

The 2021 Sustainable Energy in America Factbook

EESI event

Melina Bartels

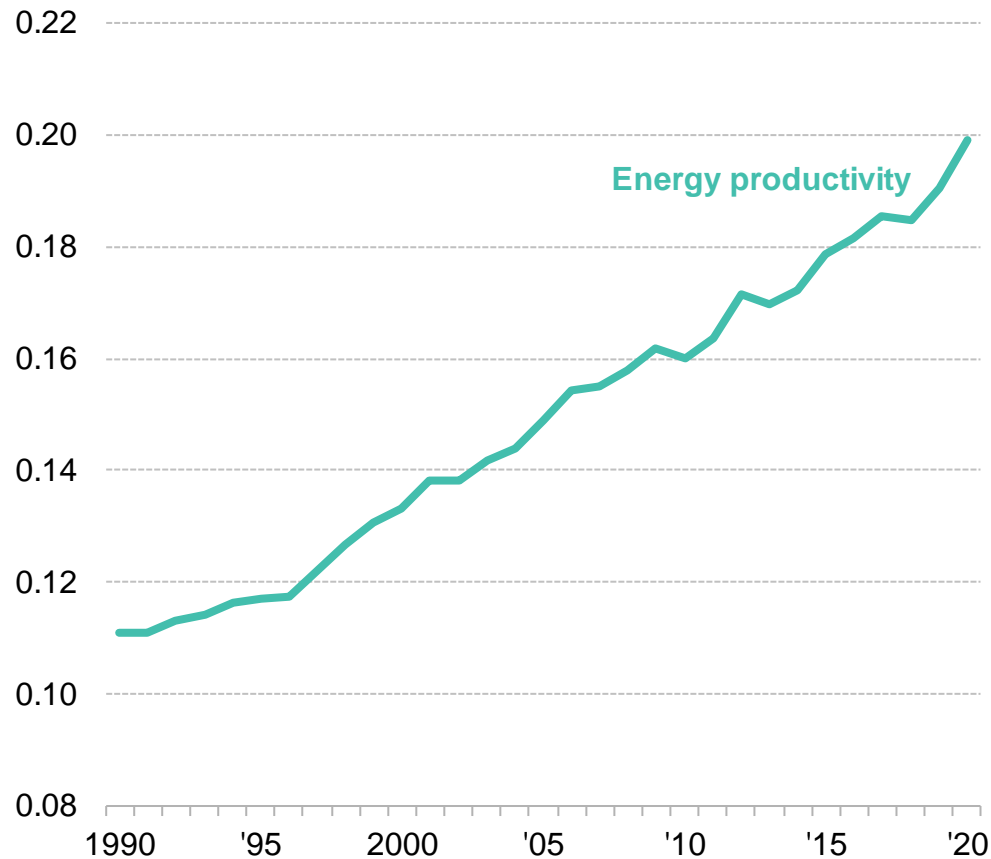
March 12, 2021

BloombergNEF

U.S. 2020 energy productivity rose, but Americans suffered

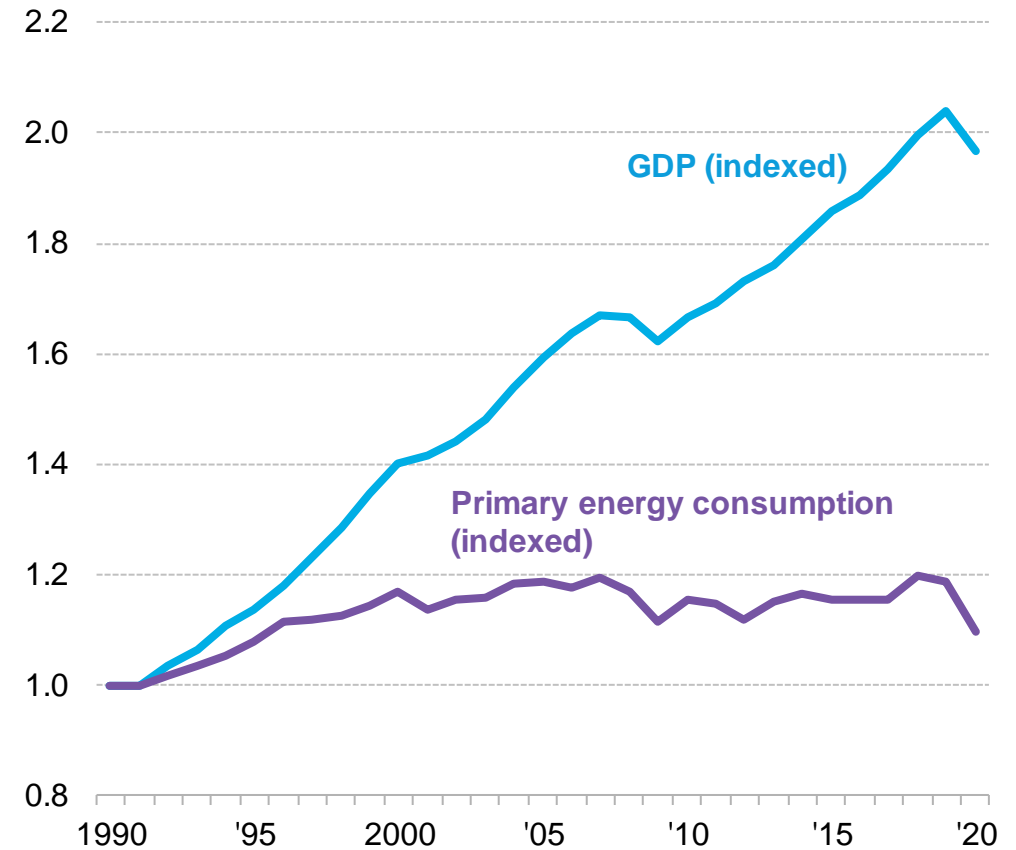
U.S. GDP and primary energy consumption

\$ trillion of GDP / quadrillion BTU of energy



U.S. energy productivity

