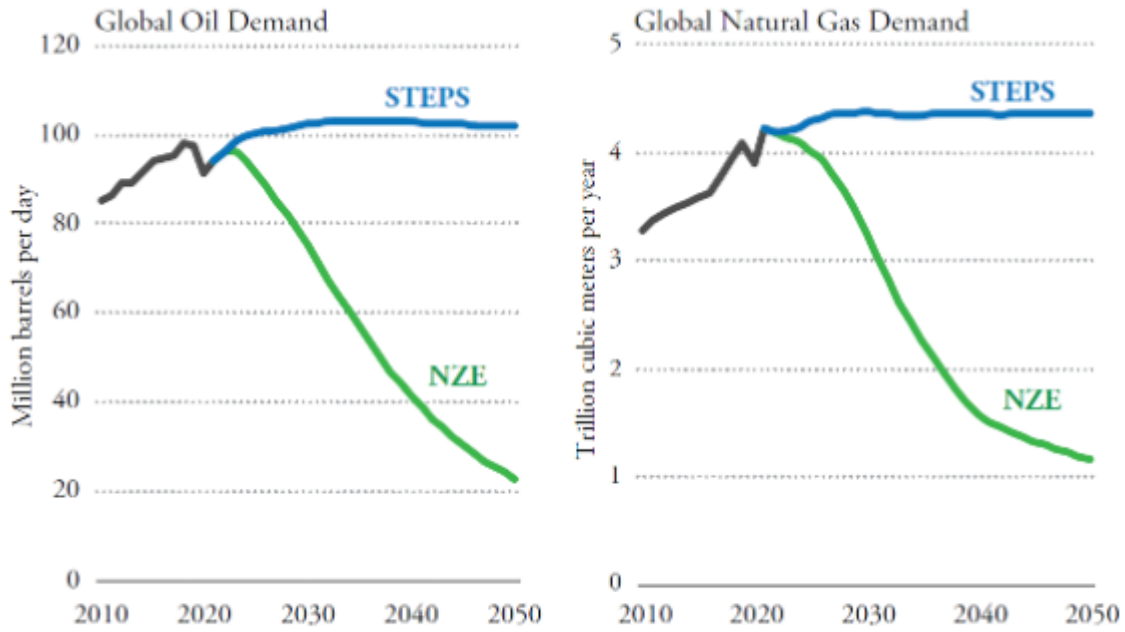


Figure 13. Oil and Gas Demand in IEA WEO-2022



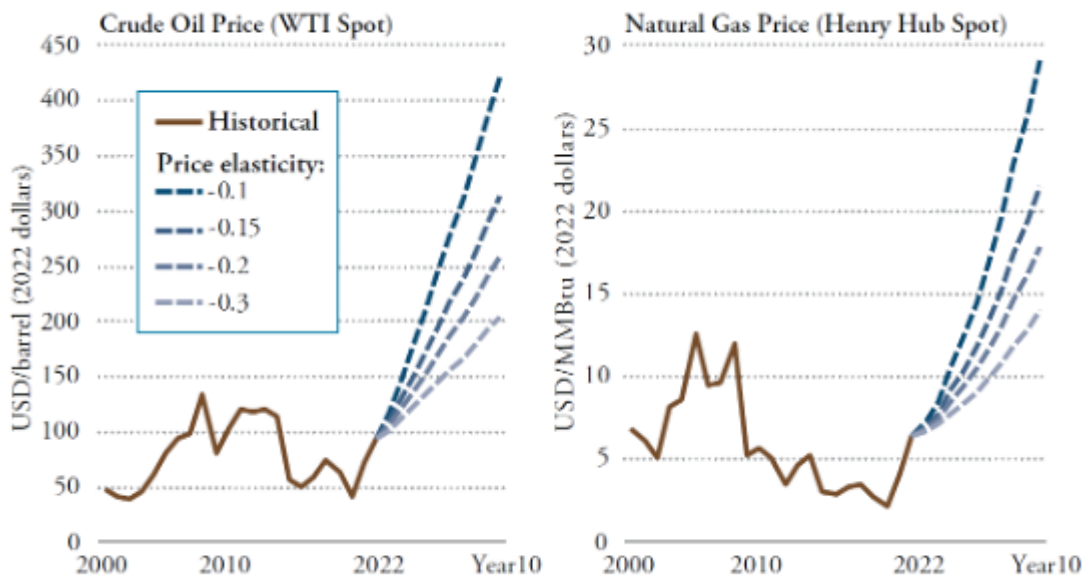
Source: Data from IEA, *World Energy Outlook (2022)* & *Outlooks for gas markets and investment (2023)*. The data derived and estimated from graphs in the *WEO-2022* and the IEA's gas report for the G7, as the IEA's data tables only show scenario data for 2030 and 2050.

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Figure 14. Potential Price Spikes by Price Elasticity Level Under Net Zero Scenario



Source: Energy Policy Research based on IEA NZE

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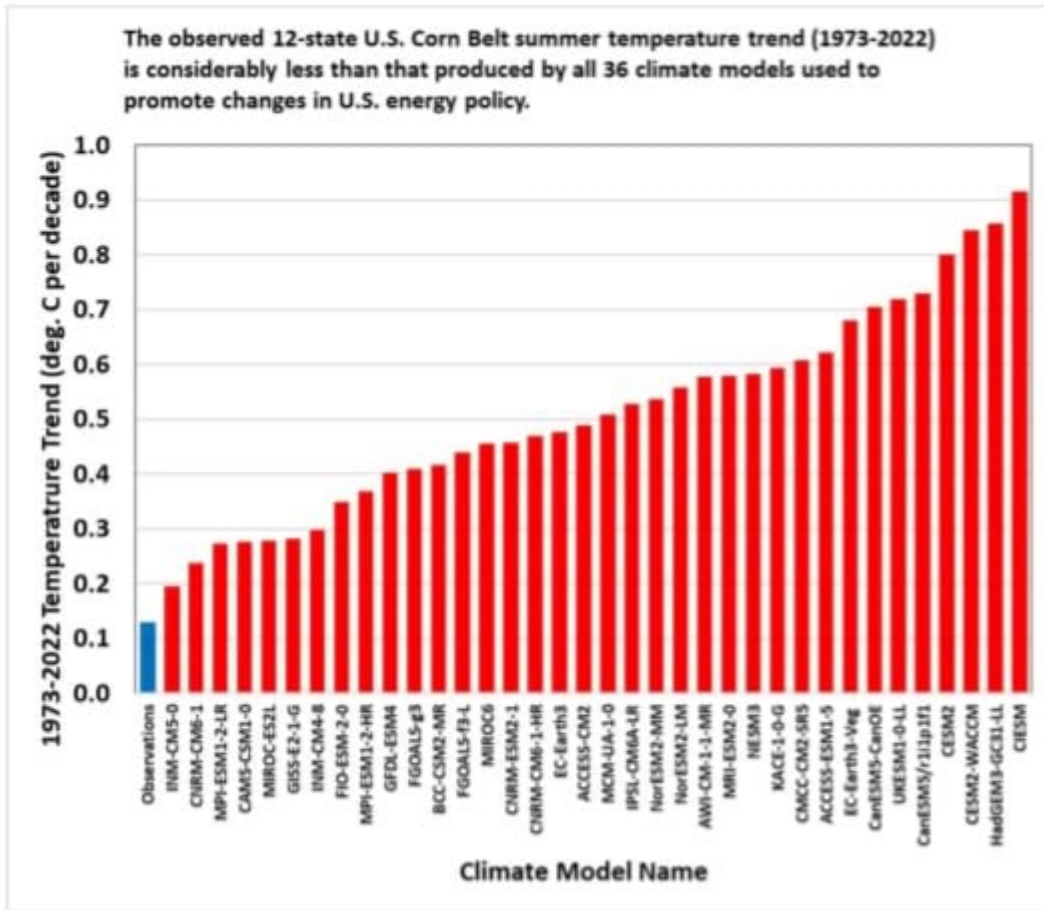
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feellife/iStock

