



Electricity

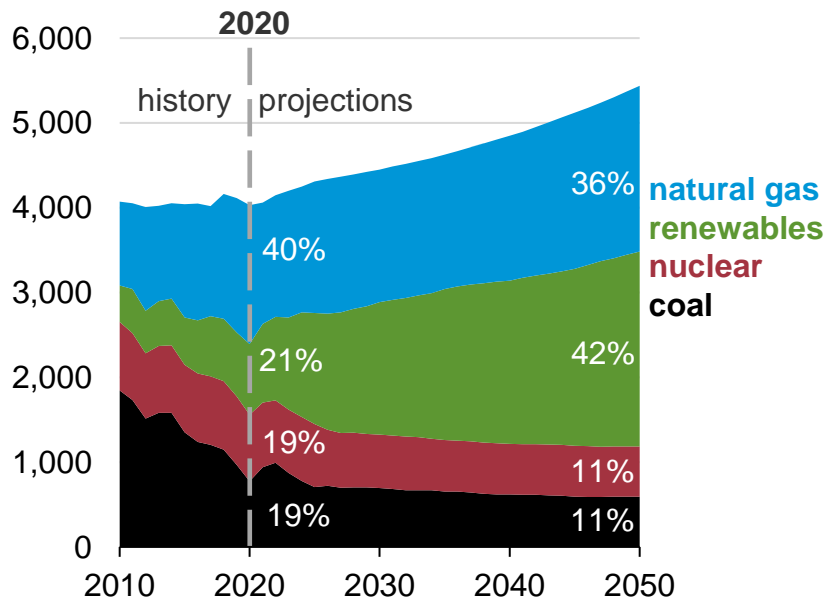


U.S. electricity generation and share from selected fuels and renewable sources

U.S. electricity generation from selected fuels

AEO2021 Reference case

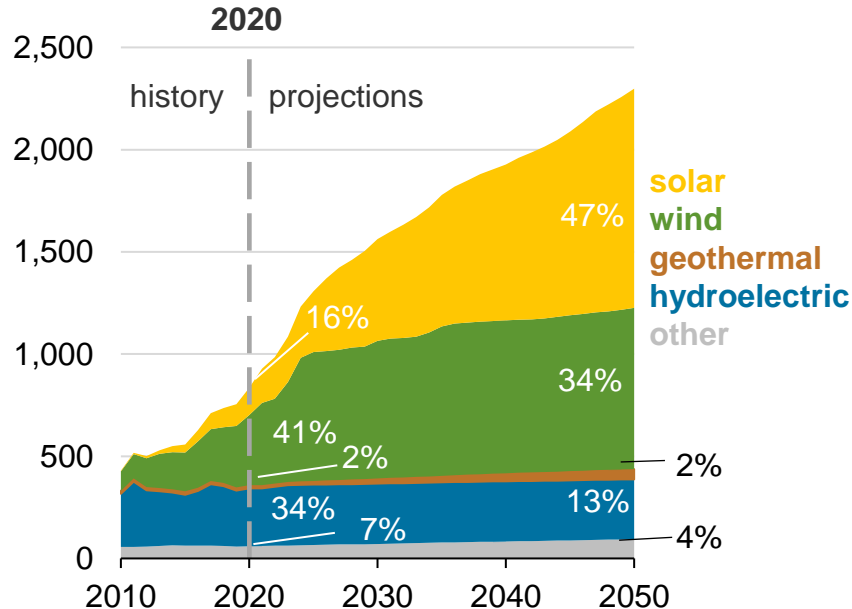
billion kilowatthours



U.S. renewable electricity generation, including end use

AEO2021 Reference case

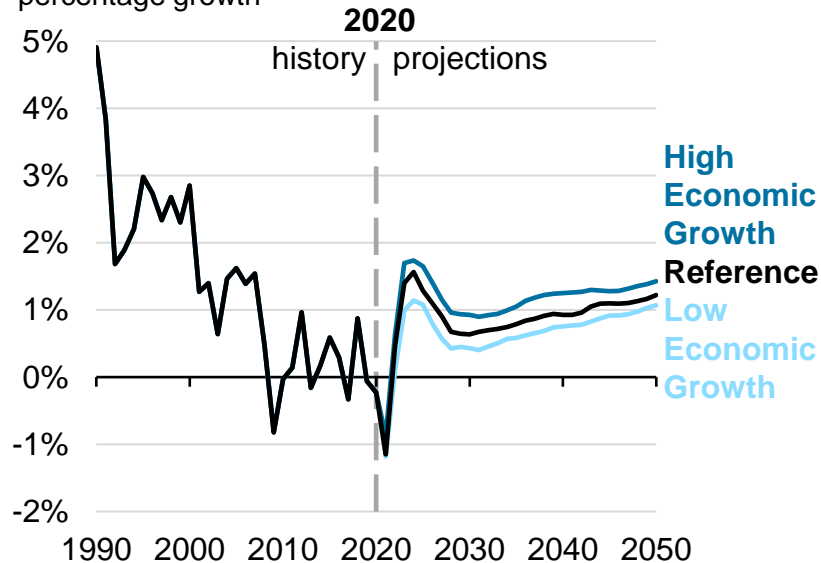
billion kilowatthours



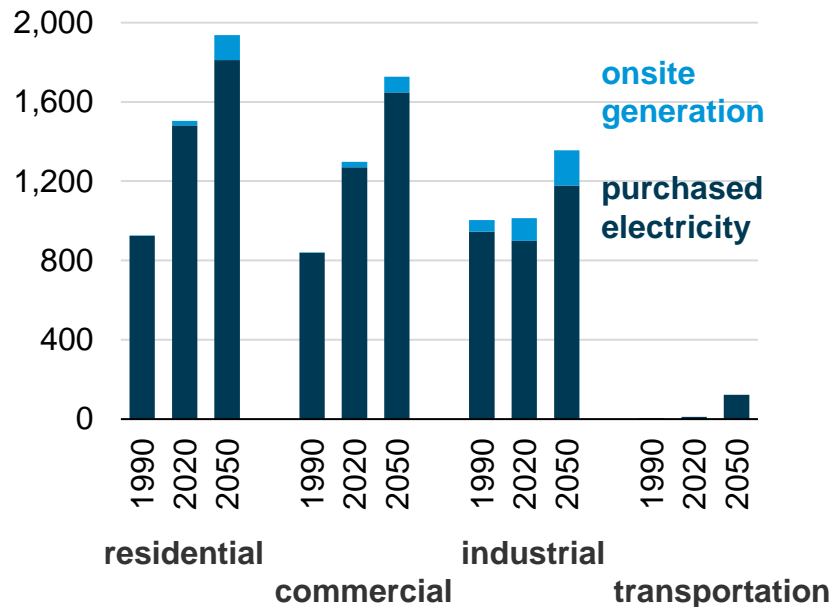


