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Environmental and
Energy Study Institute

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CONGRESSIONAL BRIEFING

2022 Sustainable Energy in America Factbook

Wednesday, March 09, 2022

About EESI...



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Founded in 1984 by a bipartisan Congressional caucus as an independent (i.e., not federally-funded) non-profit organization



NON-PARTISAN

Source of non-partisan information on environmental, energy, and climate policies



DIRECT ASSISTANCE

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



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Focused on win-win solutions to make our energy, buildings, and transportation sectors sustainable, resilient, and more equitable

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Sustainable Energy in America **2022 Factbook**

Tracking Market & Policy Trends

BloombergNEF

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Emily Duncan

*Vice President
Government Relations*
National Grid



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Lisa Jacobson

President
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The Three Rs of 2021

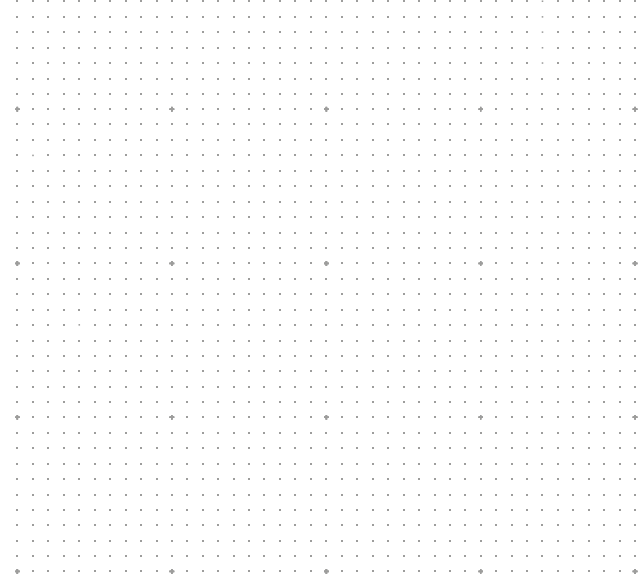
BCSE Factbook Launch

Lisa Jacobson, President BCSE

March 09, 2022

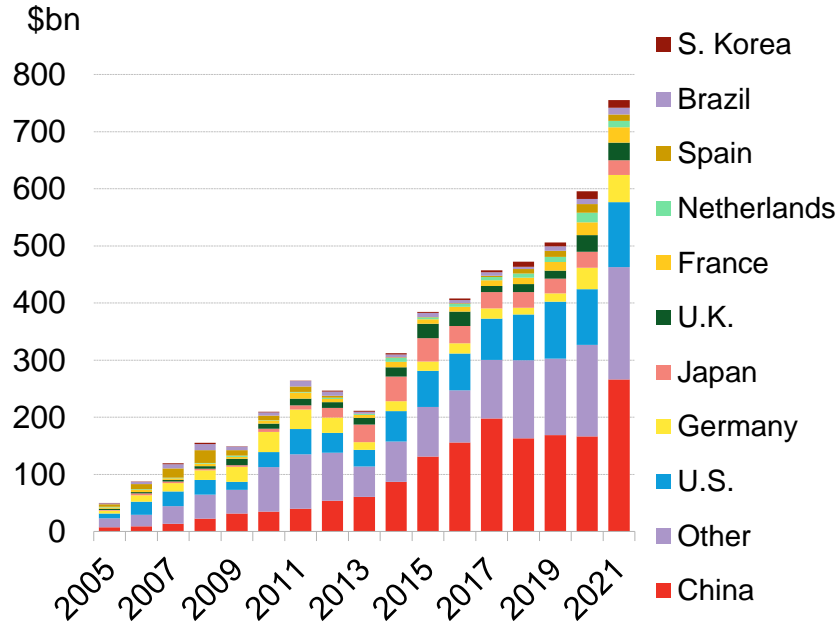
Records

(Mostly) hooray!

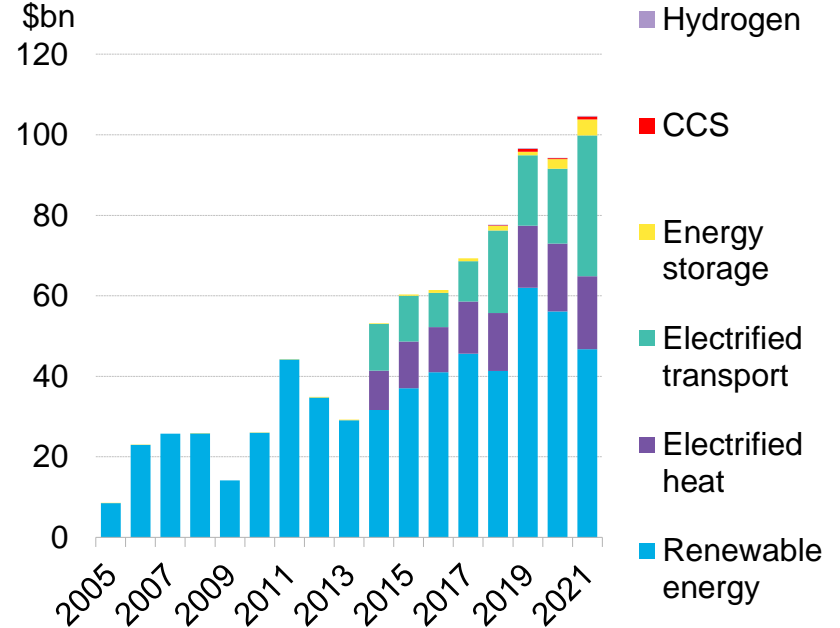


Finance: Energy transition investment

Energy transition investment, by country



U.S. energy transition investment, by sector



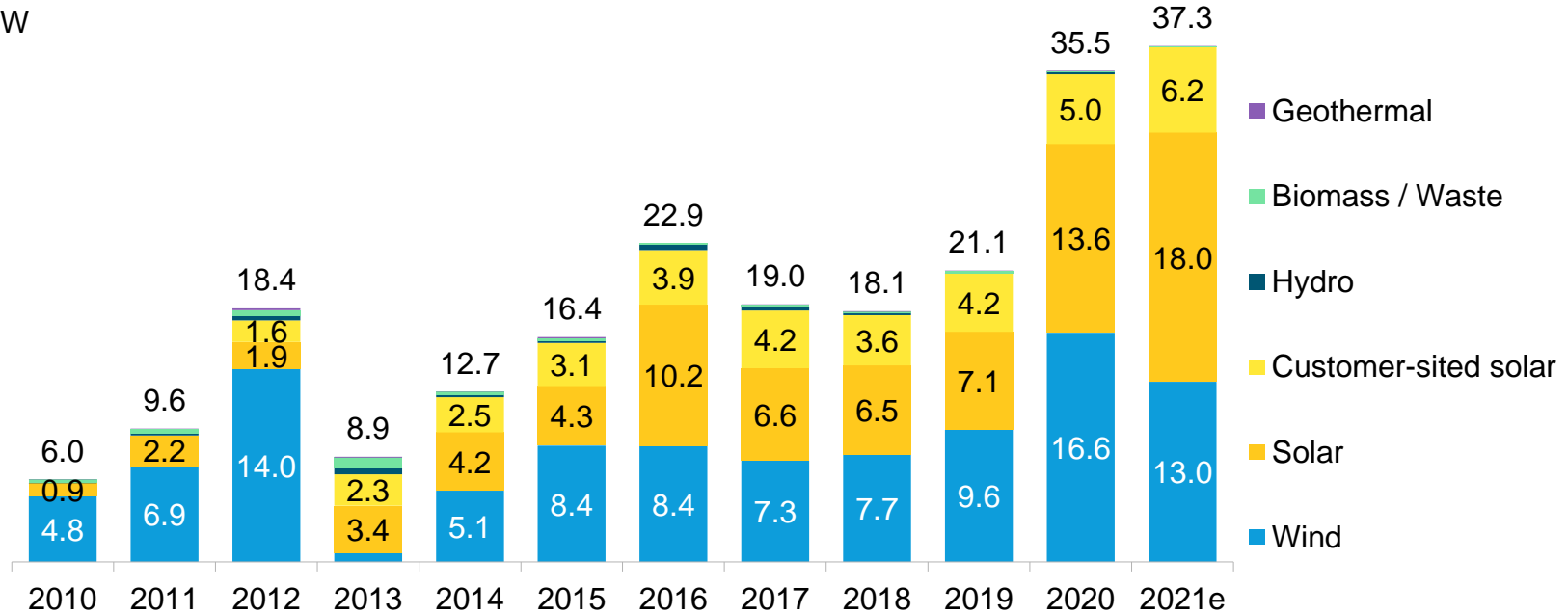
Source: BloombergNEF, "Energy Transition Investment Trends, 2022". Note: BNEF has updated and expanded its coverage of energy transition investment and slightly modified its methodology. For more see <https://www.bnef.com/flagships/clean-energy-investment>.