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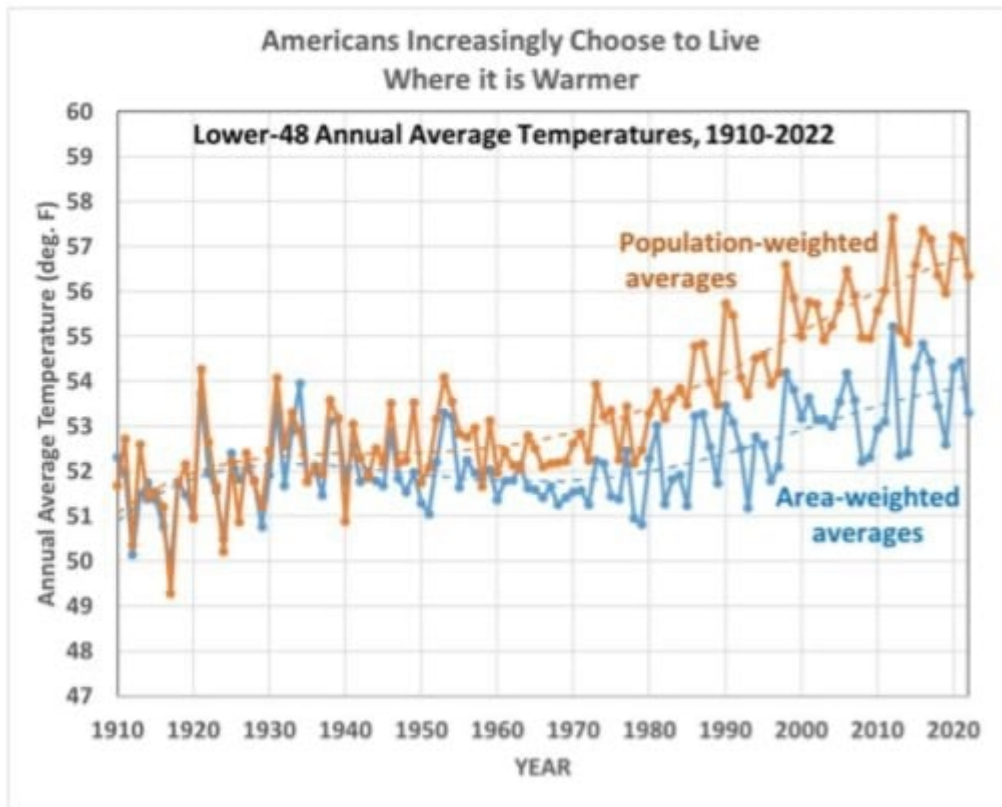
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spoooh/iStock

“The Energy Transition Confronts Reality” 2023 1 23

- RePower EU
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sasun bughdaryan/iStock

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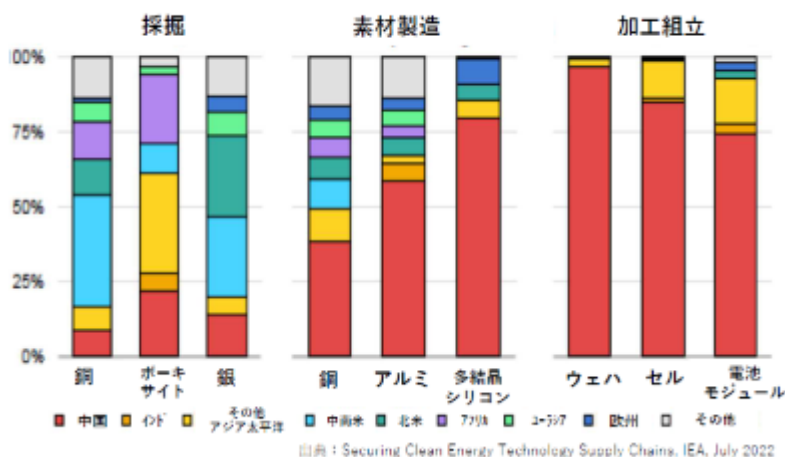
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図1. 太陽光モジュールの部材製造シェア

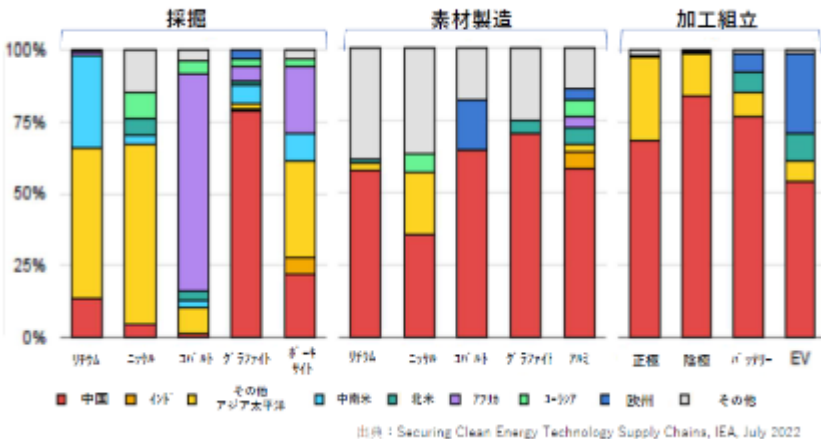


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図2. EV・バッテリーの部材製造シェア



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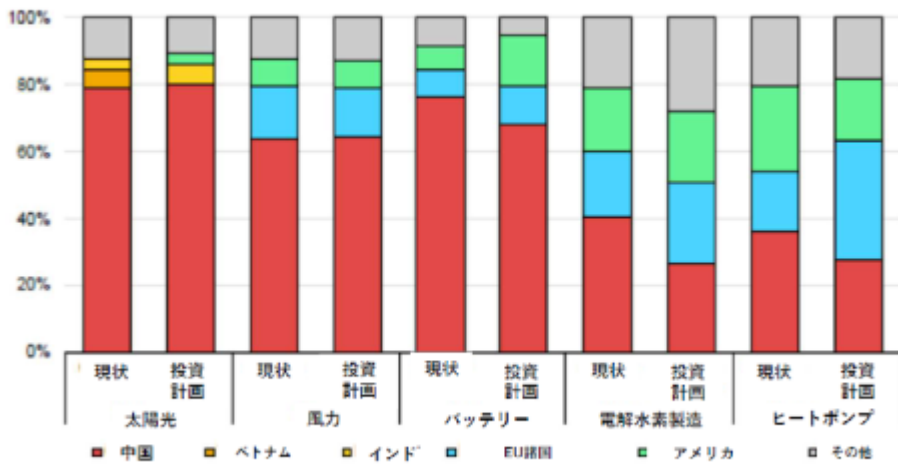
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図3. グリーン技術製造の地域集約度—現状と将来



出典：The State of Clean Energy Technology Manufacturing, IEA, May 2023

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?3?“Securing Clean Energy Technology Supply Chains”, IEA, July 2022 / “The State of Clean Technology
Manufacturing”, IEA, May 2023

?4?Reuters, 2011?1?17?

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???Twitter by True Science PEng, DFP, ADFS, MA, MBA



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Allkindza/iStock

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FACT SHEET: Biden-Harris Administration Proposes New Standards to Protect Public Health that Will Save Consumers Money, and Increase Energy Security

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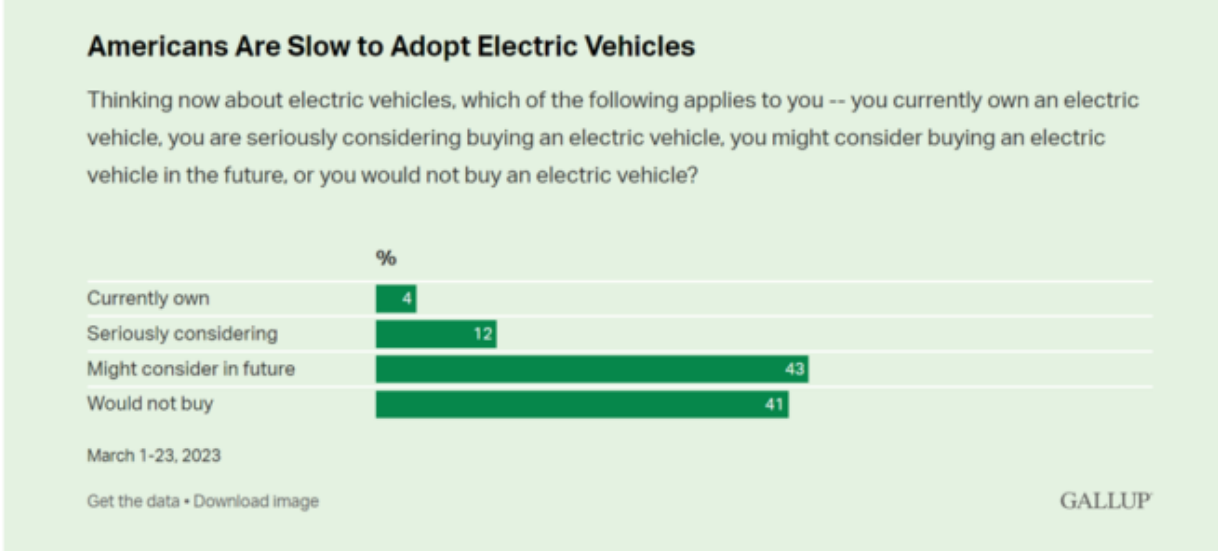
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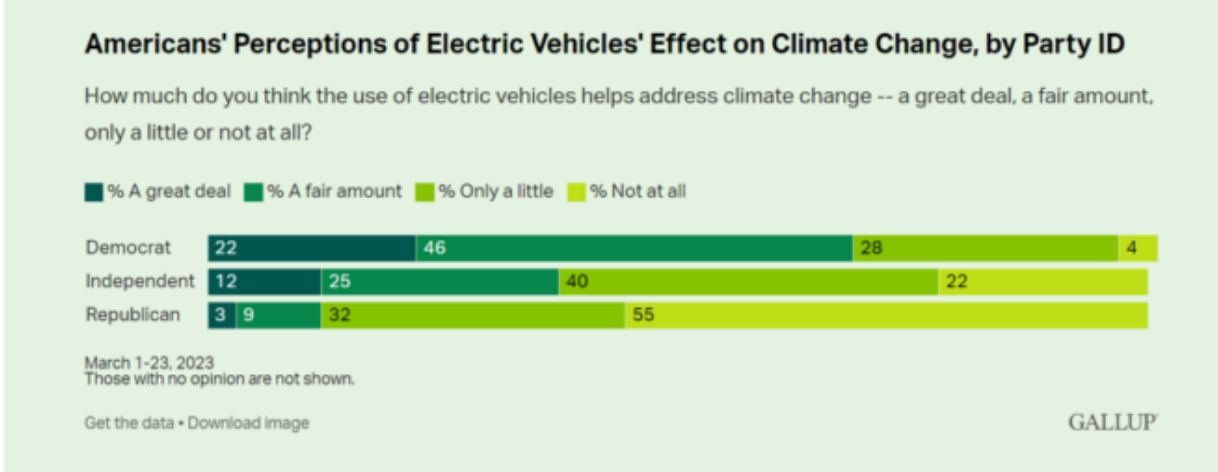
Most Americans Are Not Completely Sold on Electric Vehicles