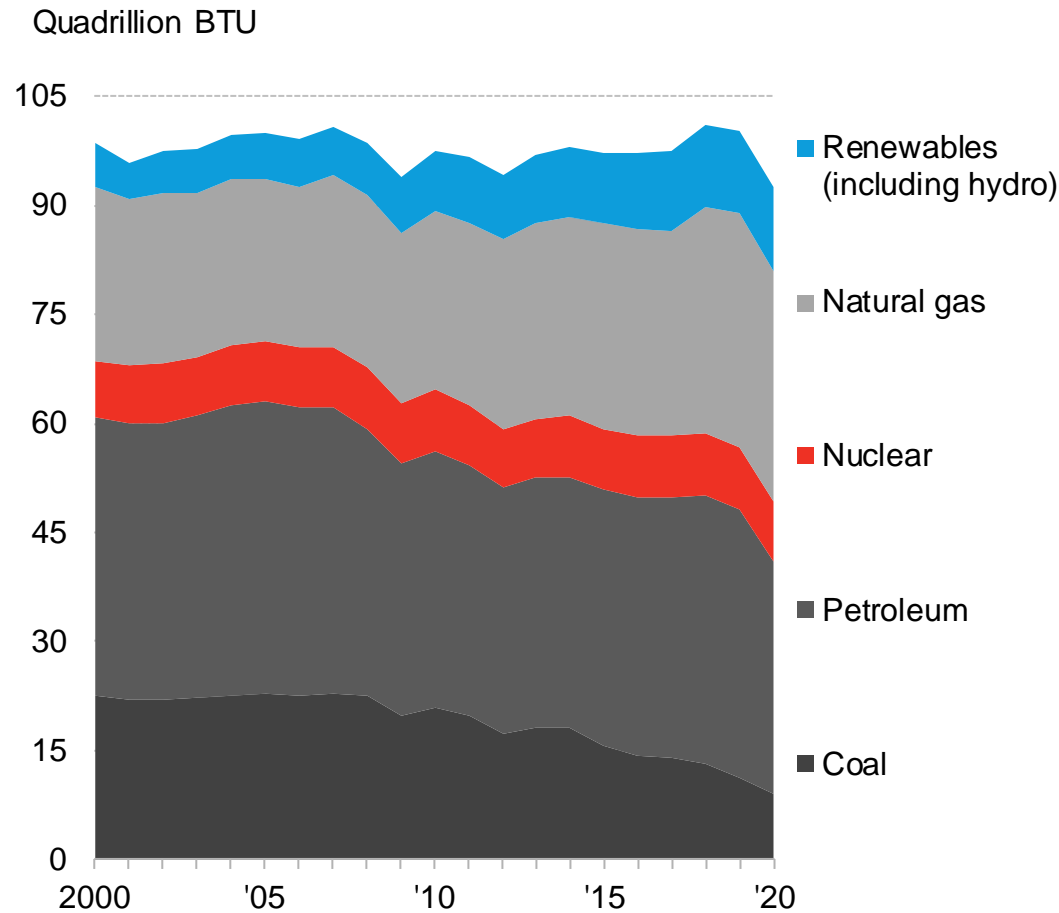
Indexed to 1990 levels



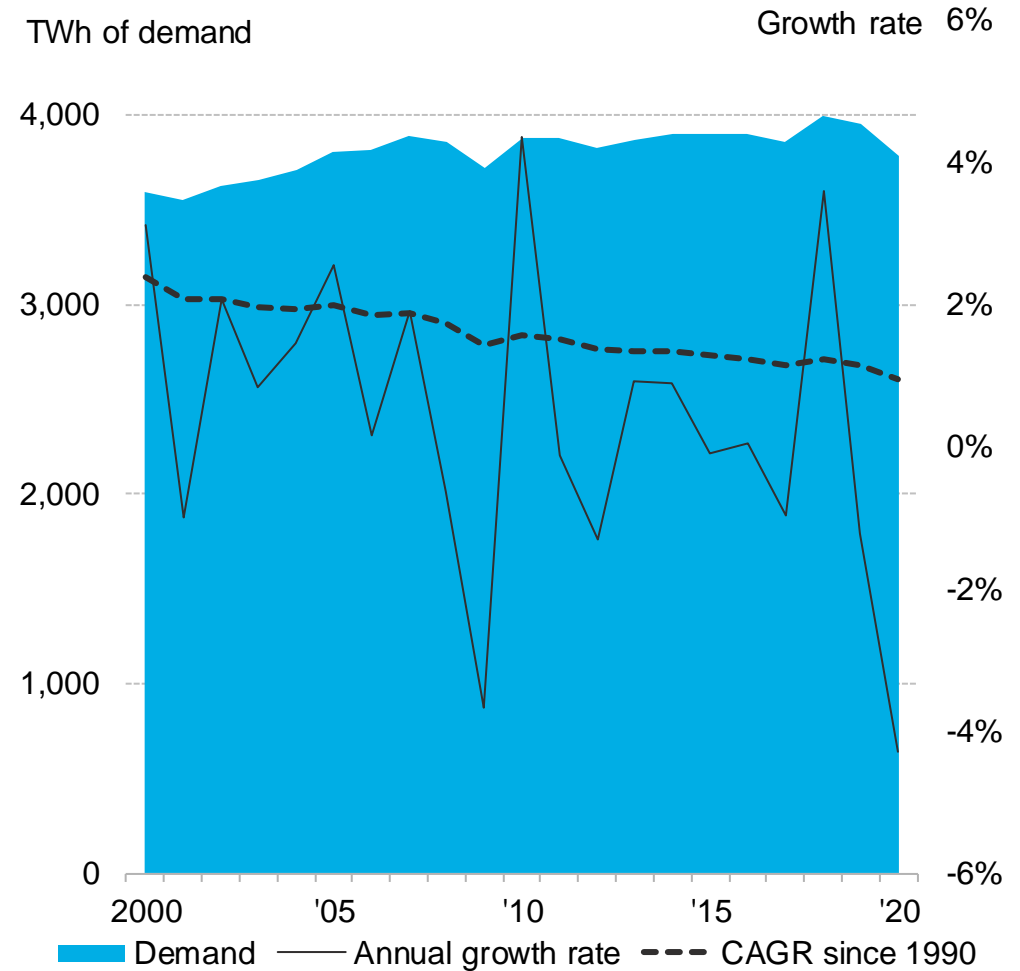
Source: Bureau of Economic Analysis, EIA, BloombergNEF. Notes: Values for 2019 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through September 2020). 2020 GDP estimate is a projection from economists compiled at ECFC <GO> on the Bloomberg Terminal.