U.S. renewables continue to set build records

U.S. clean power build, 2010-2021

GW

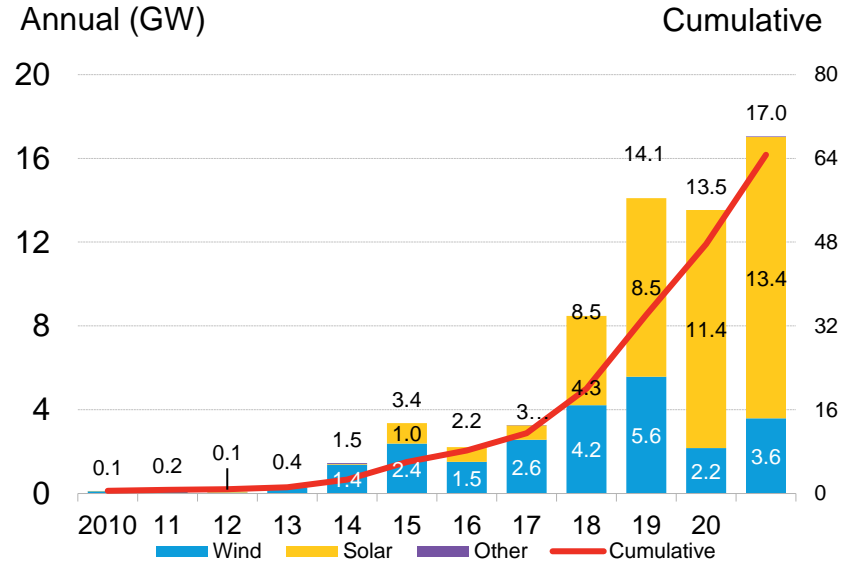
Record build for renewables and for solar



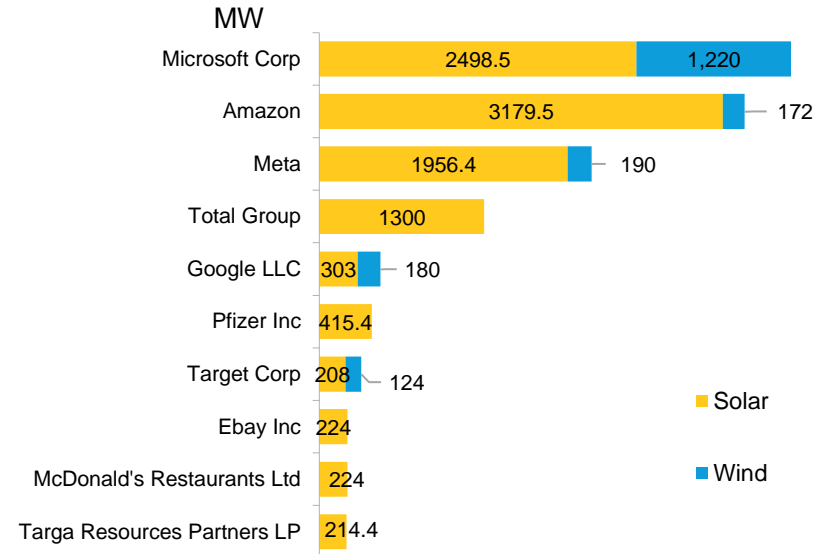
Source: BloombergNEF, EIA Notes: All values are shown in AC except solar, which is included as DC capacity. Numbers include utility-scale (>1MW) projects of all types, rooftop solar, and small- and medium-sized wind. Includes installations or planned installations reported to the EIA through October 2021, as well as BloombergNEF projections.

Finance: Corporate procurement of clean energy in the U.S.

Renewable capacity contracted by corporations, by technology



Largest corporate offtakers, 2021

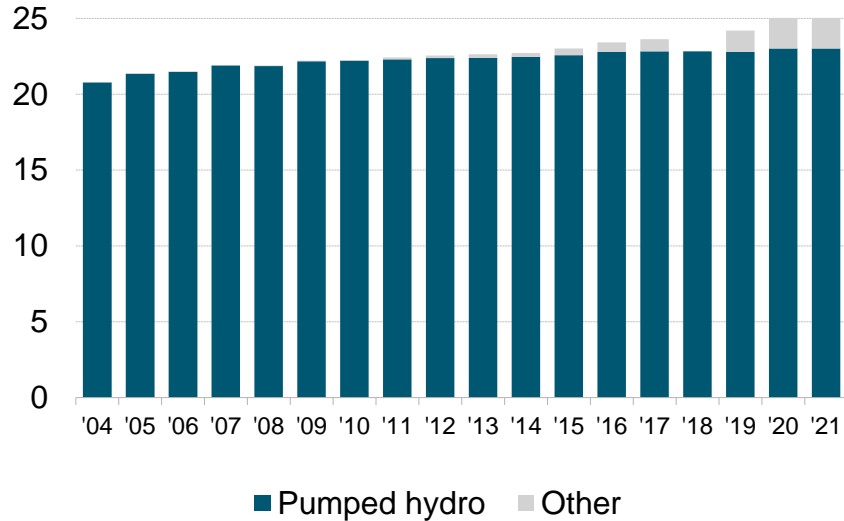


Source: BloombergNEF Note: Charts show offsite PPAs only

U.S. energy storage capacity

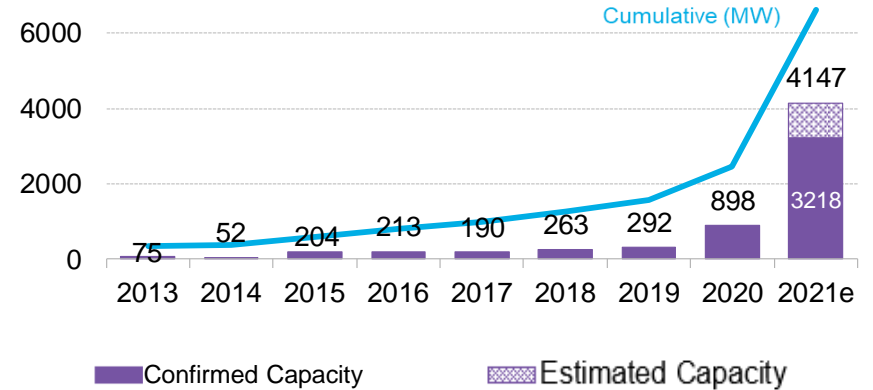
Commissioned capacity

GW



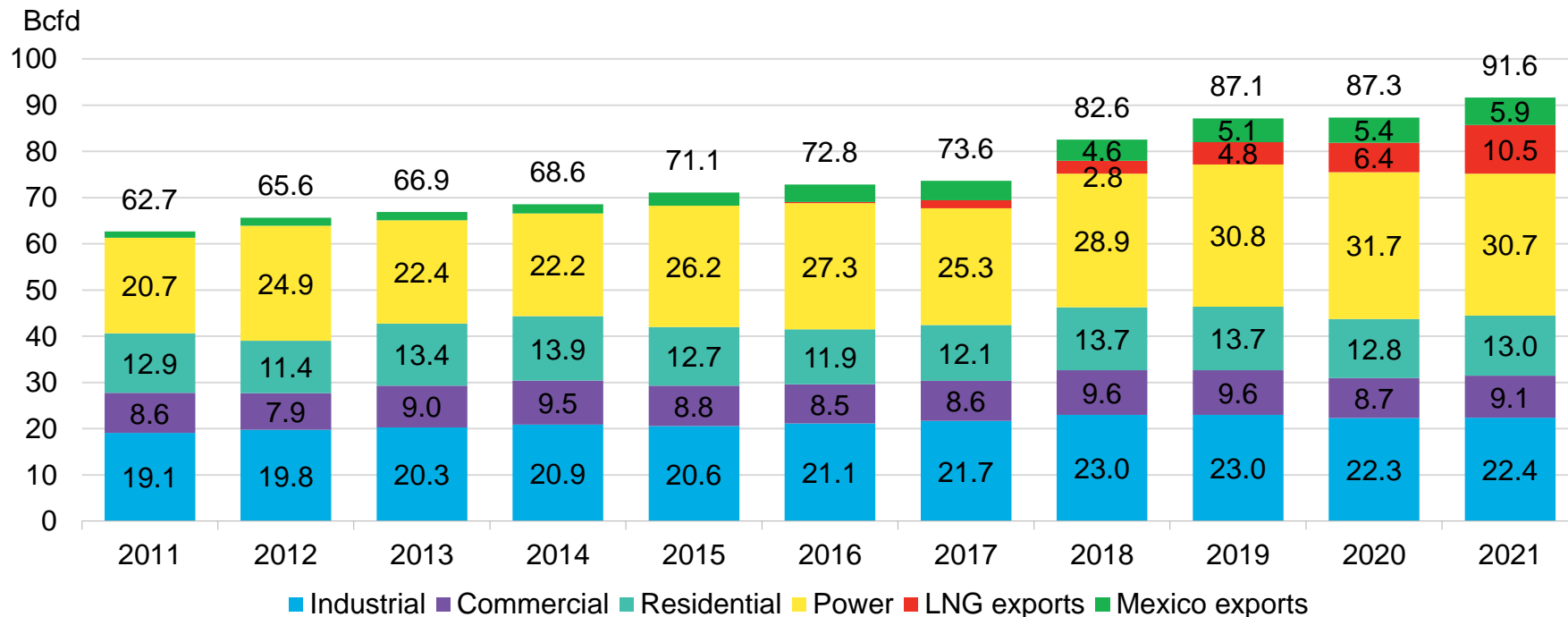
Non-hydropower commissioned energy storage capacity

