

# Power, Policy and Politics

## *The Road Ahead for E&Ps*



TIPRO – Texas Independent Producers and Royalty Owners Association  
San Antonio, Texas  
August 20, 2024

# Outline

- Introduction
- Power
  - Global
  - United States
- Energy Policy
- Politics
  - The Outlook for Energy

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August 20, 2024





# Who is Coterra?

## Multi-Basin Portfolio

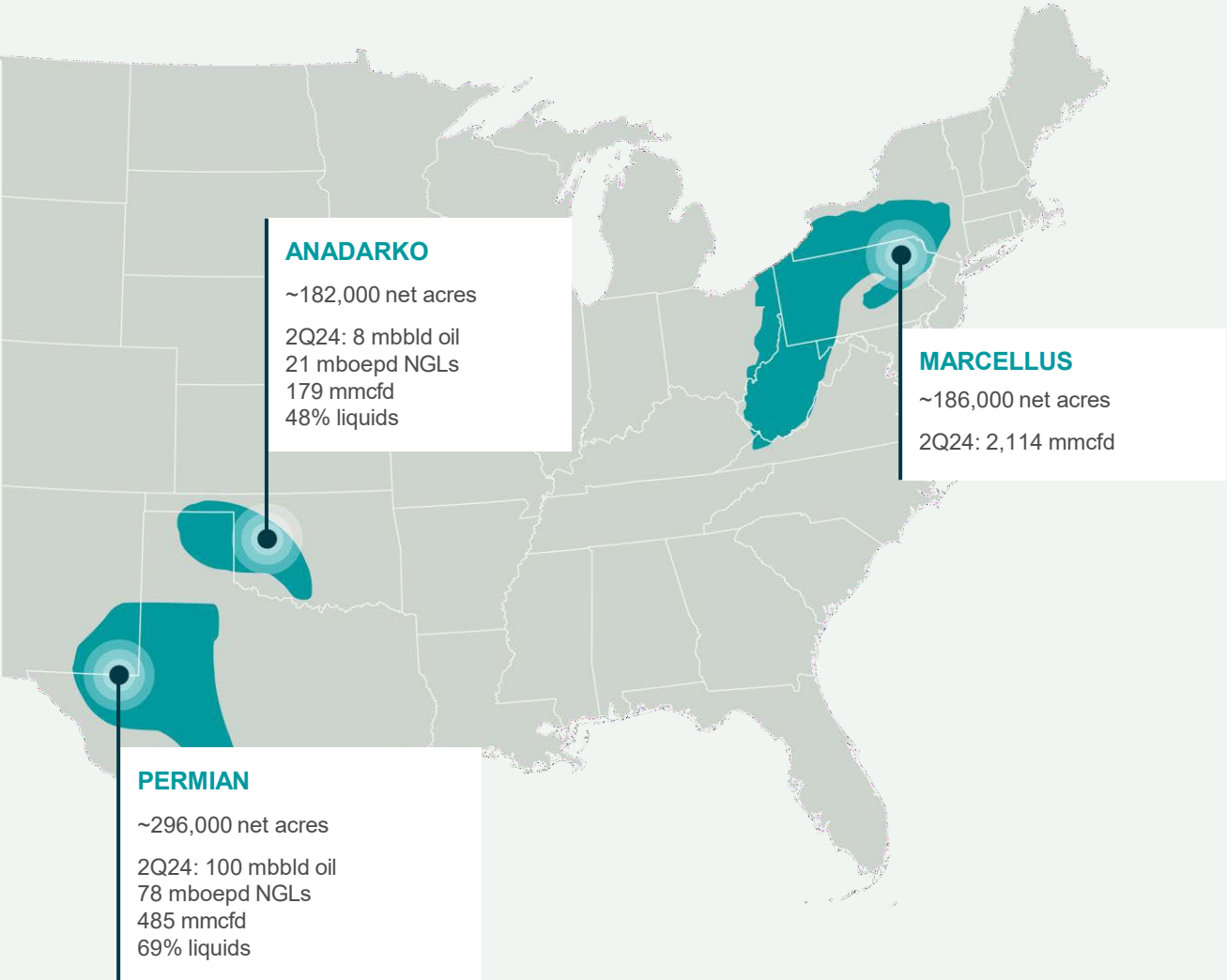
provides commodity diversification and capital allocation optionality

## Top-Tier Acreage Position

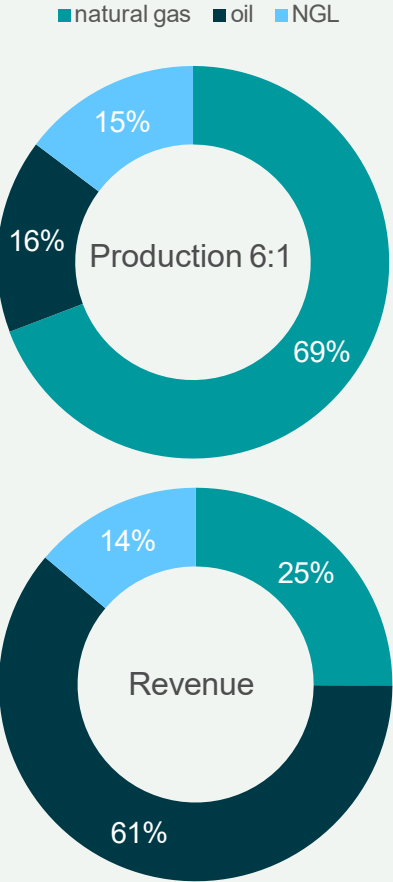
with deep inventory, estimated at ~15 years<sup>1</sup>

## Low-Cost Operator

with corporate break-even<sup>2</sup> around \$50/bbl WTI & \$2.50/mmbtu HH



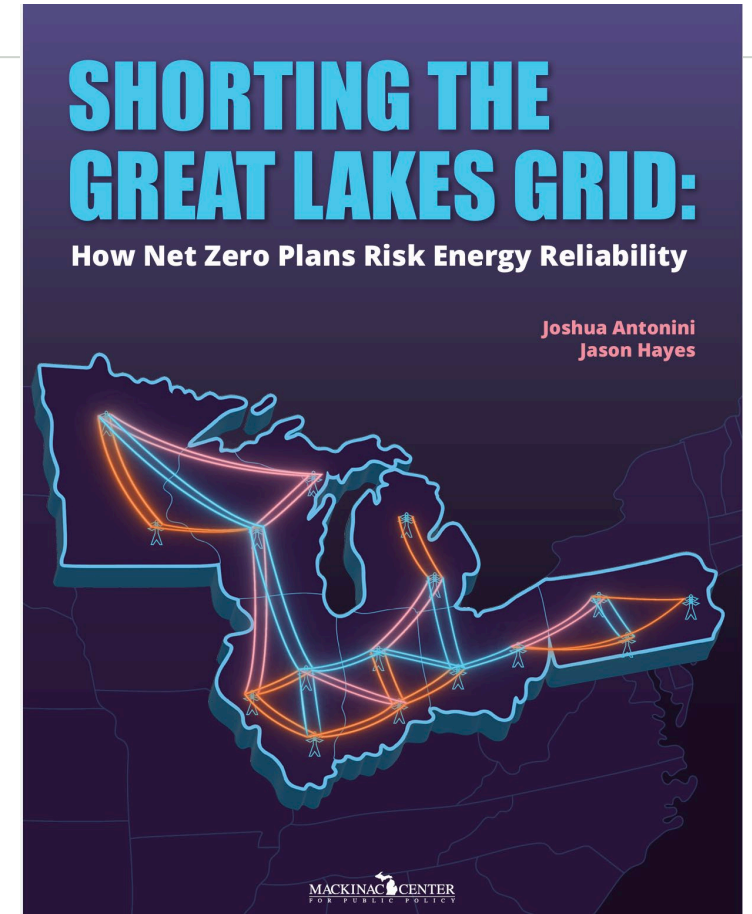
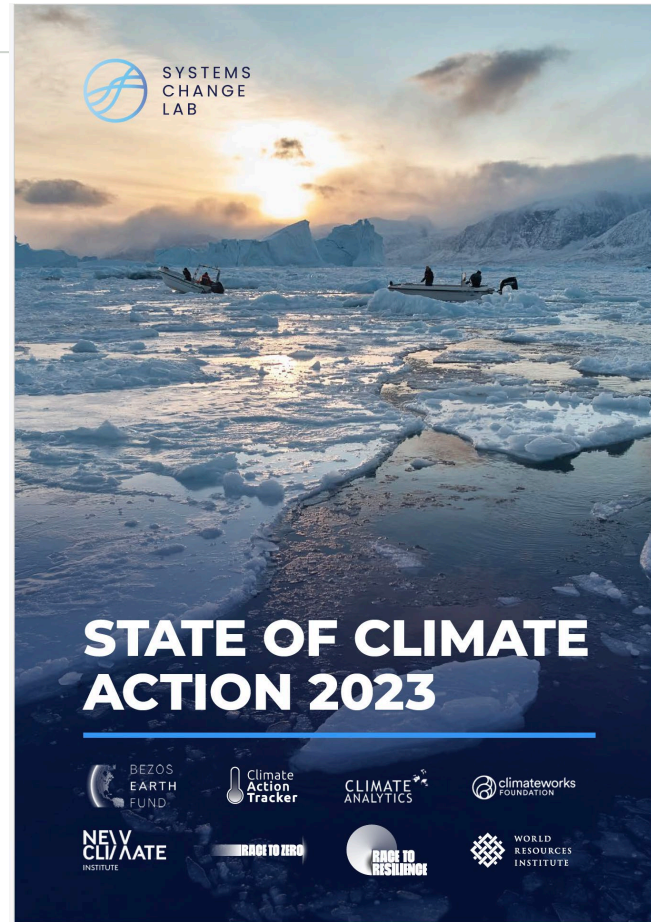
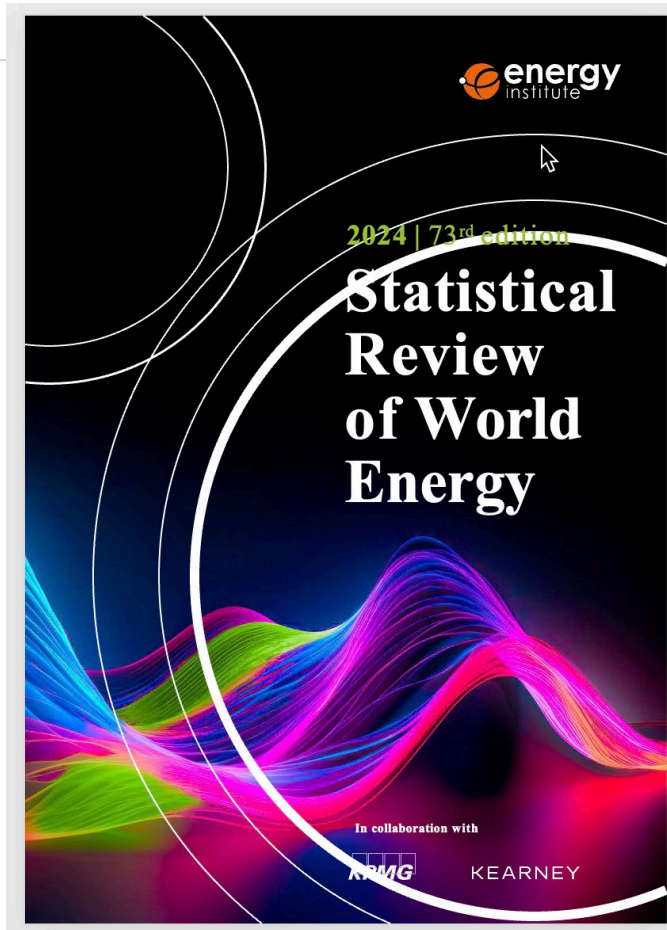
## 2Q24 Commodity Splits