U.S. electricity demand

**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.

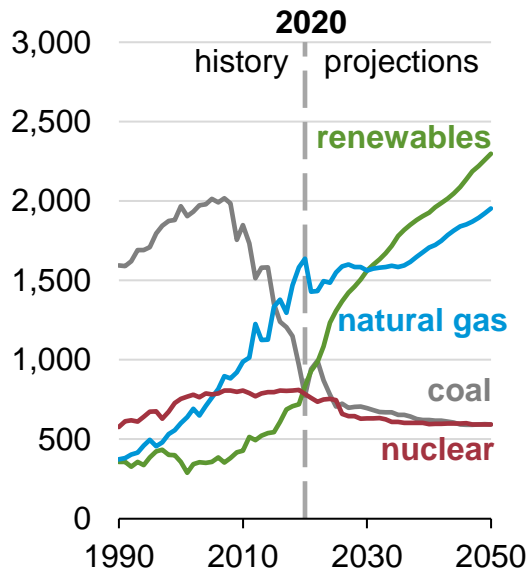


U.S. electricity generation levels from selected fuels and renewable sources

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

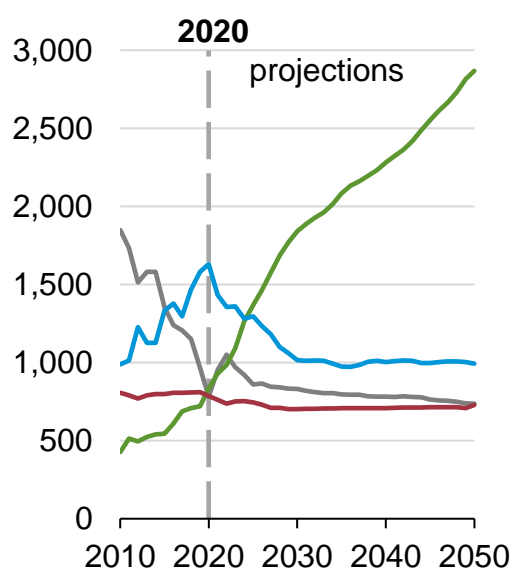
Reference case

billion kilowatthours



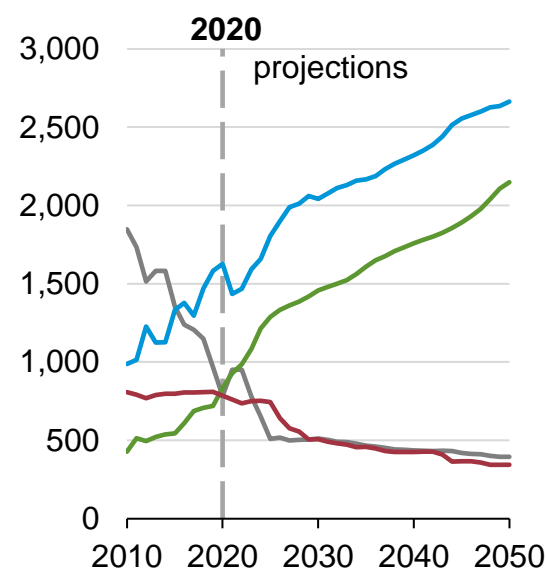
Low Oil and Gas Supply case

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.

