

Records keep rising

Sustainable Energy in America Factbook

Tara Narayanan

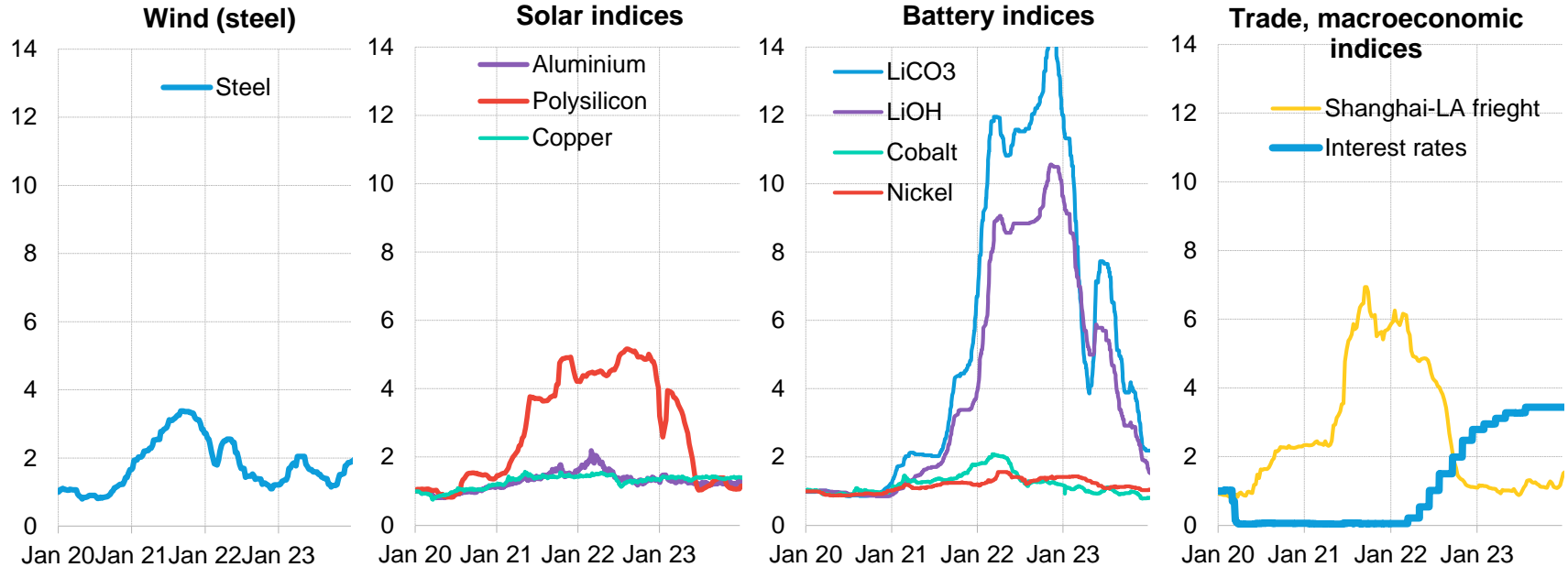
March 21, 2024

Disruptions in the rearview mirror

Prices ease

Cost inputs for wind, solar, batteries and other equipment

Price movements since January 2020 (rebased to 1)

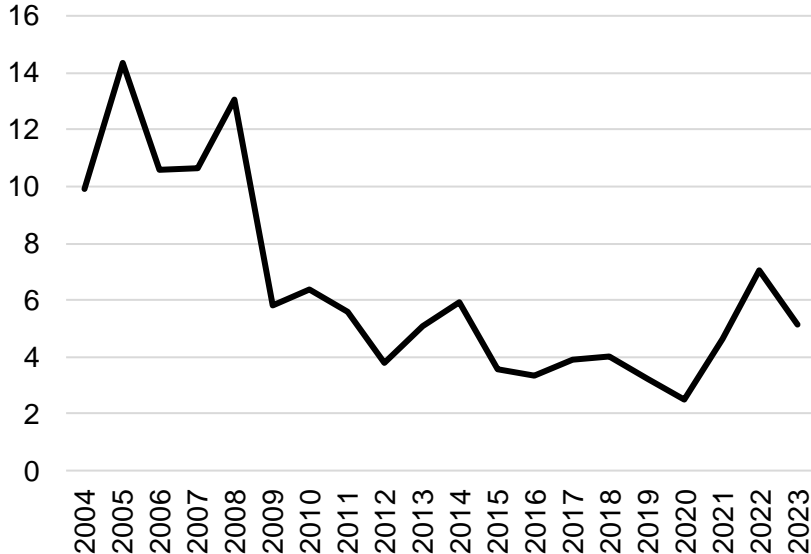


Source: BloombergNEF, Bloomberg Terminal. Note: Data rebased to 1 on earliest available date in January 2020. Steel reflects North America costs, aluminum and copper are China prices. LiCO3 is lithium carbonate, LiOH is lithium hydroxide.

Wholesale prices for commodities are easing

Natural gas wholesale prices at Henry Hub, LA

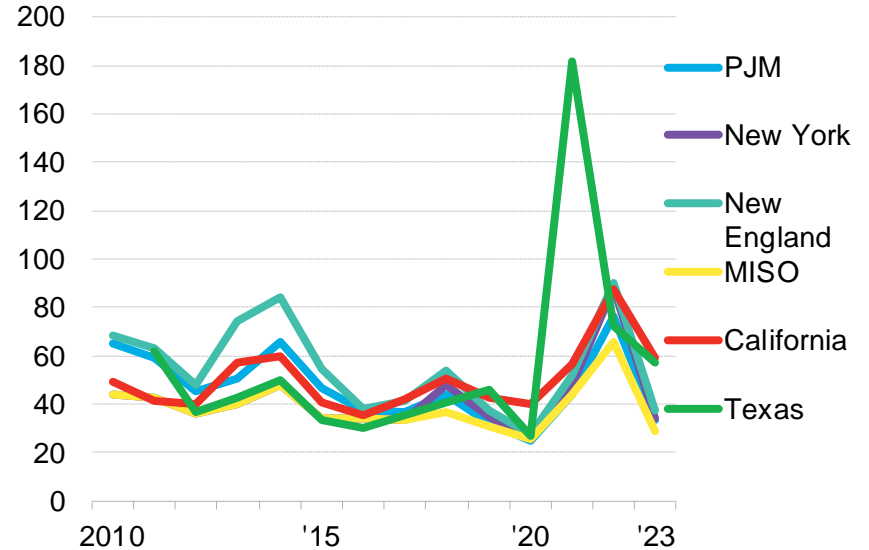
\$ (real 2023)/MMBtu



Source: BloombergNEF, EIA Short Term Energy Outlook. LA is Louisiana

Wholesale power prices

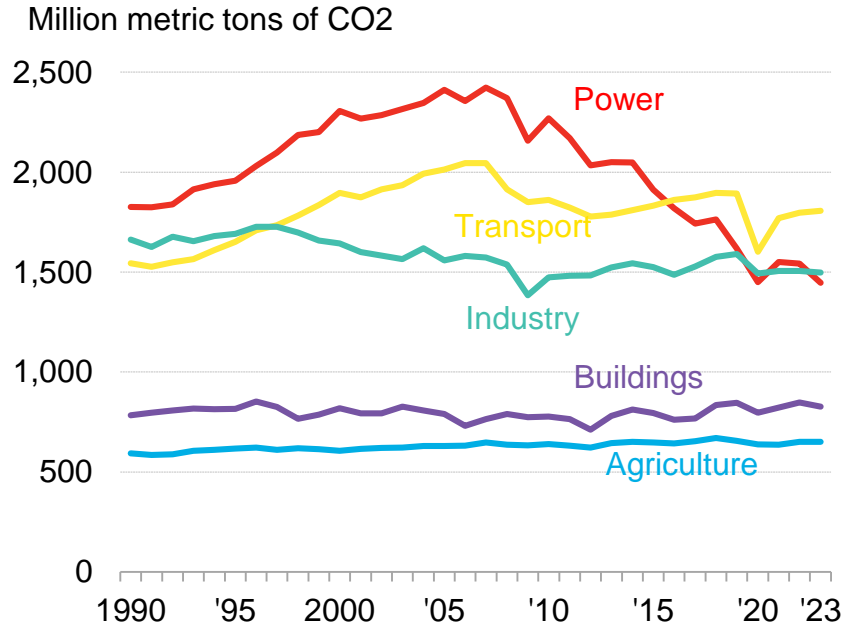
\$ per megawatt-hour (real-2023)



Source: BloombergNEF, EIA, Bloomberg Terminal. Note: Wholesale prices are taken from proxy power hubs in each independent system operator (ISO).

