

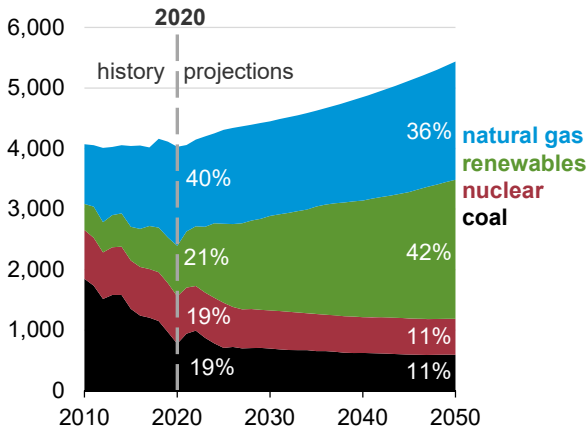


Electricity

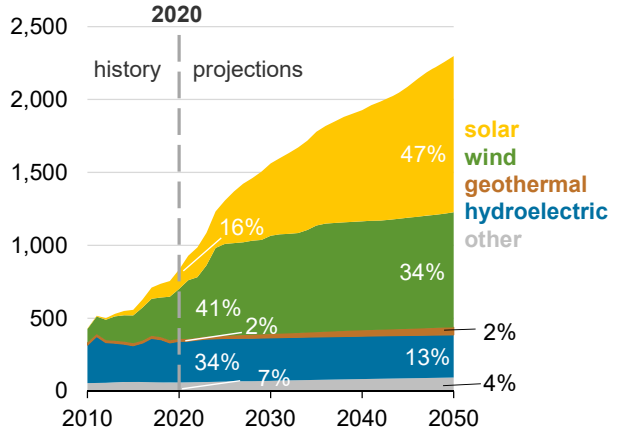


U.S. electricity generation and share from selected fuels and renewable sources

U.S. electricity generation from selected fuels
AEO2021 Reference case
billion kilowatthours



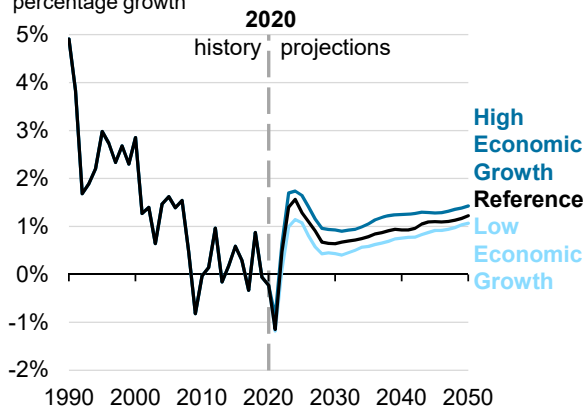
U.S. renewable electricity generation, including end use
AEO2021 Reference case
billion kilowatthours



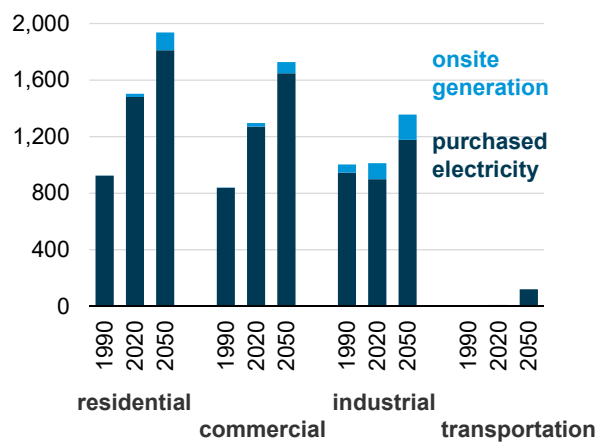


U.S. electricity demand

U.S. electricity use growth rate, three-year rolling average
AEO2021 economic growth cases
percentage growth



U.S. electricity use by end-use sector
AEO2021 Reference case
billion kilowatthours



Note: Onsite generation is electricity produced onsite for own use.