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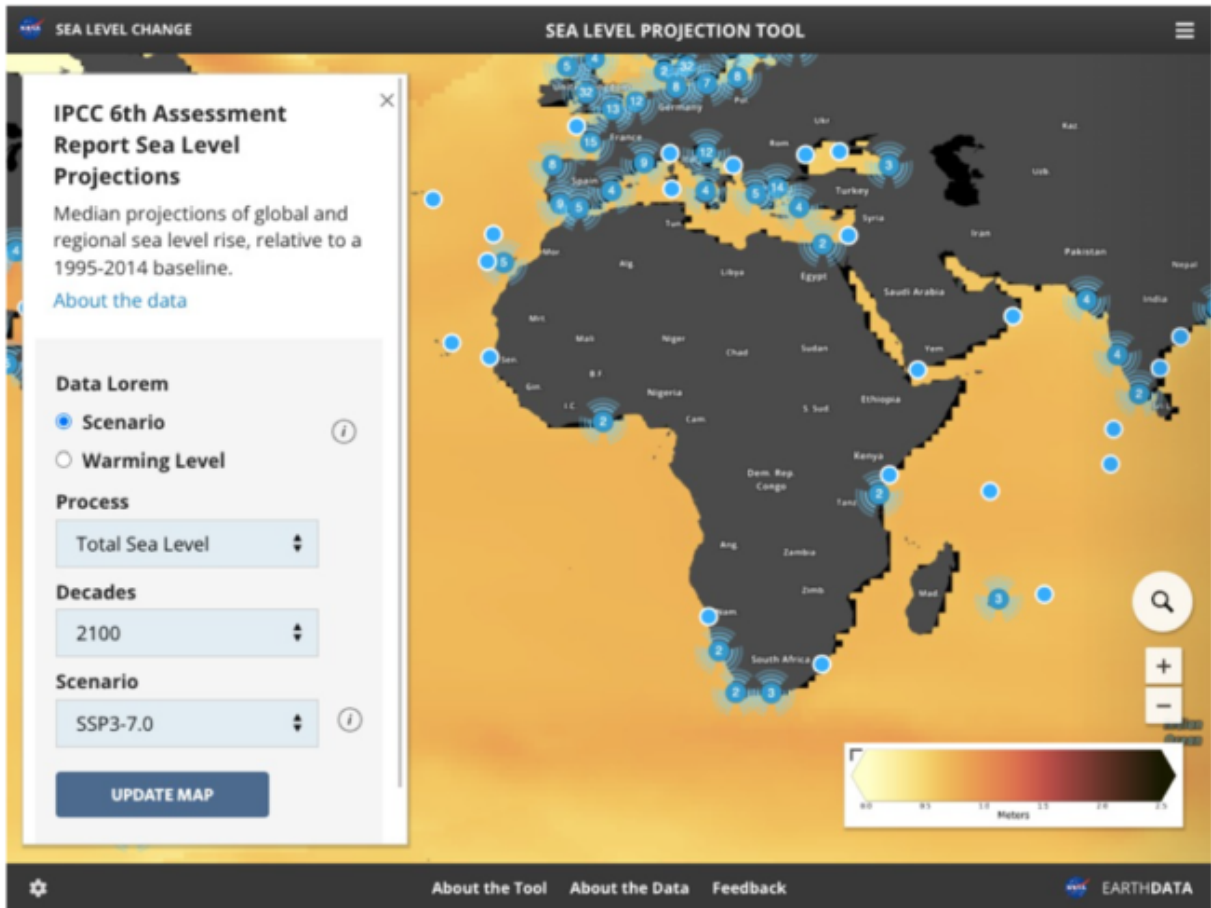
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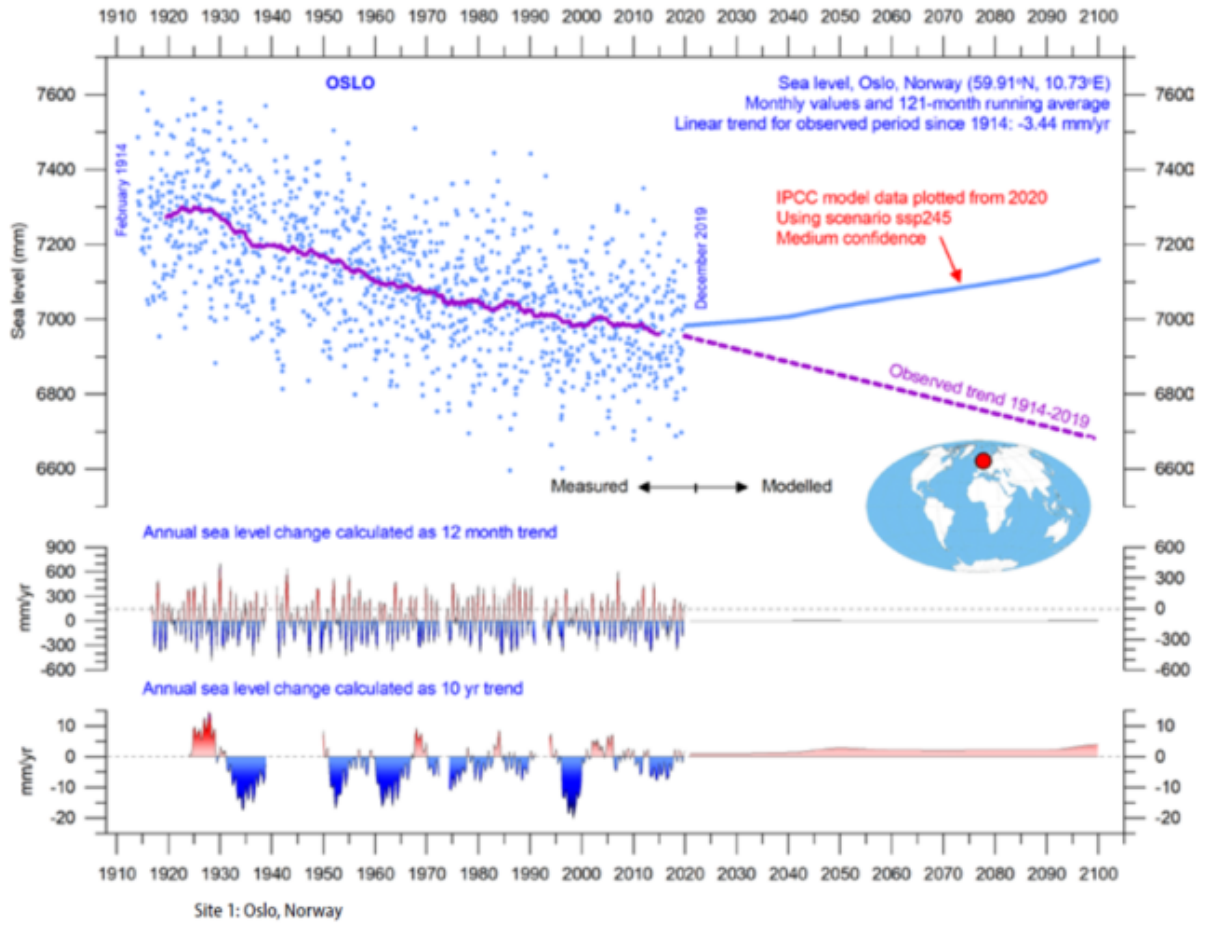
IPCC AR6 Sea Level Projection Tool



