Global Energy Policy Research | GEPR

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

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?? ?? · Tuesday, September 26th, 2023

nitinan chumdavong/iStock

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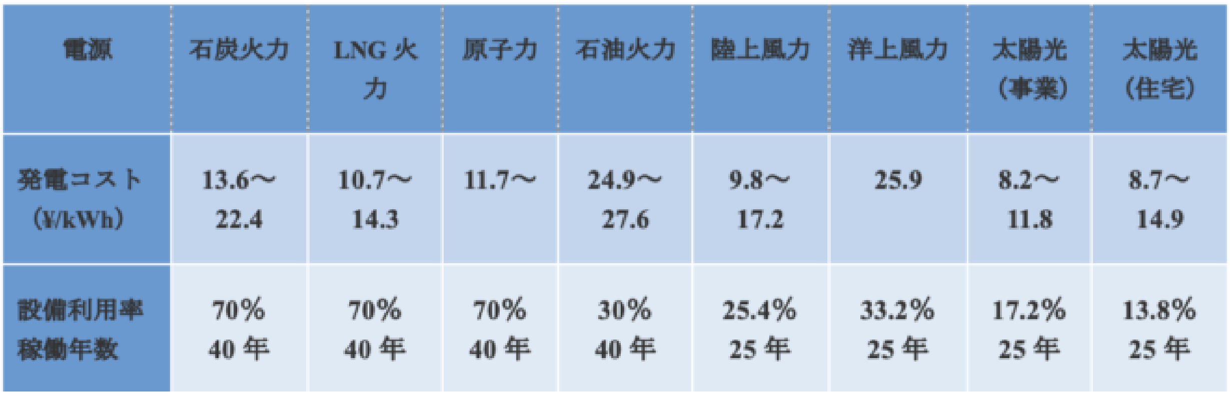
2021?8??????????????????????????????????2030??????????????????????????????????LCOE?Levelized cost of electricity??

??2030????????1kWh???8.2?11.8??????????????????LNG??????????CO2??????????????????????????2030??????26.1??????????????????????



電源	石炭火力	LNG 火力	原子力	石油火力	陸上風力	洋上風力	太陽光（事業）	太陽光（住宅）
発電コスト（¥/kWh）	13.6～ 22.4	10.7～ 14.3	11.7～	24.9～ 27.6	9.8～ 17.2	25.9	8.2～ 11.8	8.7～ 14.9
設備利用率 稼働年数	70% 40 年	70% 40 年	70% 40 年	30% 40 年	25.4% 25 年	33.2% 25 年	17.2% 25 年	13.8% 25 年

2030??????????????

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

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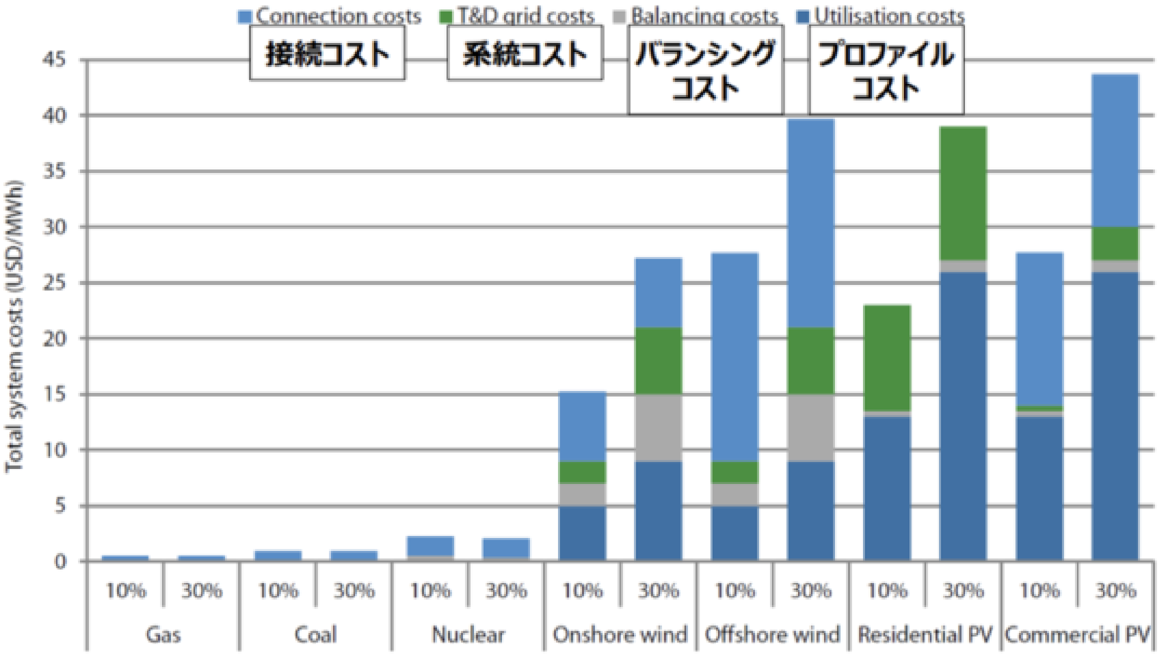
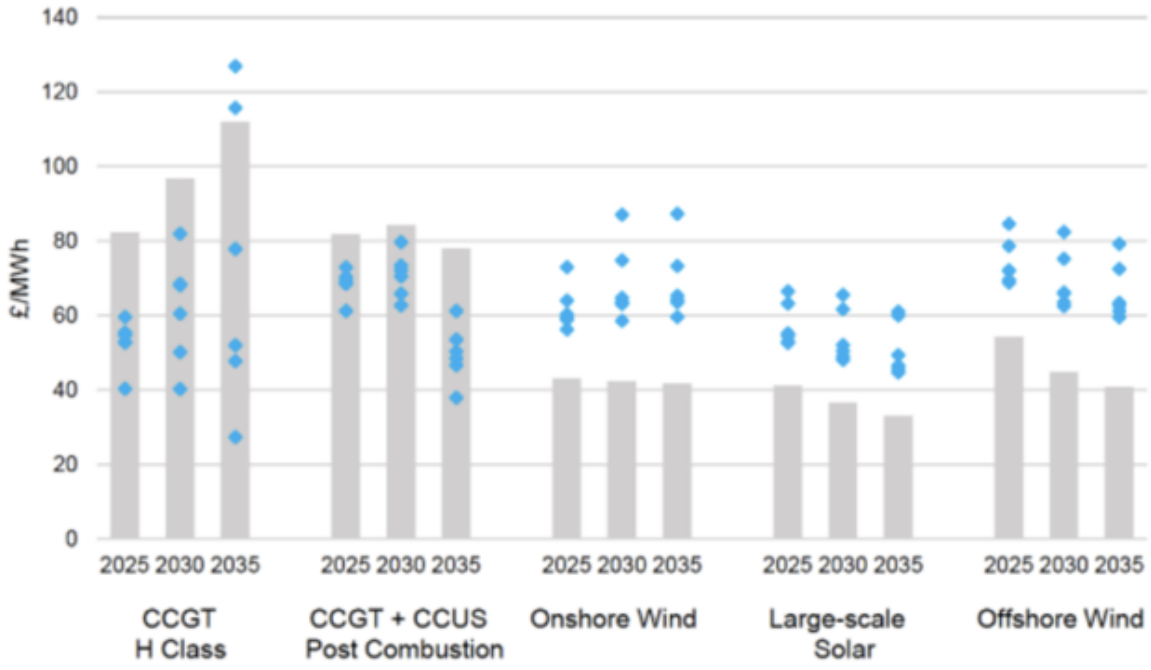
OECD???US$/MWh???????????????????10??????????????28 US$/MWh?30??40 US$/MWh?????????????????????????1?2?????????????????10%??30%?????????1.5????????????????



???OECD?The Full Cost of Electricity Provision 2018

???????????????????????????BEIS??Enhanced Levelized Cost?????????????LCOE??????????????????CCS?????????????????????????????????/MWh??????????????????????LCOE???LCOE?????????????????????



???BEIS?Electricity Generation Costs 2022

?????????????LCOE??2025???2035????54??40?/MWh?????????????????????????????2025??67?85?/MWh?2035??60?80?/MWh?????????

??2035???????????LCOE?1.5?2???2021?8??

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

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?? ?? · Thursday, September 21st, 2023

Maks_Lab/iStock

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?SDGs????????

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

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?? ?? · Tuesday, September 19th, 2023

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> ??????????????????????MI??2022??
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> — ??????? (@atomic_journal) September 15, 2023

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???????????LNG????????10????2?5??????????????????????1.5?????????????????**????**?????????????? ???

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

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

Gwengoat/iStock

?????1980???????70???

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36???16??

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36???
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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 »

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?? ?? · Saturday, September 2nd, 2023

axz66/iStock

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2027???????????—????????????????????????????

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

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

?? ? · Thursday, August 31st, 2023

photoschmidt/iStock

?????????G20??????????????????????????????????7?28?????????????G20???

???????????68?????????63?66???????????????G20??G7????????????????????????????

??????????????63?

5??G7??????????IPCC?6???????AR6??????1.5???????????????GHG????2025???????????2019????2030?????43??2035?????60???????????????2030?NDC???????GHG???????LTS??1.5????????????2050??COP28?????????2030?NDC????????????LTS????????????2050???

??????????????????????????????????G20???????????100??????????????????G20??????????????????????NDC????????????????????????????????????2023????????????2030???

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

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> G20???????????IPCC??G20????????????2025?????????????????????2019???2035????????60%??2030??????????CO2?????????????

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> ???????????G20???G20??????
> ???????2040?????????????????????????

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

G7???IPCC?6???????????????2025????????2035??60????????????12??COP28????????????????????
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??????????Third World Network
?IPCC??
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??????IPCC??

???????2040????????????????????????????????COP27??????????LMDC???????2050?????????????
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?????????????????????64?

G7???????1.5?????????????????????????2050??
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??G20??
??3????????????????????????????????????
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EU?????????????????65?

??CBAM????????????????????????????????????
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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??????????????????????????

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?????????1997?????????????????GCR????????????????????????????????????GCR??

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

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

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

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

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

??? ??GCR?? ??

?????????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?????????????????????????? ???????????????

??????????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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?????????GCR cycles????????????????????

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

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

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1970??
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???1990??10??????
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??40??????????????22????????????????
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Posted in ???????????, ???, ????????? | No Comments »

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?? ?? · Thursday, August 24th, 2023

NithidPhoto/iStock

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

CO2?????????