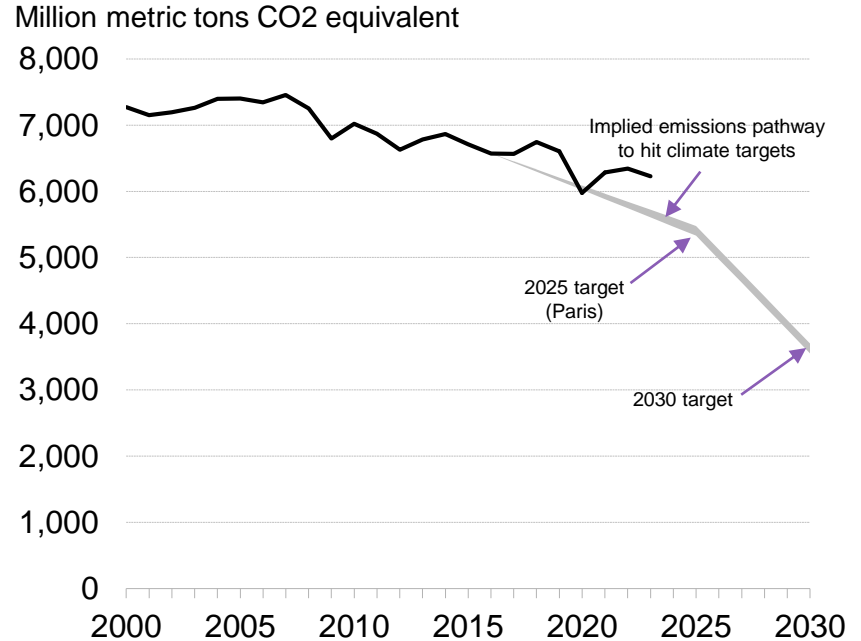
Greenhouse gas (GHG) emissions

US emissions by sector



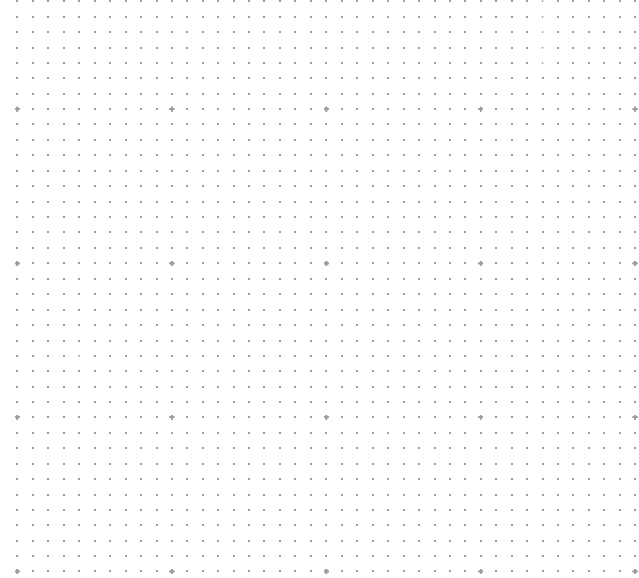
Source: BloombergNEF, EIA, EPA

US economy-wide emissions



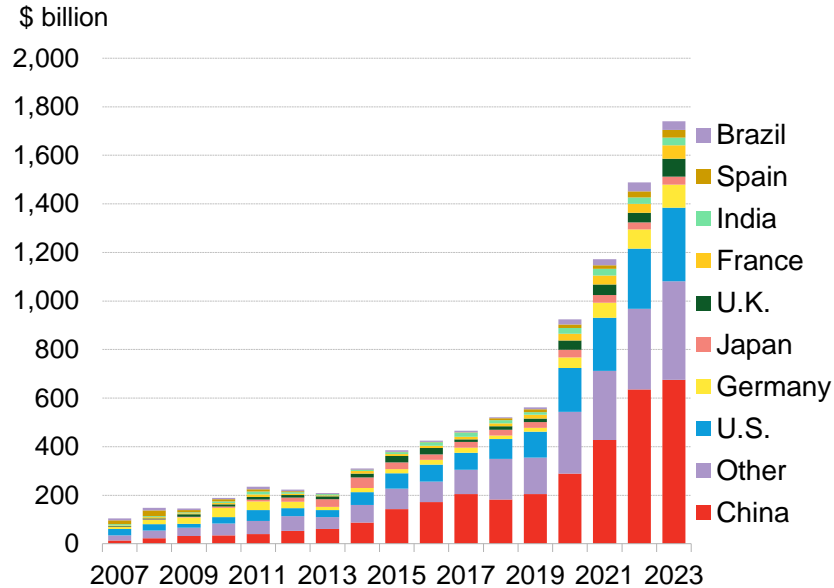
A post-IRA market

Excitement and activity

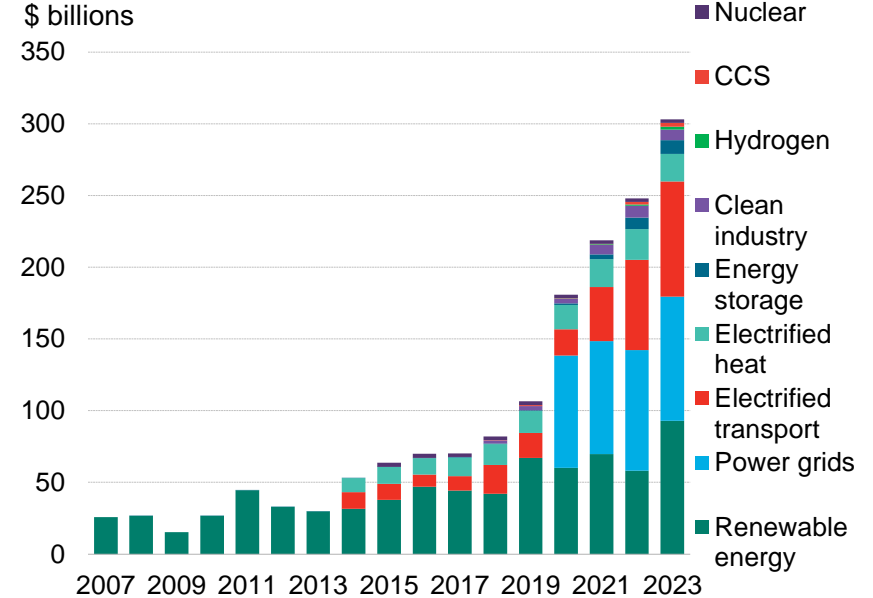


Energy transition investment

Energy transition investment, by market

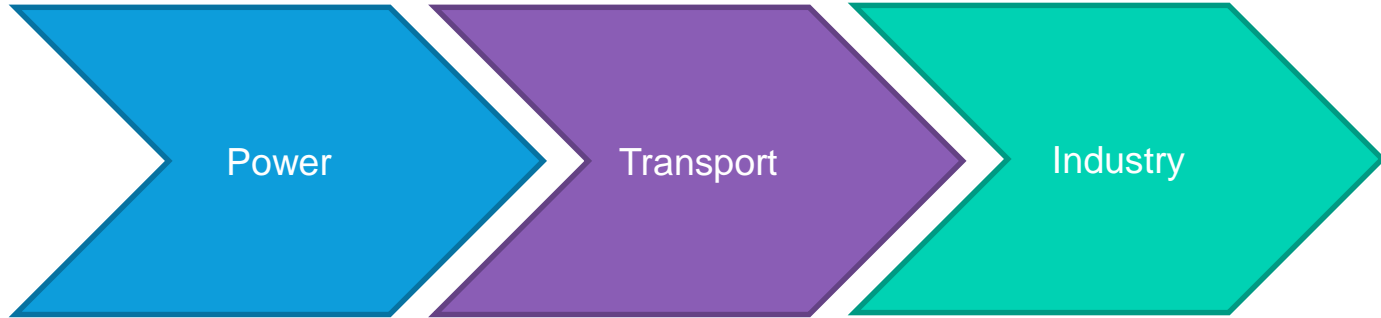
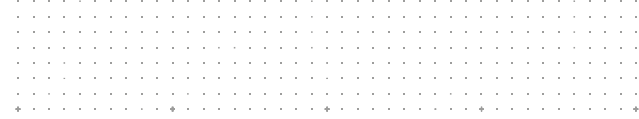


US energy transition investment, by sector

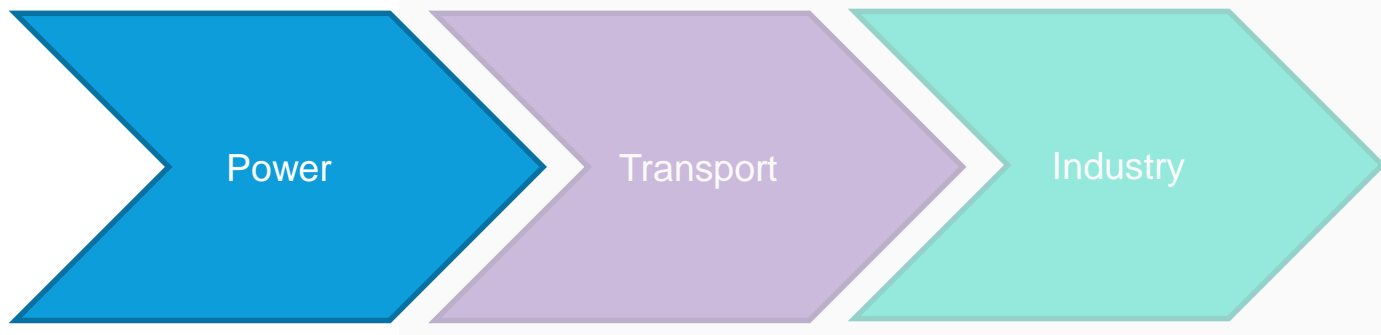
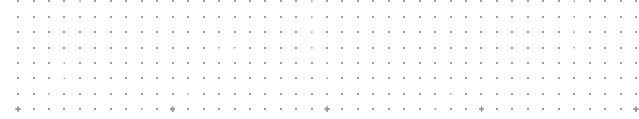


Source: BloombergNEF, Energy Transition Investment Trends database, World Bank. Note: Start years differ by sector, but all sectors are present from 2020 onwards. Most notably, nuclear figures start in 2015 and power grids in 2020. CCS refers to carbon capture and storage.