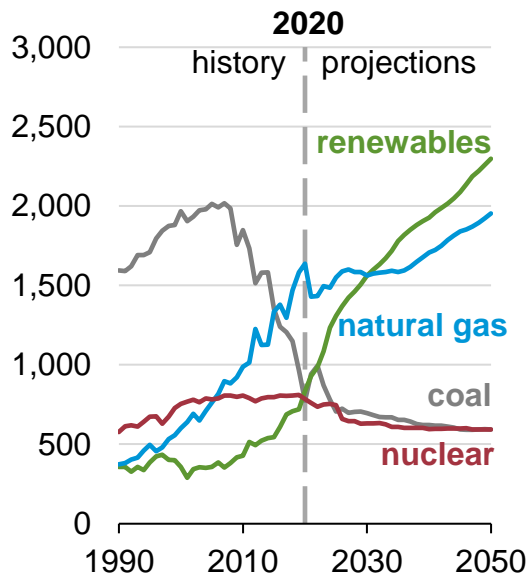


U.S. electricity generation levels from selected fuels and renewable sources

U.S. electricity generation, AEO2021 renewables cost cases

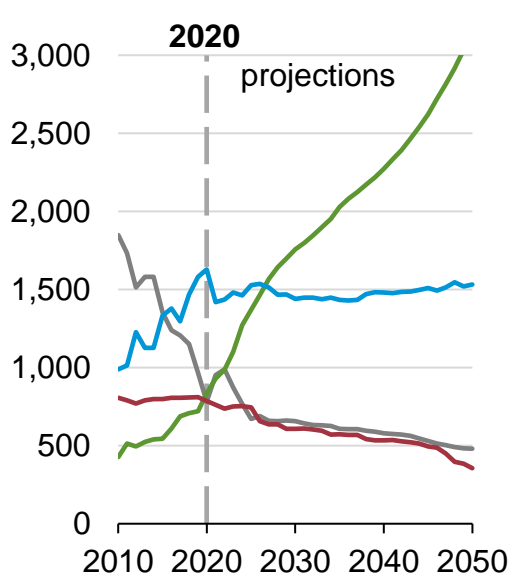
Reference case

billion kilowatthours



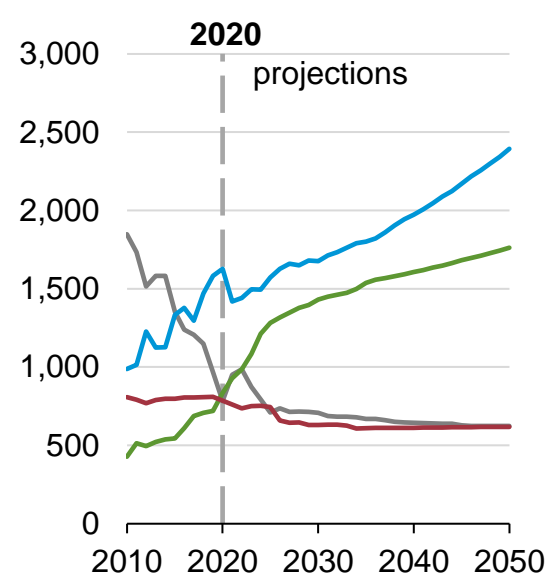
Low Renewables Cost case

billion kilowatthours



High Renewables Cost case

billion kilowatthours



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

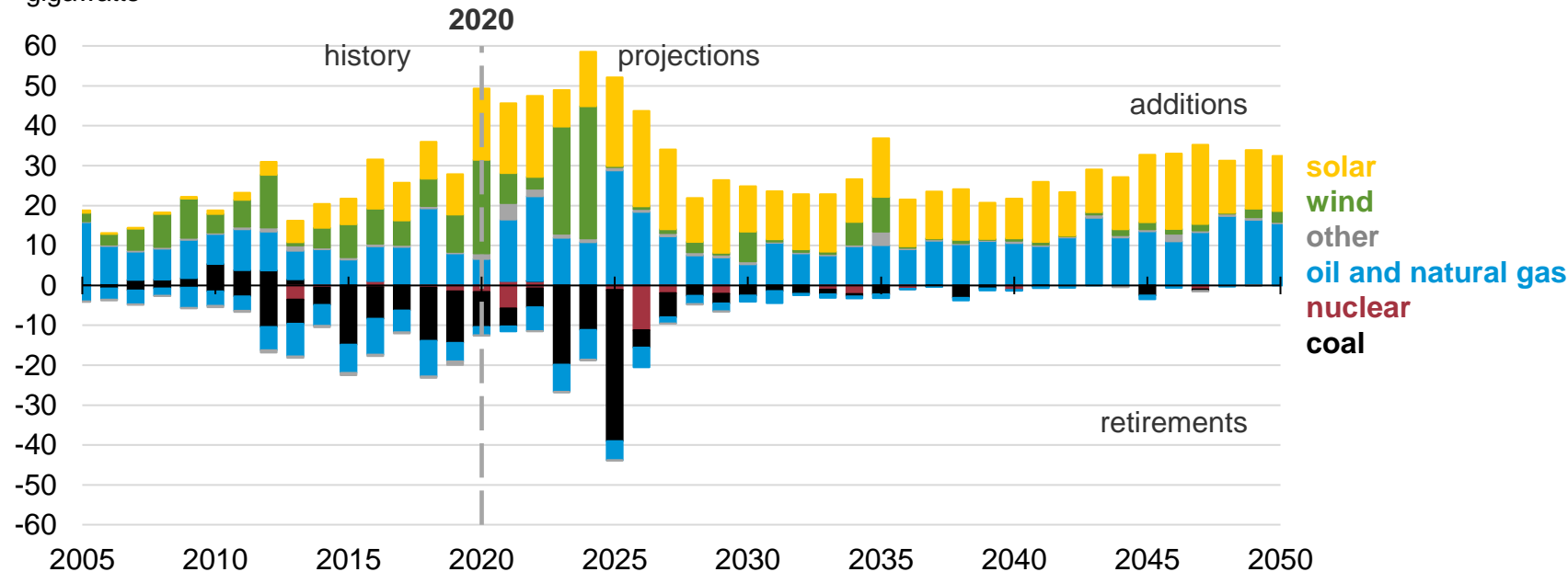


U.S. retiring and new generating capacity

Annual electricity generating capacity additions and retirements

AEO2021 Reference case