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

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

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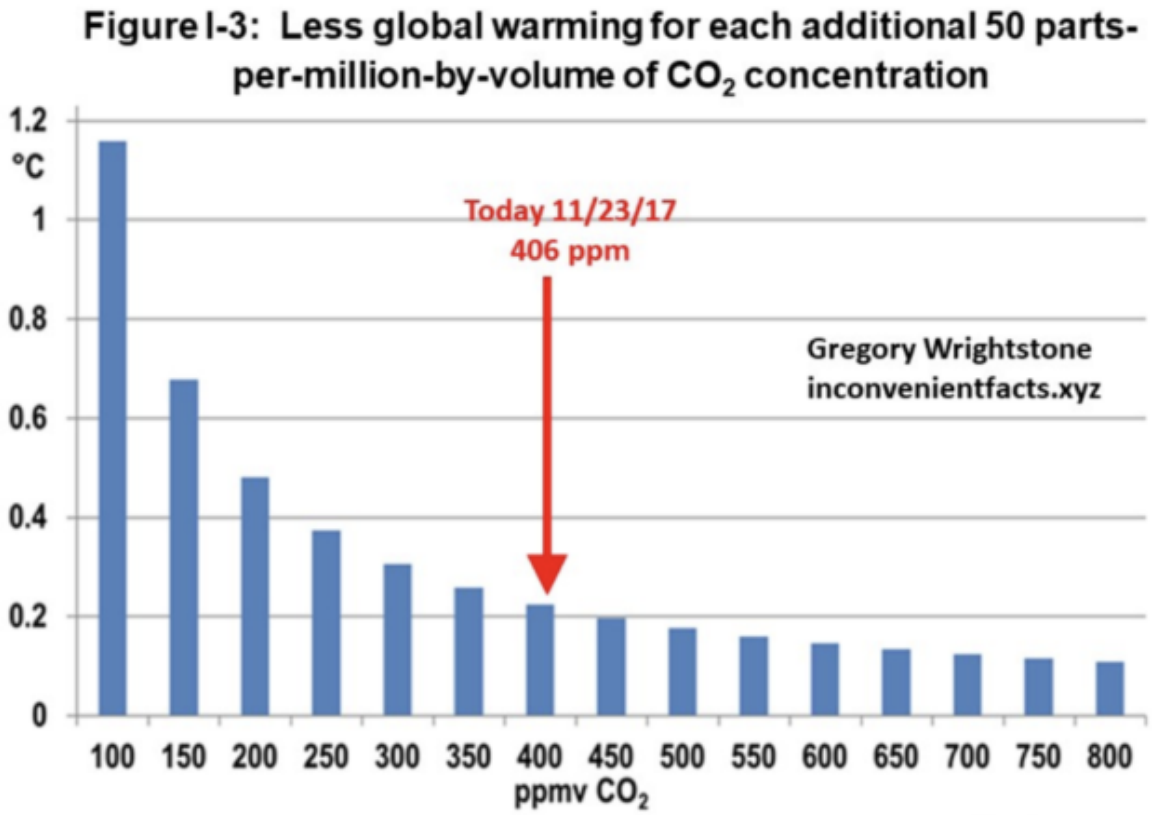
??????????????????CO2????????????????????????????????????

????CO2?”heavily saturated”

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



????????CO2????2??800ppm????????????????????????CO2????????????????????????????????????
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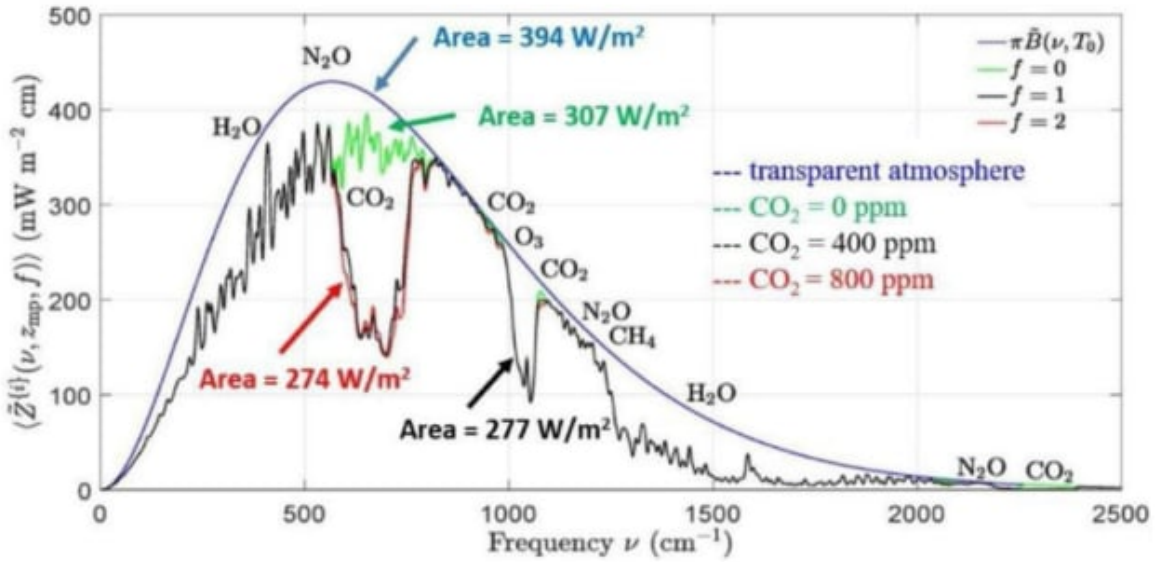
????????????????????????????CO2????????????????????????CO2?N2O?O3?CH4????????????
??394 W/m2?????????????????@transparent atmosphere????????????27??



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

???????CO2???

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? State Farm Test: ??

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

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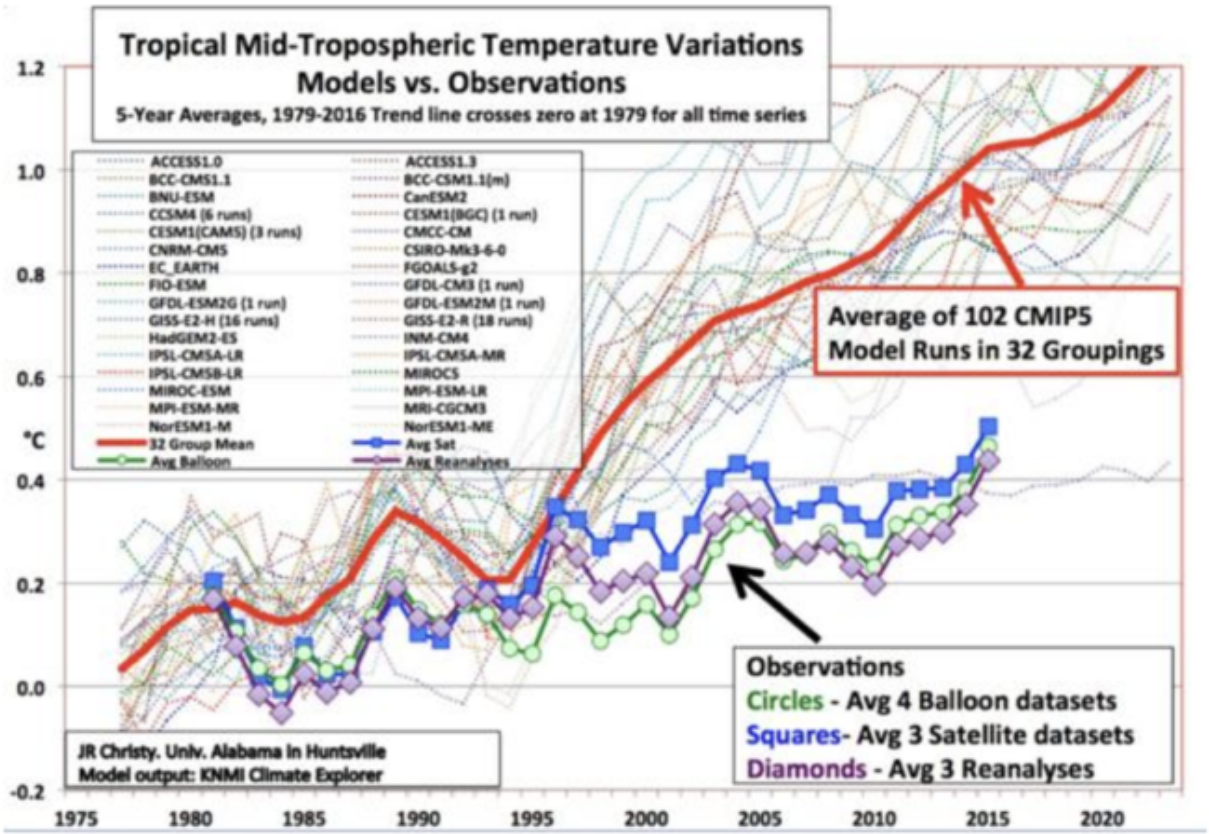

??????EPA????????????CO2???????????CO2?????????????????????????

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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 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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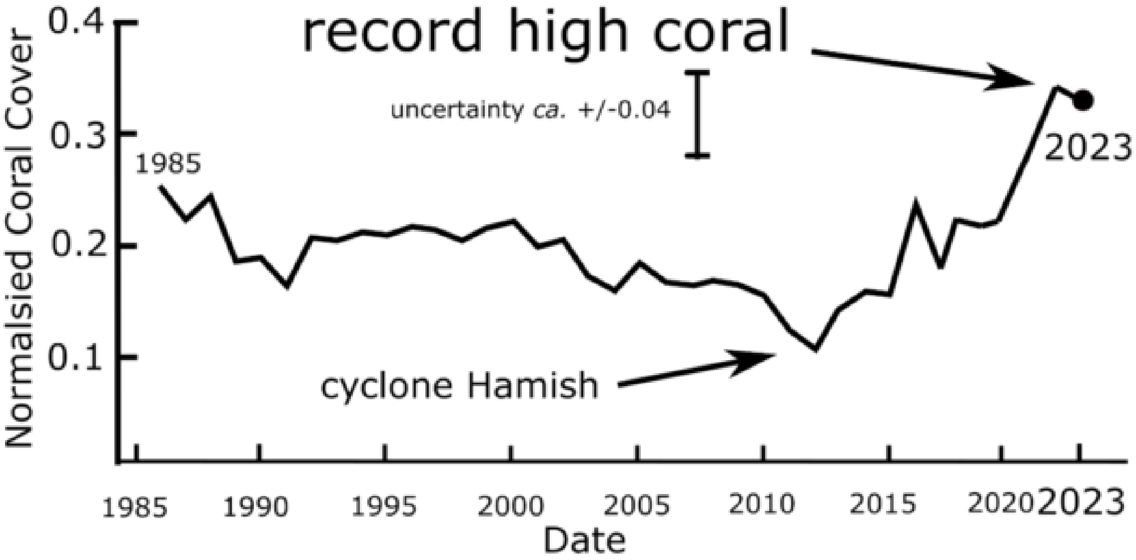

2023??

?????????????????????????????????????2012??????????2??????