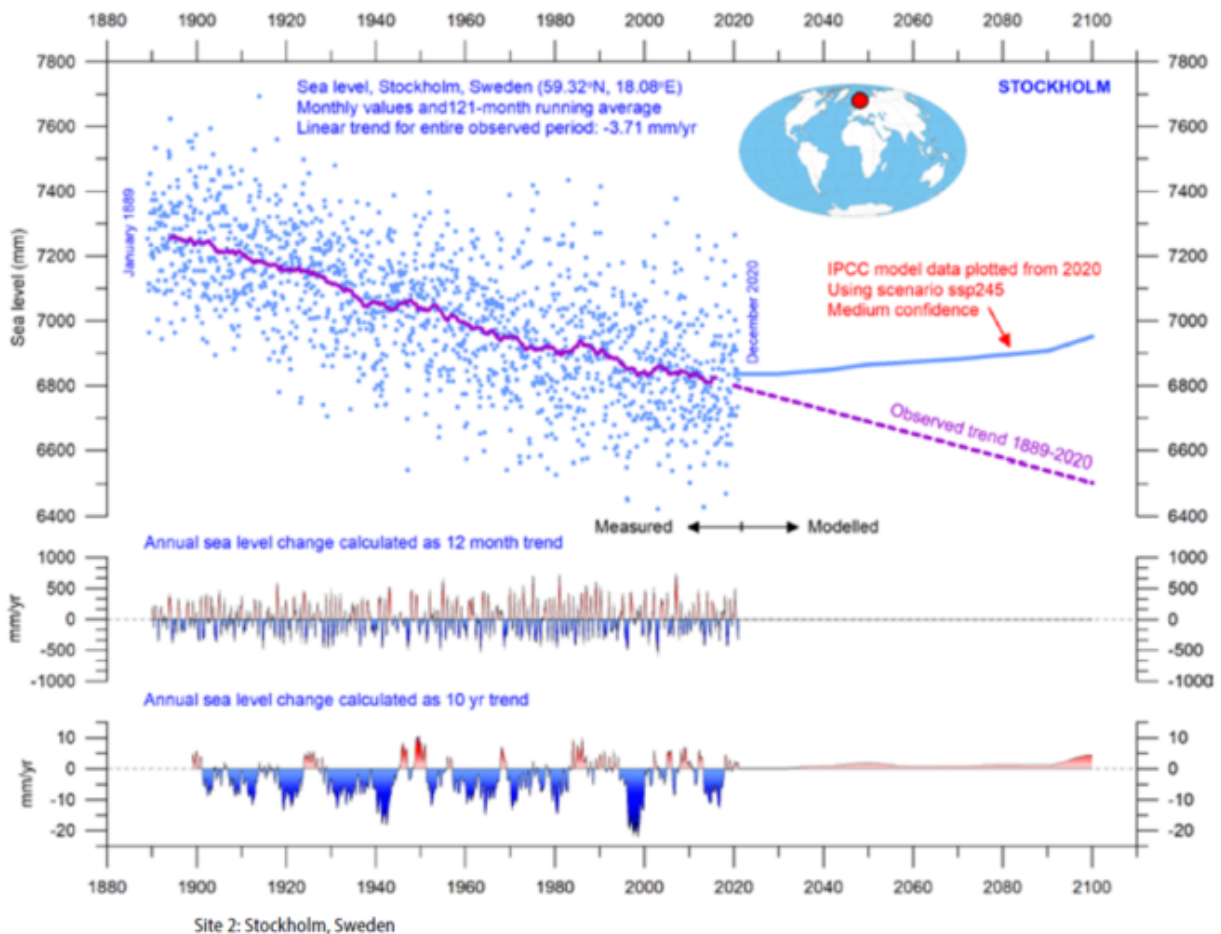
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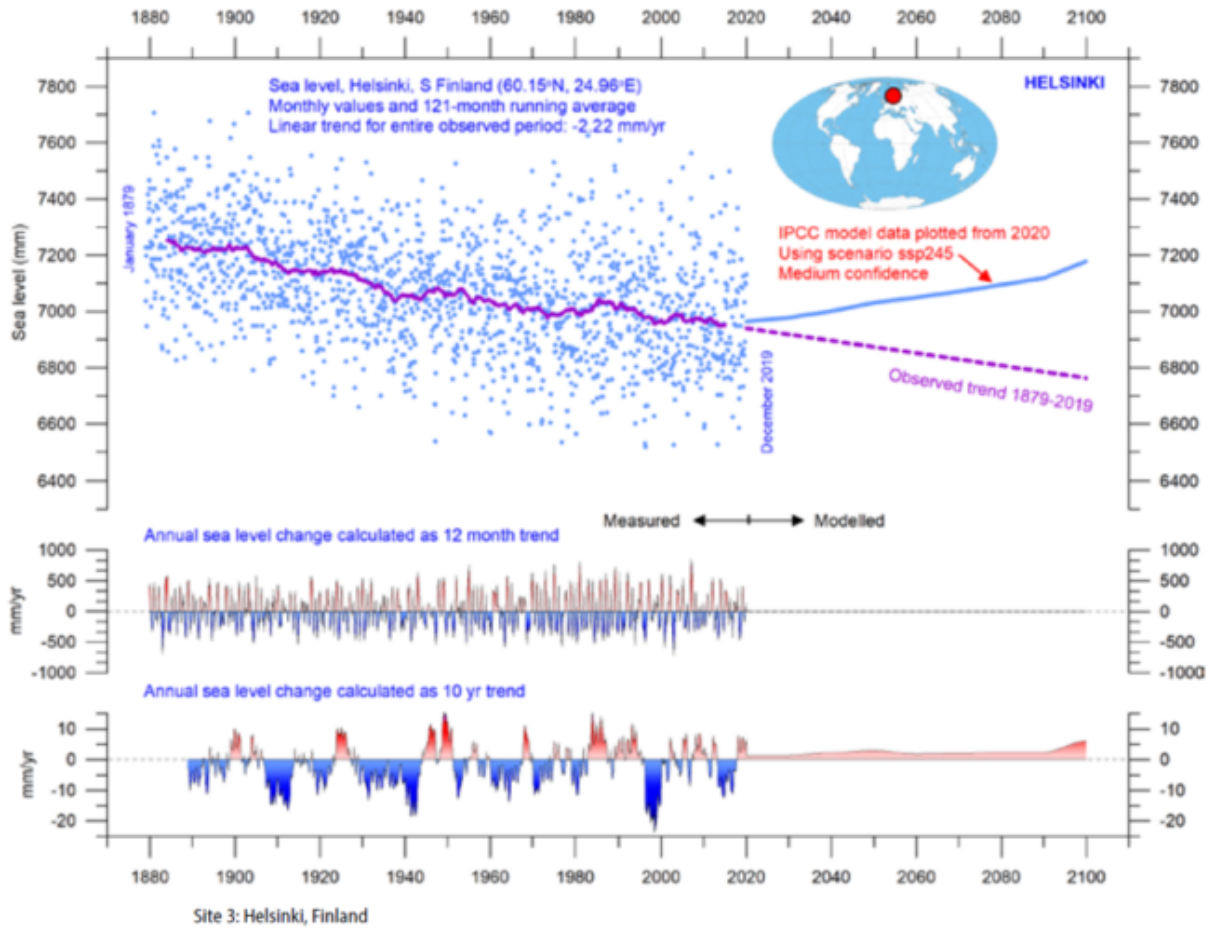
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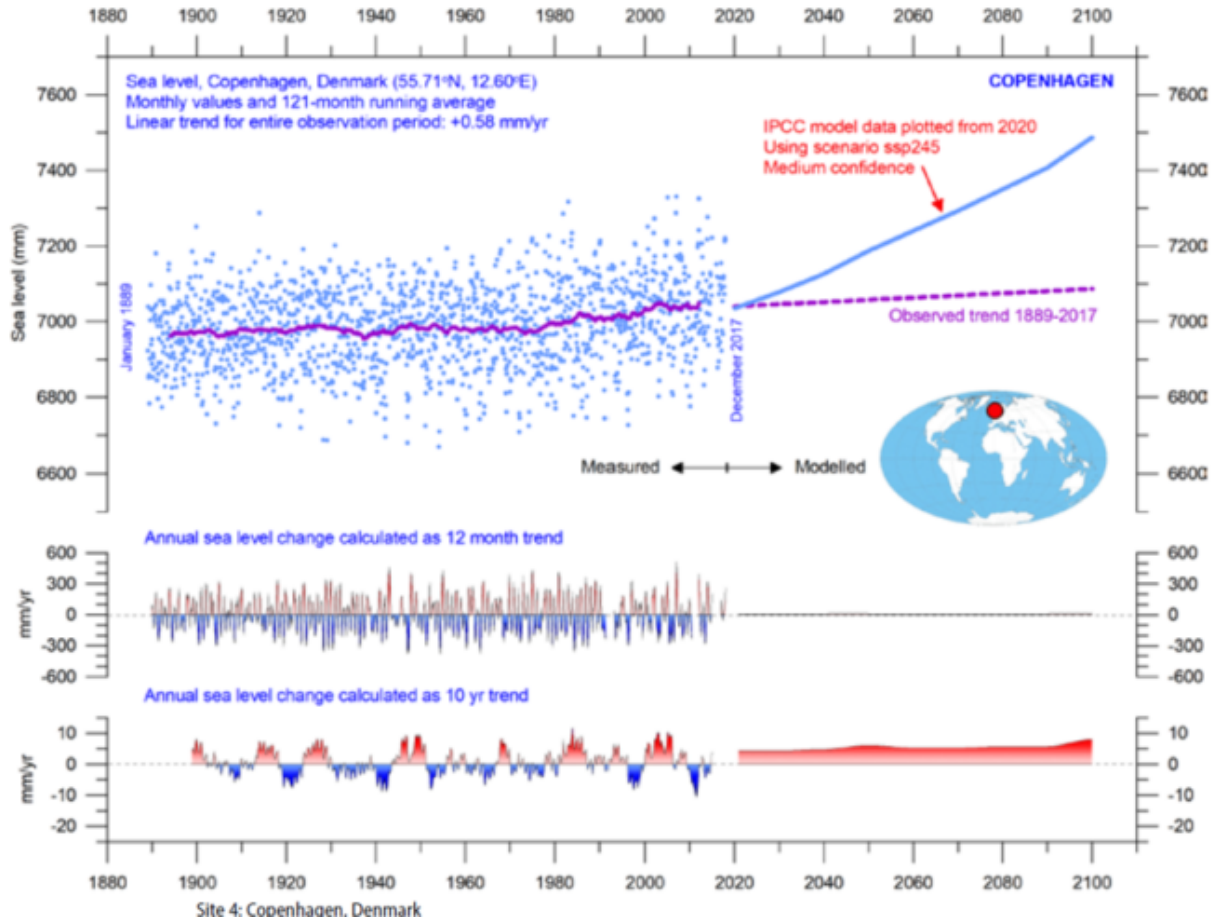
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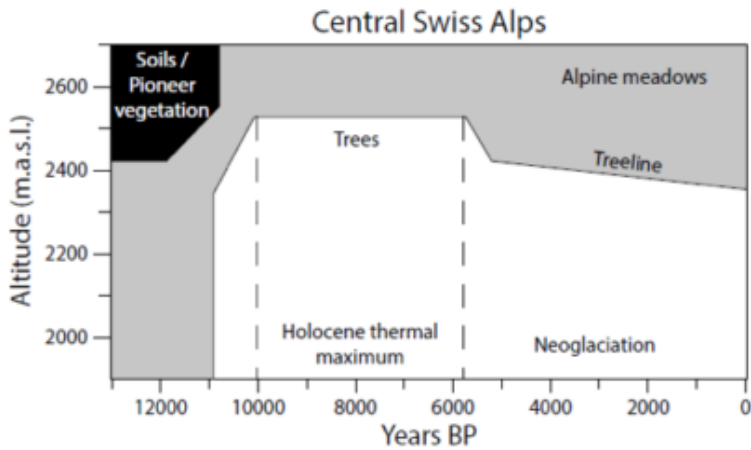