MW



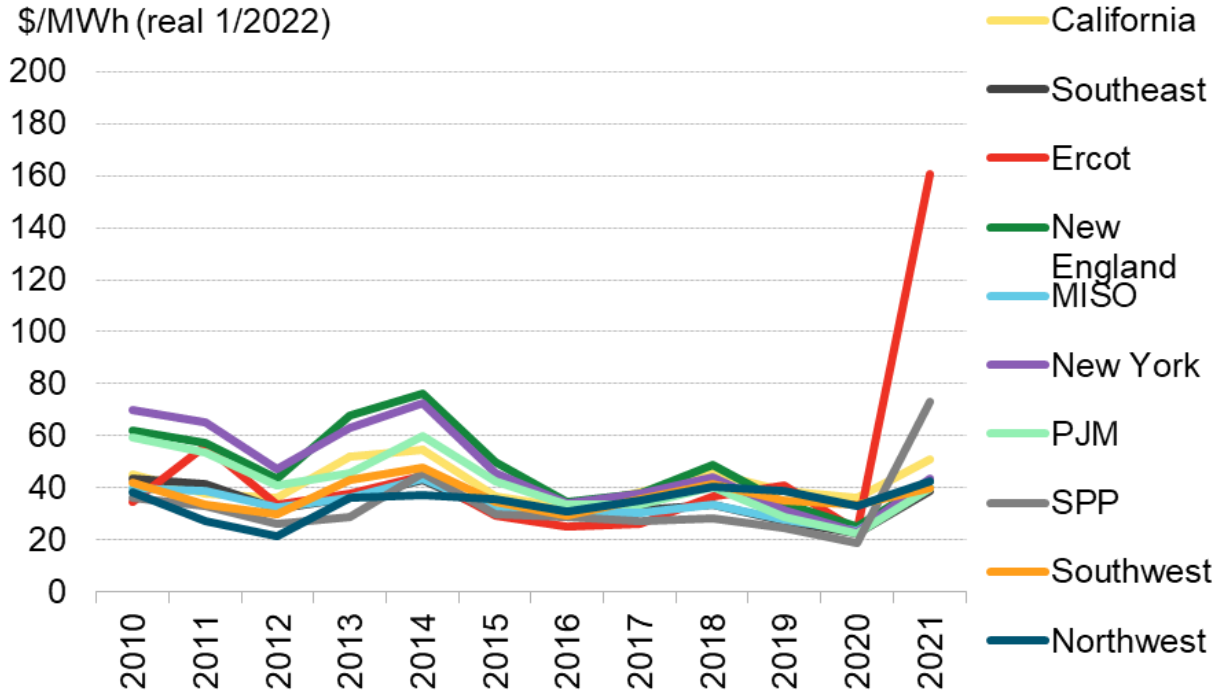
Source: EIA, FERC, BloombergNEF. Note: "Other" includes projects where the technology is unknown, which is frequently lithium-ion batteries. Confirmed capacity refers to projects that have secured financing.

Deployment: U.S. natural gas demand by end use



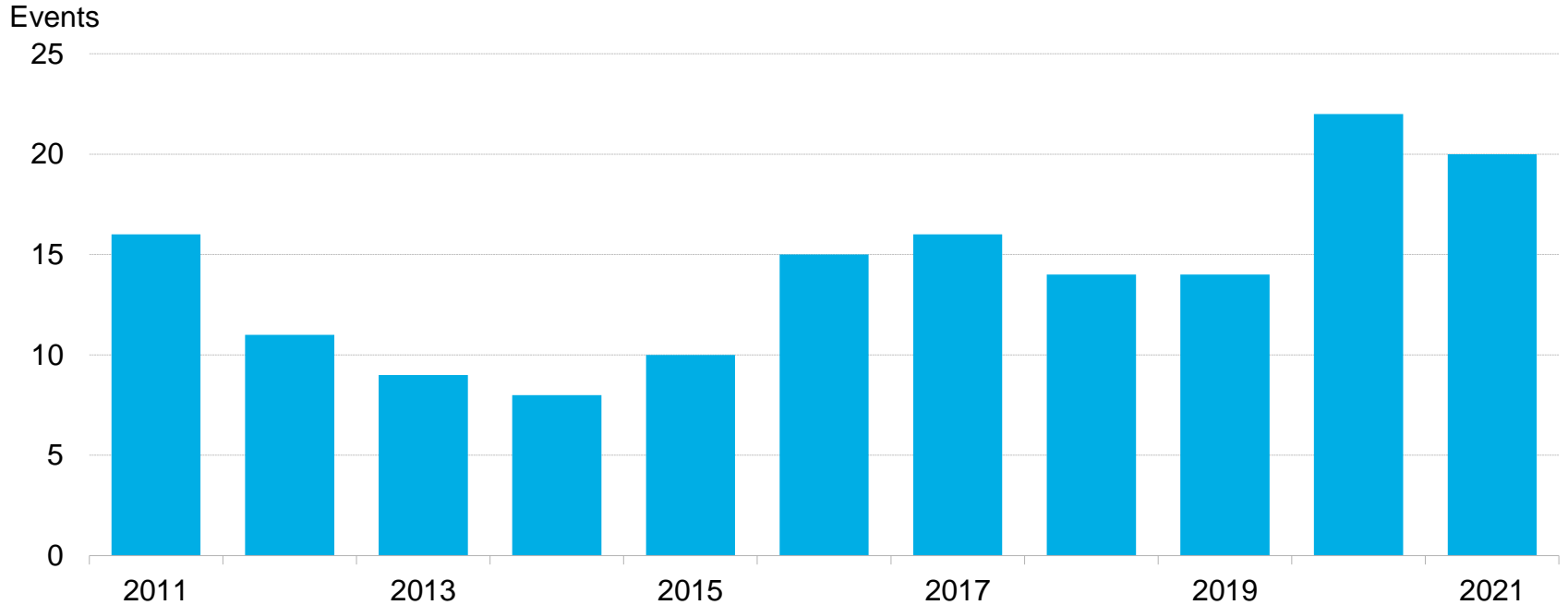
Source: EIA, DOE

Wholesale power prices



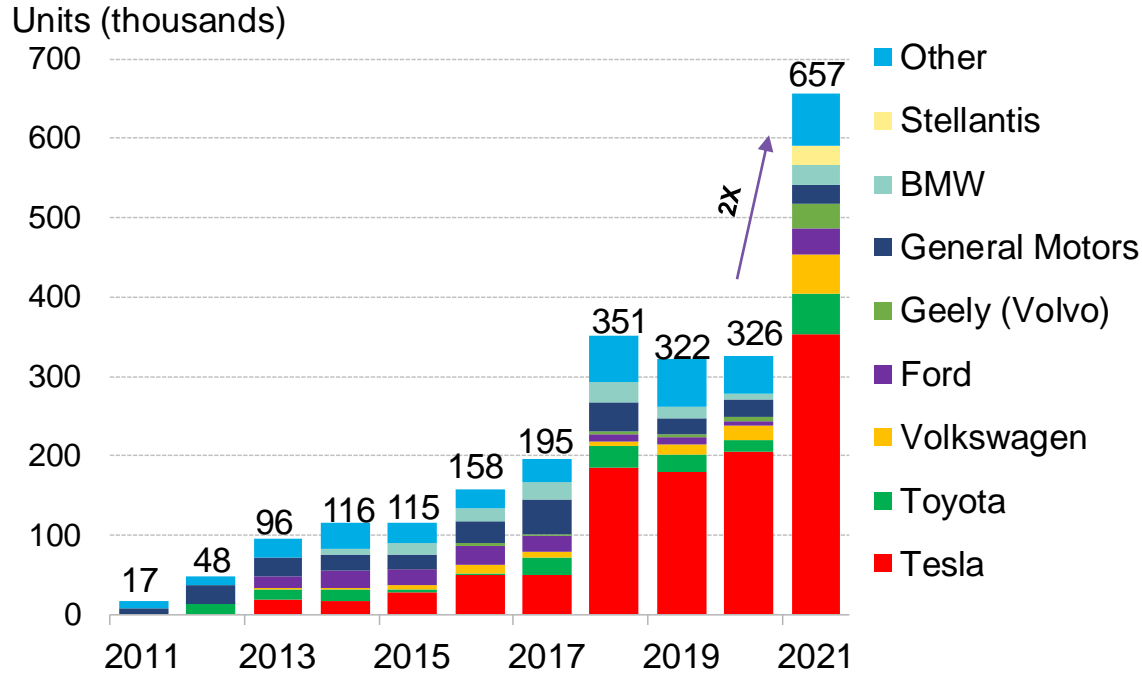
Source: BloombergNEF, EIA, Bloomberg Terminal. Notes: Wholesale prices are taken from proxy power hubs in each ISO and are updated through end-2021. All prices are in real Jan 2022 USD. Retail power prices shown here are not exact retail rates but weighted averages across all rate classes by state, as published by EIA 861. Retail prices are updated through October 2021.

U.S. billion-dollar weather and climate disasters



Source: National Oceanic and Atmospheric Administration, BloombergNEF. Note: Portrays annual counts of drought, flooding, freeze, severe storm, tropical cyclone, wildfire and winter storm events in the U.S. with losses of more than \$1 billion each.