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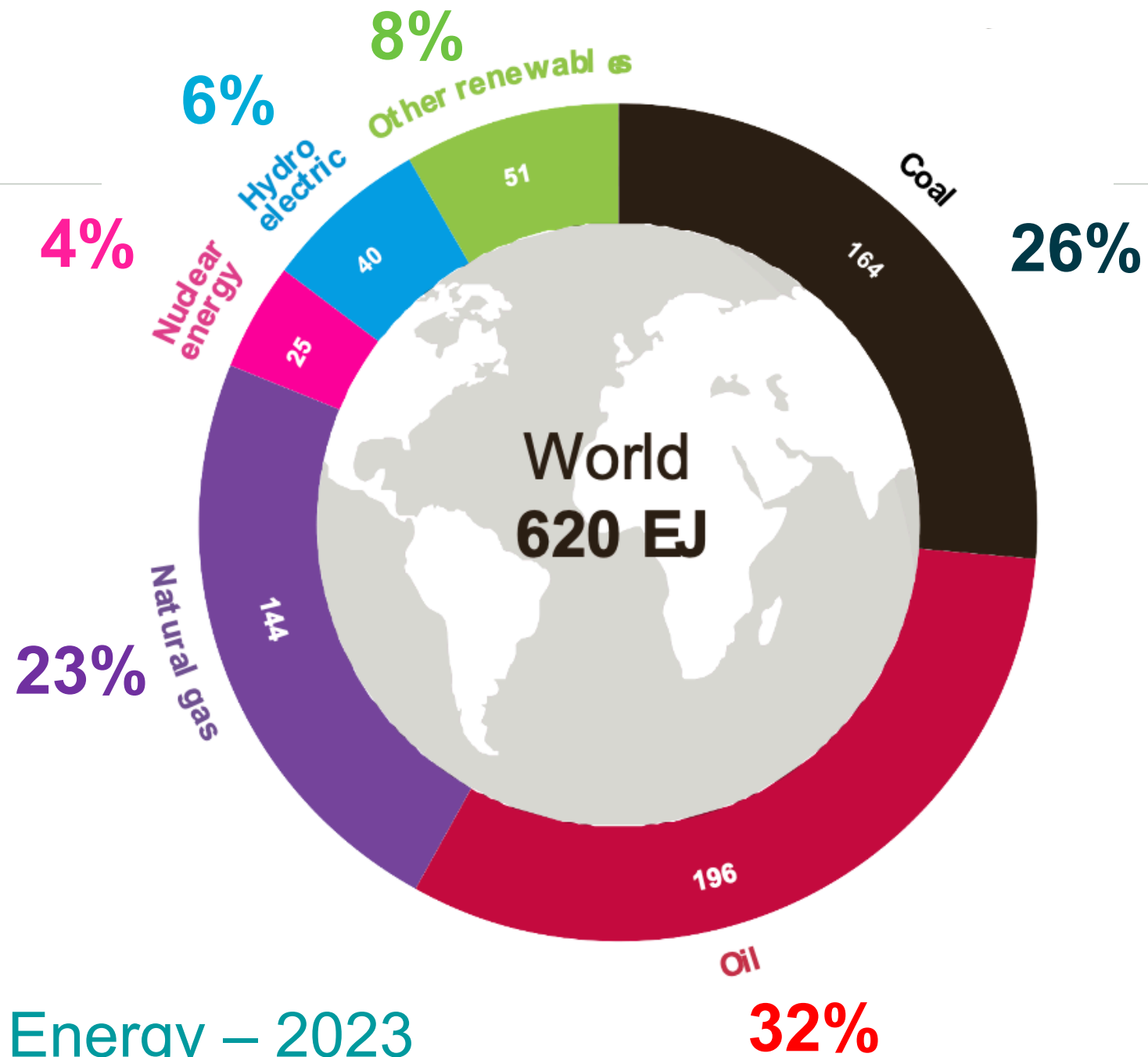


The New York Times

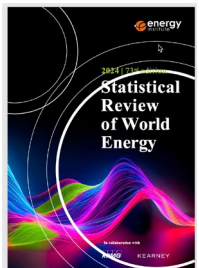
THE WALL STREET JOURNAL.

FINANCIAL TIMES



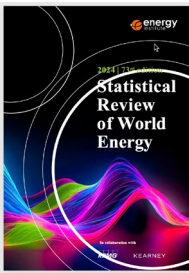
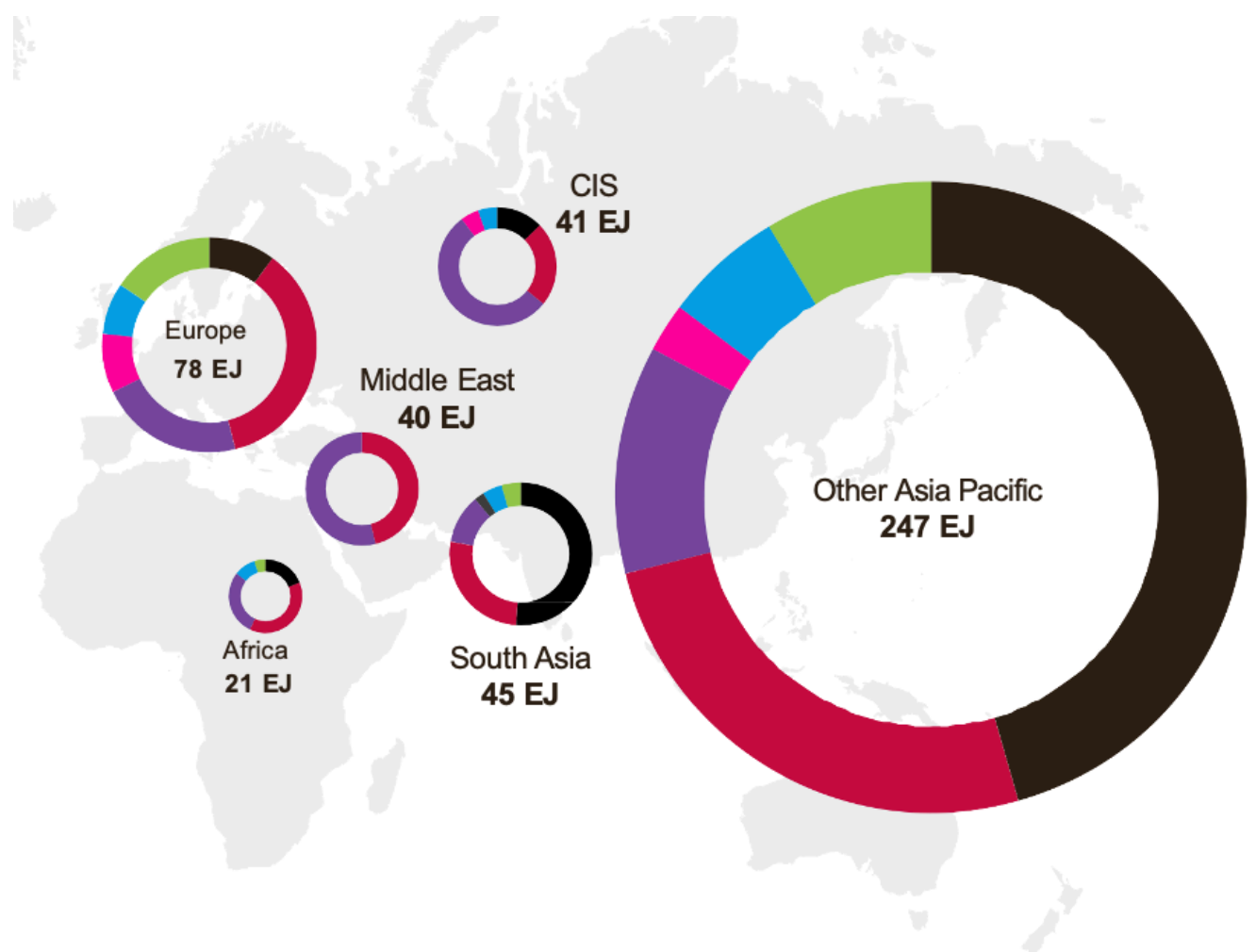
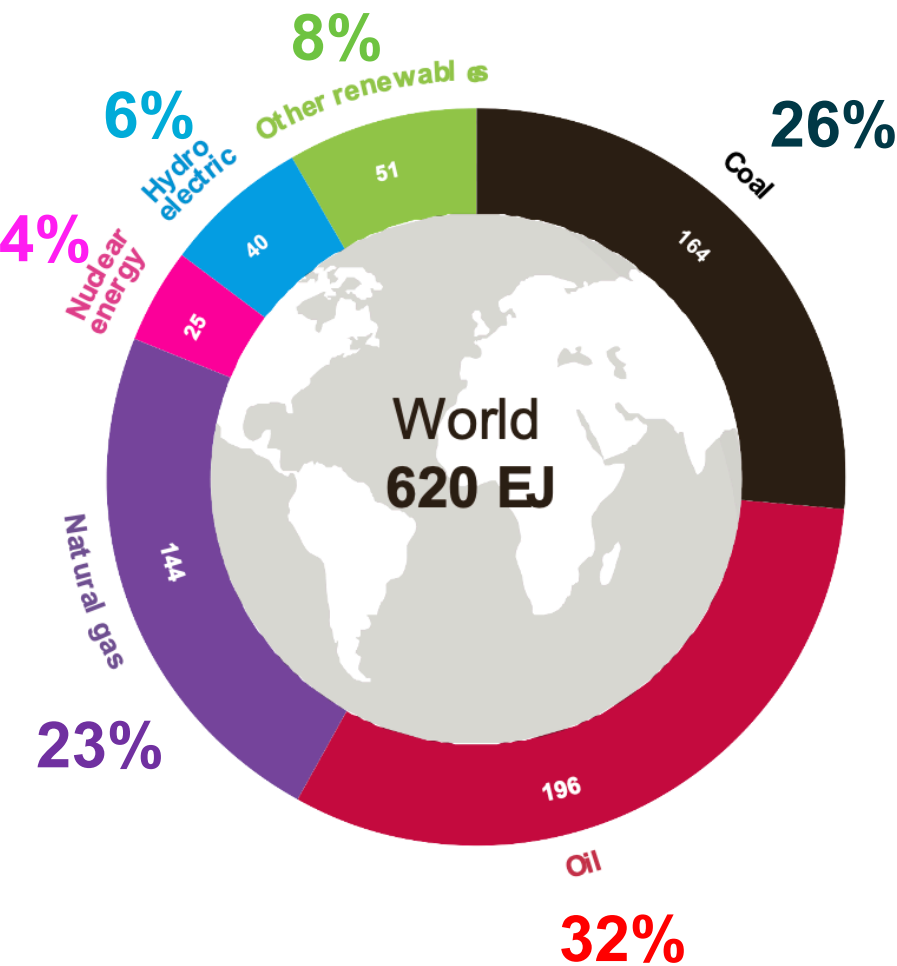


Global Total Energy – 2023

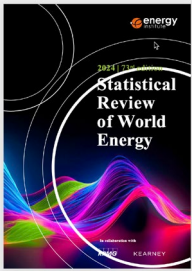
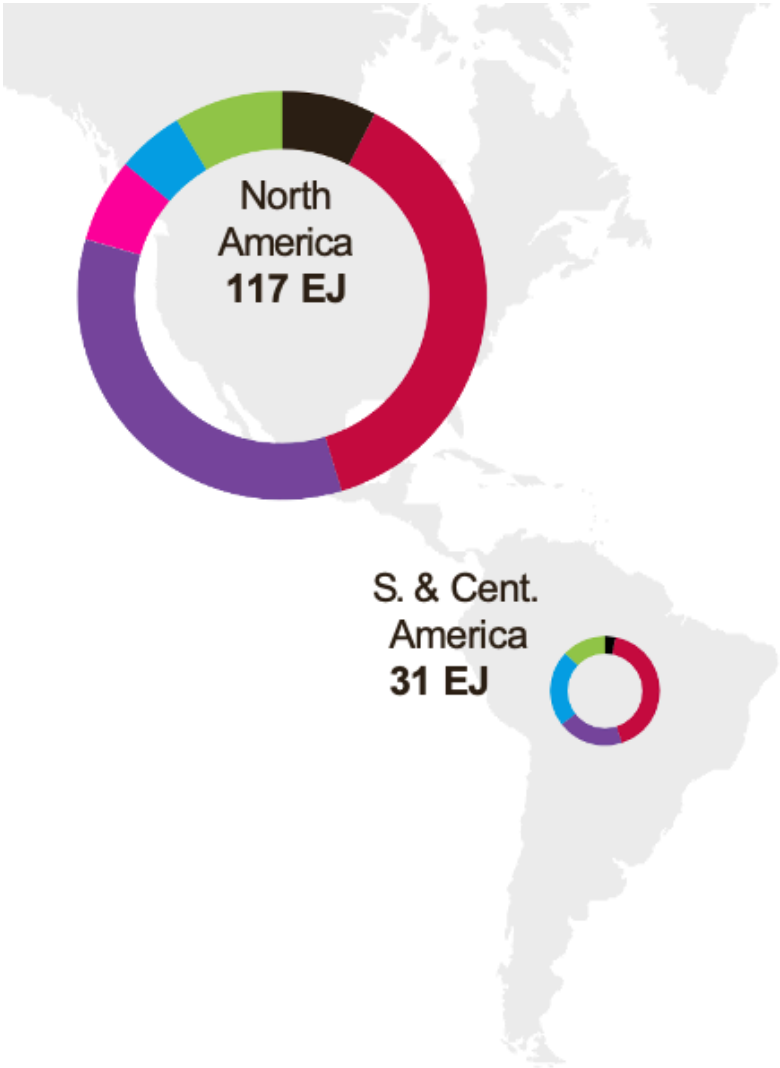
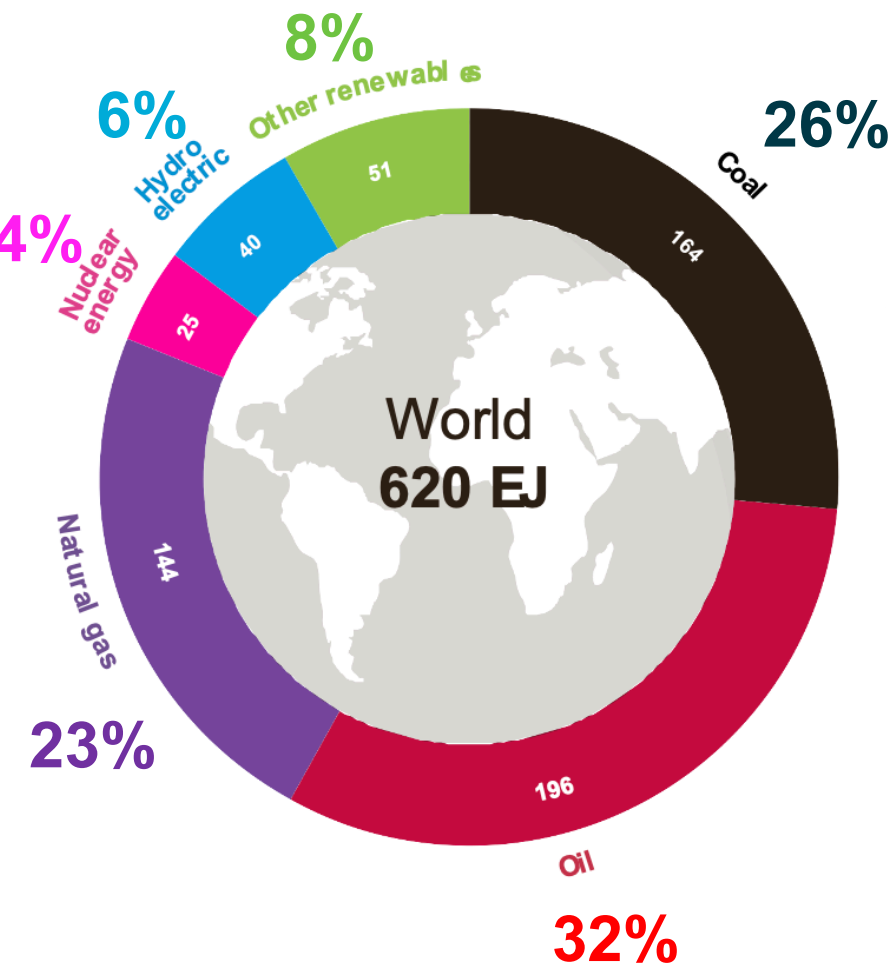