A sector level view



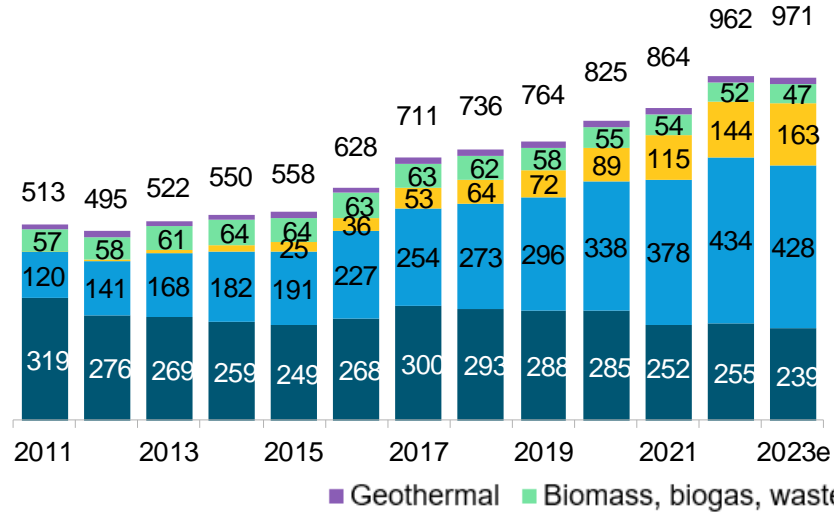
A sector level view



Cumulative renewable energy

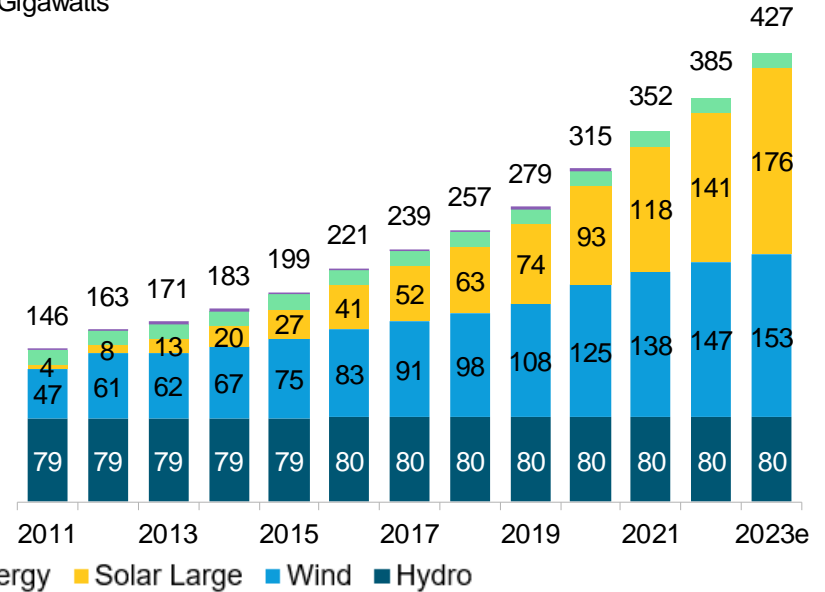
US renewable generation, by technology

TWh



US cumulative renewable power capacity

Gigawatts

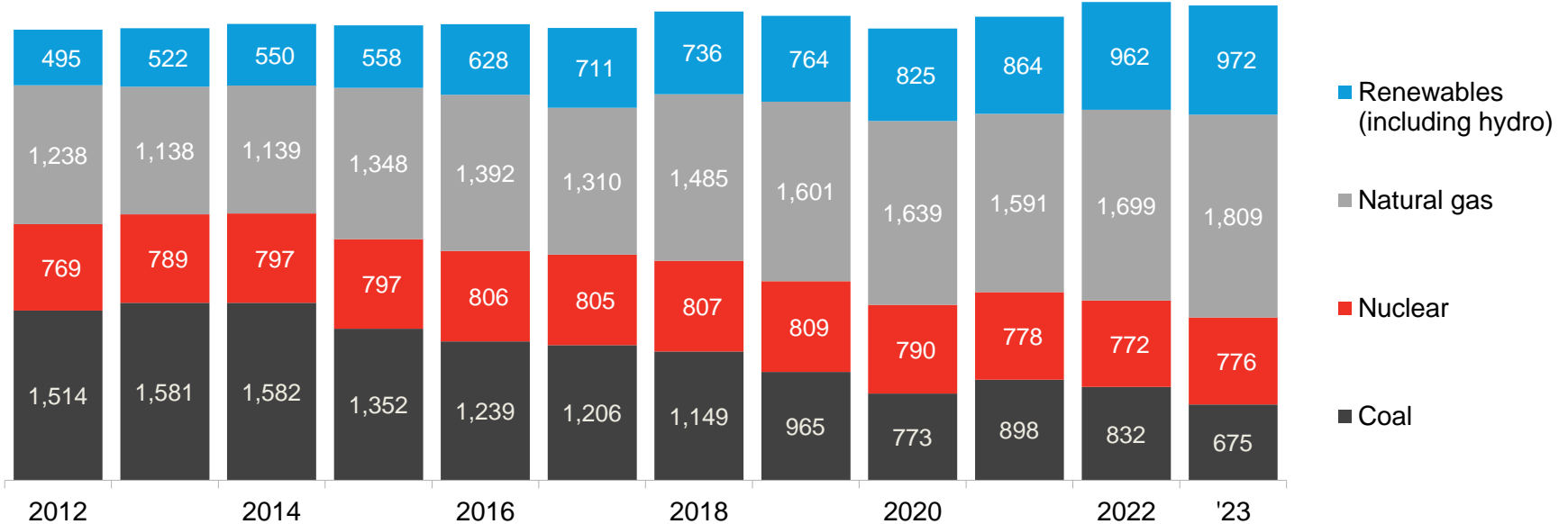


Source: BloombergNEF, EIA. Note: All values are shown in alternating current (AC) except solar, which is in direct current (DC) capacity using a 1.34 conversion factor. Totals may not sum due to rounding. Values for 2023 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2023).

The composition of the generation mix is changing

US electricity generation, by fuel type

Terawatt-hours

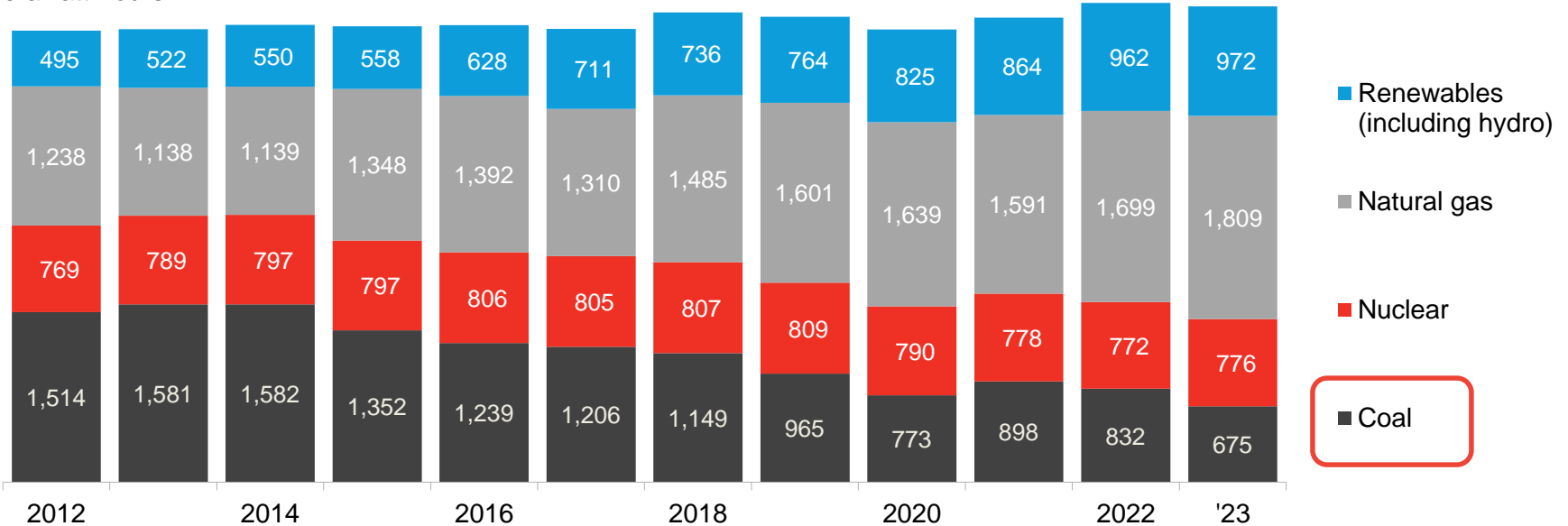


Source: EIA, BloombergNEF. Note: Values for 2023 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2023).