gigawatts



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

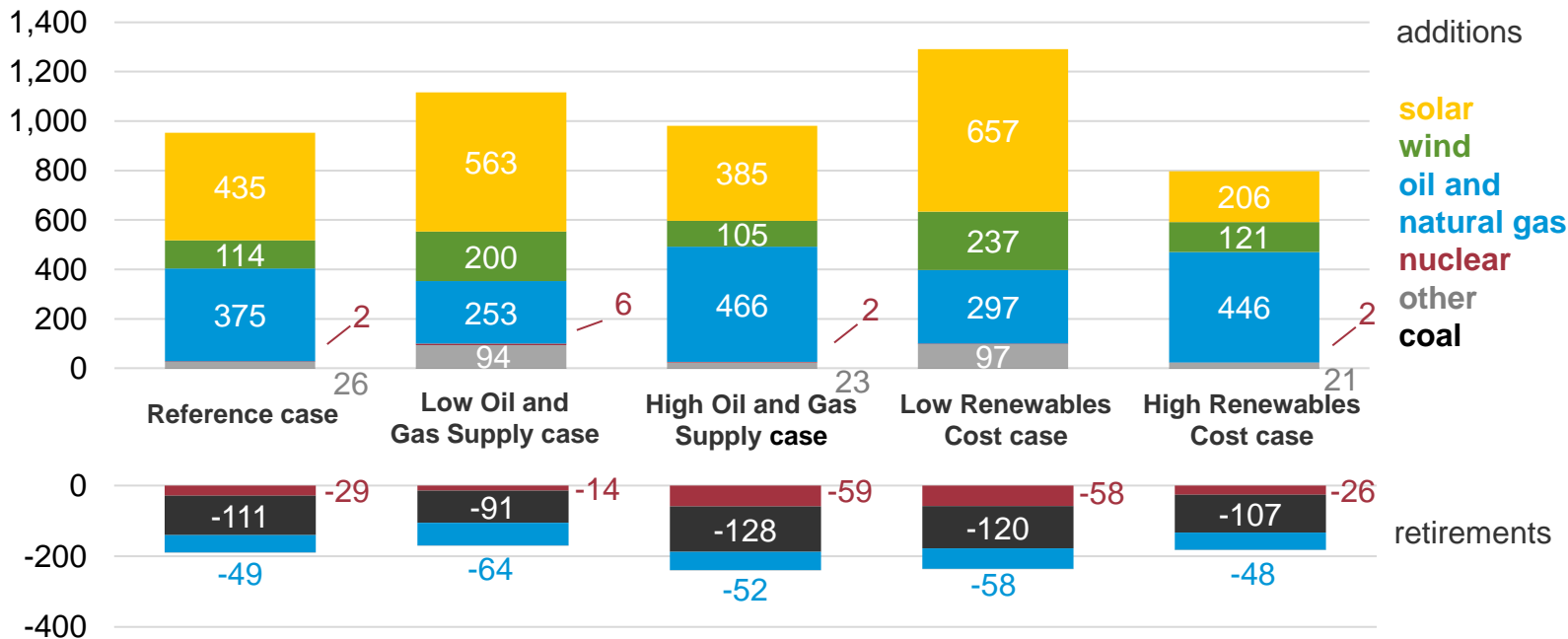


U.S. cumulative retiring and new generating capacity

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

AEO2021 selected cases

gigawatts



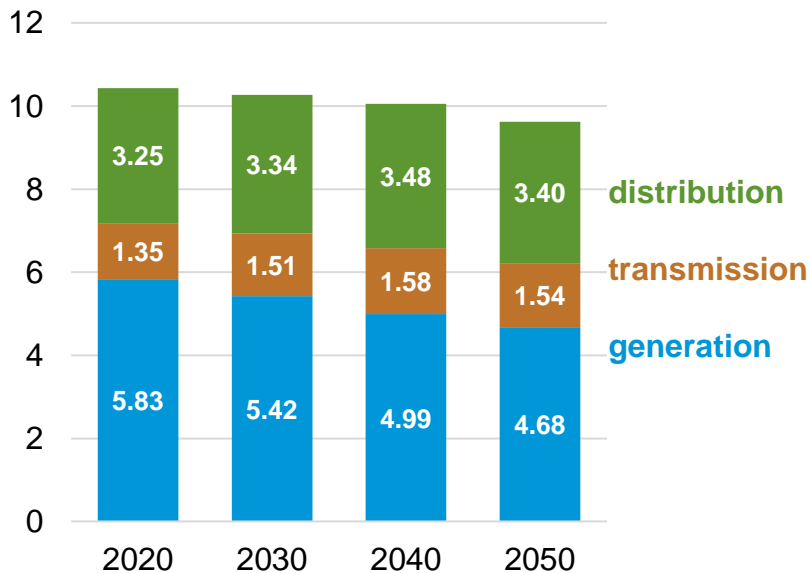


Electricity prices by components and long-term average electricity prices

Components of U.S. Electricity Prices

AEO2021 Reference case

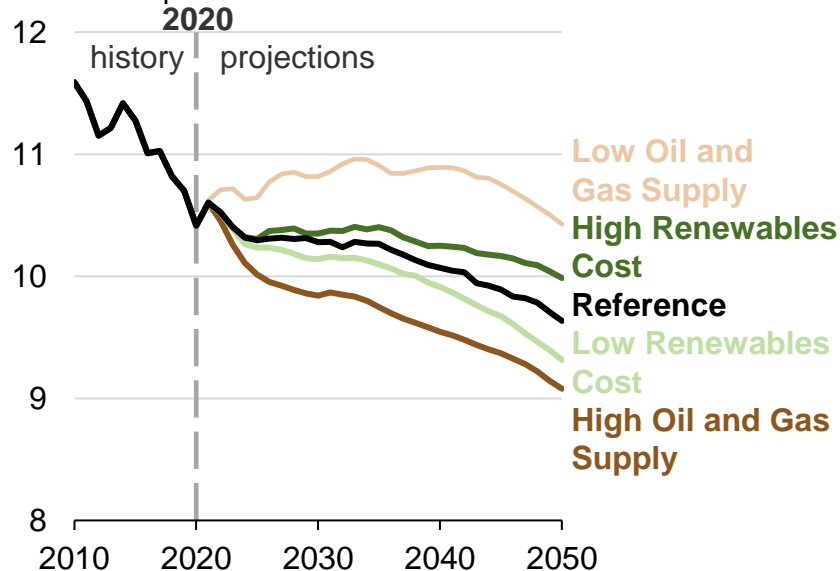
2020 cents per kilowatthour



U.S. average electricity price

AEO2021 selected cases

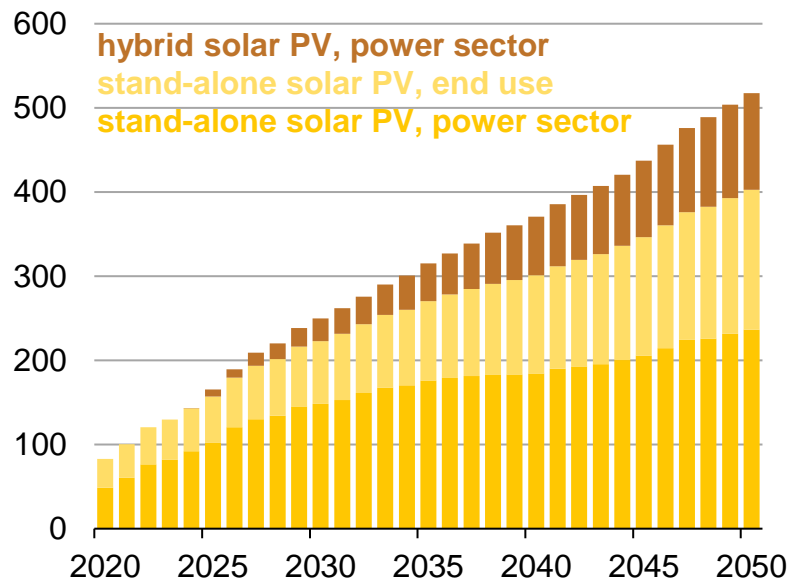
2020 cents per kilowatthour