# 2023 - Global versus Africa and Eurasia and Oceania

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# 2023 - Global versus the Americas



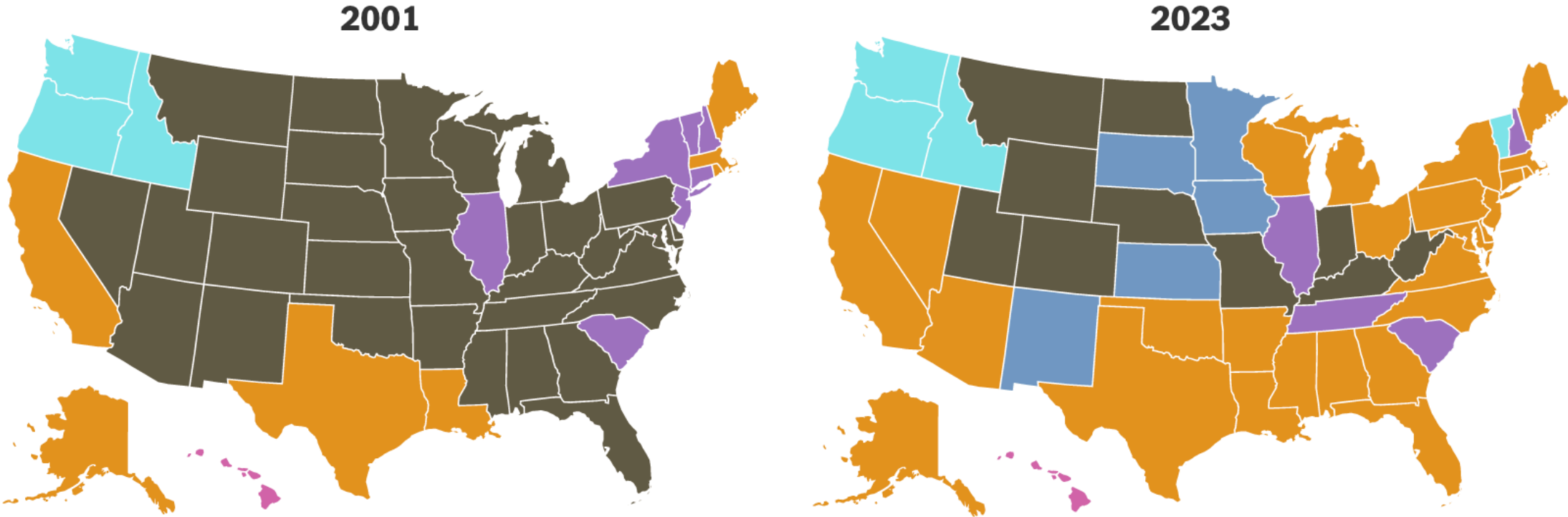


## Global Total Energy (EJ)

Other Asia Pacific	292	47%
North America	117	19%
Europe	78	13%
CIS	41	7%
Middle East	40	6%
S & Cent America	31	5%
Africa	21	3%
Total Global	620	

### Top Source of Electricity Generation In Every State

■ Coal   ■ Natural gas   ■ Nuclear   ■ Hydroelectric   ■ Petroleum   ■ Wind



Source: U.S. Energy Information Administration

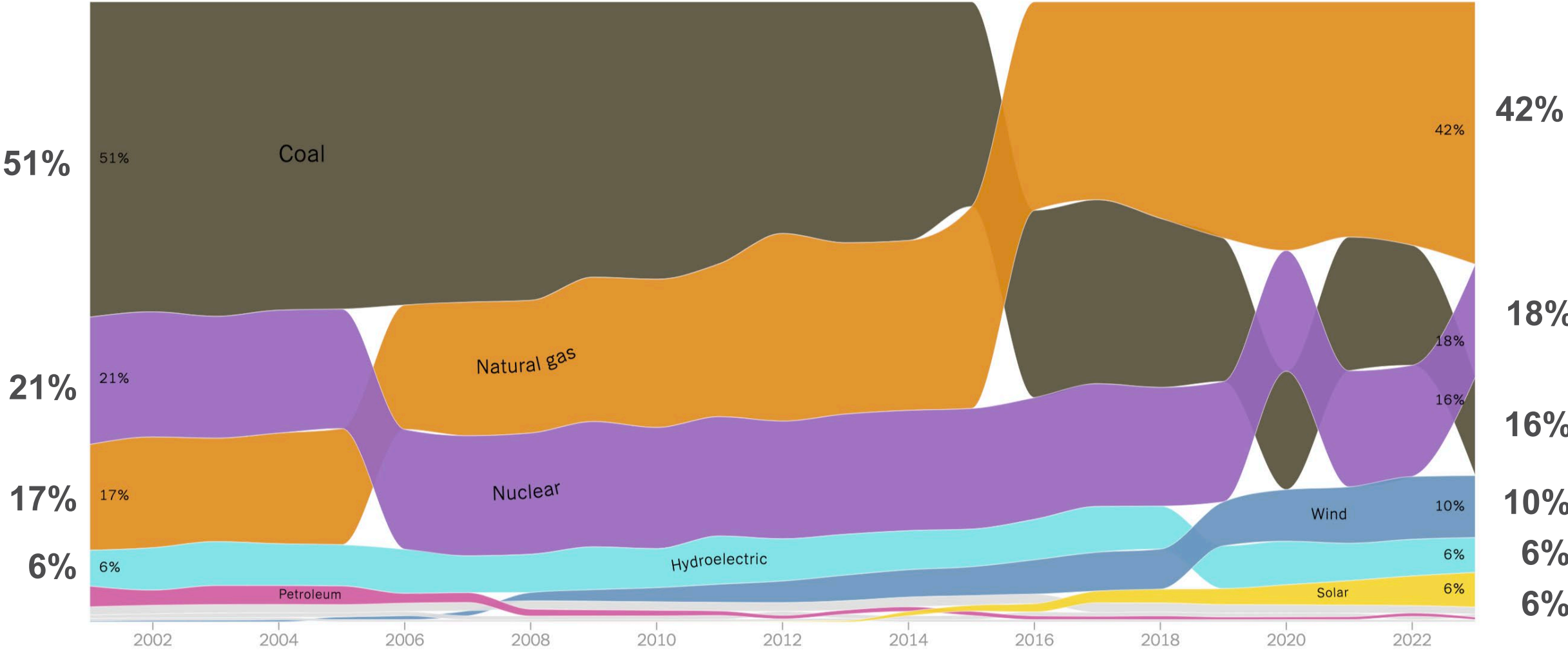
The New York Times

# US Electricity Generation by Source

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How **the United States** made electricity from 2001 to 2023

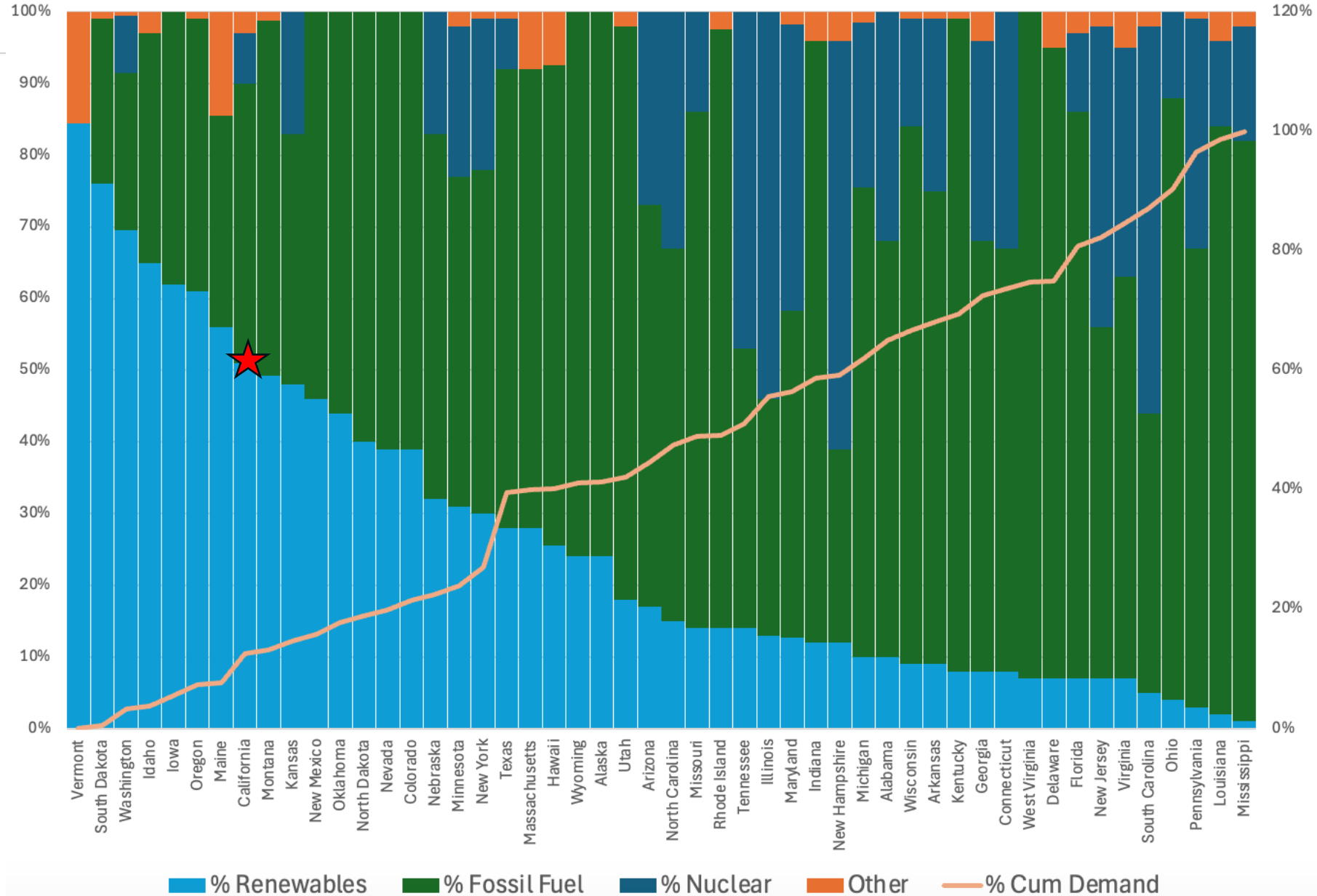
Percentage of power produced from each energy source





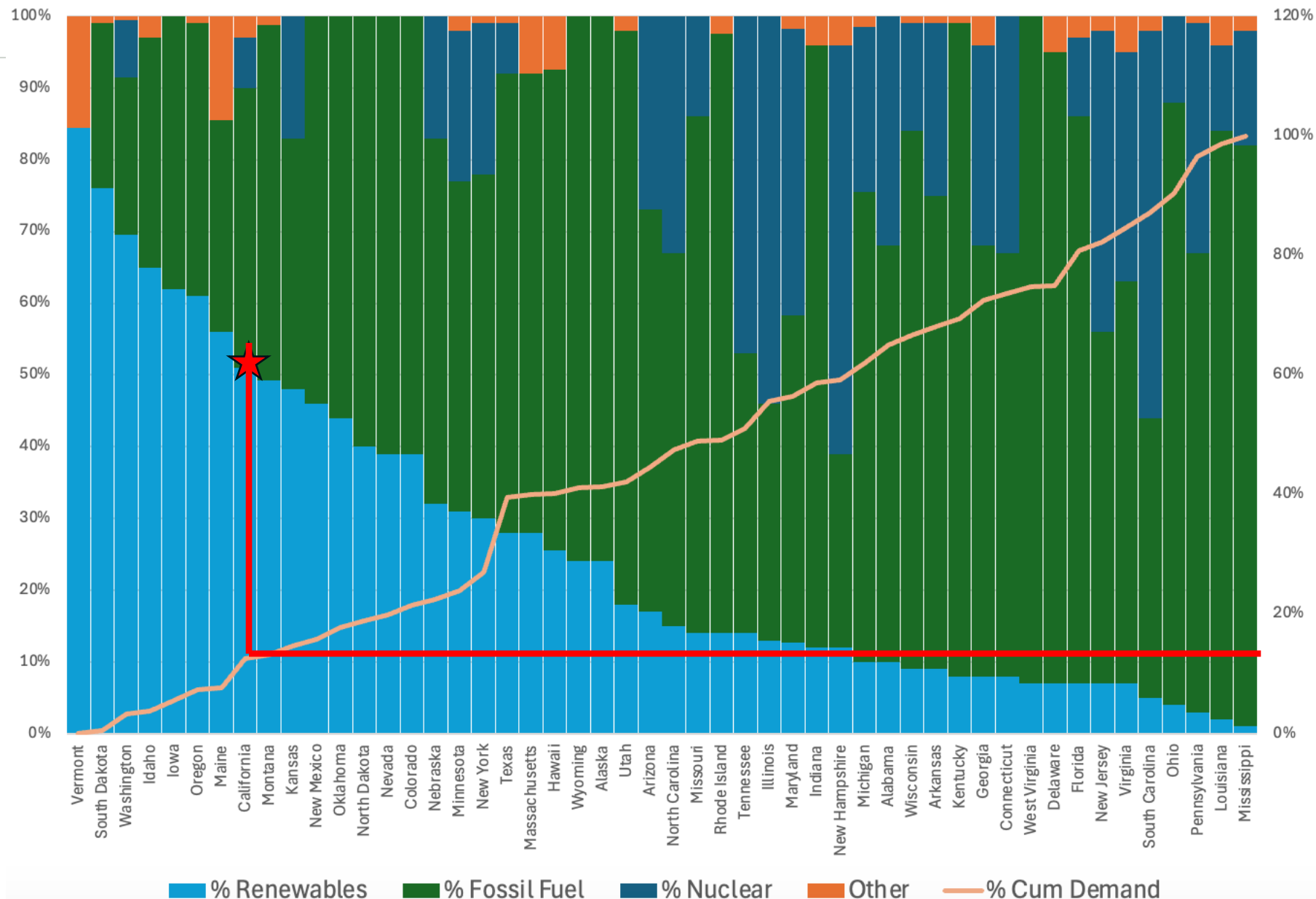
# 2023 Electricity Source by State – Sorted by % Renewables