The composition of the generation mix is changing

US electricity generation, by fuel type

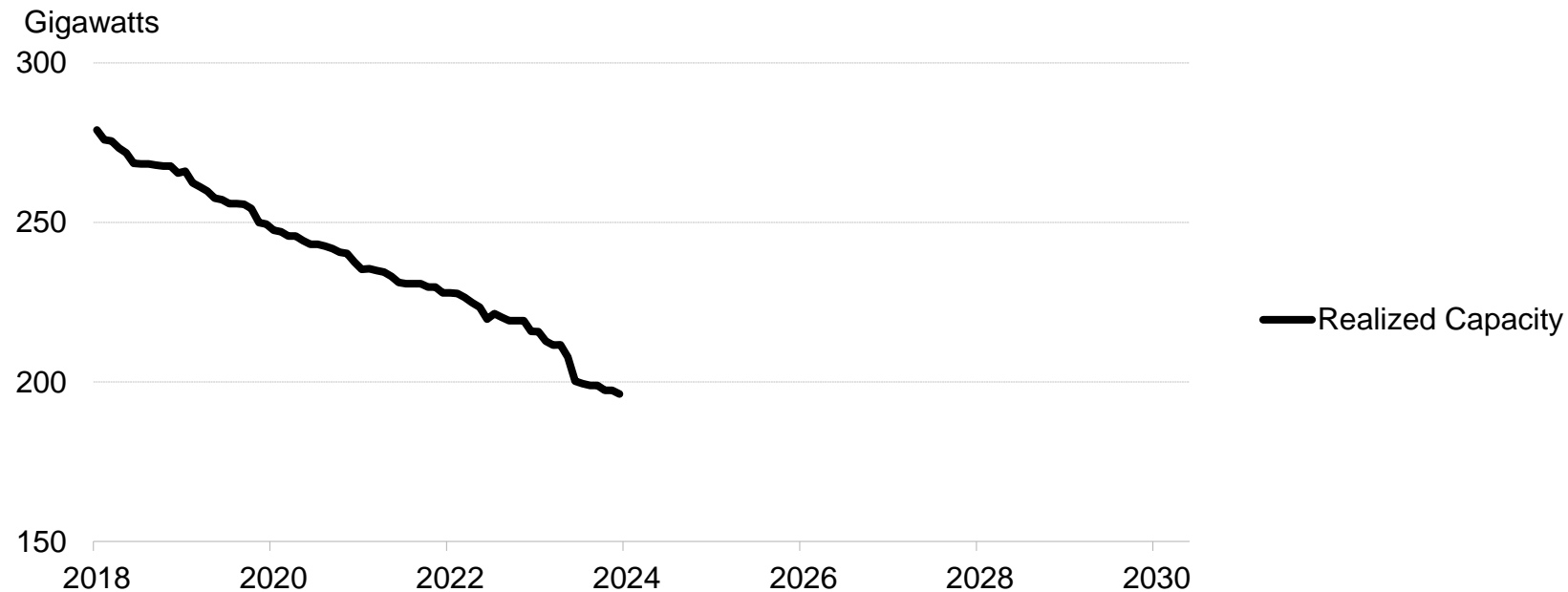
Terawatt-hours



Source: EIA, BloombergNEF. Note: Values for 2023 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2023).

