Global Energy Policy Research | GEPR

GEPR??http://agorajp.com/??

????2???????CO2?????????????????????

?? ?? · Tuesday, August 22nd, 2023

Artur/iStock

??MIT??????????????????????????????????CO2?? ” h e a v i l y saturated”?????????????EPA???

CO2?????????

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????CO2??80???????????????????

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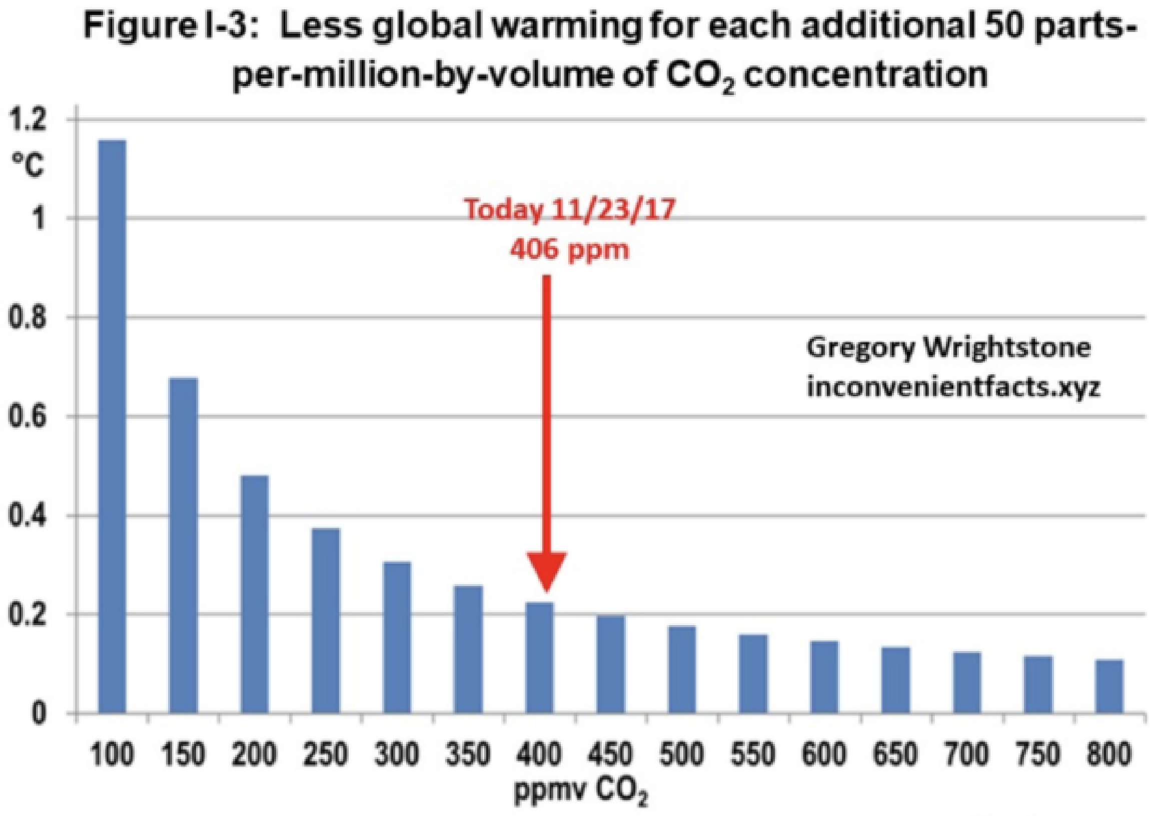
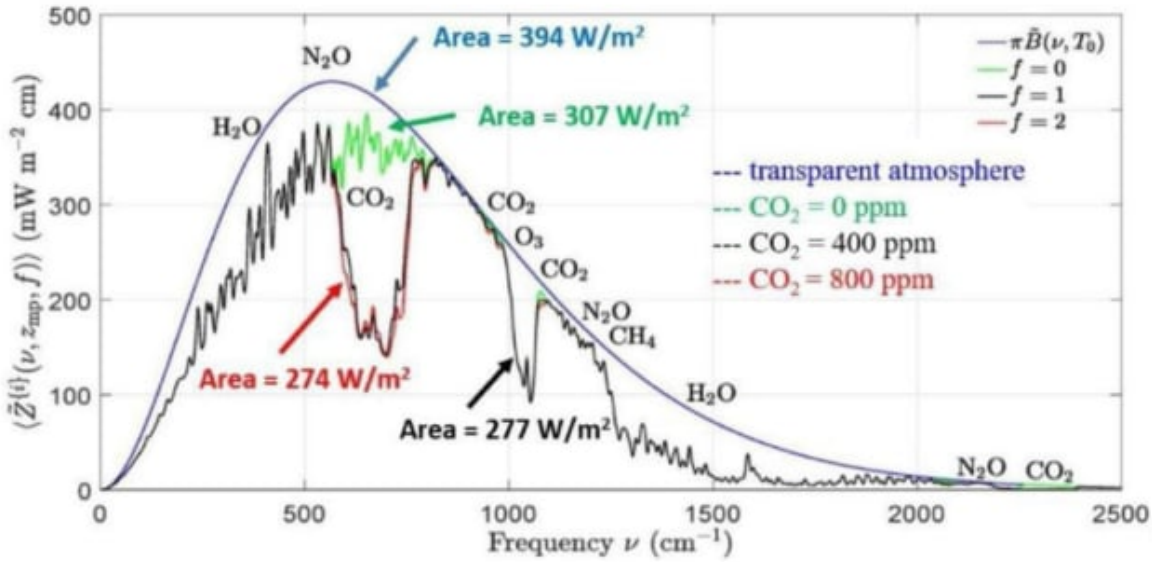
????CO2?”heavily saturated”

????????CO2???50ppm???????????????????????????CO2??? = saturation??????????????CO2?“heavily saturated”???????



????????CO2????2??800ppm??????????????????????????CO2?????????????????????????????????????

?????????????????????????????CO2??????????????????????????CO2?N2O?O3?CH4???????????????394 W/m2??????????????@transparent atmosphere????????????27???



????????????????????????????CO2 = 400ppm???????394W/m2????277W/m2??????????????????????????????277/394 = 70???????????CO2?400ppm??800ppm?????????????????????274 W/m2?69.5%??????????????????????3W/m2????????????? 1??????????

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???????????????EPA??????????????”State Farm[?]”??????????????????????????????

? State Farm Test: ???

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1. EPA???????????????????????????
2. EPA???????????????????IPCC??
3. ???????????????????

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??CO2??

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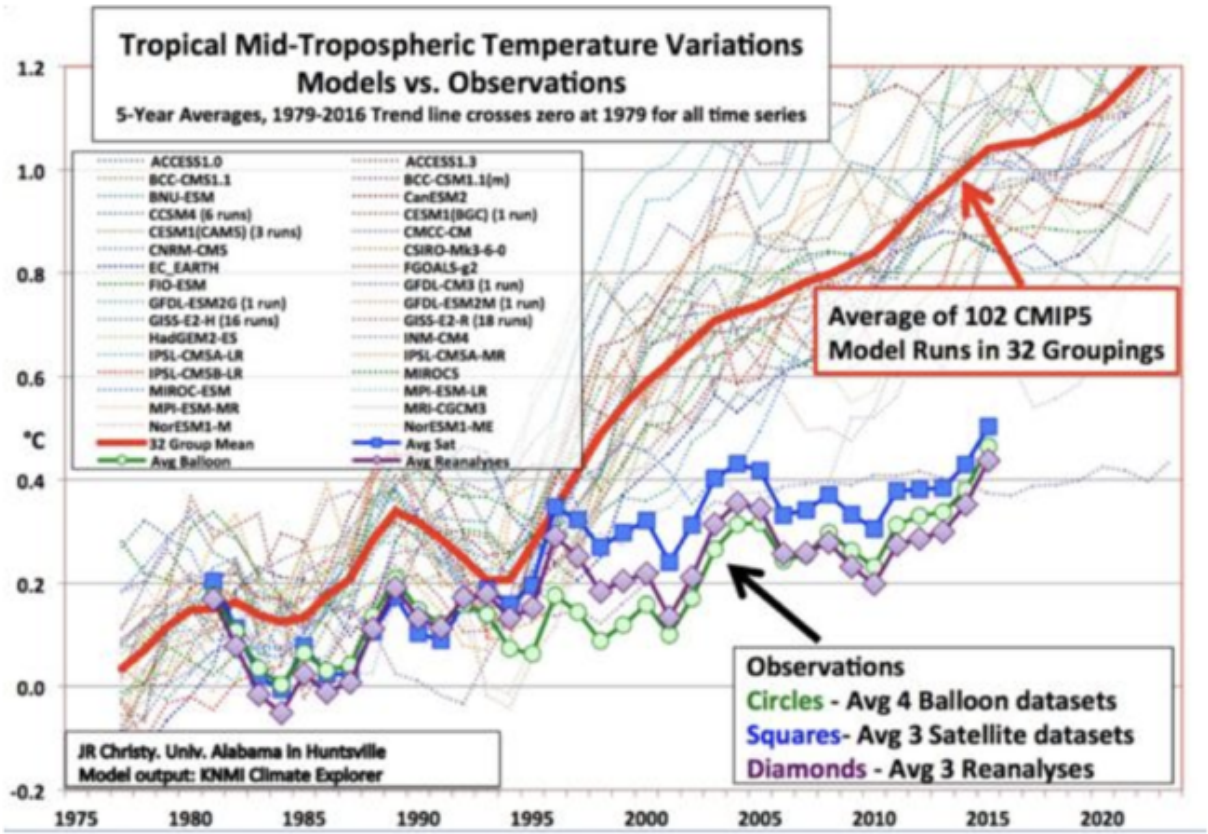

??????EPA???????????CO2???????????CO2??????????????????????????

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> The main conclusion of this part of the study is that even an order of magnitude increase of CO2 in the atmosphere by human activities, which at the present rate of input is not expected within the next several thousand years, may not be sufficient to produce a runaway greenhouse effect on Earth. On the short time scale, if CO? is augmented by another 10 percent in the next 30 years, the increase in the global temperature may be as small as 0.1°K.

Posted in ???, ????? | No Comments »

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?? ?? · Friday, August 18th, 2023

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Luisa Trescher Photos/iStock

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> 60?????????????????????????

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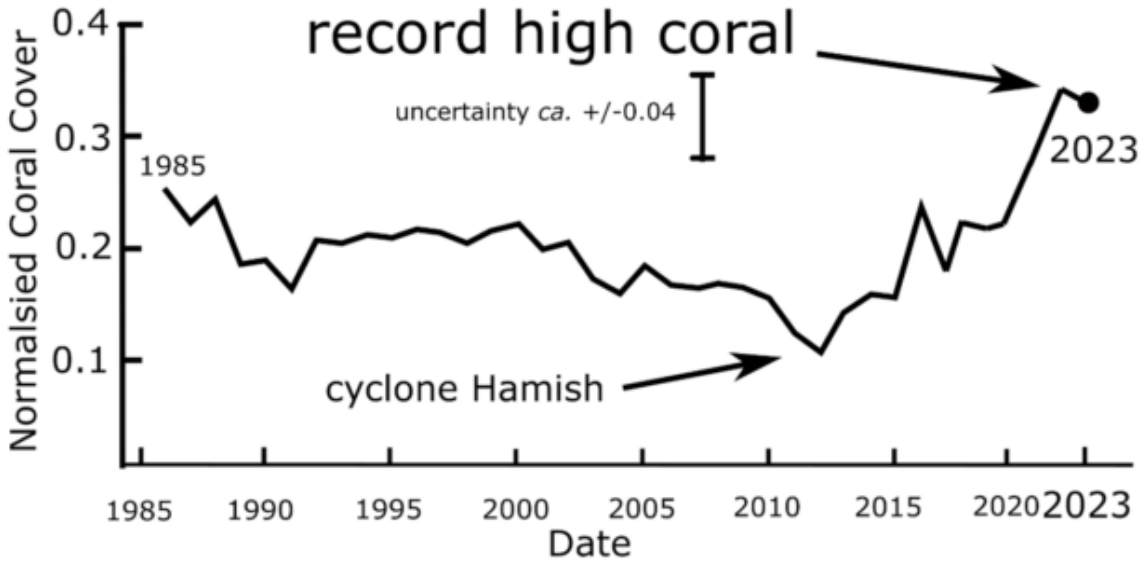
???8??2022??????????????



2023??

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2022??2016??2017??2020??2022??4?? ??

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> ???Australian Environment Foundation?? ????????????51?????????

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Posted in ???, ????? | No Comments »

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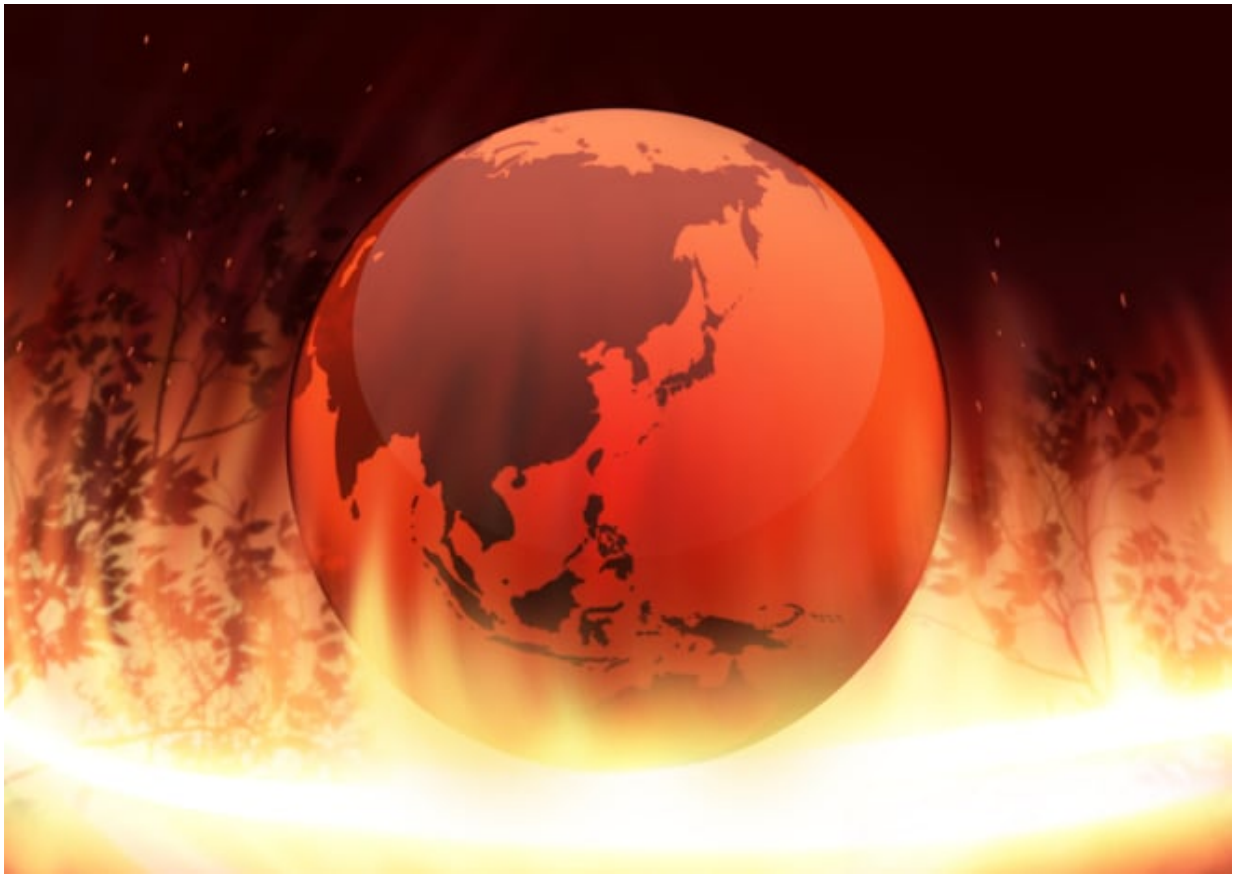
?? ?? · Thursday, August 17th, 2023



Tr6/iStock

???????????????????????????global warming??????????global boiling???????????

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> 2023?7??“????”????????????? ????????