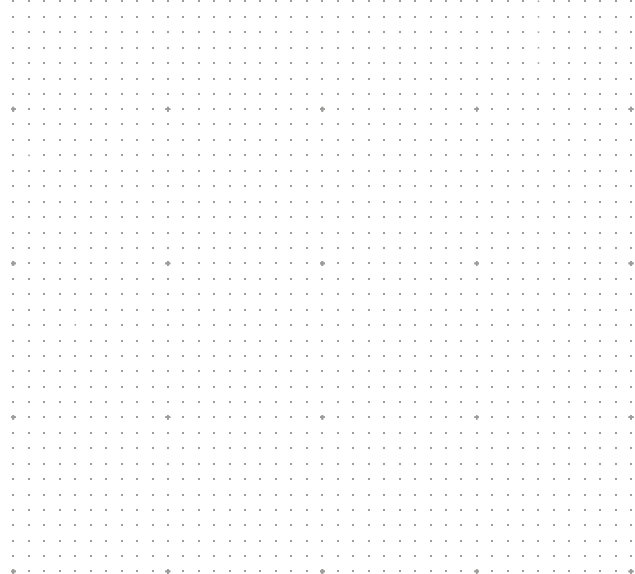
Electric vehicle sales



Source: BloombergNEF, Marklines, U.S. Department of Energy

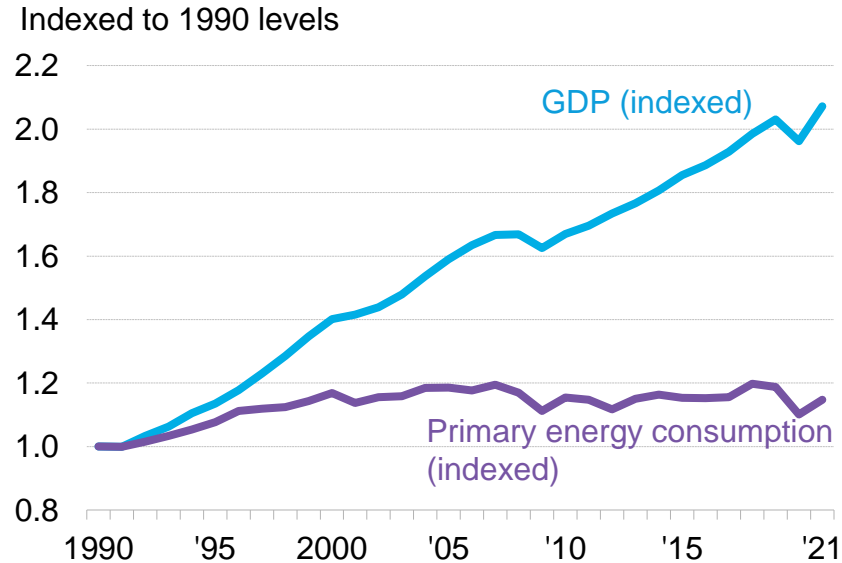
Recovery

Bouncing back from 2020

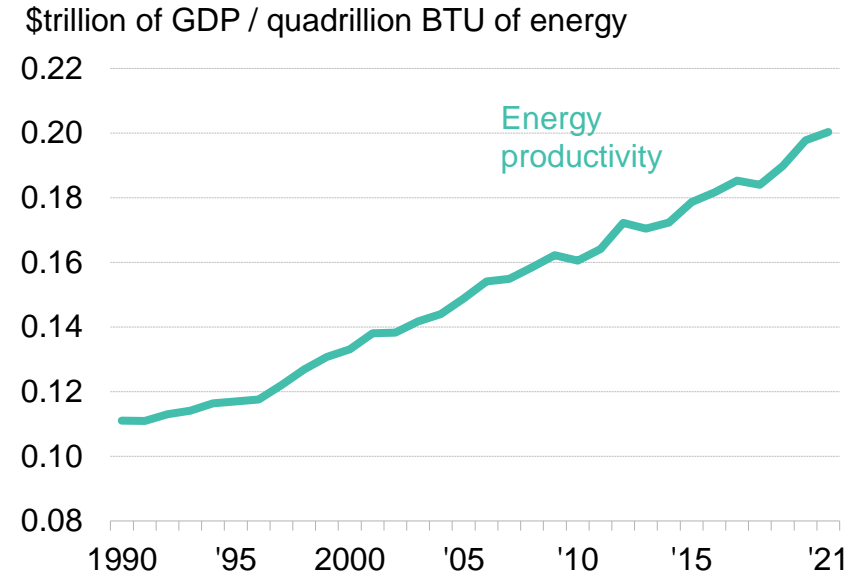


But the economy continues to use energy more efficiently

U.S. GDP and primary energy consumption



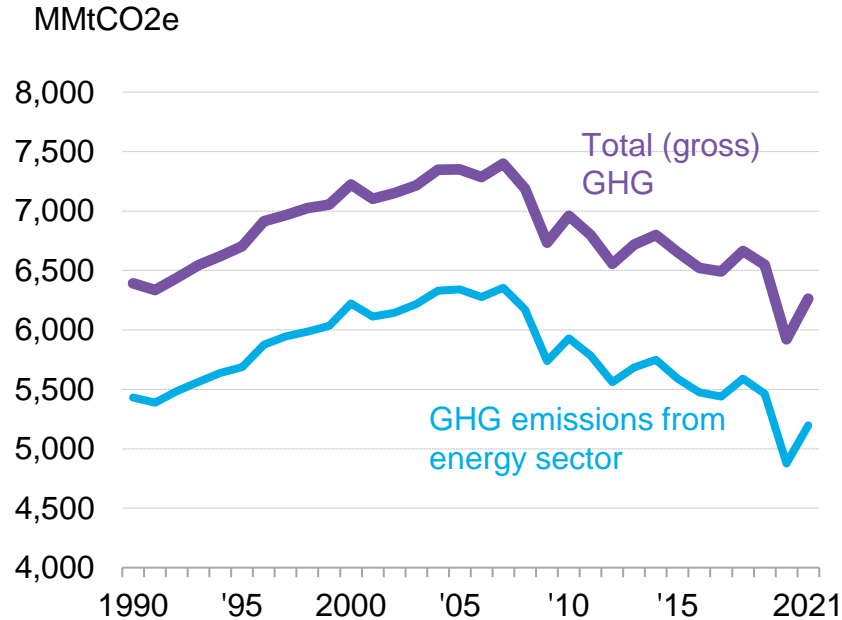
U.S. energy productivity



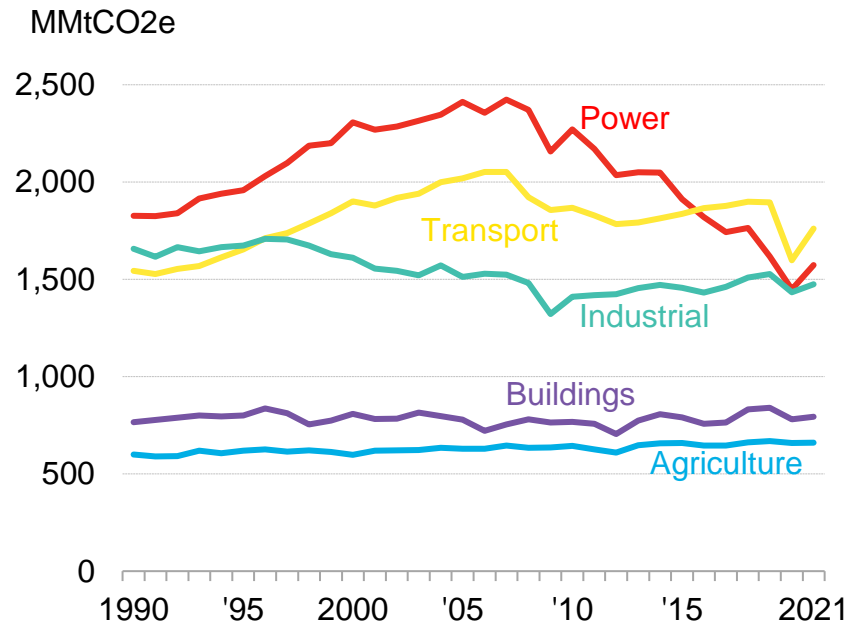
Source: Bureau of Economic Analysis, EIA, BloombergNEF Notes: Values for 2021 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through September 2021). 2021 GDP estimate is a projection from economists compiled at ECFC <GO> on the Bloomberg Terminal.

