

For Immediate Release

March 1, 2023 12:01 am ET

New Study: Clean Energy Transition Now Hard-Wired Into the U.S. Economy

Eleventh annual edition of the Sustainable Energy in America Factbook highlights national data on the U.S. energy transition in 2022

Washington, D.C. – Despite a tumultuous year in 2022, the U.S. economy is now firmly on the clean energy transition path to drive down emissions and create economic opportunities. Investment in clean energy generation and technologies shattered records in 2022, even as supply chain disruptions, an international energy crisis, and rising interest rates elevated prices for key energy commodities, according to the *2023 Sustainable Energy in America Factbook* published today by BloombergNEF (BNEF) and the Business Council for Sustainable Energy (BCSE). Power generation from renewable sources hit a new record, consumers purchased nearly 1 million new electric vehicles, and Congress sent a clear signal about long-term commitment to decarbonization through the passage of the Inflation Reduction Act, the most consequential climate law in U.S. history.

“In a year dominated by tumult and upheaval in global energy markets, a broad portfolio of technologies helped ensure that the clean energy transition continued to advance,” said BCSE President Lisa Jacobson. “The question now is how fast we can move. Efficient implementation of recent climate and infrastructure legislation, as well as common sense federal permitting and siting reform, will be necessary to capitalize on the sustainable energy growth of 2022.”

Comprising more than 50 slides with data visualizations, the Factbook is a succinct resource that highlights the status of sustainable energy in the United States based on statistics and data inputs from the year before. In addition to highlighting the contributions of key energy sectors to 2022’s performance, the Factbook details important market and investment dynamics, technology trends, and policy developments.

The trend of U.S. decarbonization is hard-wired

The Factbook reveals that 2022 represented a record-breaking year for energy transition investment, with global financing for technologies to decarbonize the world’s economy exceeding \$1 trillion. In the United States, energy transition investment rose 11% year-on-year to \$141 billion.

Renewables’ contributions to the power grid also broke records in 2022. Driven by surges in output from wind and solar, as well as growth in hydropower production, renewable generation rose at the fastest pace among major sectors with a 13% year-on-year rise to its highest level ever. Despite high natural gas prices, coal-fired output fell sharply, with renewables generation ultimately outpacing coal. Renewables and natural gas have grown from a combined 43% of total U.S. power generation to 62% in just a decade. Zero-carbon power (renewables and nuclear power) comprised 41% of generation.

The clean energy economy was also driven by investment in innovative decarbonization technologies. Sales of electric and fuel cell vehicles hit nearly 982,000 in 2022, up 50% from 2021. The United States set a new record for energy storage build with 4.8 gigawatts (GW) added, an increase from 3.7 GW in 2021. Post-Inflation Reduction Act commitments to the North American battery supply chain reached almost \$17 billion by the end of 2022.

This growth in clean energy generation and investment came even as the industry grappled with higher prices, rising interest rates, and supply chain issues. Prices for key commodities that underpin the clean power sector were stubbornly high through much of 2022 but eased somewhat by year end. For the second year in a row, U.S. natural gas prices increased due to rising demand for natural gas at home and abroad, in part due to the conflict in Ukraine. The growth of the clean energy sector amid these difficulties suggests that the clean energy transition has become cemented within the U.S. economy.

Urgent acceleration is needed

Nevertheless, the new data confirm that the clean energy transition must accelerate more rapidly for the United States to avoid the worst climate impacts. 2022 was the third most costly climate disaster year on record, as the country experienced 18 climate-related disasters causing at least \$1 billion in damage apiece over the 12 months.

U.S. emissions inched up 1% in 2022, following a bigger jump in 2021 when the U.S. economy first began rebounding from the COVID-19 pandemic. Economy-wide emissions have trended downward since 2005, and total 2022 emissions were still 3% below pre-pandemic levels. This suggests that some of the emissions reductions made in 2020 have persisted, especially in the power and transportation sectors. However, the United States is still not on track to meet its Nationally Determined Contribution (NDC) toward reducing emissions under the Paris Agreement, which would have required emissions to fall at least 3% in 2022. In 2022, U.S. emissions were 13.8% below 2005 levels, while the NDCs require that number to be 26-28% by 2025 and 50-52% by 2030.

“Rising total emissions are obviously not good, but there were silver linings in the data,” said Ethan Zindler, Head of Americas for BloombergNEF. “The long-term trend suggests that power sector emissions will keep sliding as more renewables come online. Transport-related emissions finished 2022 below pre-pandemic levels and appear to have turned a corner. In 2023, we will see the annualized effect of the approximately 1 million new electric vehicles that hit the road in 2022.”

The next step: Efficient implementation and further policy action

The most significant clean energy policy development in 2022 was the passage of the Inflation Reduction Act, which will provide at least \$369 billion in support of energy transition technologies. Capitalizing on the law’s clean energy investments to the fullest extent will require careful consideration of the implementation process, as well as reforms to federal permitting and siting regulations. Securing all necessary federal permits can be slow and laborious for energy infrastructure projects. One recent study found that the large majority of infrastructure projects take between two and six years to secure all signoffs. A separate study found that renewable power projects take an average of two to three years to complete National Environmental Policy Act reviews, with some taking four to six years to reach completion.

Historic public and private sector investment and the enactment of supportive new policies drove growth in the energy transition, despite the challenges and uncertainties of tangled supply chains and international conflict. As a result, clean energy played a leading role in the U.S. economy in 2022 and set the stage for even more growth in 2023.

“There’s no turning back,” declared BCSE President Lisa Jacobson. “Despite the many challenges of the past year, the U.S. economy is primed for clean, sustainable growth that will reduce emissions and increase employment opportunities while ensuring that we have the sustainable energy we need to continue growing the economy. The lesson of 2022 is that we have to continue to make the policy and regulatory choices necessary to keep the momentum going.”

Download the complete 2023 Sustainable Energy in America Factbook at www.bcse.org/factbook.

Media Contacts

Lizzie Stricklin
Business Council for Sustainable Energy
202.785.0507 x 1504
lstricklin@bcse.org

Oktavia Catsaros
BloombergNEF
702.666.1047
ocatsaros@bloomberg.net

###

About the *Factbook* Partners

[BloombergNEF](http://www.bloombergnef.com) (BNEF) is a strategic research provider covering global commodity markets and the disruptive technologies driving the transition to a low-carbon economy. Our expert coverage assesses pathways for the power, transport, industry, buildings, and agriculture sectors to adapt to the energy transition. We help commodity trading, corporate strategy, finance, and policy professionals navigate change and generate opportunities.

[Business Council for Sustainable Energy](http://www.bcse.org) (BCSE) is a coalition of companies and trade associations from the energy efficiency, natural gas, and renewable energy sectors. The Council membership also includes independent electric power producers, investor-owned utilities, public power, commercial end-users, and project developers and service providers for energy and environmental markets. Since 1992, the Council has been a leading industry voice advocating for policies at the state, national, and international levels that increase the use of commercially available clean energy technologies, products, and services.