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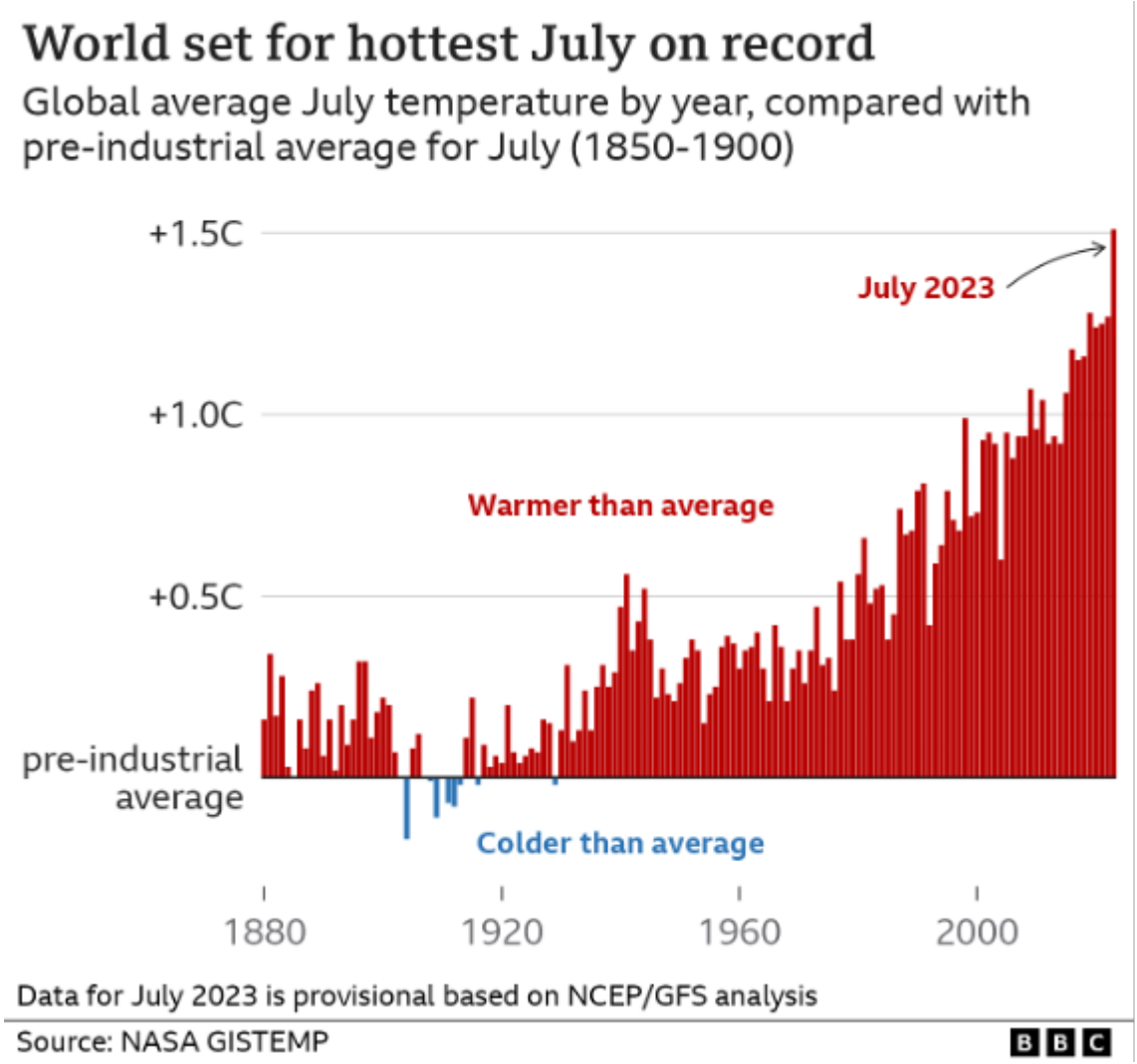

?1?BBC??

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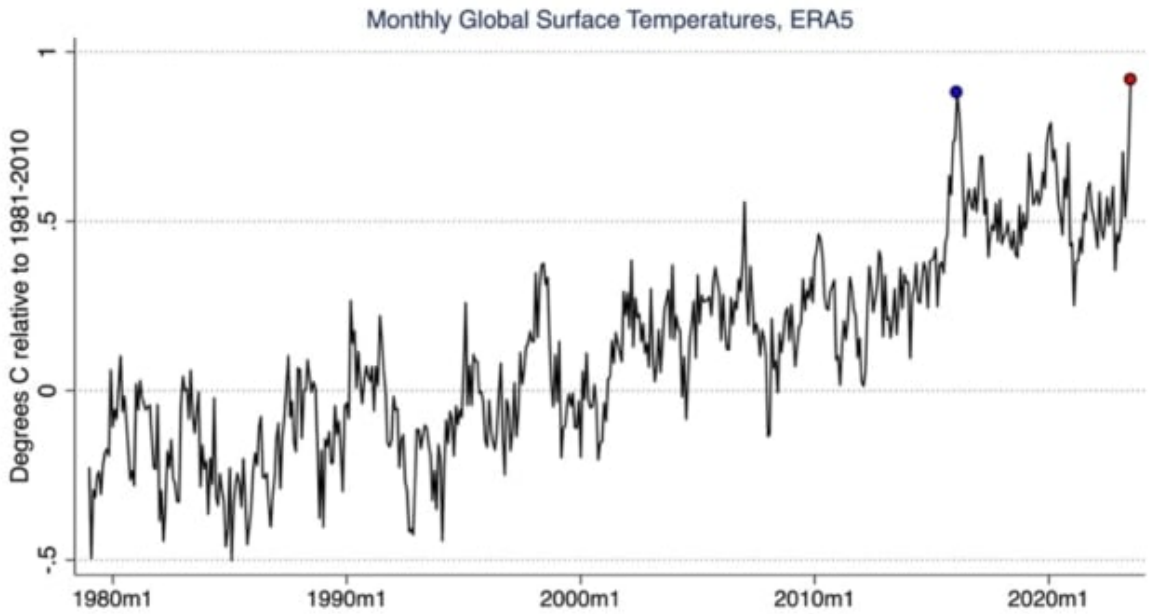

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???Climate Etc.

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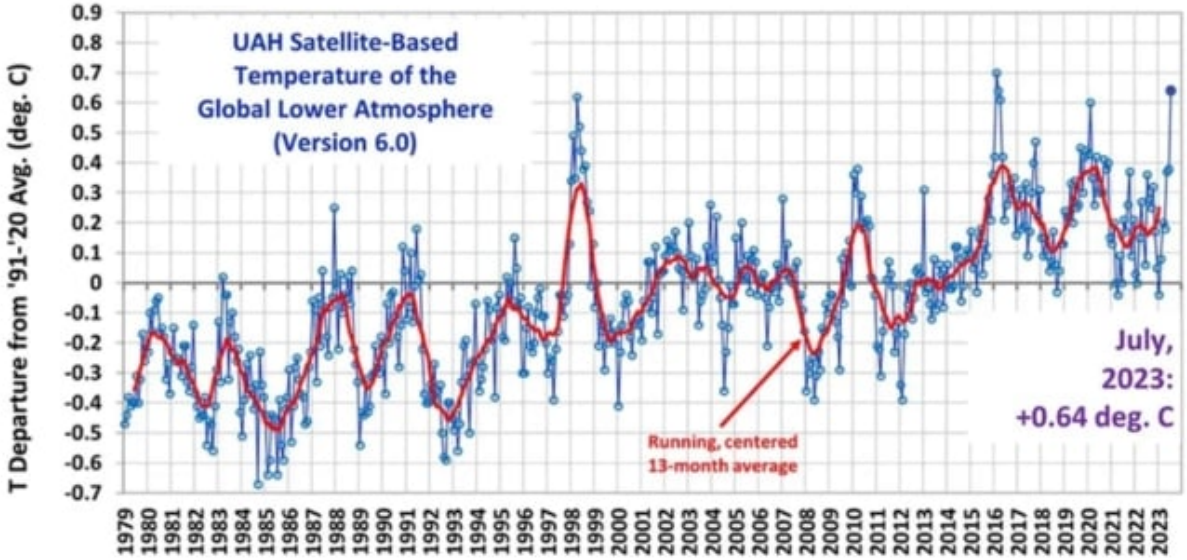


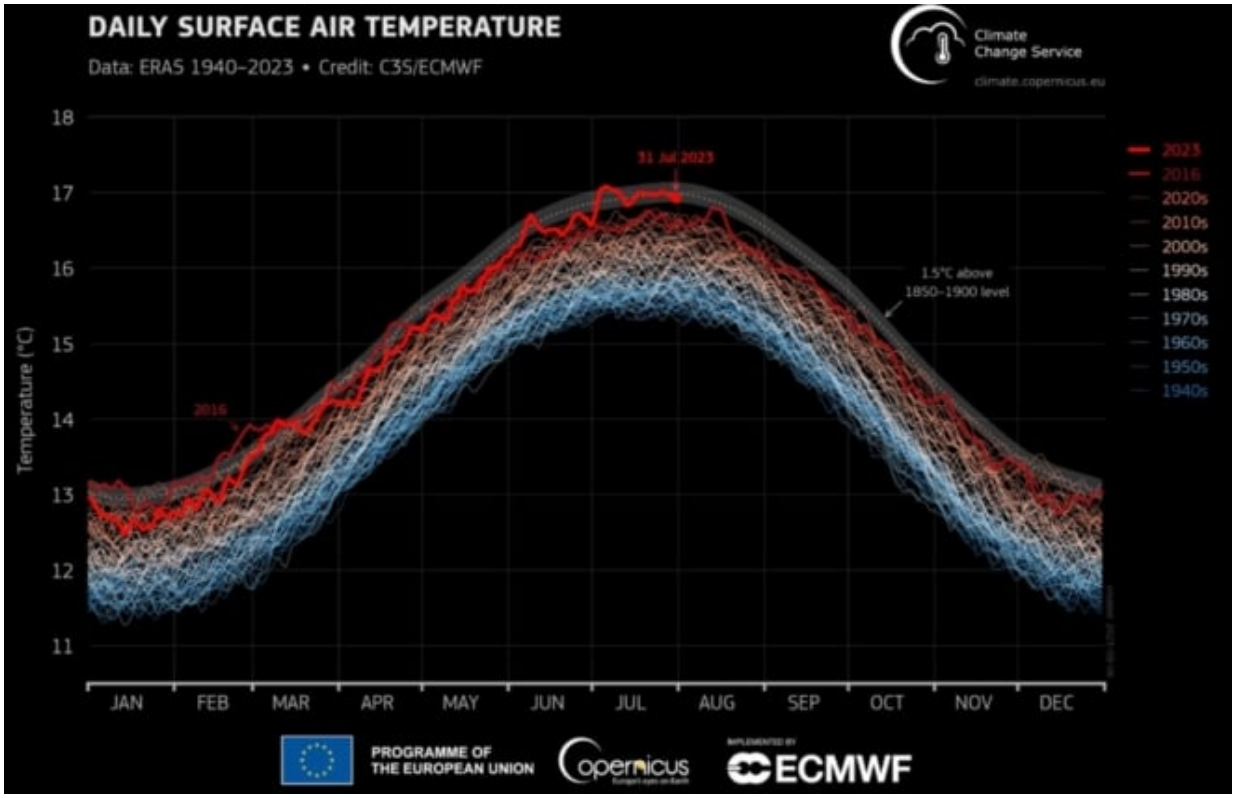
?3?????????
???Climate Etc.

???????2????????????2023?7?????????????????????????????3?????????????????????????????

?1????2?3????????????1?7?????????????????7???

???2??3??????2?????????????????????????????2????1????????3??????3?????????????????????????????

?????2023?7?????????????????????????4?????????????????1???12?????????????????????????1?????7??2023?7?????????????????????????????



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??1????????????1??7??4???7???????????????
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?2??3??

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2023??2022??????????????????????????????????????
?2015????????2020??CO2??
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Posted in ???, ????? | No Comments »

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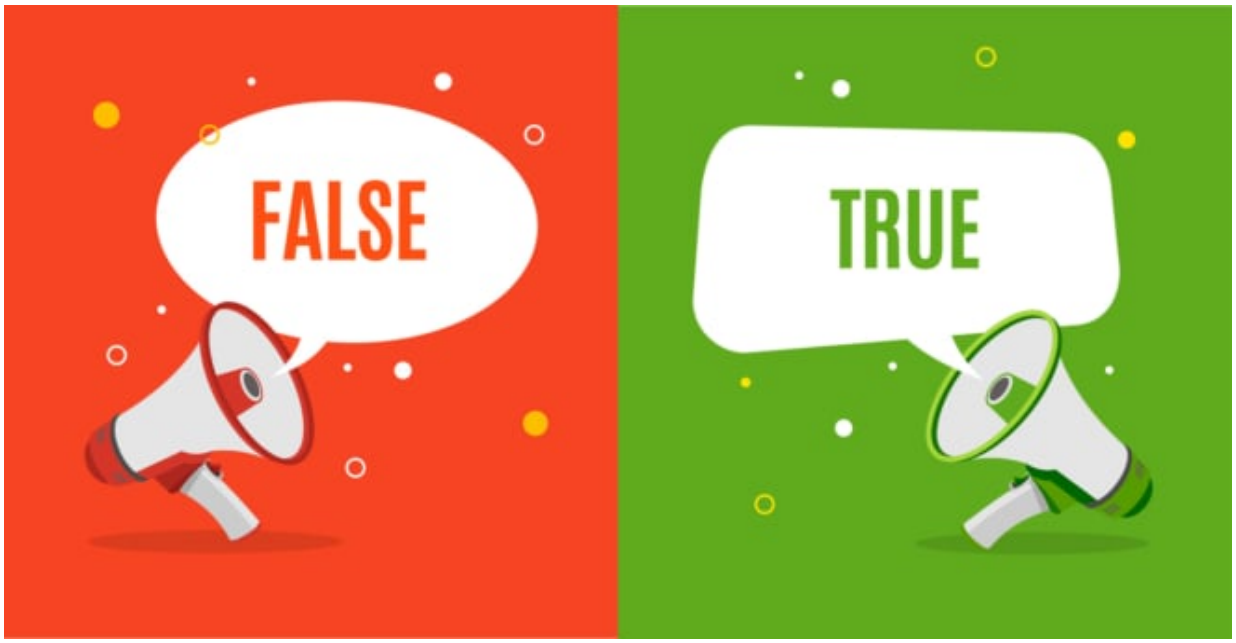
?? ? · Saturday, August 5th, 2023



nidwlw/iStock

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??CO2?????CN????????????

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??2009?4?????14????????
??S. Matsuda?“ Validity of Bio-Ethanol as a Countermeasure against Global Warming”, J. Environ. Inf. Sci. , Vol.37, No.5, pp.1-6 (2009.3)??

