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Three light-colored wooden blocks are arranged on a grey, textured surface. Each block has a black exclamation mark carved into its front face. The blocks are positioned in a slight arc, with one in the foreground and two slightly behind it. The background is a solid, bright yellow.

[illegible][illegible][illegible]

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??SDGs????????????????????????????
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?SDGs???????

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

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?? ?? · Tuesday, September 19th, 2023

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— ??????? (@atomic_journal) September 15, 2023

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????????????????????85.7kW????????????????????????????????????

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????????LNG????????10??2?5????????????????1.5????????????????????????
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????????????40????????????1????????1982????2022????40????????OK????????
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Posted in ??????????, ??? | [No Comments »](#)

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?? ?? ? · Tuesday, September 12th, 2023



Gwengoat/iStock

????1980??????70??
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????????????????????????????????????80?????????????????SED????????83??SED?????F
 DJ????????????????????????????????????“????”????????????????????????????????????

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 ???30????????
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36??16??
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???Wikipedia

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36??
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??AfD????????????????????????????
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Posted in [??, ??](#) | [No Comments »](#)

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?? ?? · Thursday, September 7th, 2023

2022????????????????F????????????????????????????

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???Quantum Korea 2023????????????????????????????

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Posted in ???, ????? | No Comments »

????????????ALPS ?????????????

?? ?? · Saturday, September 2nd, 2023



axz66/iStock

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ALPS??
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???????G20??728????????????G20????????????????????????
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 ?????????NDC????????????????????????2023????????????2030????????????
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Global Energy Policy Research | GEPR

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????????G20????????????????????????????????????G20?????
??????2040????????????????????

???G20????3???????G7????????????????????????????????????

G7???IPCC?6????????????2025????????2035?60????????12??COP28?????????
????????G20????????IPCC????????

???????Third World Network
?IPCC??
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?????IPCC??

??????2040????????????????????????COP27????????LMDC??????2050????????
????????2030??
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G7?????1.5????????????2050????????????????????
????????G7????????????

????????????G20????????????????????????????????
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EU????????65?

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EU?CBAM????????????????6????????
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CBAM????

????G7?G20????????????????G7????G20????
?????1.5????

????????6?IPCC????????1.5????
?1.5????????

?????1.5????

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

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?? ? · Monday, August 28th, 2023



dima_zel/iStock

??GCR????????????????[PDF](#)????12????
[??16](#)????????????????????????????????5????????????????????

??50????????????????????????????????
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????????1997????????????????GCR????????????????????????????GCR????????
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????????CO2????????????IPCC????????????????????????????????

????????????????????C¹⁴?GCR????????????????????????????????GC
R????C¹⁴????????????????????

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????????2019????????GCR????78????????????????????2km????

?????????7?12km?????????

?????????high-altitude
clouds?????????2?7km?????????

?????????GCR?????????
?????????7?12km?????????

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?????????deep convective
activities?????????

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?????????GCR?????????
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?????????decadal?10?????????11?????????
GCR?????????1.4?????????

?????????0?3?4?????
?????????

?????????NOAA?????????1979?????????1979
????43?????????

?????????GCR?????GCR
cycles?????????GCR?????????GCR?????????
?????????11?????????

?????????Fig.
1??GCR?????????0?3?????????8?????????1?????????Fig.
2?????????GCR?????????5?6?7?8?????????
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?????????GCR cycles?????????Fig. 3?????????Fig.
S5?????????GCR?????????GCR?????????GCR?????????
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Fig.
4?????????GCR?????????3?????????
?????????GCR?????????GCR?????????
?????????

?????????GCR cycles?????????Fig.
5?????????
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?????????10???GCR?????????

????????????8????????????GCR????????????
????????GCR cycles????????

??2????
????????3????????GCR????????????????????????????

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

????????????”???? “????????????
?? ?? · Sunday, August 27th, 2023

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????????????????IPCC????????????????????1.5????????1.5????????
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Don’t overstate 1.5 degrees C threat, new IPCC head says

??Woke,
Inc.: Inside Corporate America’s Social Justice
Scam????????????????????????????????????

Vivek Ramaswamy says the ‘climate change agenda’ is a hoax

??Climate Change isn’t
Everything????????????????????

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??1????????????????????

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???2022????????????????????????????????????1600????????????????????????????WORLD CLIMATE
DECLARATION????????????????

Nobel Prize winner Dr. John F. Clauser signs the Clintel World Climate Declaration

????????????????????5????????????????????

IPCC????63????????????????

???????2019?9?23????????????????????????????????????500????????????????????????????

????????????????????????????????????1600????????

????6????????????

- Natural as well as anthropogenic factors cause warming
- Warming is far slower than predicted
- Climate policy relies on inadequate models
- Global warming has not increased natural disasters
- Policy must respect scientific and economic realities
- CO2 is not a pollutant. It is essential to all life on Earth. Photosynthesis is a blessing. More CO2 is beneficial for nature, greening the Earth: additional CO2 in the air has promoted growth in global plant biomass. It is also good for agriculture, increasing the yields of crop worldwide.

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

??????10????????

?? ?? · Saturday, August 26th, 2023

??1????????????10????????????????

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??1????????????????

1g????????????880????



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????12????????????30????????????????????????????????????100????????????????????
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Posted in [???????????, ???, ????????](#) | [No Comments »](#)

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?? ?? · Thursday, August 24th, 2023



NithidPhoto/iStock

2023?8?22?????????????????9????????????????????????????????????

- ?????????????????????????????9??
- ???9??????????????
- ??
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??2050????????????????2030??CO2???46%?????????????
GX??

2022?3?15??

??CO2???2030?46%????????????????????
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GX??CO2????????????????????????????????
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?SDGs????????

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

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

?? ?? · Tuesday, August 22nd, 2023



Artur/iStock

??MIT????????????????????????????????CO2?
”heavily
saturated”????????????EPA??
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CO2??????????

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????CO2 ?????????????????????????????????

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

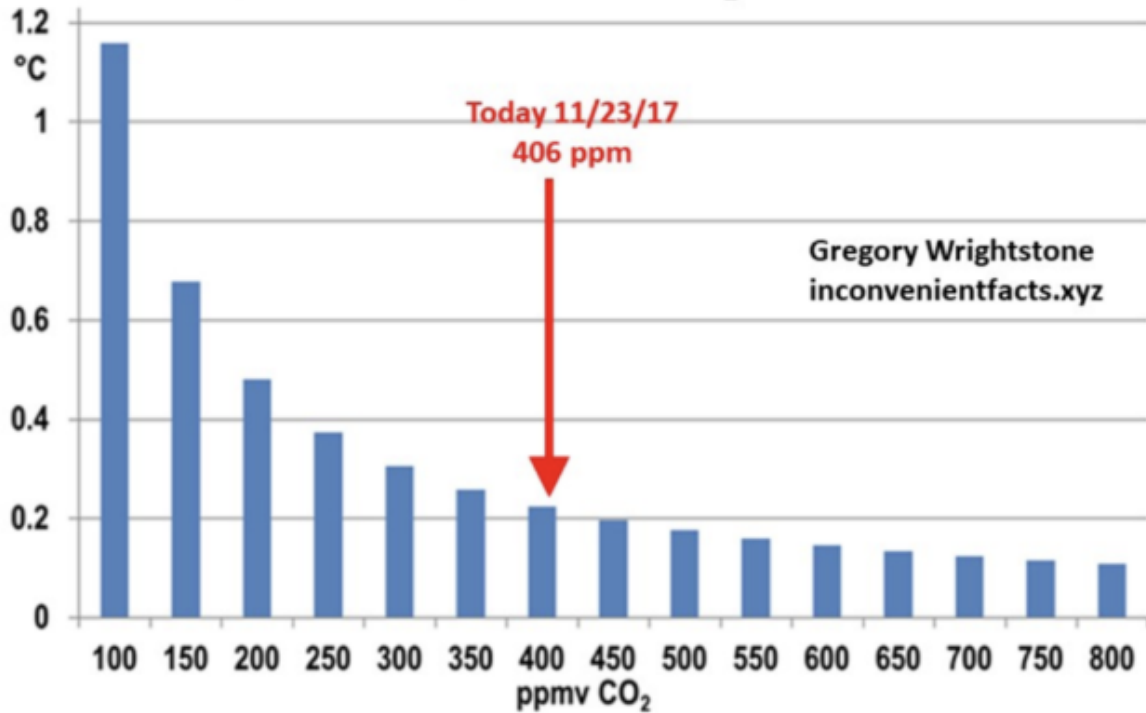
????????40????Gt????????????????????????????????????CO21????????????????????????
?

????????????????CO2????????????????????????????????

????CO2?”heavily saturated”

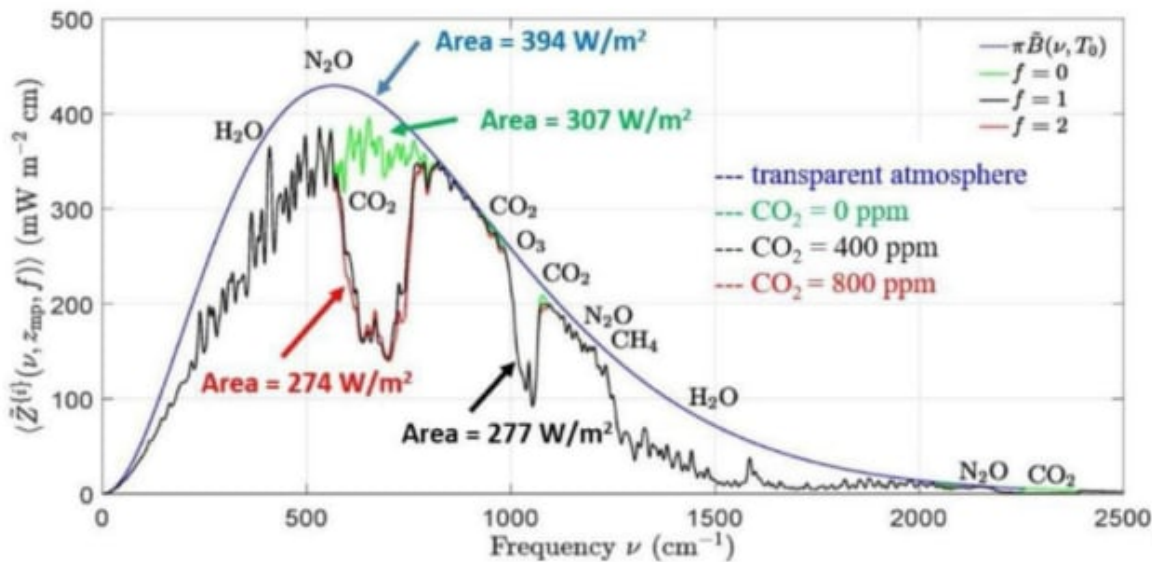
????????CO2???50ppm????????????????????????CO2????????????????????????????
???????????????????? = saturation????????????CO2?”heavily saturated”????

Figure I-3: Less global warming for each additional 50 parts-per-million-by-volume of CO₂ concentration



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

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



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

?????CO2??

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????????????????EPA????????????????”State Farm”????????????????????????????????

? State Farm Test: ???

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1. EPA????????????????????????????????

2. EPA????????????????????????IPCC??

3. ?????????????????????

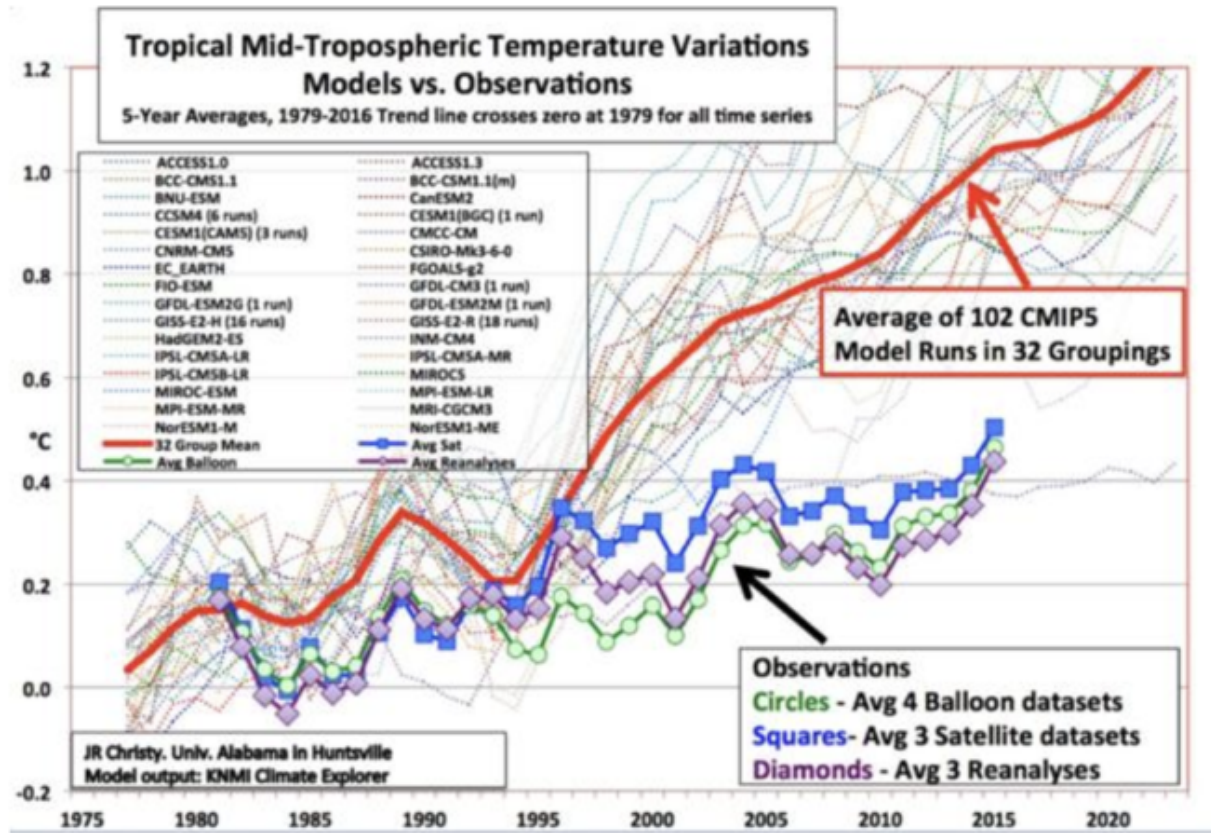
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?????EPA????????????CO2????????CO2????????????????????

