

U.S. Energy Information Administration's International Energy Outlook 2020 (IEO2020)



Center for Strategic and International Studies

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U.S. Energy Information Administration

United States milestones in meeting global energy consumption

2011

Becomes petroleum products net exporter

2017

Becomes natural gas net exporter

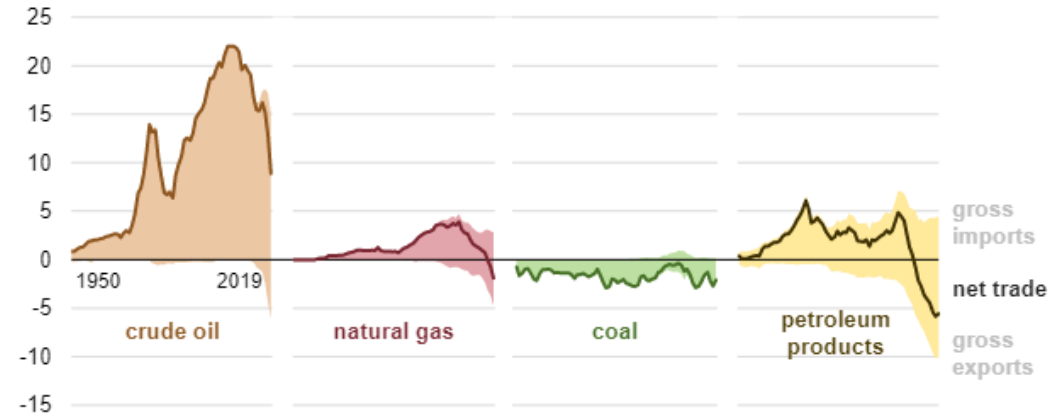
2019

Becomes total energy exporter - total annual energy exports exceed imports

2020

Pandemic leads to market transitions

U.S. energy trade for selected fuel sources (1950-2019)
quadrillion British thermal units



Source: EIA, *Today in Energy*, April 20, 2020 (<https://www.eia.gov/todayinenergy/detail.php?id=43395>)

The IEO2019 is the foundation for the IE2020

IEO2019 Reference case

- World energy consumption rises nearly 50% by 2050
- 3.0% global GDP growth per year (Oxford Economics)
- 0.7% global population growth per year
- Brent \$100 per barrel crude price in 2018 dollars by 2050
- Implementation of current laws and regulations
- Current views of economic and demographic trends, and improvements in known technology