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

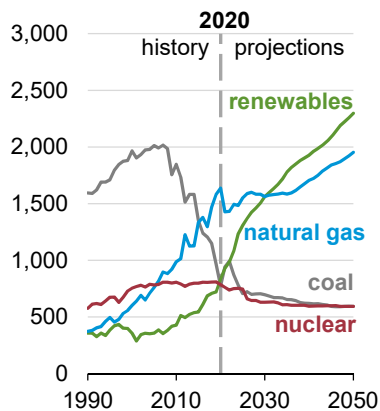
www.eia.gov/aeo



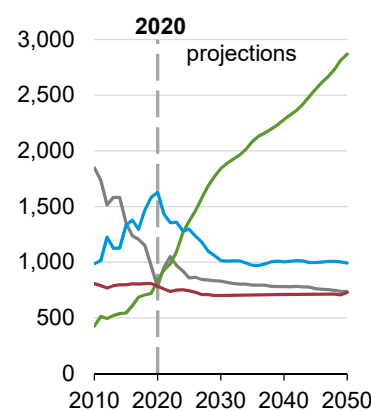
U.S. electricity generation levels from selected fuels and renewable sources

U.S. electricity generation, AEO2021 oil and gas supply cases

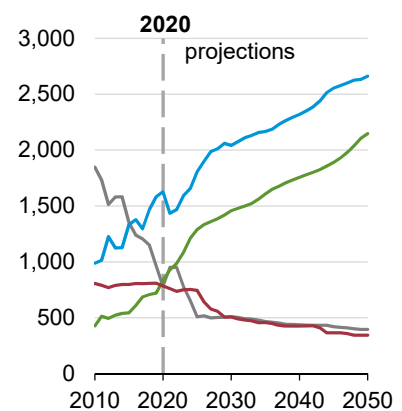
Reference case
billion kilowatthours



Low Oil and Gas Supply case
billion kilowatthours



High Oil and Gas Supply case
billion kilowatthours



Note: Renewables category includes electricity generation from wind, solar, hydroelectric, geothermal, wood, and other biomass sources.



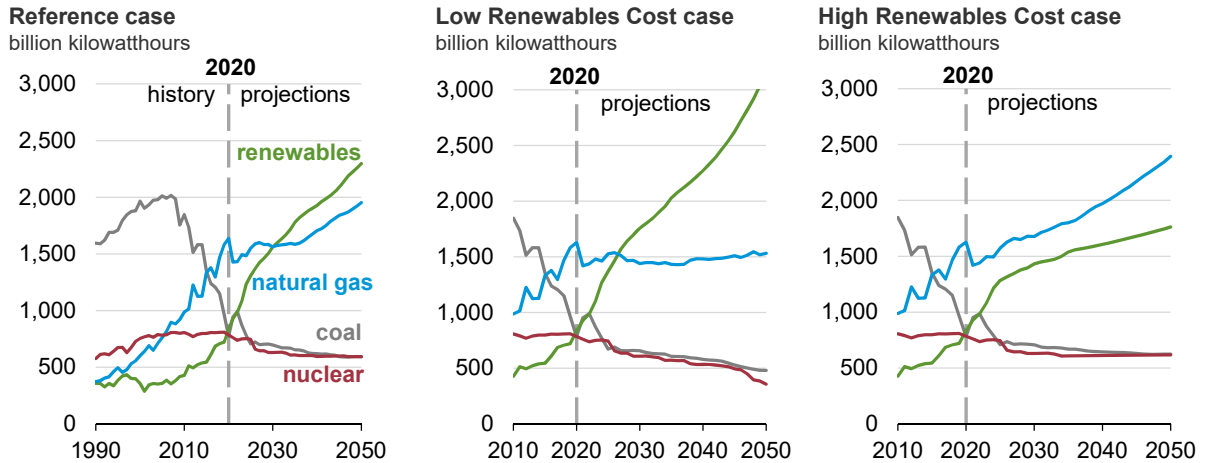
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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U.S. electricity generation levels from selected fuels and renewable sources

U.S. electricity generation, AEO2021 renewables cost cases



Note: Renewables category includes electricity generation from wind, solar, hydroelectric, geothermal, wood, and other biomass sources.