Fossil fuel use dropped very sharply, electricity demand also fell but by less

U.S. primary energy consumption, by fuel type



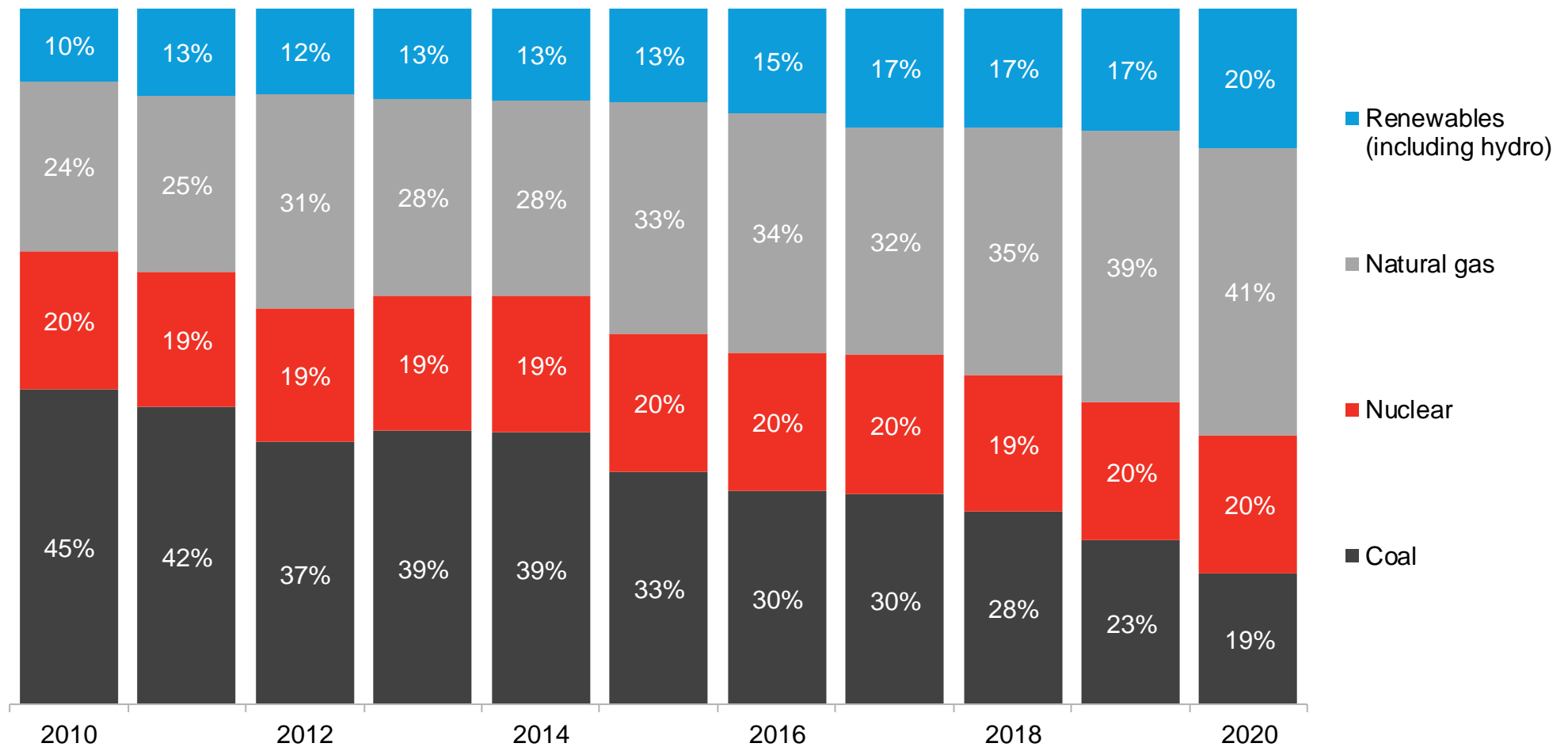
U.S. electricity demand



Source: EIA, BloombergNEF Notes: "CAGR" on the right hand side graph is compound annual growth rate. Values for 2020 are projected, accounting for seasonality, based on the latest monthly values from EIA (data available through September 2020). BTU stands for British thermal units.