Figure 4: Fluctuations of the treeline in the Swiss Central Alps during the Holocene. The limits of the vegetational zones are placed between the sites according to the presence of the respective vegetation type as inferred by macrofossil analysis. Altitude in meters above sea-level. After Tinner & Theurillat 2003. Current treeline in the Swiss Central Alps is 150-200 m below Holocene Thermal Maximum treeline limit.

??Obliquity??
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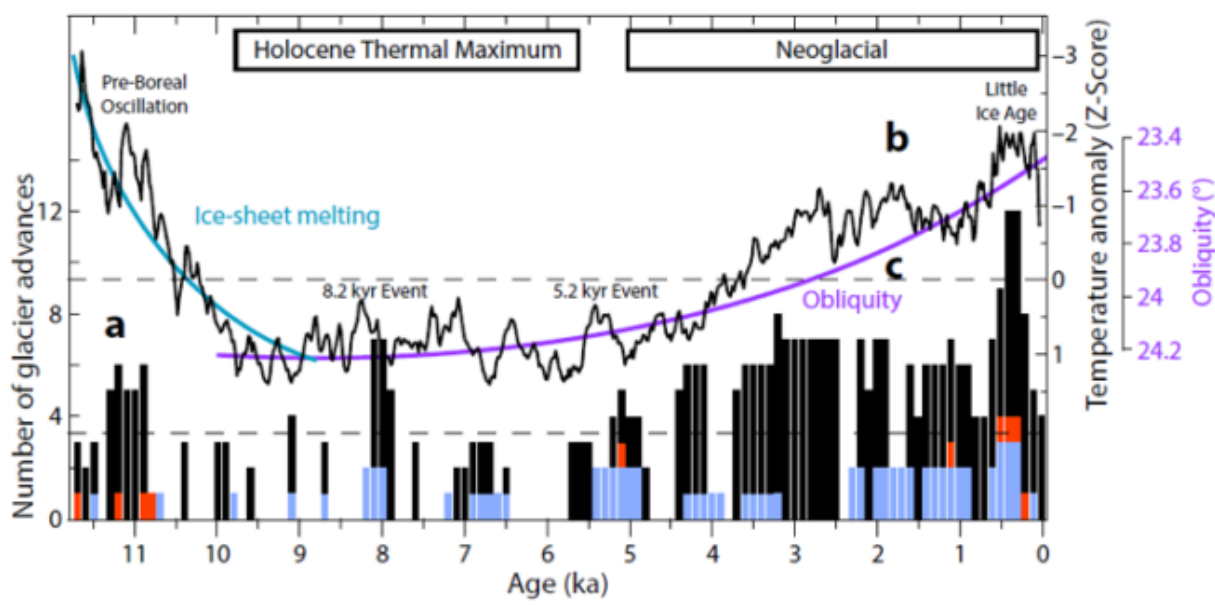


Figure 3: Glacial advances versus temperature (inverted) during the Holocene. a) Number of regions displaying glacier advances at each Holocene century. Black, NH 17 regions; orange, low latitudes single region; ice blue, SH 4 regions. Bottom dashed line, Holocene glacial position average. b) Inverted temperature reconstruction from the same 73 proxies used by Marcott et al. 2013. The reconstruction ends in 1910 and does not include modern warming. Temperature anomaly changes are expressed as Z-score (distance to the mean). Some well-known cooling periods or events are indicated by their accepted names. The period affected by the melting of the extra-Arctic ice sheets is indicated in aquamarine. c) Inverted changes in obliquity. Vinós, 2022, page 55.¹³

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?? ?? · Sunday, May 14th, 2023



borchee/iStock

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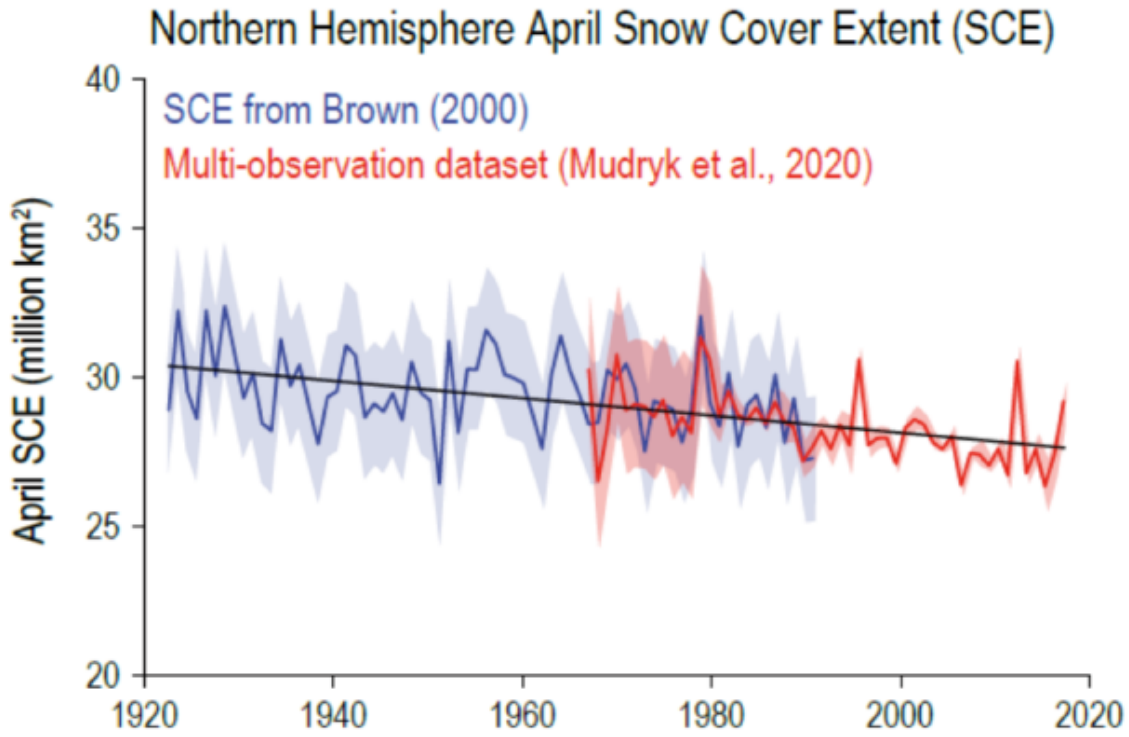


Figure 2: April snow cover extent (SCE) for the Northern Hemisphere. From: AR6, chapter 2.