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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 CO₂ 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

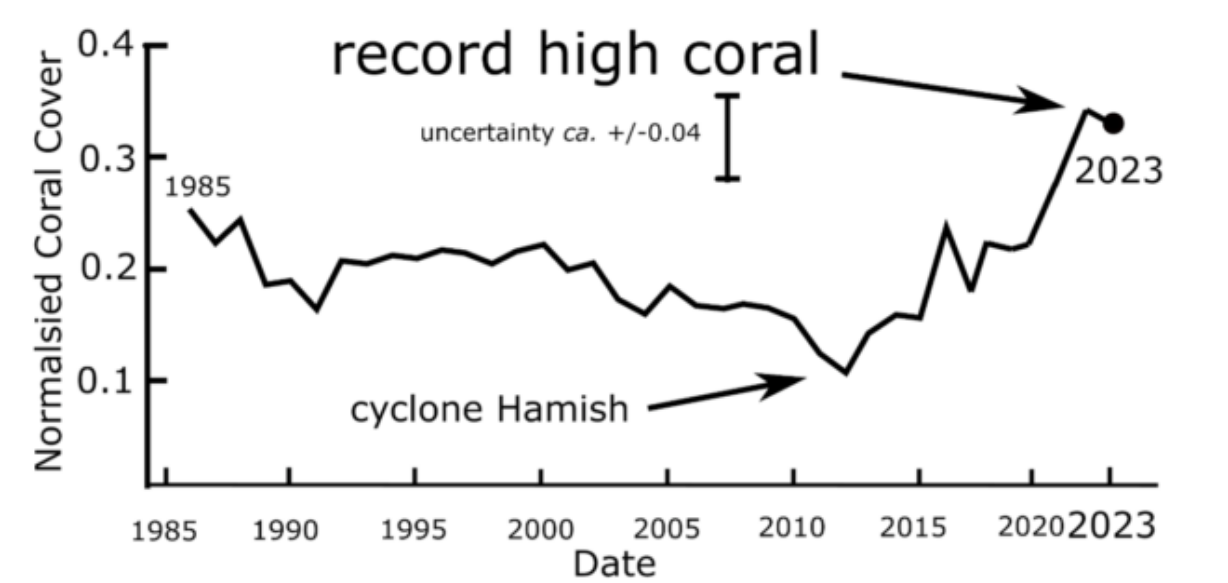
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60????????????????????

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2023??

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2022??2016??2017??2020??2022??4??
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??Australian Environment
Foundation??
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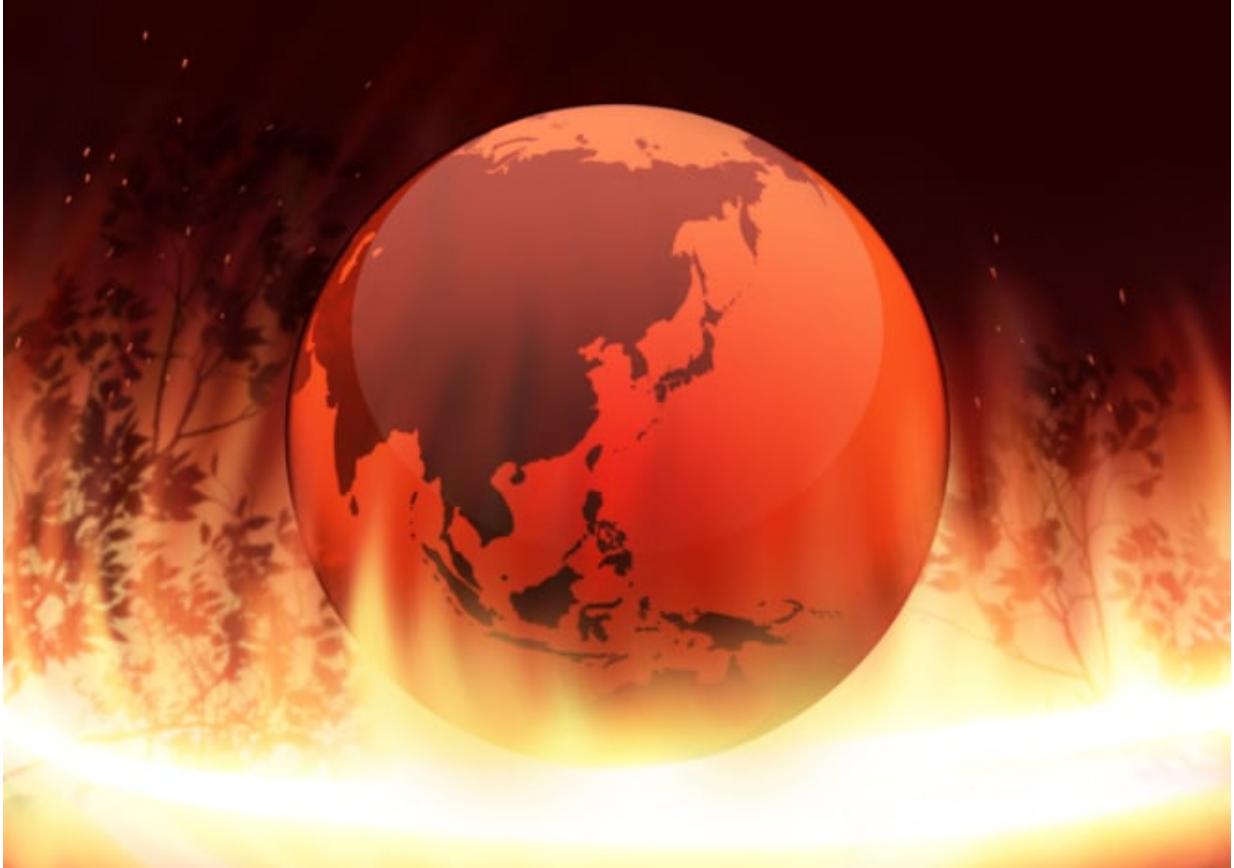
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Posted in ???, ????? | [No Comments »](#)

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?? ?? · Thursday, August 17th, 2023



Tr6/iStock

global warming global boiling

“”7?

20237“”

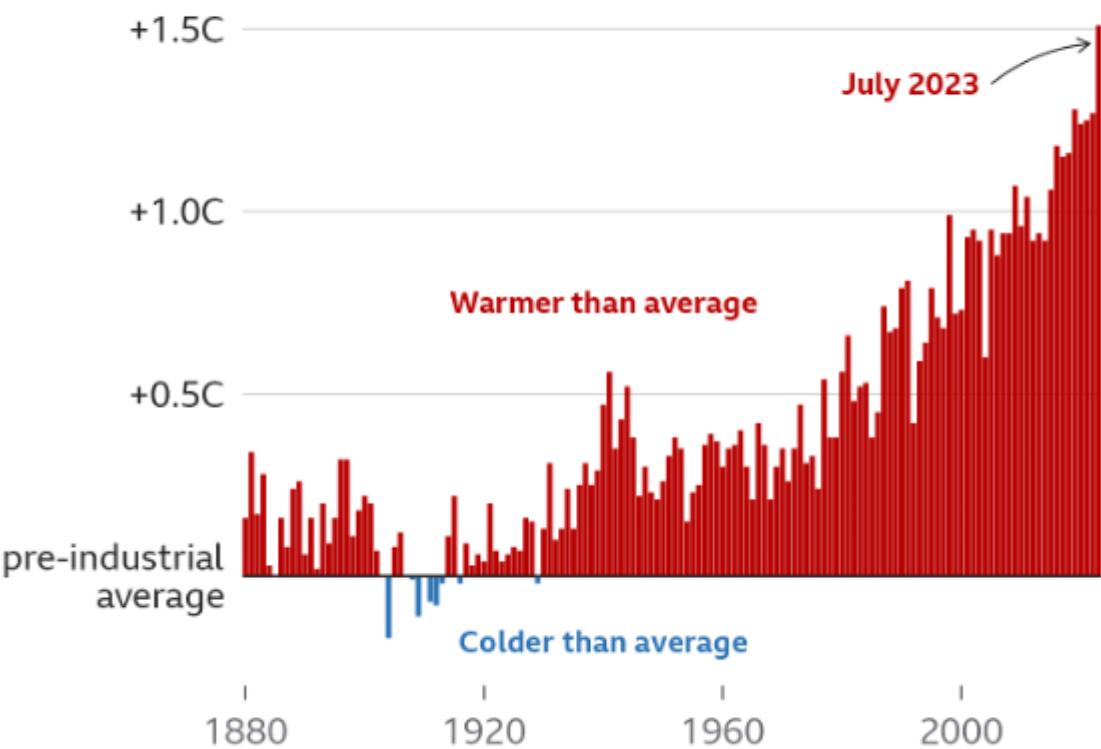
10015100

505

7BBC1

World set for hottest July on record

Global average July temperature by year, compared with pre-industrial average for July (1850-1900)



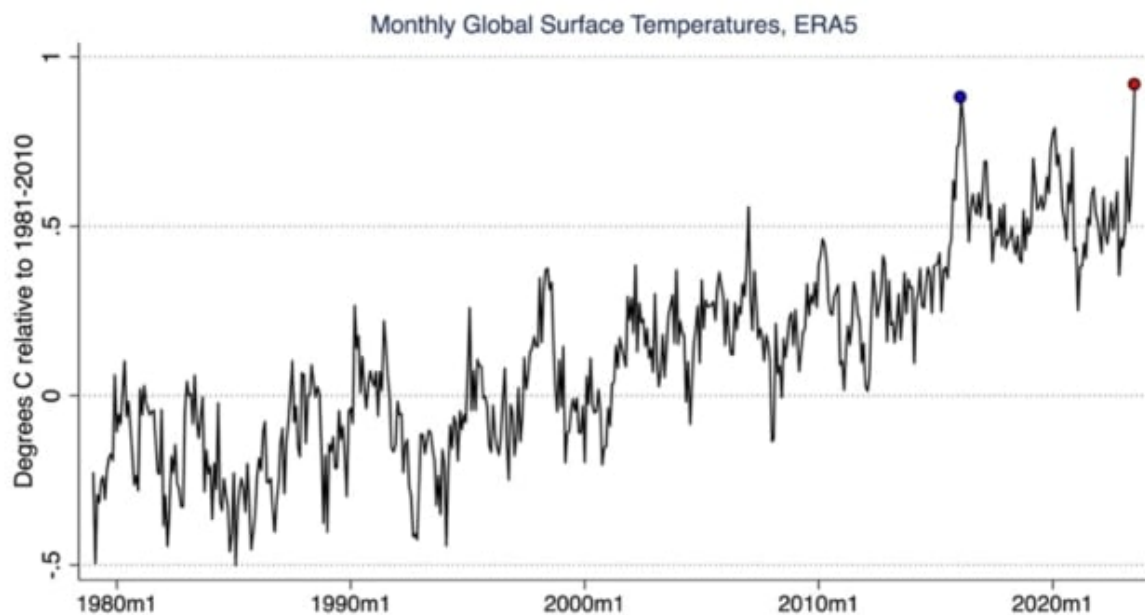
Data for July 2023 is provisional based on NCEP/GFS analysis

