

Business & Society: Climate Change

23 April 2025, 4:05-5:35 p.m.

Climate risks & opportunity

Guest: Mark Tercek



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8,500 acres of forests burn

The biggest news: cars ca

 **The New York Times**  @n

A fast-moving wildfire in the P
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busiest highways, the authoriti

Ocean County, N.J.

April 22

Source: [Bluesky](#)



Gernot Wagner • You

Climate economist at Columbia Business School

3h • 



8,500 acres of forests burned, in New Jersey, in April.

The biggest news: cars can't drive through them anymore!

 **The New York Times**  @nytimes.com · 2h

A fast-moving wildfire in the Pine Barrens section of southern New Jersey
had spread to 8,500 acres of the heavily forested area by Wednesday
morning, prompting the shutdown of a 17-mile stretch of one of the state's
busiest highways, the authorities said. nyti.ms/3Gn192v

Ocean County, N.J.

April 22

Source: [LinkedIn](#)

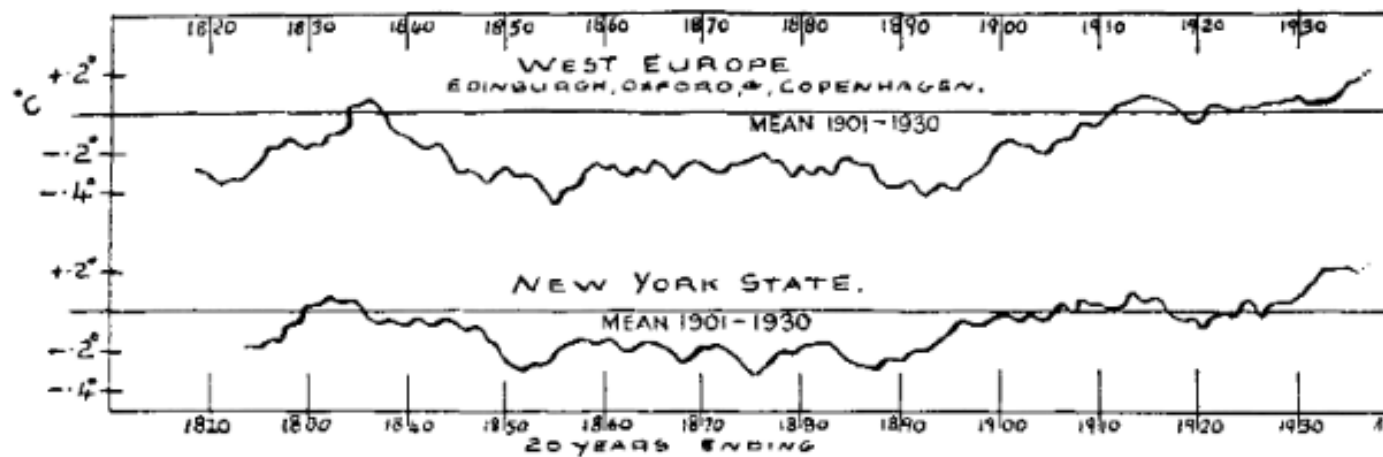


FIG. 3.—The most reliable long period temperature records. Twenty-year moving departures from the mean, 1901-1930.