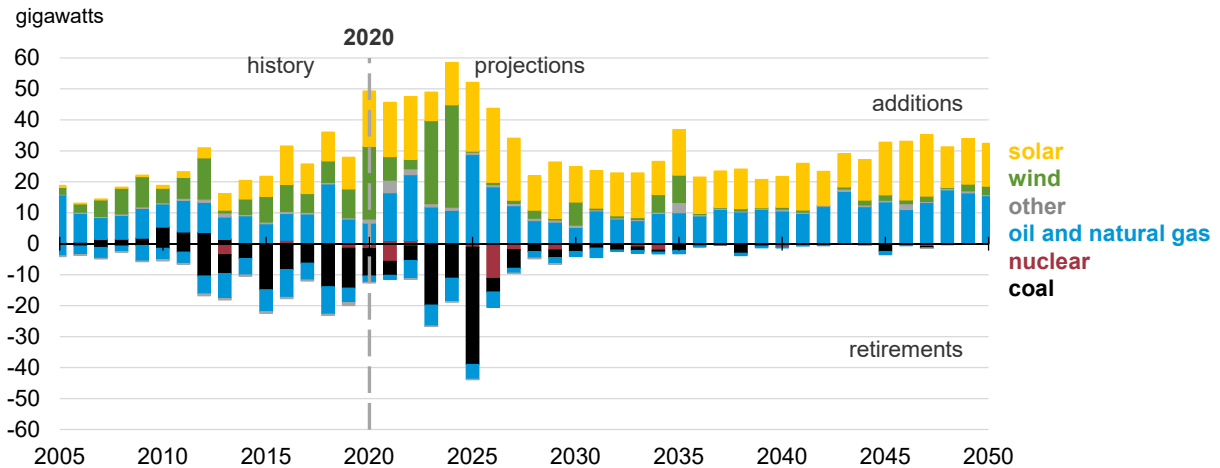
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021 (AEO2021)*

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U.S. retiring and new generating capacity

Annual electricity generating capacity additions and retirements AEO2021 Reference case



Source: Form EIA-860M, *Monthly Update to the Annual Electric Generator Report*, July 2020



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021 (AEO2021)*

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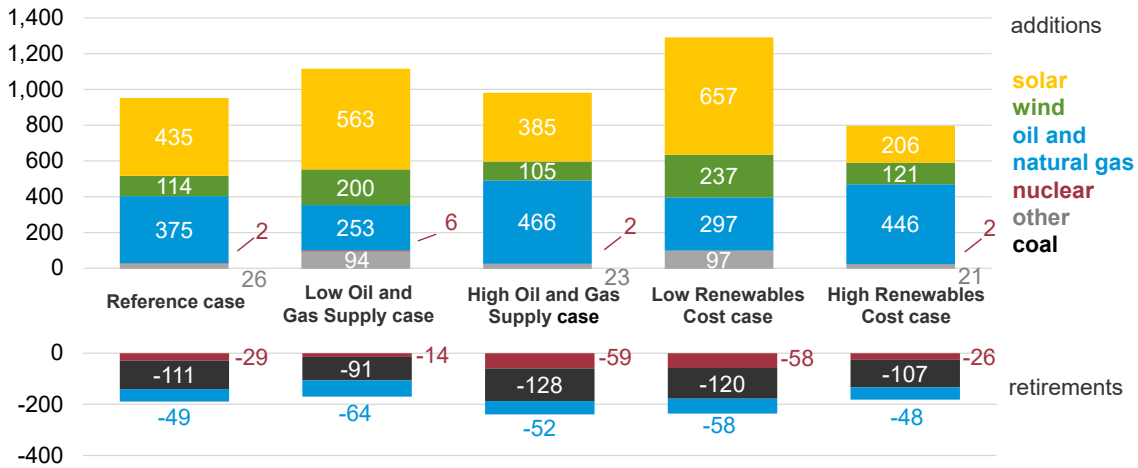


