

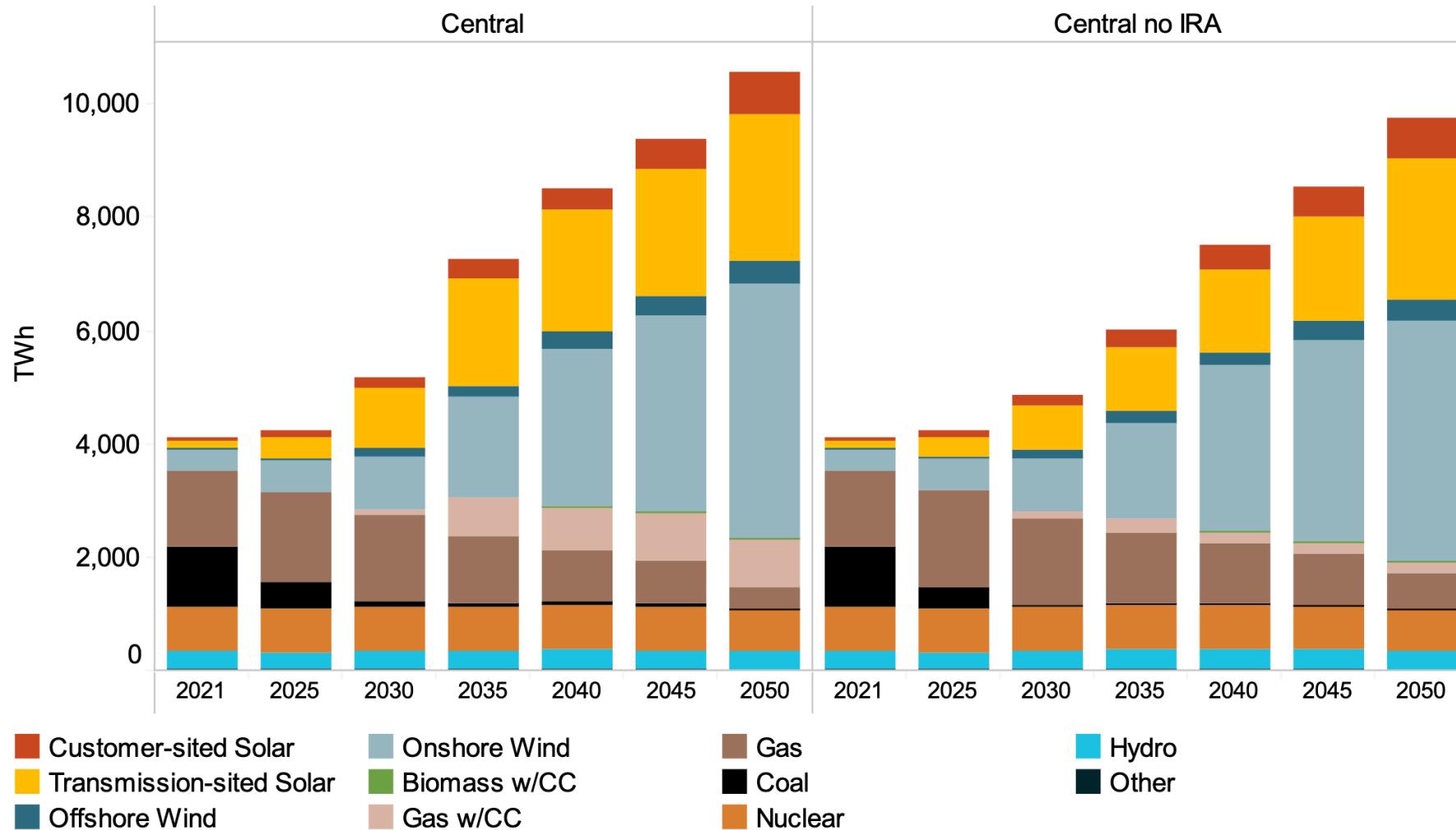
# Mobilizing Investment for Decarbonization: the new business and policy environments

## ALPS SYMPOSIUM

David G. Victor

March 2024

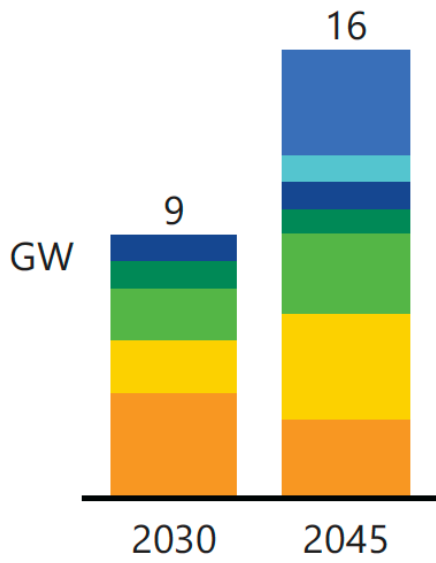
# Electricity generation comparison between Central and Central no IRA