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# 2023 Electricity Source by State – Sorted by % Renewables

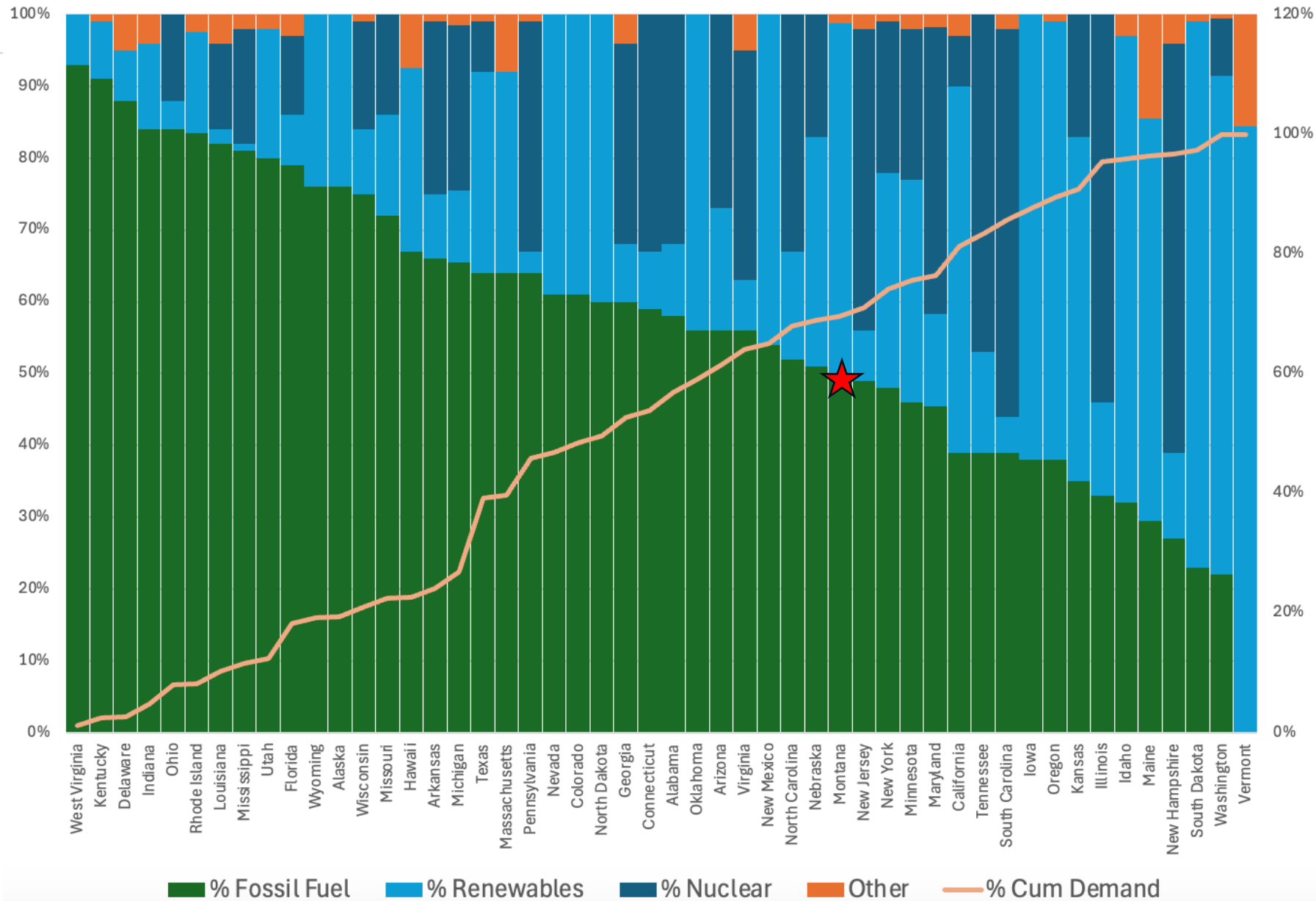
COTERRA



States with >50% renewable generation make up 13% of US electricity demand.

# 2023 Electricity Source by State – Sorted by % Fossil Fuels

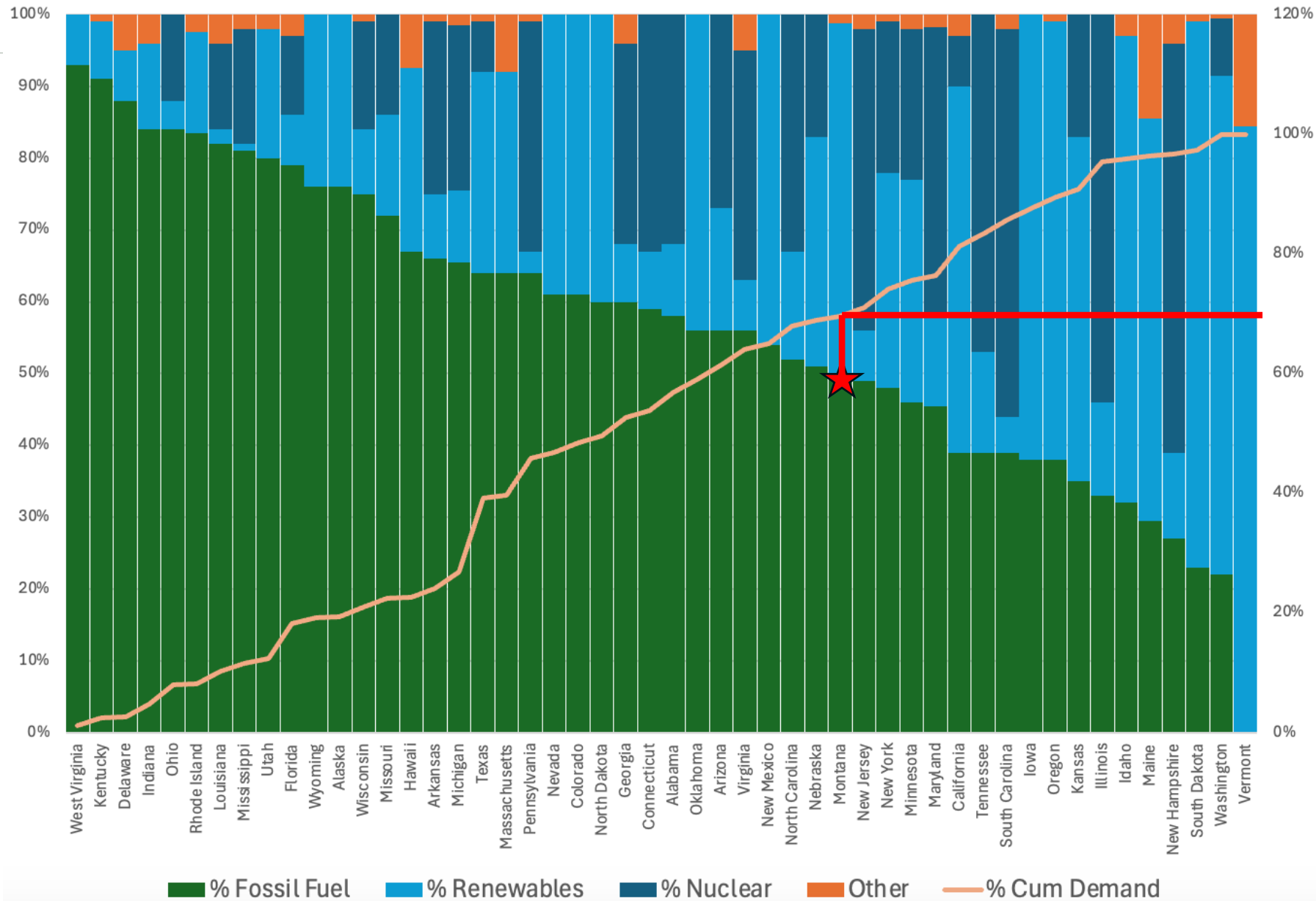
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# 2023 Electricity Source by State – Sorted by % Fossil Fuels

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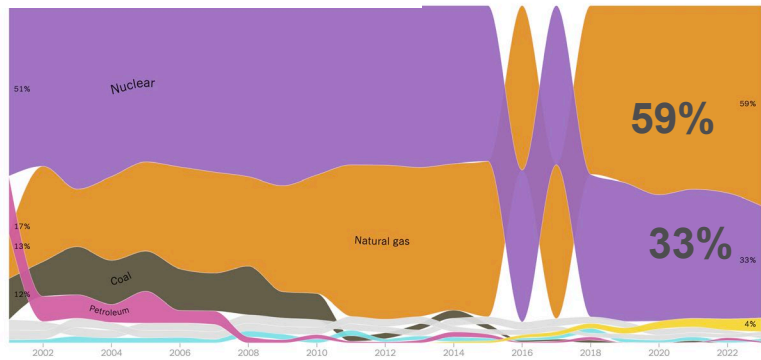


States with >50% fossil fuel generation make up 70% of US electricity demand.

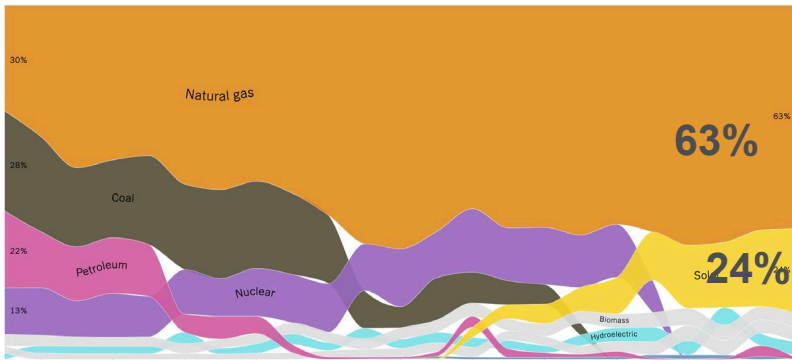
# Electricity Source – New England States

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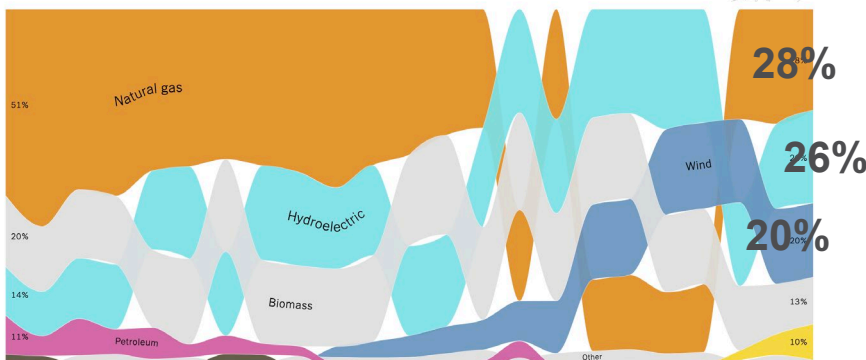
Connecticut