Trends in coal retirement expectations

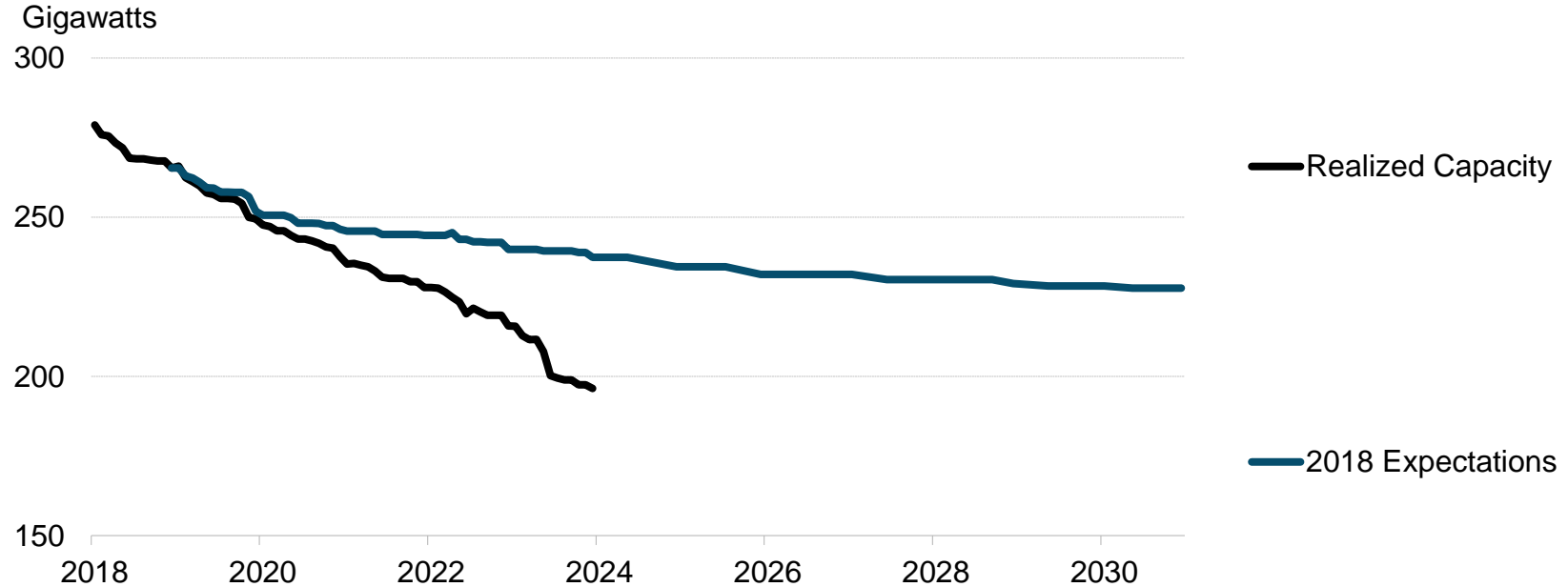
Actual coal capacity



Source: EIA, BloombergNEF

Trends in coal retirement expectations

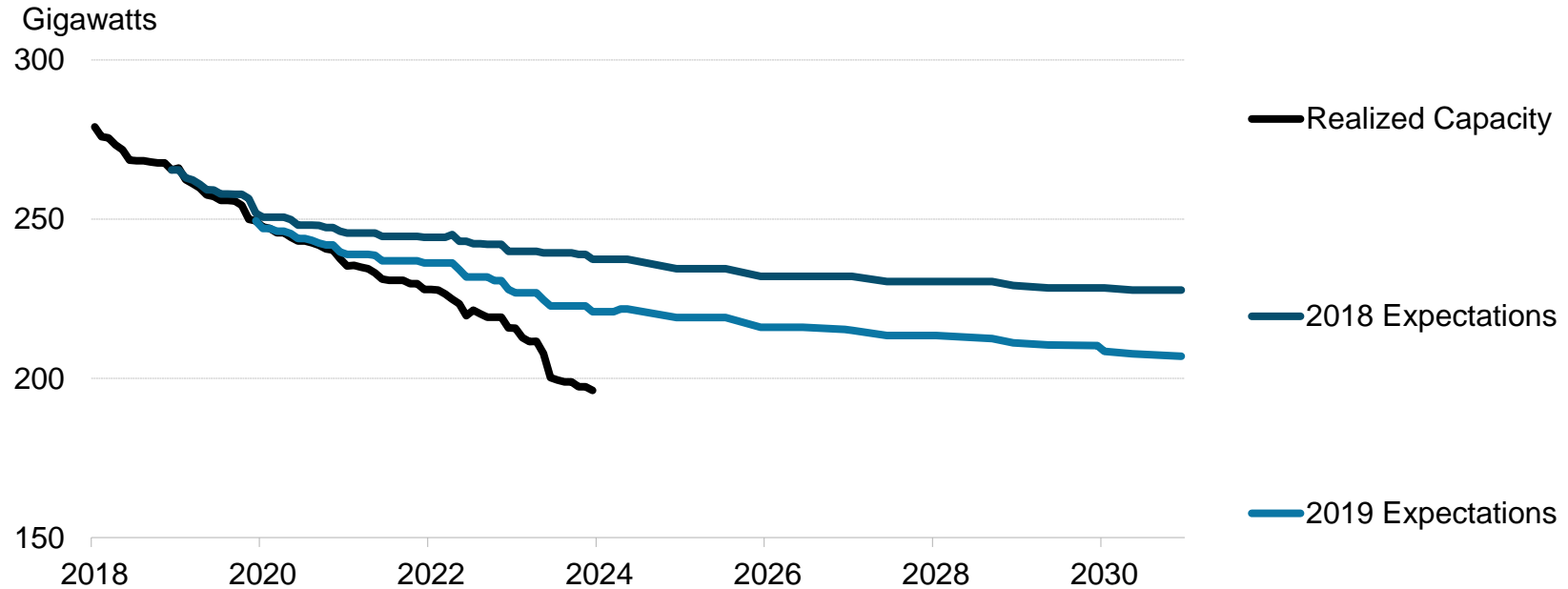
Actual and planned coal capacity



Source: EIA, BloombergNEF

Trends in coal retirement expectations

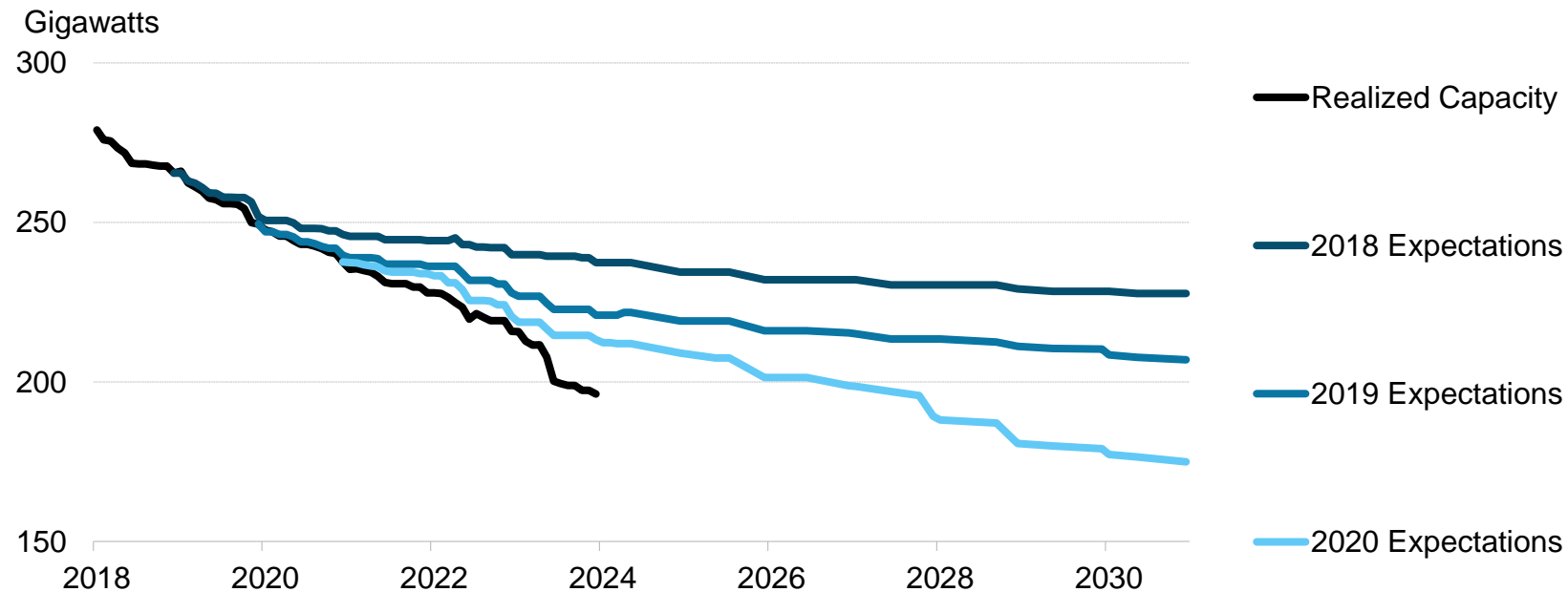
Actual and planned coal capacity



Source: EIA, BloombergNEF

Trends in coal retirement expectations

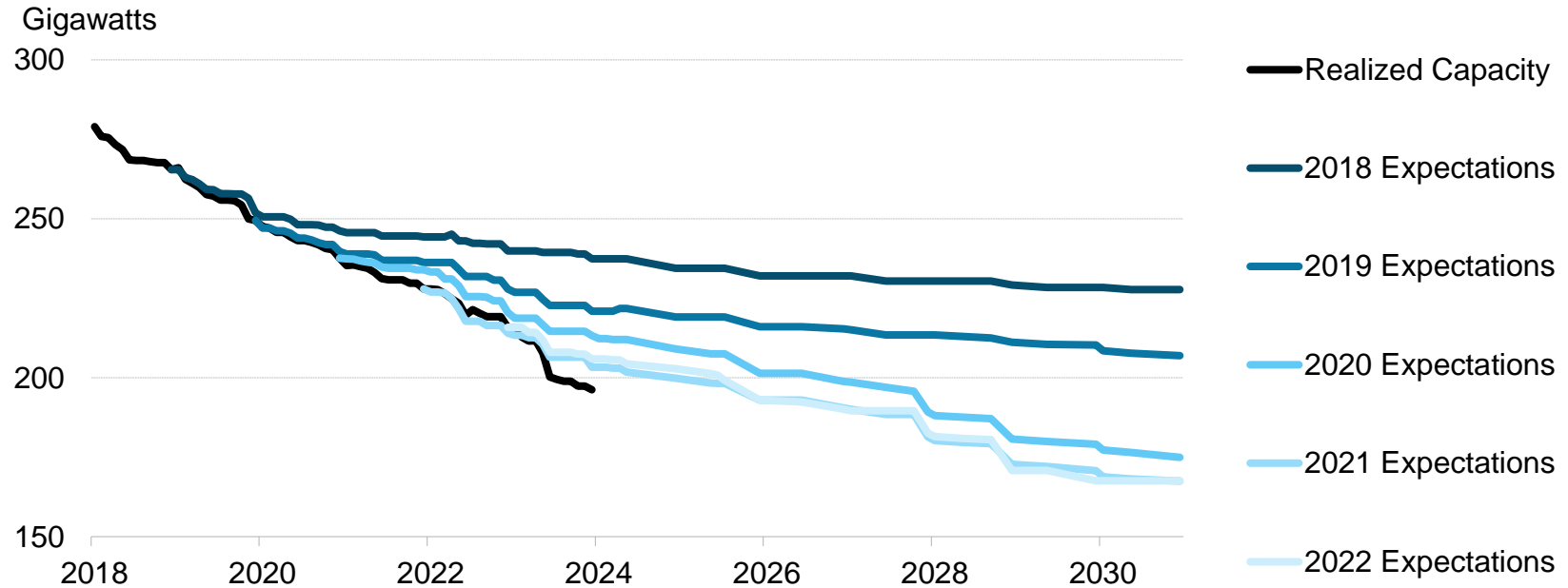
Actual and planned coal capacity



Source: EIA, BloombergNEF

Trends in coal retirement expectations

Realized and planned coal capacity

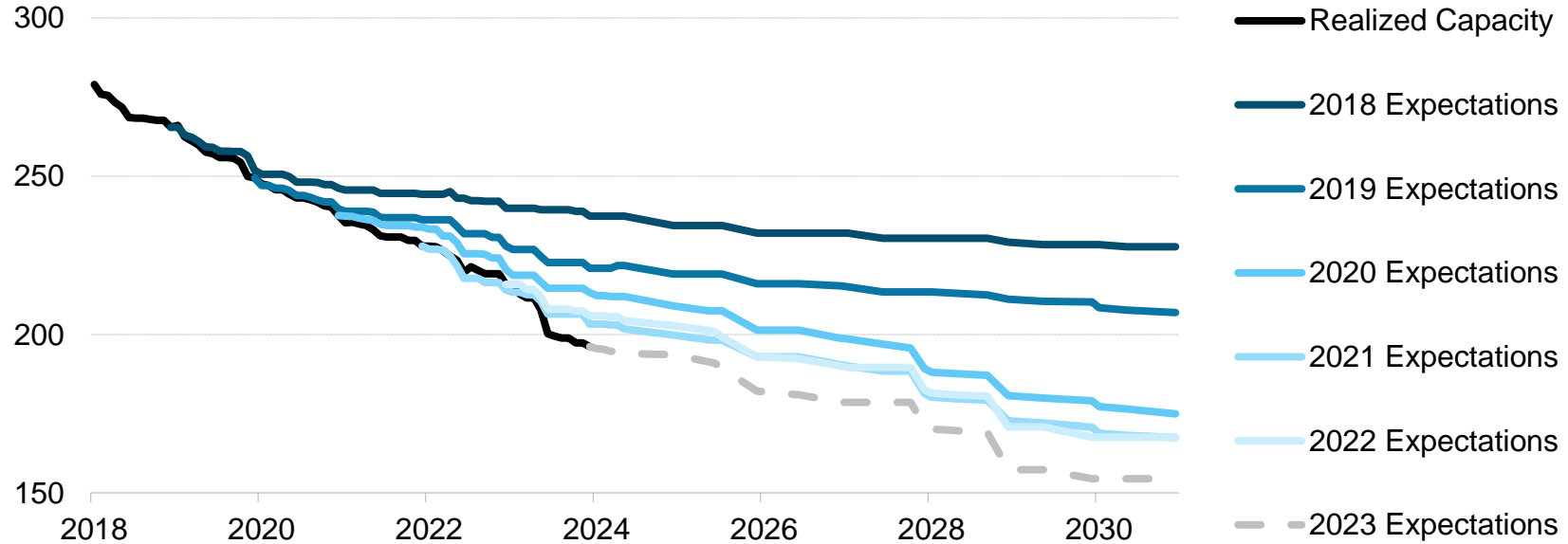


Source: EIA, BloombergNEF