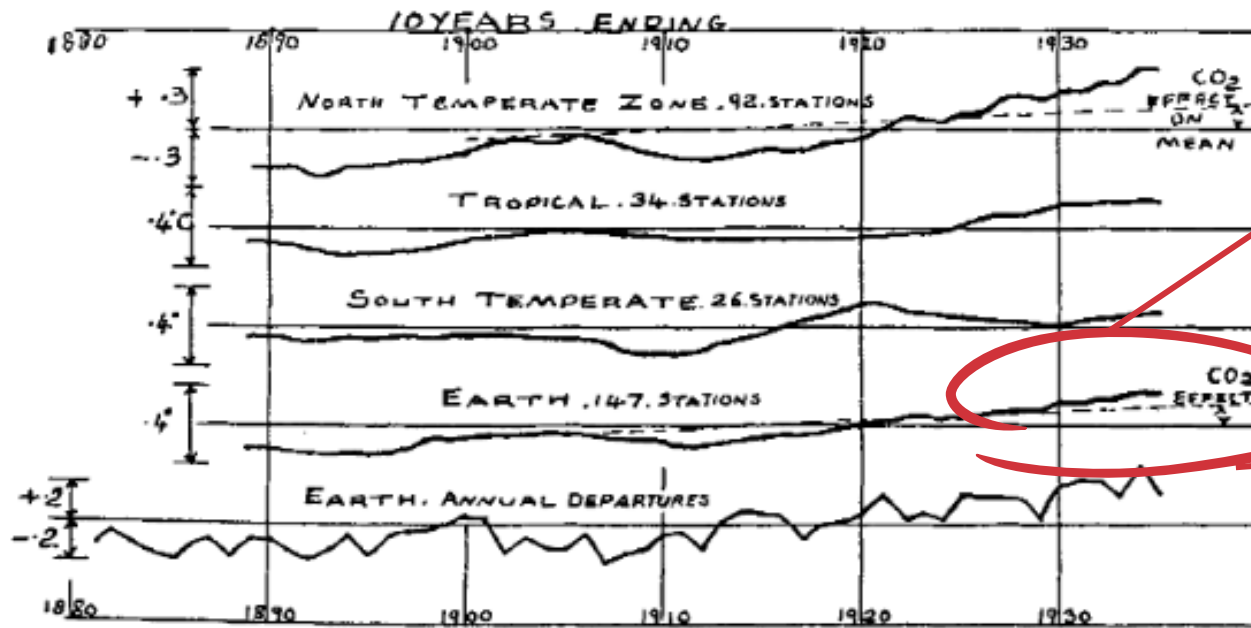


FIG. 4.—Temperature variations of the zones and of the earth. Ten-year moving departures from the mean, 1901-1930, °C.