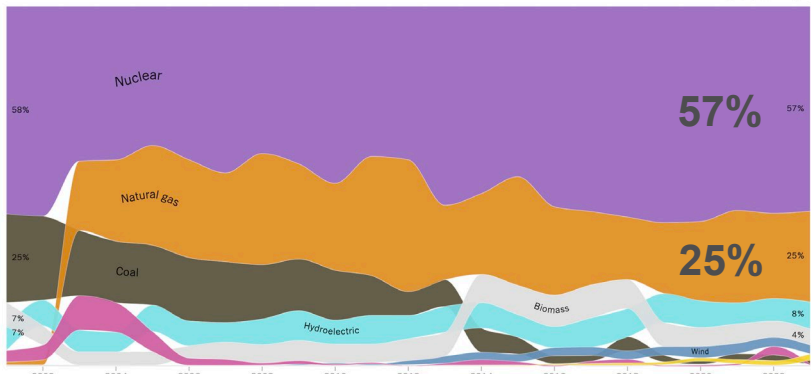
Massachusetts



Maine



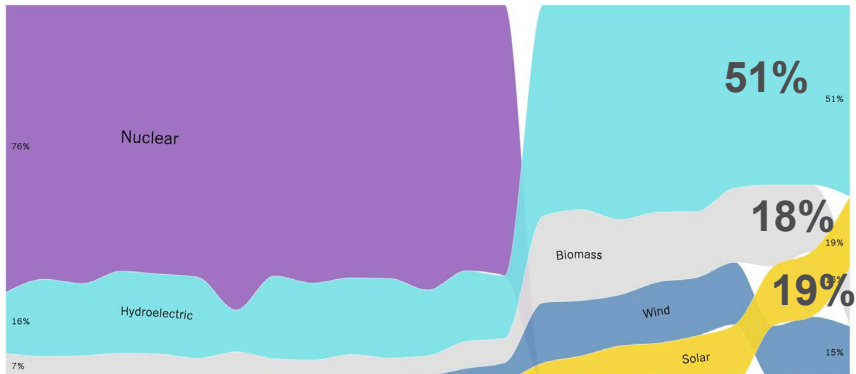
New Hampshire



Rhode Island



Vermont



**Total New England States**

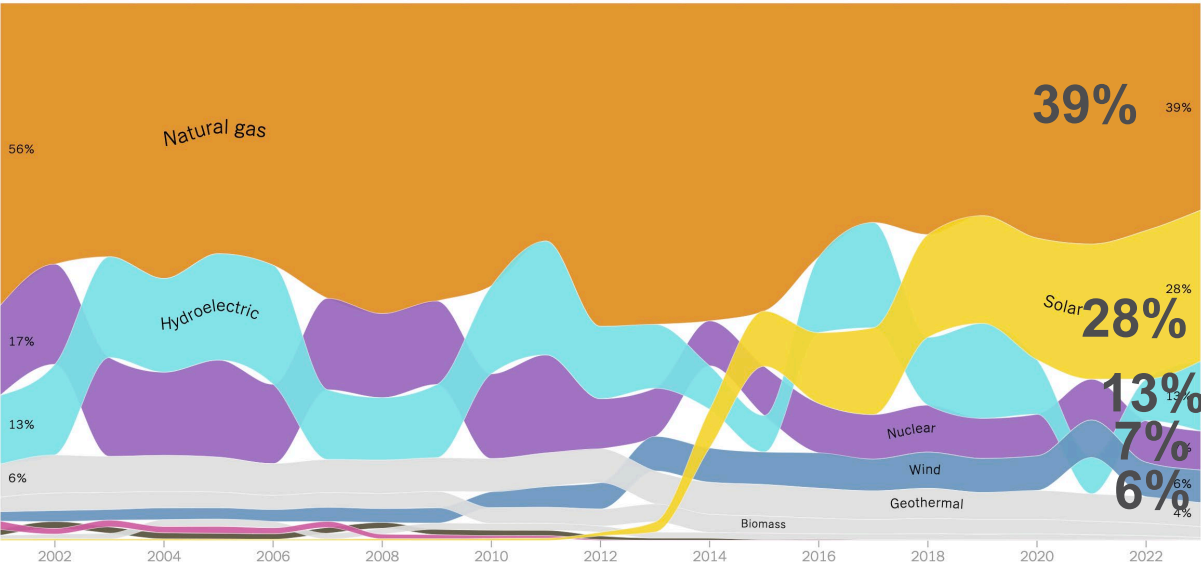
50% Natural Gas      23% Nuclear      21% Renewables

The New York Times

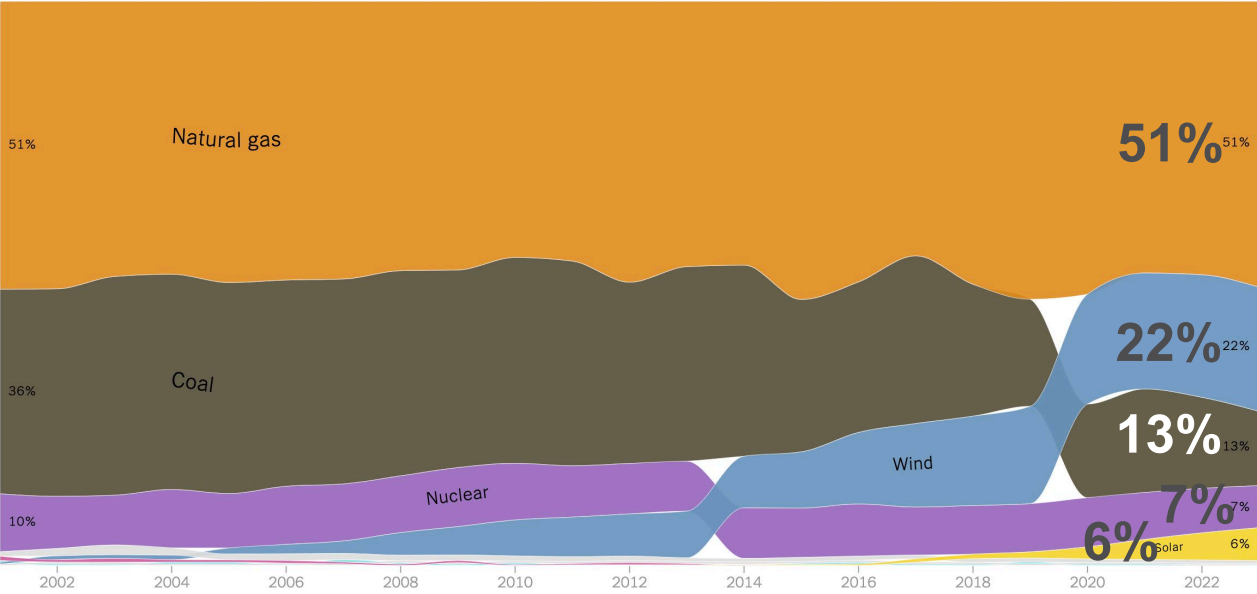
# California and Texas

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California



Texas 





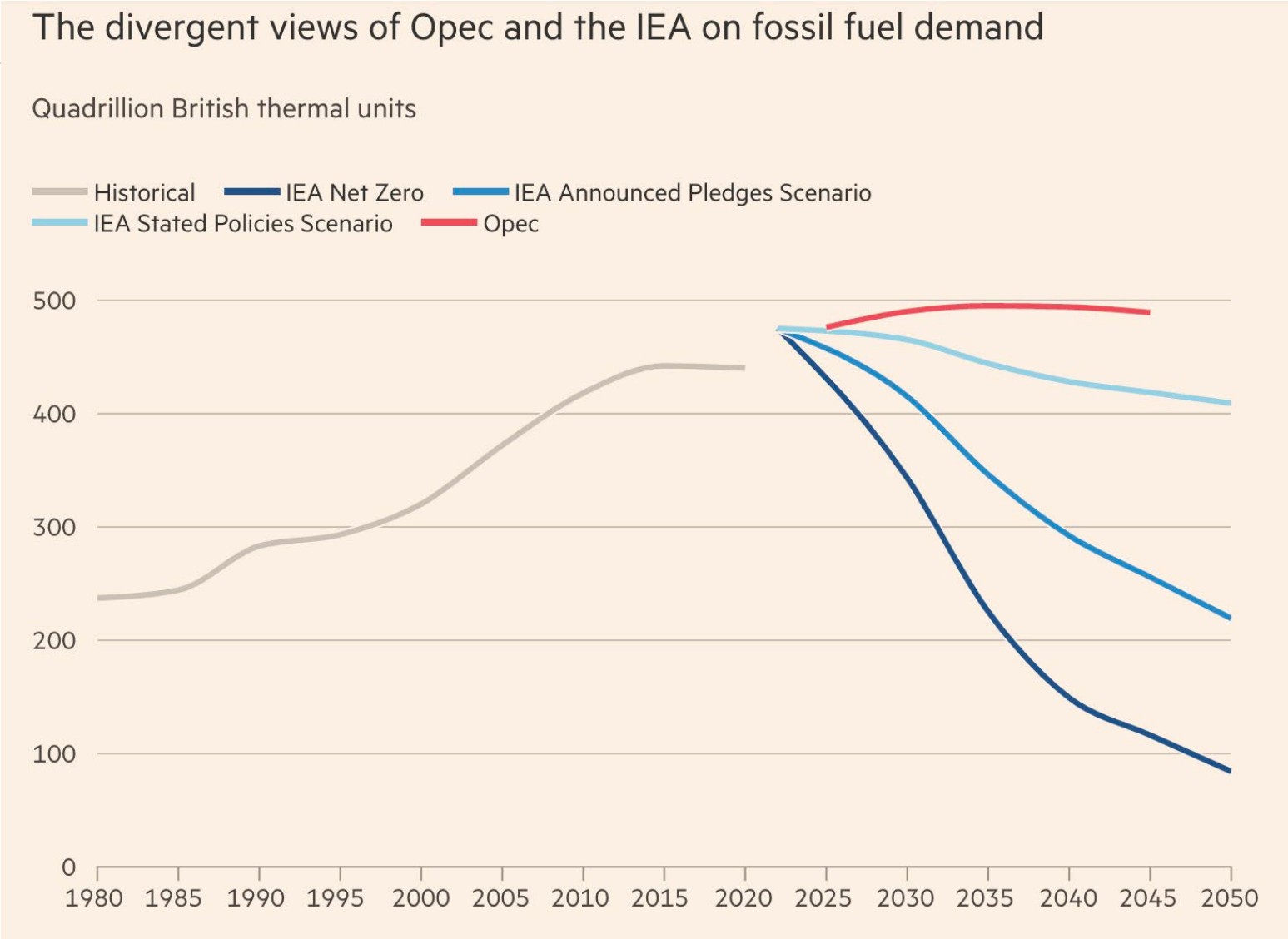
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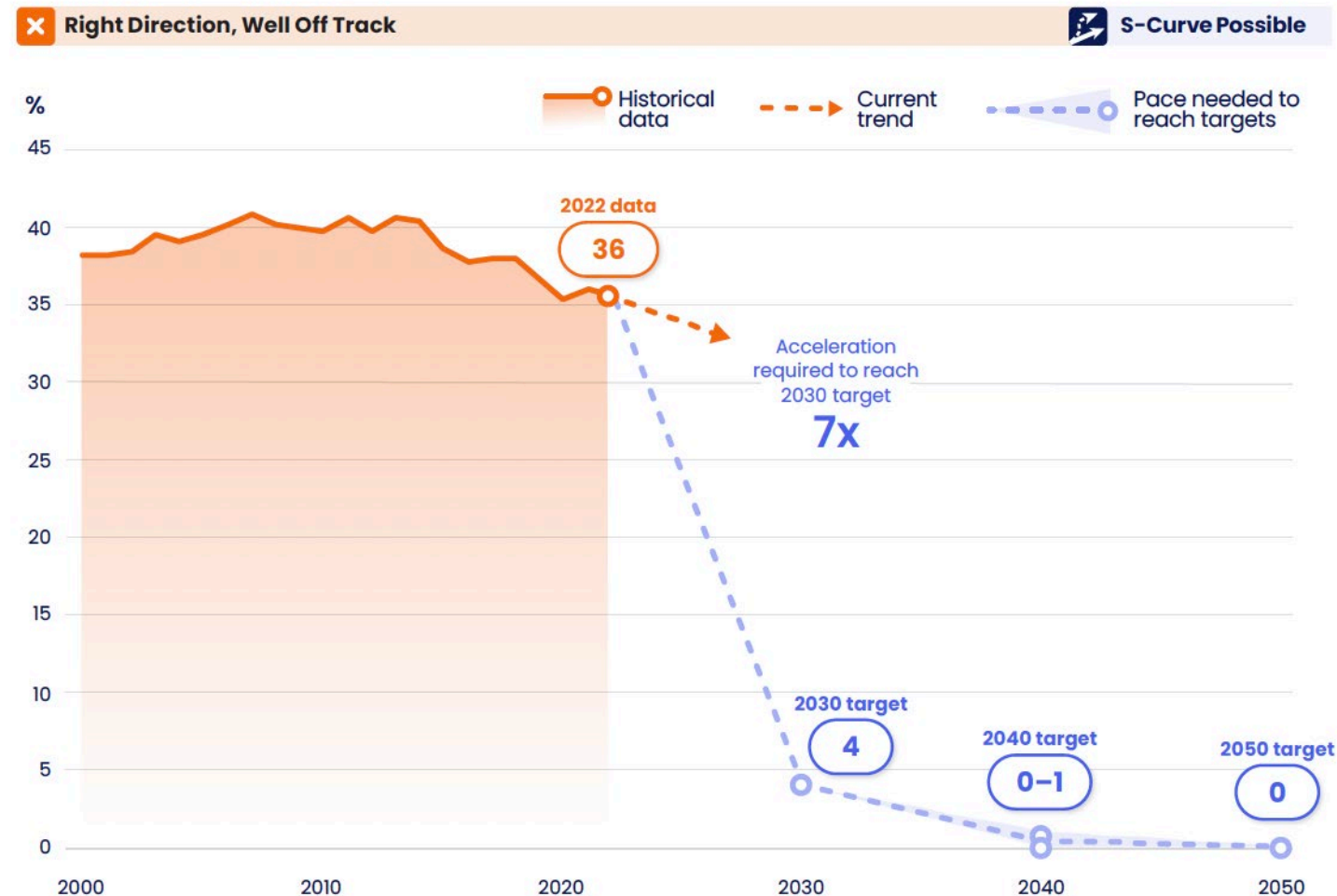


# Divergence on Predicting Fossil Fuel Demand



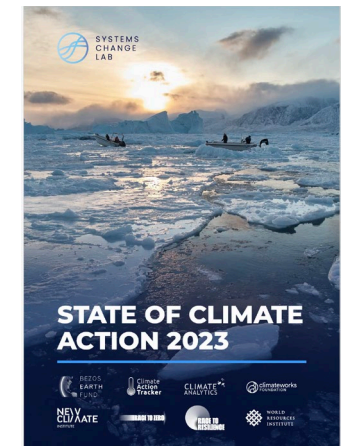
# Required Share of Coal in Electrical Generation for Zero Coal Generation by 2050

**FIGURE 9** | Historical progress toward 2030, 2040, and 2050 targets for share of coal in electricity generation



Notes: See Jaeger et al. (2023) for more information on methods for selecting targets, indicators, and datasets, as well as our approach for assessing progress.