# Eliminating Emissions in California

## SDG&E SERVICE AREA

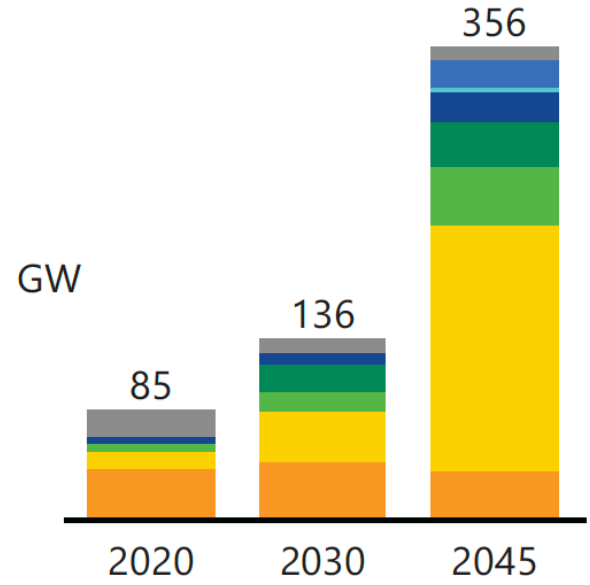
Generation Capacity



■ Natural Gas   
 ■ Solar   
 ■ Storage<sup>1</sup>

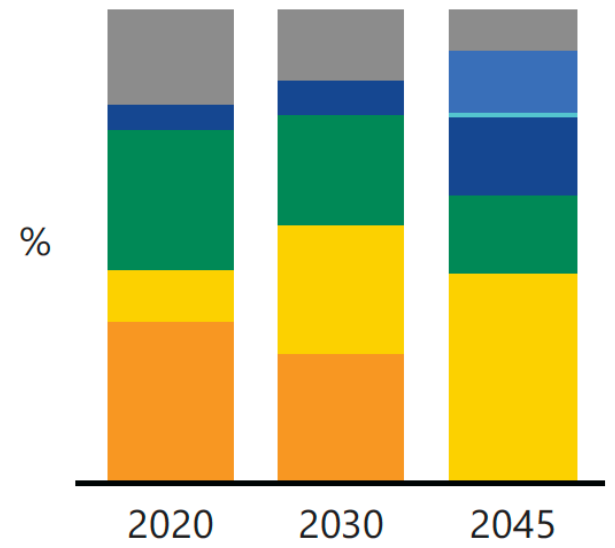
## CALIFORNIA

Generation Capacity



■ Imports   
 ■ Wind   
 ■ CCS<sup>2</sup>   
 ■ Hydrogen   
 ■ Other<sup>3</sup>