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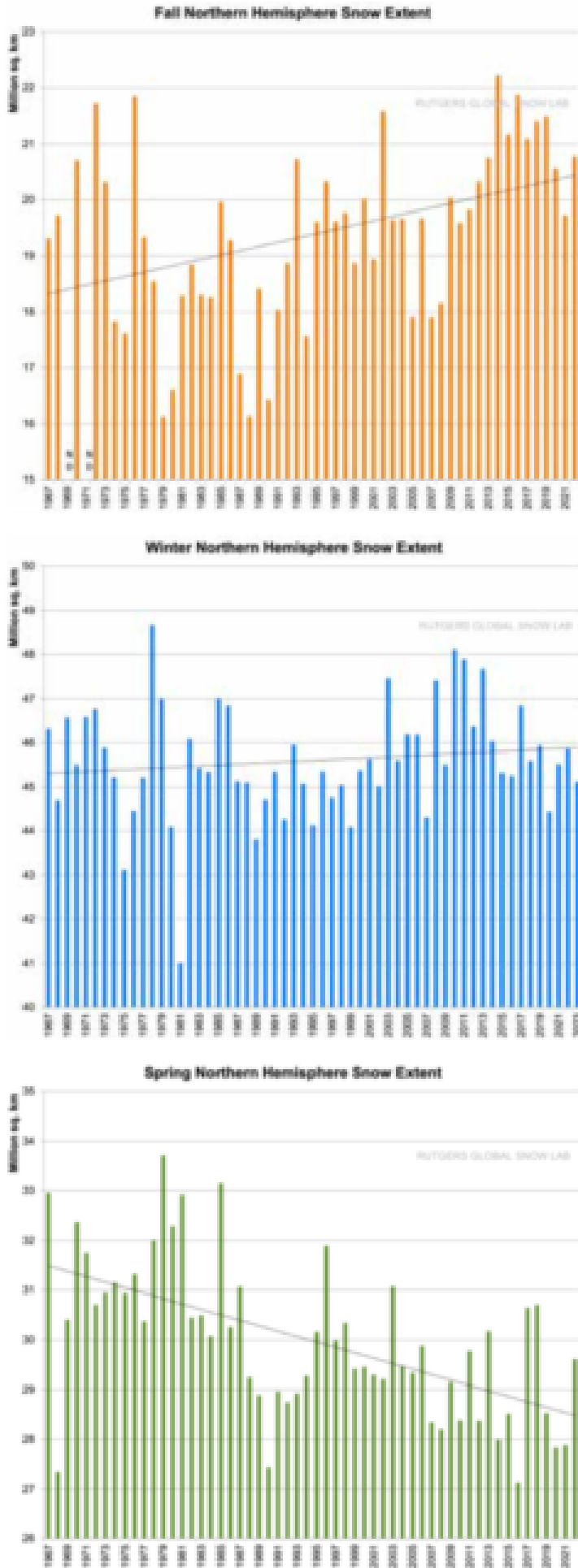


Figure 4: Snow cover extent (SCE) for the Northern Hemisphere for autumn, winter and spring. From: Rutgers Global Snow Lab (2023)

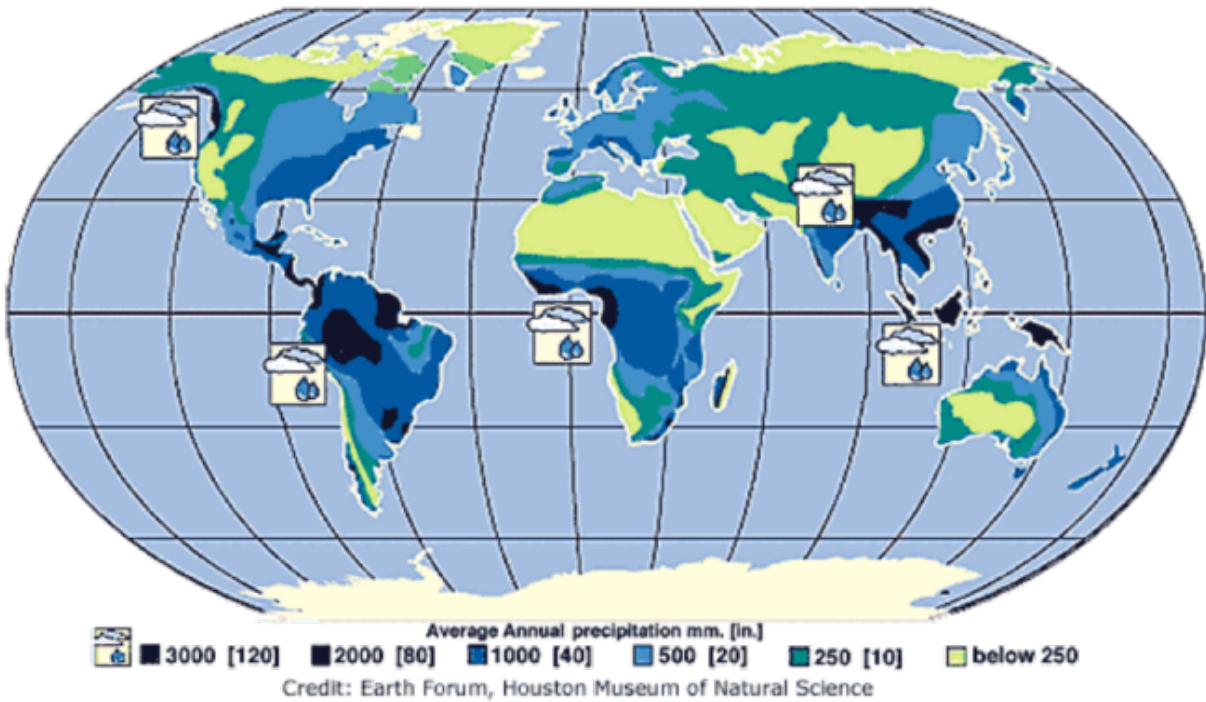
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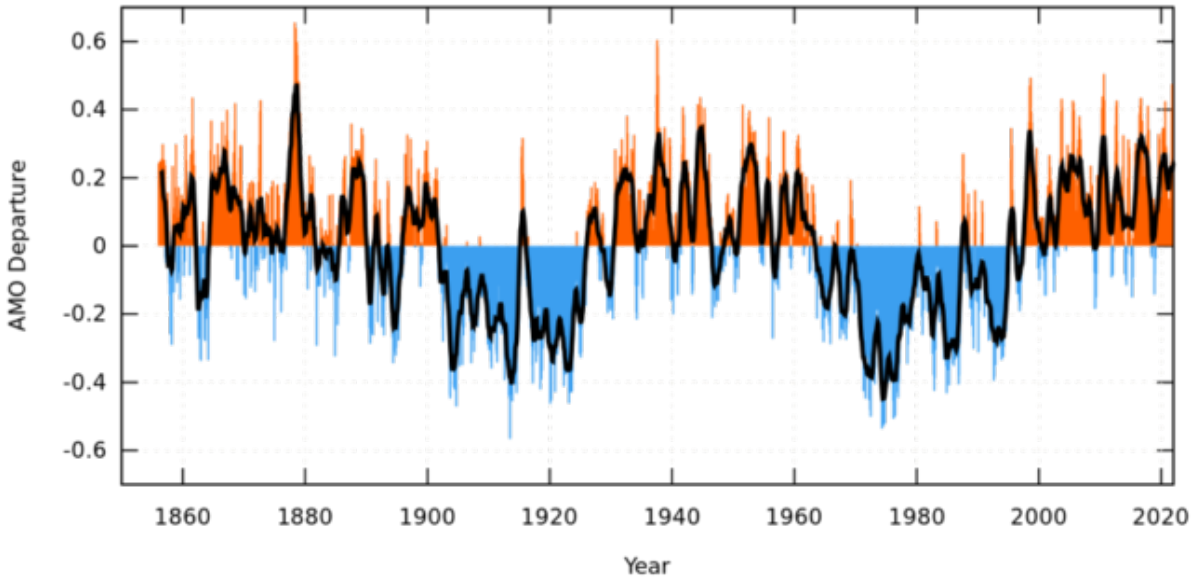
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Monthly values for the AMO index, 1856 - 2022



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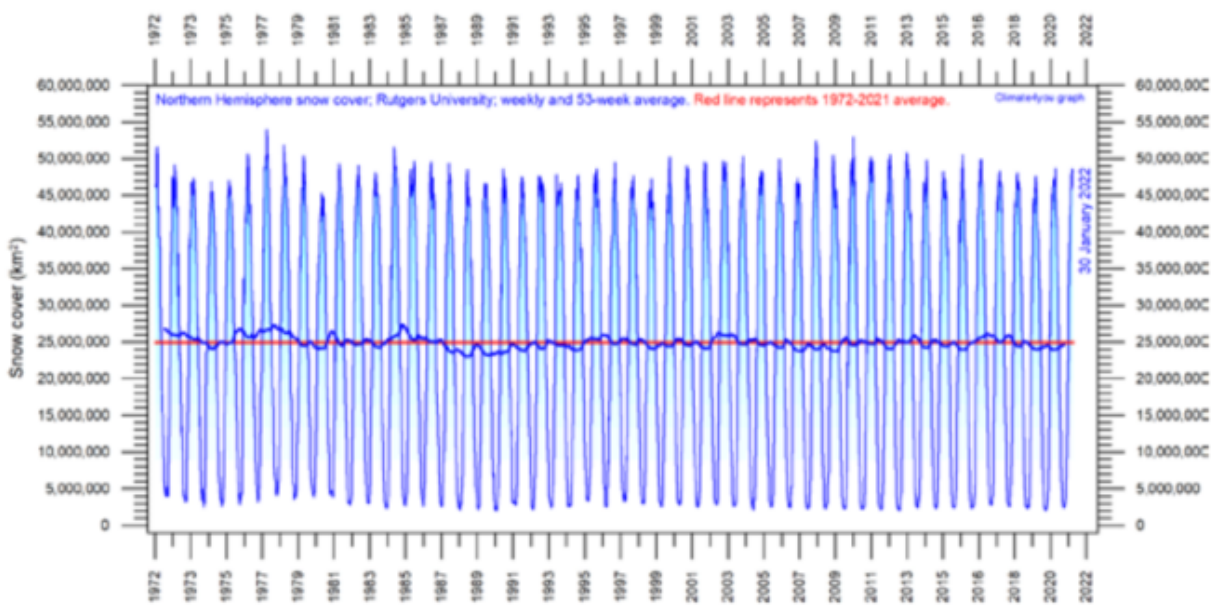


Figure 7: Northern hemisphere weekly snow cover since January 1972 according to the Rutgers University Global Snow Lab (<http://climate.rutgers.edu/snowcover>), the thin blue line is the weekly data, and the thick blue line is the running 53 week average (approximately 1 year). The horizontal red line is the 1972-2021 average. Last week shown: week 1 in 2022. Last figure update: 11 January 2022. Source: Ole Humlum, climate4you.com

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RFK Jr.?2024????????????????