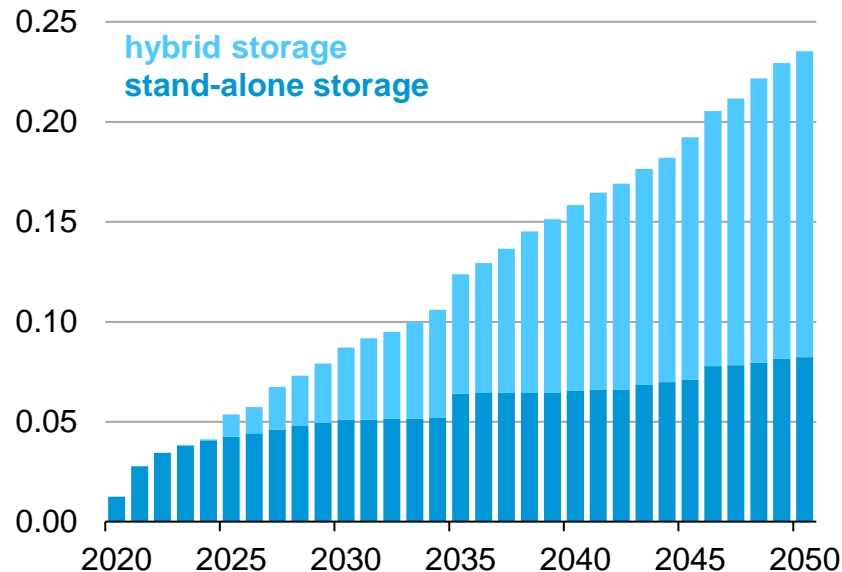


Hybrid versus stand-alone solar photovoltaic (PV) and energy storage systems

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



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



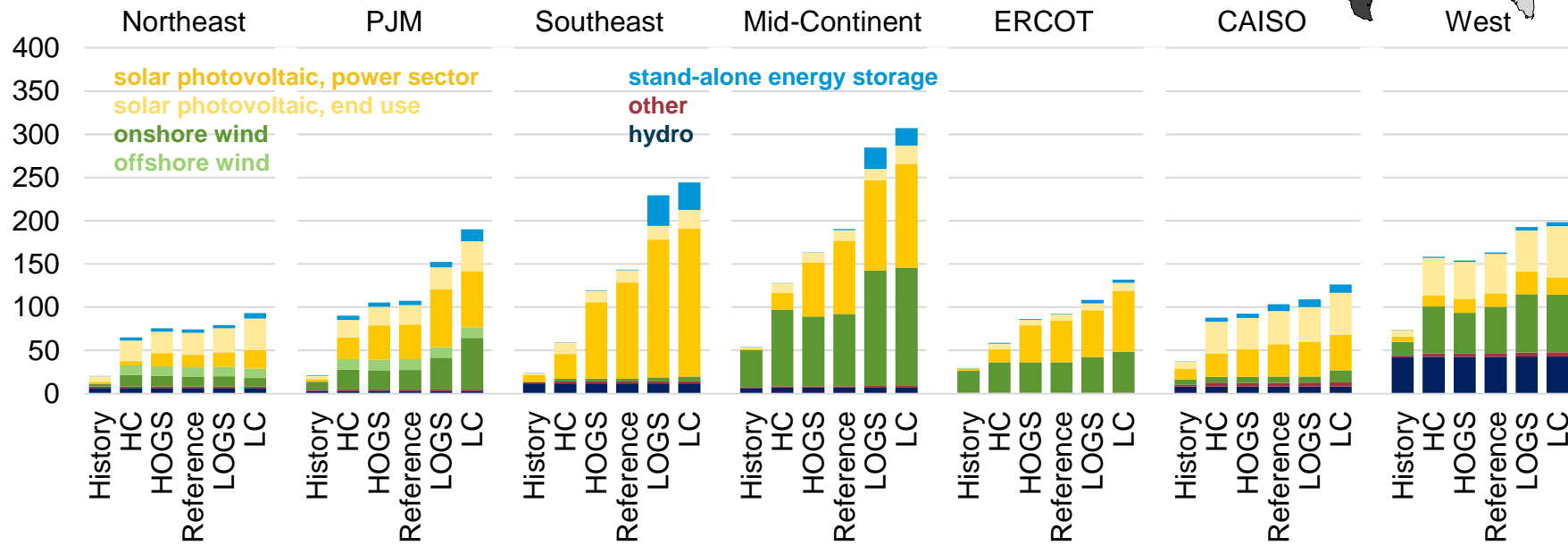
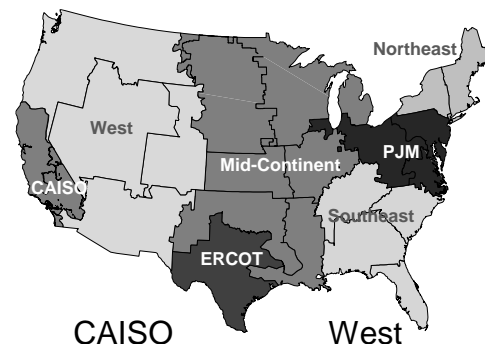


Renewable capacity by source and region

Total renewables capacity in all sectors, 2019 and 2050

AEO2021 selected side cases

gigawatts



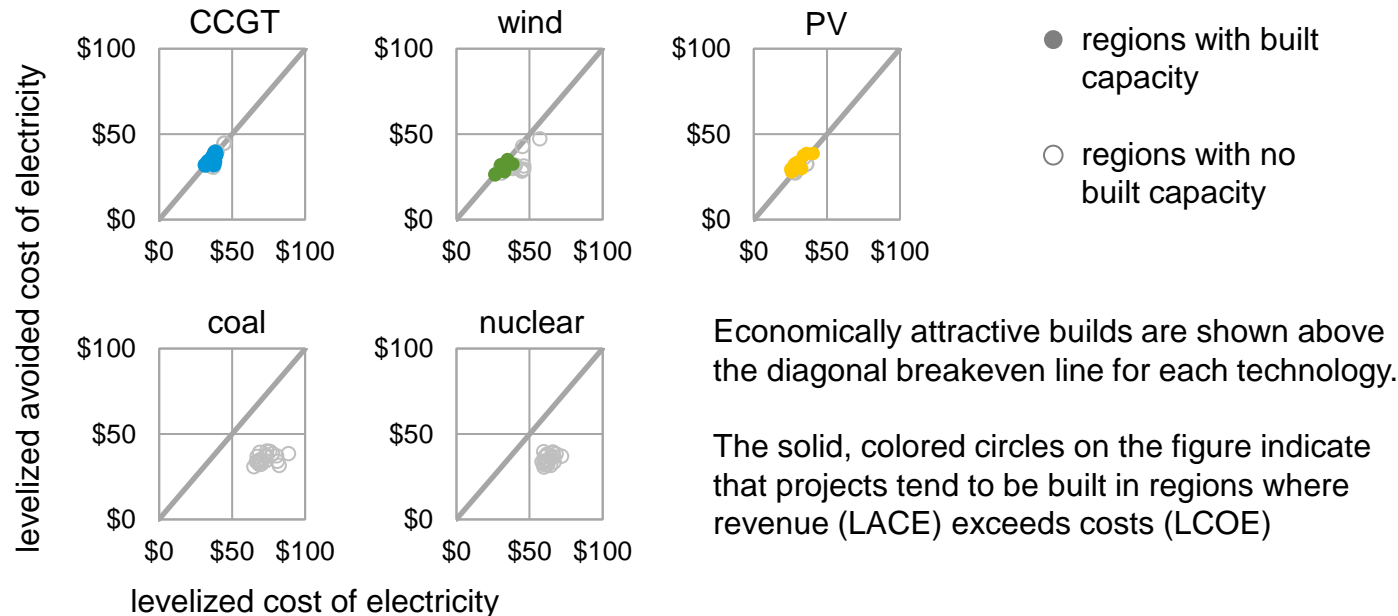
HC: High Renewable Cost; LC: Low Renewable Cost; HOGS: High Oil & Gas Supply; LOGS: Low Oil & Gas Supply; other: geothermal, biomass, municipal waste