Lower-carbon sources now predominate in U.S. power

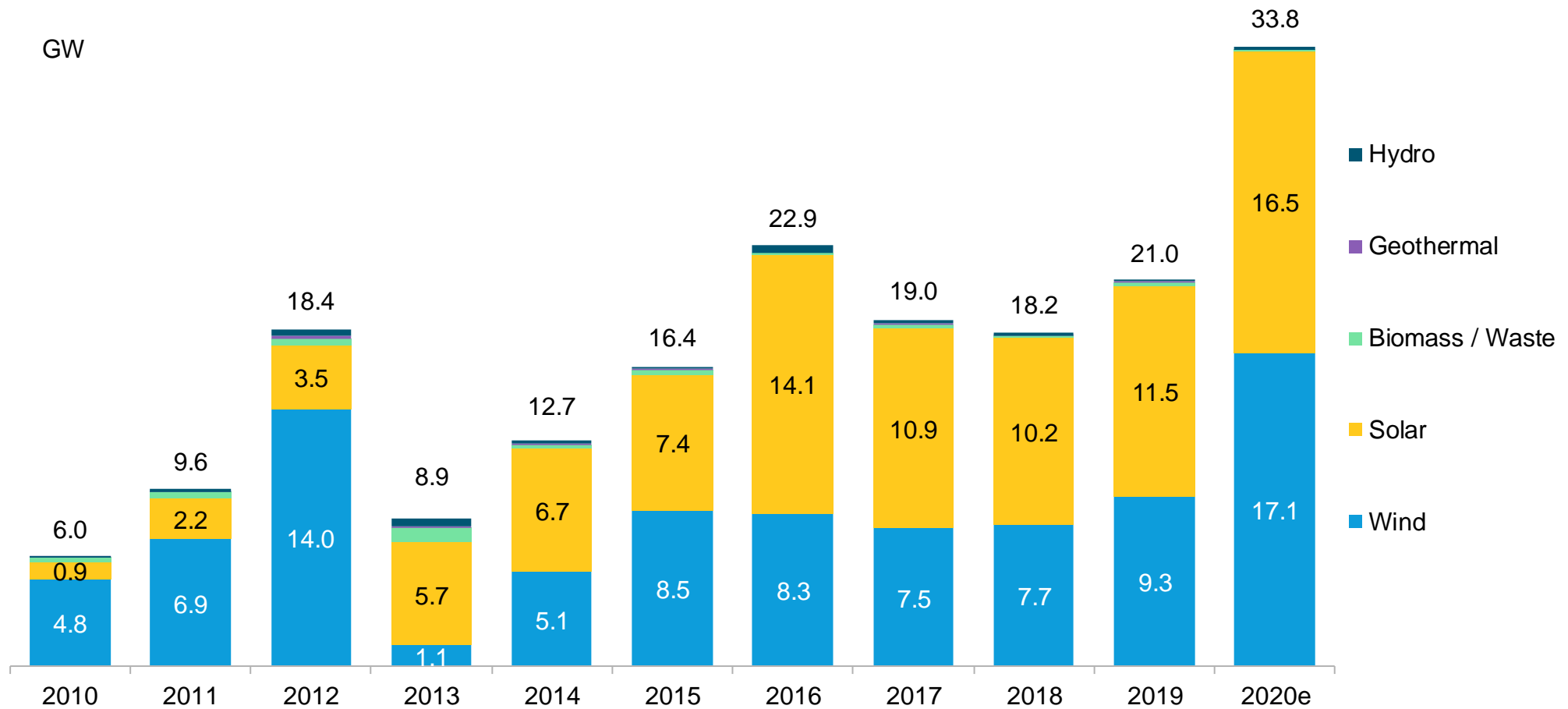
U.S. electricity generation, by fuel type



Source: EIA, BloombergNEF Note: Values for 2020 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2020)

Renewables had a blockbuster year, despite challenges

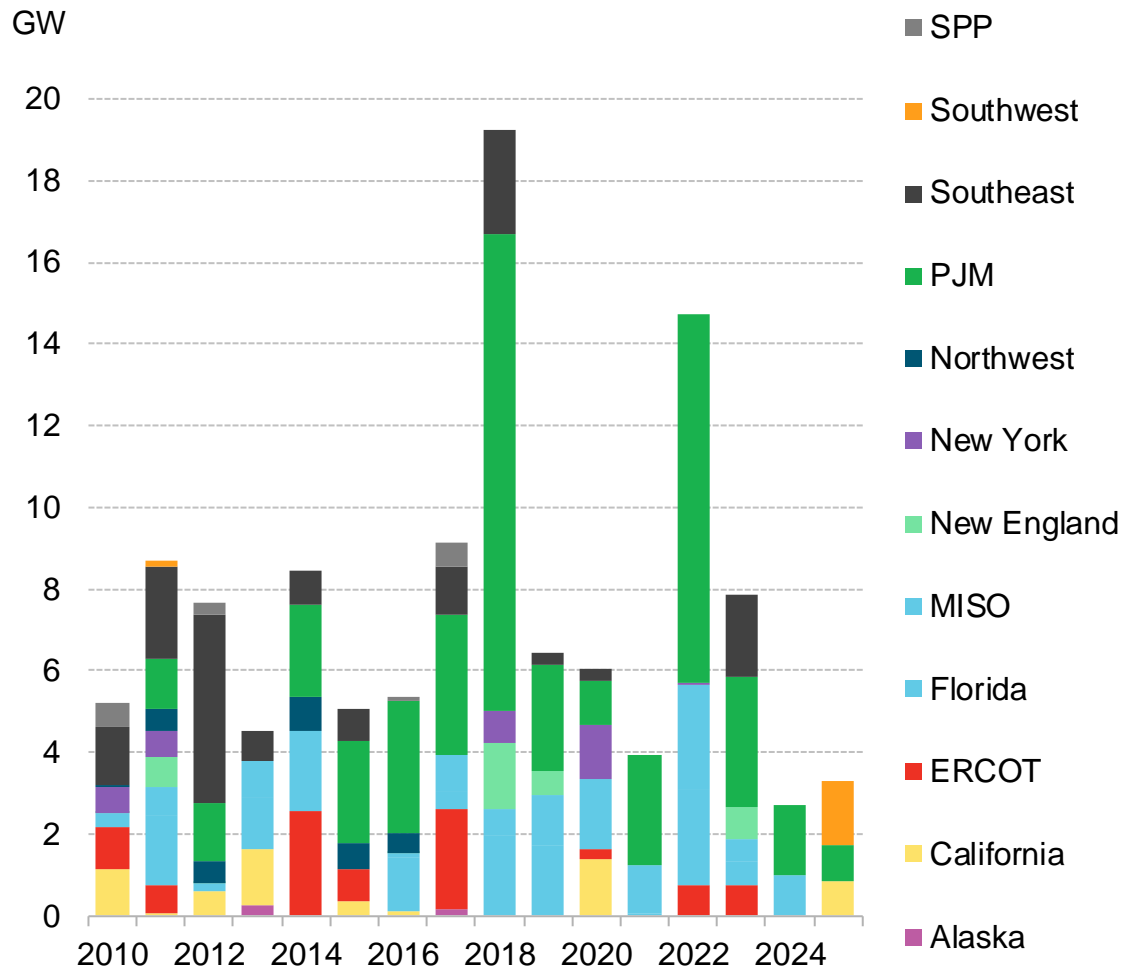
U.S. new renewable energy capacity build (GW)