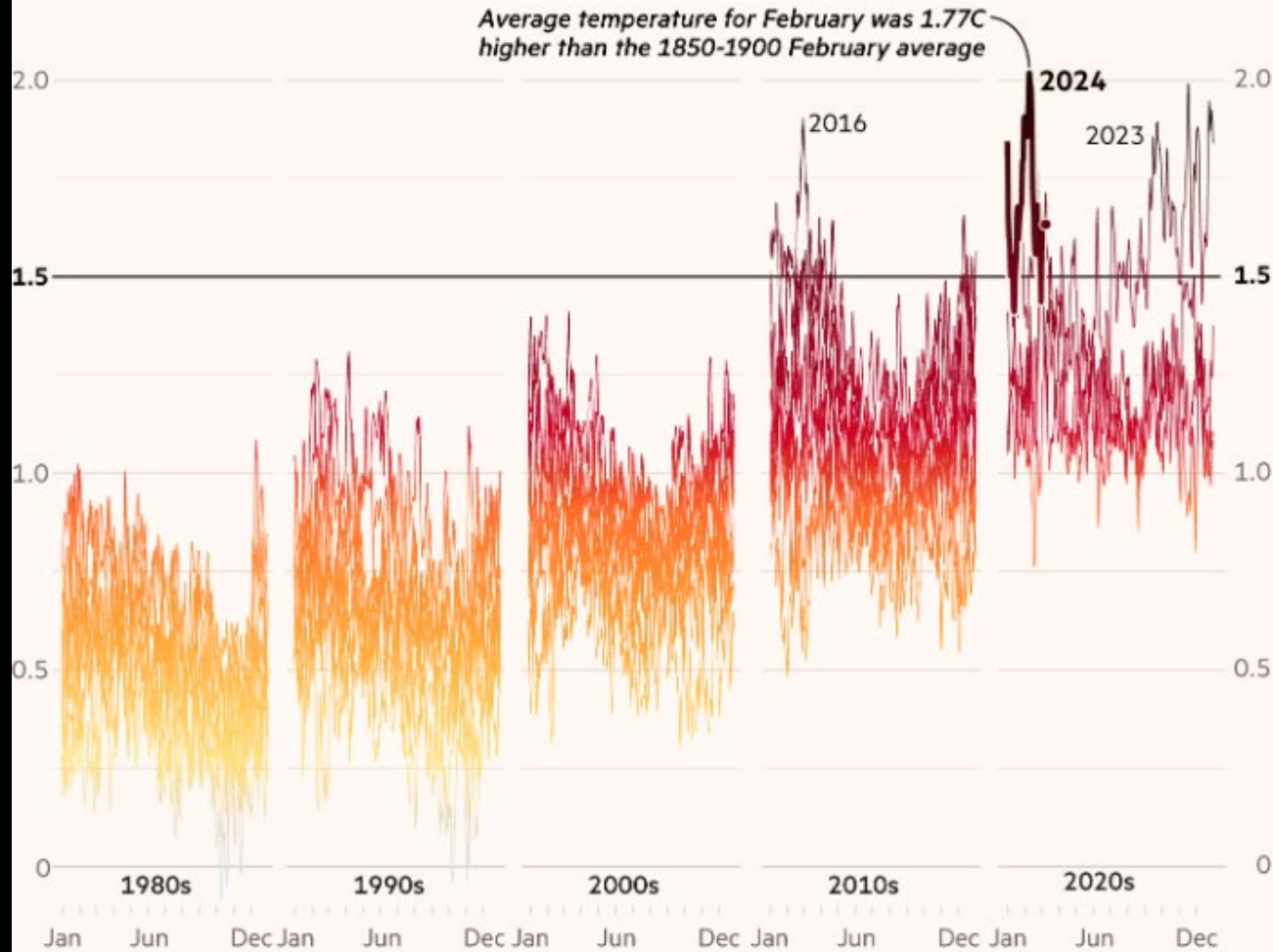


Source: G. S. Callendar. "[The artificial production of carbon dioxide and its influence on temperature](#)" (April 1938).

Climate graphic of the week

Global temperatures continue run of record highs in February

Difference between global 2-metre temperatures from 1980 to 2024 and pre-industrial average (C)



**Warmer, wetter, hotter, drier –
February caps unending
stretch of record temperatures**

Global average temperature rise in February reaches 1.77C above pre-industrial levels

Source: C3S/ECMWF
© FT

Source: *Financial Times* (10 March 2023)

The
Economist

Who are America's swing voters?