2022???2016??2017??2020??2022??4??
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> ??????????????????AIMS??????2023??
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> ???????????????????????????????????
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> ??60?????????????????????
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> ??Australian Environment Foundation??51?????????
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Posted in ???, ????? | No Comments »

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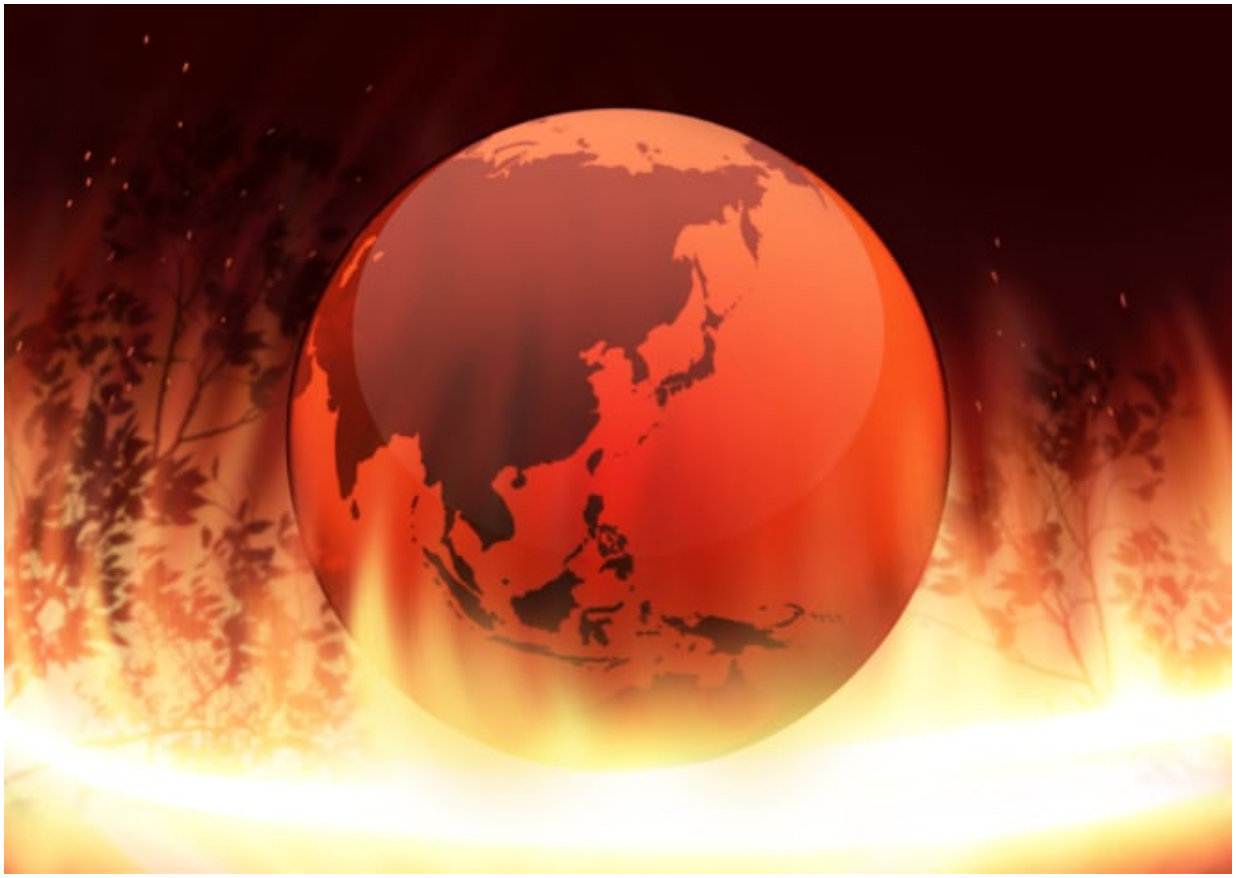
?? ?? · Thursday, August 17th, 2023



Tr6/iStock

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

“????”???????????????7??

> 2023?7??“????”????????????
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??50????????5??????????????????????

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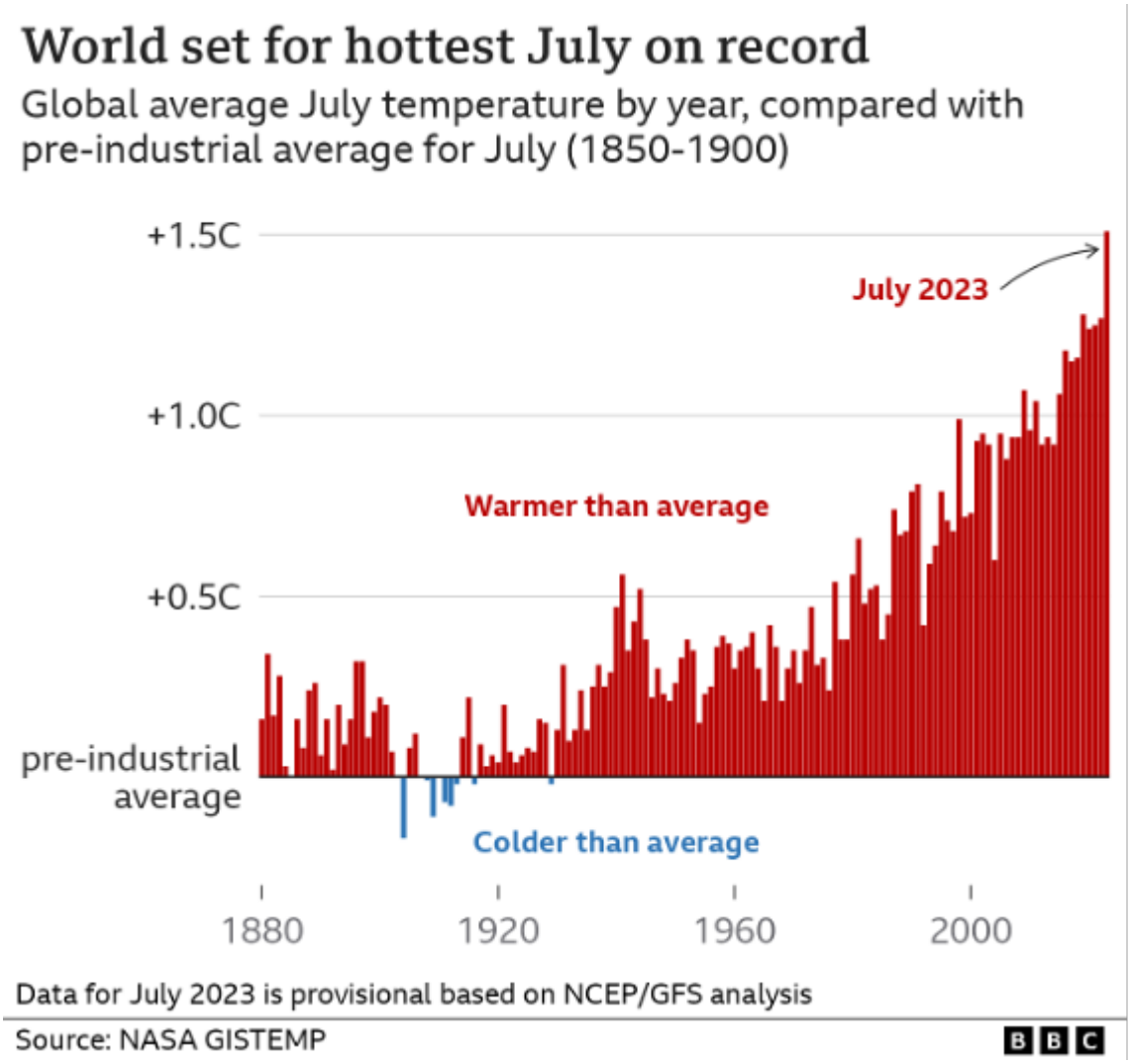

?1?BBC??

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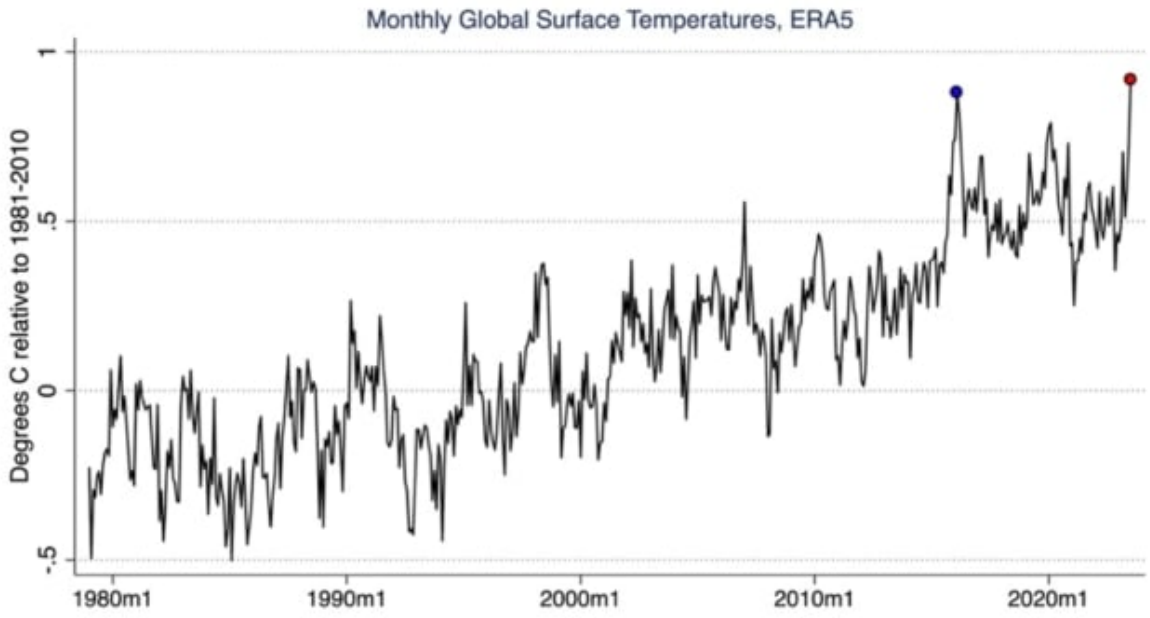
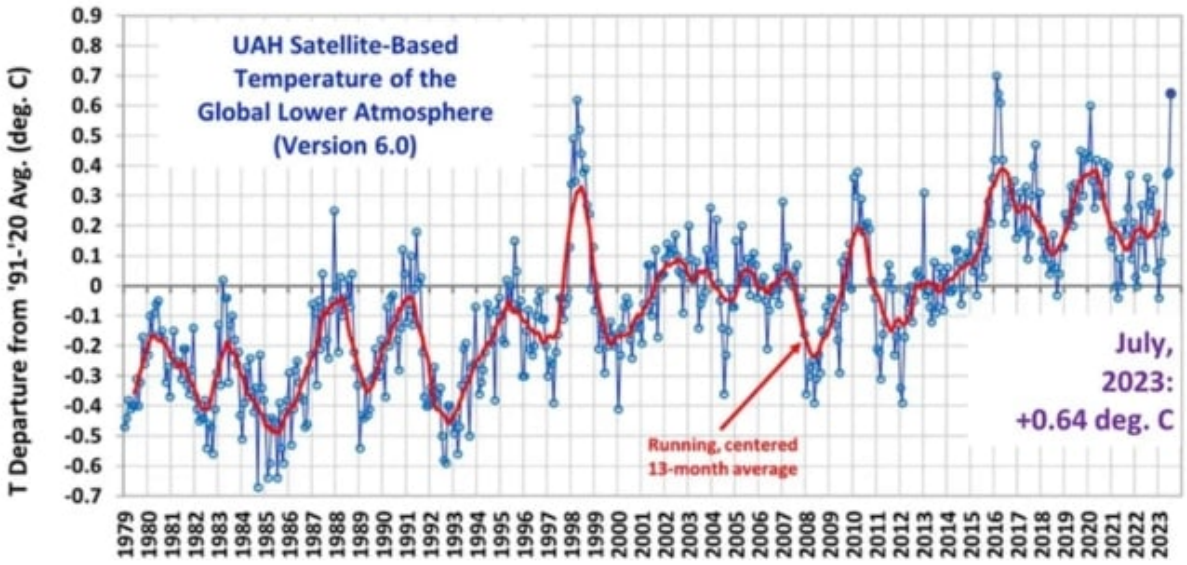


?2???2??????