U.S. cumulative retiring and new generating capacity

Cumulative electricity generating capacity additions and retirements (2021–2050)

AEO2021 selected cases

gigawatts



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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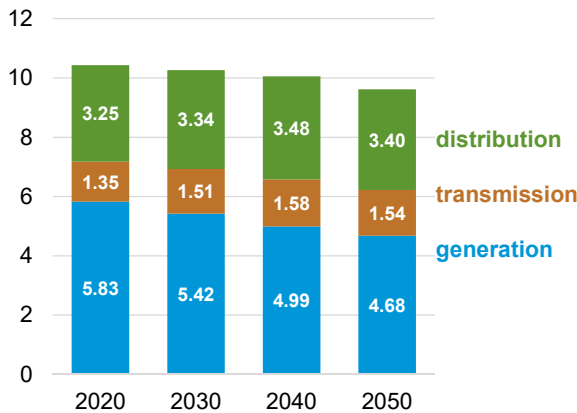


Electricity prices by components and long-term average electricity prices

Components of U.S. Electricity Prices

AEO2021 Reference case

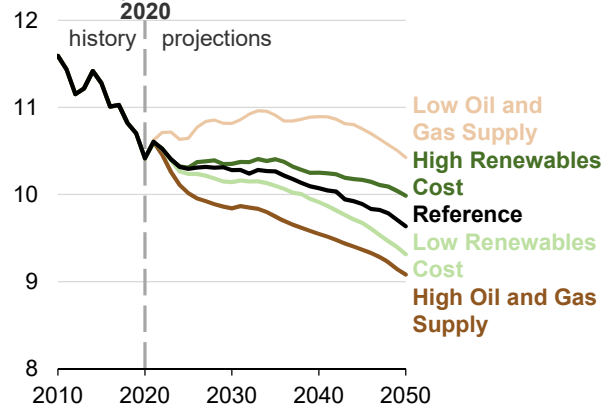
2020 cents per kilowatthour



U.S. average electricity price

AEO2021 selected cases

2020 cents per kilowatthour



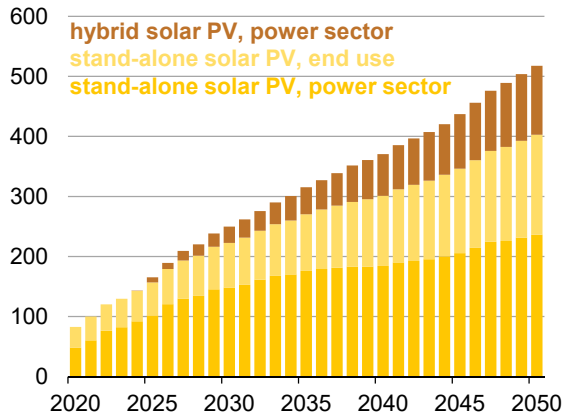
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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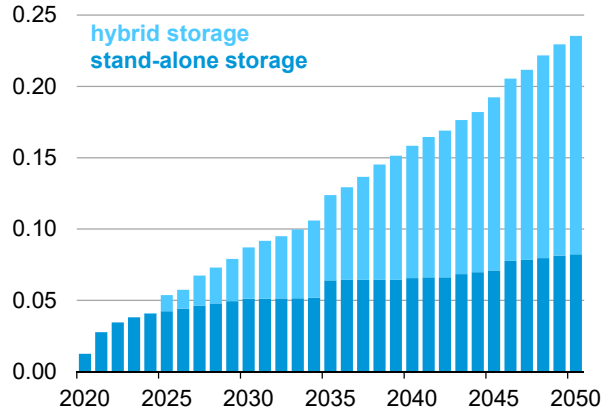


Hybrid versus stand-alone solar photovoltaic (PV) and energy storage systems

U.S. solar PV generating capacity, all sectors
AEO2021 Reference case
gigawatts



U.S. storage energy capacity, power sector
AEO2021 Reference case
billion kilowatthours