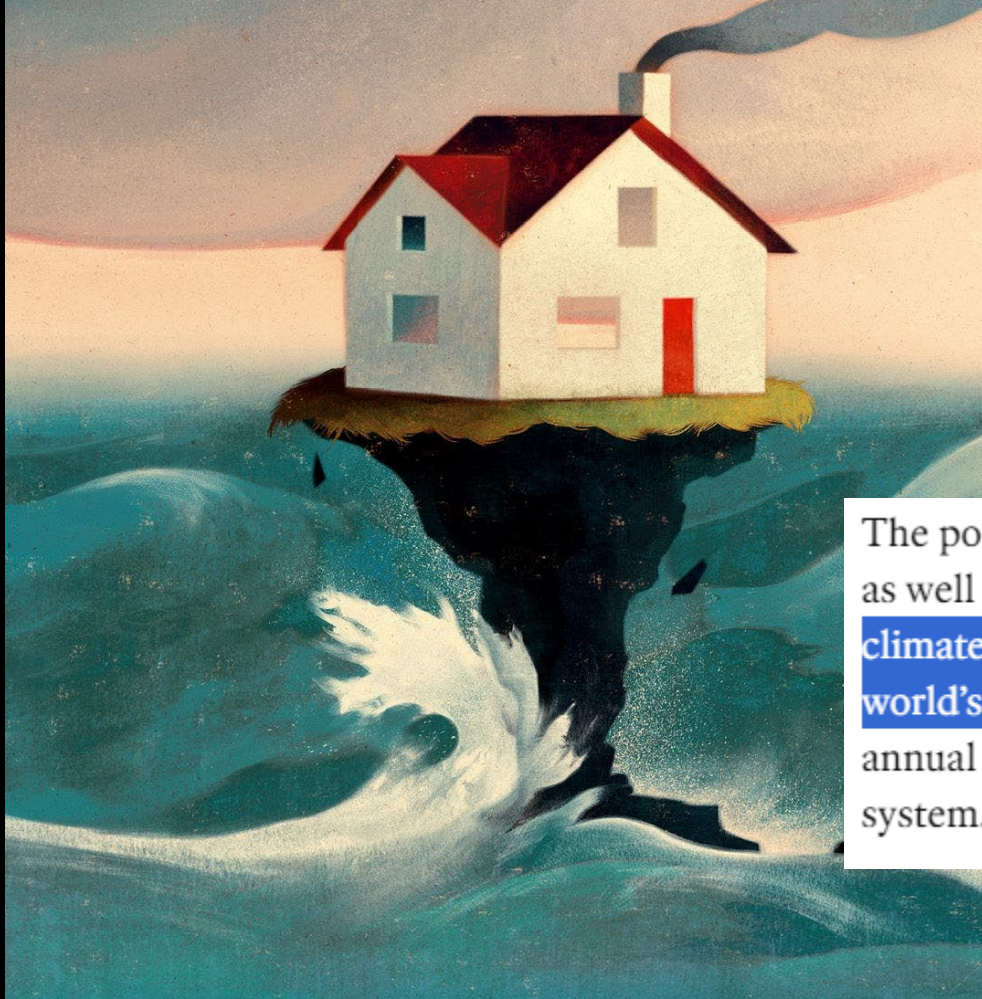
Elon envy: pity Tesla's rivals

What if Ukraine loses?

Life in AI utopia

APRIL 13TH-19TH 2024

THE NEXT HOUSING DISASTER



Leaders | A \$25trn hit

Global warming is coming for your home

Who will pay for the damage?

The potential costs stem from policies designed to reduce the emissions of houses as well as from climate-related damage. They are enormous. By one estimate, climate change and the fight against it could wipe out 9% of the value of the world's housing by 2050—which amounts to \$25trn, not much less than America's annual GDP. It is a huge bill hanging over people's lives and the global financial system. And it looks destined to trigger an almighty fight over who should pay up.