Trends in coal retirement expectations

Actual and planned coal capacity

Gigawatts

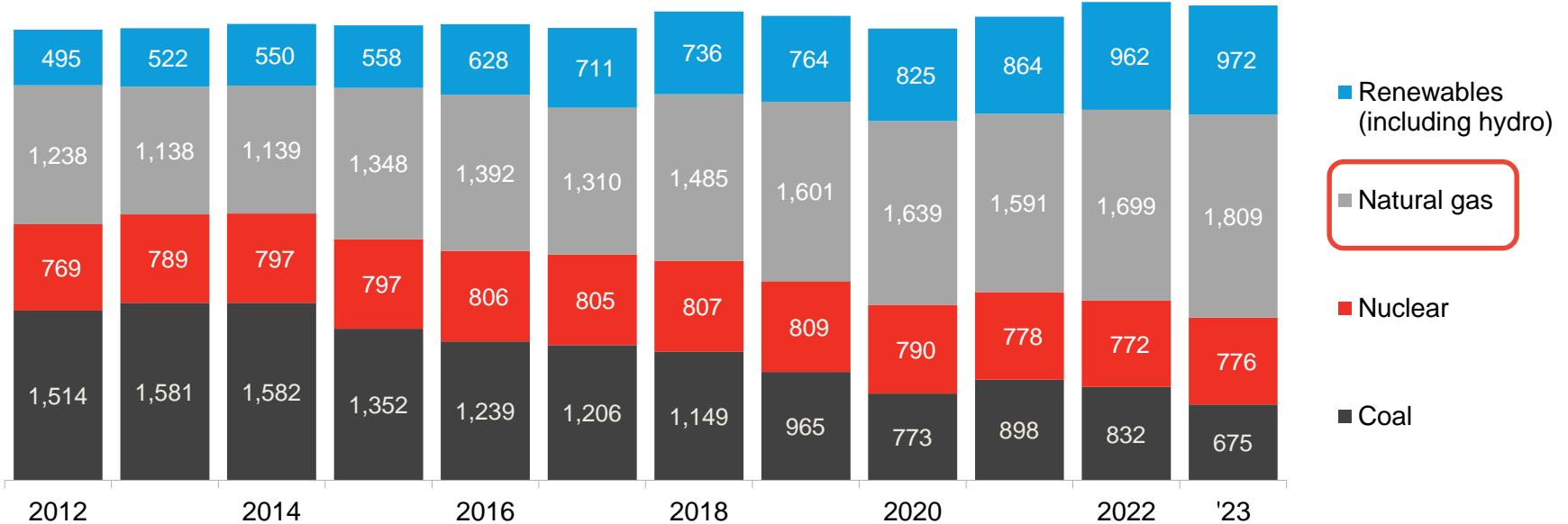


Source: EIA, BloombergNEF

The composition of the generation mix is changing

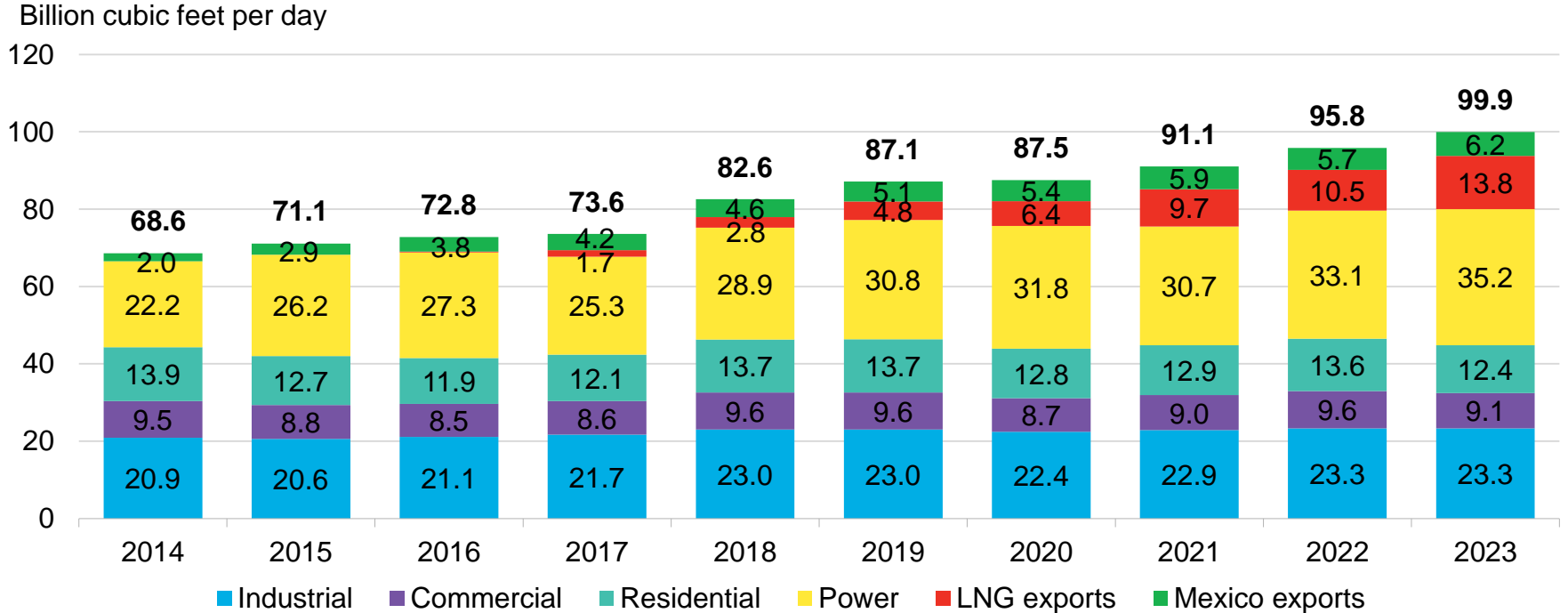
US electricity generation, by fuel type

Terawatt-hours



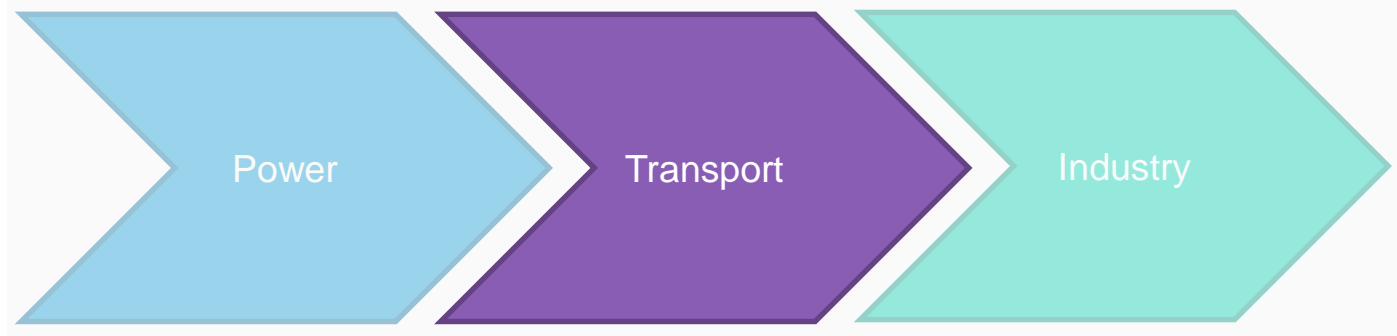
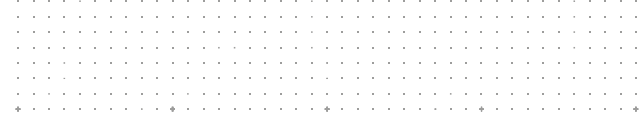
Source: EIA, BloombergNEF. Note: Values for 2023 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2023).

US natural gas demand by end use

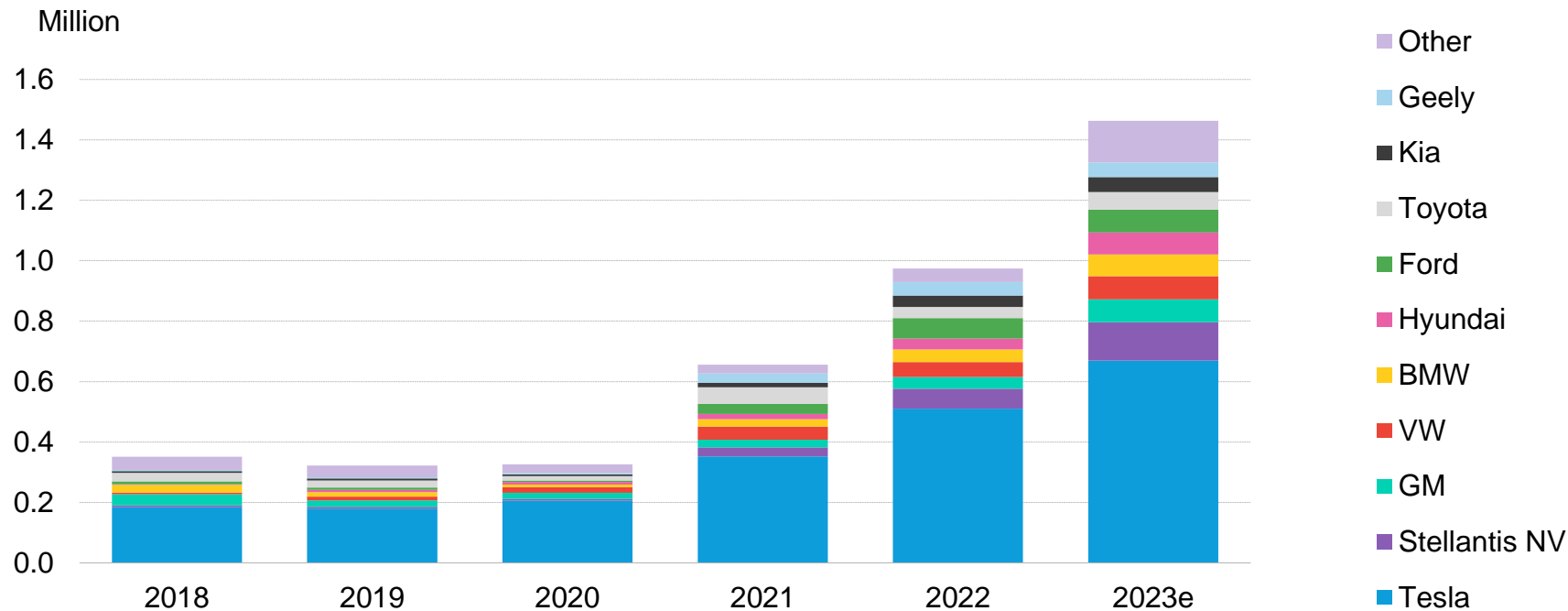


Source: BloombergNEF, EIA, US Department of Energy (DOE). Note: November and December 2023 values are forecasts. LNG is liquefied natural gas.