U.S. energy overview: Greenhouse gas (GHG) emissions

Economy-wide and energy sector emissions



Emissions by sector



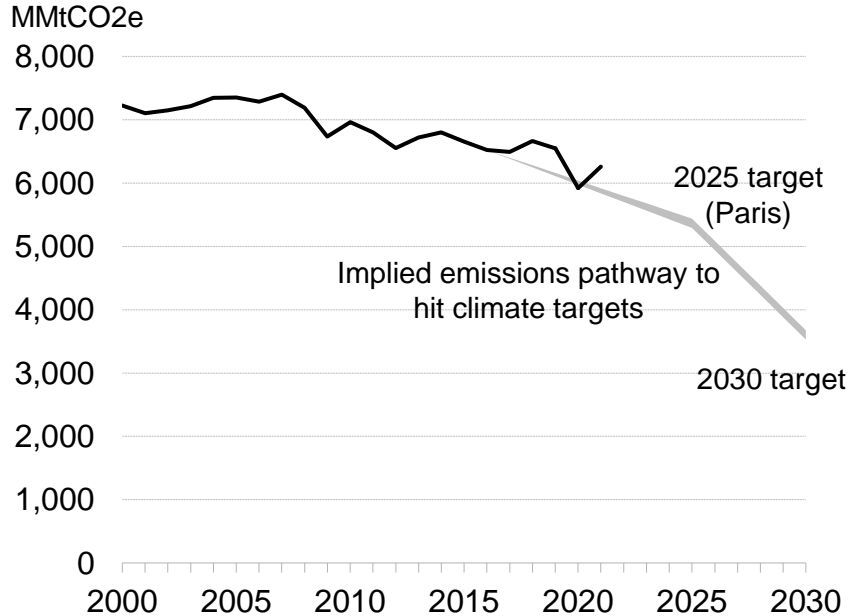
Source: BloombergNEF, EIA, EPA.

Renewed ambition

2021 was a year of getting serious

Policy: U.S. progress toward emissions goals

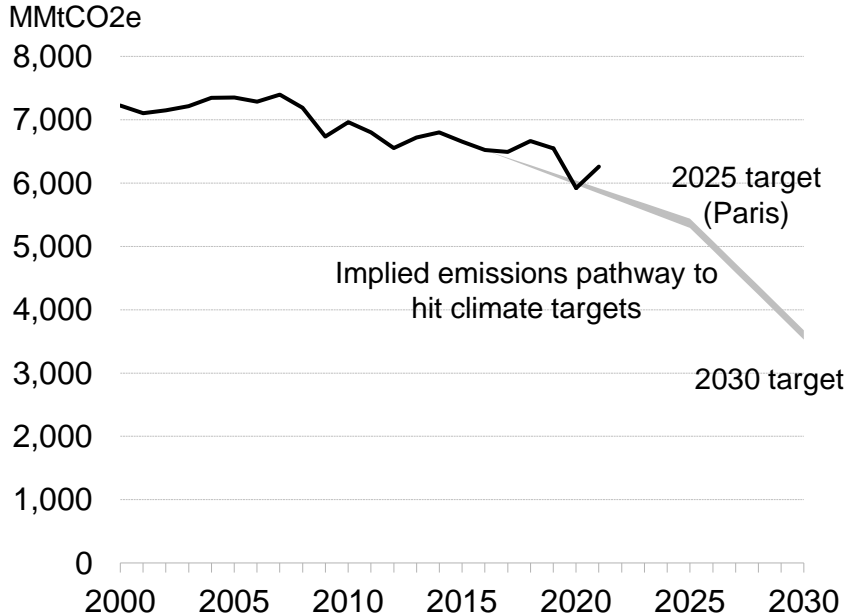
U.S. economy-wide emissions



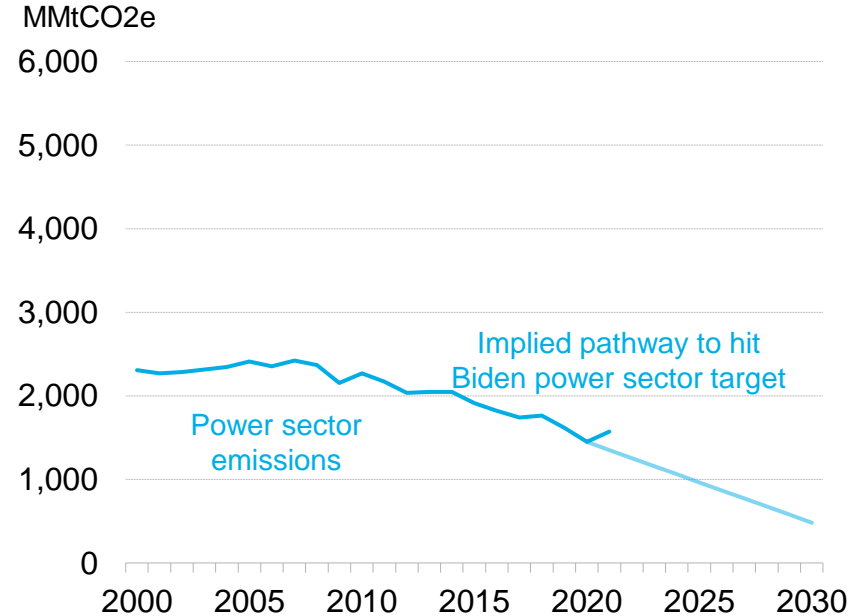
Source: EIA, EPA, BloombergNEF

Policy: U.S. progress toward emissions goals

U.S. economy-wide emissions



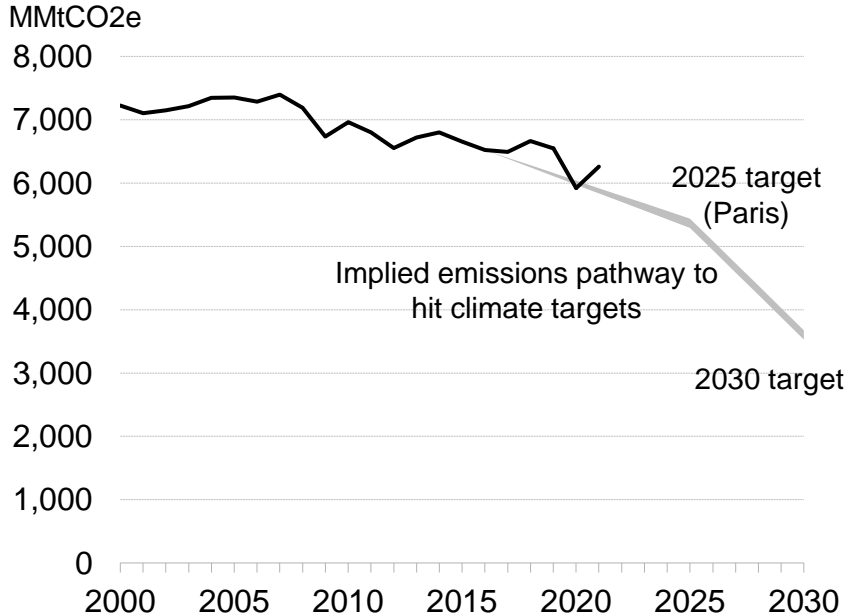
U.S. power emissions and non-power emissions