High and Low Economic Growth cases

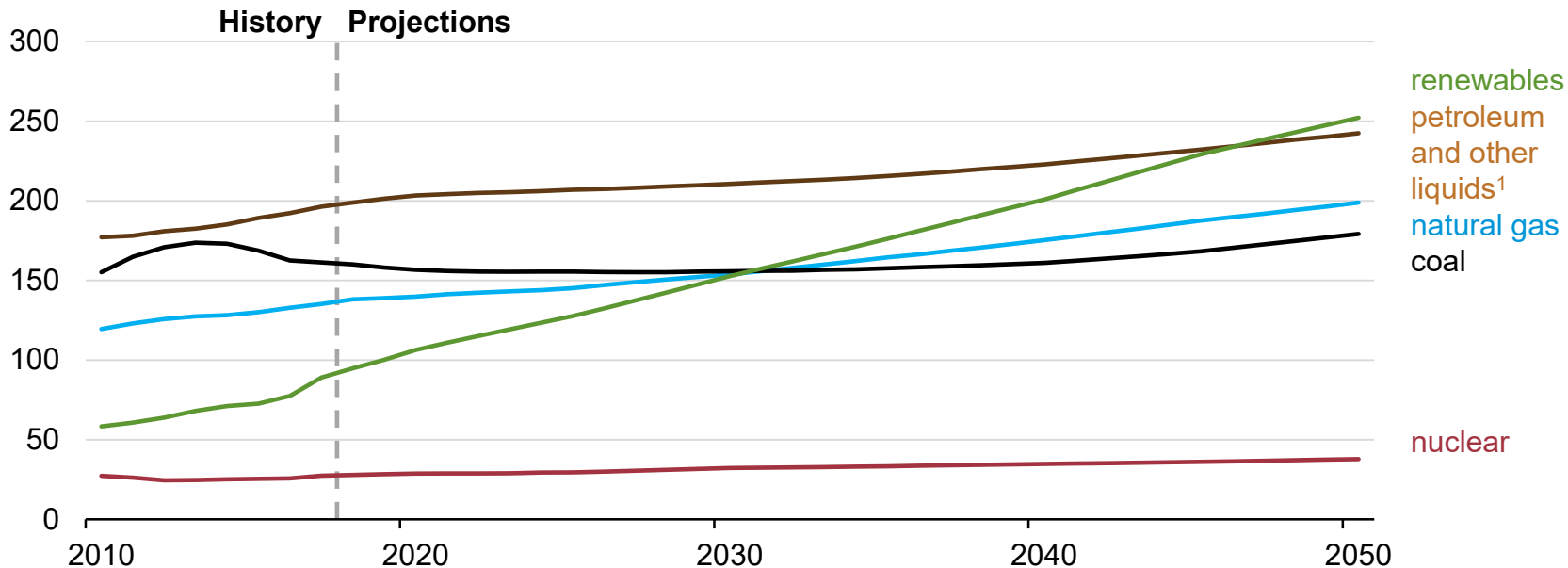
- 3.7% and 2.4% per year GDP growth

High and Low Oil Price cases

- Brent \$185 and \$45 per barrel in 2018 dollars by 2050

IEO2019 projects renewables the most used energy source by 2050

Primary energy consumption by fuel, world
quadrillion British thermal units

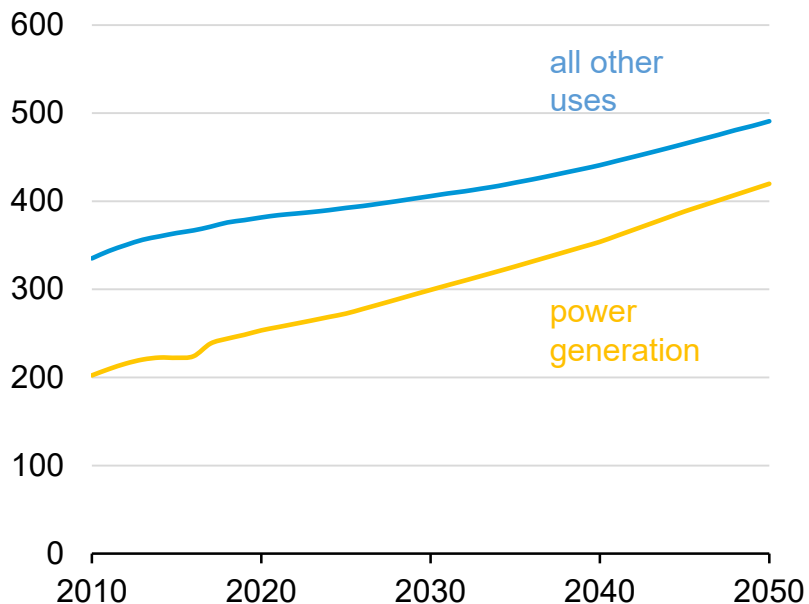


Note: 1 = Includes biofuels

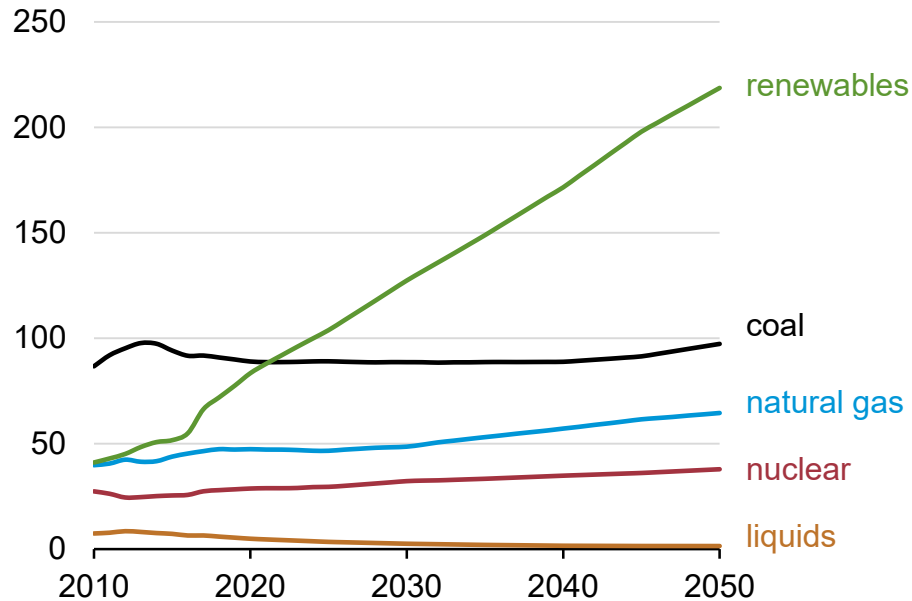
Source: U.S. Energy Information Administration, International Energy Outlook 2019