Annual Electricity Breakdown

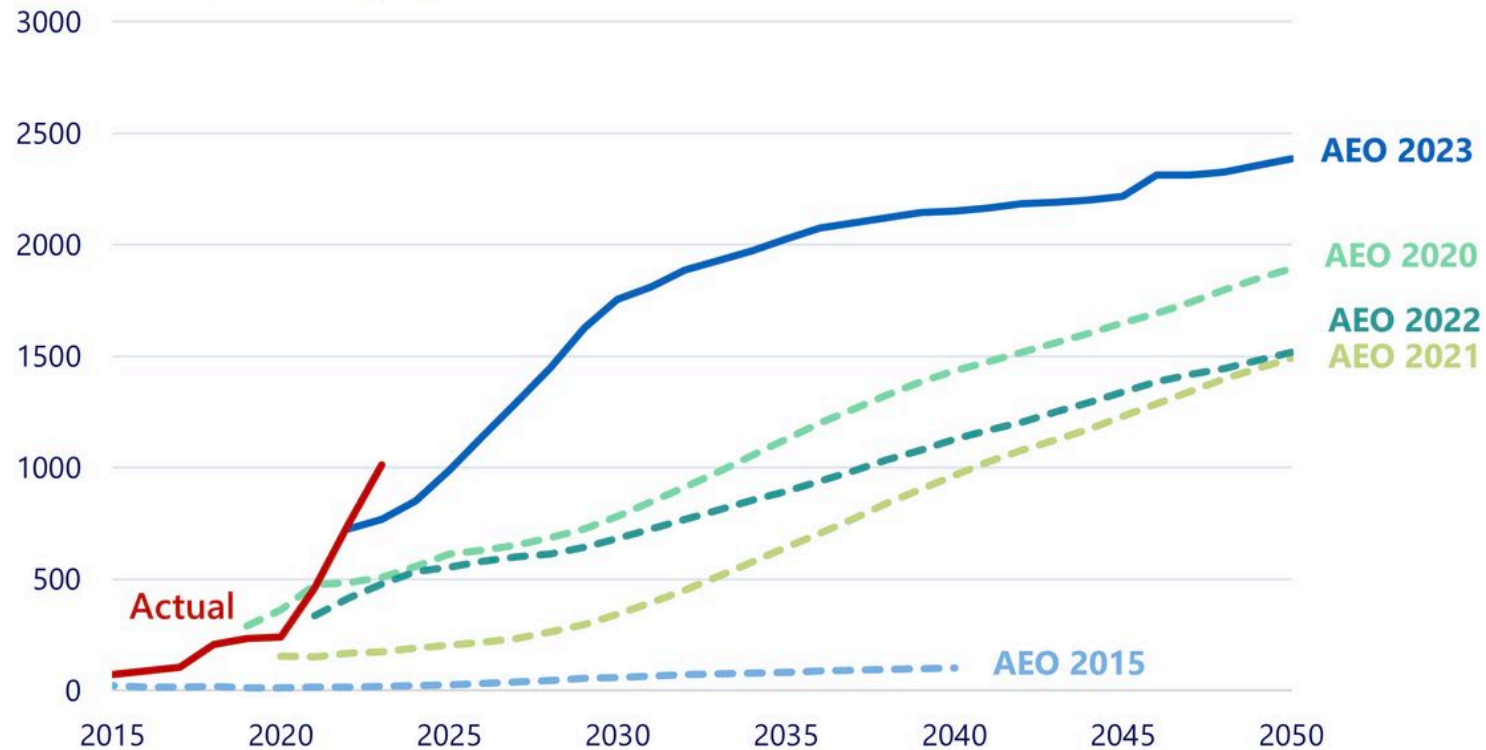


Source: SDG&E "Net Zero" (April '22)

# Recent, sharp turn to clean energy in the US

**Figure 8. Annual EV Sales Projections Over Time**

*Thousands of units sold per year*



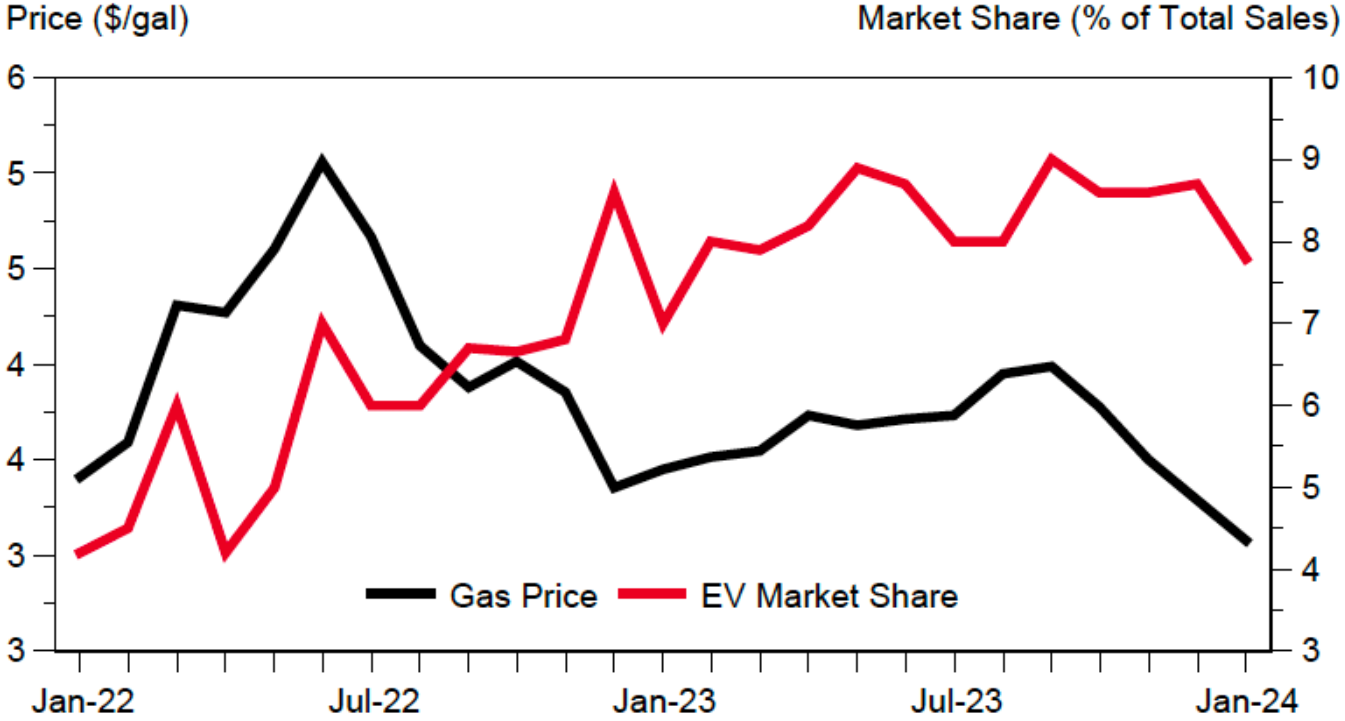
Sources: U.S. Energy Information Administration, Argonne National Laboratory.

Note: Projections from EIA Annual Energy Outlook. Actuals from ANL Light Duty Electric Drive Sales Monthly Sales Updates.

As of December 14, 2023.