Source: Current *Economist* cover

Known knowns are bad

**Unknowns, unknowables, risks
& uncertainties make it worse**

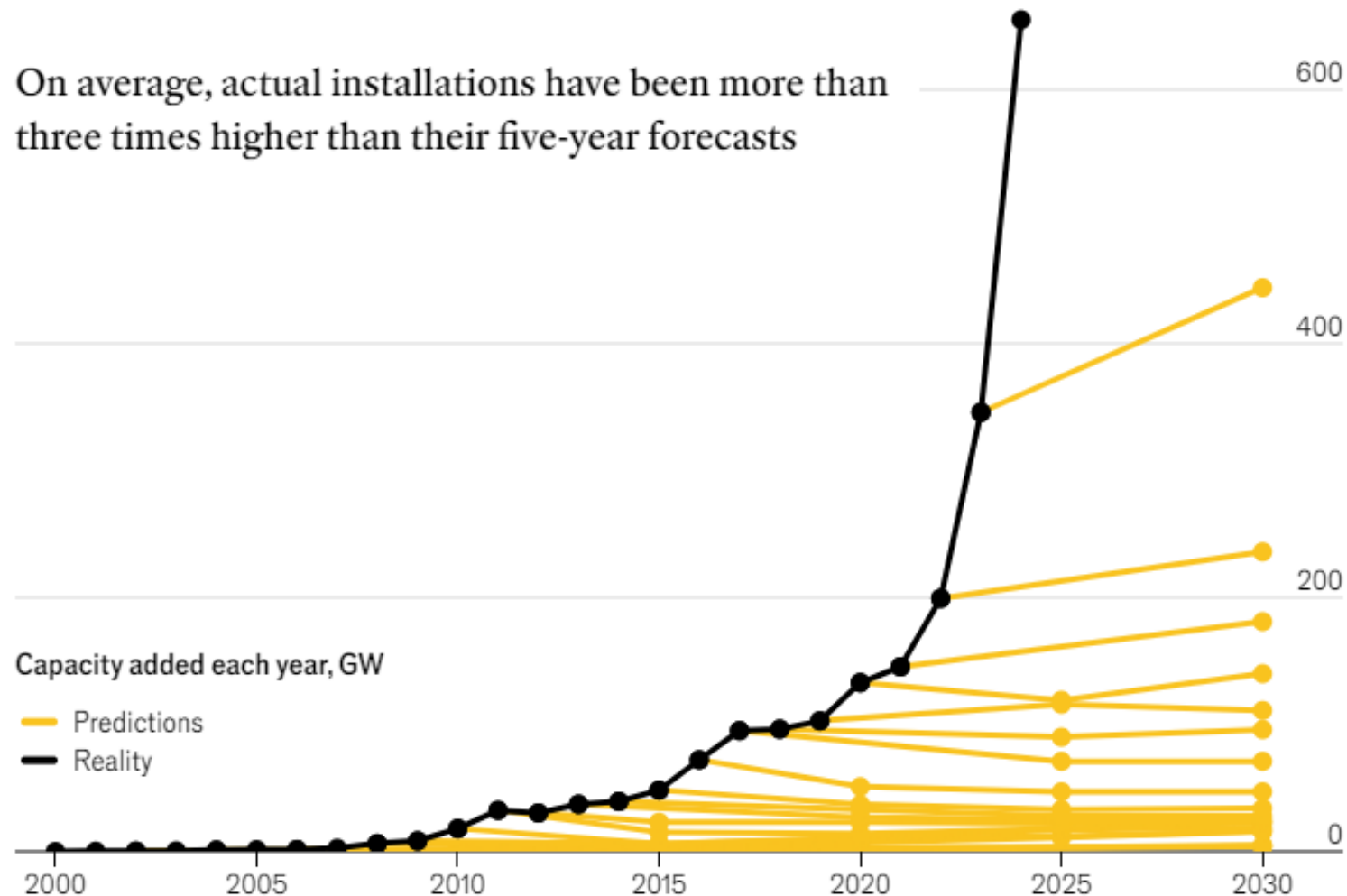


DAWN OF THE SOLAR AGE

A SPECIAL ISSUE

↓ **EASY PV** *how solar outgrew expectations*

On average, actual installations have been more than three times higher than their five-year forecasts