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??CO2???
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Posted in ???, ??????????? | No Comments »

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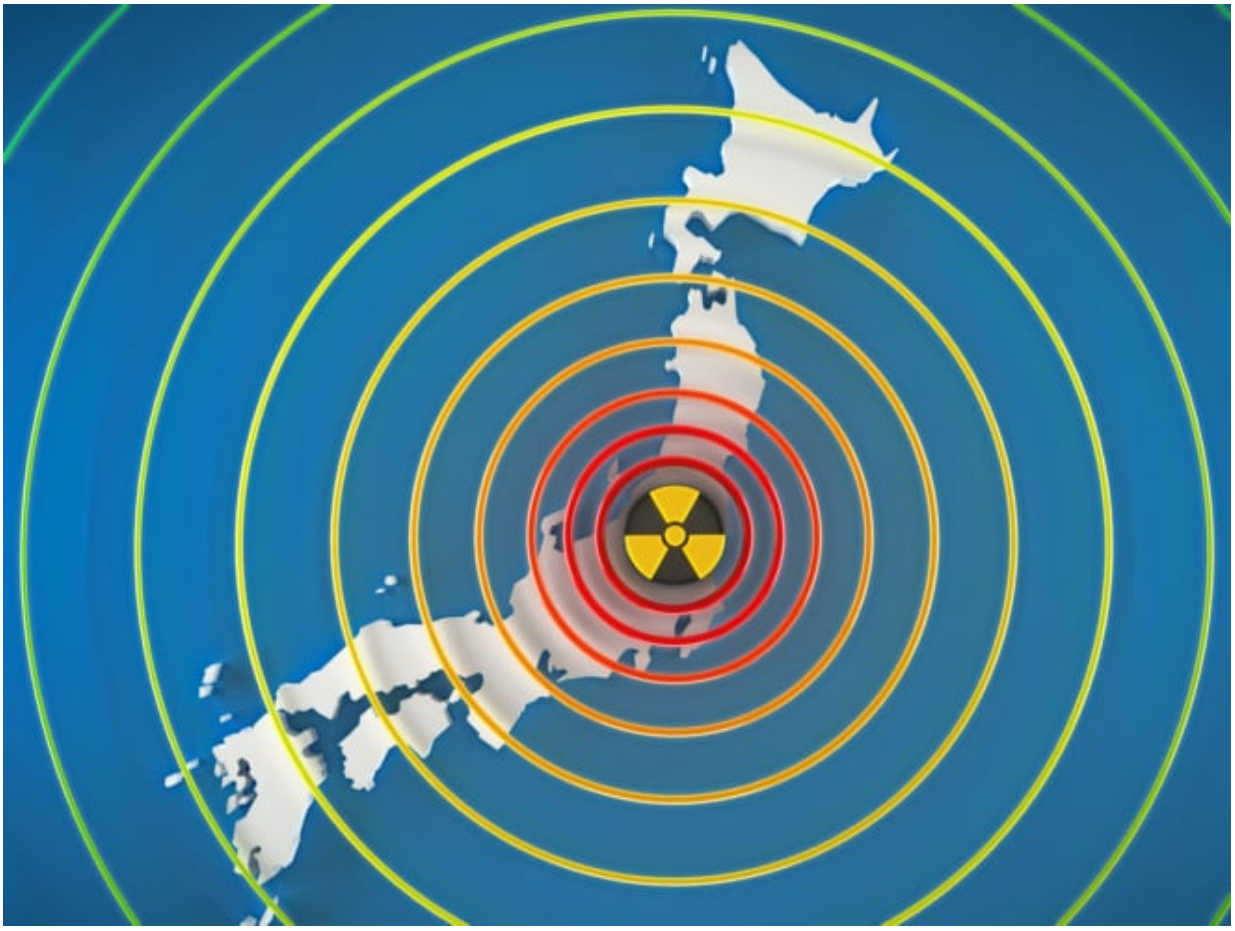
?? ?? · Thursday, August 3rd, 2023



adventtr/iStock

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村本大輔(ウーマンラッシュアワー)
@WRHMURAMOTO

事故があった時、地元の人だけじゃなく日本中が被爆しますように

NHKニュース @nhk_news · 7月28日

福井県にある関西電力の高浜原子力発電所1号機が、28日午後、原子炉を起動し、12年ぶりに再稼働します
www3.nhk.or.jp/news/html/2023...
#nhk_video

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/Mark?I?????????????????PWR??
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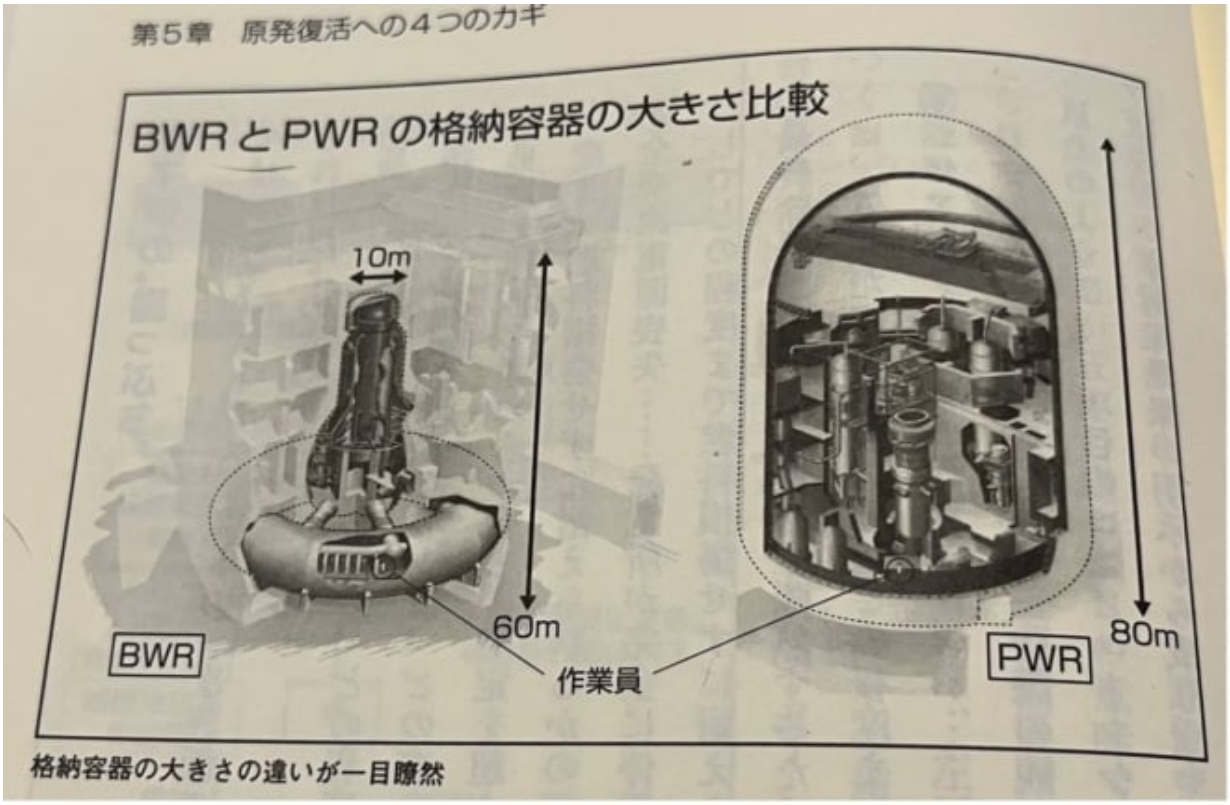

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©? japan.cnet.com

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??2014??7?26??Vol.56, No.10, p. 62 (2014)??

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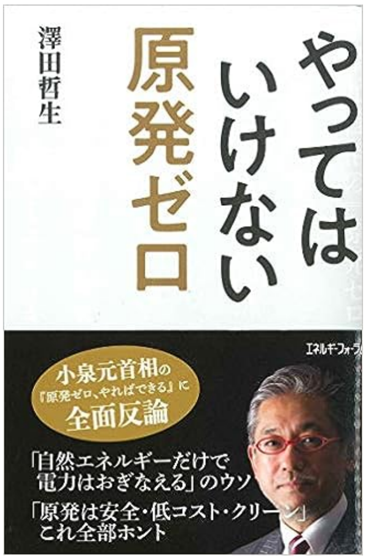

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Posted in ???, ????????? | No Comments »

“???????”????? ??????????????

?? ??? ?? · Wednesday, August 2nd, 2023

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bluejayphoto/iStock

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7?27?????????WMO???EU?????????????????????????2023?7??????????????????????????????????
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???25???????????????????????????????????????2????????????????wetter.com????????2023?7????
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Posted in ???, ??, ????? | No Comments »

?????????G20???????????

?? ? · Monday, July 31st, 2023

7?22??????????G20???2022???????????? ??

NHK??

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> ??**????????some members??**???**????** **?others??**???????????????????????????**???????????**

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?????1.5??2050???COP???

G7????????????????
2050???

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> ???2030????????????????????3??

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???COP27???**????**???

G20???????12??COP28??????????

???UAE??

? 2030?????????????3?
? 2030??????????????2?
? 2030?????????????2?
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???G20??????????????????????????????????????

???????G20??????????????????????????1.5???by or around mid century????????????????????G20?????????????

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

IPCC AR6??????“???”????

?? ?? · Sunday, July 30th, 2023

??6?23??????IPCC??

???????????????3???????IPCC??6???????AR6???????????????

??????????????????1.5??????????????????????????GHG???????7?????7???

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????AR6???GHG???

?????????????6?????????????????AR6-SPM???????????????Longer Report??

NicoElNino/iStock

AR6??COP26???????????????????2?????1.5???????????????????IPCC????????????2014???5?????AR5????2021?????????1.5???

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???????????????1.5???2???????????????????????????1.5?????????**?????1.5?????????????**???1.5?????????**????????????????**?????????????????????2????1.5??????????????????

????1.5??1.5????2??????67??IPCC???

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???????1.5??????????2019??????????????????500?????CO2e?????????2??????????1150?????????????????[?21?]?

???2020????????????50?????GHG????????????1.5?????????????????10??????23???????7???

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???AR6-SPM?TableSPM.1?????2???????????????????????????GHG?????2050??2019??64?????????2030??21??????????????????????2070?????????????Table SPM.1?1.5?????????????????2030?43??2050?84?????????????????????????????????[?22?]?

????????????????????????????????1.5??????????1.5?????????????????????????????????50?????1.5???0.2?0.3????????????????????????????

???AR6????1.5????????????????????????1.7?1.8??????????????????????????????????????1.5???????????????????????????????500??????????????500?????1.5?????1150?????2????????825?????????????????????825????????????????????????GHG??????1.5?????????????????

AR6???1.5??

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> ????1.5?????????????????????????????**?????????????????????????**?1.5???????????2
> ???4?

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2????????????2030?21??????GHG????AR6-SPM?C.2.4???

???1.5???????30?43??50?84?? ???????AR6-SPM?C.2.5?????????????????????

> **??imply???**?
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?????IPCC AR6?????????????????????????1.5?? ?????????????????????2??????????????????????????????????1.5????????????????????????????????? ??????????????????????????????

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> ??1.5???2?????????????????????????1.5?????????????????????????????????????
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?1?AR6-SPM?B5.2?????????1.5??

?2???????GHG??????CO2????????????1.5????2050?99????2030?48????????????30????50???????????????

?3?AR6.SPM?C.2.4?"Even without accounting for all the benefits of avoiding potential damages the global economic and social benefit of limiting global warming to 2°C exceeds the cost of mitigation in most of the assessed literature" (medium confidence)

?4?AR6-SMP P26 ??50?"The evidence is too limited to make a similar robust conclusion for limiting warming to 1.5°C. Limiting global warming to 1.5°C instead of 2°C would increase the costs of mitigation, but also increase the benefits in terms of reduced impacts and related risks, and reduced adaptation needs."

?5?AR6.SPM C.2.5: "Ambitious mitigation pathways imply large and sometimes disruptive changes in existing economic structures, with significant distributional consequences within and between countries."

?6?AR6-SPM E.1.3: "Strengthened and coordinated near-term actions in cost-effective modelled global pathways that limit warming to 2°C (>67%) or lower, reduce the overall risks to the feasibility of the system transitions, compared to modelled pathways with relatively delayed or uncoordinated action."

Posted in ???, ????? | No Comments »

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?? ? · Saturday, July 29th, 2023

BrianAJackson/iStock

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Posted in ???, ????? | No Comments »

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?? ?? · Thursday, July 27th, 2023

JaCZhou/iStock

??????CO2??????????????????2023?7?4??Enrico Mariutti?????????????????????????????The Dirty Secret of the Solar Industry???

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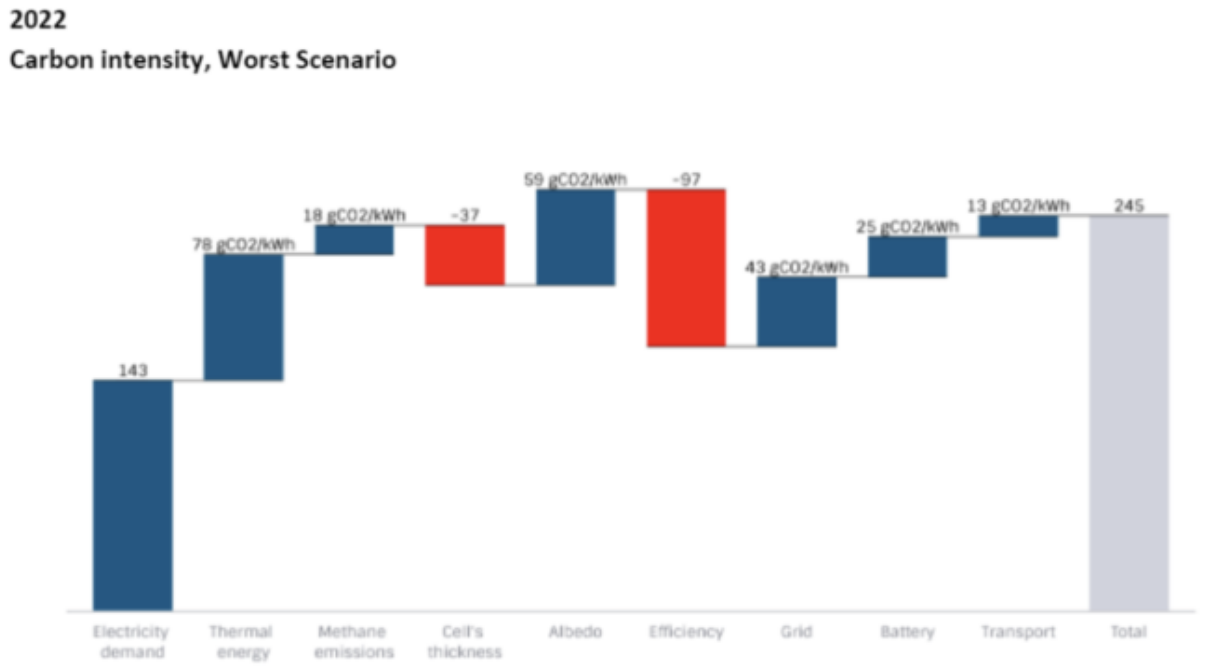

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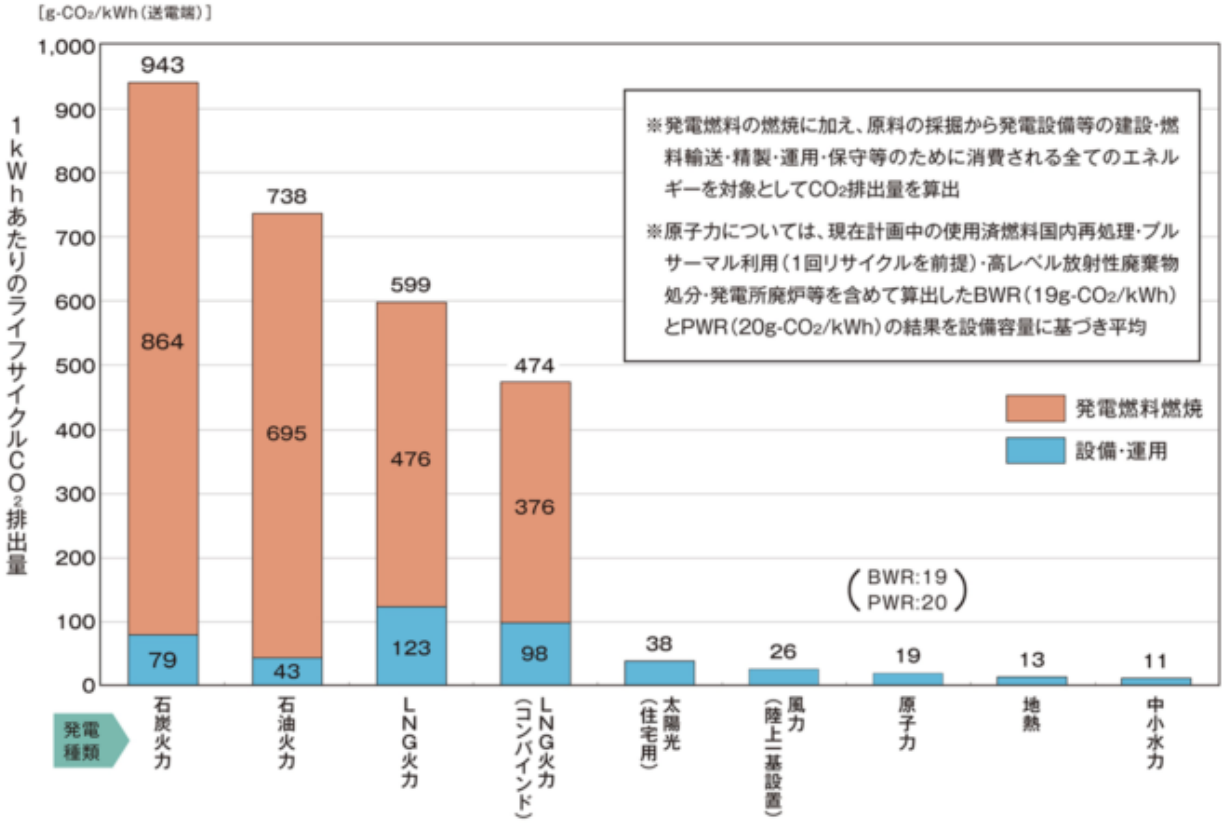
?245???????