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

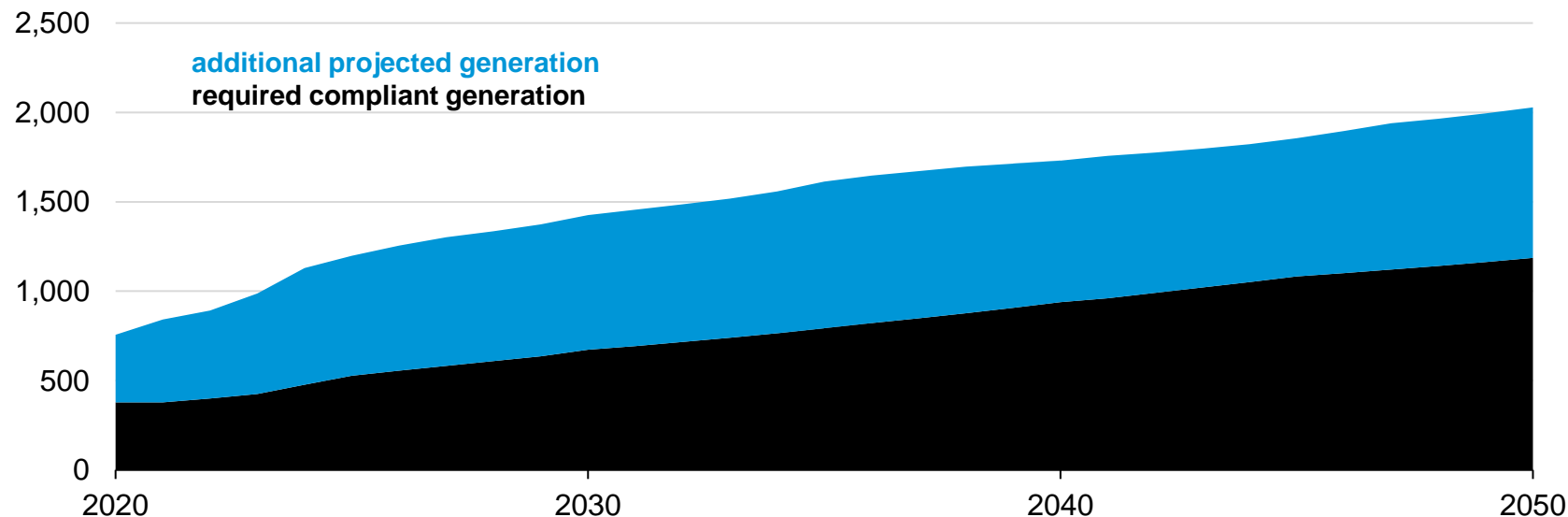


U.S. renewable portfolio standards

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

AEO2021 Reference case

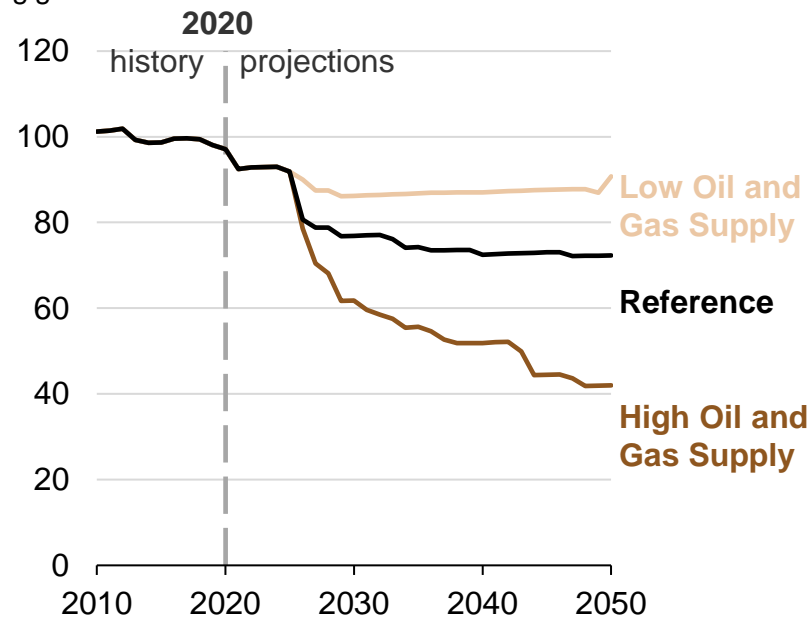
billion kilowatthours



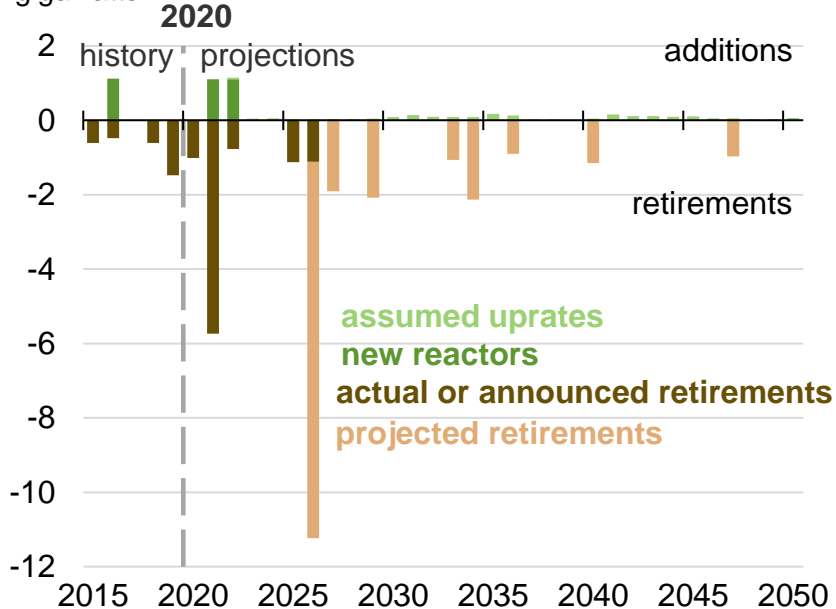


U.S. nuclear capacity and annual capacity changes

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



Year-over-year nuclear capacity changes
AEO2021 Reference case
gigawatts



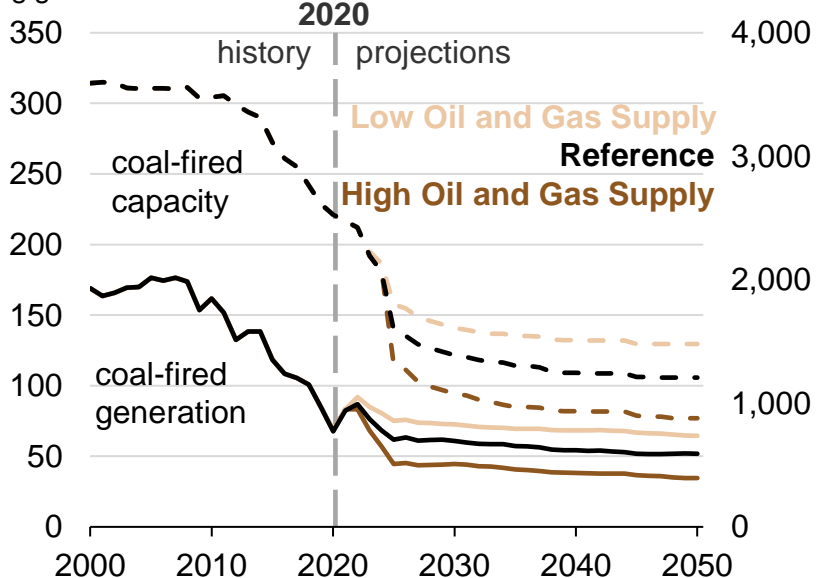


U.S. coal-fired generation, capacity, and capacity factors