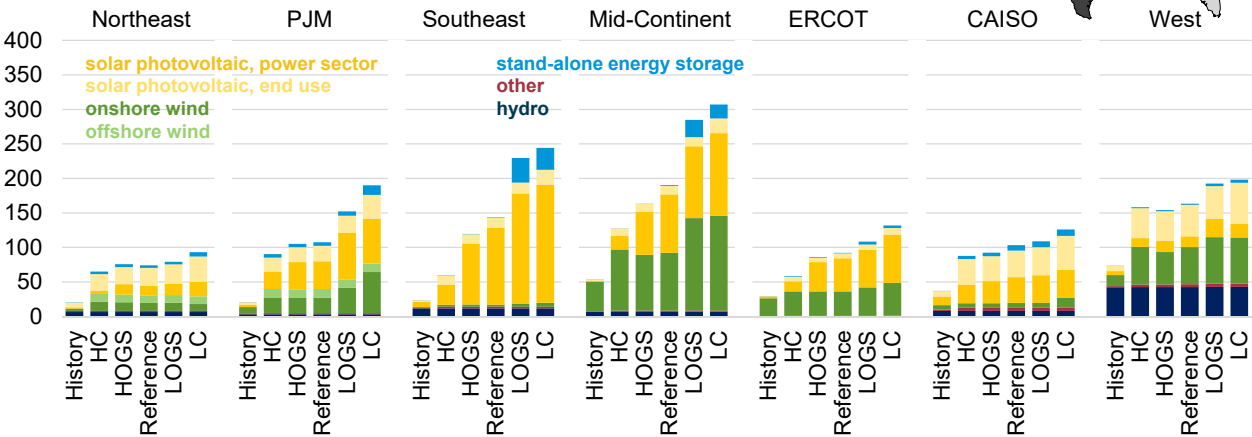
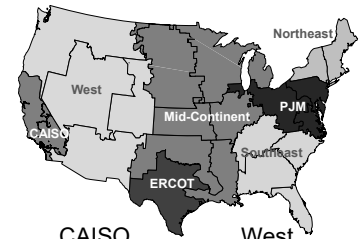
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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Renewable capacity by source and region

Total renewables capacity in all sectors, 2019 and 2050
AEO2021 selected side cases
gigawatts



HC: High Renewable Cost; LC: Low Renewable Cost; HOGS: High Oil & Gas Supply; LOGS: Low Oil & Gas Supply; other: geothermal, biomass, municipal waste



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

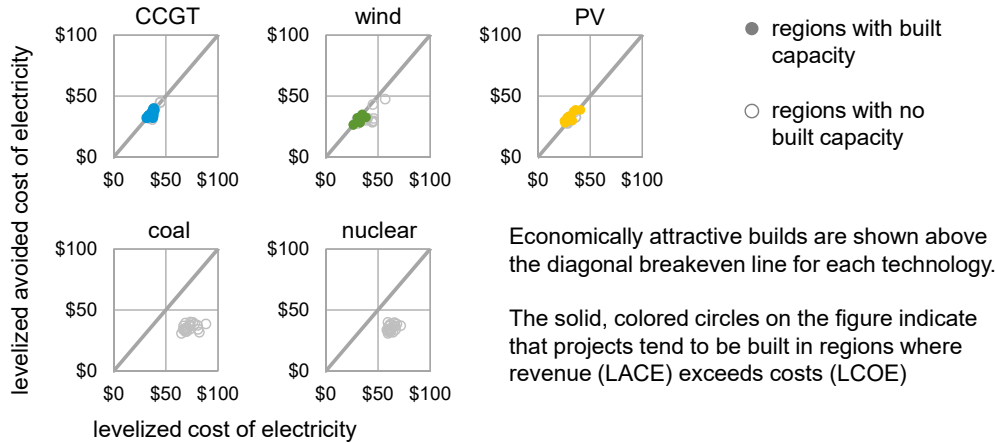
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Economic cost competitiveness of generating technologies

Levelized avoided cost of electricity (LACE) and levelized cost of electricity (LCOE) by technology, 2026 online year, AEO2021 Reference case