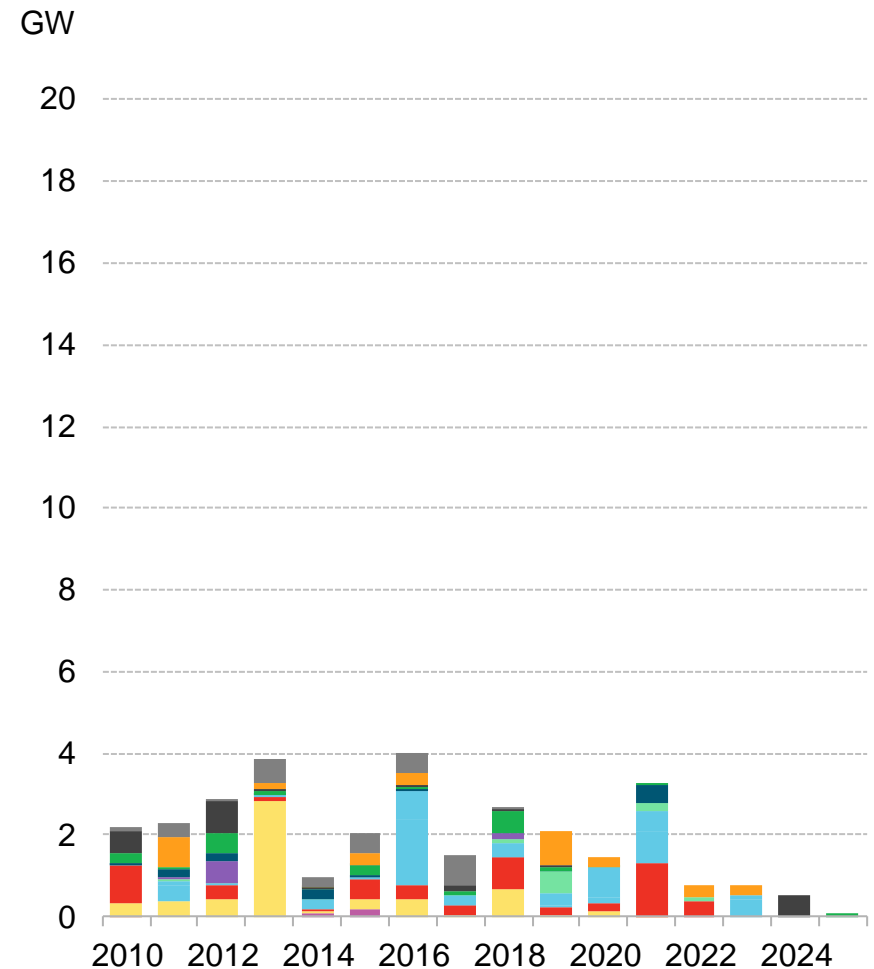
Source: BloombergNEF, EIA Notes: All values are shown in AC except solar, which is included as DC capacity. Numbers include utility-scale (>1MW) projects of all types, rooftop solar, and small- and medium-sized wind. Includes installations or planned installations reported to the EIA through October 2020, as well as BloombergNEF projections.

Substantial additional gas-fired power plants are due online...