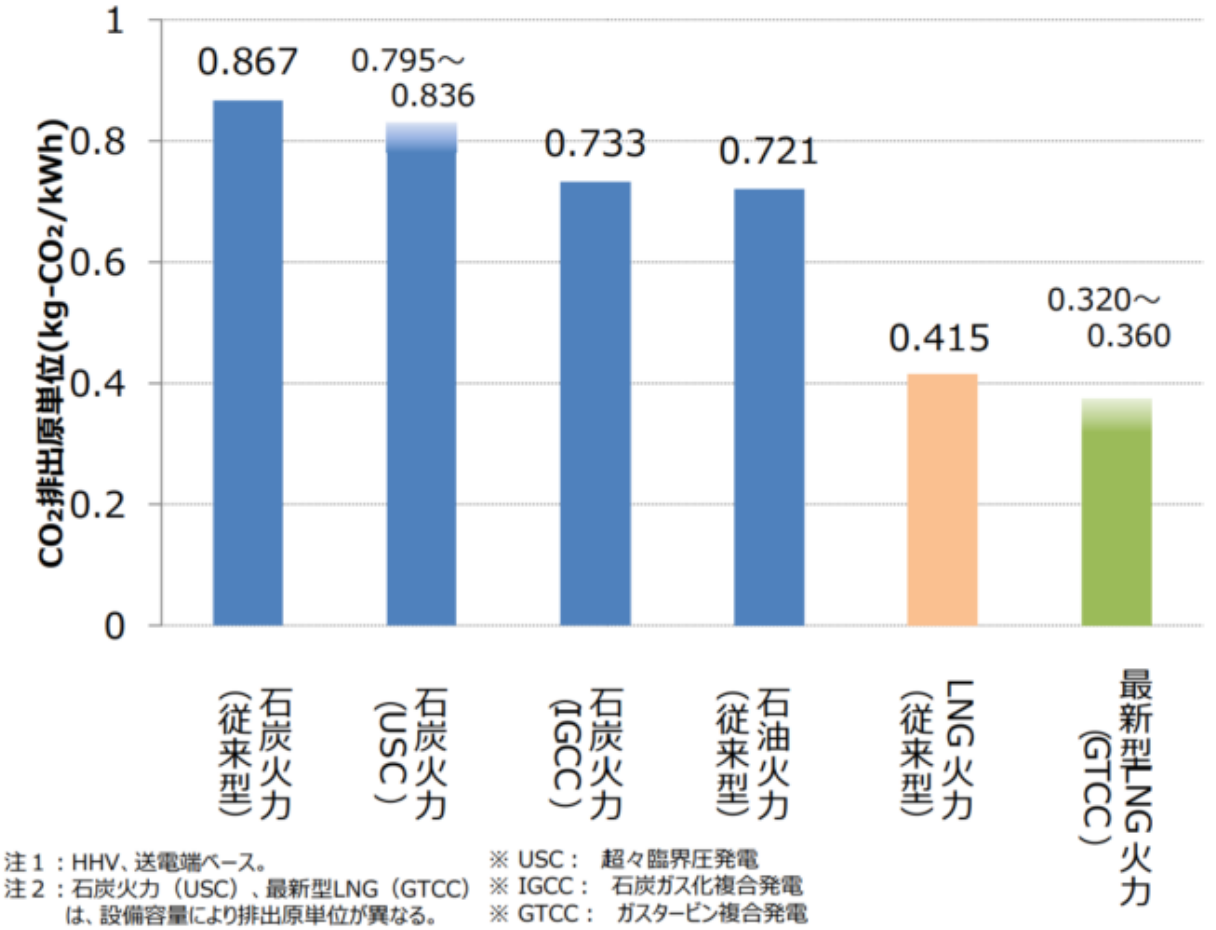
??1kWh???245??2016??????????????????????
?????kWh???38??????????2????????



??2??????????

?????????????????CO2????????????????????????????????????9?????????????????????????????????? ??????????????????????????????????????

1kWh???245????CO2?????????????????????????????2022?????????????????????????????????????? ??LNG??????????CO2???????1kWh???320??360??????????????3??



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?? ?? · Friday, July 21st, 2023

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jetcityimage/iStock

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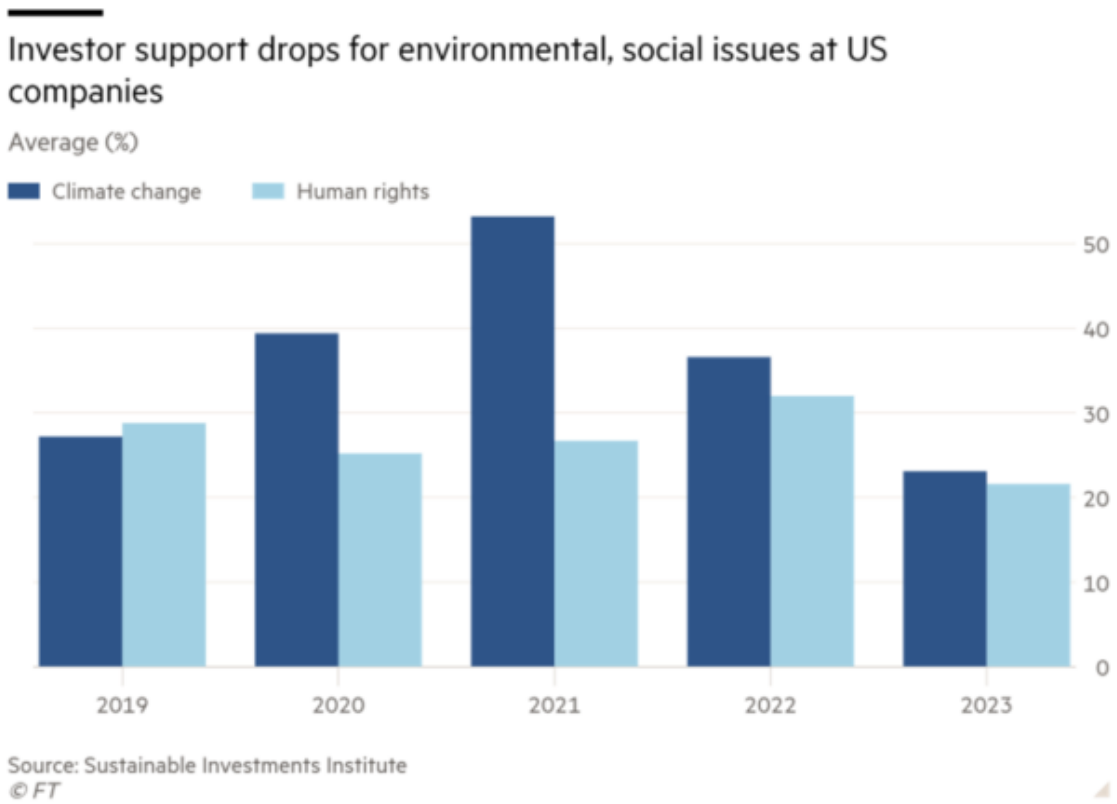
Investor support drops for environmental, social issues at US companies

Average (%)

Source: Sustainable Investments Institute
© FT

FINANCIAL TIMES??

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4?12??EPA???2032??????????????????????67??EV??????????????????50?????????????35?????????????25??EV???????

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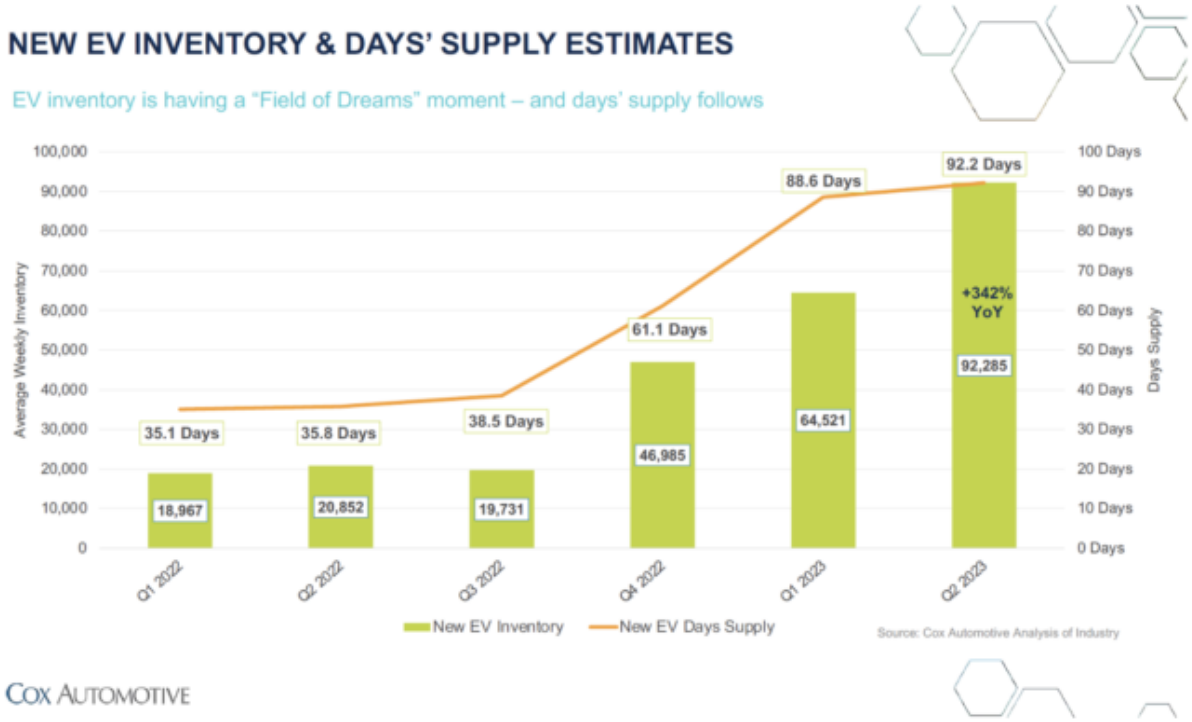
2023 Cox Automotive Mid-year Review???????2023???2???????????????????????????92,000??????????2022????2?????????342% ????????


NEW EV INVENTORY & DAYS' SUPPLY ESTIMATES

EV inventory is having a "Field of Dreams" moment – and days' supply follows

Source: Cox Automotive Analysis of Industry

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NickS/iStock

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Nobel Physics Laureate 2022 Slams 'Climate Emergency' Narrative as "Dangerous Corruption of Science"

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?? ?? · Wednesday, July 19th, 2023

Max Lirnyk/iStock

?????????????????????????????????? ?????????????????Electric Vehicles for Everyone? The Impossible Dream?????????????????????????????????

???????????????BEV?????????????????????????????ICE???????????????????????????BEV????????????????ICE???????????HEV?????????????????????????????

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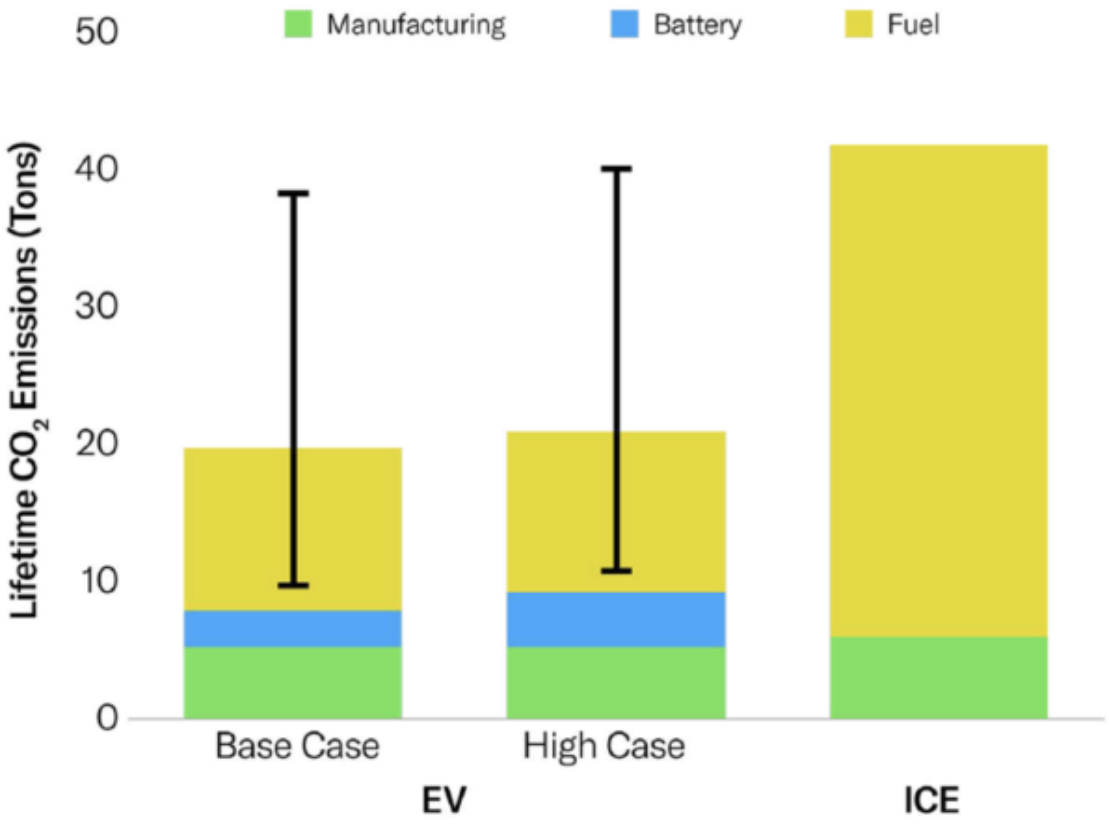
Figure 3

Estimated Life-Cycle Emissions for EVs vs. ICE Cars, per IEA



Source: IEA, "The Role of Critical Minerals in Clean Energy Transitions"

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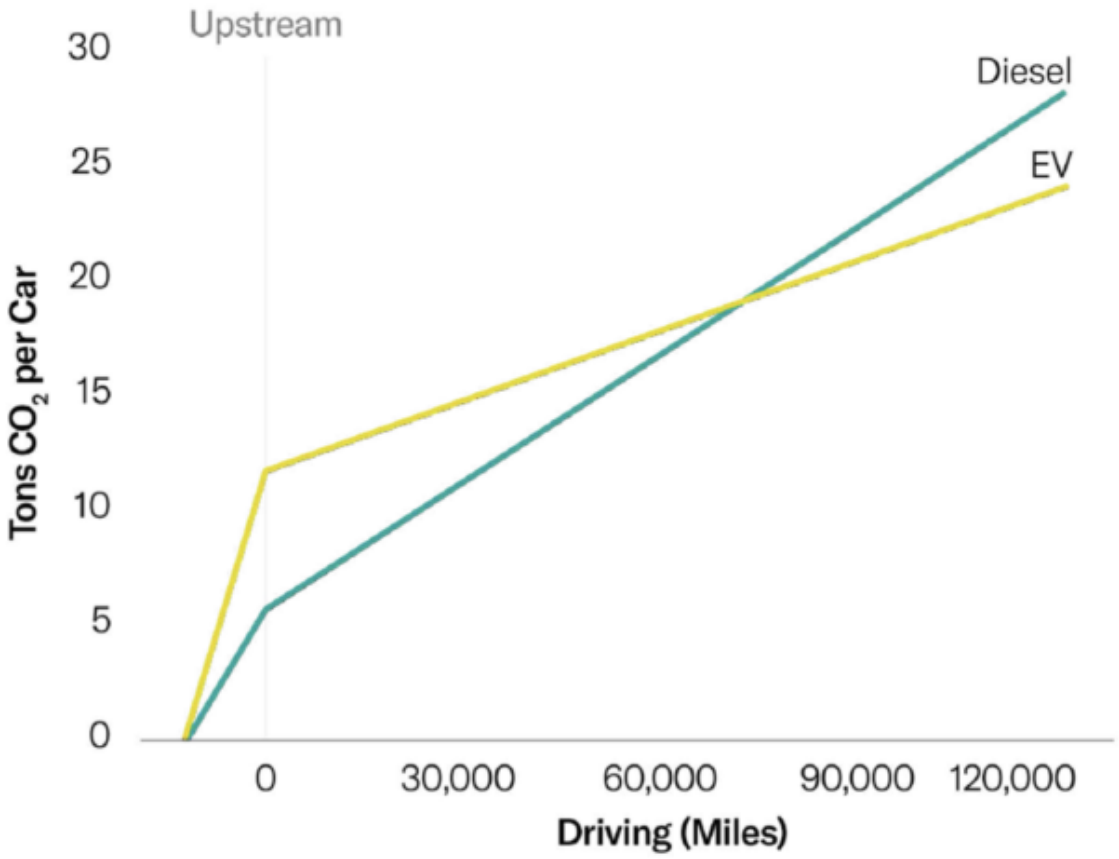
????IEA???????????????????????????????????????NZE??