# But Competition with Incumbents still matters...

**Figure 10**  
**US Market Share of EV Sales vs.**  
**Retail Gasoline Price, 2022 to 2024**



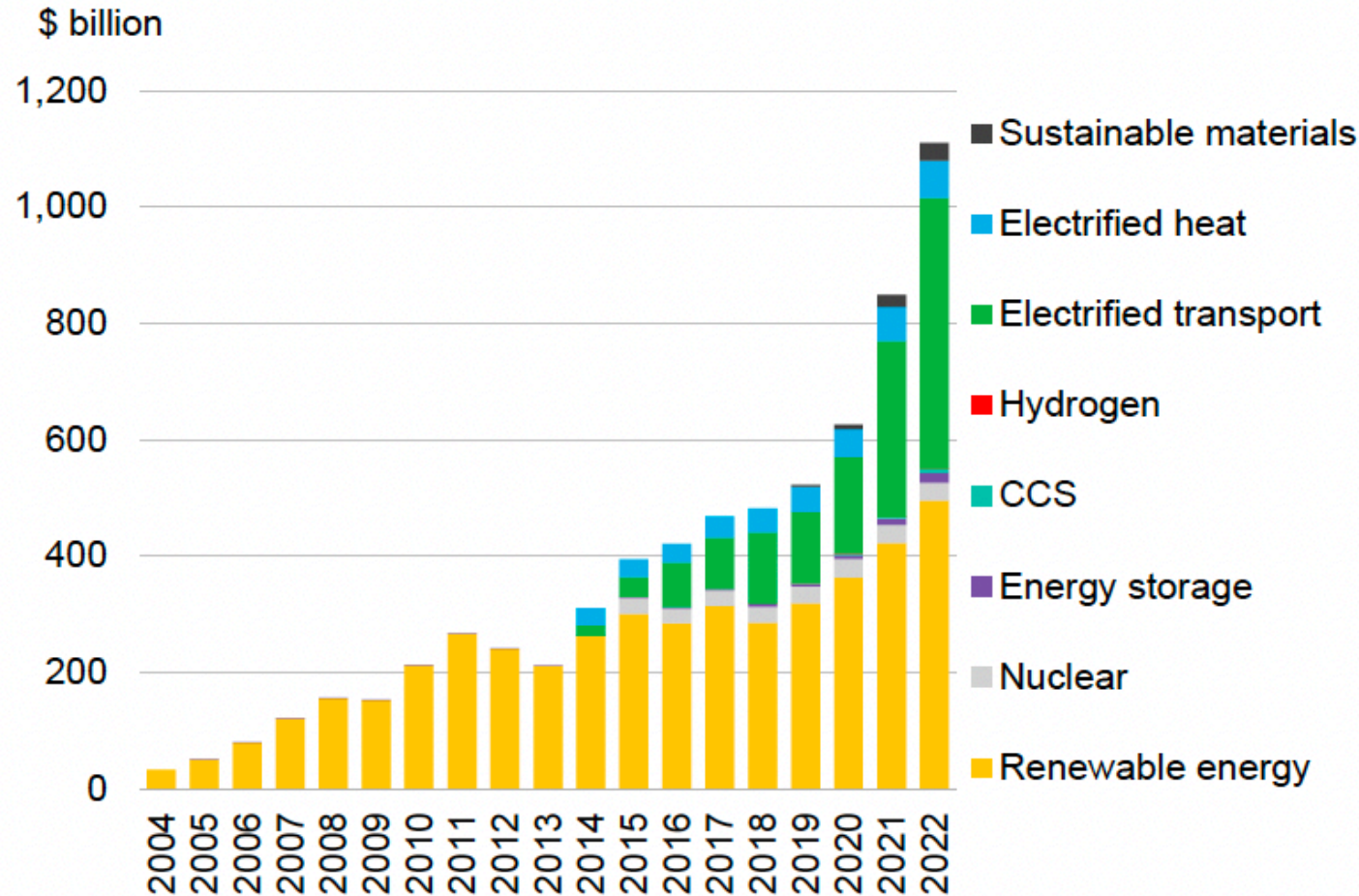
Source: US EIA; The Wall Street Journal.



Source: Verleger (last week)

# A Huge Boom in Clean Energy Spending

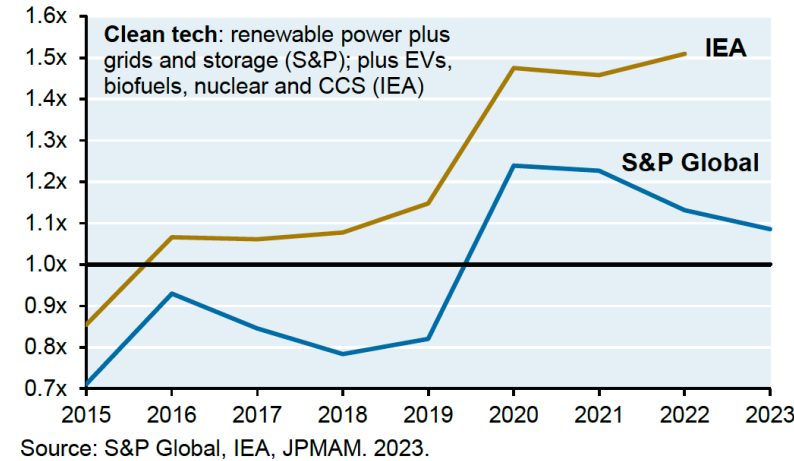
## Global energy transition investment by sector



Source: BloombergNEF. Note: start-years differ by sector but all sectors are present from 2019 onward; see Appendix for more detail. Nuclear figures start in 2015.