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Kanur Ismail/iStock

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initiative??NZBA????????19????????????
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??COP27????????????????????????CO2?????
??ESG????????????????????????

2023????????EU????????????????????????????????????2035?EV????????????????????????????????ESG???

ESG 19 ESG

2024

CO2

年	日本	米国
1997年	▲6% (橋本政権)	▲7% (クリントン政権)
2015年	▲26% (安倍政権)	▲26% (オバマ政権)
2021年	▲46% (菅政権)	▲50~52% (バイデン政権)

CO2

CO2 CSR

2021 2021 46% 2024 ESG

ESG

CO2

ESG CO2 CO ESG

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SDGs

Posted in ??????????, ??? | No Comments »

EU?EV????????????????e-fuel????

?? ?? · Sunday, April 30th, 2023



a-image/iStock

EU?EV?????

????EU????????????2035????????e-
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 CO₂????e-
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1. 400????????????EV??10????????????20????????????10?15??
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2. ?EV????????????????????????????37????????????????????????10?20????????????50?150????????????600????
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3. EV????????????????????????????????30????????????????????????2????????????????????EV????????????
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??WEF????????????????CO₂??WEF?Sustainable
Development Impact Meetings????????????????????????

UN Secretary for Global Comms says we “own the science” on “climate change,”
and we think that “the world should know it.”

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??e-fuel?????CO₂?H₂?????Fischer-
Tropsch?FT????????????????????FT????1920????????????????FT????????????????
??CO?H₂??

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2021

2050

Posted in | No Comments »

G7

Tuesday, April 25th, 2023

41516 G7



G7 HP

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Manufacturers????????????????

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Posted in ??????????, ??? | [No Comments »](#)

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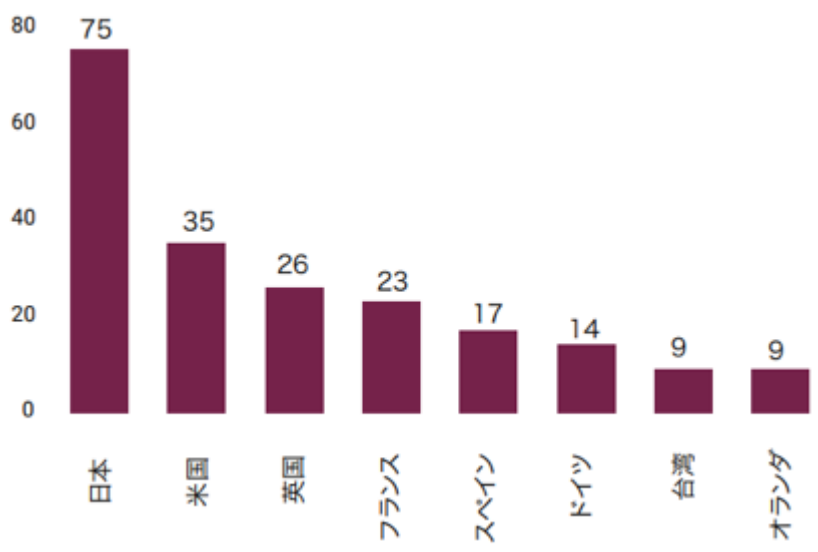
CDP?????

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気候変動 Aリスト 2022

Aリスト国・地域別企業数(上位8か国)



1) CDP A 2022
 CDP 2022 6?

2022 6 8 SDGs Google SDGs CDP 1

CDP 4
 CDP
 CDP

CDP CO2 CO2 Tier1
 CDP 100%

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CO2

(a)会社名	(b)調達金額 (円)	(c)各社の売上高 (円)	(d)各社の CO2 排出量 (トン)	(e)=(d) × (b) ÷ (c) (トン)
A社				
B社				
C社				
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1 Tier1 CO2

a b Tier1

c d CO2

a d e d × b ÷ c CO2 Tier1

2021 6 2022 3 5

CO2

CDP

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1

Tier1 100 1 99

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1kg 1m CO2 CO2

2 ?

A CO2 1 CO2 100 500 1000

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?SDGs????????

Posted in ??????????, ??? | No Comments »

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?? ?? · Sunday, April 16th, 2023



deepblue4you/iStock

2023?4?15????????????????3??????????

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Wikipedia??

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4?15??

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Hydrogen

Friday, April 14th, 2023



Leestat/iStock

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation. CO2 emissions are reduced when hydrogen is used as a fuel source.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.



Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

Hydrogen is a clean energy source that can be produced from renewable energy sources like wind and solar. It can be used in various industries, including transportation, manufacturing, and power generation.

CO2 H2O
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CO2

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2017 5 1 138

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1 CCUS

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Posted in ??????????, ??? | [No Comments »](#)

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?? ?? ? · Wednesday, April 12th, 2023



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Wikipedia??

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CO2??CO2??

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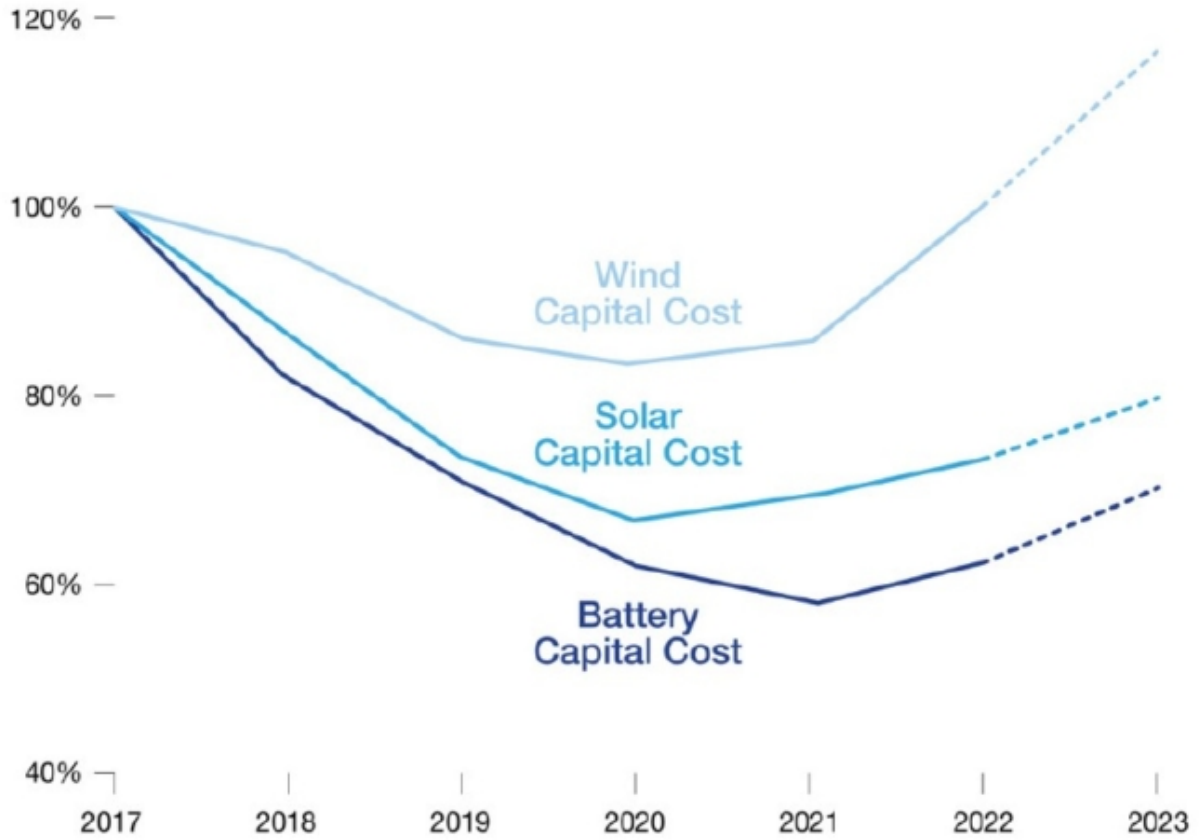
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?? ?? · Sunday, April 9th, 2023