?????????ICE?EV????????CO2??????????6??????????????????EV?????CO2?????????????????????EV?????????????

Figure 4

Life-Cycle Emissions: Volkswagen EV vs. Diesel



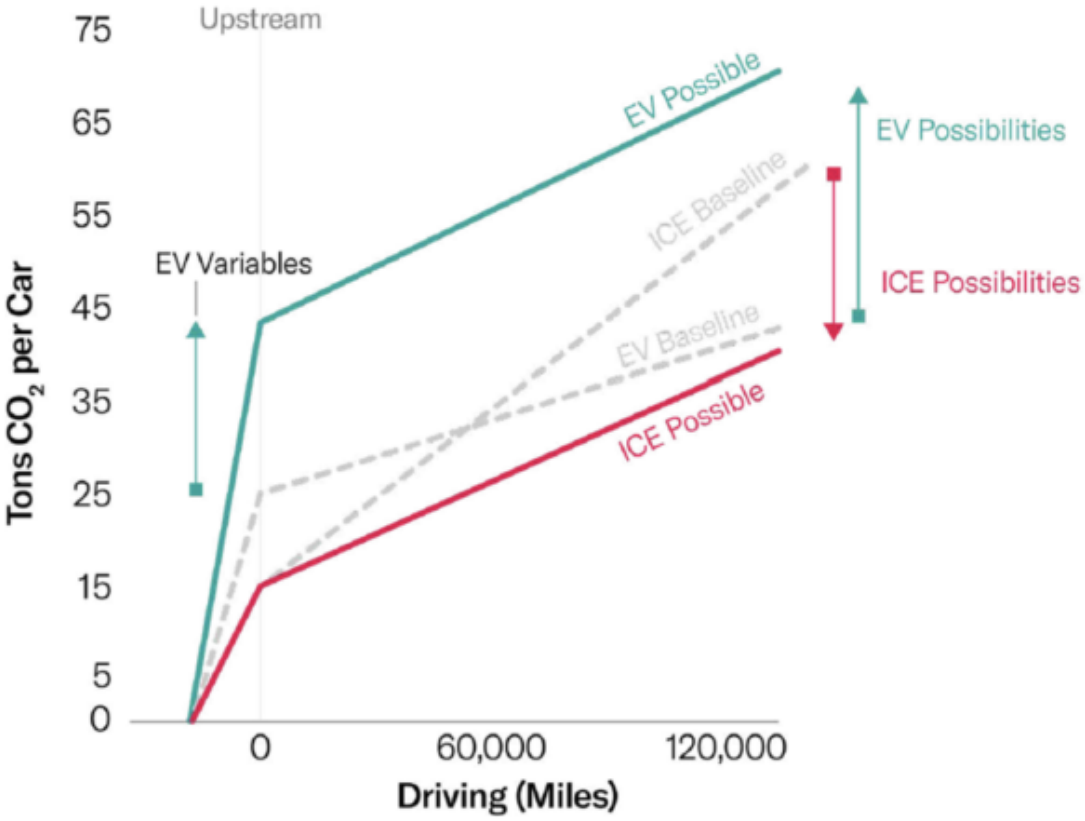
Source: Maciej Neugebauer, Adam Żebrowski, and Ogulcan Esmer, "Cumulative Emissions of CO_2 for Electric and Combustion Cars: A Case Study on Specific Models," *Energies*, Apr. 6, 2022

????????????????EV????????????????EV????CO2??????????????????????????ICE??????????????????2???

????????????????EV????????CO2??????????ICE?????????????????????????????????12????????EV???ICE???CO2??????????????????????

Figure 6

EV vs. ICE CO_2 Emissions: Scenarios with Known Unknowns



Source: Author's calculations from multiple data sources in this report; see Appendix

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CO2???????????1????????????????? EV???ICE?????????????????????????

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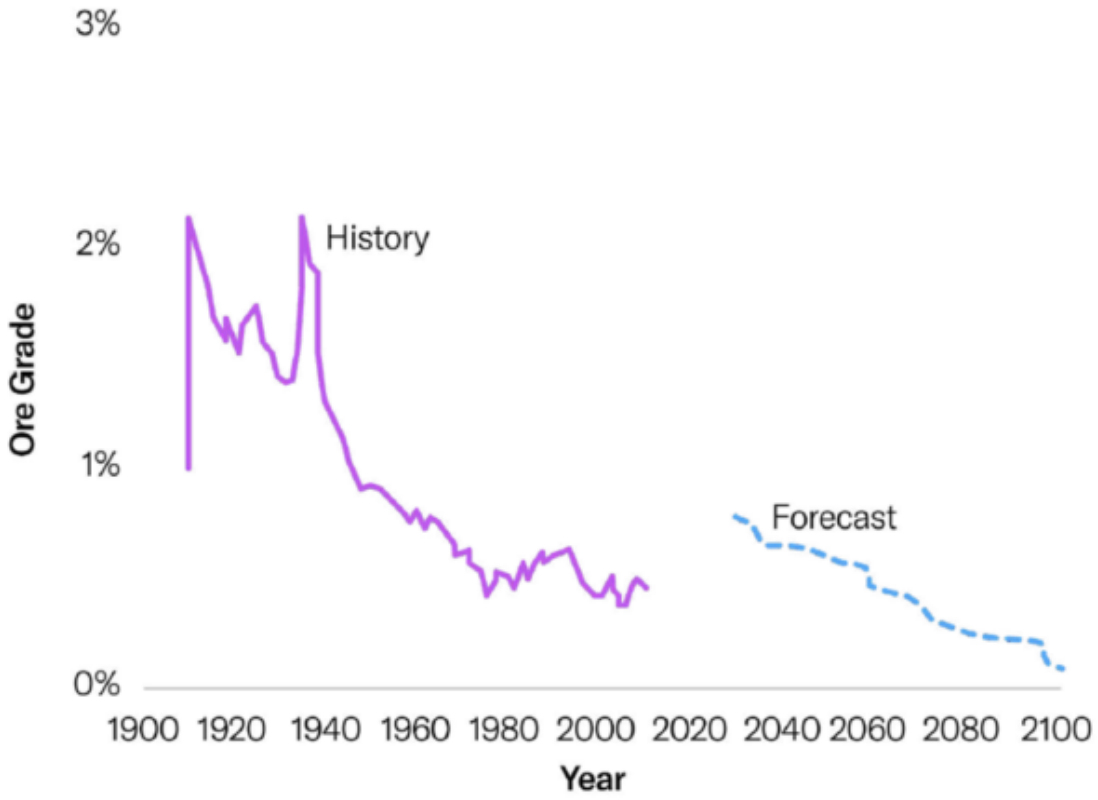
Figure 8

Two Centuries of Global Copper Ore Grades



Source: S. Northey et al., "Modelling Future Copper Ore Grade Decline Based on a Detailed Assessment of Copper Resources and Mining," *Resources, Conservation and Recycling* 83 (February 2014): 190–201

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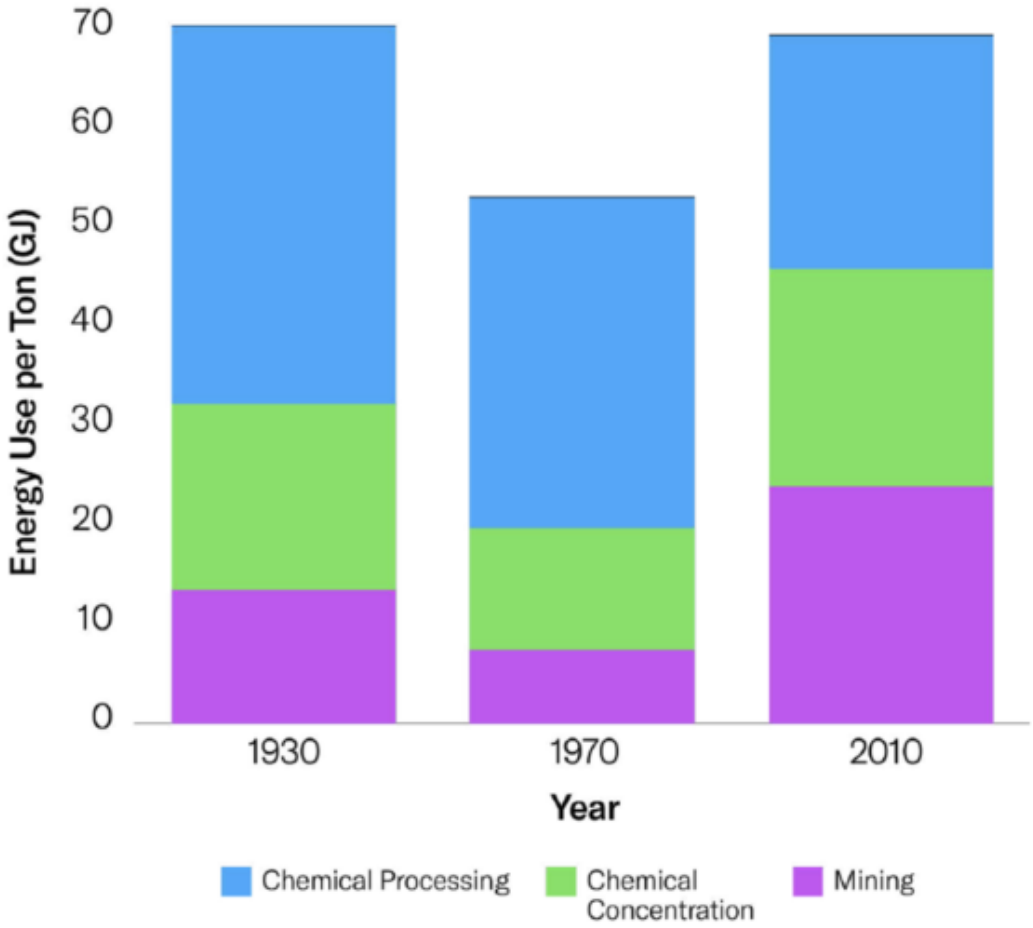
?????????????mining?????????chemical concentration???BEV?????????????????????

Figure 10

Copper Production: Technology Trends in Energy Use per Ton



Source: Nadine Rötzer and Mario Schmidt, "Historical, Current, and Future Energy Demand from Global Copper Production and Its Impact on Climate Change," *Resources* 9, no. 4 (April 2020)

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> ??????EV??????????????????????????????????????EV?????????????????????ICE??EV????????????????????????????CO2??????2???
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?? ?? · Sunday, July 16th, 2023

Douglas Rissing/iStock

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7?11???Blackout-News???

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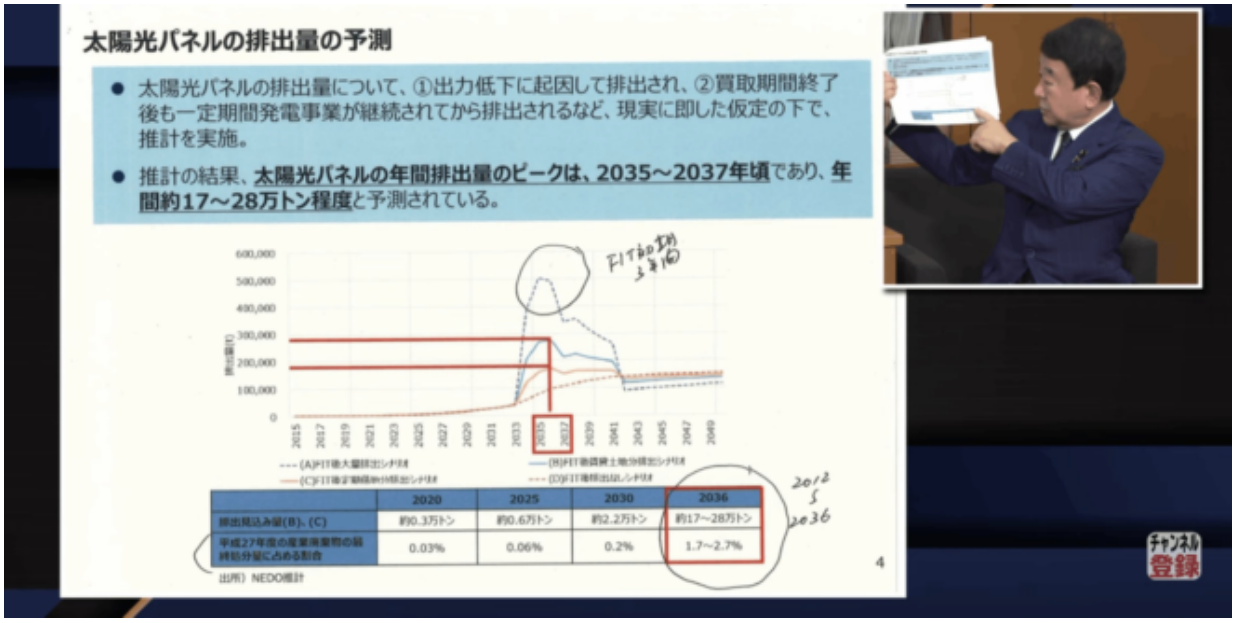