## Clean tech spending outpacing fossil fuels

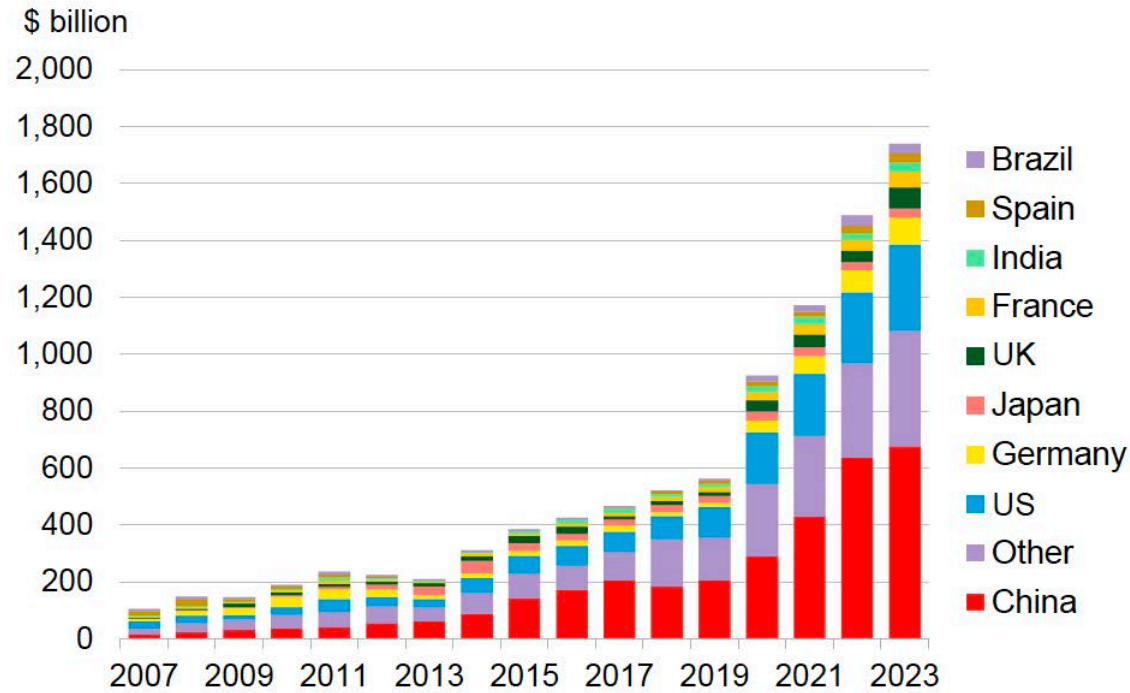
Ratio, clean tech / fossil fuel capital spending by year



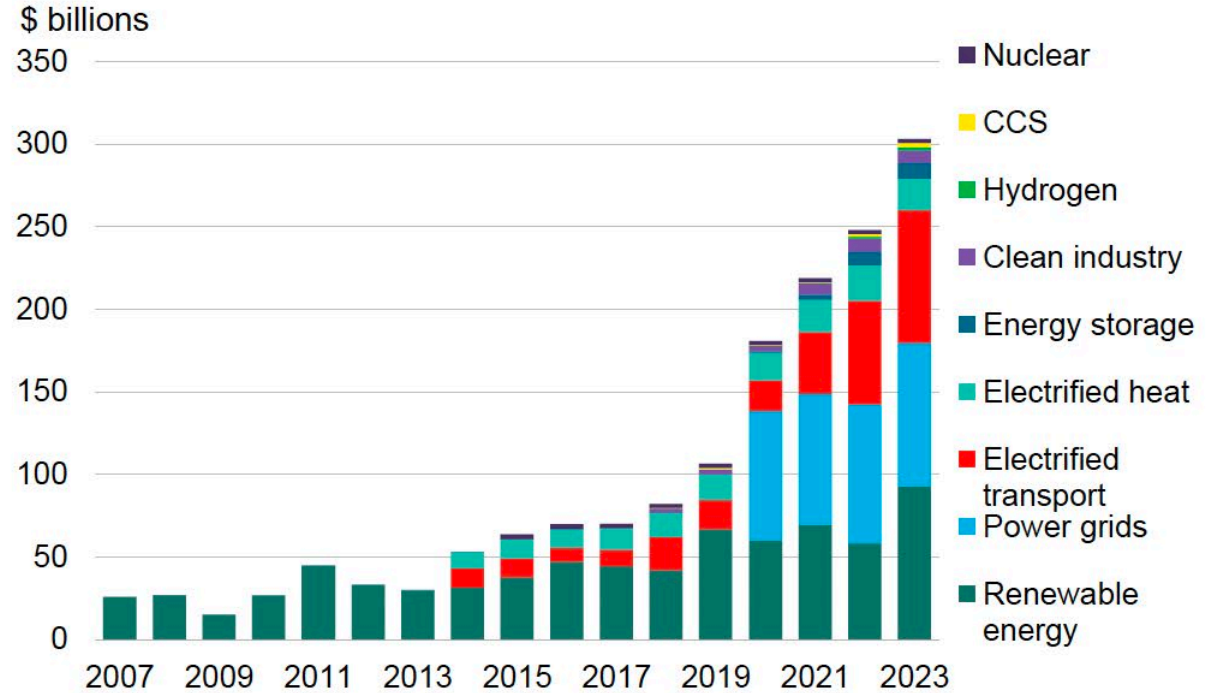
BNEF *Energy Transition Investment Needs 2030* (2023)