Costs of Wind, Solar, and Battery Hardware

Change from 2017

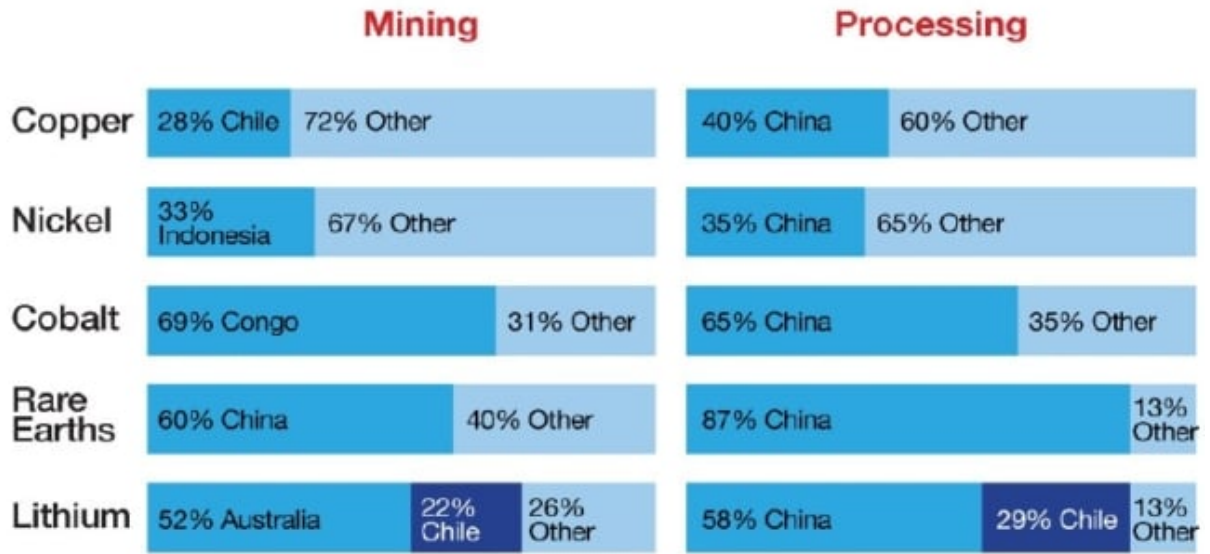


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4. ??????????OPEC???

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Sources of Key Energy Transition Minerals



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Posted in ???, ????? | No Comments »

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?? ?? · Saturday, April 8th, 2023



HiddenCatch/iStock

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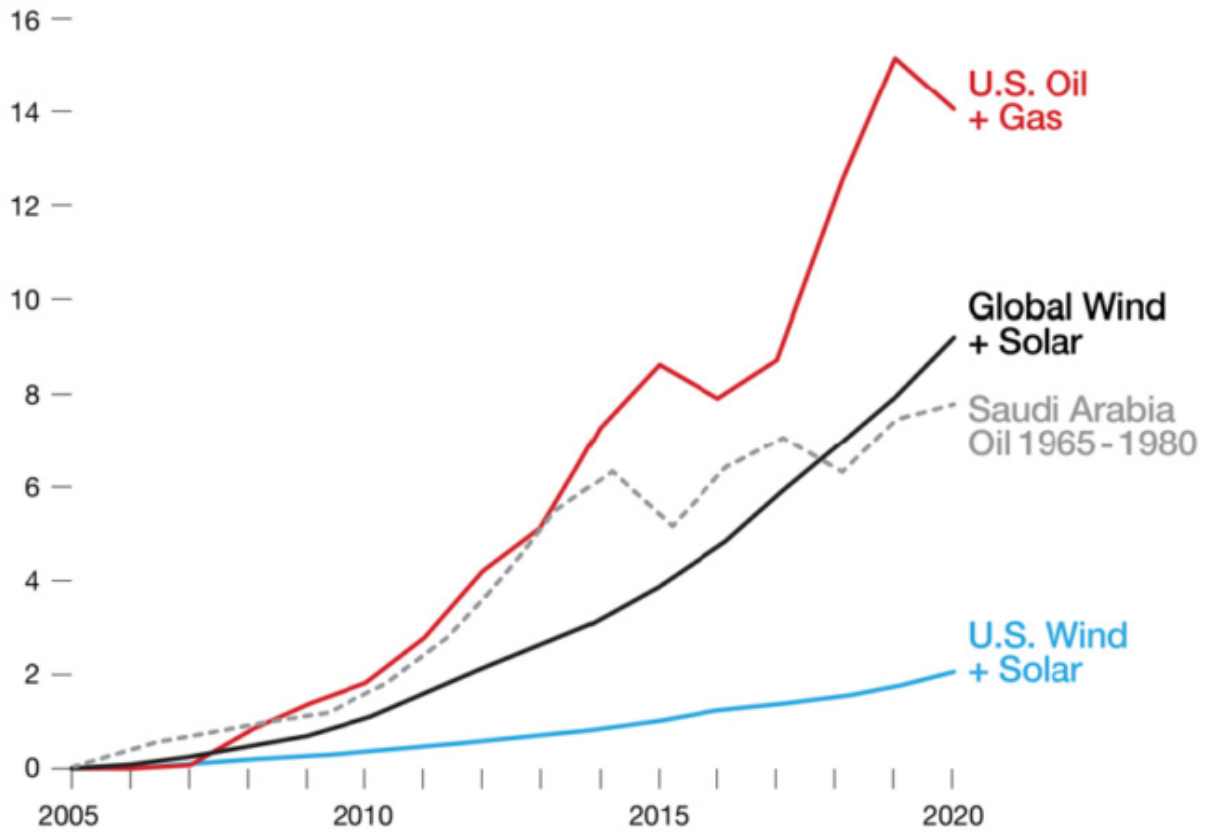
2050????????????????????????????????????

1. ?????????????????????

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Growth of Shale Energy vs. Wind+Solar 2005–20, Compared with Saudi Arabia Oil 1965–80

Increased Production (Million BOE/Day)

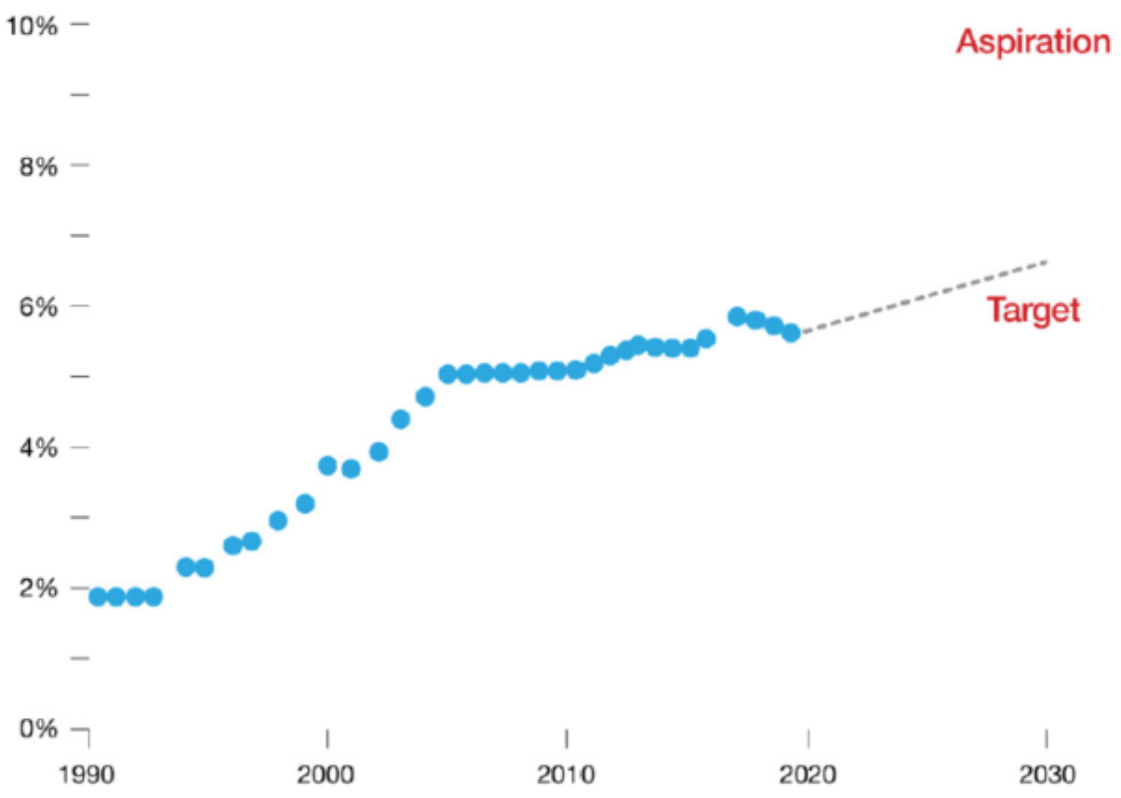


4. ?????????????????????

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Battery Energy Density* (% of Gasoline Density)



*Note: Density comparison incorporates the doubly superior efficiency of a battery+motor vs. gasoline+engine.

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?? ?? · Thursday, April 6th, 2023

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?? ?? · Tuesday, April 4th, 2023



Viktor Sidorov/iStock

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Posted in ???, ????? | No Comments »

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 ?? ? · Sunday, April 2nd, 2023



Jorm Sangsorn/iStock

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Posted in ???, ????? | [No Comments »](#)