Source: NASA GISTEMP

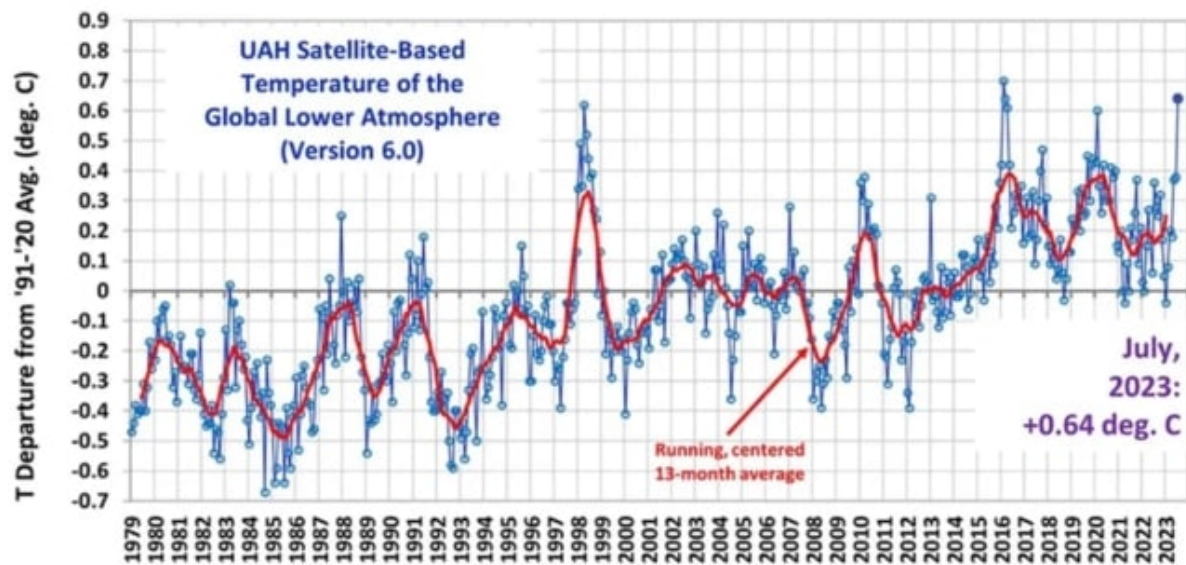
BBC

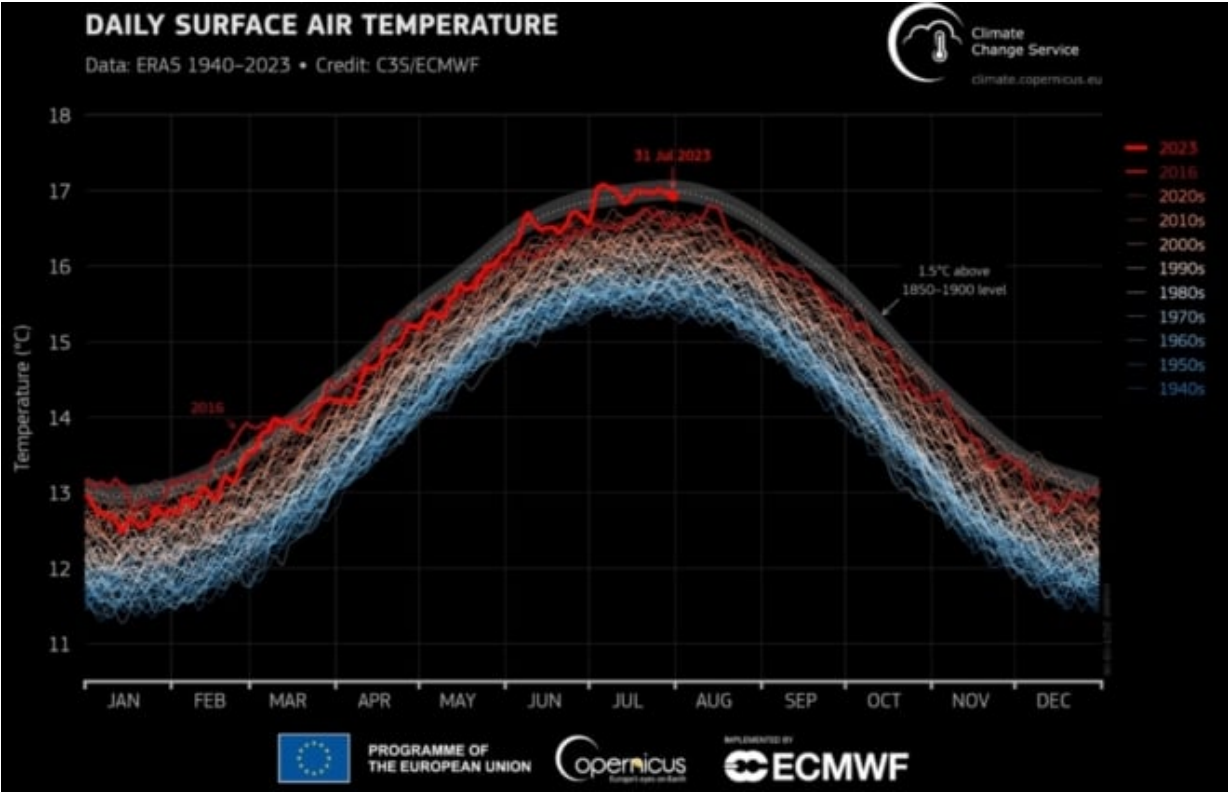
1BBC

ERA5



22222222





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

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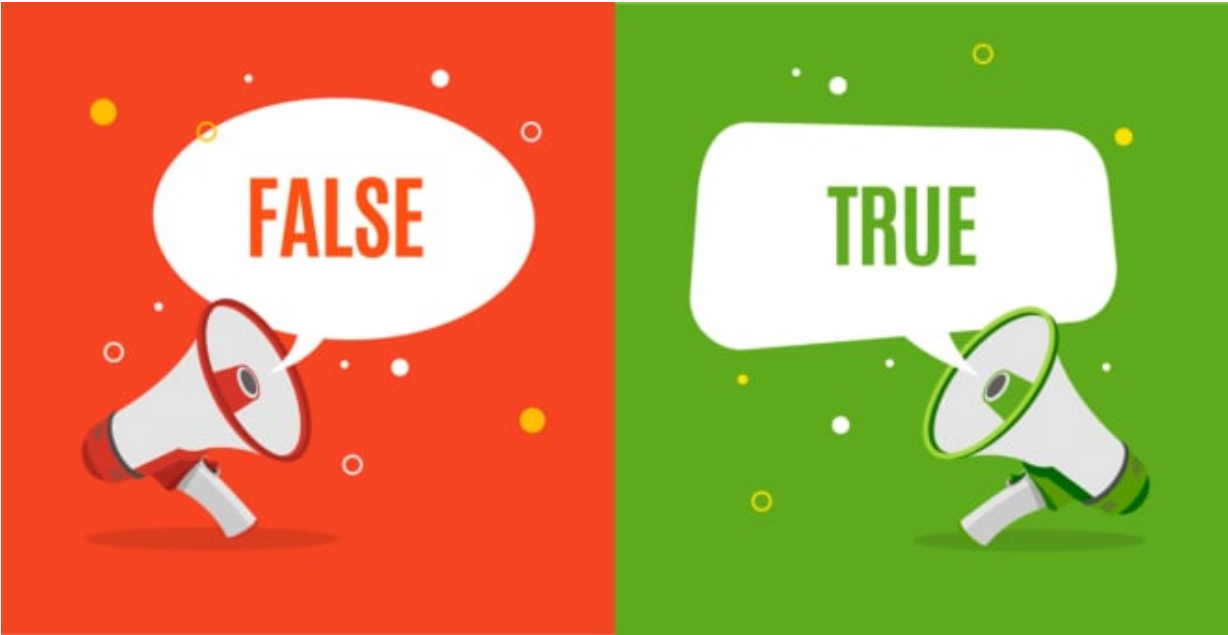
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Posted in ???, ????? | No Comments »

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?? ? · Saturday, August 5th, 2023



nidwlv/iStock

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??CO2????????

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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)?

????????????????CO2??

????????????????????CO2??
????????????CO2????????????????????????????????2-09?p.55????Table 2??

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

??1981????????????4?10?pp.
949-954??
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????1????2????3????4????????????????????????????????

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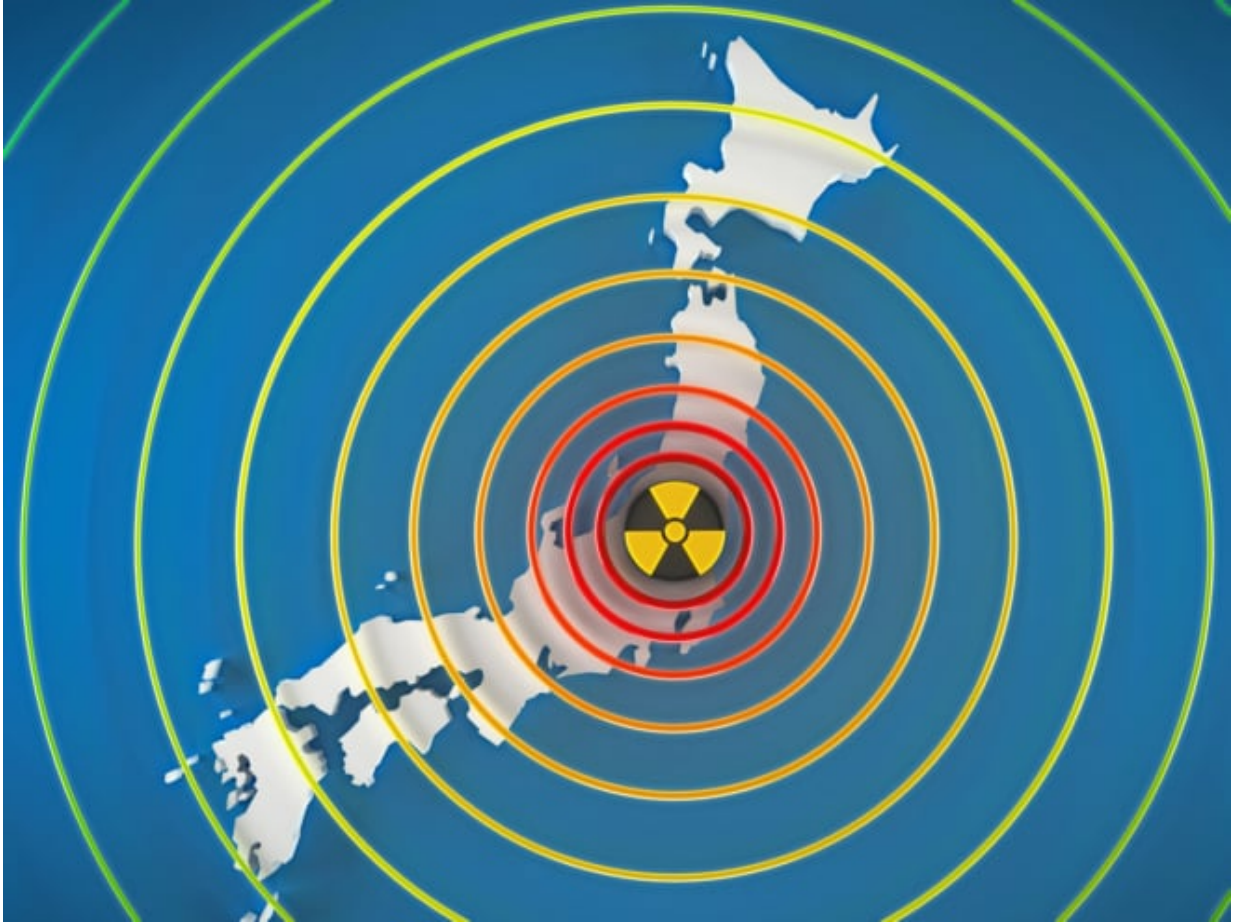
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Posted in [??](#), [????????](#) | [No Comments »](#)

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?? ?? · Thursday, August 3rd, 2023



adventr/iStock

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← ツイート



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



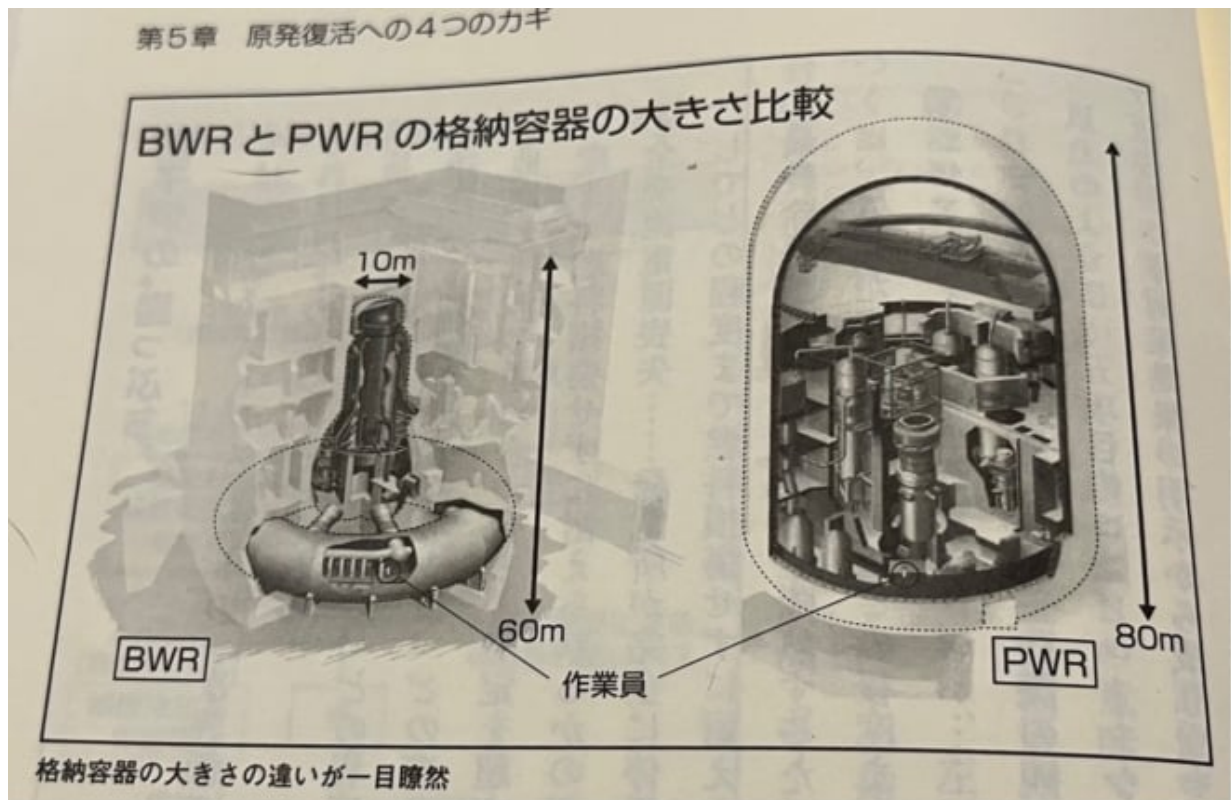
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????????????????????????????????3.11??
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/Mark?I????????????PWR??
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3.11????????PWR????????????H????????