2020 dollars per megawatthour



Note: CCGT = natural gas combined cycle, PV = solar photovoltaic



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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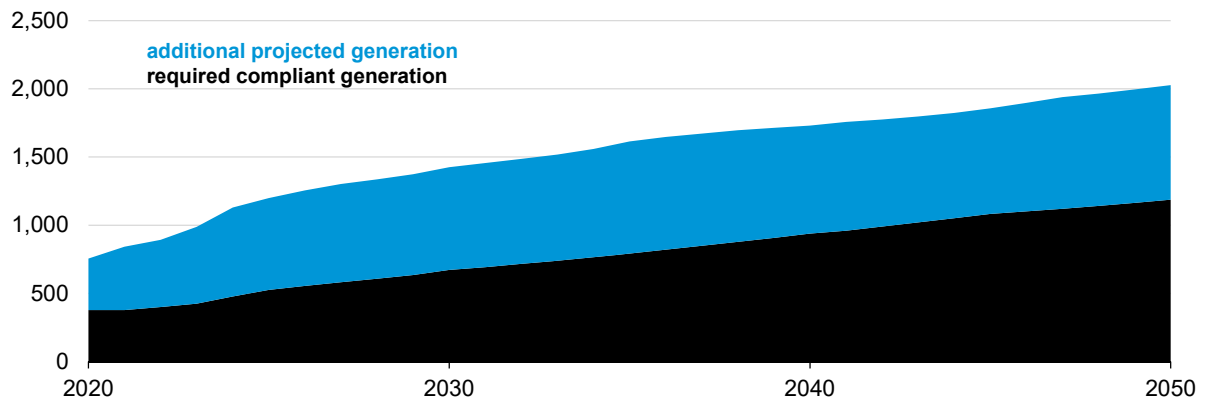


U.S. renewable portfolio standards

Total qualifying renewables generation required for combined state renewable portfolio standards and projected total generation from compliant technologies