???Climate Etc.

????????9000??????????????????UAH??????3?????????



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

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

?1????2?3????????????1?7??????????????????7??
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????2??3??????2??????????????????????????????2????1???????3??????3????????????????????????
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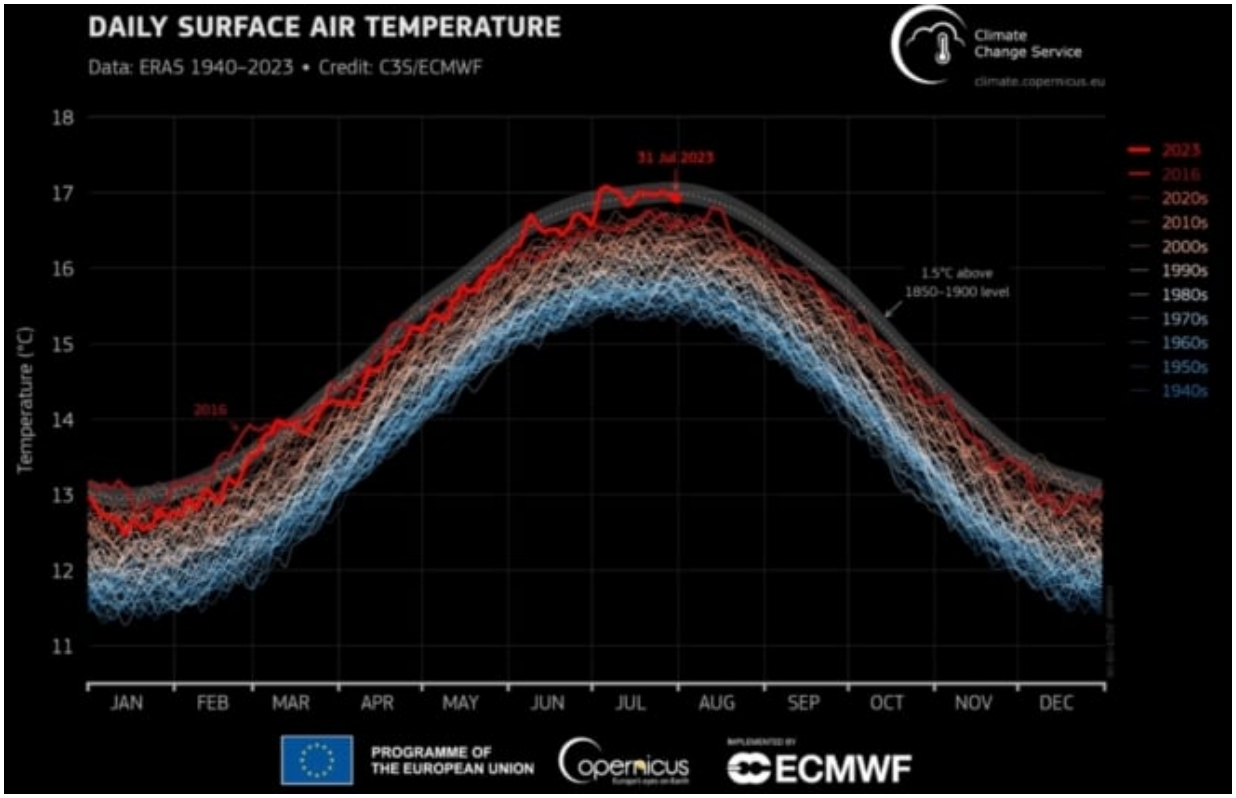
?????2023?7??????????????????????4????????????????1???12????????????????????1?????7
??2023?7??????????????????????????



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

?2??3??

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

2023????????????????????????????????????2022??2015????????2020??CO2??

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Posted in ???, ????? | No Comments »

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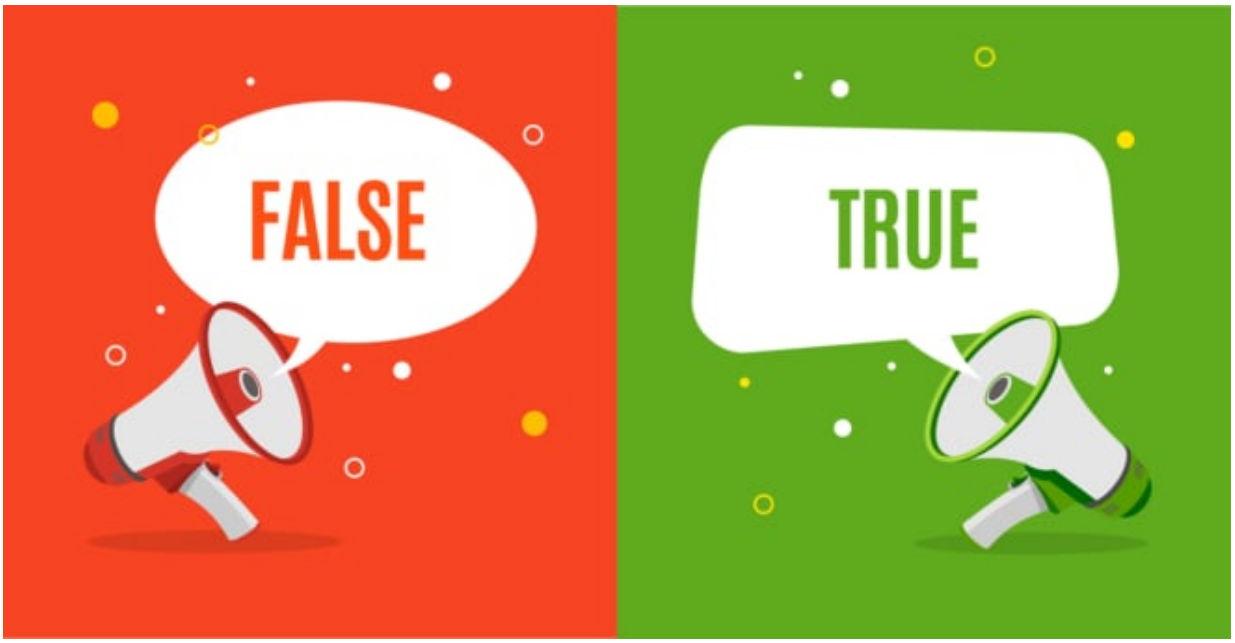
?? ? · Saturday, August 5th, 2023



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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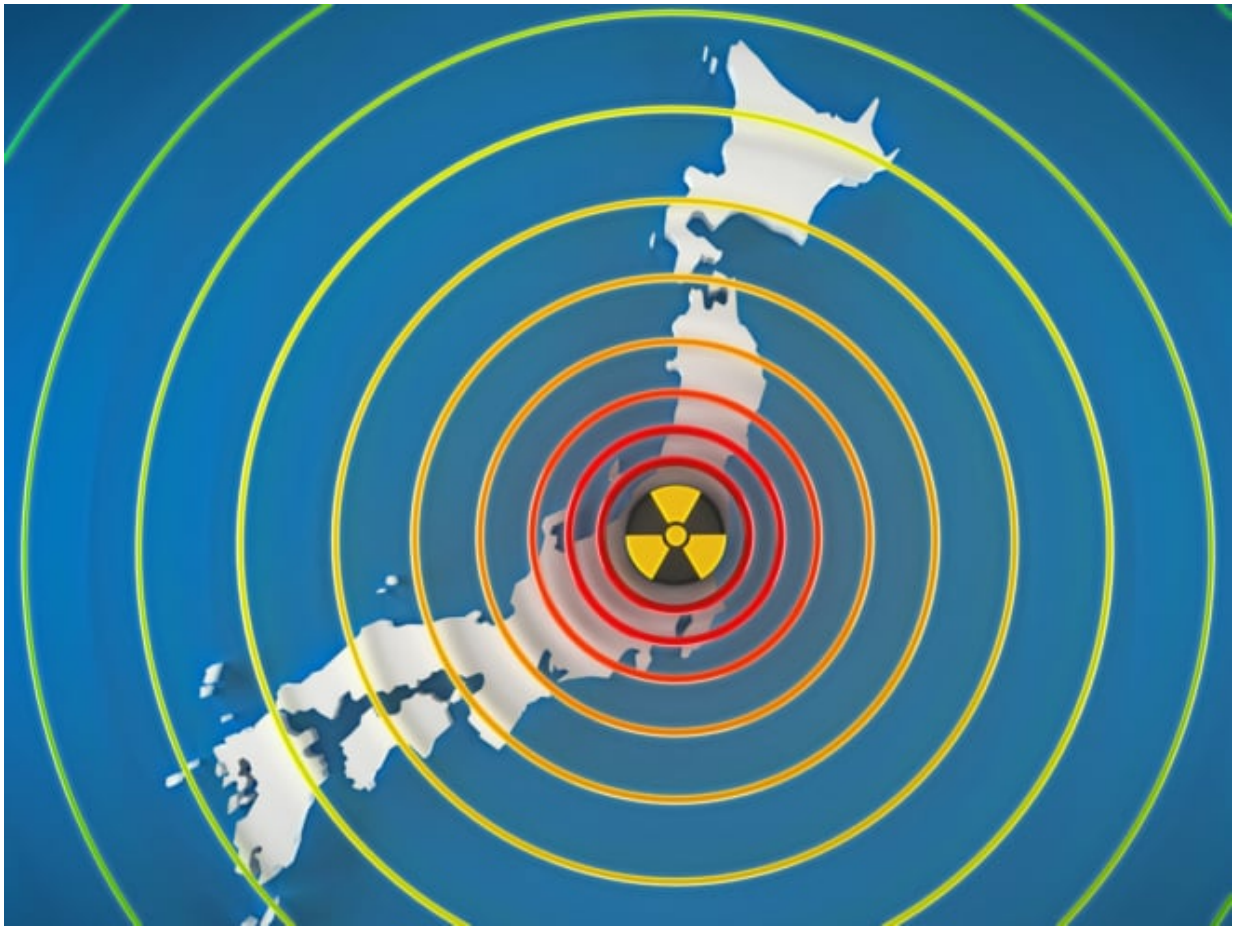

