions in industries that are particularly hard to decarbonize, like aviation or steel production. Commercial flights are still required to use a mix of sustainable aviation fuel and conventional jet fuel, and supply of SAF is miniscule compared to jet fuel demand. Still, a fully-powered SAF flight has been tried and tested, offering proof of concept for the future, and major airlines are investing to further development. SAF reduces up to 80% of carbon emissions over the lifecycle of the fuel compared to traditional jet fuel. IRA incentives improve the cost economics of SAF production, and come alongside several other regulatory initiatives, such as the EU's ReFuelEU plan, and California's Low Carbon Fuel Standard.

Carbon capture also looks more attractive following new tax incentives. Direct Air Capture (DAC) will receive an expanded tax credit of USD 180/ton, and the US government is offering USD 3.5bn in grants to build more DAC facilities. Carbon capture needs more focus and development, but it offers promise to accelerate the reduction of carbon emissions in hard-to-abate sectors.

This Earth Day, let's embrace the progress we are making. There is a lot of work to do, but the global commitment to action, development and investment has never been larger. With the passage in the US of the largest infrastructure and environmental spending legislation in years, we see underappreciated investment opportunity across the entire energy supply chain and beyond. The theme of Earth Day 2023 is "invest in our planet", and this year we encourage investors to look beyond the dreary headlines and consider the good news: promising innovations are accelerating, low carbon projects are accelerating and investment opportunities abound.

For more information, please see [Longer term investments: Clean Air and Carbon Reduction](#), [Longer term investments: Energy efficiency](#), and [Longer term investments: Smart Mobility](#).

Read the original blog [Earth Day 2023: celebrating good news](#) 21 April 2023.

Watch: [UBS Trending: Green bonds - Invest in nature](#)

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