A sector level view



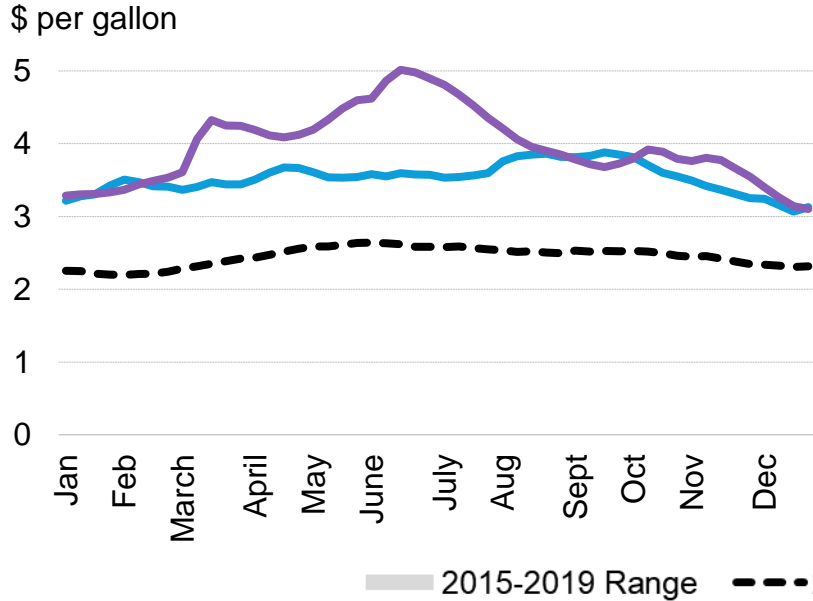
US electric vehicle sales



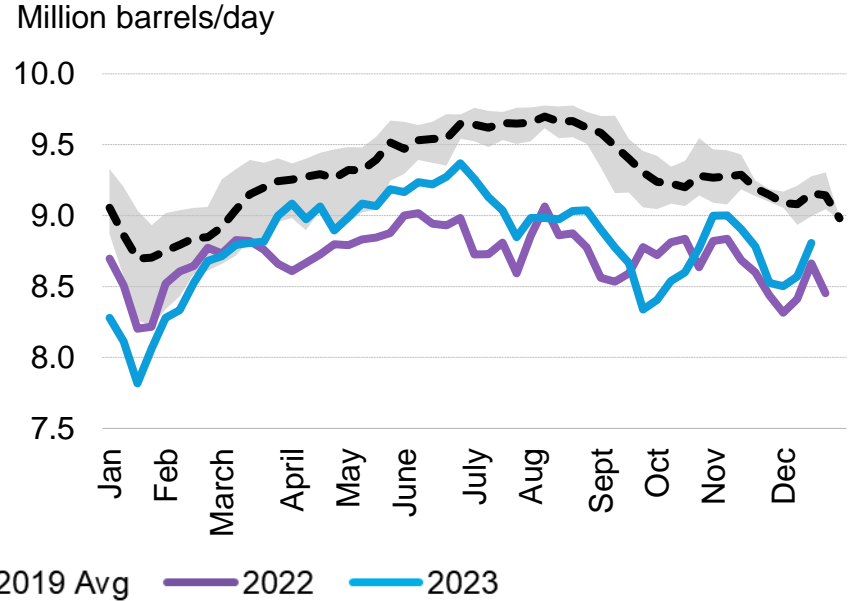
Source: BloombergNEF, Marklines

Gasoline consumption is lower than pre-pandemic levels

US wholesale gasoline prices

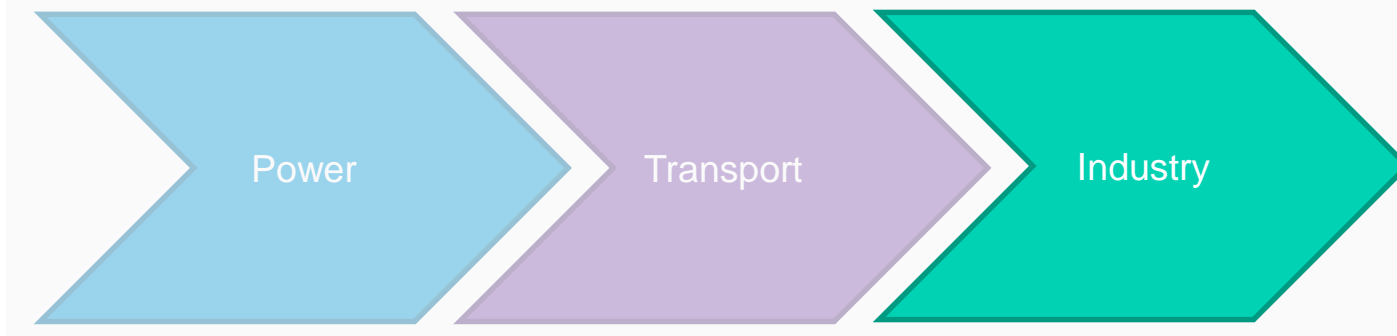
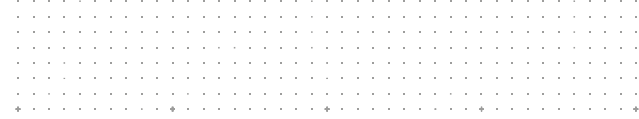


US gasoline demand



Source: BloombergNEF, EIA, American Automobile Association; Note: Gasoline demand data is the four-week rolling average for gasoline supplied data from the Energy Information Administration (EIA). Wholesale gasoline prices are the daily national average gasoline price.