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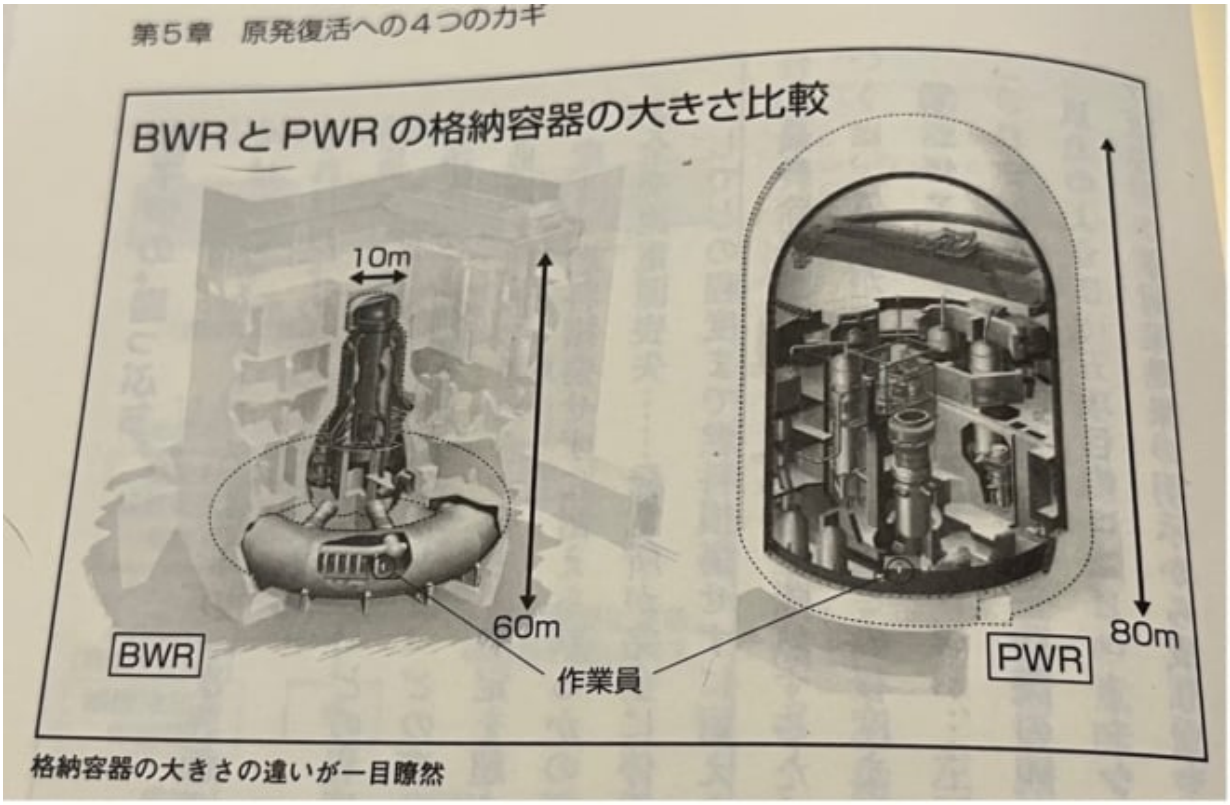

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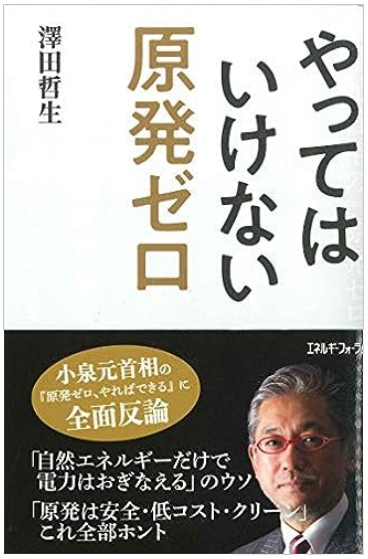

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?? ?? · Sunday, July 30th, 2023

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NicoElNino/iStock

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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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BrianAJackson/iStock

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?? ?? · Thursday, July 27th, 2023

JaCZhou/iStock

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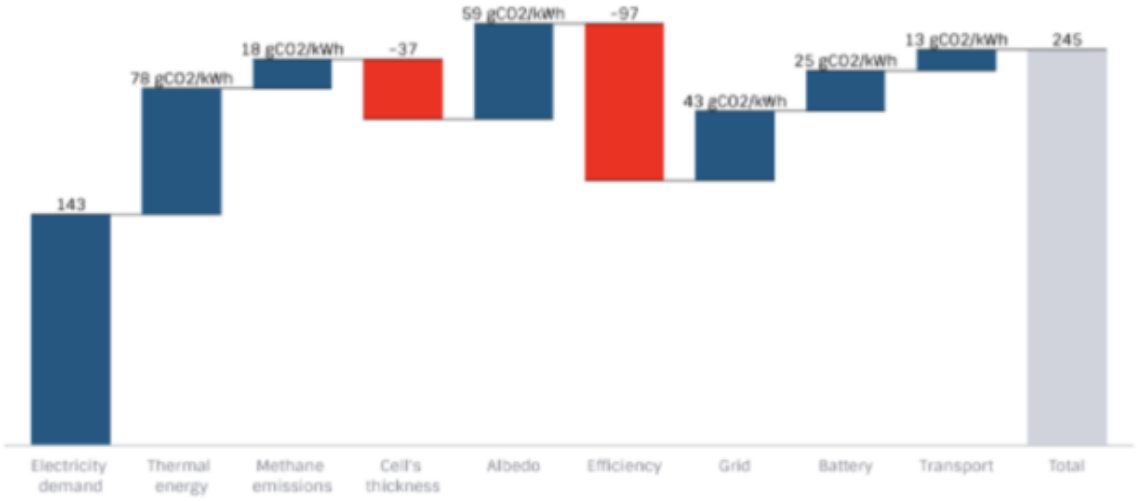
Carbon intensity, Worst Scenario



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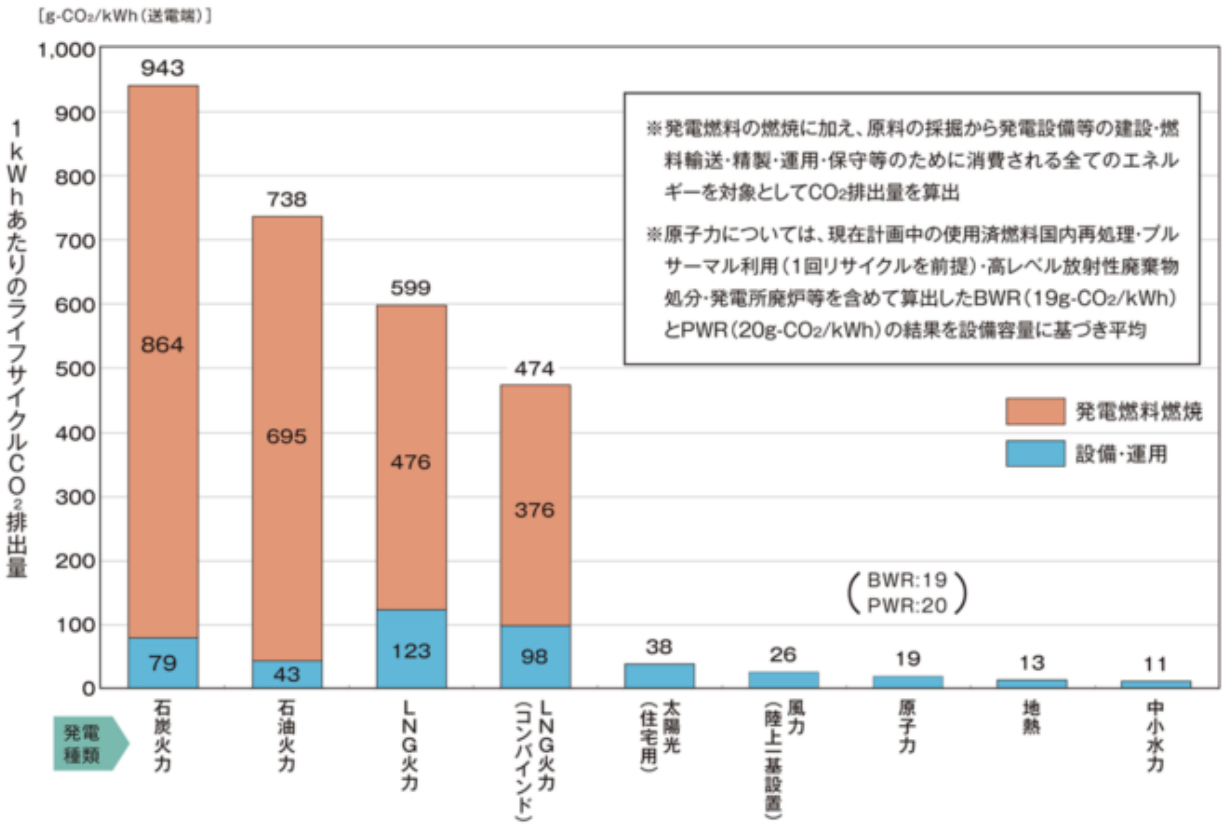