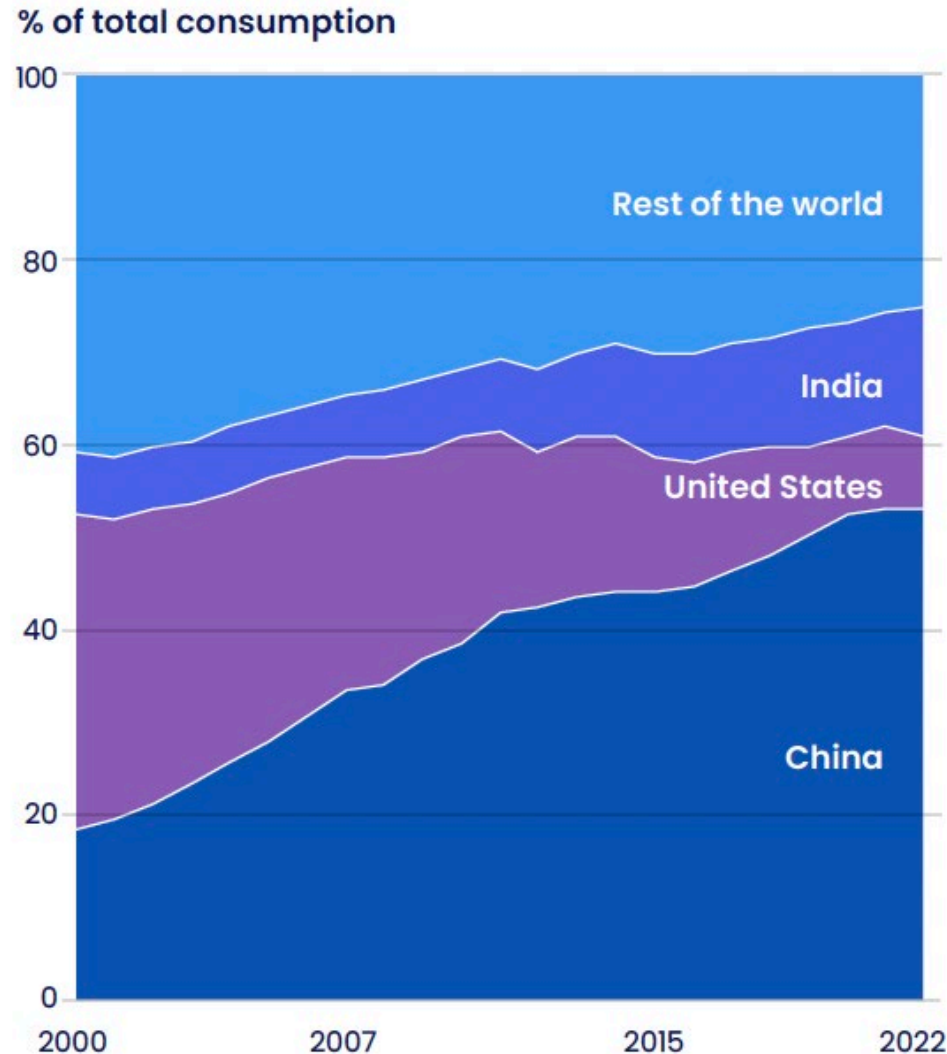
Sources: Historical data from Ember (2023); targets from CAT (2023a).





# Global coal consumption for power generation

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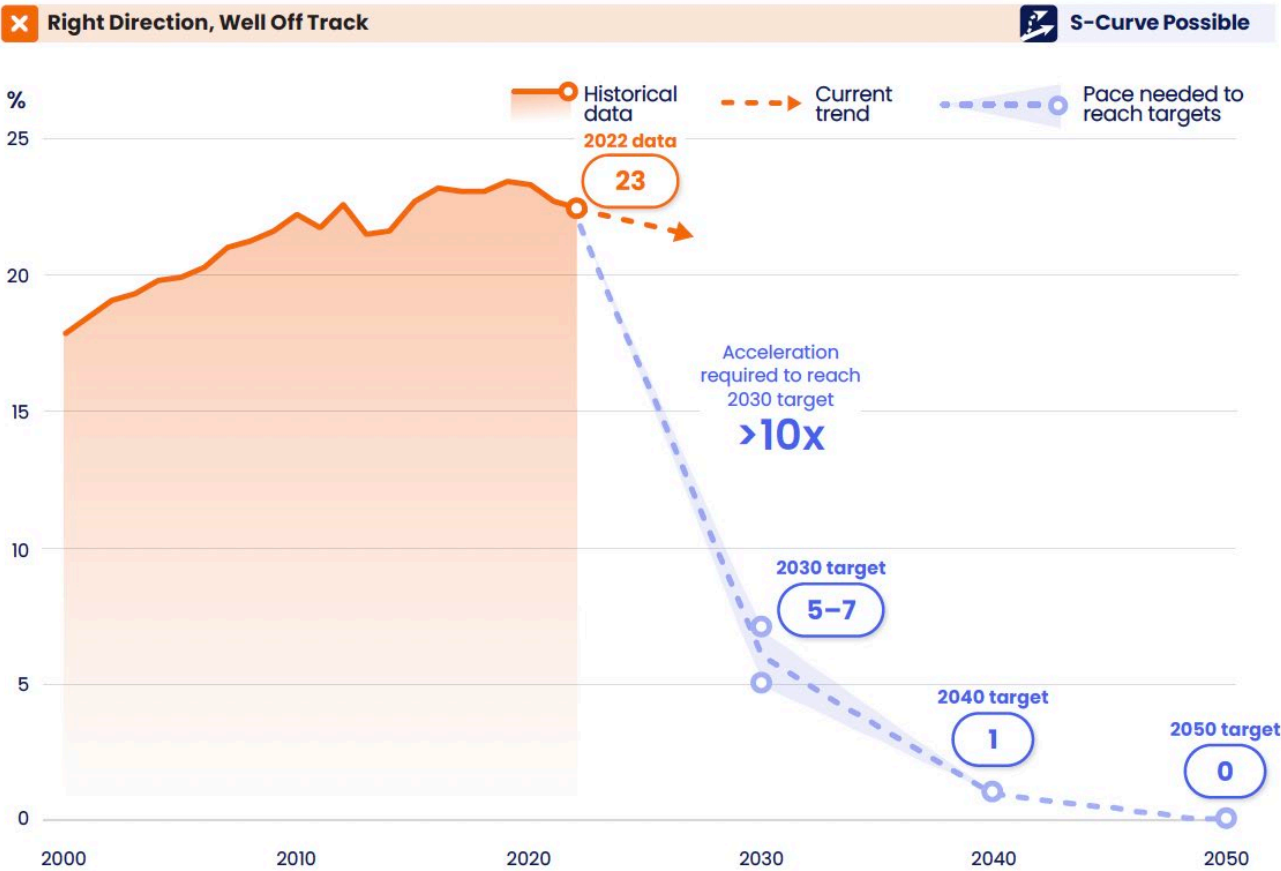


Source: Ember (2023).

As of mid-2023, China had a total 243 GW of coal plants under construction or permitted. An additional 149 GW are announced. 392GW in total.

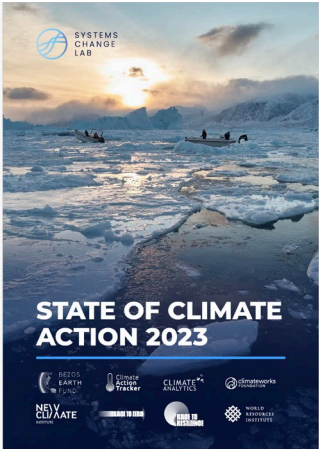
# Required Share of Natural Gas in Electrical Generation for Zero Natural Gas by 2050

**FIGURE 11** | Historical progress toward 2030, 2040, and 2050 targets for share of unabated fossil gas in electricity generation



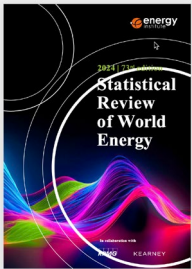
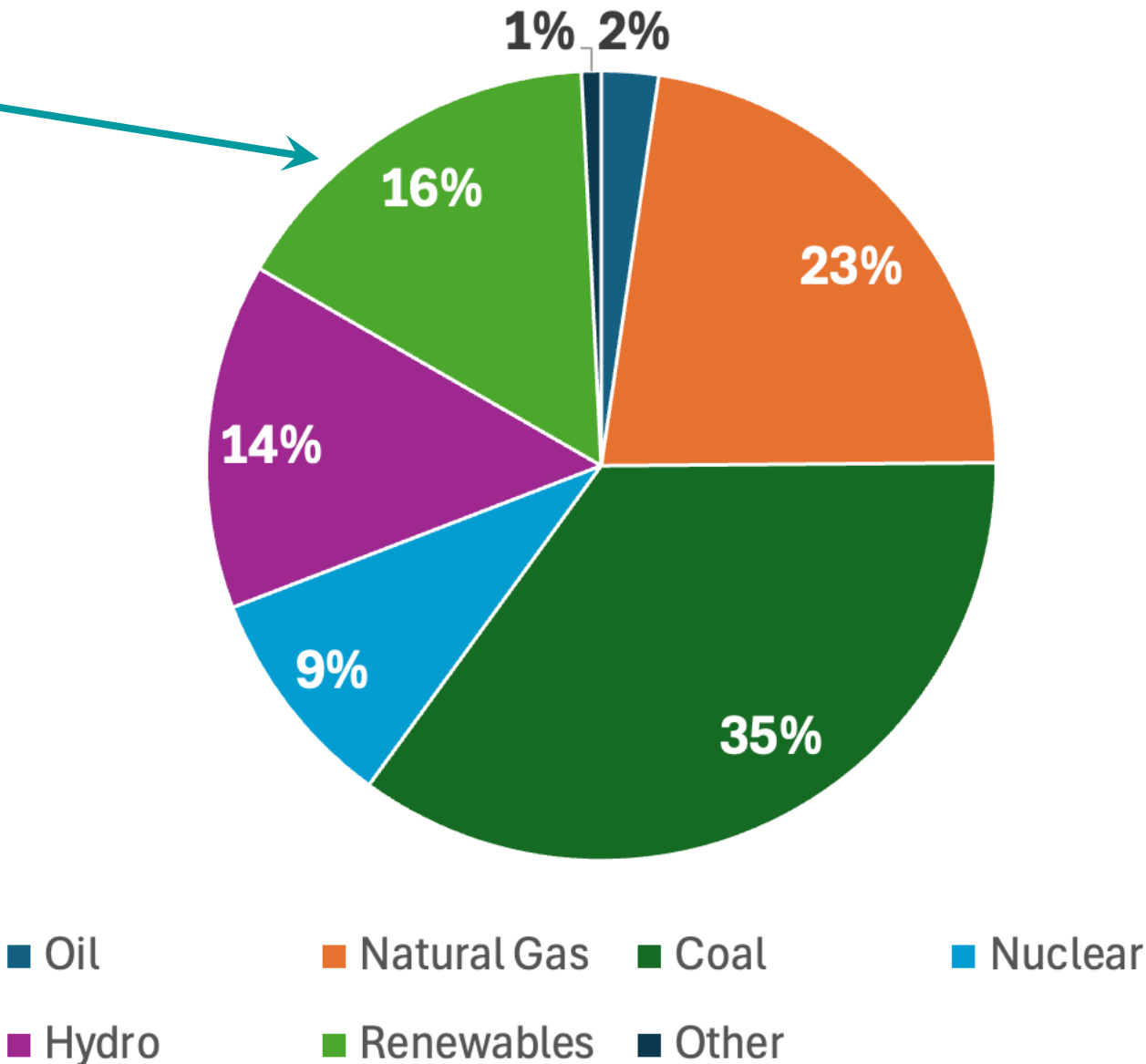
*Note:* See Jaeger et al. (2023) for more information on methods for selecting targets, indicators, and datasets, as well as our approach for assessing progress.

*Sources:* Historical data from Ember (2023); targets from CAT (2023a).