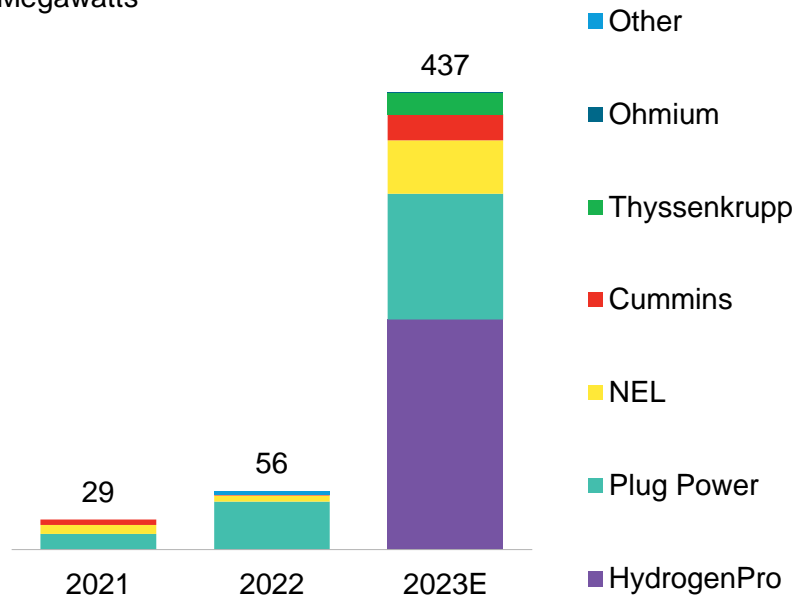
A sector level view



Maturing technologies are growing up fast

Electrolyzer shipments to the US

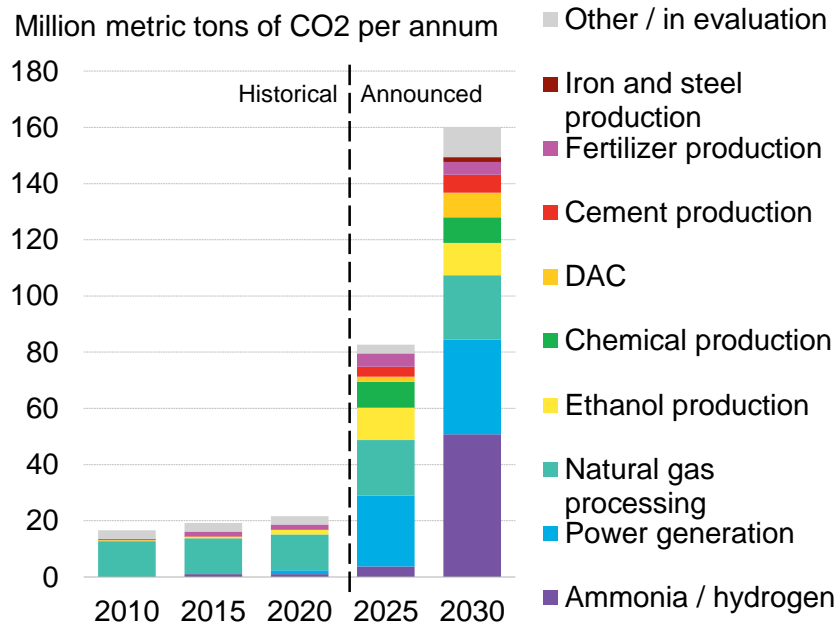
Megawatts



Source: BloombergNEF

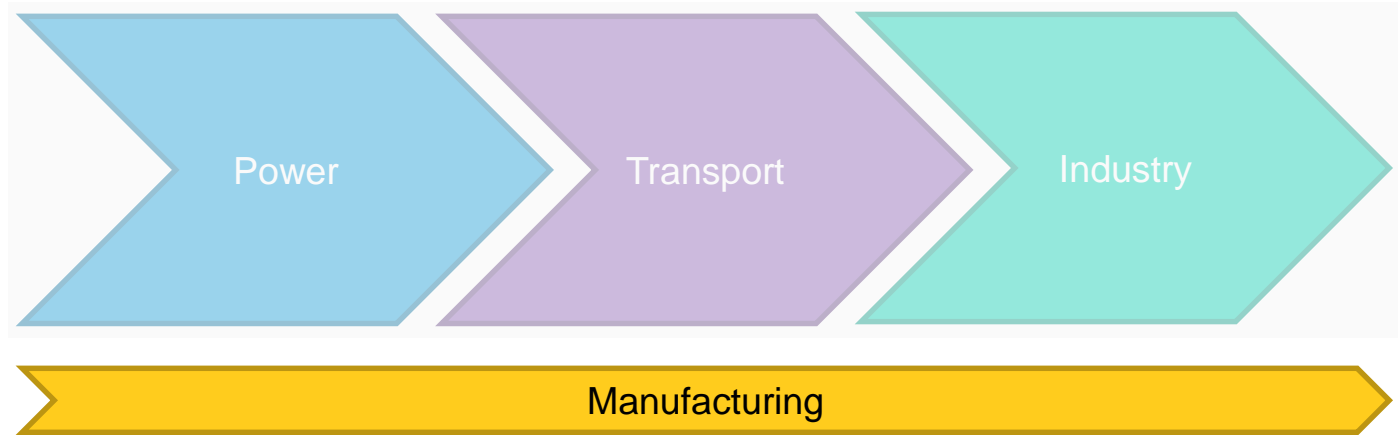
CCS in the US, by source

Million metric tons of CO2 per annum



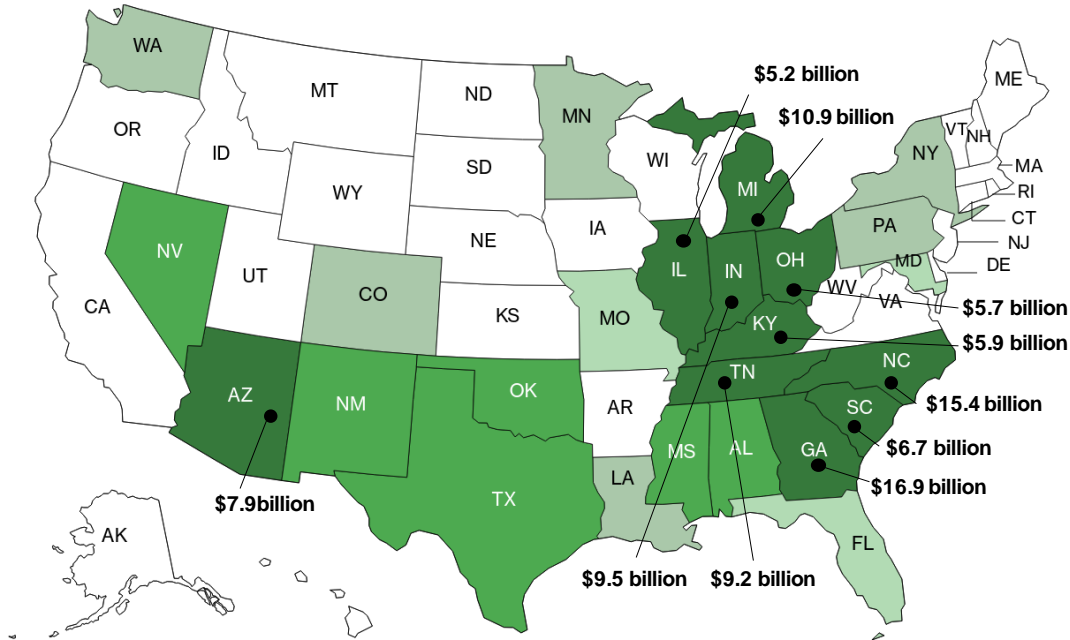
Source: BloombergNEF. Note: DAC is direct air capture.

A sector level view



Manufacturing projects announced since the passage of the IRA

Clean-tech manufacturing investment announcements post-IRA

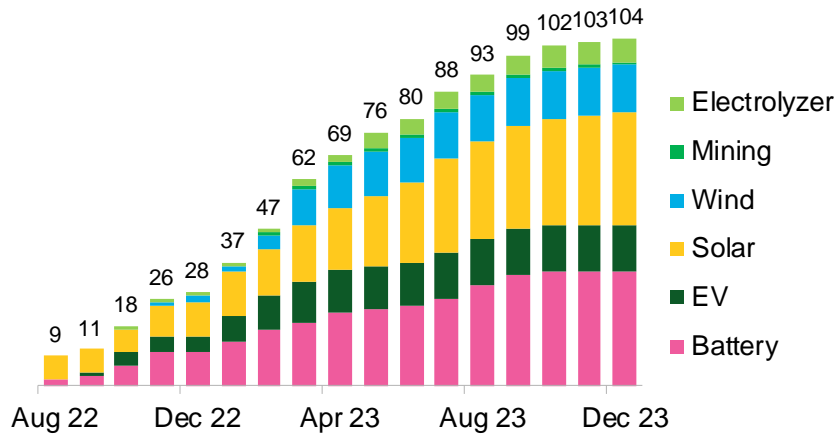


Source: BloombergNEF. Note: Data as of the end of December 2023. Only the top 10 investment figures are labeled.

Clean-tech manufacturing announcements and activity

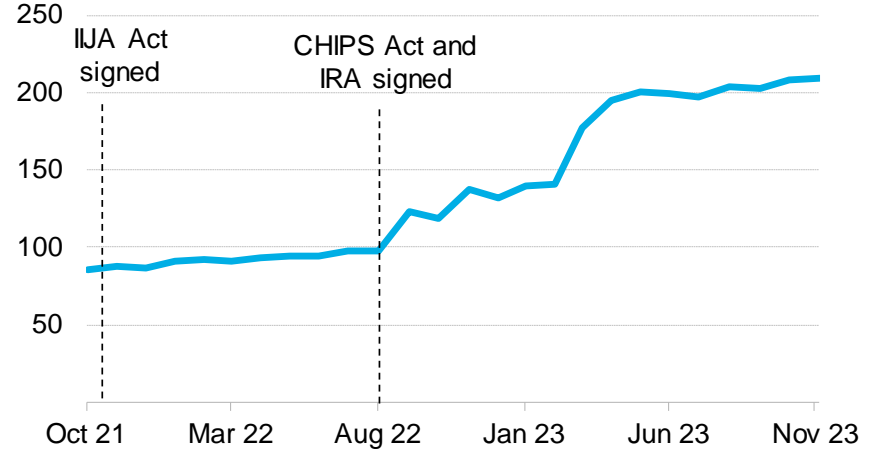
Clean-tech manufacturing investments announcement post-IRA

Number of facilities



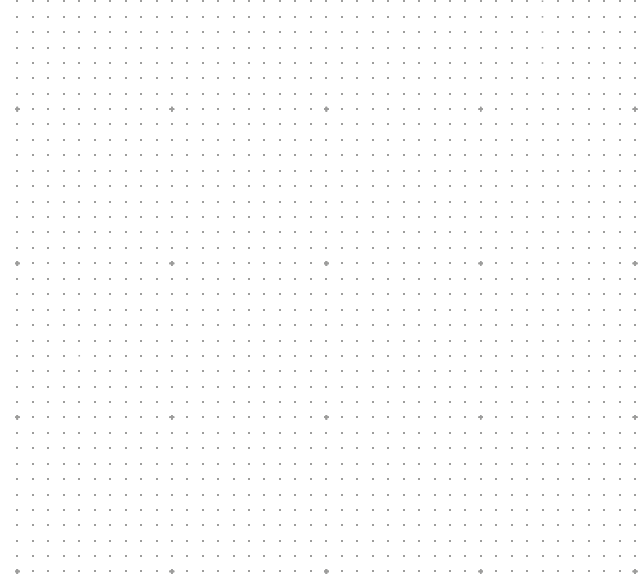
Total manufacturing construction spending in the US

\$ billion



Source: BloombergNEF. US Census Bureau. Note: IIJA is the Infrastructure Investment and Jobs Act; CHIPS stands for Creating Helpful Incentives to Produce Semiconductors; IRA is the Inflation Reduction Act.

Can we move fast enough?



Copyright and disclaimer

Copyright

© Bloomberg Finance L.P. 2024. This publication is the copyright of Bloomberg Finance L.P. in connection with BloombergNEF. No portion of this document may be photocopied, reproduced, scanned into an electronic system or transmitted, forwarded or distributed in any way without prior consent of BloombergNEF.

Disclaimer

The BloombergNEF ("BNEF"), service/information is derived from selected public sources. Bloomberg Finance L.P. and its affiliates, in providing the service/information, believe that the information it uses comes from reliable sources, but do not guarantee the accuracy or completeness of this information, which is subject to change without notice, and nothing in this document shall be construed as such a guarantee. The statements in this service/document reflect the current judgment of the authors of the relevant articles or features, and do not necessarily reflect the opinion of Bloomberg Finance L.P., Bloomberg L.P. or any of their affiliates ("Bloomberg"). Bloomberg disclaims any liability arising from use of this document, its contents and/or this service. Nothing herein shall constitute or be construed as an offering of financial instruments or as investment advice or recommendations by Bloomberg of an investment or other strategy (e.g., whether or not to "buy", "sell", or "hold" an investment). The information available through this service is not based on consideration of a subscriber's individual circumstances and should not be considered as information sufficient upon which to base an investment decision. You should determine on your own whether you agree with the content. This service should not be construed as tax or accounting advice or as a service designed to facilitate any subscriber's compliance with its tax, accounting or other legal obligations. Employees involved in this service may hold positions in the companies mentioned in the services/information.

The data included in these materials are for illustrative purposes only. The BLOOMBERG TERMINAL service and Bloomberg data products (the "Services") are owned and distributed by Bloomberg Finance L.P. ("BFLP") except (i) in Argentina, Australia and certain jurisdictions in the Pacific islands, Bermuda, China, India, Japan, Korea and New Zealand, where Bloomberg L.P. and its subsidiaries ("BLP") distribute these products, and (ii) in Singapore and the jurisdictions serviced by Bloomberg's Singapore office, where a subsidiary of BFLP distributes these products. BLP provides BFLP and its subsidiaries with global marketing and operational support and service. Certain features, functions, products and services are available only to sophisticated investors and only where permitted. BFLP, BLP and their affiliates do not guarantee the accuracy of prices or other information in the Services. Nothing in the Services shall constitute or be construed as an offering of financial instruments by BFLP, BLP or their affiliates, or as investment advice or recommendations by BFLP, BLP or their affiliates of an investment strategy or whether or not to "buy", "sell" or "hold" an investment. Information available via the Services should not be considered as information sufficient upon which to base an investment decision. The following are trademarks and service marks of BFLP, a Delaware limited partnership, or its subsidiaries: BLOOMBERG, BLOOMBERG ANYWHERE, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG PROFESSIONAL, BLOOMBERG TERMINAL and BLOOMBERG.COM. Absence of any trademark or service mark from this list does not waive Bloomberg's intellectual property rights in that name, mark or logo. All rights reserved. © 2024 Bloomberg.

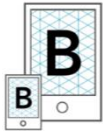
BloombergNEF (BNEF) is a strategic research provider covering global commodity markets and the disruptive technologies driving the transition to a low-carbon economy.

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.

BloombergNEF

Get the app



On IOS + Android
about.bnef.com/mobile

Client enquiries:

Bloomberg Terminal: press [<Help>](#) key twice

Email: support.bnef@bloomberg.net

Learn more:

about.bnef.com | [@BloombergNEF](https://twitter.com/BloombergNEF)