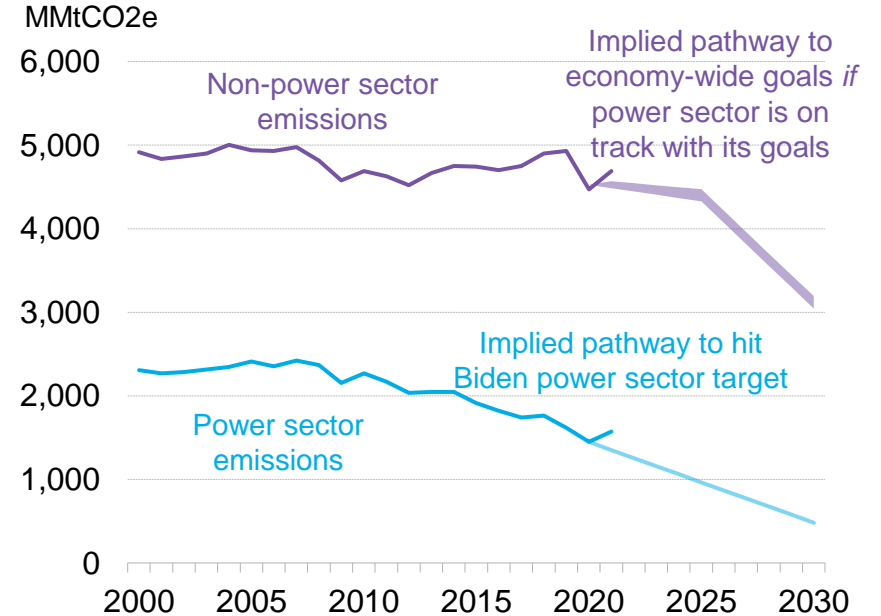
Source: EIA, EPA, BloombergNEF

Policy: U.S. progress toward emissions goals

U.S. economy-wide emissions

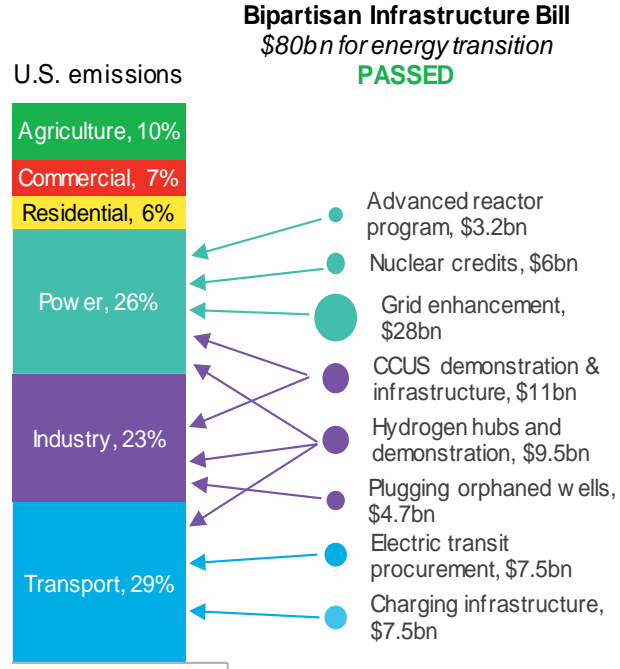


U.S. power emissions and non-power emissions



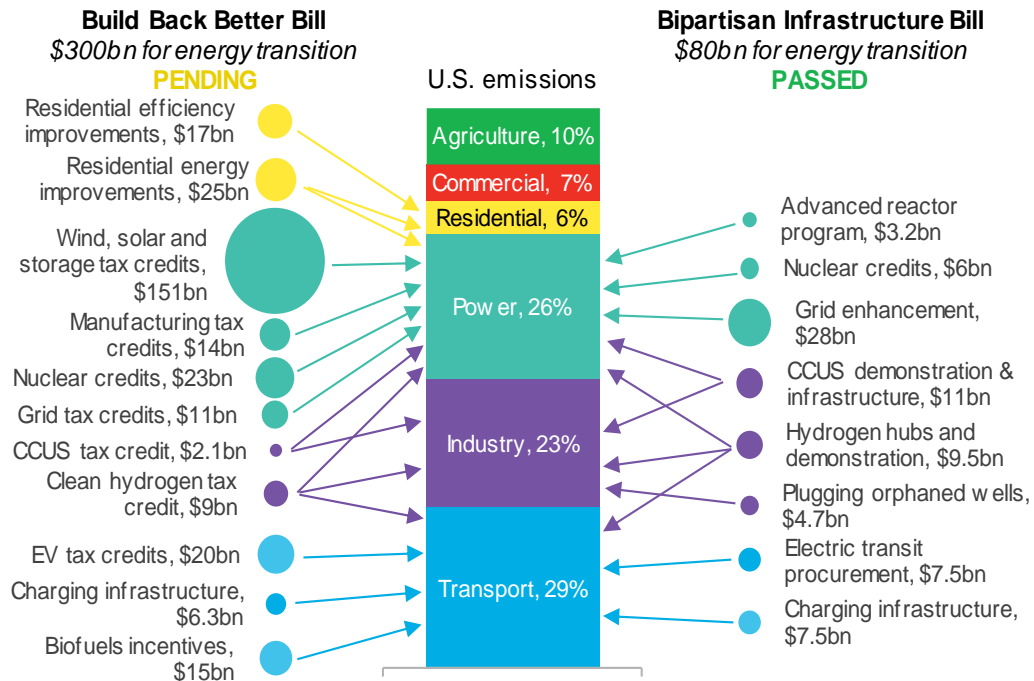
Source: EIA, EPA, BloombergNEF

Energy transition investment in two key pieces of legislation



Source: EPA, EIA, BloombergNEF

Energy transition investment in two key pieces of legislation

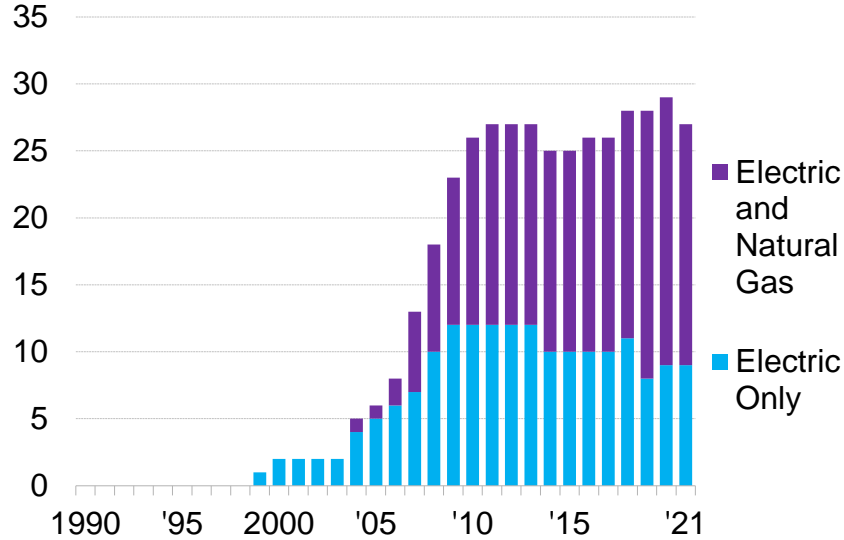


Source: EPA, EIA, BloombergNEF

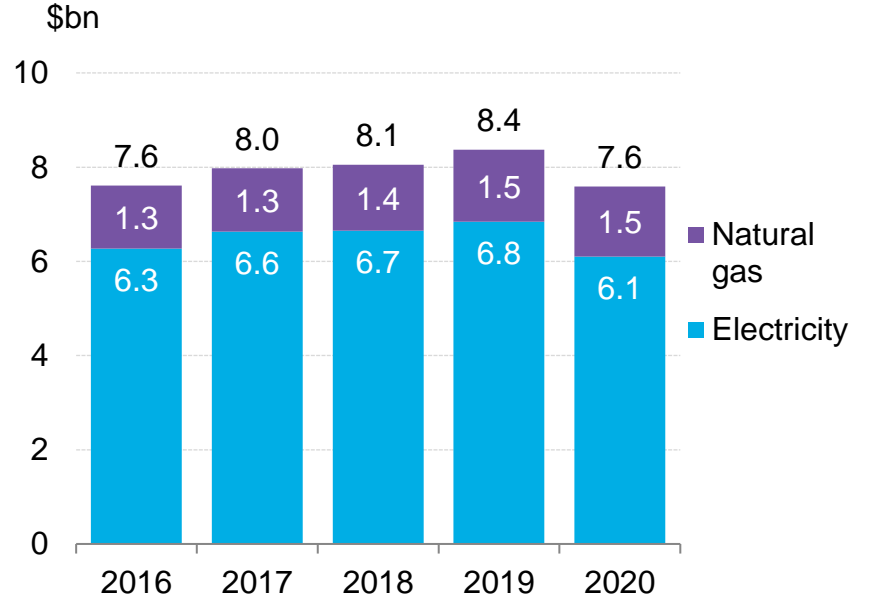
State Energy Efficiency Policy is a Model of Success

U.S. states with Energy Efficiency Resource Standards (EERS)

Number of States



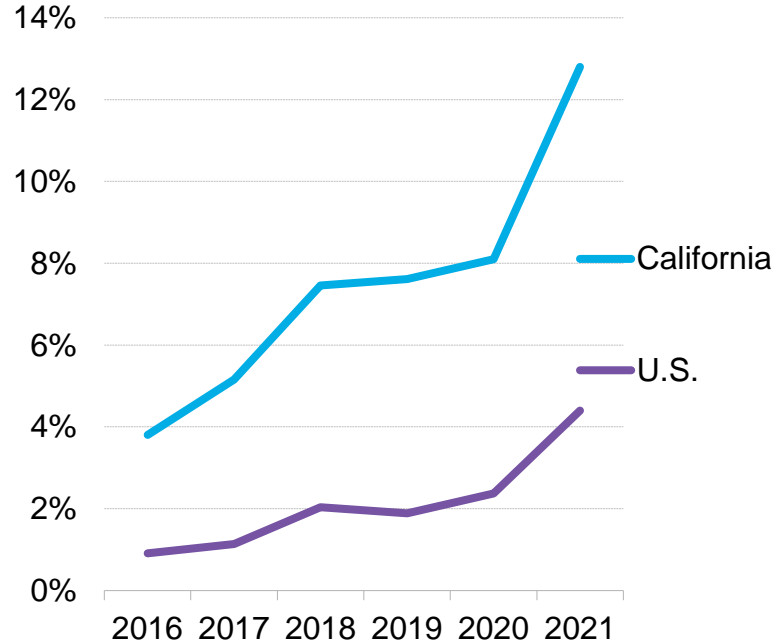
Utility energy efficiency spending



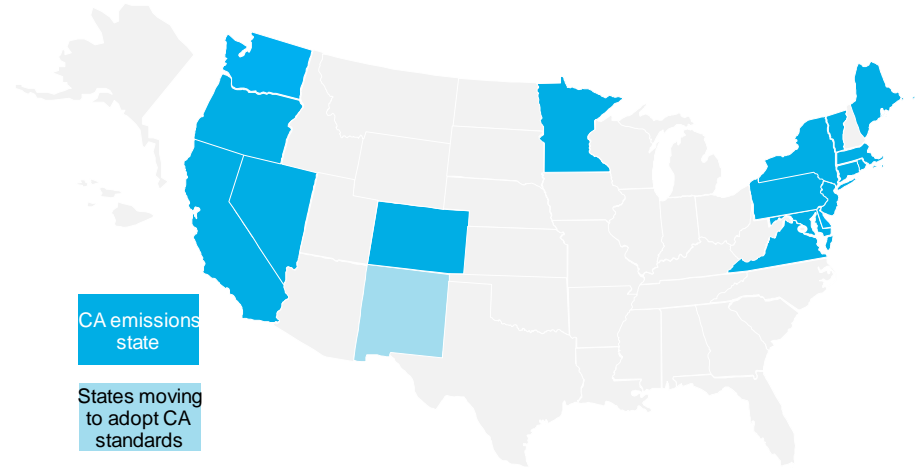
Source: American Council for an Energy Efficient Economy (ACEEE) State Energy Efficiency Scorecard: 2021 Progress Report

Policy: Vehicle fuel economy standards

EV share of light duty vehicle sales in California and nationwide



States that have adopted California's vehicle emissions standards



Source: BloombergNEF, California New Car Dealers Association, Auto Outlook, . Note: The 17 jurisdictions that follow the California GHG standard are Colorado, Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Nevada, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia and Washington.