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3.11????????????????????

2011?3?25??

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4?????????????????22??

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50km?????????????????—?????????????????

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©? japan.cnet.com

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250?????????5000?????????????????250????????????????????????????5000
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bluejayphoto/iStock

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7?27????????WMO??EU????????????????????????????????2023?7????????????????????????????????
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??7????????????????????????????
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??CO2????????????????????

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??CO2????????????????????????

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????????????????????????????COP????????

????????????????????????EU????????????????????????EU????????????????

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????????????????????????????7????????????????????10????????7????????

??1000????????

????????????????????40????????????????????????????????????

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???25????????????????????????????2????????????wetter.com????????2023?7????

????????????????????26????????????daswetter.com???200????????2023????????

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????????????7?30????????????15????????24????????????

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

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?? ? · Monday, July 31st, 2023

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

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2??

??G20????????
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??some
members??
?others??

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????1.5??2050????????????????????????????????????COP????????????????????????????
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G 7 ? ? ? ? ? ? ? ? ? ?
2050??
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???G7????????????????????????G20??

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??2030????????????????3??
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????????????3????????????????????????G20????????????????????G7????????2030?????
?150GW????????1TW??

??COP27??
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G20????12??COP28????

??UAE?

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

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

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

????1.5????????????????????????????

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

IPCC AR6?????“???”????

?? ?? · Sunday, July 30th, 2023

[illegible]

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

????????????????1.5????????????????????????????????GHG????????7????7????????????????????????
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[illegible][illegible][illegible]

NicoElNino/iStock

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

????????????????2????1.5????????????????2????????????????
????????2???67????????1.5????????????????????????????5
0????1.5????????????????????

????????1.5?2????????????1.5????????1.5????????
????????????????????????????????1.5????????????????
????????2????1.5????????

????1.5????????????????????????????????1.5???2????67????
????????????????????IPCC????????????????????????????
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????????????2???1.5????????AR 6-
SPM????????GHG????????????????

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

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

????????????IPCC????1.5???2????????0.5????
????650????

???AR 6-
SPM?TableSPM.1????2????????????GHG????2050??2019??64????2030??
21????????2070????????Table
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?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.”

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?? ? · Saturday, July 29th, 2023



BrianAJackson/iStock

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?? ?? · Thursday, July 27th, 2023



JaCZhou/iStock

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

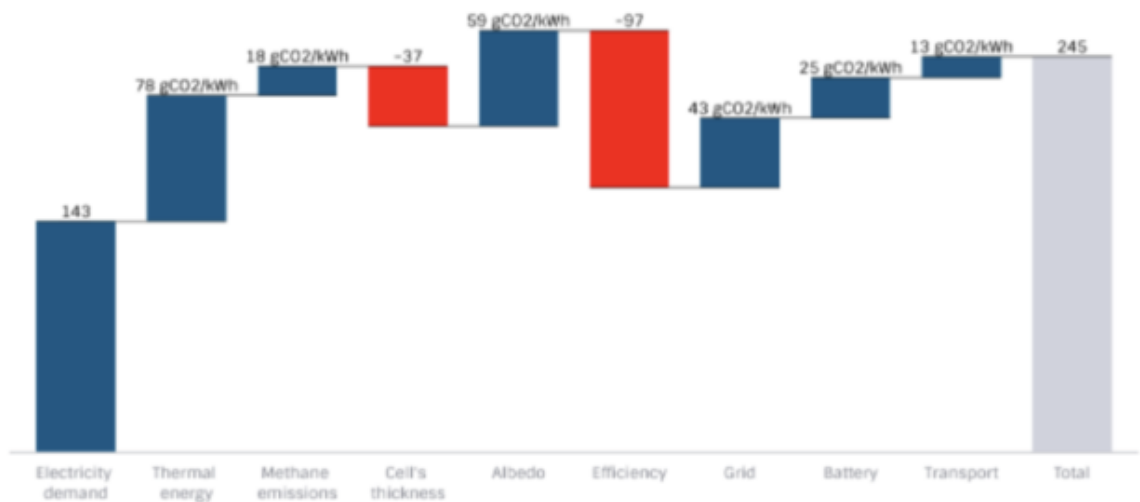
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Carbon intensity, Worst Scenario



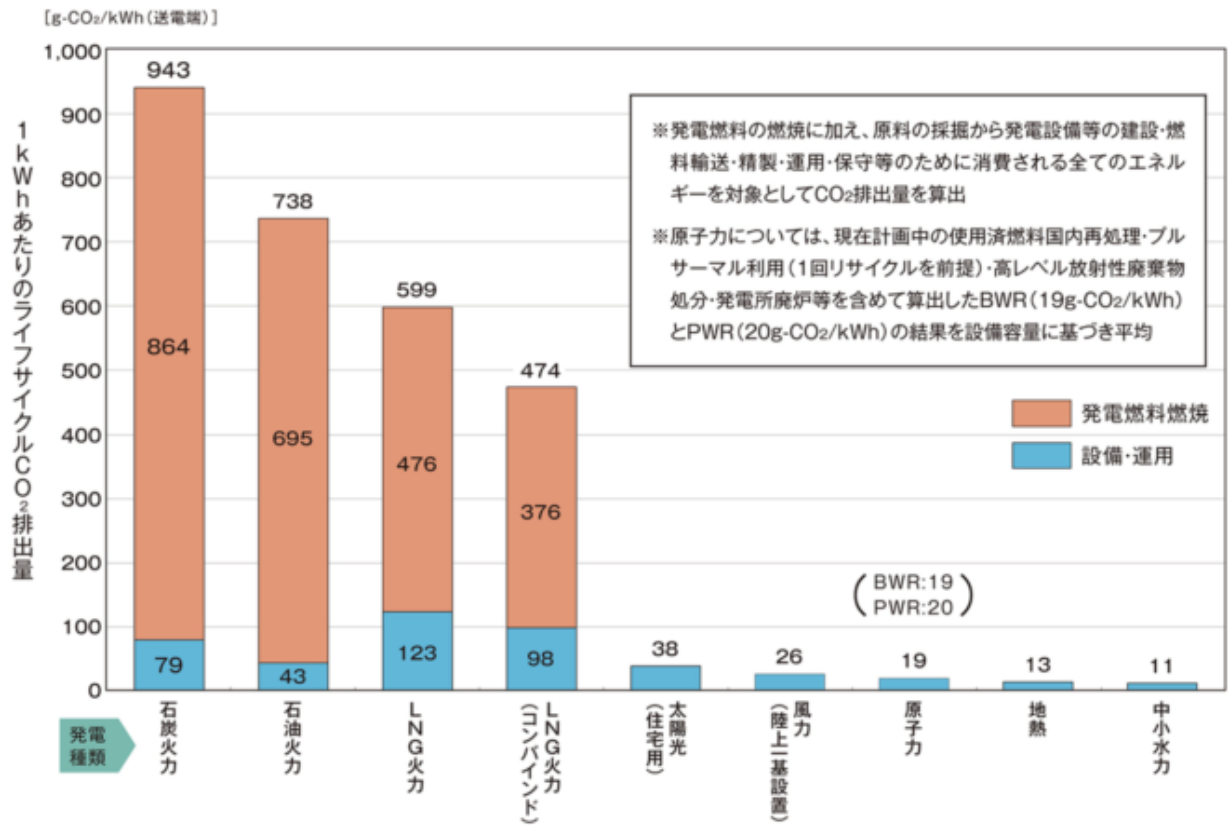
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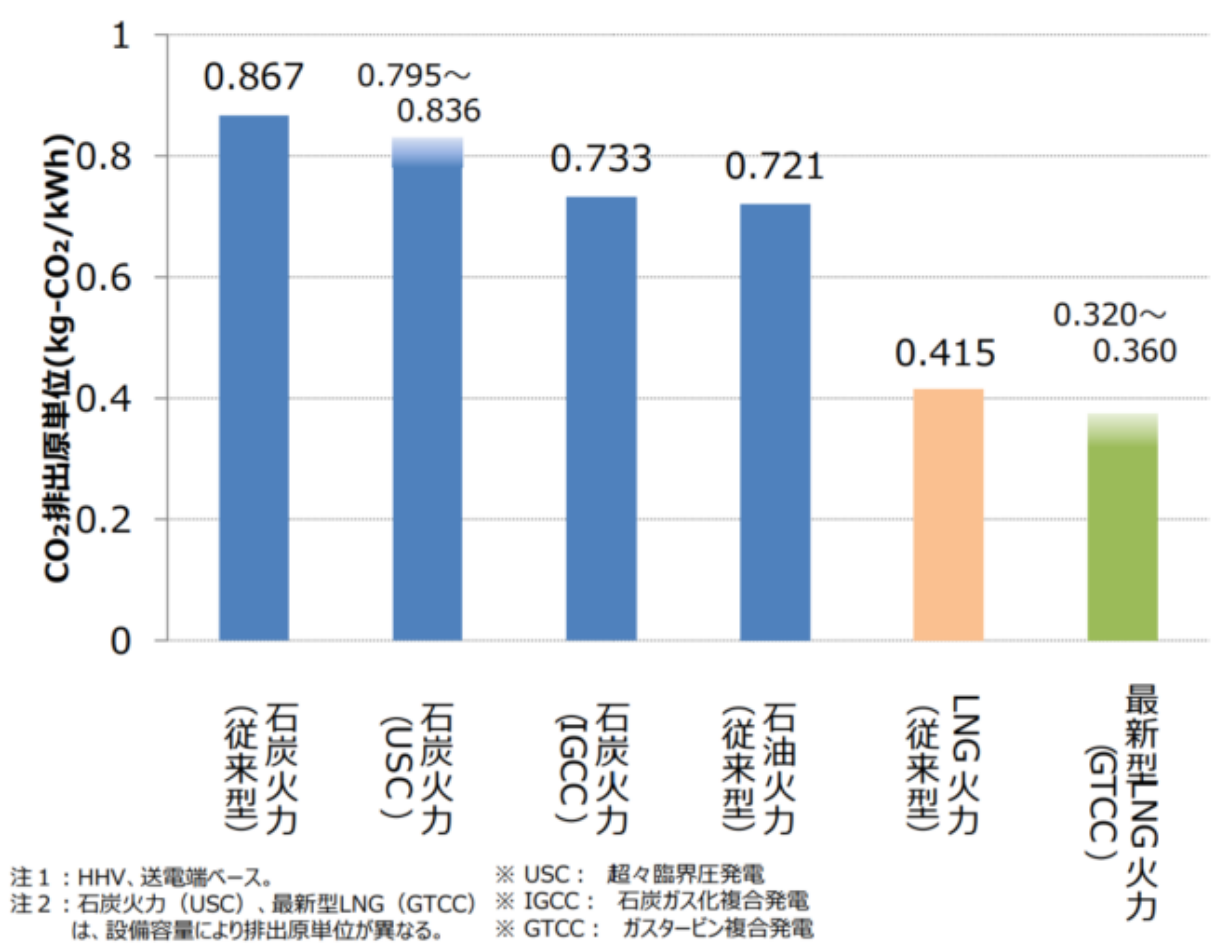


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CO2排出原単位(kg-CO2/kWh) 2022年推定値

1kWhあたりCO2排出原単位(kg-CO2/kWh) 2022年推定値

LNG火力 CO2排出原単位(kg-CO2/kWh) 2022年推定値



3

CO2排出原単位(kg-CO2/kWh) 2022年推定値

CO2排出原単位(kg-CO2/kWh) 2022年推定値

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CO2排出原単位(kg-CO2/kWh) 2022年推定値