# 2023 Global Electrical Generation by Source

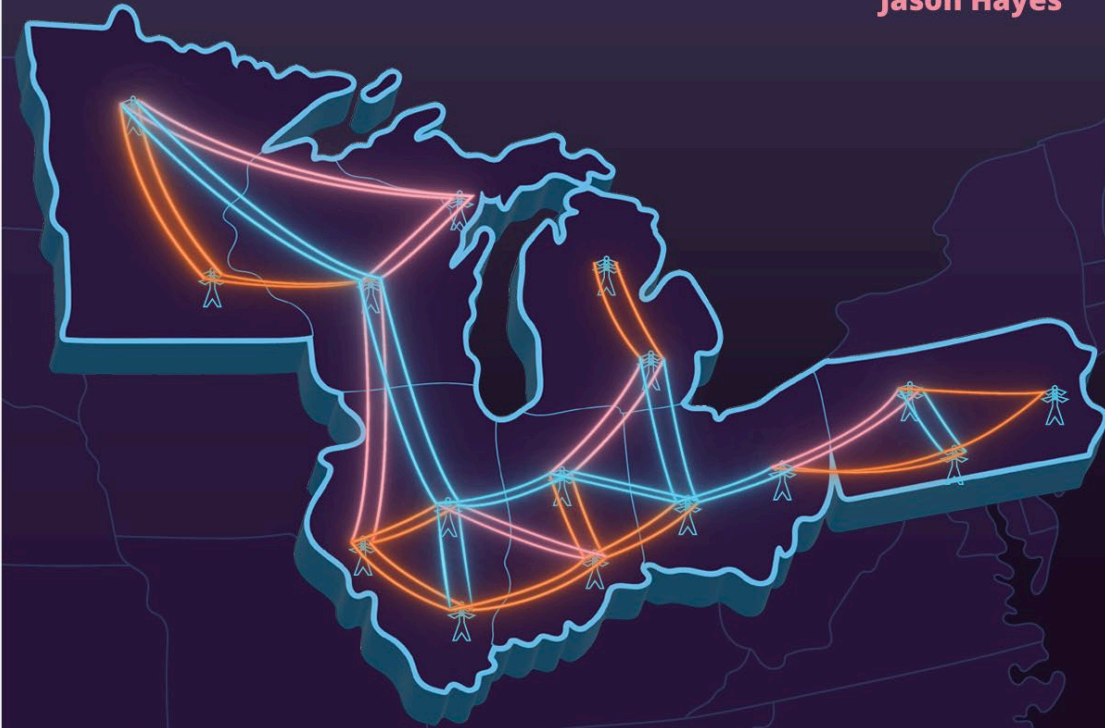
75% of Global Renewable Electricity comes from Europe, China and the US.



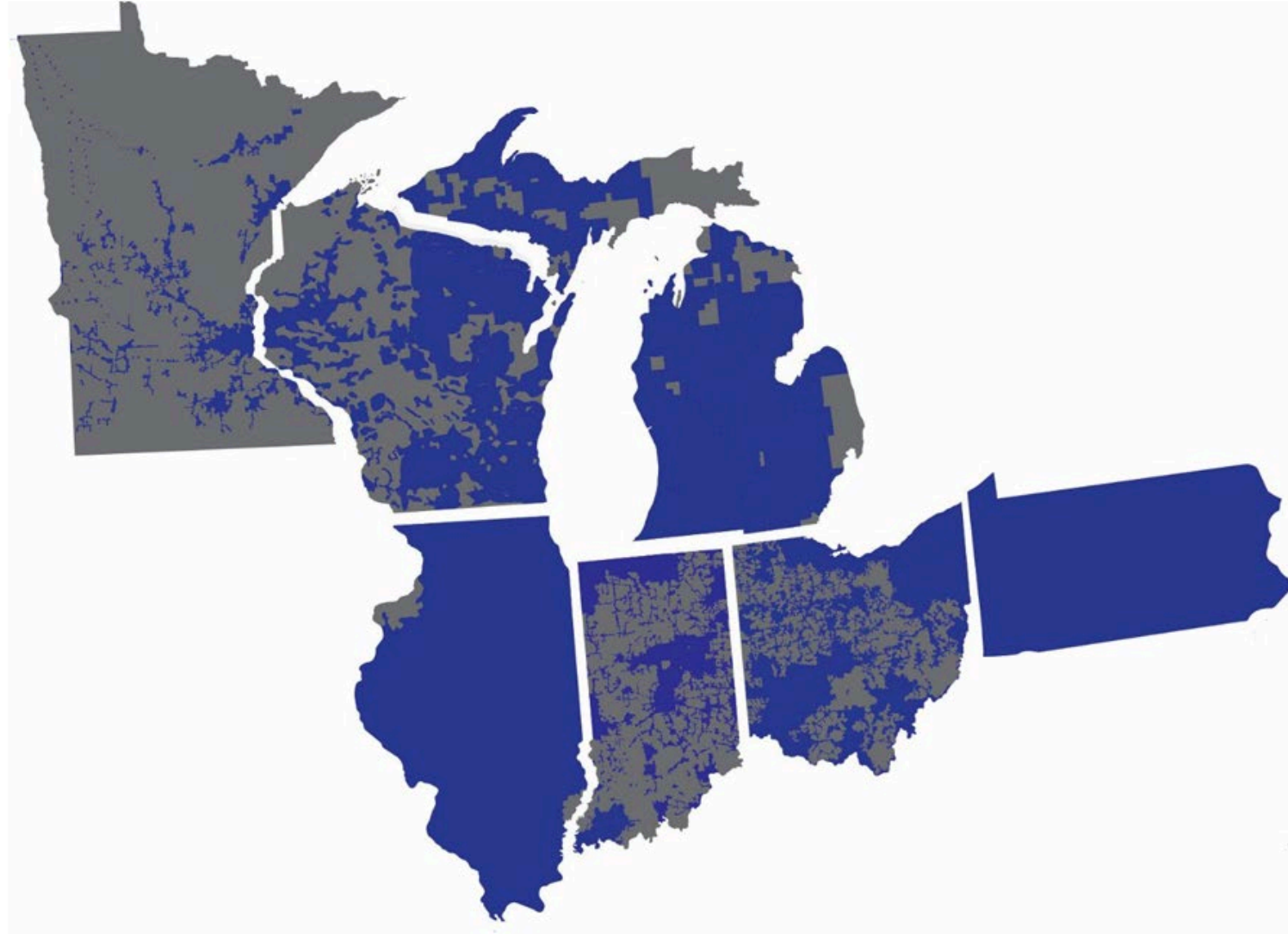
# SHORTING THE GREAT LAKES GRID:

How Net Zero Plans Risk Energy Reliability

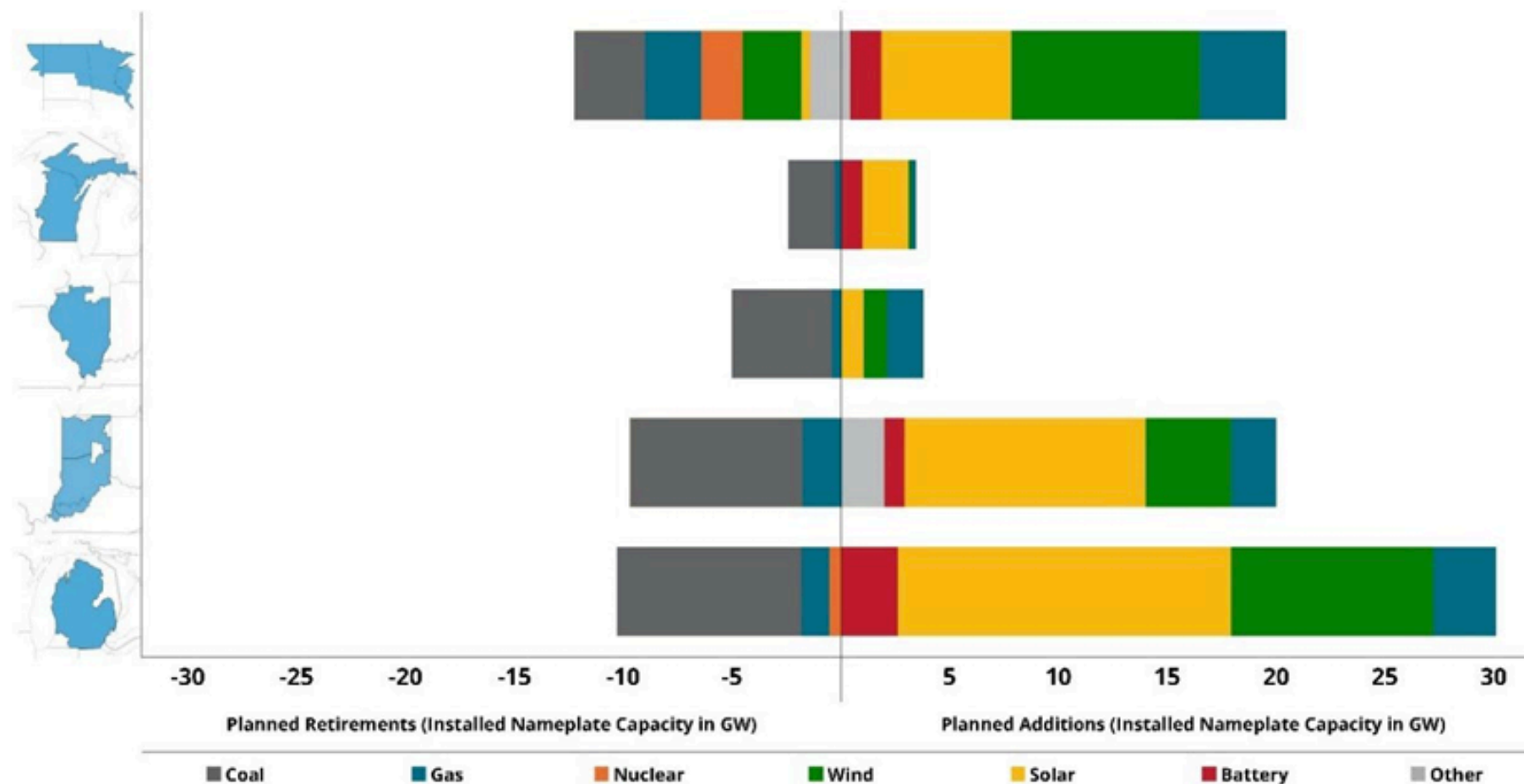
Joshua Antonini  
Jason Hayes



**Graphic 4: Combined service areas of utility companies surveyed**





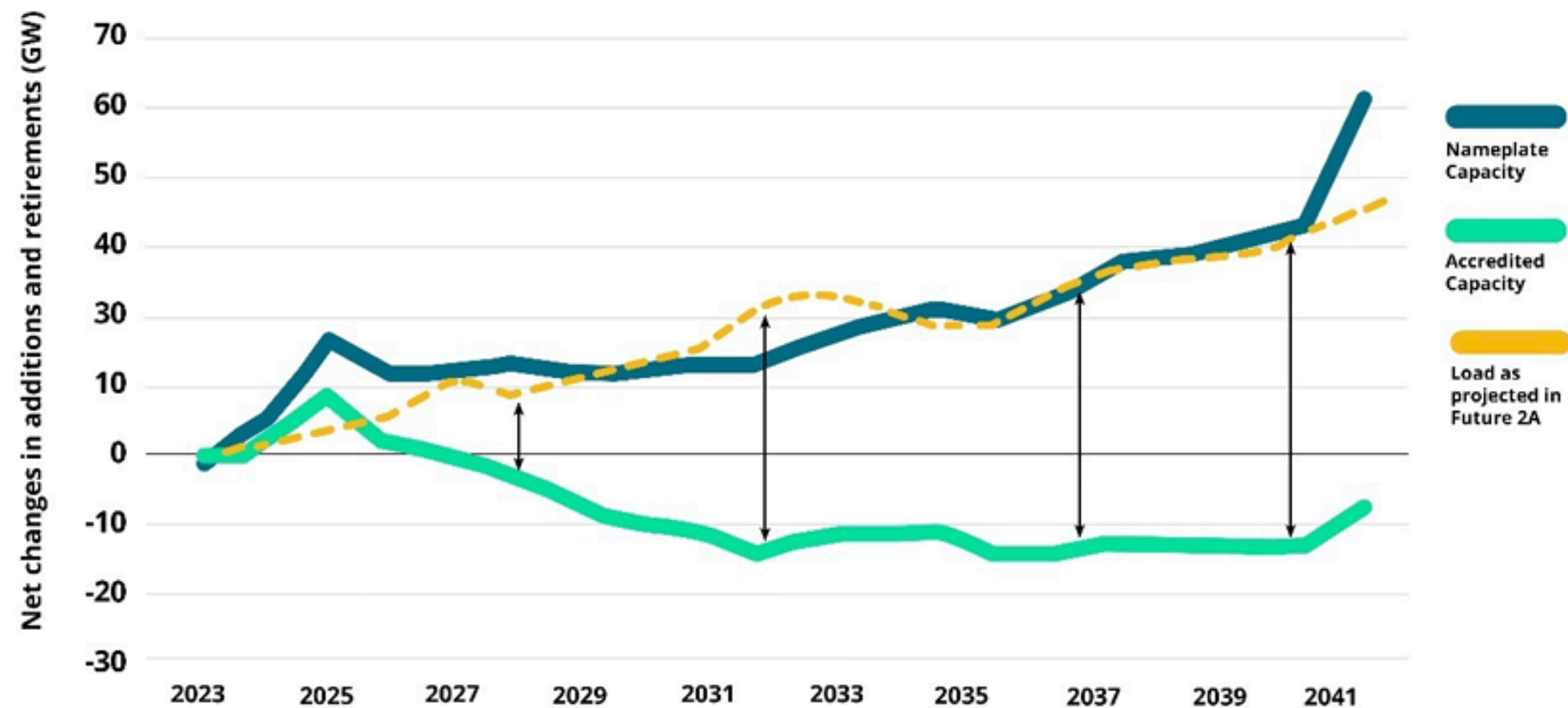
**Graphic 2: Planned generation capacity retirements and additions in MISO regions, 2023-2042**

\* "Other" includes hydro, pumped storage hydro, demand side management, biomass, landfill gas, waste biomass, and petroleum