Combined cycle build



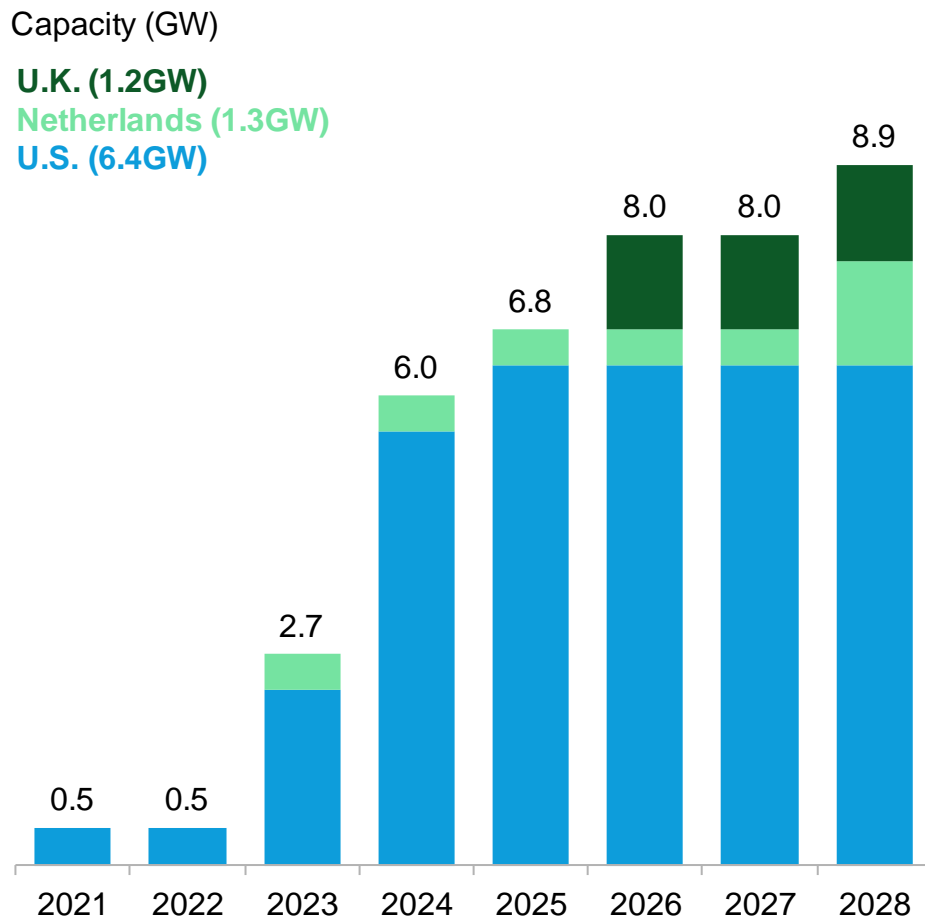
Open cycle build



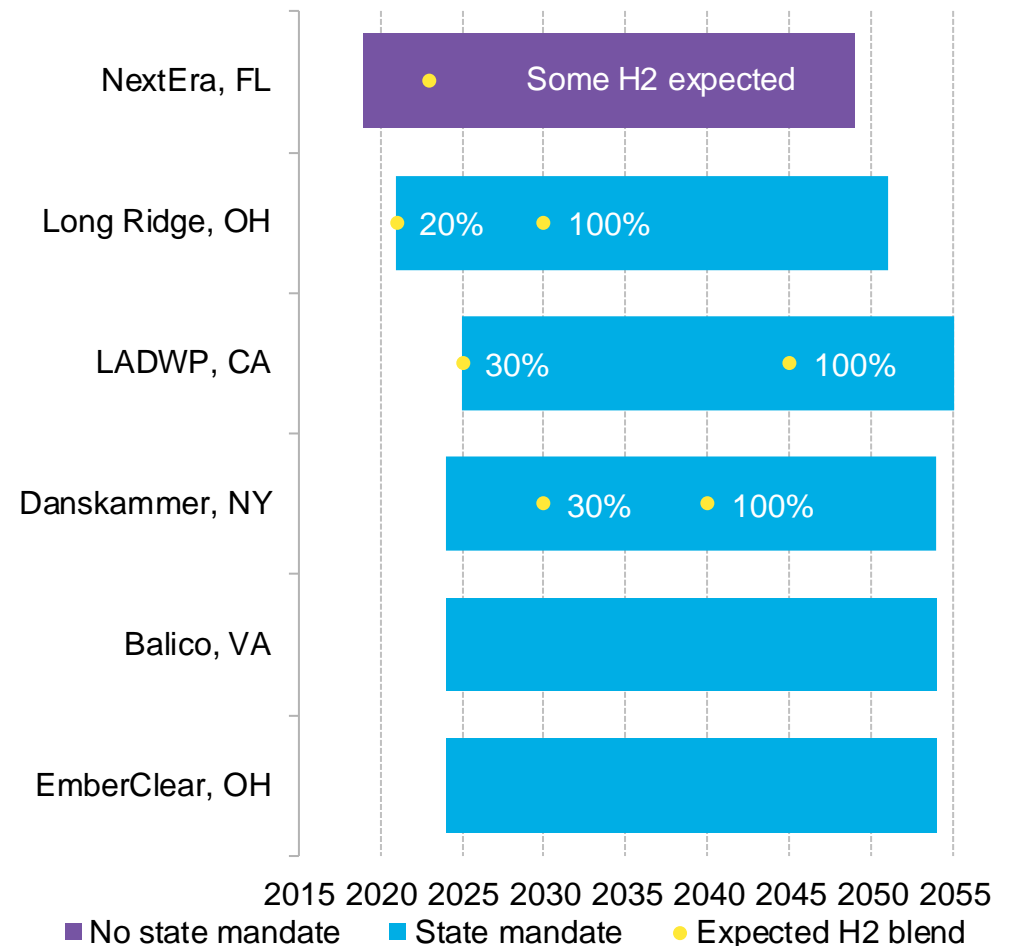
Source: EIA, BNEF

... and some will be paired with hydrogen

Announced capacity of H2-ready projects, by country



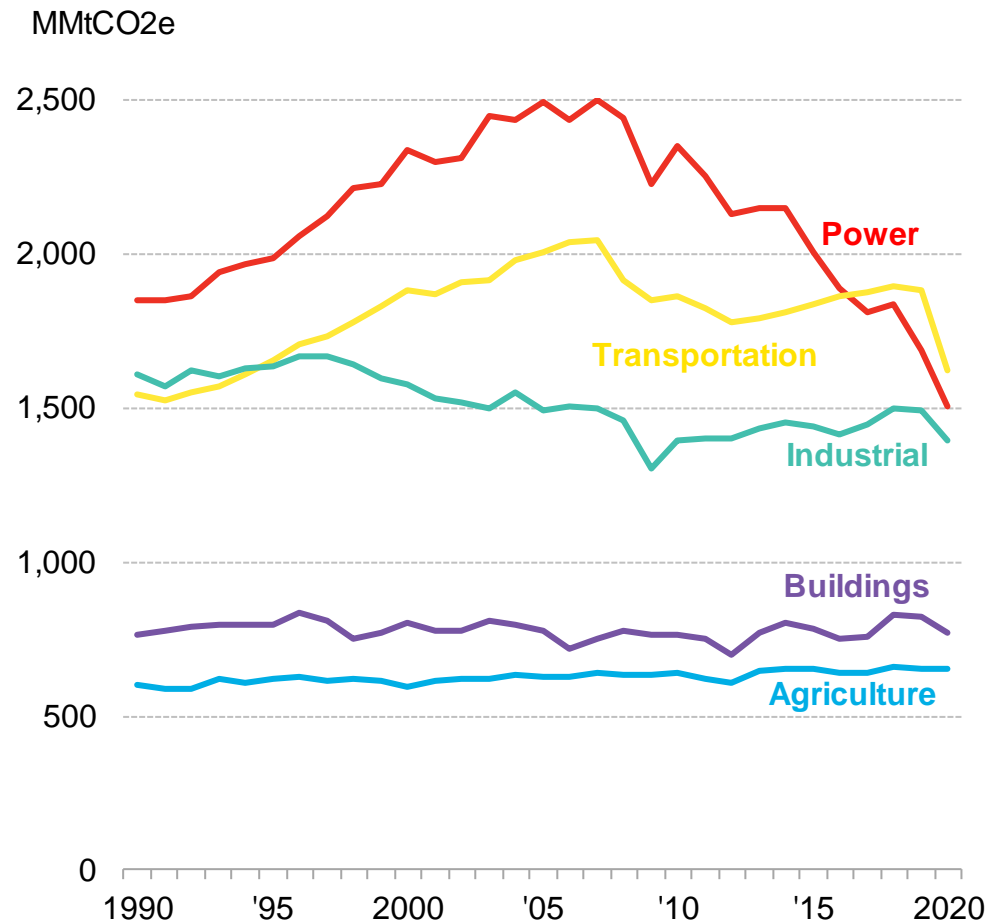
U.S. projects' H2 blending targets



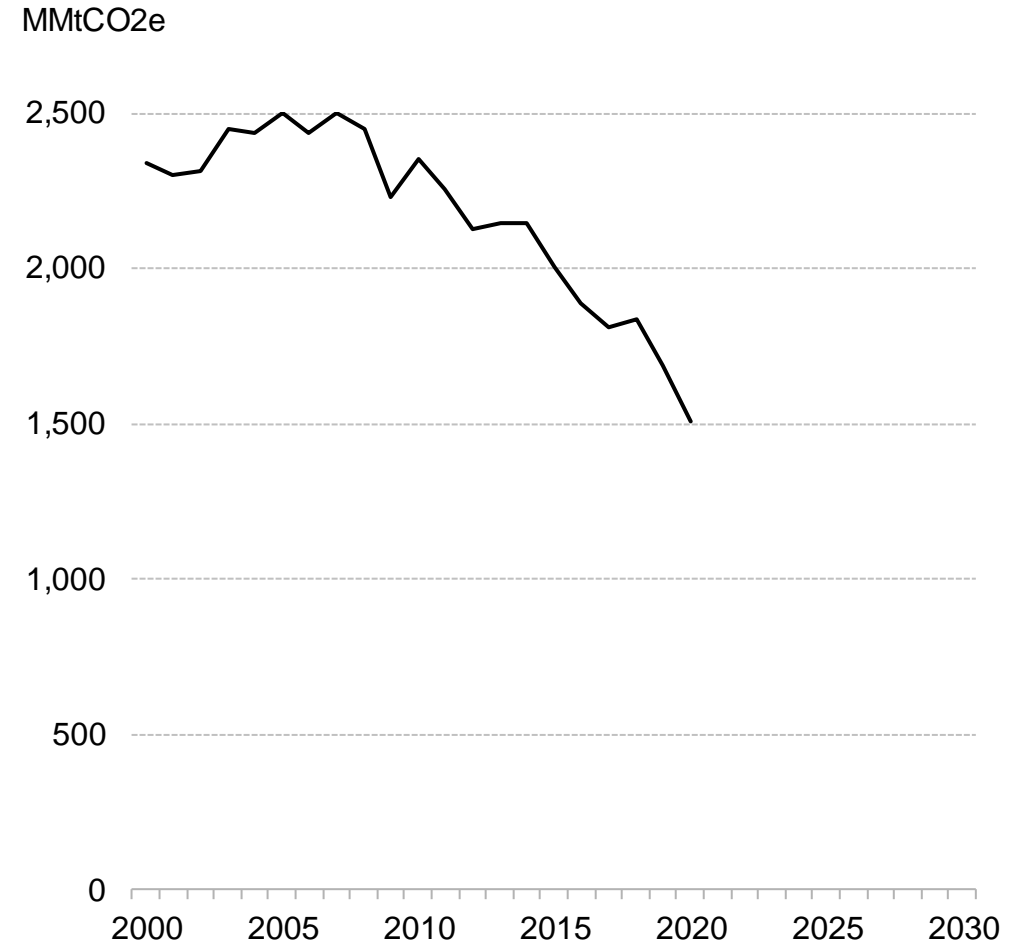
Source: BloombergNEF. Note: Left chart reflects announced and financed commercial projects. On right chart, Dashed = No announced hydrogen blend timeline. LADWP = Los Angeles Department of Water and Power. Bars begin at expected commercial operation date. 30-year asset lifetime assumed. State mandate means there is a state-level clean energy target.