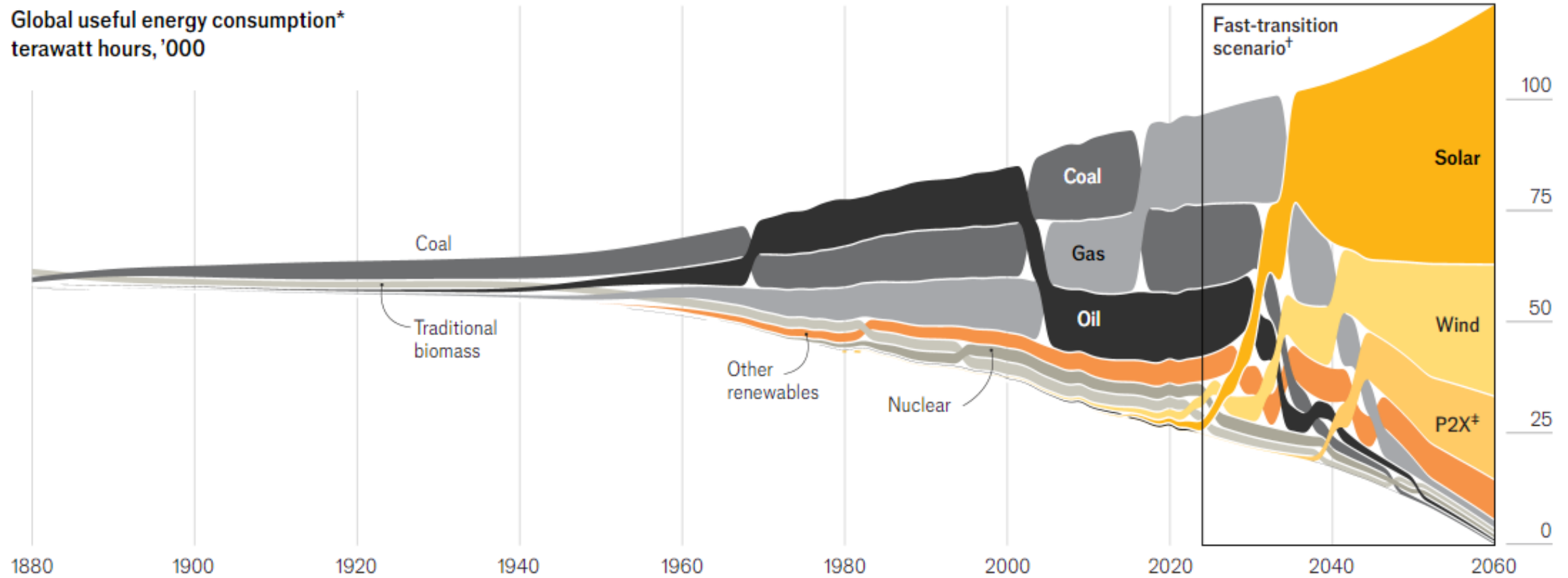


Installations for 2024 are an estimate from BloombergNEF for direct current solar capacity