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jetcityimage/iStock

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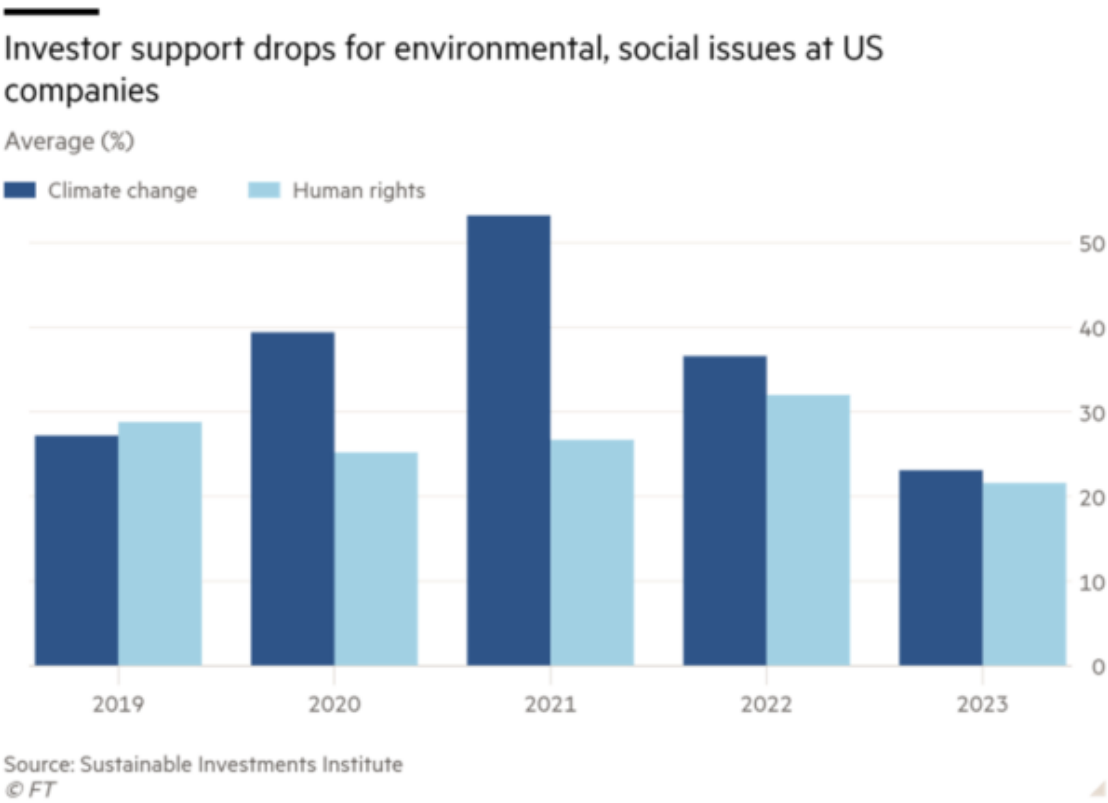
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FINANCIAL TIMES??

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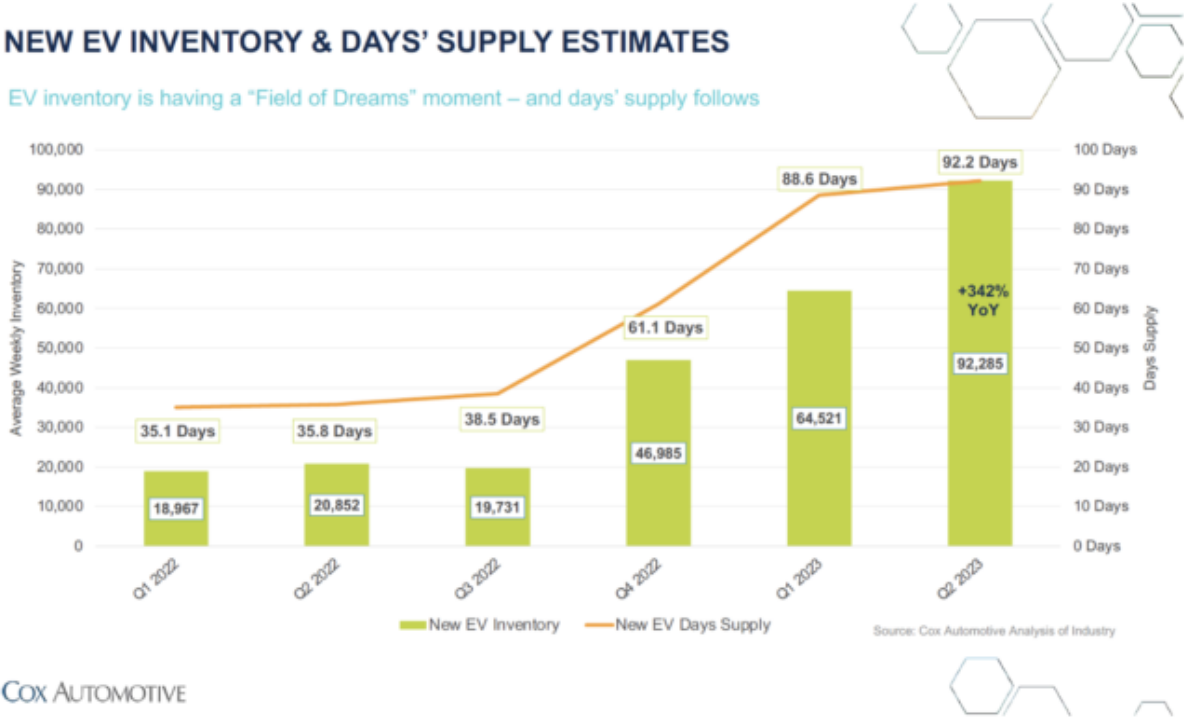
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2023 Cox Automotive Mid-year Review????????2023??2????????????????
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NickS/iStock

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Nobel Physics Laureate 2022 Slams ‘Climate Emergency’ Narrative as “Dangerous Corruption of Science”

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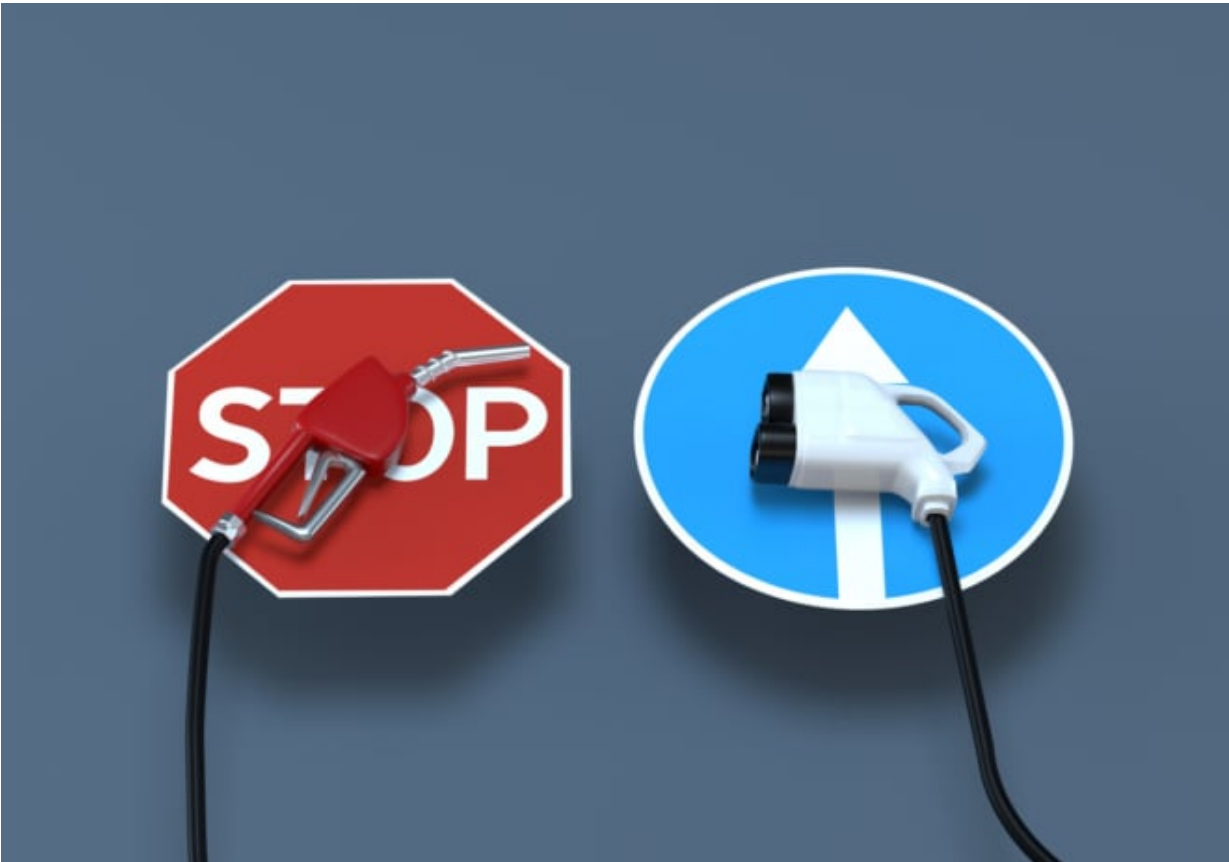
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?? ?? · Wednesday, July 19th, 2023



Max Lirnyk/iStock

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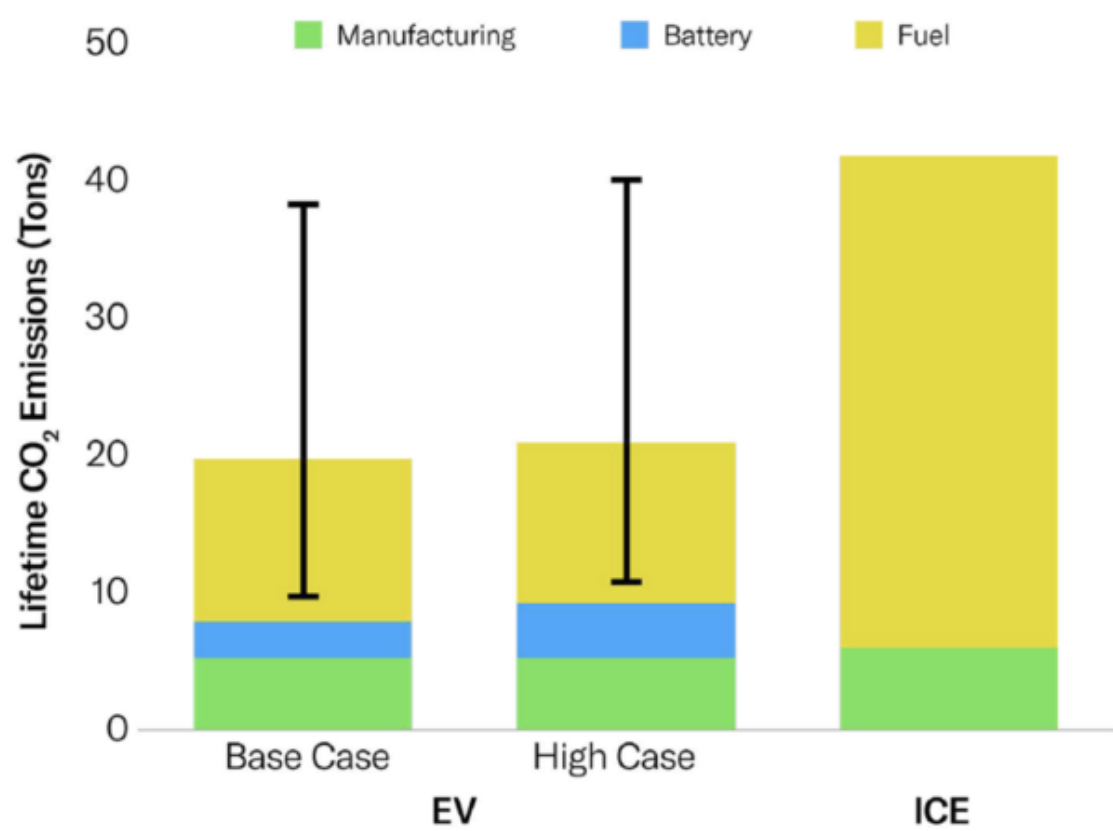
CE????EV??

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??BEV???ICE????????????CO2????????????