AEO2021 Reference case

billion kilowatthours



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

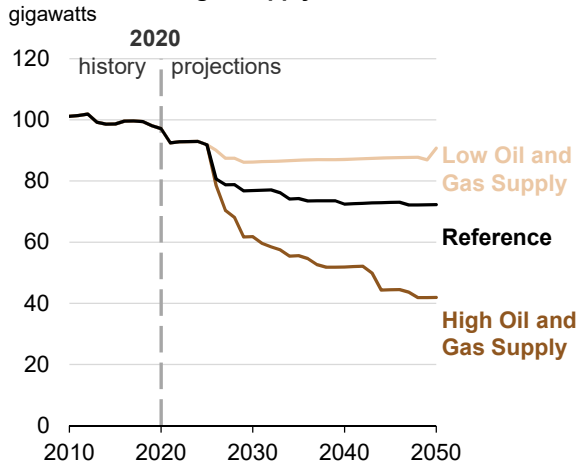
www.eia.gov/ao



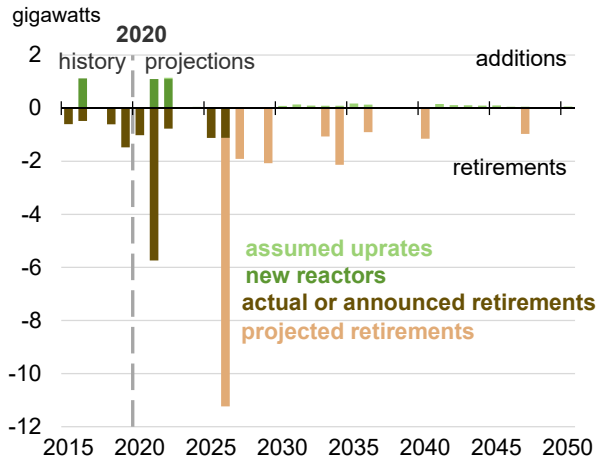


U.S. nuclear capacity and annual capacity changes

U.S. nuclear electricity generating capacity
AEO2021 oil and gas supply cases



Year-over-year nuclear capacity changes
AEO2021 Reference case



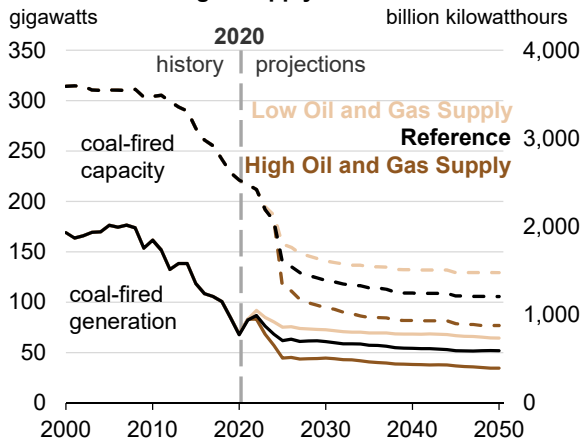
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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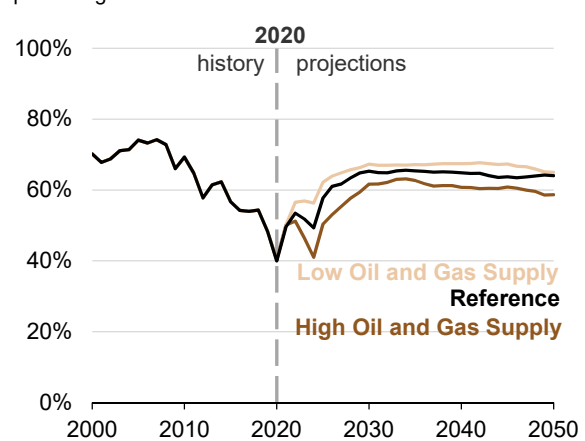


U.S. coal-fired generation, capacity, and capacity factors

U.S. electric generating capacity
AEO2021 oil and gas supply cases



U.S. capacity factor for coal-fired generation
AEO2021 oil and gas supply cases



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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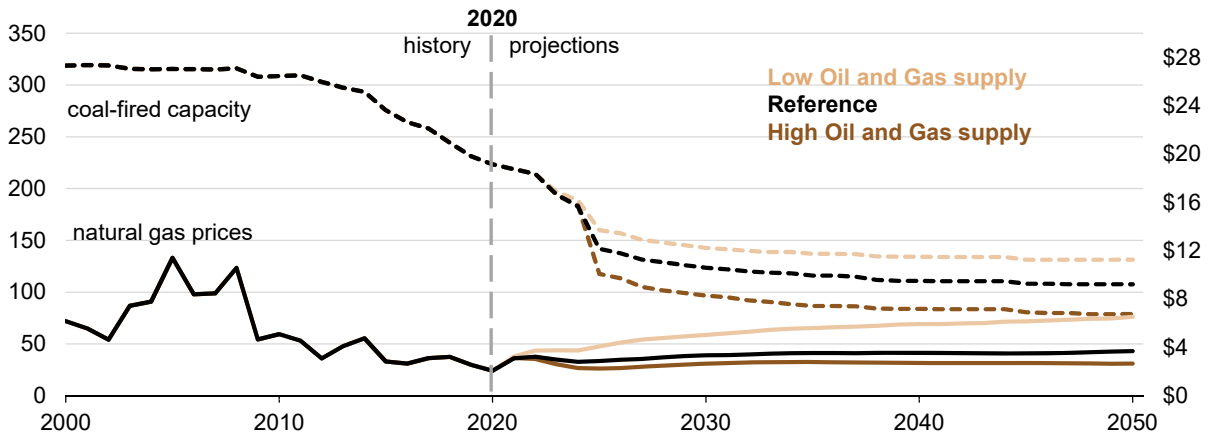




U.S. coal-fired generating capacity relative to natural gas prices

U.S. electric generating capacity
AEO2021 oil and gas supply cases
gigawatts

Average delivered natural gas prices to the electric
power sector
2020 dollars per million British thermal units