**Source:** Midcontinent Independent Systems Operator; based on member-announced plans

# A Growing Gap in Electricity Supply and Demand

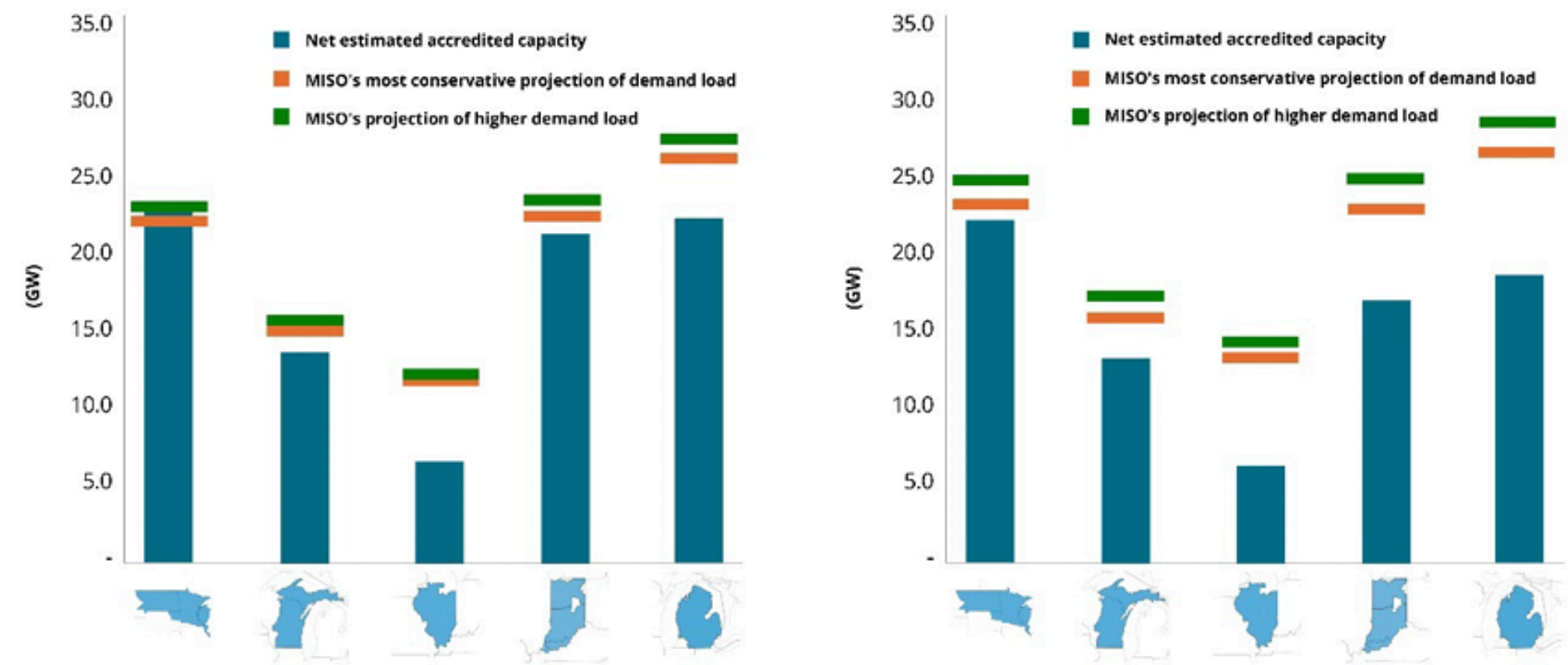
Graphic 1: Projected Capacity Change, 2023-2042



Source: Midcontinent Independent Systems Operator

# Regional Shortfall and Diminished Capacity for Backstop

**Graphic 3: Estimated accredited capacity and projected demand load in MISO regions, 2027 and 2032**



Source: Midcontinent Independent Systems Operator

This so-called energy transition — moving from reliable forms of generation to intermittent ones — is poorly planned. The singular focus on reducing carbon emissions threatens to destabilize the electric grid in an unprecedented way. Building weather-dependent wind and solar generation is a hollow addition to the grid that will cause more problems than it addresses. These energy sources cannot be used as replacements for traditional generation without significant overbuilding of wind and solar and maintaining an entire fleet of reliable, backup generation, such as natural gas. The collective efforts of state officials and utilities all across the country are threatening to short the nation's electric grids.<sup>1</sup>

<sup>1</sup> *Shorting the Great Lakes Grid: How Net Zero Plans Risk Energy Reliability*; Mackinac Center Report, 2024, p. 14

- Aware that he wasn't a genius, George Orwell said that one thing he had going for him was the “power of facing unpleasant facts”.

FINANCIAL TIMES



# Test of Good Policy

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- *Does it effectively impact the issue that it is designed to address?*
- *Is there a clear feedback loop?*

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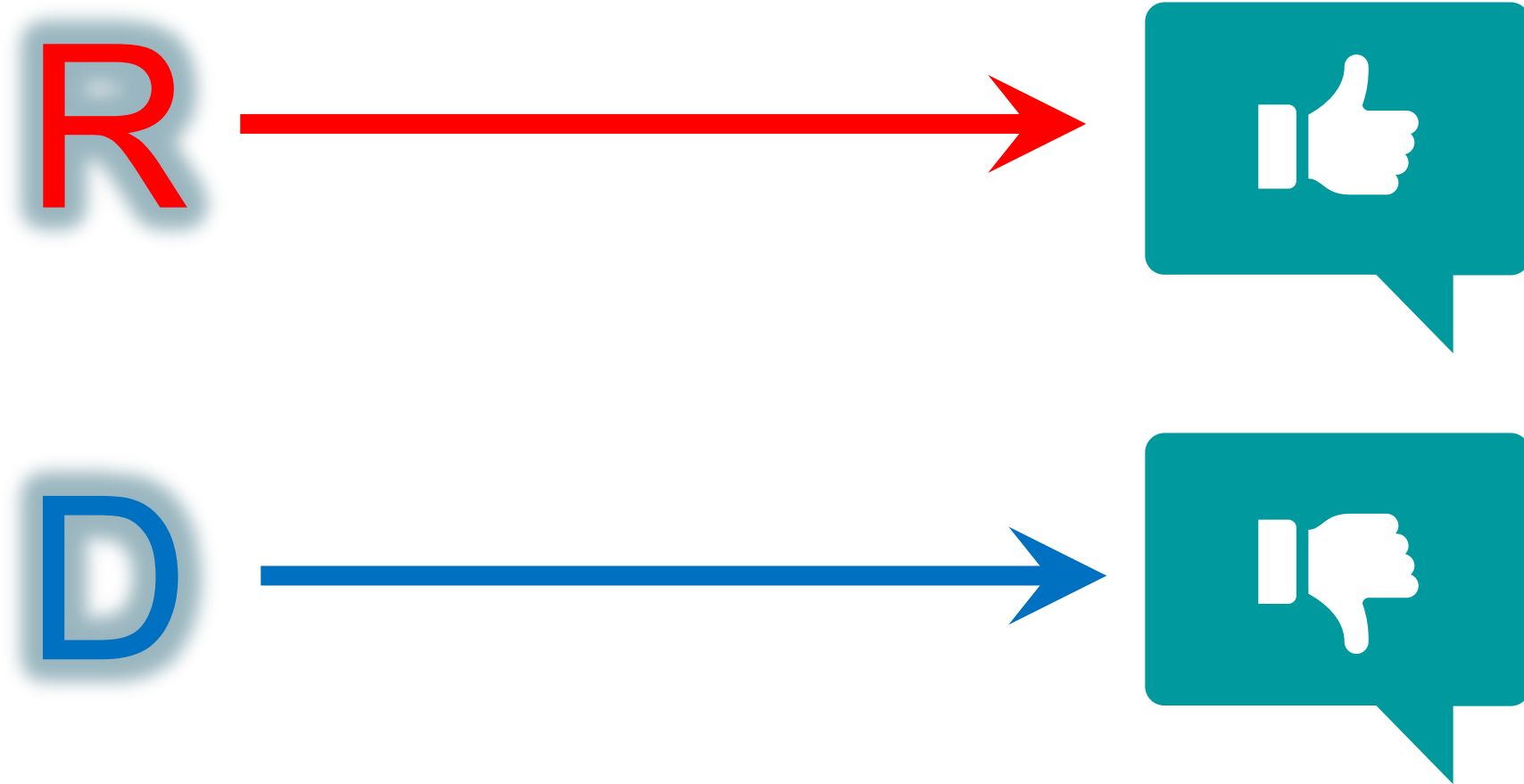
# In aggregate, the Battleground States get their electricity from:

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Natural Gas	49.6%
Nuclear	26.8%
Coal	11.8%
Solar	5.5%
Hydro	2.7%
Wind	1.8%
Geothermal	0.5%
Petroleum	0.2%
Other	1.2%

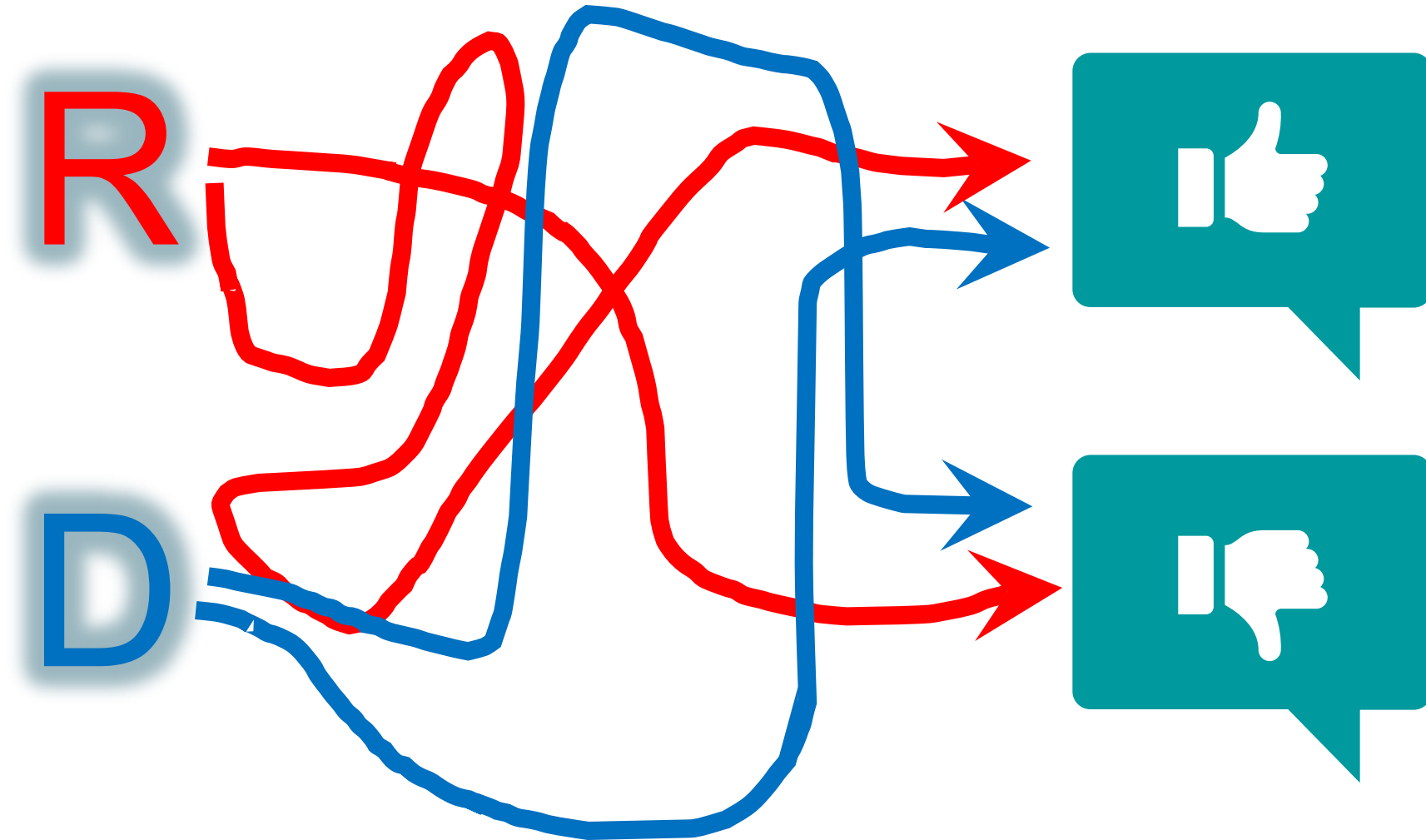
# A Simple Dichotomy?

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# Perhaps not so simple!

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BUSINESS

The Week in Business: The Escalating Battle Over  
E.S.G.

## The New York Times

DEALBOOK

Is E.S.G. Falling Out of Favor?

MUTUAL FUNDS

Aiming to Do Good, Not Just Well

CLIMATE

The Zombies of the U.S. Tax Code: Why Fossil  
Fuels Subsidies Seem Impossible to Kill

**Opinion: When Climate Illusions Fail**

THE WALL STREET JOURNAL.

**Clean Fuel Startups Were Supposed to  
Be the Next Big Thing. Now They Are  
Collapsing.**

**Landmark ruling could restrict new UK fossil fuel  
developments**

World faces 'staggering' oil glut by end of  
decade, energy watchdog warns

FINANCIAL TIMES

US emissions of planet-warming gas far exceed  
estimates, study finds



# Thank you!

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- 2024 Statistical Review of World Energy; Energy Institute
  - <https://www.energyinst.org/statistical-review>
- State of Climate Action 2023; World Resources Institute
  - <https://www.wri.org/research/state-climate-action-2023>
- How Does Your State Make Electricity? Nadia Popovich, New York Times Aug 2, 2024
  - <https://www.nytimes.com/interactive/2024/08/02/climate/electricity-generation-us-states.html?searchResultPosition=6>
- Shorting the Great Lakes Grid: How Net Zero Plans Risk Energy Reliability; Joshua Antonini and Jason Hayes; Mackinac Center for Public Policy; August 2024
  - <https://www.mackinac.org/S2024-04>
- Choose Energy ; Electricity Generation by State
  - <https://www.chooseenergy.com/data-center/electricity-sources-by-state/>