Industry Insight Panel



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Bill Parsons

*Vice President, Federal and State
Affairs*
American Clean Power Association

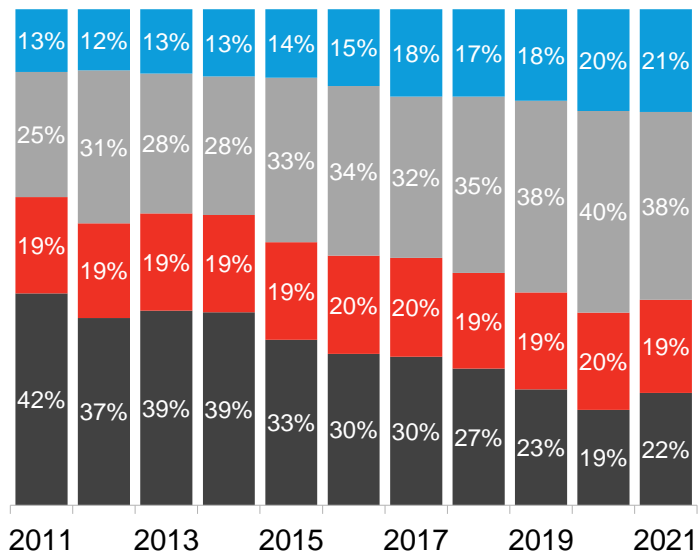


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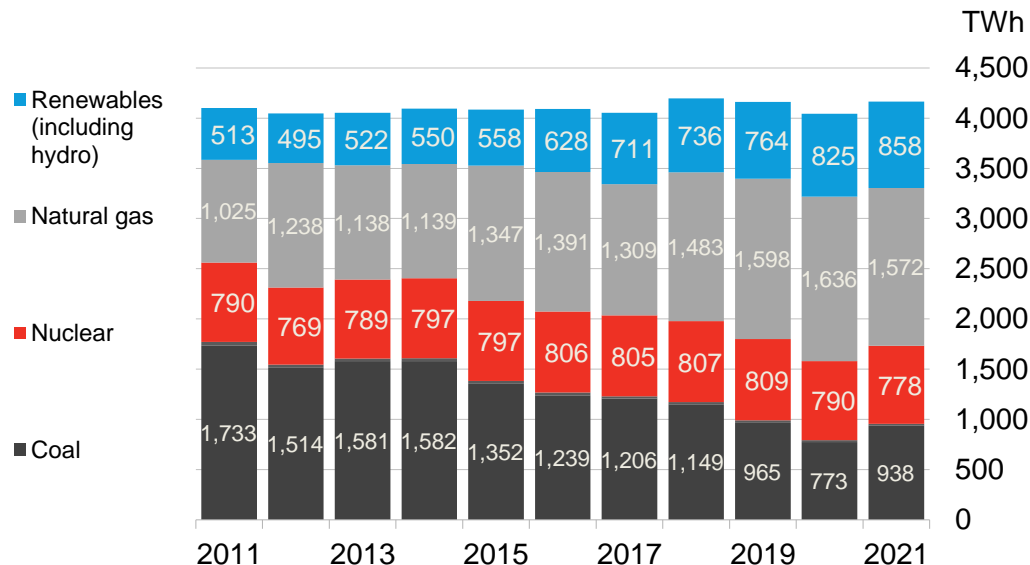


U.S. energy overview: electricity generation mix

U.S. electricity generation, by fuel type



U.S. electricity generation, by fuel type



Source: EIA, BloombergNEF Note: Values for 2021 are projected, accounting for seasonality, based on latest monthly values from EIA (data available through October 2021)



Vincent Barnes

*Senior Vice President, Policy and
Research*
Alliance to Save Energy

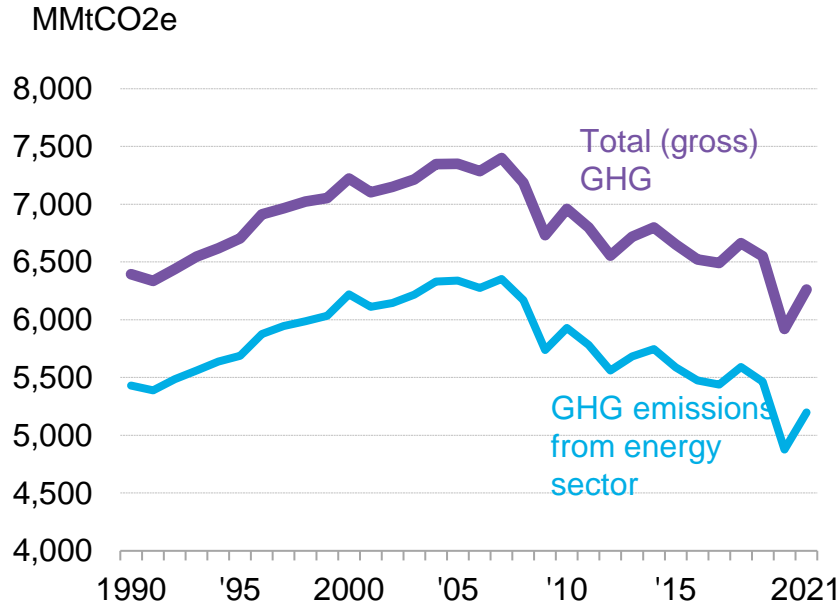


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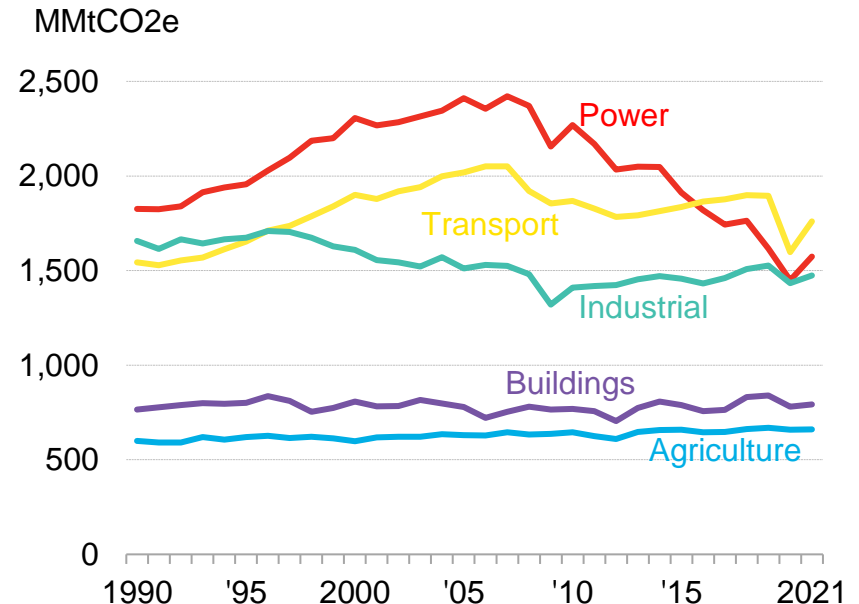
U.S. energy overview: Greenhouse gas (GHG) emissions

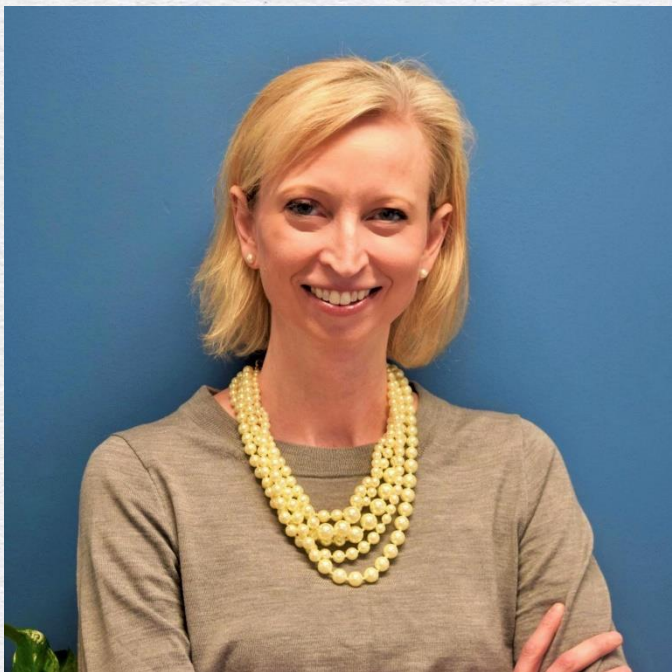
Economy-wide and energy sector emissions



Source: BloombergNEF, EIA, EPA.