Sources: IEA; Energy Institute; BloombergNEF

↓ **HERE COMES THE SUN** *the past and a possible future*

Global useful energy consumption*
terawatt hours, '000



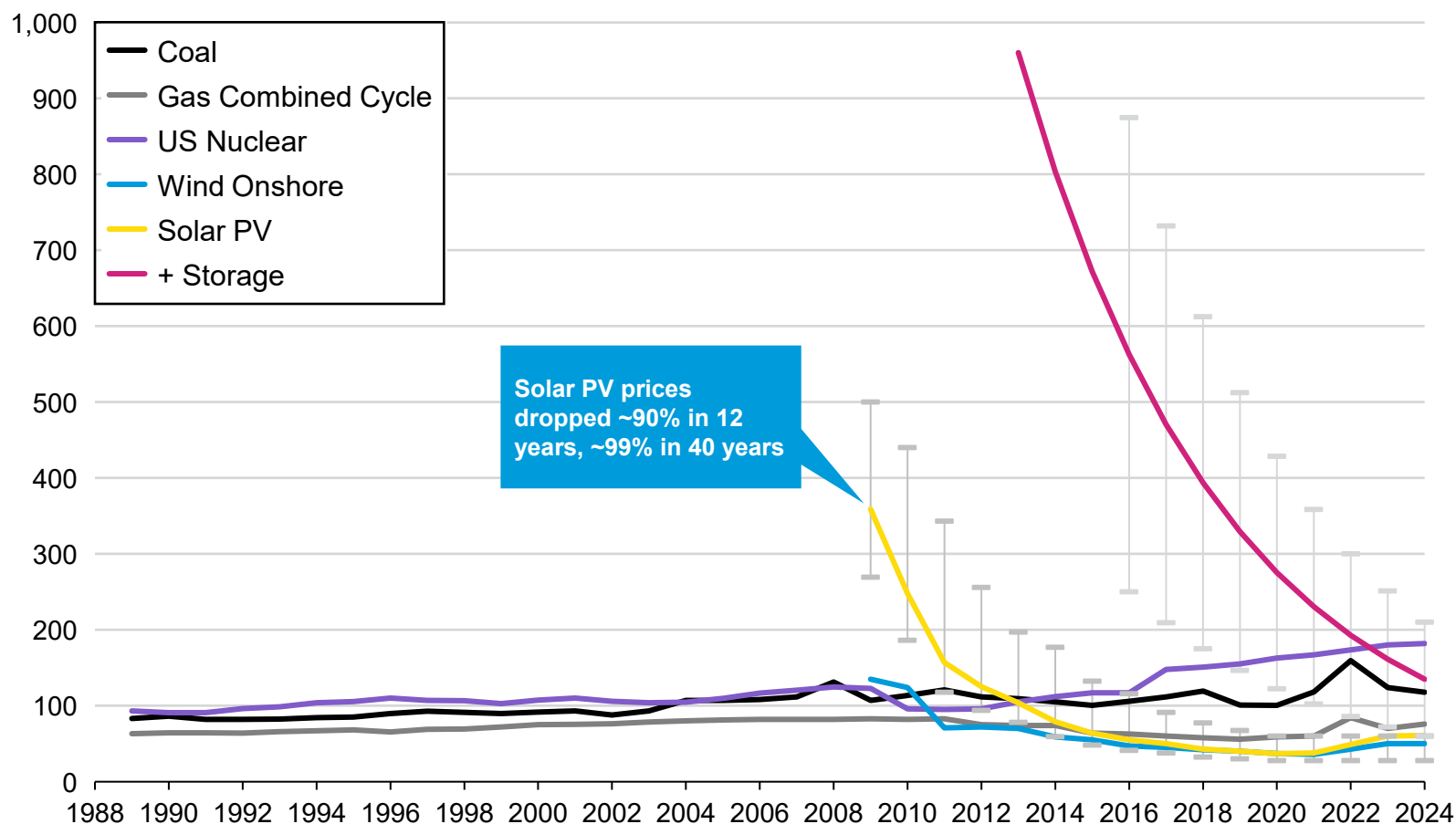
Sources: Rupert Way; Our World in Data

*Primary energy adjusted for waste-heat losses [†]From Way et al. (2022) [‡]Electricity-conversion technologies (eg green hydrogen)

Source: *Economist* "[Sun Machines](#)" (20 June 2024)

Utility-scale solar and wind now cheaper than fossil fuels, battery storage costs not far behind, falling fast