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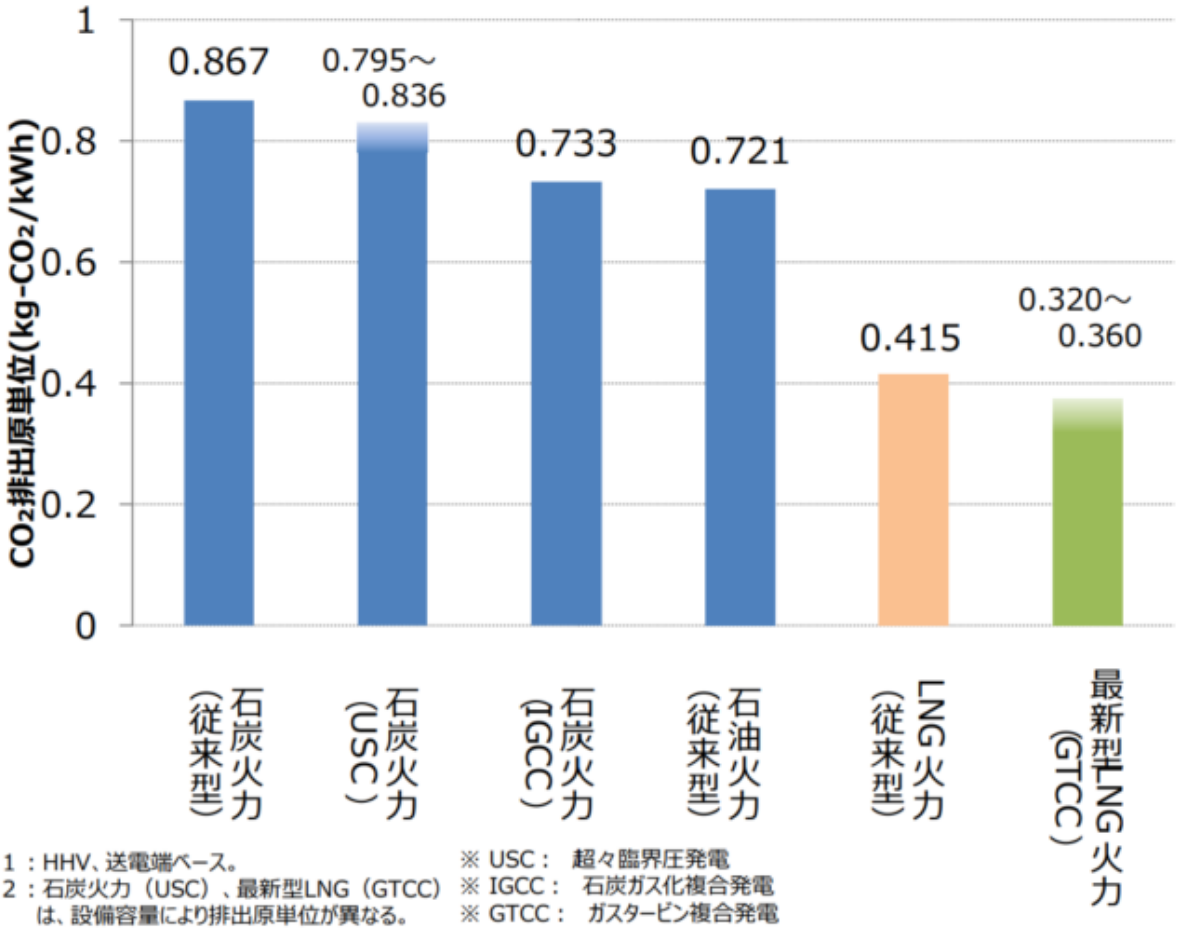

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?? ?? · Friday, July 21st, 2023

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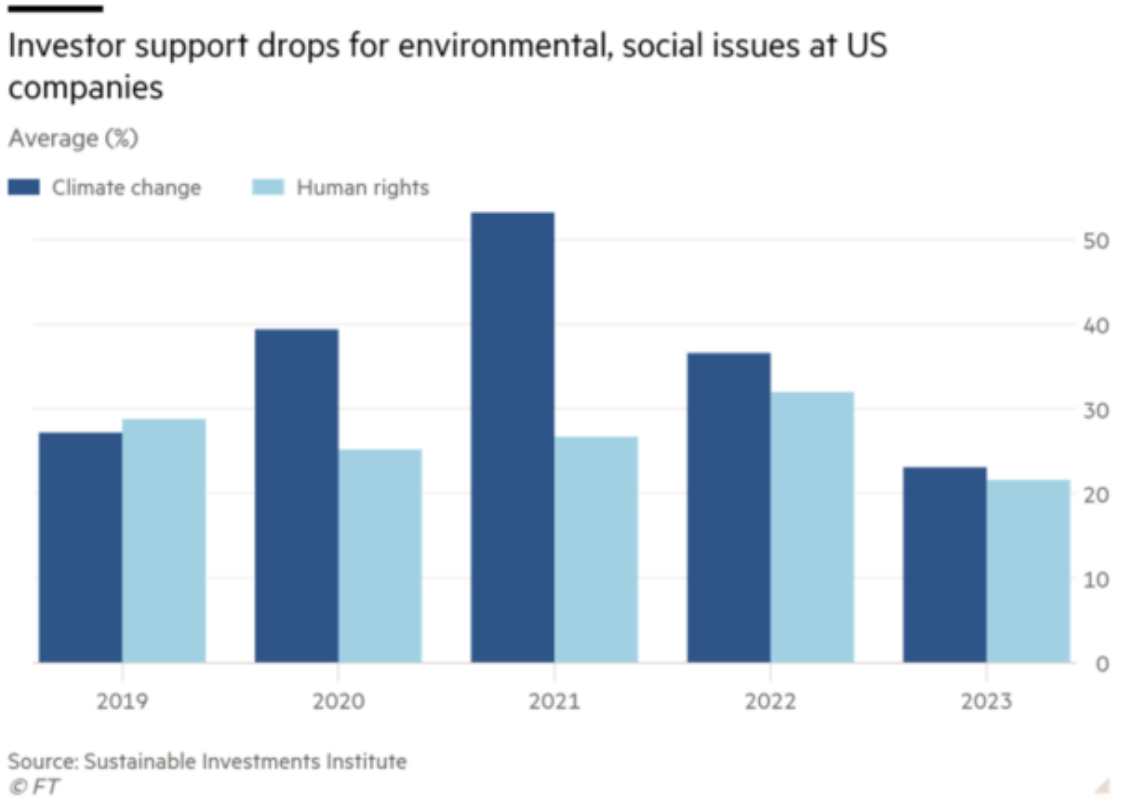

FINANCIAL TIMES??

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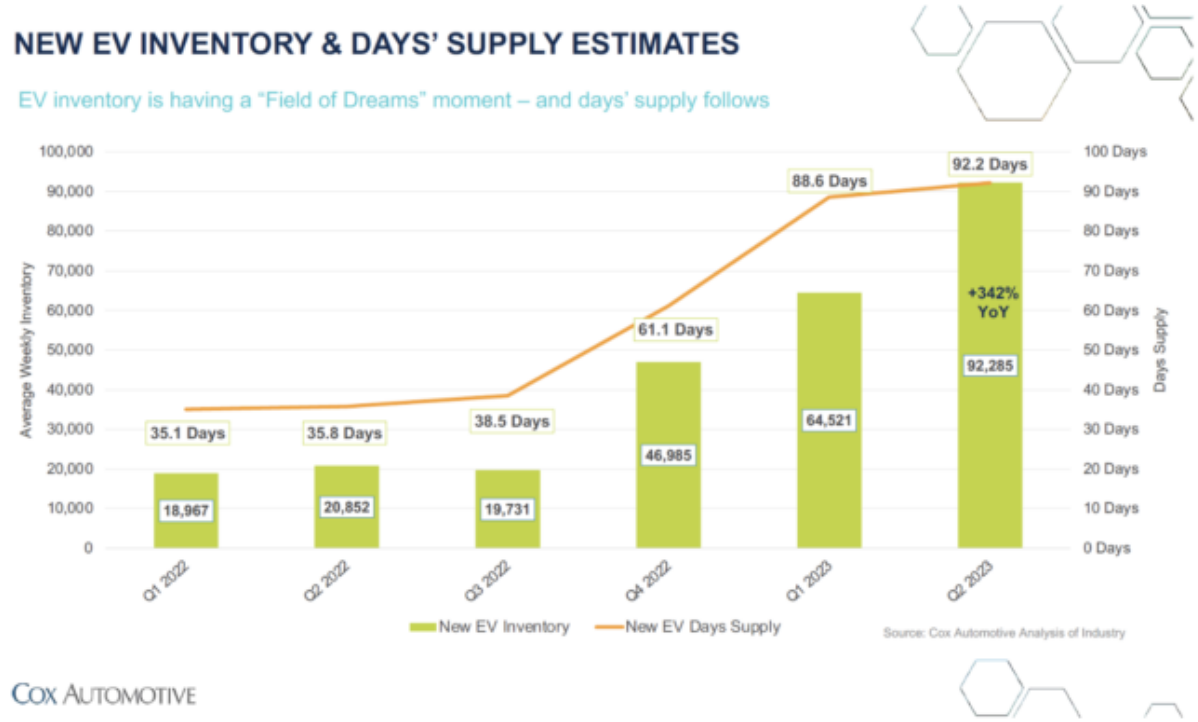
2023 Cox Automotive Mid-year Review???????2023???2????????????????????????????92,000??????????2022????2?????????342% ????????



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?? ? · Thursday, July 20th, 2023

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NickS/iStock

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Max Lirnyk/iStock

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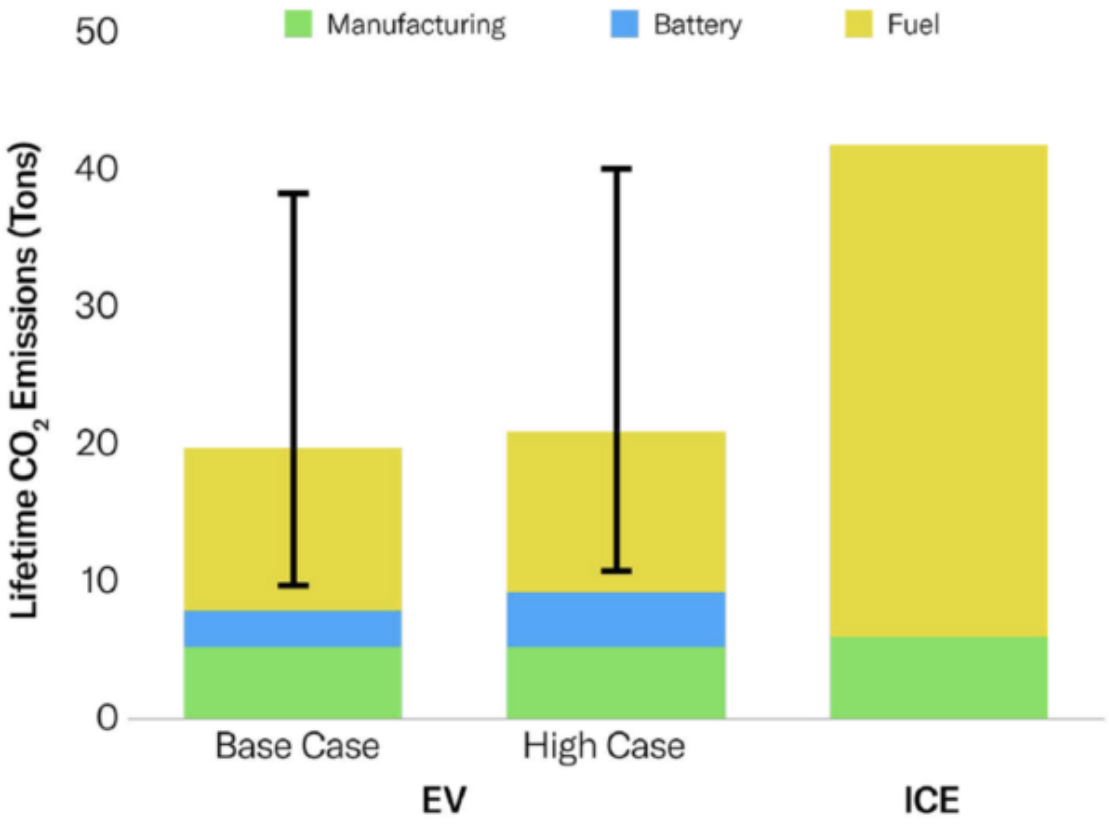
Figure 3