Emissions by sector





Erin Duncan

*Vice President, Congressional
Affairs*

Solar Energy Industries Association



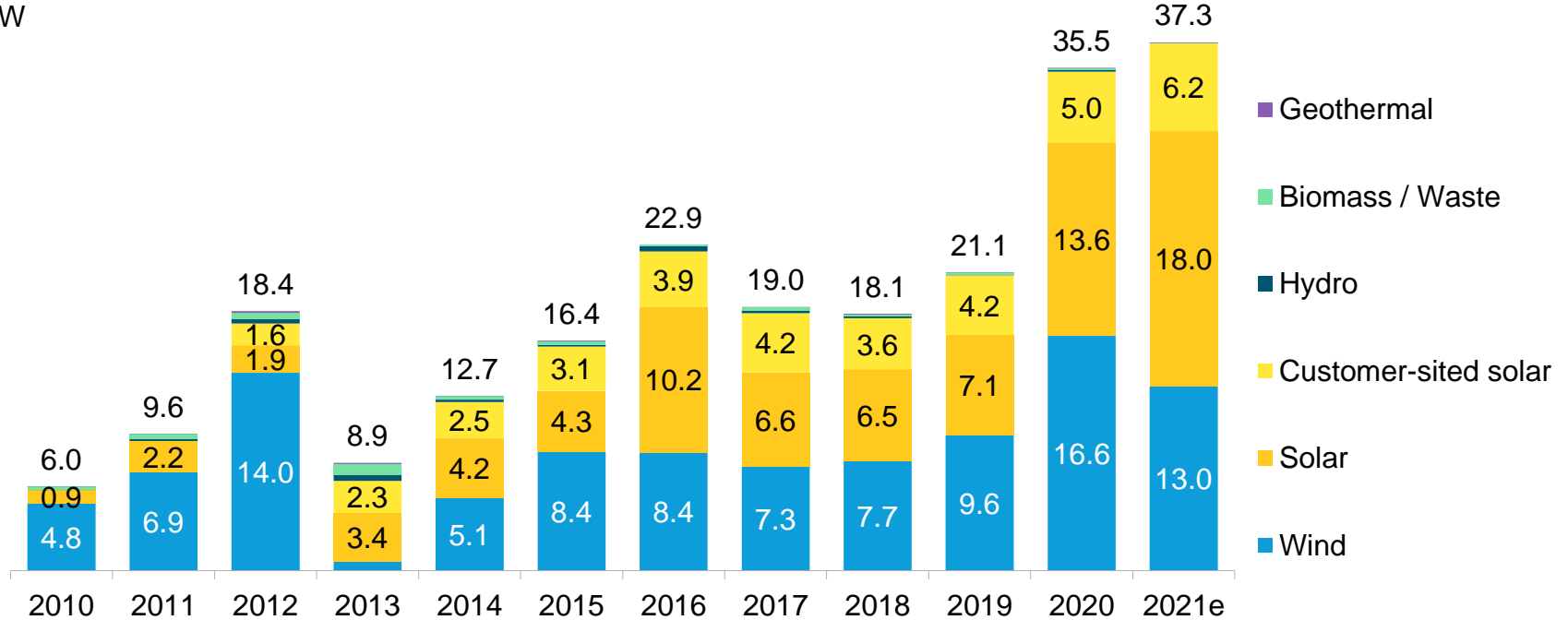
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U.S. energy overview: Renewable energy capacity build by technology

GW

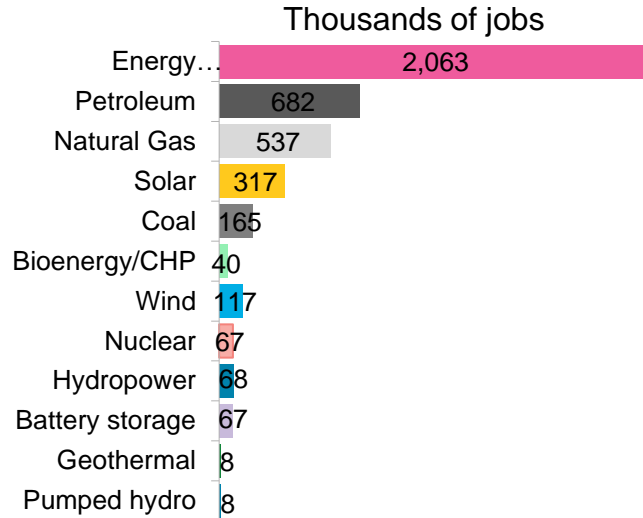
Record build for renewables and for solar



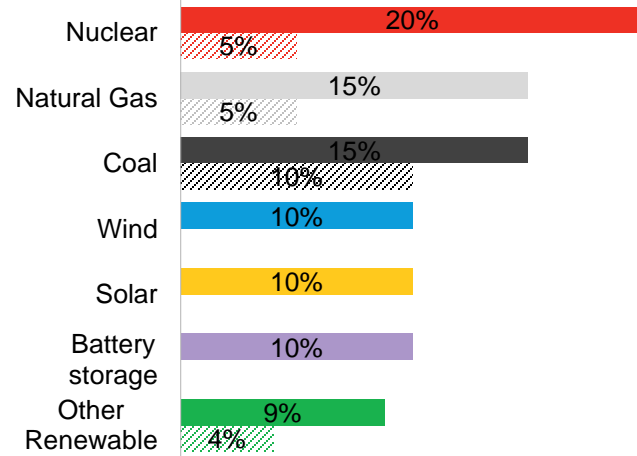
Source: BloombergNEF, EIA Notes: All values are shown in AC except solar, which is included as DC capacity. Numbers include utility-scale (>1MW) projects of all types, rooftop solar, and small- and medium-sized wind. Includes installations or planned installations reported to the EIA through October 2021, as well as BloombergNEF projections.

U.S. energy overview: Jobs in select segments of the energy sector

Jobs in select energy segments, 2020



Unionization rates in select energy segments, 2020



Source: The U.S. Energy Employment Report, NASEO and EFI. Notes: This data relies on thousands of data points provided via survey. Fuel employment encompasses all work related to fuel extraction, mining and processing, as well as workers in the forestry and agriculture sectors who support biofuel production. Generation includes all utility and non-utility employment related to electric generation technologies, including firms that engage in construction, operations, maintenance, and generation equipment manufacturing.



Mark Lessans

*Director of Regulatory and
Environmental Affairs*
Johnson Controls

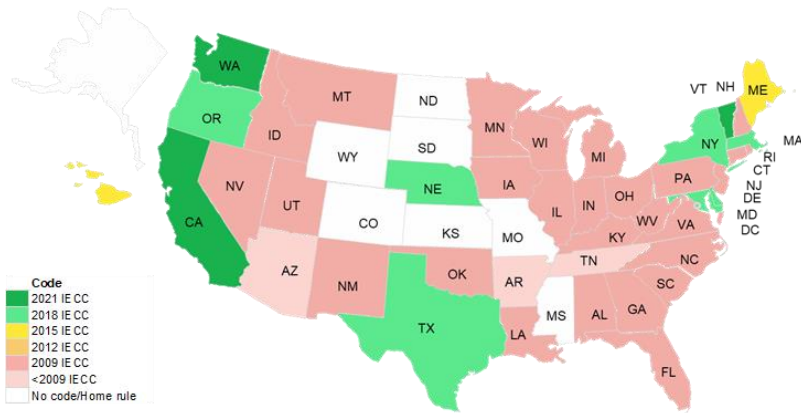


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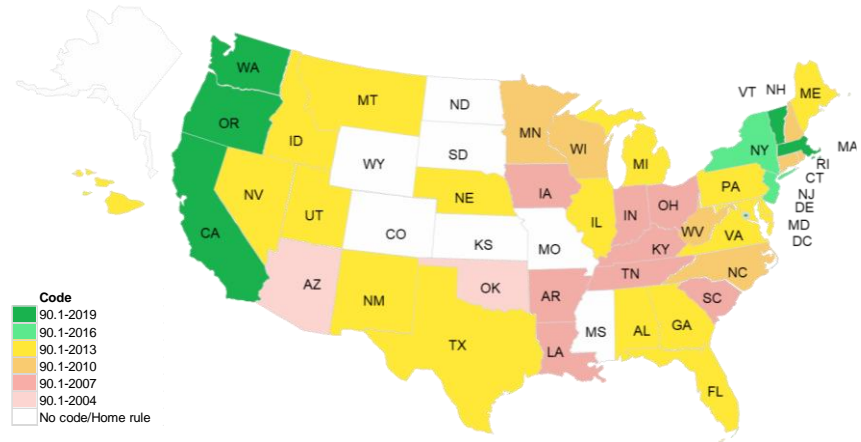


Deployment: Statewide energy code adoption

Residential



Commercial



Source: EERE, ACEEE, BloombergNEF. Note: The maps represent EERE analysis of energy savings impacts from state code adoptions. Any code for which the Energy Index is not more than 1% higher than that of an IECC or Standard 90.1 edition is considered equivalent to that code edition. For more on the EERE methodology see [link](#).



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