U.S. electric generating capacity

AEO2021 oil and gas supply cases

gigawatts



U.S. total electricity generation

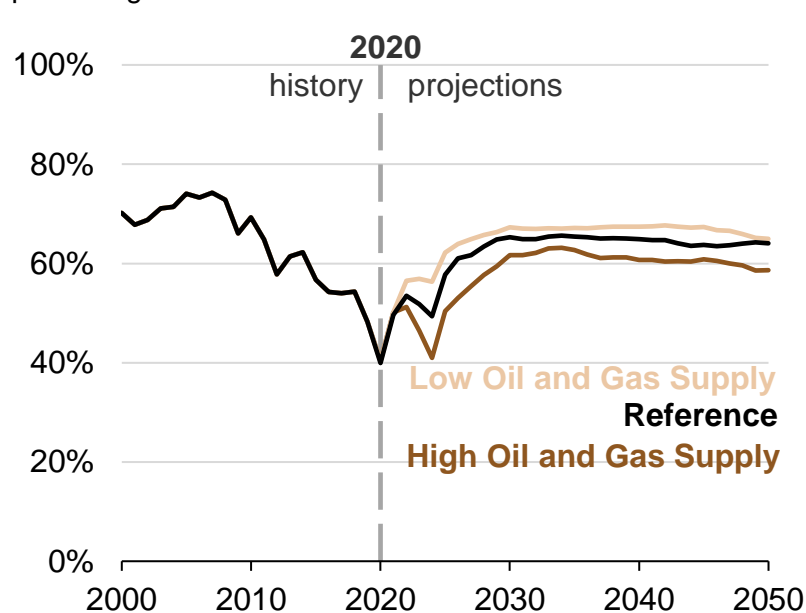
AEO2021 oil and gas supply cases

billion kilowatthours

U.S. capacity factor for coal-fired generation

AEO2021 oil and gas supply cases

percentage

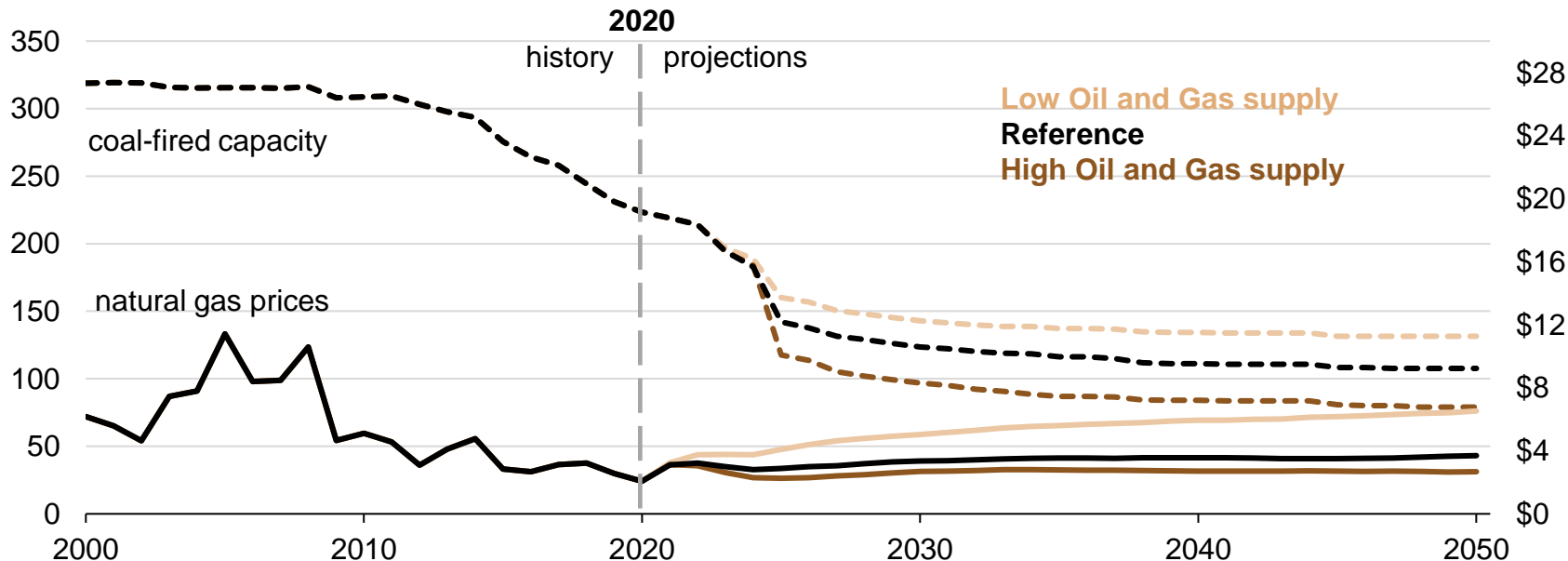




U.S. coal-fired generating capacity relative to natural gas prices

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

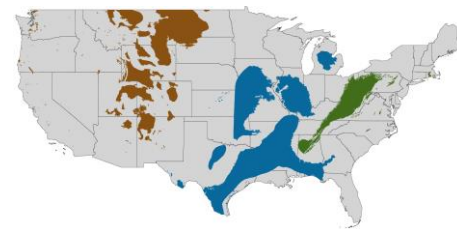
Average delivered natural gas prices to the electric power sector
2020 dollars per million British thermal units