# Through 2023: Global (left) and US (right) investment

## Energy transition investment, by market



## US energy transition investment, by sector



Source: BNEF *Sustainable Energy in America* (2024)



FOREIGN AFFAIRS

# Capitalism's Green Revolution

How Private Finance Can Help Decarbonize the  
Economy

BY KASSIA YANOSEK AND DAVID G. VICTOR    November 29, 2023

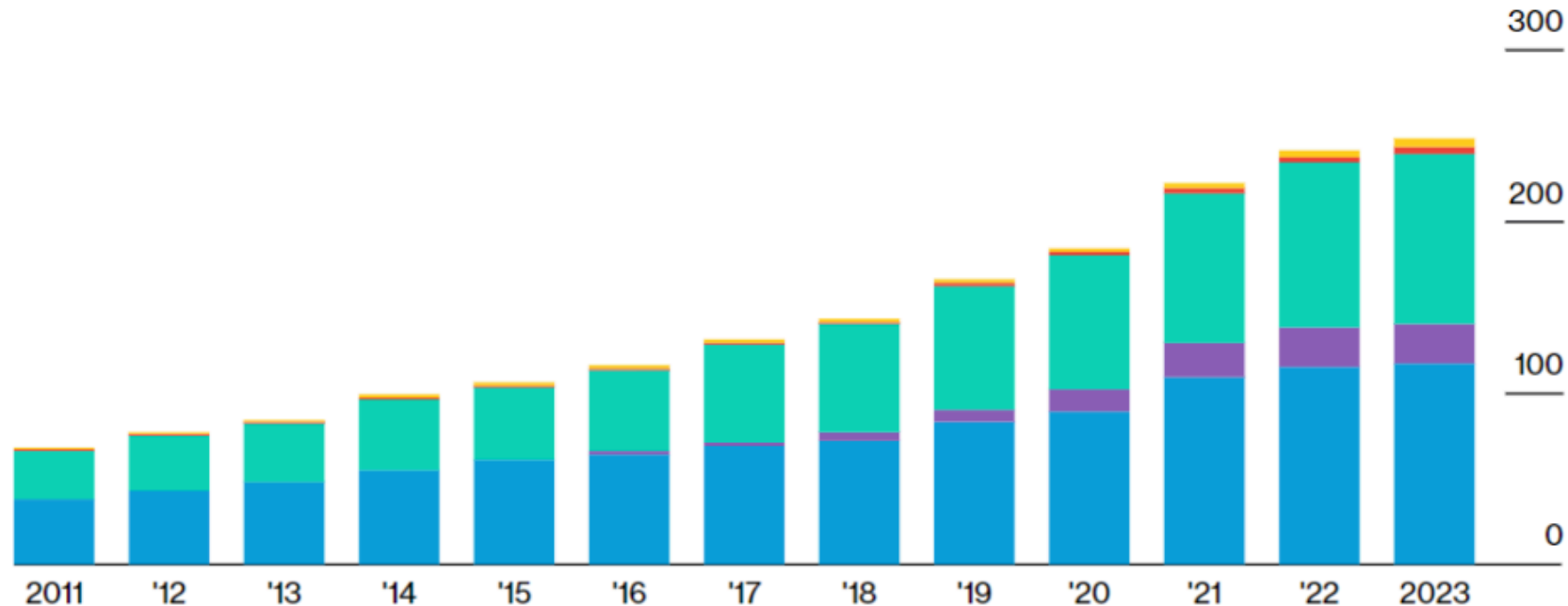


# Are sustainable finance policies saturating?

## Most Sustainable Finance Policies Are Voluntary and That's Problematic

Cumulative number of in-force G-20 sustainable finance policies

■ Mandates/regulations ■ Roadmaps ■ Voluntary standards ■ Government-industry partnerships  
■ Other technical resources