Levelized Cost of Electricity (LCOE) & Storage (LCOS), US\$/MWh

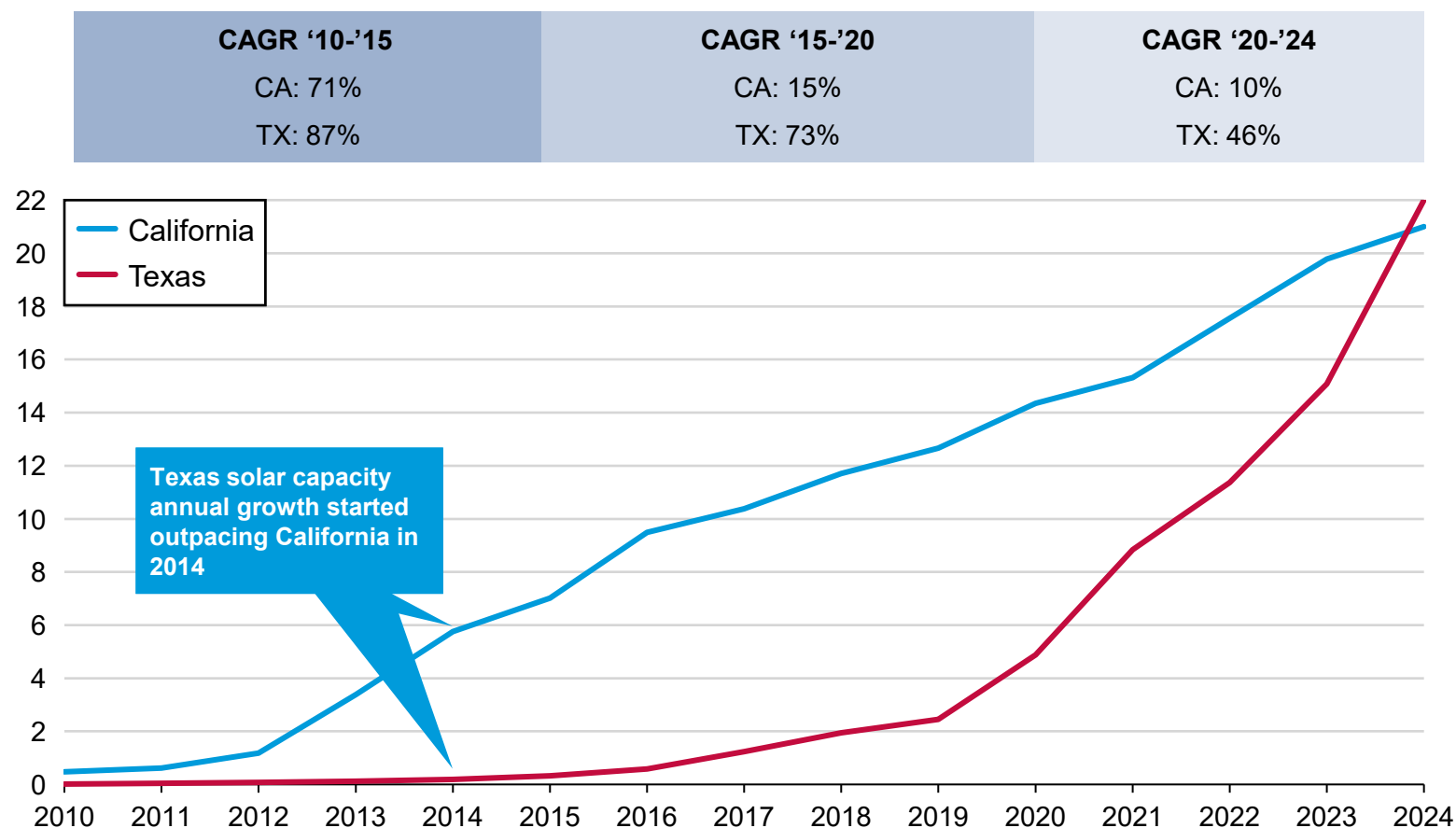


Observations

- **Solar photovoltaic (PV) prices dropped ~80% in past decade, wind by ~70%, lithium-ion battery costs by ~90%.**
 - PV price drop primarily driven by **improvements in module efficiency** and **economies of scale** (Kavlak *et al*)
 - Onshore **wind cheap the longest**, now only beaten by PV (Lazard).
 - Lithium-ion **battery costs fell 20% in 2023** alone (BNEF).
- **Gas combined cycle power plants cheaper than coal**, more expensive than both solar and wind.
 - Rapid scale-up of utility-scale batteries “killer app” to replace gas on grid.
 - **Battery prices expected to continue to fall** due to cell manufacturing overcapacity, economies of scale, and switch to lower-cost lithium-iron-phosphate (LFP) batteries.

Deregulated Texas energy market boon for solar, surpassing California in 2024

Total installed utility-scale solar capacity in Texas and California, GW



Observations

- **Texas surpassed California** as the leading utility-scale solar PV state after adding **1.6 GW** in Q2 of **2024** (ACP).
- Texas installed nearly **9 GW of new utility-scale solar by the end of 2024** – over one-fourth of the U.S. 2024 additions – for a **total capacity of 27.5 GW** (ACP).
- Texas is **expected to install 11.6 GW** new utility-scale solar in 2025 (EIA).
- **Texas' advantage:**
 - ⊕ Deregulated, electricity-only energy market
 - ⊕ Streamlined approval process
 - ⊕ Abundant land
 - ⊖ Minimal state-incentives
- **California's challenge:**
 - ⊕ Strong state incentives
 - ⊖ Strict regulations
 - ⊖ Interconnection delays

Mark Tercek

Senior Advisor, Centerview Partners

Goldman Sachs (1984-2008)

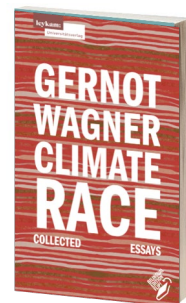
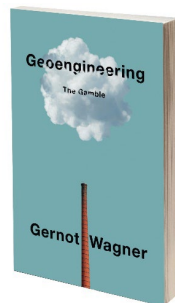
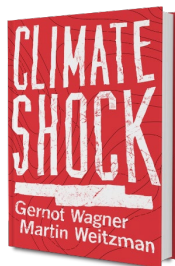
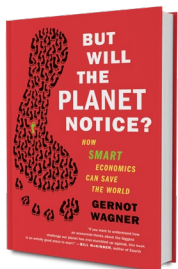
Nature Conservancy (2008-2019)

Co-author, *Nature's Fortune* (2023)

Author, bi-weekly *The Instigator*

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