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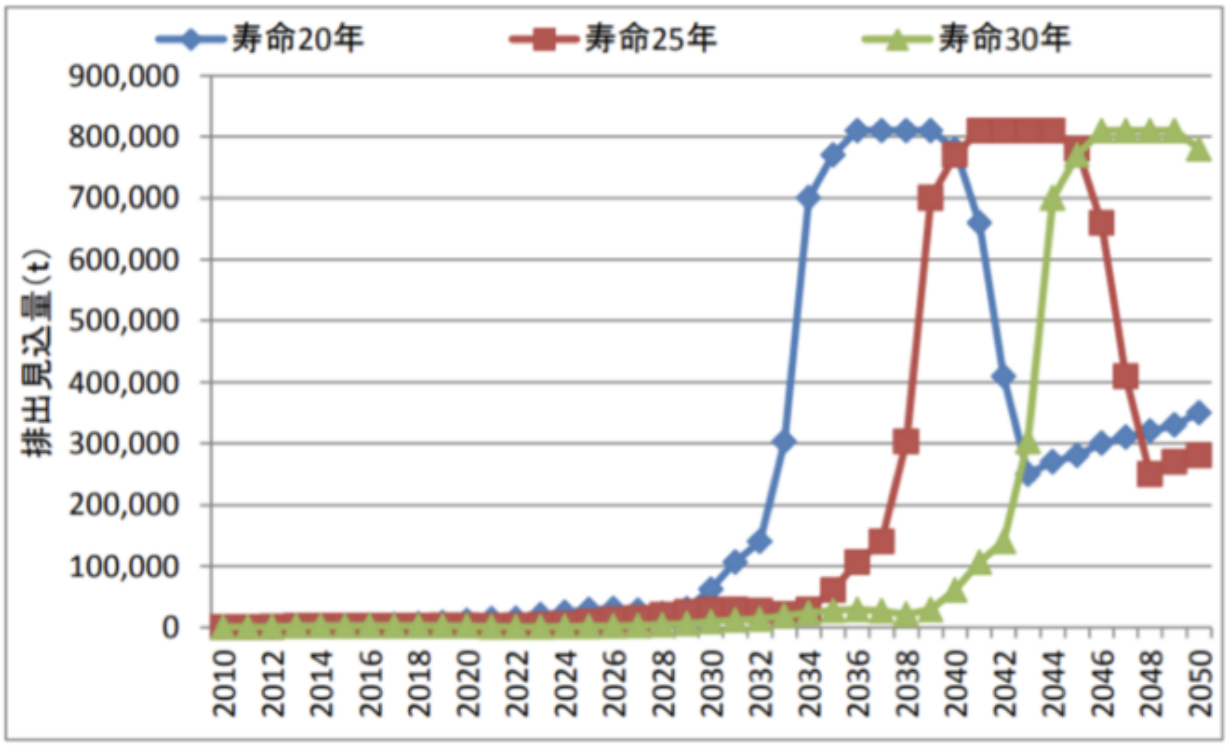
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寿命25年
寿命30年
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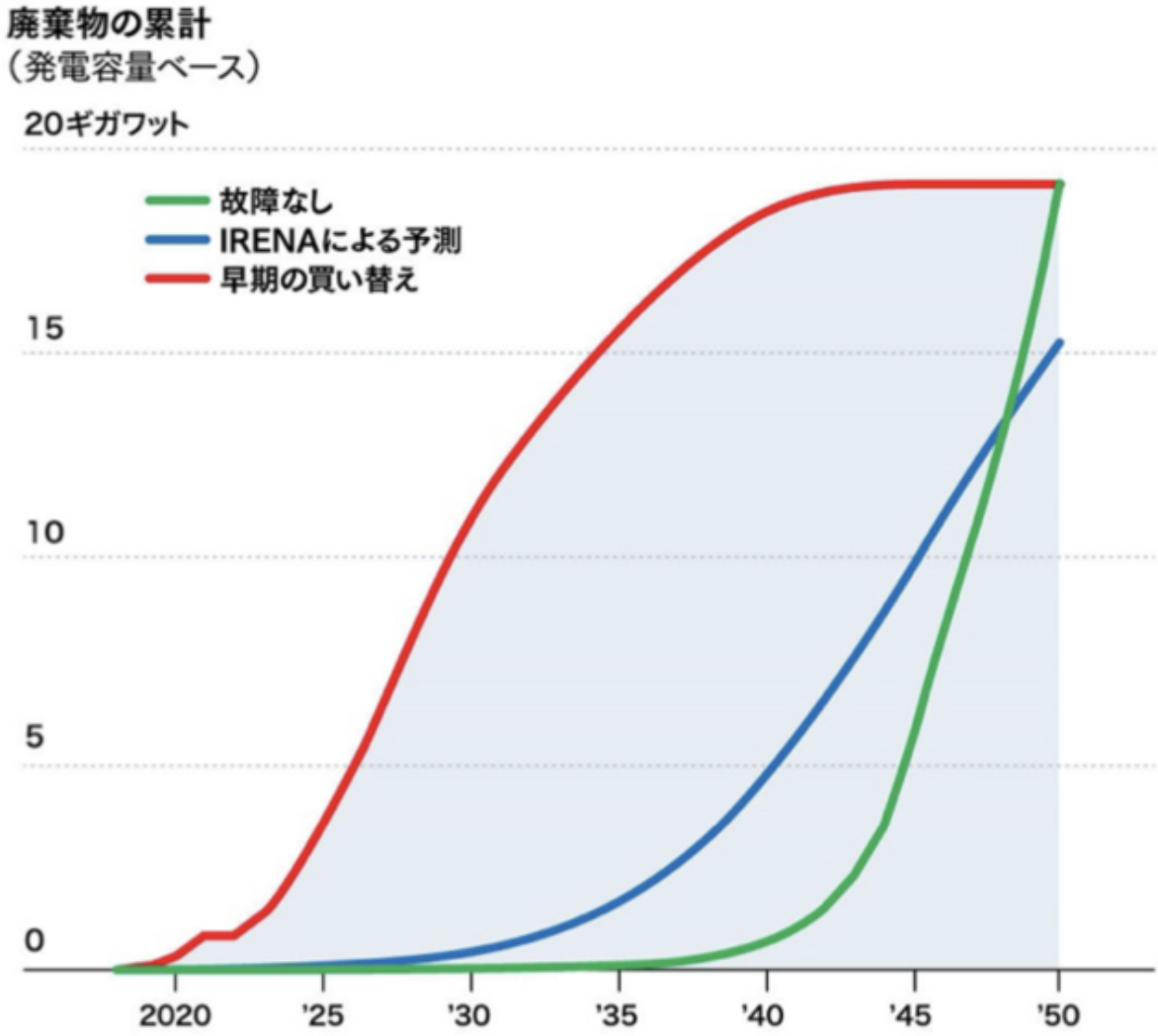
廃棄物の累計
(発電容量ベース)
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?? ??? ?? · Sunday, July 9th, 2023

Grafissimo/iStock

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?? ?? · Thursday, July 6th, 2023

Pixelci/iStock

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?? ?? · Tuesday, July 4th, 2023

xijian/iStock

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A Critical Assessment of the IEA’s Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

??PV??

??PV??PV??

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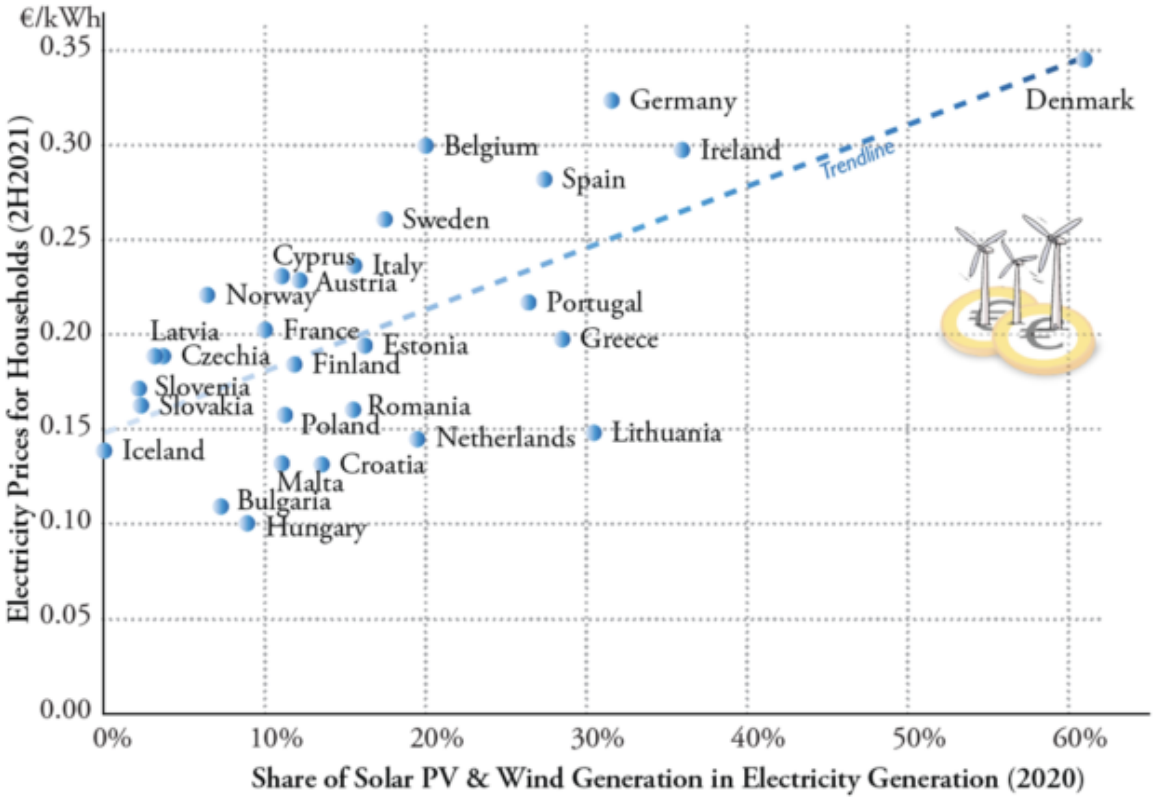
Figure 46: Solar and Wind Penetration and Electricity Prices in Europe



Source: Energy Policy Research, Eurostat, IEA

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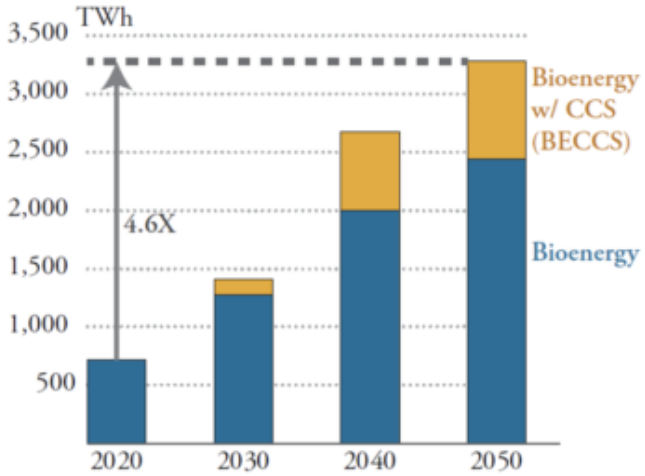
IEA?NZE??????????????????????????????????????2050???

Figure 23. Bioenergy for Electricity Generation in NZE



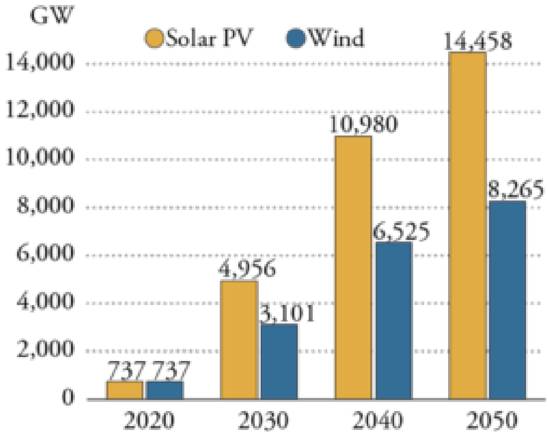
Source: IEA, *Net Zero by 2050* (2021)

Figure 24. Global Land Requirements for Bioenergy for Electricity Generation in NZE

Source: Energy Policy Research. Land requirement calculations made using FreeingEnergy.

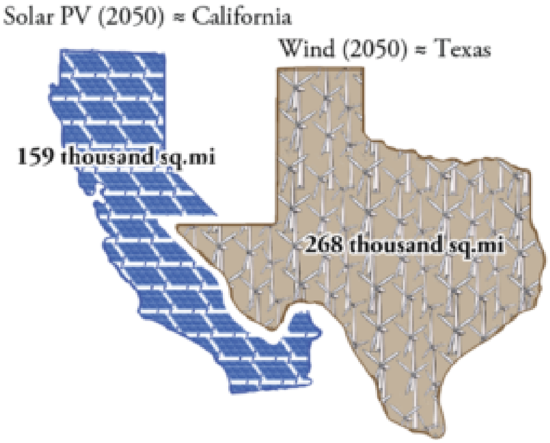
Batt Odgerel, Lucian Pugliaresi, Michael Lynch 38

Figure 25. Global Solar and Wind Capacity in NZE

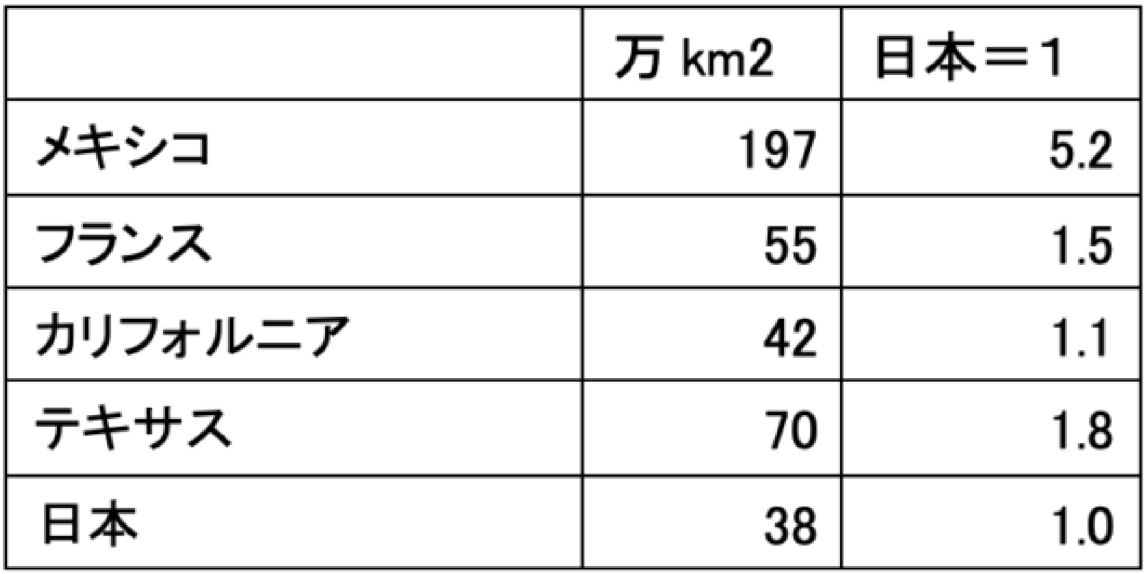


Source: IEA, *Net Zero by 2050* (2021)

Figure 26. Global Land Requirements for Solar/ Wind Farms in NZE



Source: Energy Policy Research based on NZE
Assumes sufficient/optimal grid infrastructure (transmission, storage) and current rate of efficiency



	万 km2	日本＝1
メキシコ	197	5.2
フランス	55	1.5
カリフォルニア	42	1.1
テキサス	70	1.8
日本	38	1.0

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?? ? · Monday, July 3rd, 2023

CHUYN/iStock

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EV???????????????

?? ?? · Monday, July 3rd, 2023

PhonlamaiPhoto/iStock

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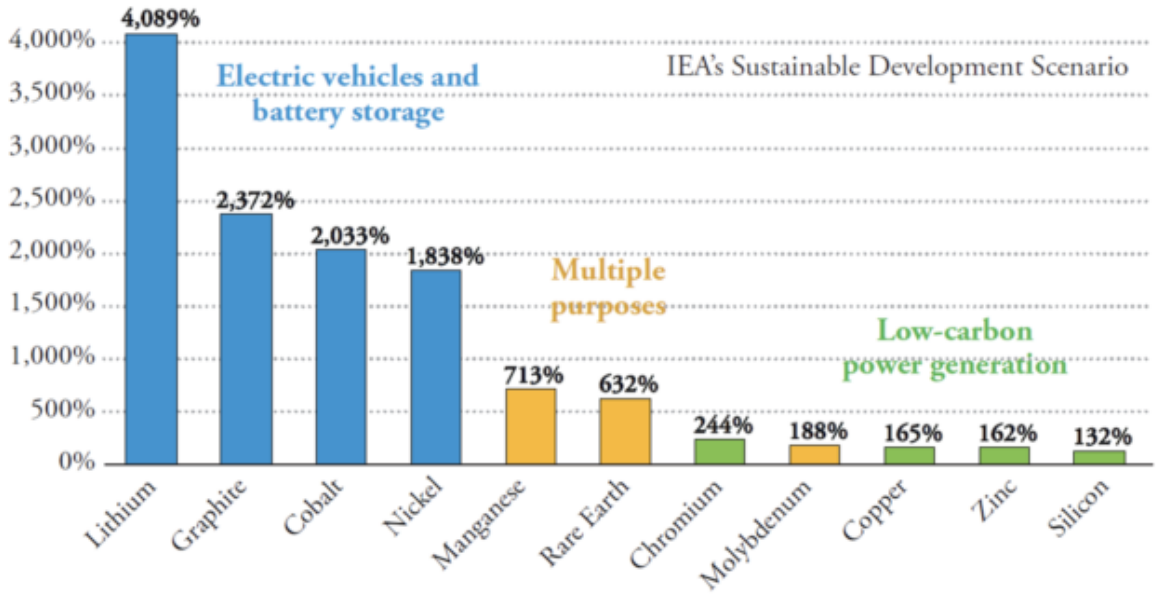
A Critical Assessment of the IEA's Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

?????????EV?????????????????????????????????????2020???2040????20???4089????????40???????????????????????????????????20???????????