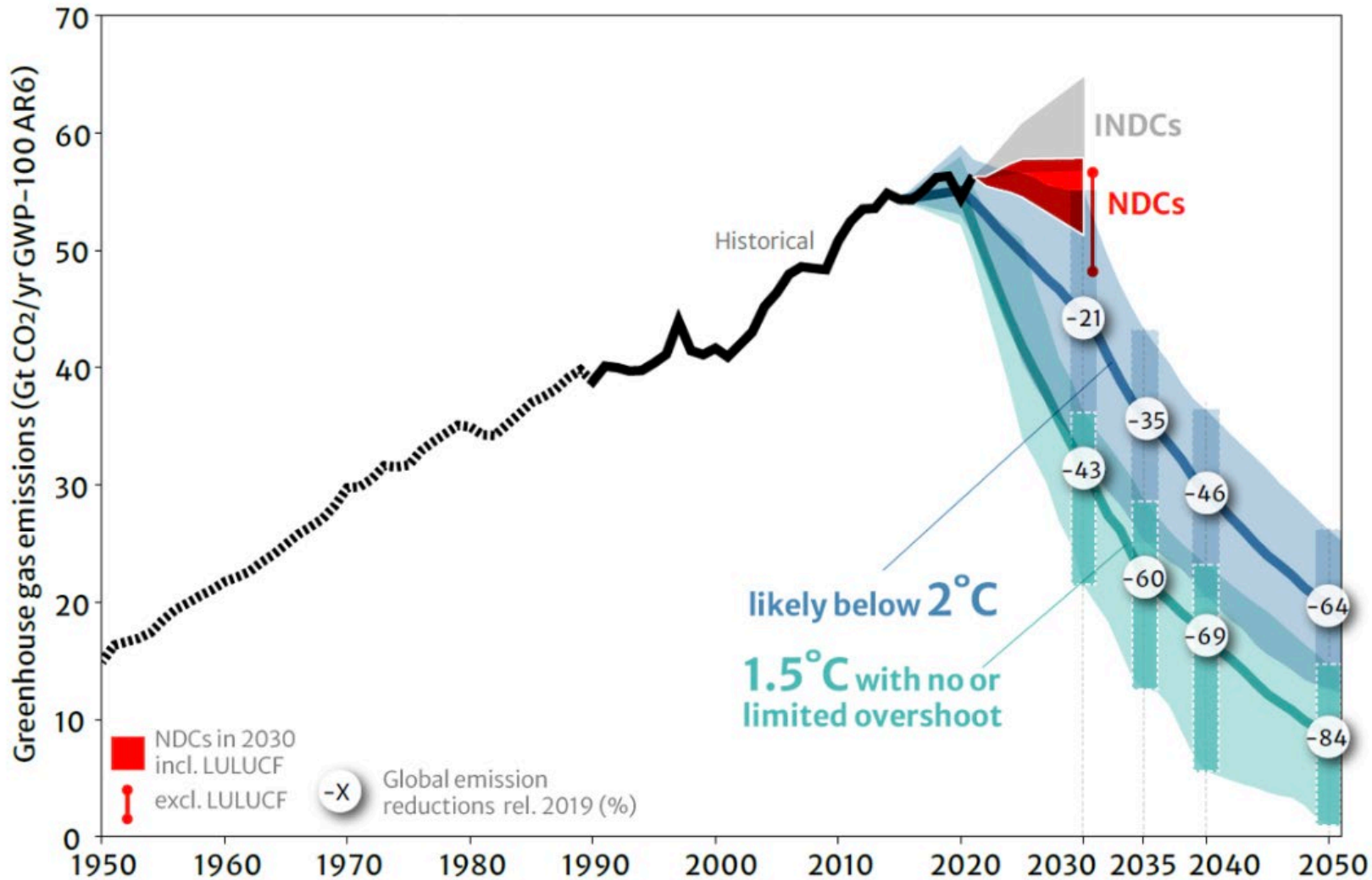
Source: BloombergNEF's Policy Navigator.

Note: Figure comprises EU and national policies. 2023 data is up to 1H 2023.