Figure 3
Estimated Life-Cycle Emissions for EVs vs. ICE Cars, per IEA



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

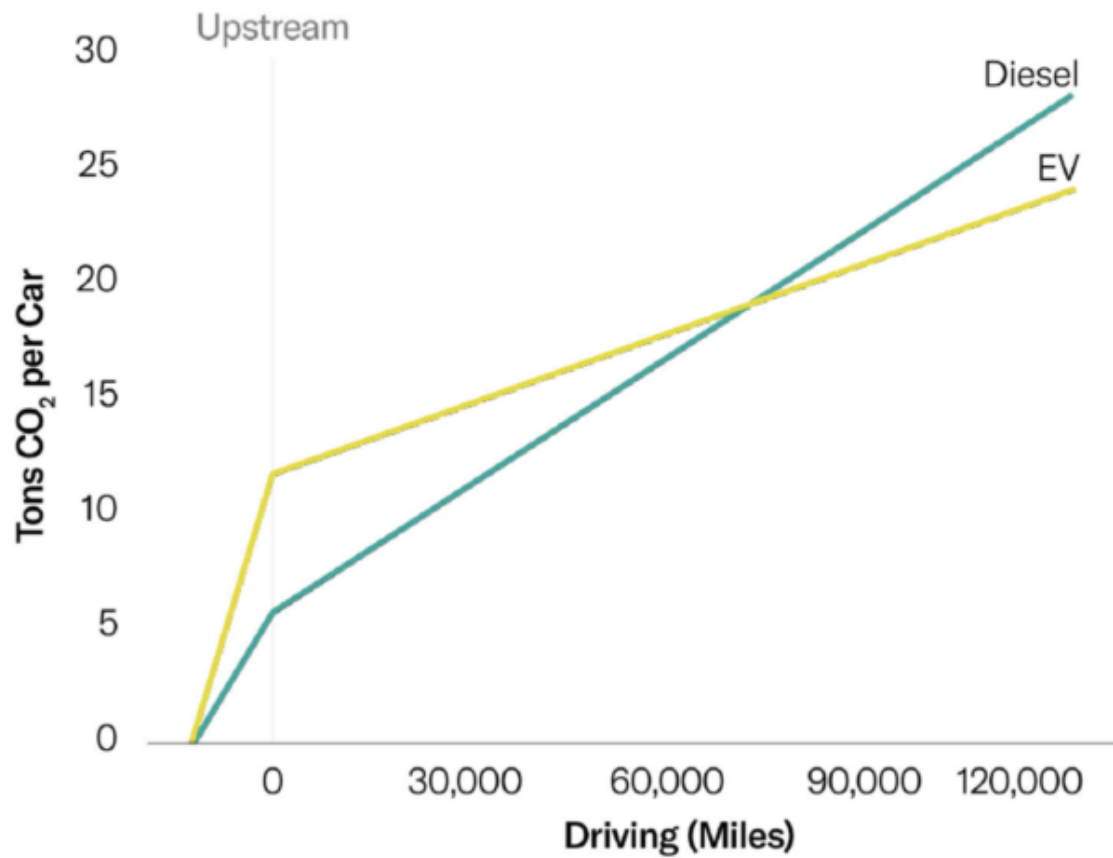
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Figure 4

Life-Cycle Emissions: Volkswagen EV vs. Diesel

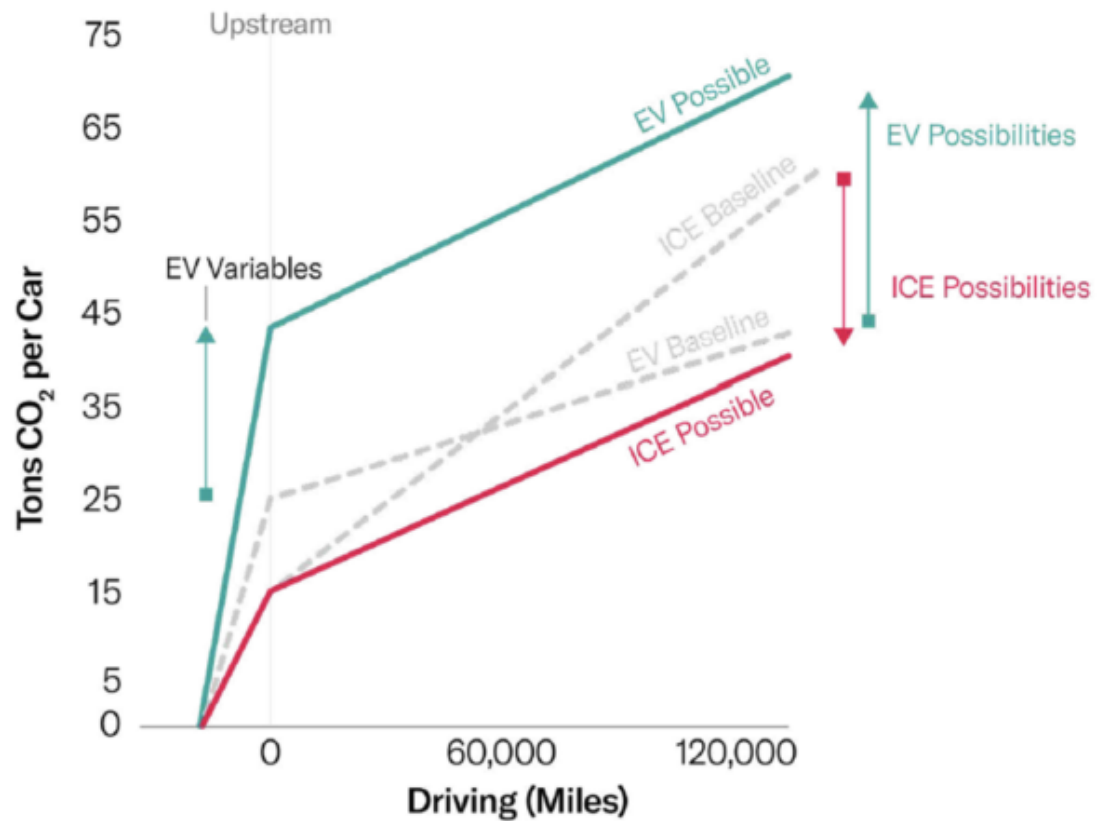


Source: Maciej Neugebauer, Adam Żebrowski, and Ogulcan Esmer, "Cumulative Emissions of CO₂ for Electric and Combustion Cars: A Case Study on Specific Models," *Energies*, Apr. 6, 2022

????????????????EV????????????????EV????CO2????????????????????????????ICE????????
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Figure 6
EV vs. ICE CO₂ Emissions: Scenarios with Known Unknowns



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

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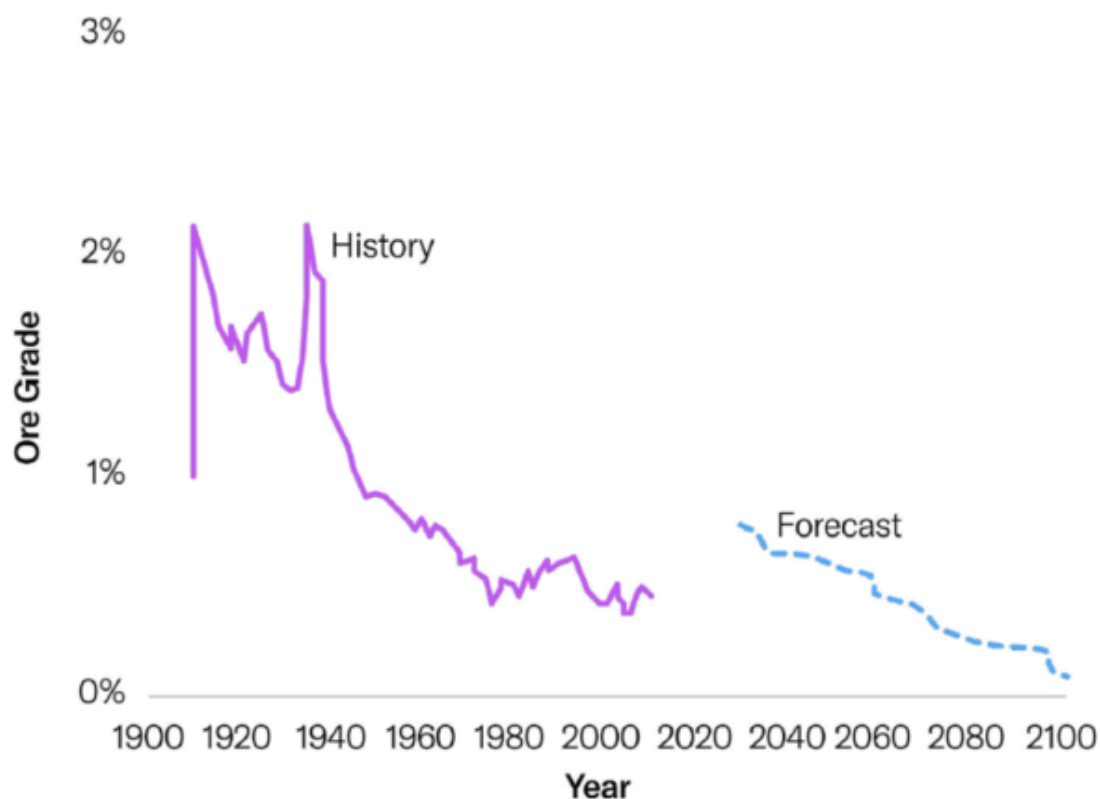
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Figure 8

Two Centuries of Global Copper Ore Grades

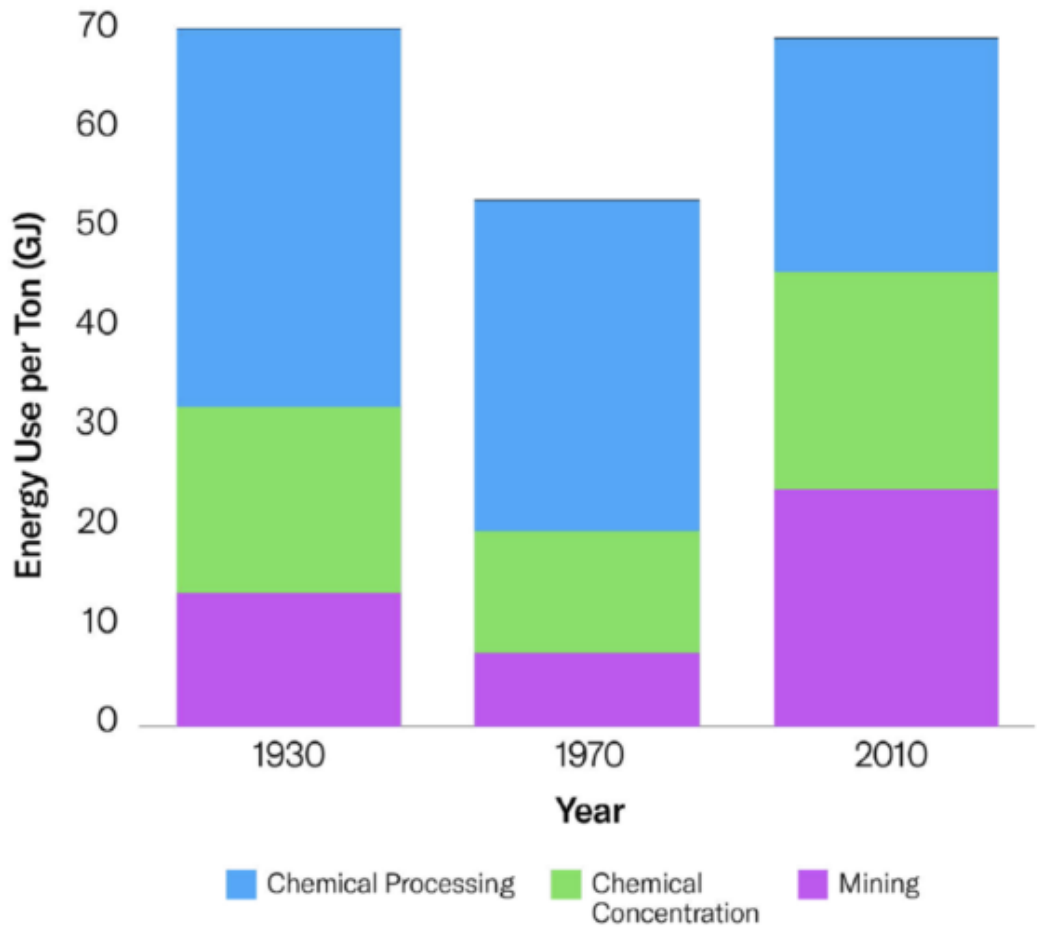


Source: S. Northey et al., "Modelling Future Copper Ore Grade Decline Based on a Detailed Assessment of Copper Resources and Mining," *Resources, Conservation and Recycling* 83 (February 2014): 190–201

[illegible][illegible]

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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Douglas Rissing/iStock

[illegible]

7?11???Blackout-News??