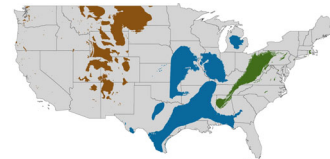
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021 (AEO2021)*

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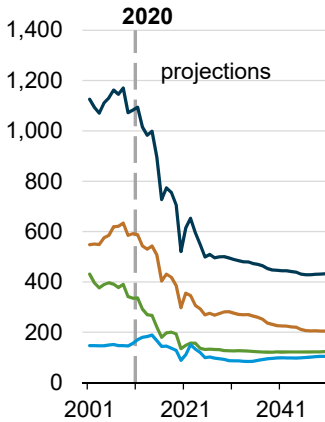
Coal production by U.S. region

U.S. coal production by region, AEO2021 oil and gas supply cases



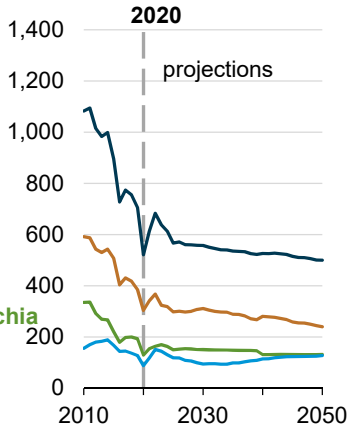
Reference case

million short tons



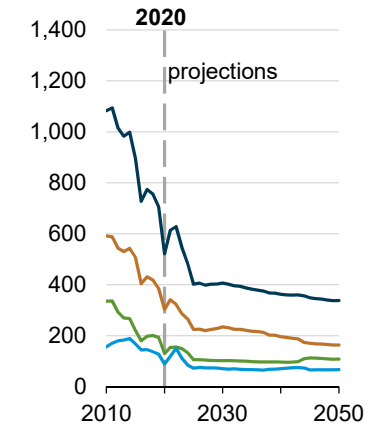
Low Oil and Gas Supply case

million short tons



High Oil and Gas Supply case

million short tons



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021 (AEO2021)*

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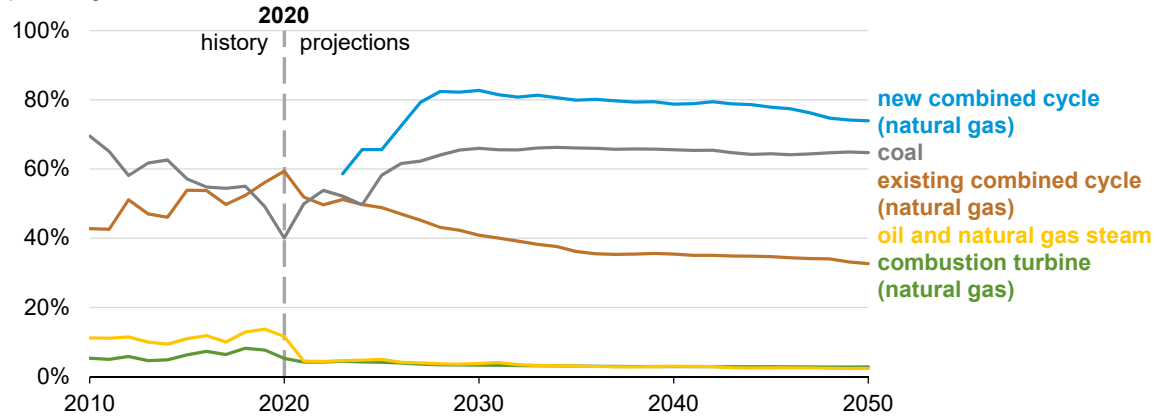


U.S. fossil fuel-fired plant capacity factors

Capacity factor for U.S. fossil fuel-fired plants

AEO2021 Reference case

percentage



Note: New combined-cycle (natural gas) plants are assumed to come online in 2023. New builds as shown are multi-shaft combined-cycle units. Existing combined cycle units include both multi-shaft and single-shaft; 12 gigawatts of new single-shaft combined-cycle units are included in existing.



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

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