IEO2020 focuses on electric power generation fuel-mix

Primary energy consumption, world
quadrillion Btu



Consumption by fuel for power generation, world
quadrillion Btu

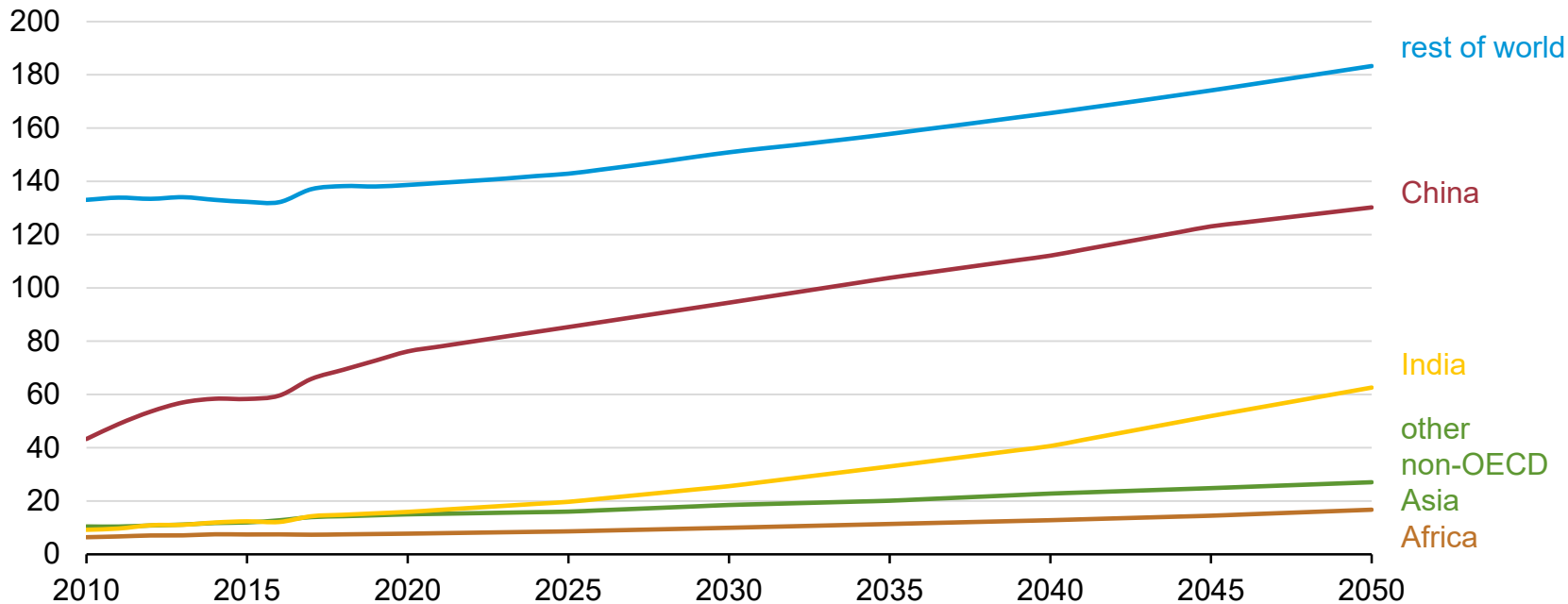


Source: U.S. Energy Information Administration, International Energy Outlook 2019

China and India are the largest projected electricity users

Power generation energy consumption by region

quadrillion Btu



Source: U.S. Energy Information Administration, International Energy Outlook 2019

IEO2020 Issues in Focus:

Electricity generation fuel-mix trends and uncertainties

- **Asia: Impact of natural gas prices and renewables capital costs**
- **India: Impact of interregional electricity trade**
- **Africa: Impact of off-grid electricity development**