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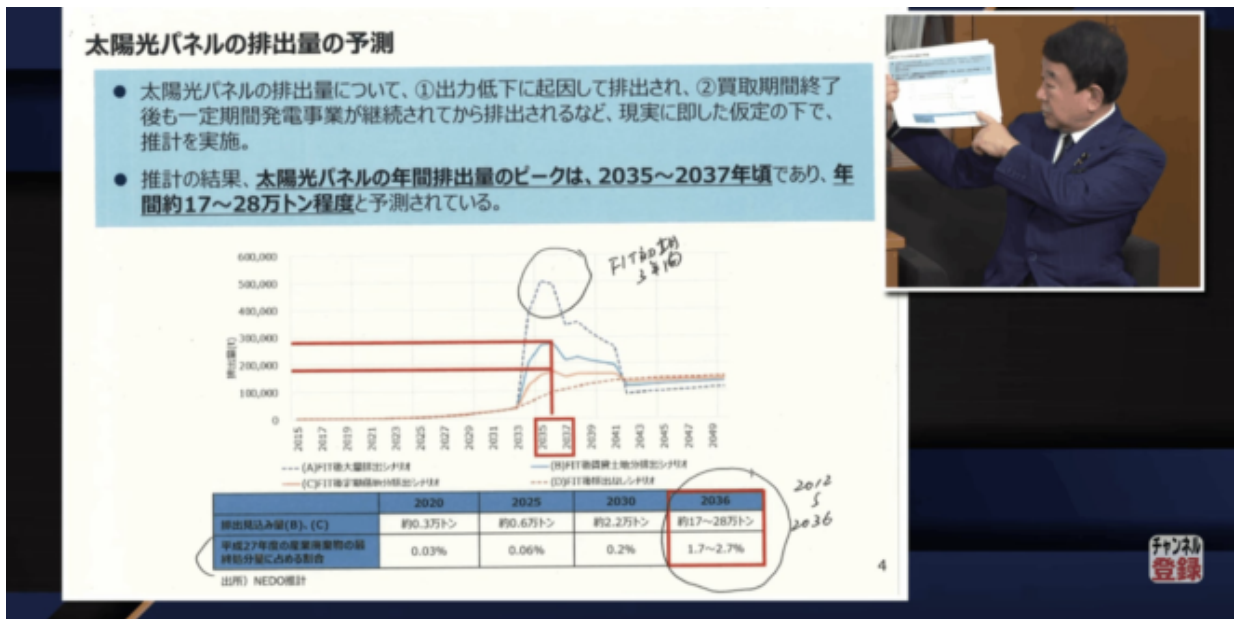
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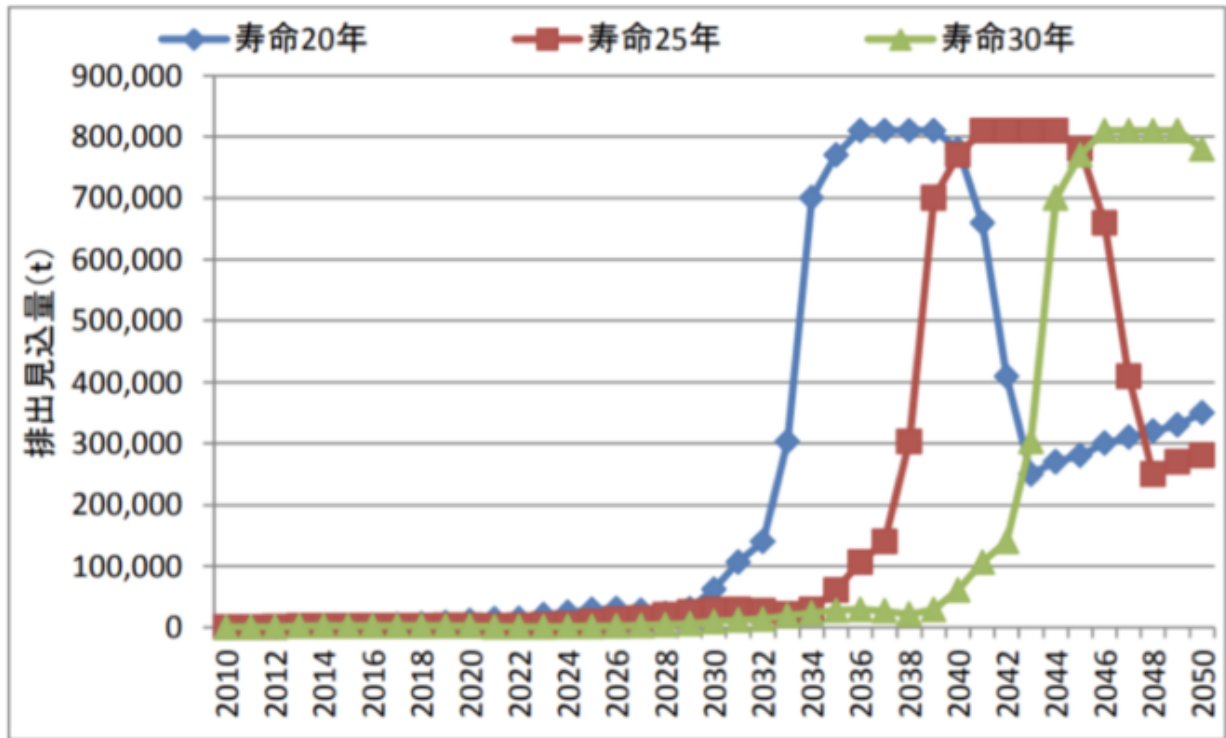
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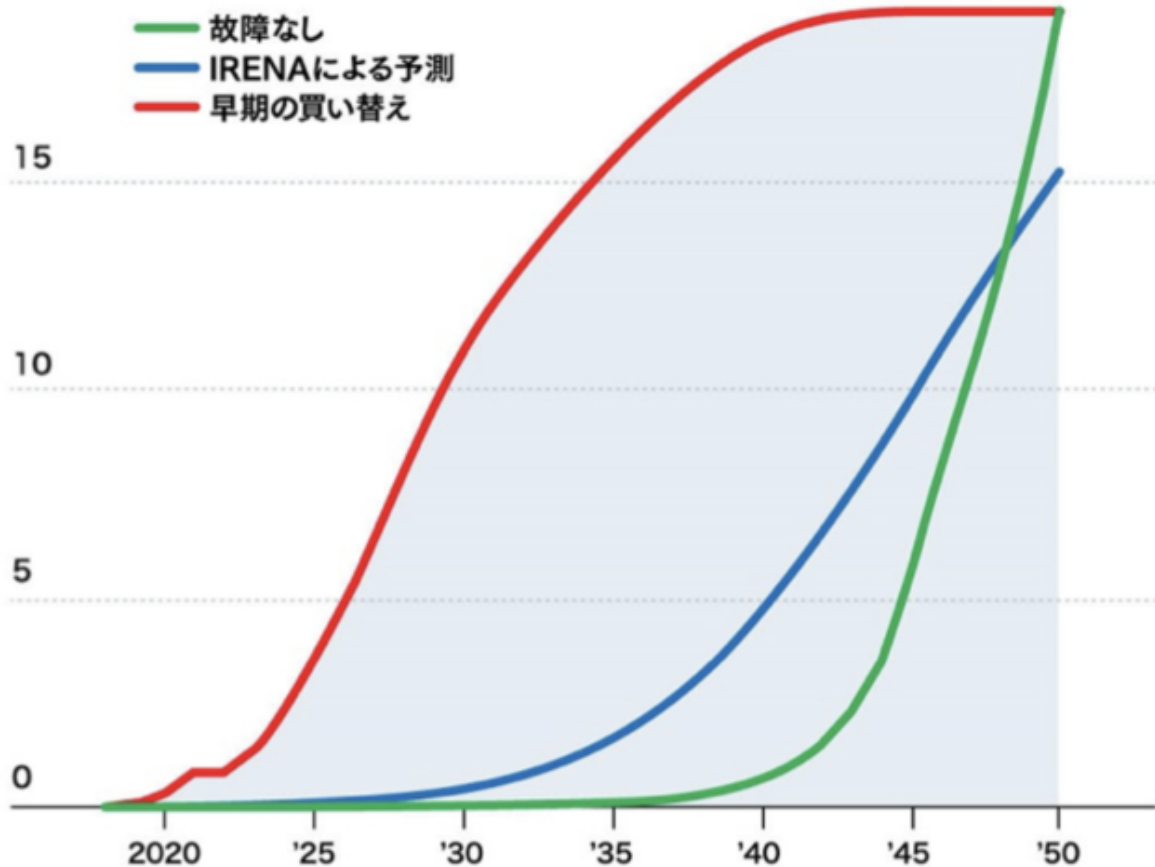
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廃棄物の累計 (発電容量ベース)

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Pixelci/iStock

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?? ?? · Tuesday, July 4th, 2023



xijian/iStock

??IEA????????????Net Zero Scenario, NZE????????????

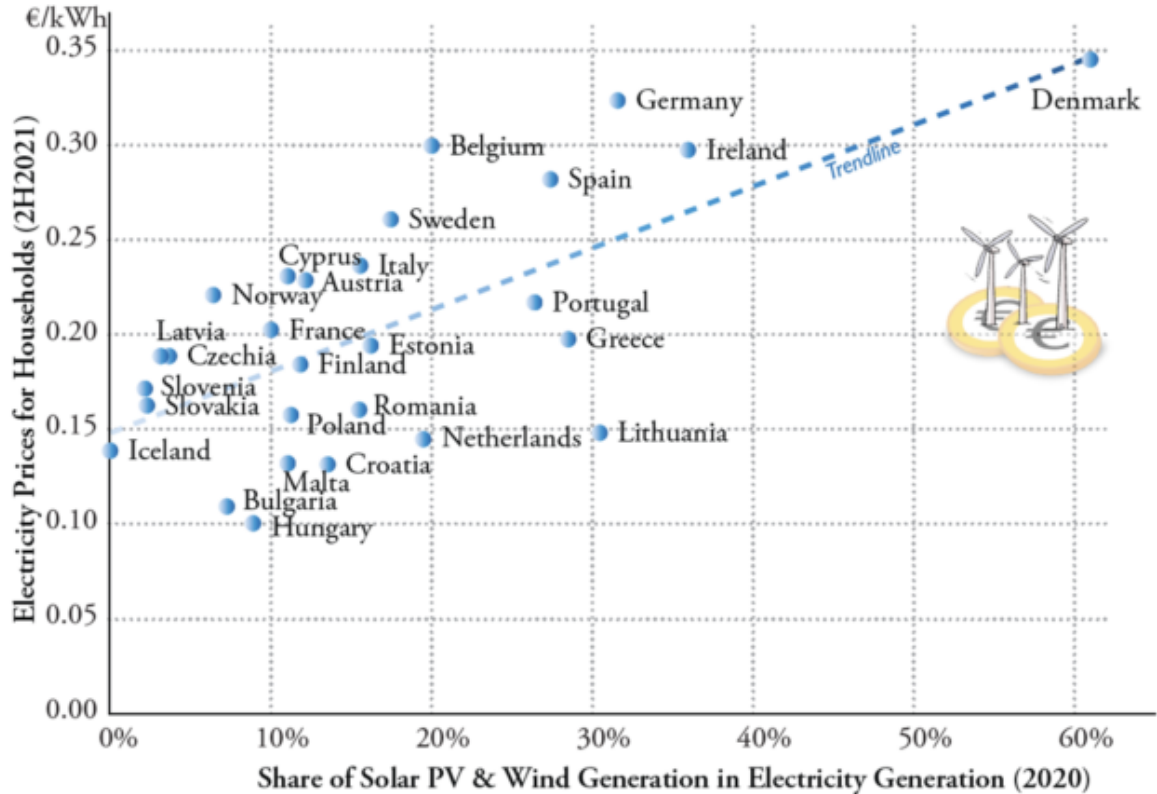
A Critical Assessment of the IEA's Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

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



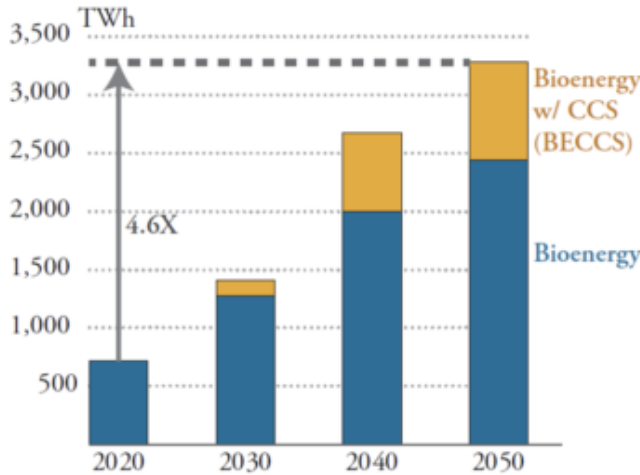
Source: Energy Policy Research, Eurostat, IEA

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IEA?NZE??2050??

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Figure 23. Bioenergy for Electricity Generation in NZE



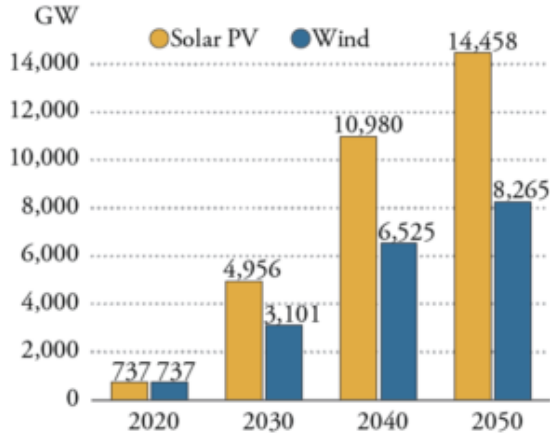
Source: IEA, Net Zero by 2050 (2021)

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



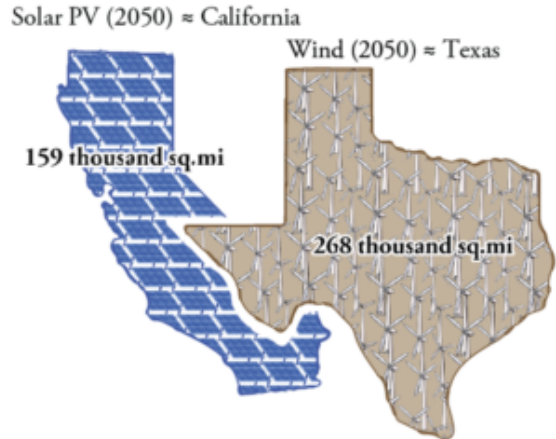
Source: Energy Policy Research. Land requirement calculations made using FreeingEnergy.