Figure 33. Required Growth of Critical Mineral Supply (IEA's SDS scenario, 2020–40)



Source: Energy Policy Research, IEA, *The Role of Critical Minerals in Clean Energy Transitions* (2021)

???EV??60kWh??????????????????????????150???200????????????????

Table 13. Battery Chemistry by Content, Kg (60 kWh Lithium-Ion)

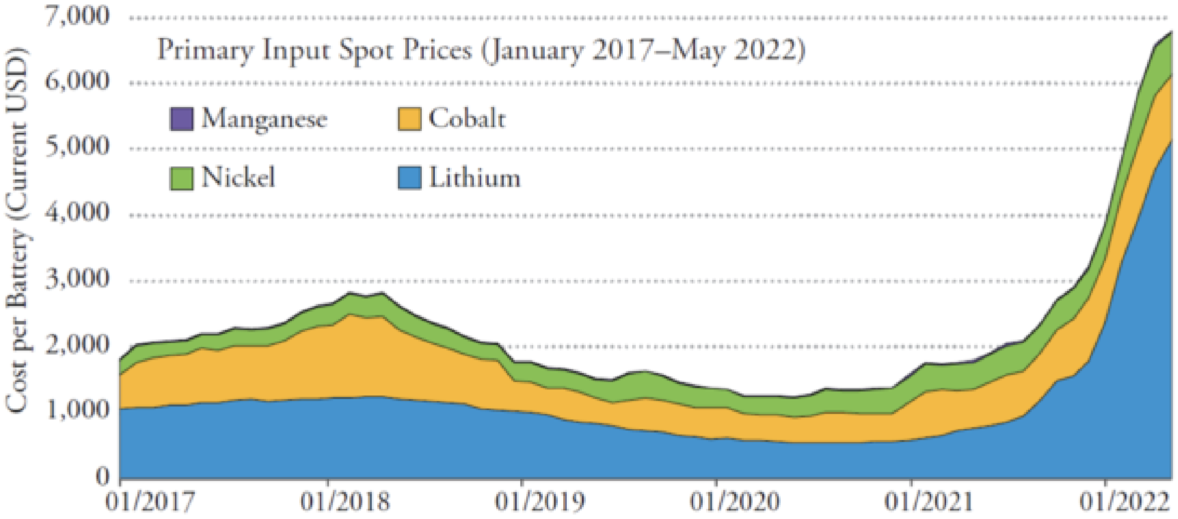
Mineral/Metal	NMC811	NMC523	NMC622	NCA+	LFP
Lithium	5	7	6	6	6
Cobalt	5	11	11	2	0
Nickel	39	28	32	43	0
Manganese	5	16	10	0	0
Graphite	45	53	50	44	66
Aluminum	30	35	33	30	44
Copper	20	20	19	17	26
Steel	20	20	19	17	26
Iron	0	0	0	0	41

NMC811 Nickel (80%) Manganese (10%) Cobalt (10%)
NMC523 Nickel (50%) Manganese (20%) Cobalt (30%)
NMC622 Nickel (60%) Manganese (20%) Cobalt (20%)
NCA+ Nickel Cobalt Aluminum Oxide
LFP Lithium iron phosphate

Source: Bhutada, G. VC Elements

??1??EV??7000????????????????100??????????????????EV??????????????????????????????????????

Figure 34. Tesla Battery Cost Based on Monthly Average



Source: Energy Policy Research, LME Monthly Data

EV???
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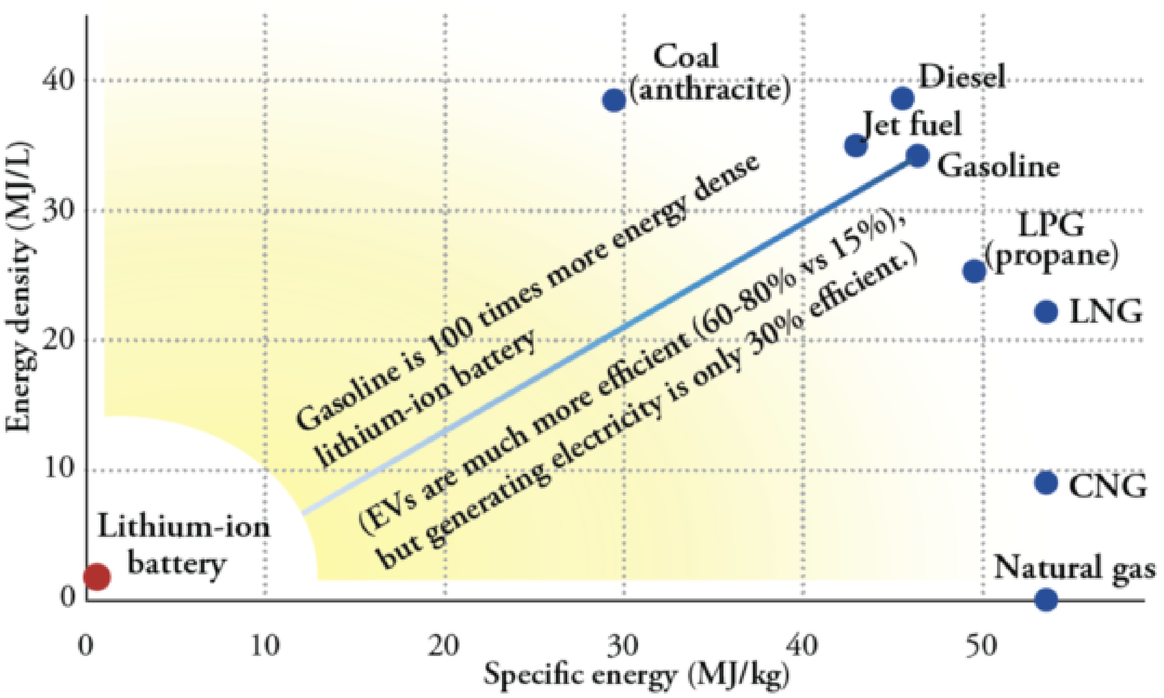
Figure 35. Energy Densities of Common Fuels, Li-ion battery



Source: Energy Policy Research, various sources

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2027??2028??

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A Mokhtari/iStock

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A Critical Assessment of the IEA’s Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

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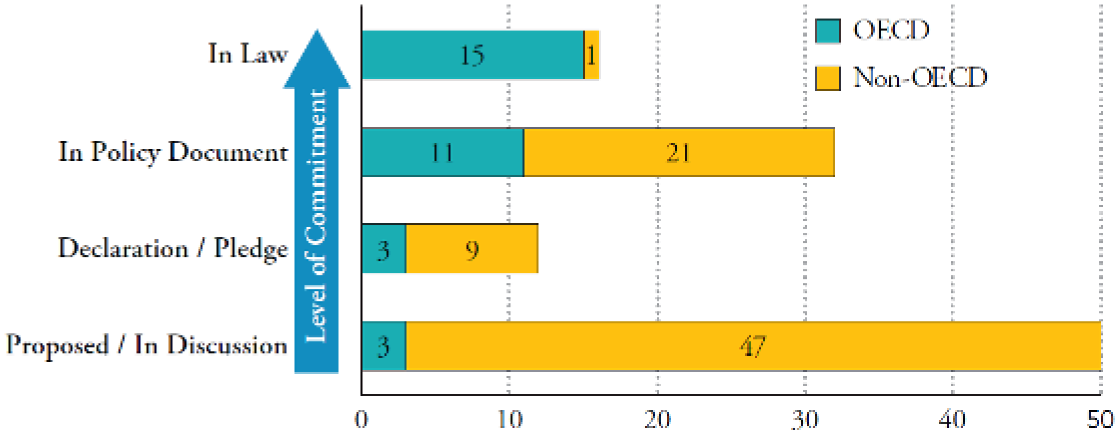
Figure 49. Two-Speed Transition: Net Zero by 2050 Level of Commitment



Sources: Energy Policy Research, Net Zero Tracker

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??IEA??NZE??OPEC?????????????????????35%??52%?????????????????????????1973??????????????????????????

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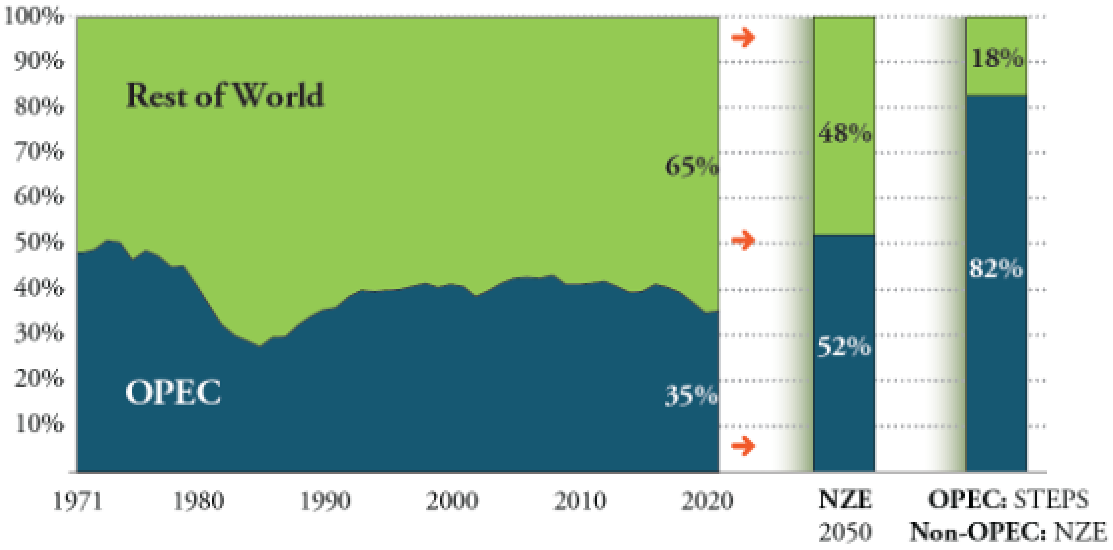
Figure 17. OPEC Share of Global Oil Production



Source: Energy Policy Research, IEA World Energy Outlook 2022, IEA World Energy Balances

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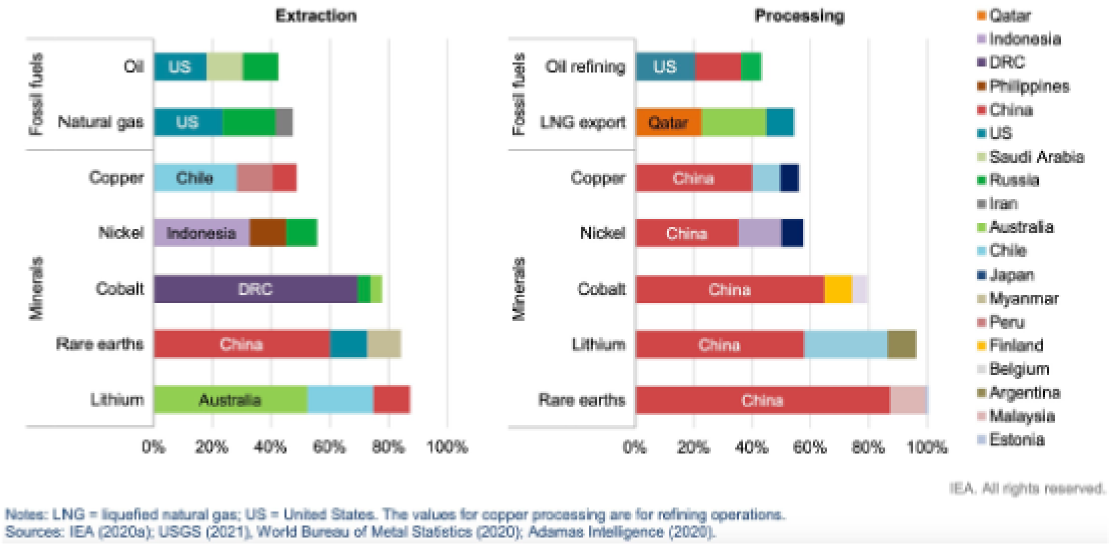
Figure 18. Share of Top Three Producing Countries in Production of Selected Minerals and Fossil Fuels, 2019



Notes: LNG = liquefied natural gas; US = United States. The values for copper processing are for refining operations.
Sources: IEA (2020a); USGS (2021), World Bureau of Metal Statistics (2020); Adamas Intelligence (2020).

Source: IEA, *The Role of Critical Minerals in Clean Energy Transitions (2021)*

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A Critical Assessment of the IEA's Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

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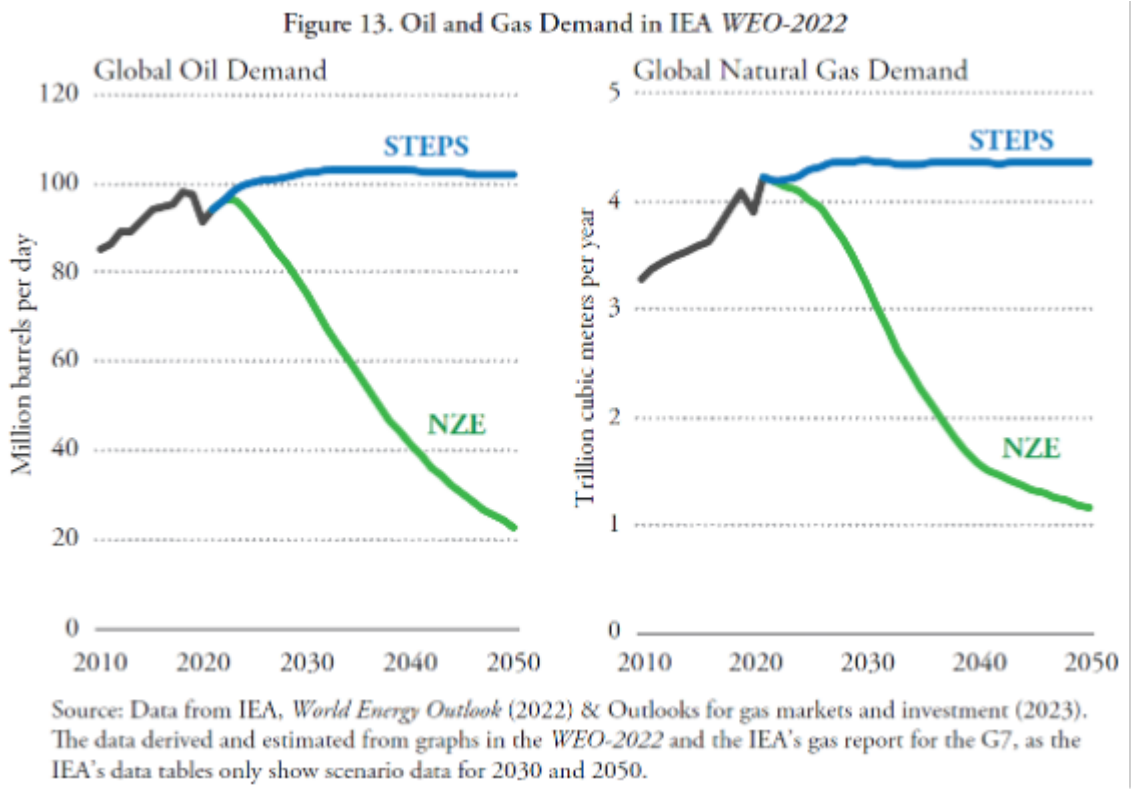