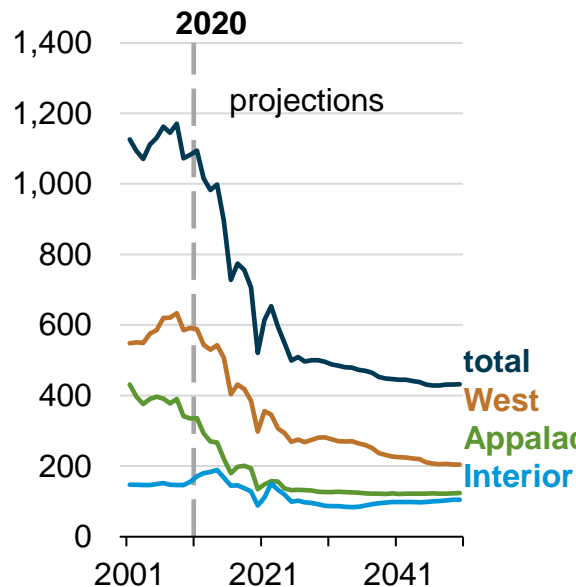
Coal production by U.S. region

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



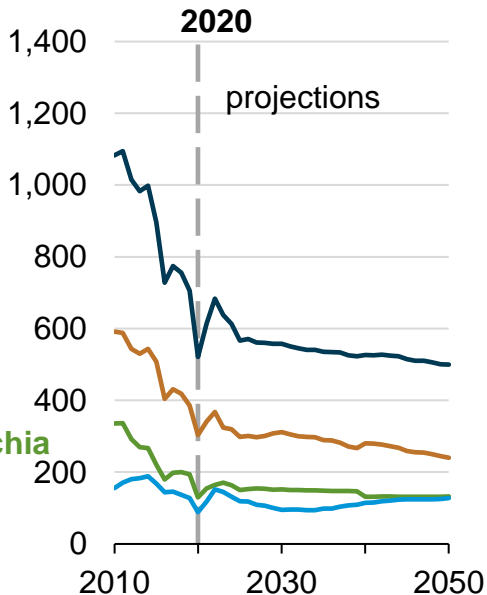
Reference case

million short tons



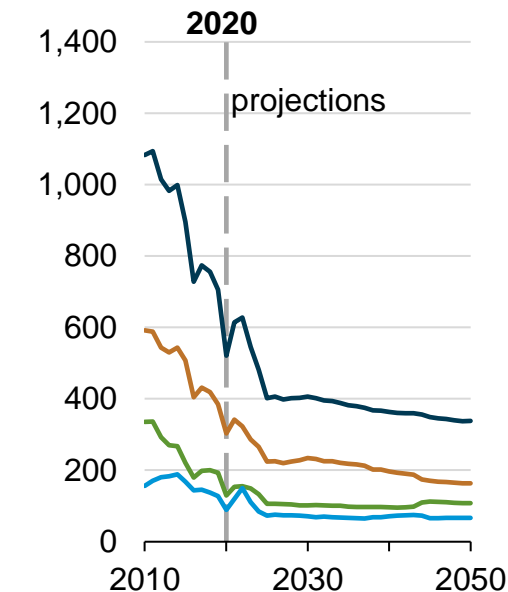
Low Oil and Gas Supply case

million short tons



High Oil and Gas Supply case

million short tons



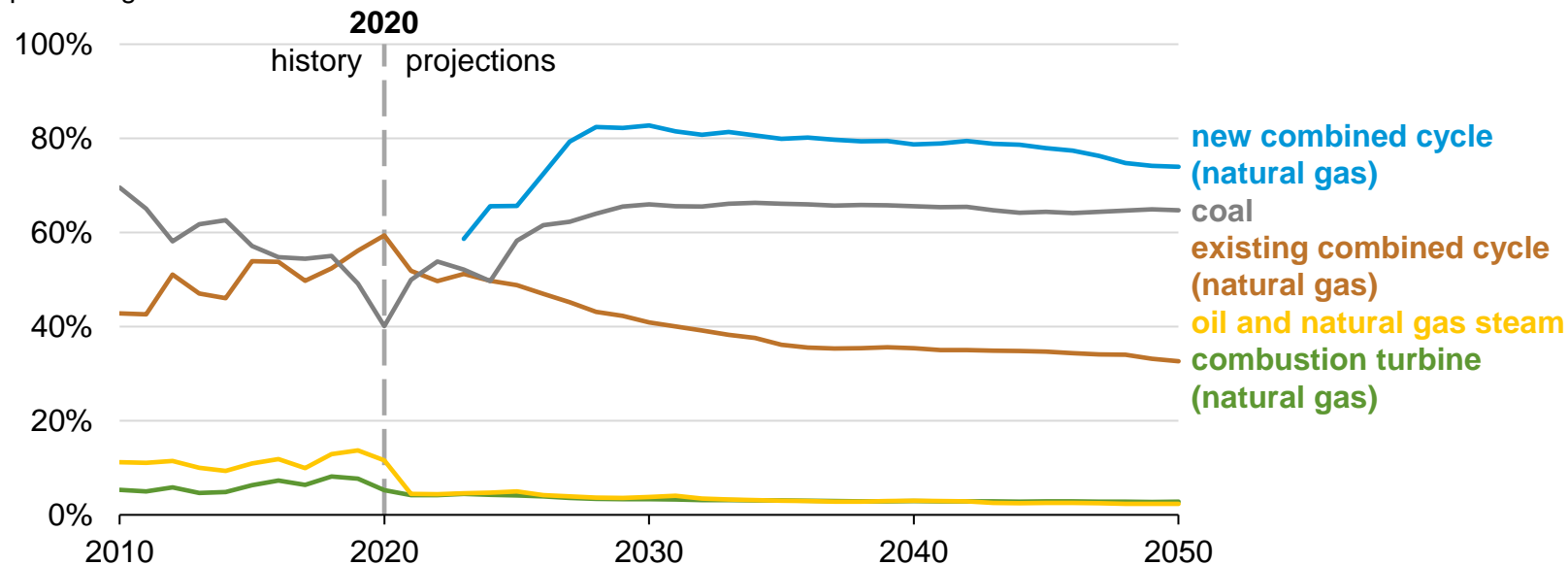


U.S. fossil fuel-fired plant capacity factors

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.