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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?????????ICE?EV????????CO2??????????6????????????????????EV?????CO2????????????????????
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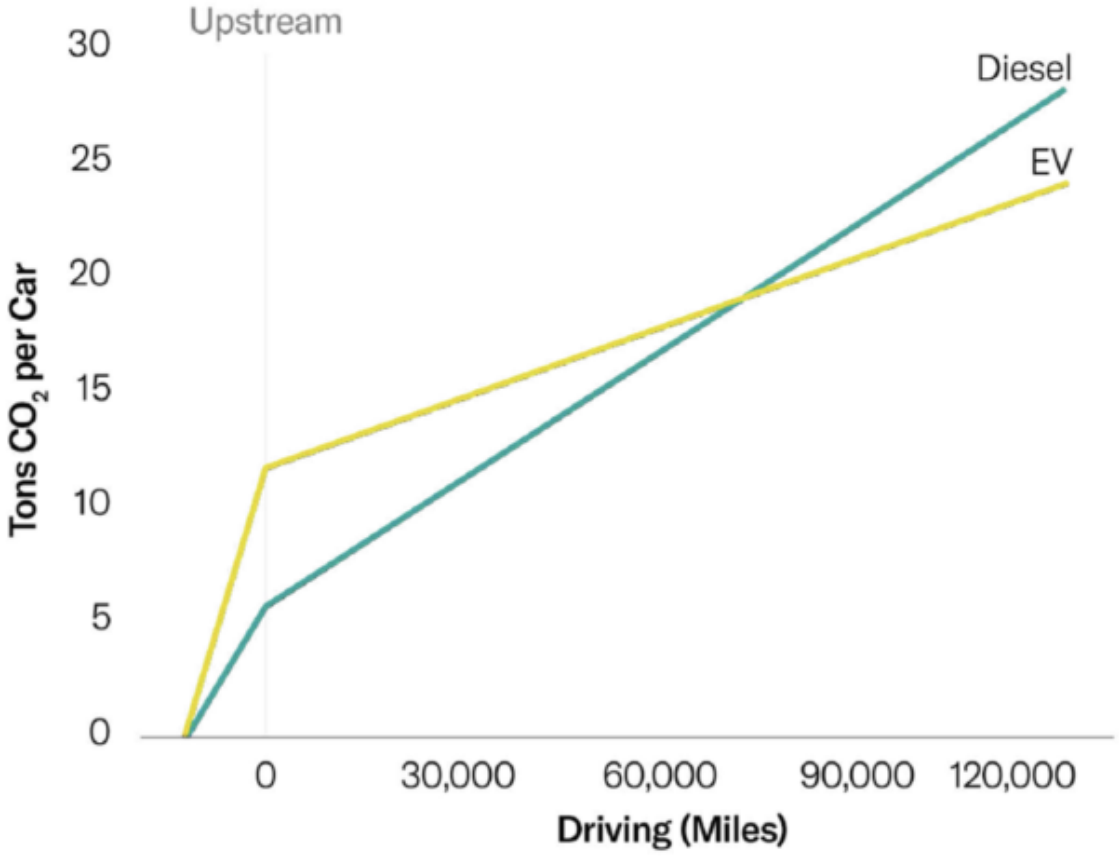
Figure 4

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

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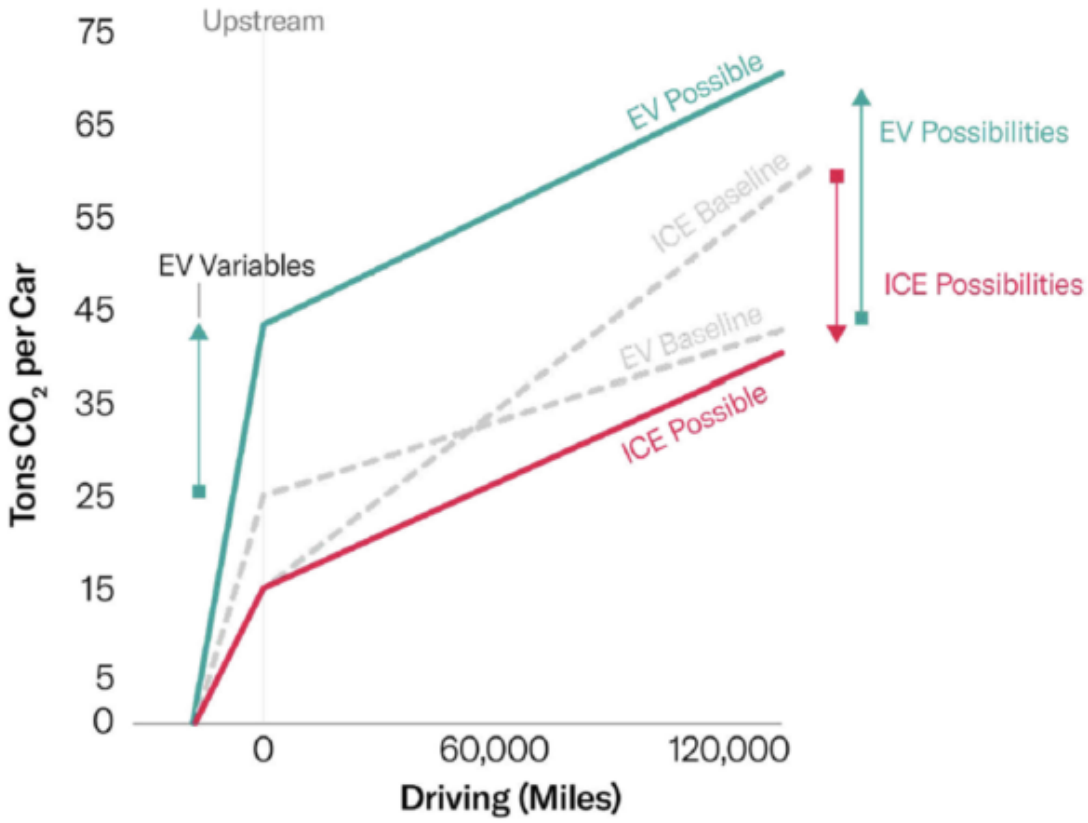
Figure 6

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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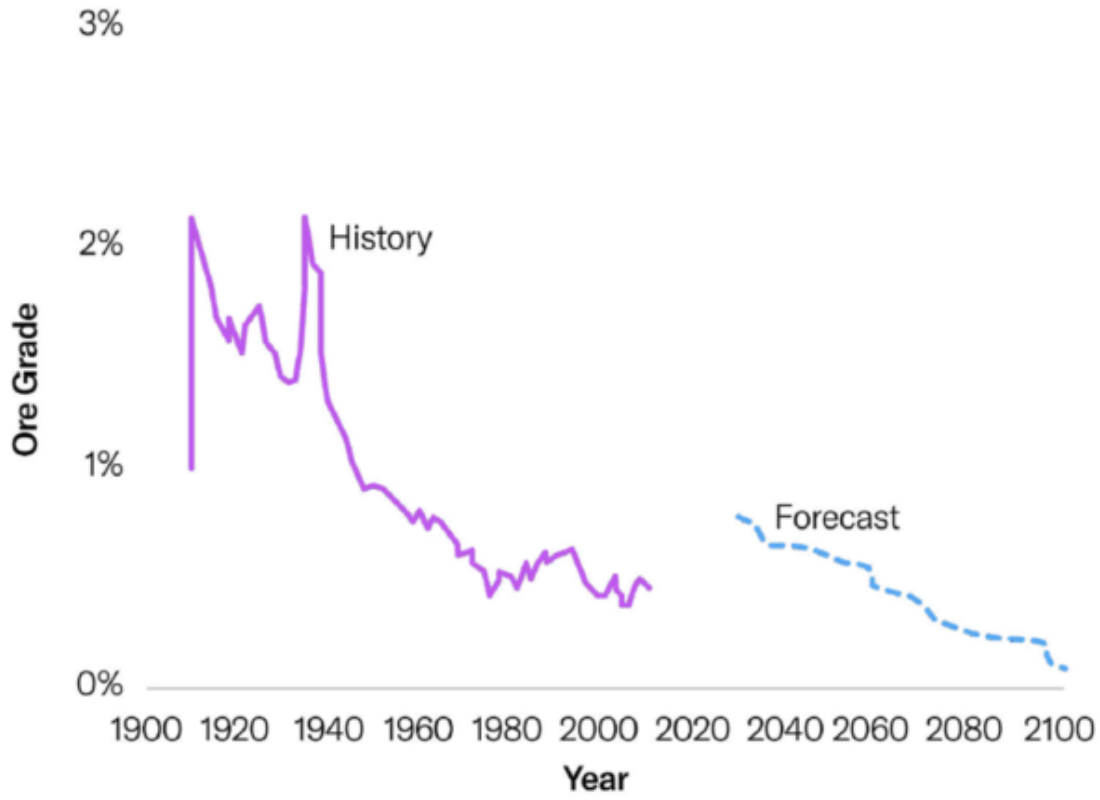
Figure 8

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????
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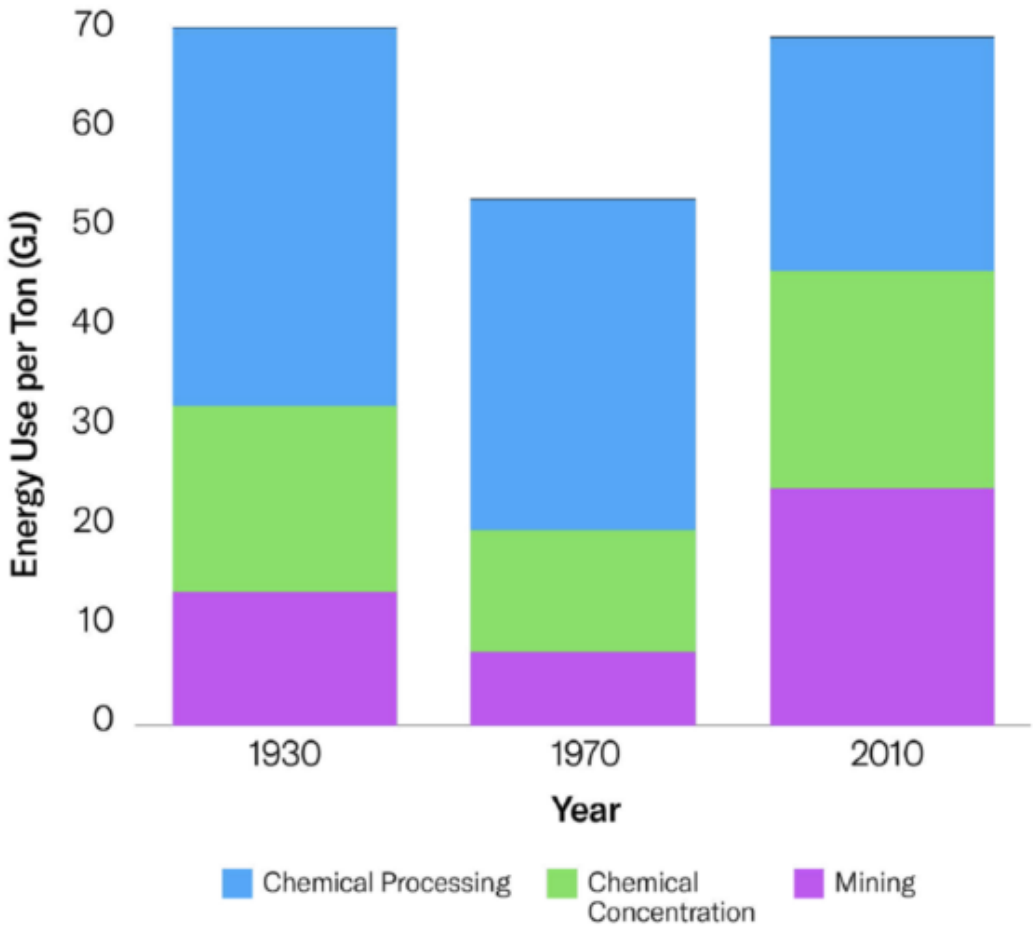
Figure 10