BloombergNEF

The World is Making Progress, but only if  
measured in the right ways

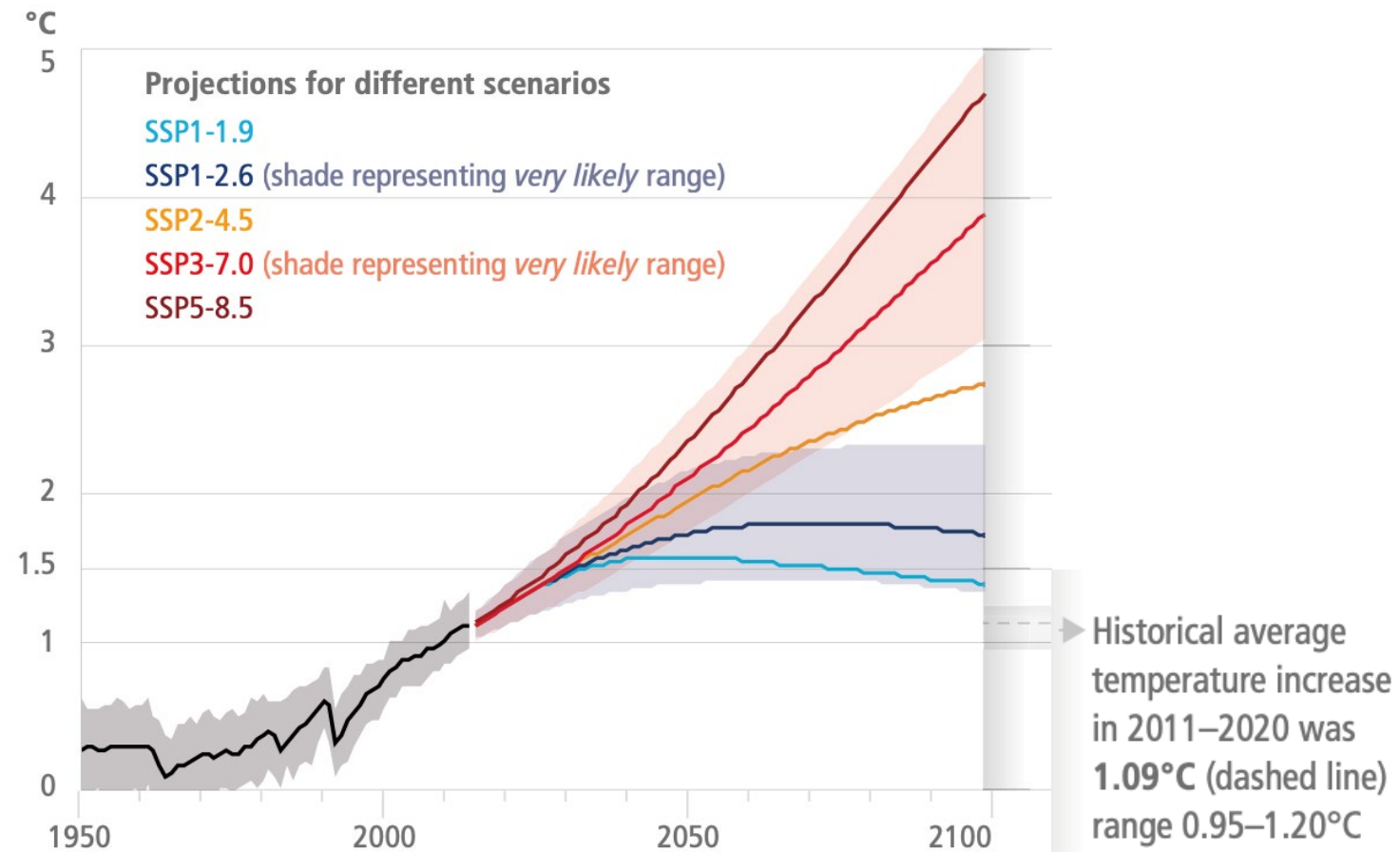
# According to UN Metrics we are failing... ...to stop warming at 1.5°C or 2.0°C



Source: UNFCCC “Stocktake” report (Sept 2023)

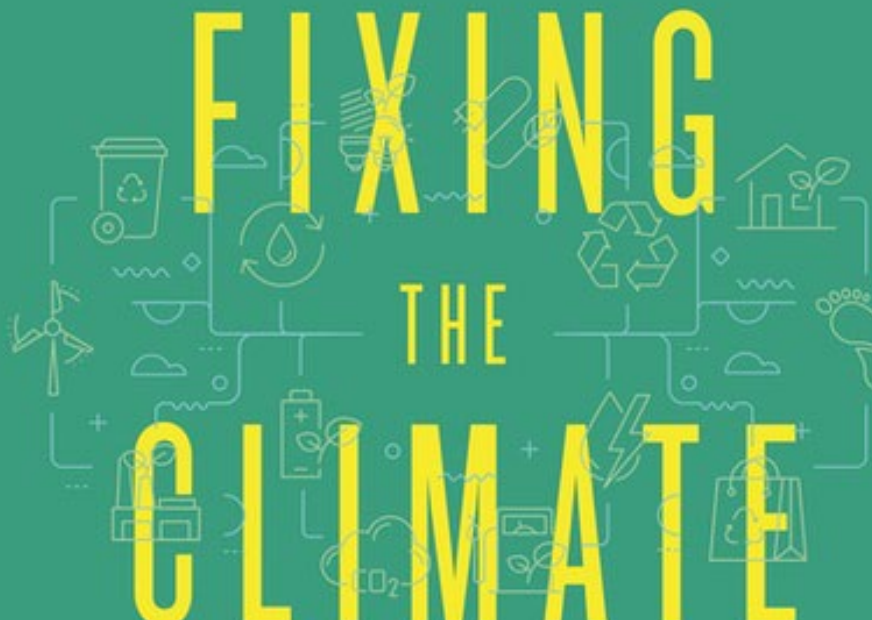
# Progress: Our Warming Trajectory could be a lot worse

(a) Global surface temperature change  
Increase relative to the period 1850–1900



# Why Progress? A New Theory of Change

- Old, ineffective ideas for how to fix the climate are finally “dead”
- New Ideas: International cooperation emerges through collaboration
  - Central roles for business
  - “Experimentalist” strategies that take uncertainty seriously
- First movers in business and finance are creating new “facts on the ground”
- Also known as “pledge and review,” which was a Japanese idea dating to the early 1990s



# FIXING THE CLIMATE

*Strategies*  
*for an*  
*Uncertain World*



CHARLES F. SABEL &  
DAVID G. VICTOR