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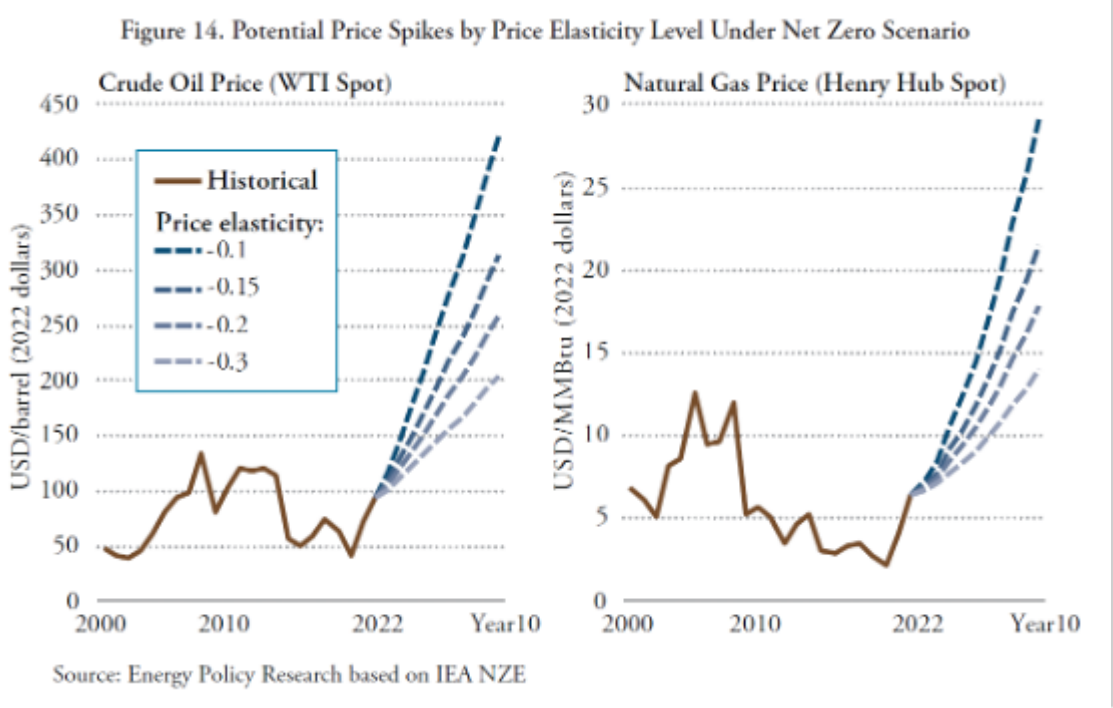

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feellife/iStock

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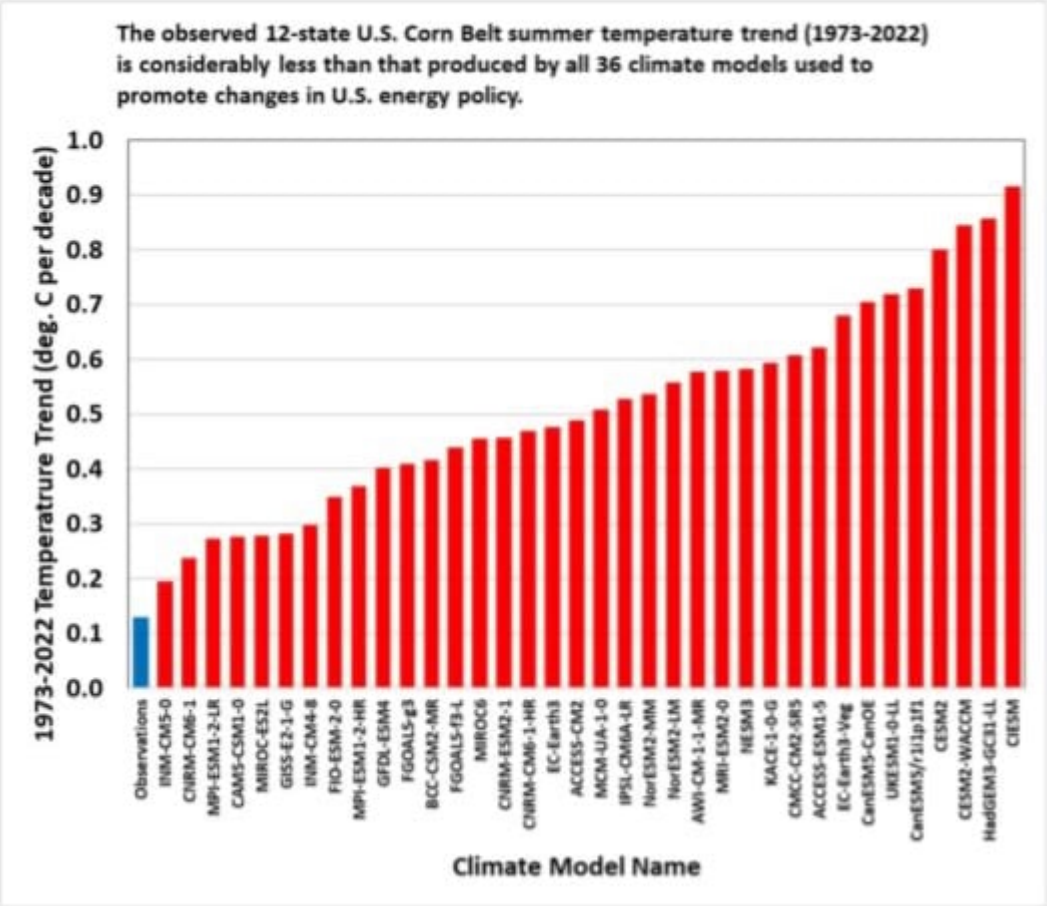

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> — BBC News Japan (@bbcnewsjapan) February 18, 2021

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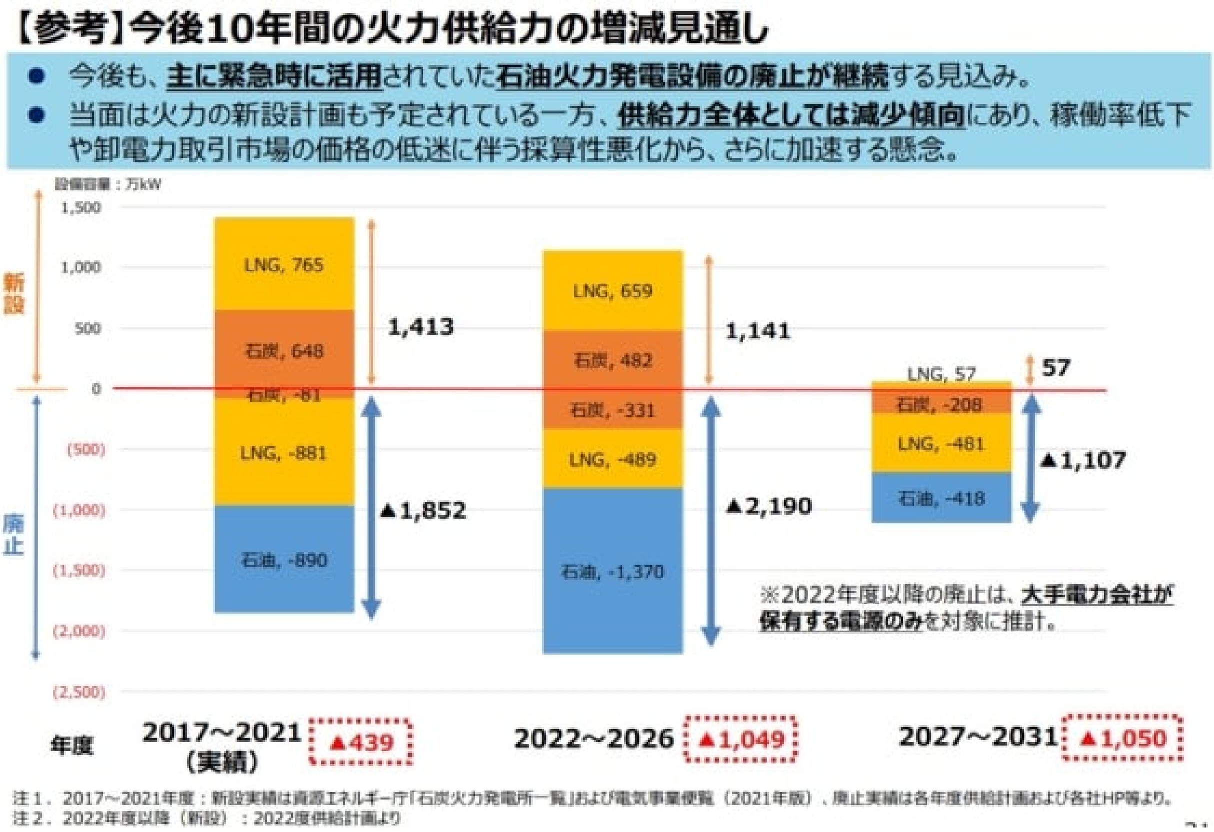

【参考】今後10年間の火力供給力の増減見通し

- 今後も、**主に緊急時に活用**されていた**石油火力発電設備の廃止が継続**する見込み。
- 当面は火力の新設計画も予定されている一方、**供給力全体としては減少傾向**にあり、稼働率低下や卸電力取引市場の価格の低迷に伴う採算性悪化から、さらに加速する懸念。

※2022年度以降の廃止は、**大手電力会社が保有する電源のみ**を対象に推計。

注１．2017～2021年度：新設実績は資源エネルギー庁「石炭火力発電所一覧」および電気事業便覧（2021年版）、廃止実績は各年度供給計画および各社HP等より。
注２．2022年度以降（新設）：2022度供給計画より

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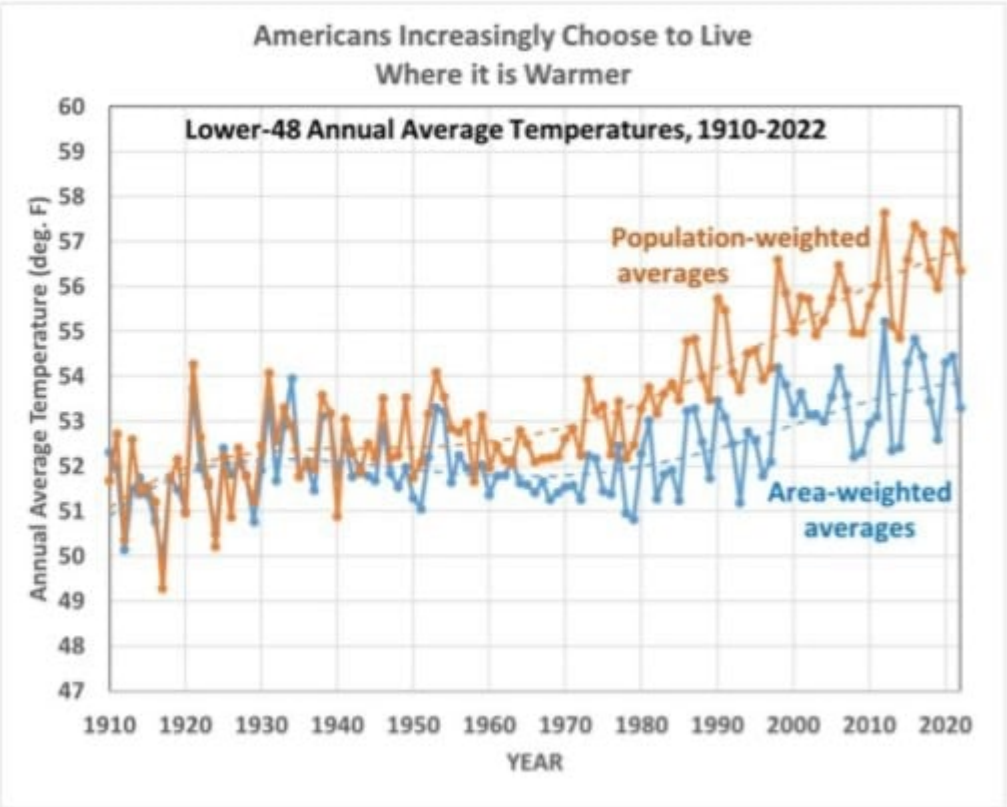

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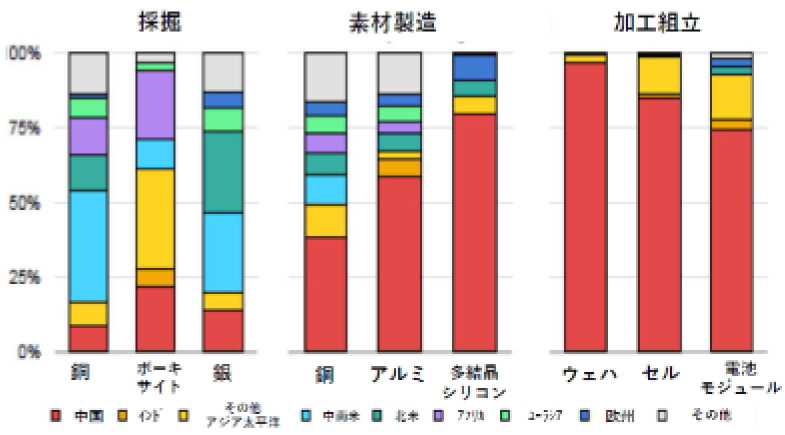
図１. 太陽光モジュールの部材製造シェア



出典：Securing Clean Energy Technology Supply Chains, IEA, July 2022

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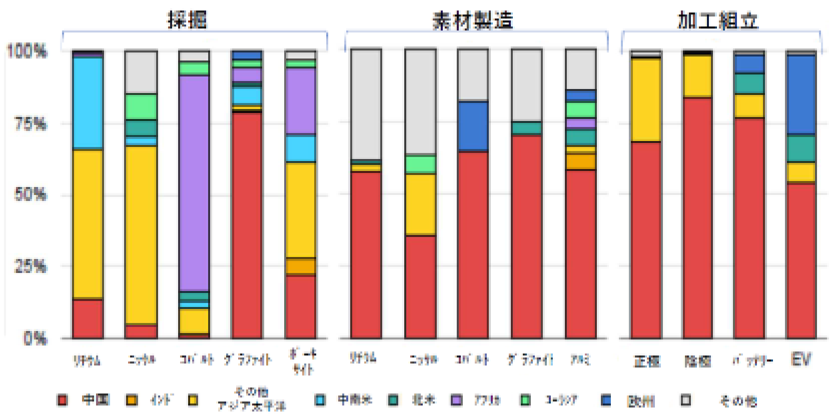
図2. EV・バッテリーの部材製造シェア



出典：Securing Clean Energy Technology Supply Chains, IEA, July 2022

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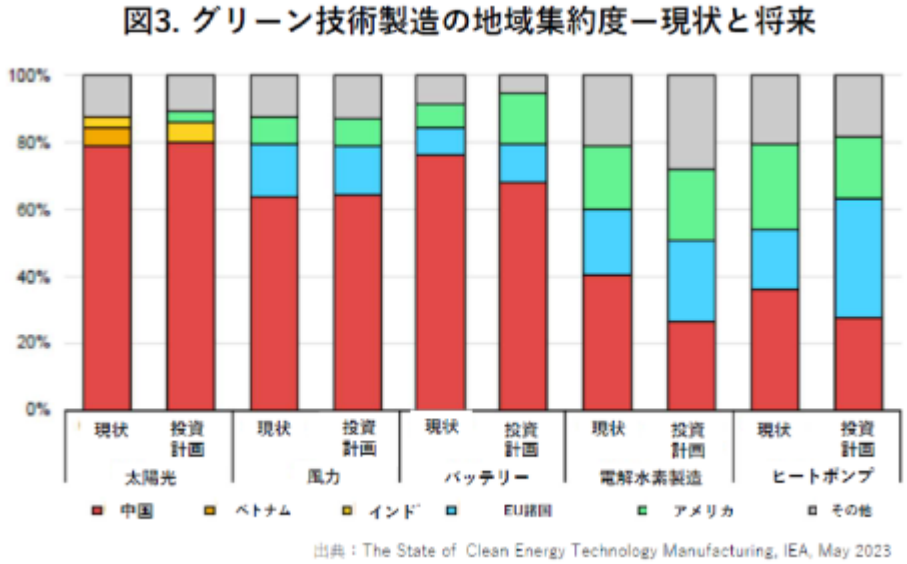
図3. グリーン技術製造の地域集約度ー現状と将来



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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