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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CHUYN/iStock

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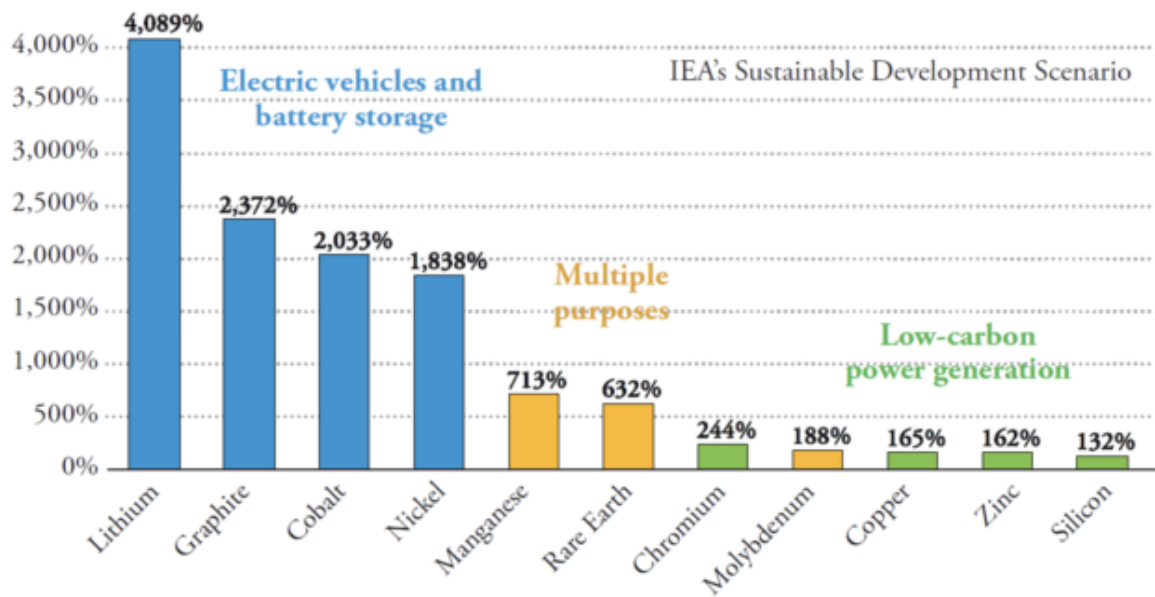
????2024????
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Figure 33. Required Growth of Critical Mineral Supply (IEA's SDS scenario, 2020–40)



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

EV60kWh
150200

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

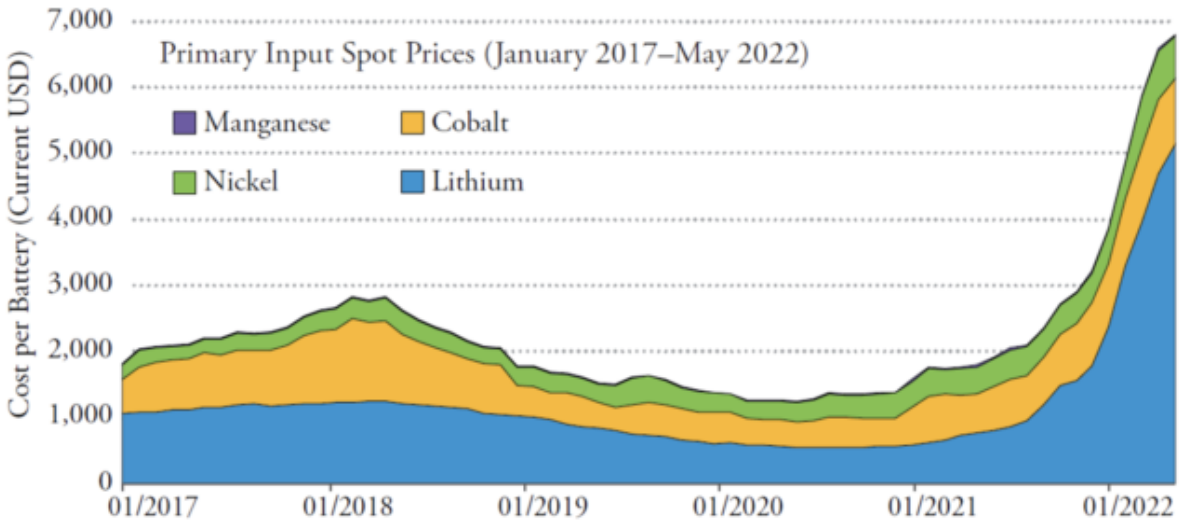
Mineral/Metal	NMC811	NMC523	NMC622	NCA+	LFP
Lithium	5	7	6	6	6
Cobalt	5	11	11	2	0
Nickel	39	28	32	43	0
Manganese	5	16	10	0	0
Graphite	45	53	50	44	66
Aluminum	30	35	33	30	44
Copper	20	20	19	17	26
Steel	20	20	19	17	26
Iron	0	0	0	0	41

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

Source: Bhutada, G. VC Elements

EV7000
100EV

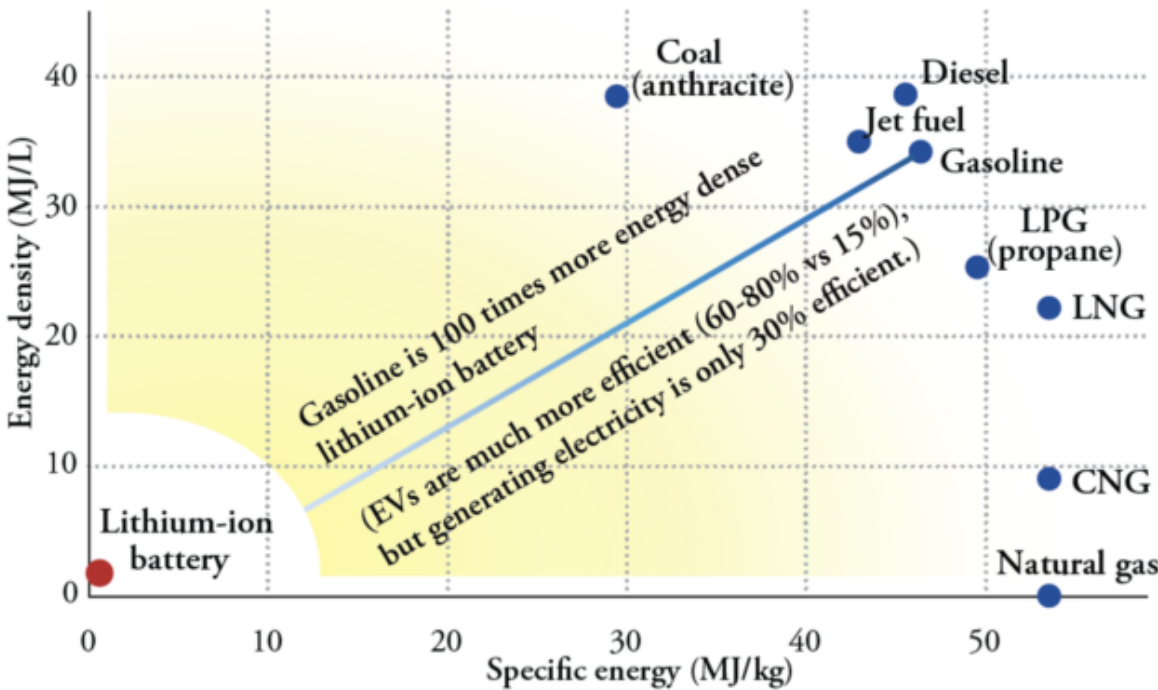
Figure 34. Tesla Battery Cost Based on Monthly Average



Source: Energy Policy Research, LME Monthly Data

EV??
??100????????????????

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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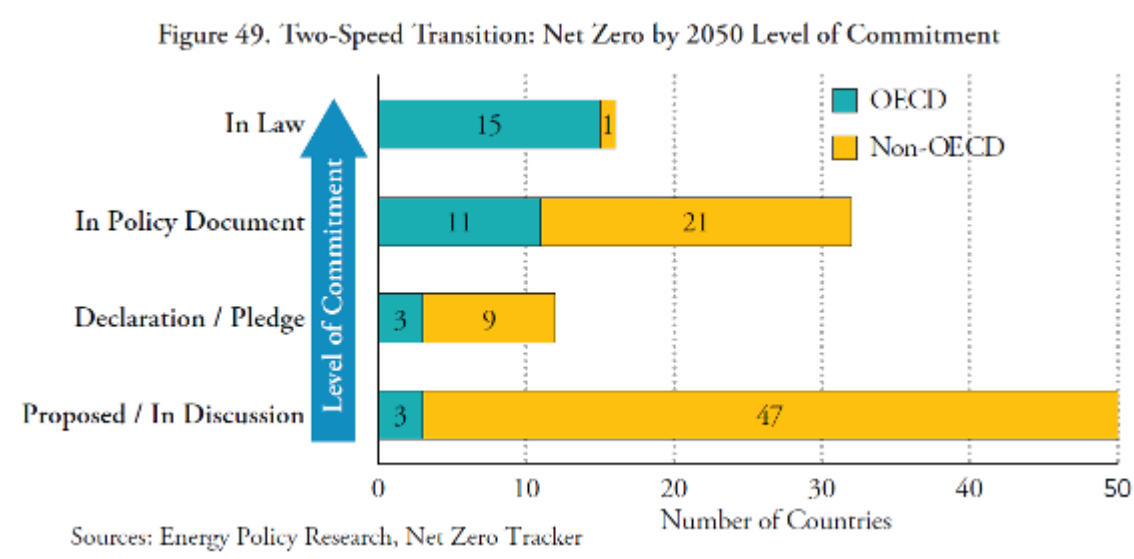


A Mokhtari/iStock

IAE Net Zero Scenario, NZE

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

OECD 2050

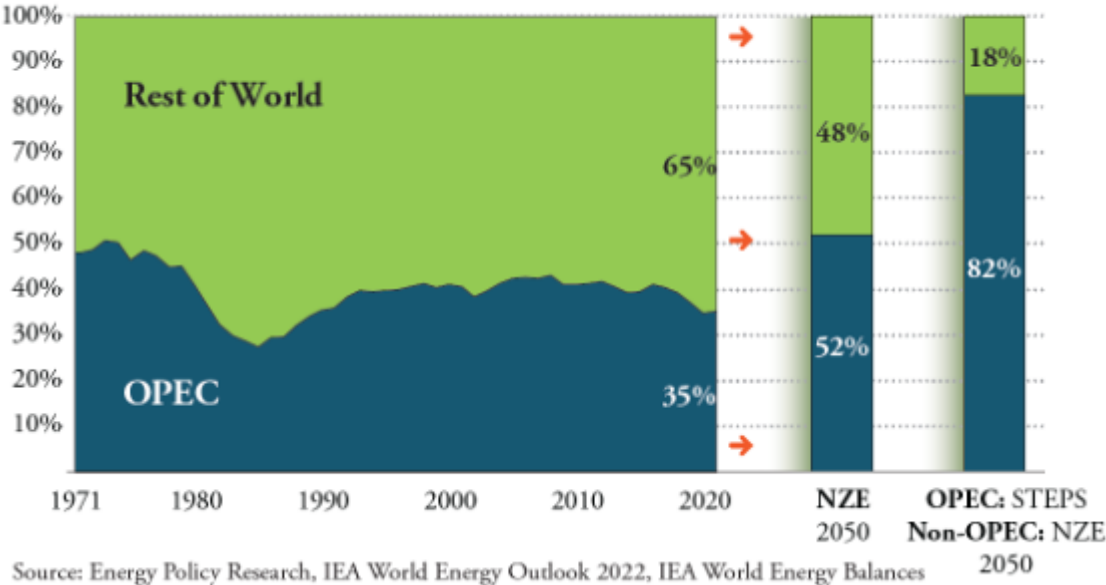


IEA NZE OPEC 35% 52% 1973

NZE OPEC

OPEC NZE STEPS OPEC 82%

Figure 17. OPEC Share of Global Oil Production

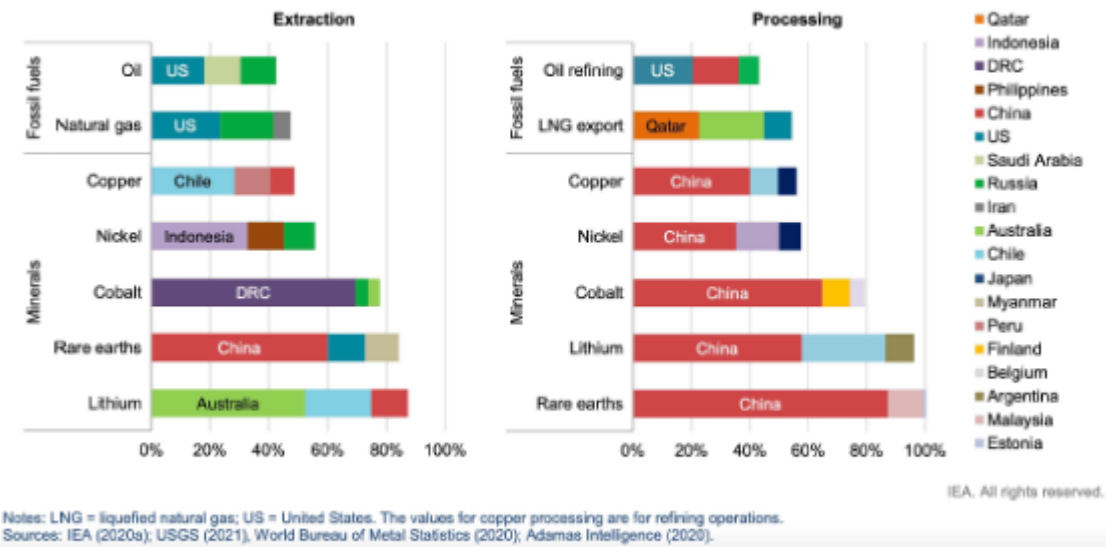


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NZE????????????PV????EV??
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Figure 18. Share of Top Three Producing Countries in Production of Selected Minerals and Fossil Fuels, 2019



OPEC????????????????????????????????NZE??
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