Power emissions are down, at least for now

U.S. greenhouse gas emissions by sector



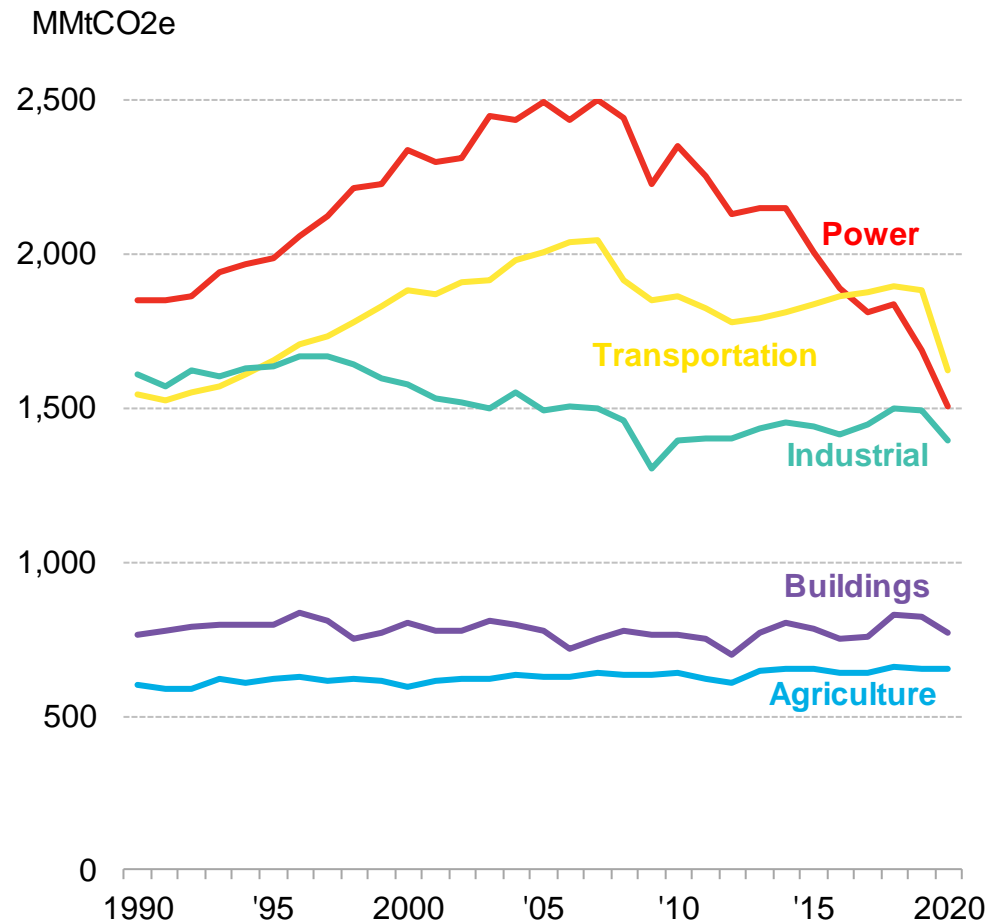
Power emissions goals



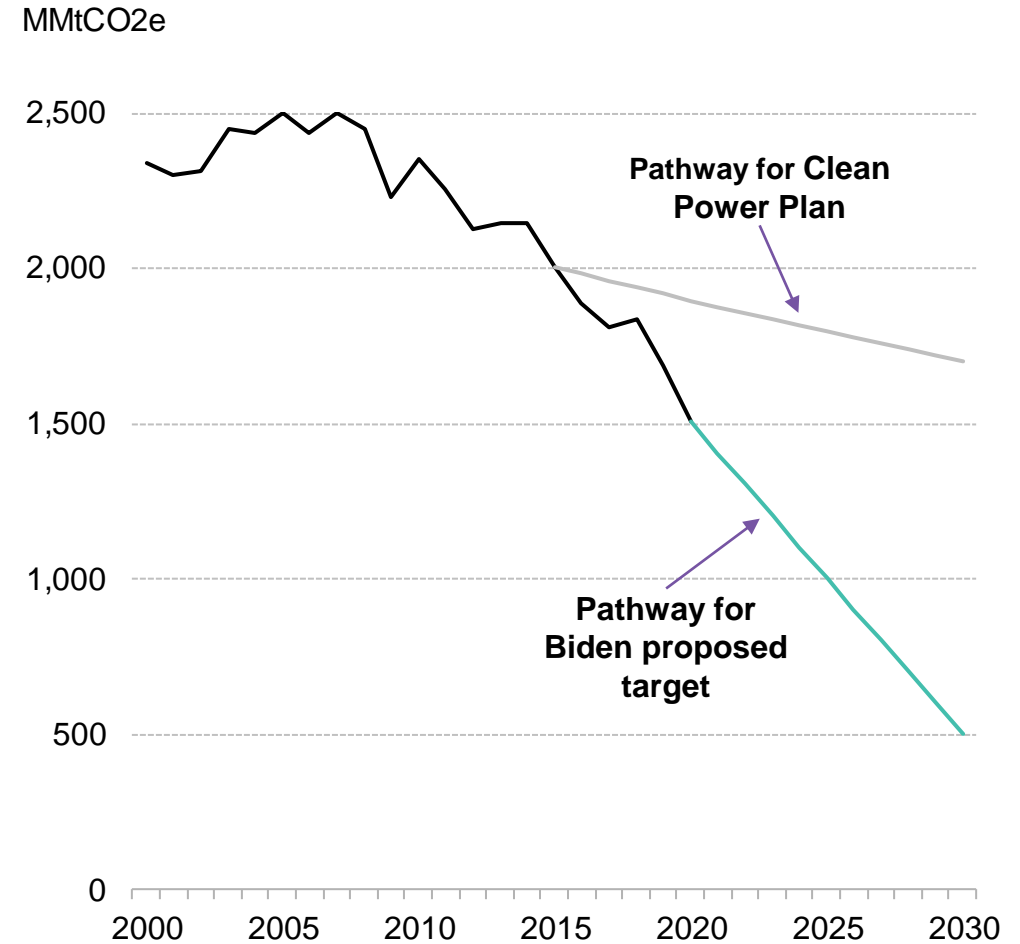
Source: BloombergNEF, EIA, EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016 Notes: "Sinks" refer to forests and green areas which absorb carbon dioxide. Values for 2020 are projected, accounting for seasonality, based on monthly values from EIA available through September 2020 and BNEF projections.

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U.S. greenhouse gas emissions by sector



Power emissions goals



Source: BloombergNEF, EIA, EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016 Notes: "Sinks" refer to forests and green areas which absorb carbon dioxide. Values for 2020 are projected, accounting for seasonality, based on monthly values from EIA available through September 2020 and BNEF projections.

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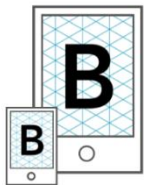
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