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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?? ?? · Sunday, July 16th, 2023

Douglas Rissing/iStock

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

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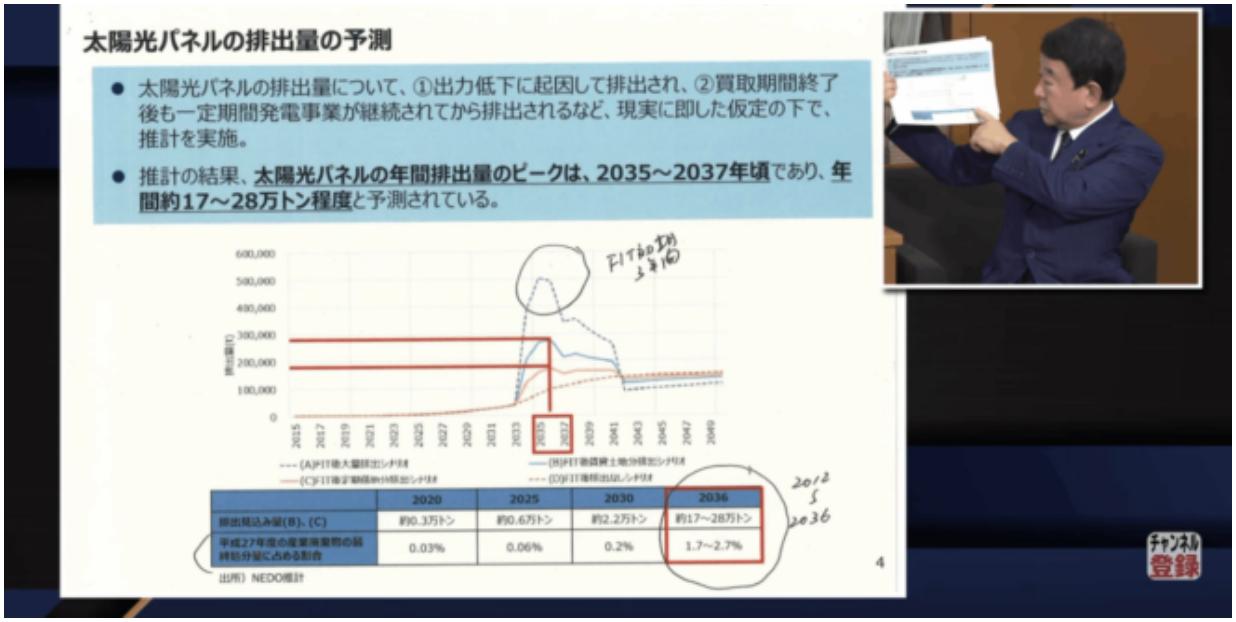

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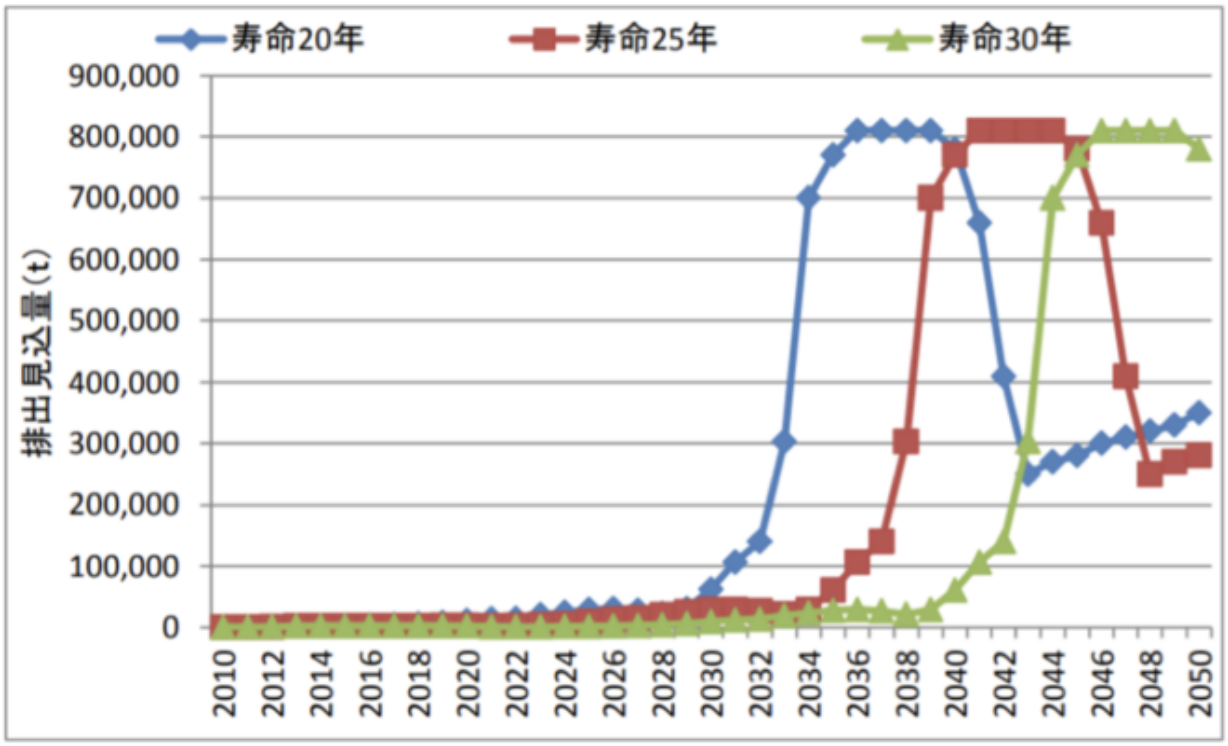
寿命20年
寿命25年
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排出見込量(t)
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800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
2010
2012
2014
2016
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2040
2042
2044
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2050

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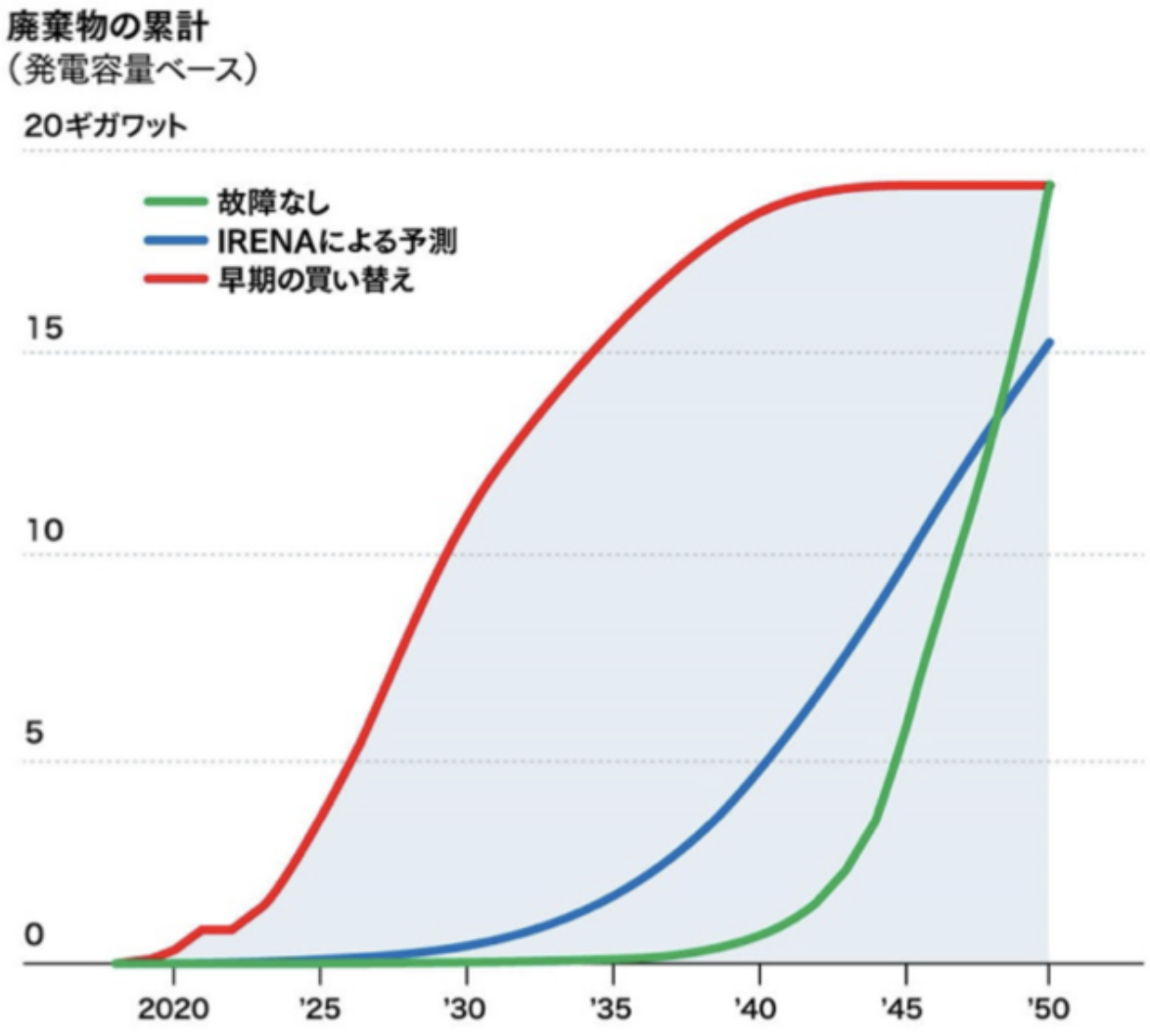
廃棄物の累計
(発電容量ベース)
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故障なし
IRENAによる予測
早期の買い替え
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Posted in ???????????, ??? | No Comments »

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?? ??? ?? · Sunday, July 9th, 2023

Grafissimo/iStock

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Posted in ???, ?? | No Comments »

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?? ?? · Thursday, July 6th, 2023

Pixelci/iStock

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

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?? ?? · Tuesday, July 4th, 2023

xijian/iStock

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

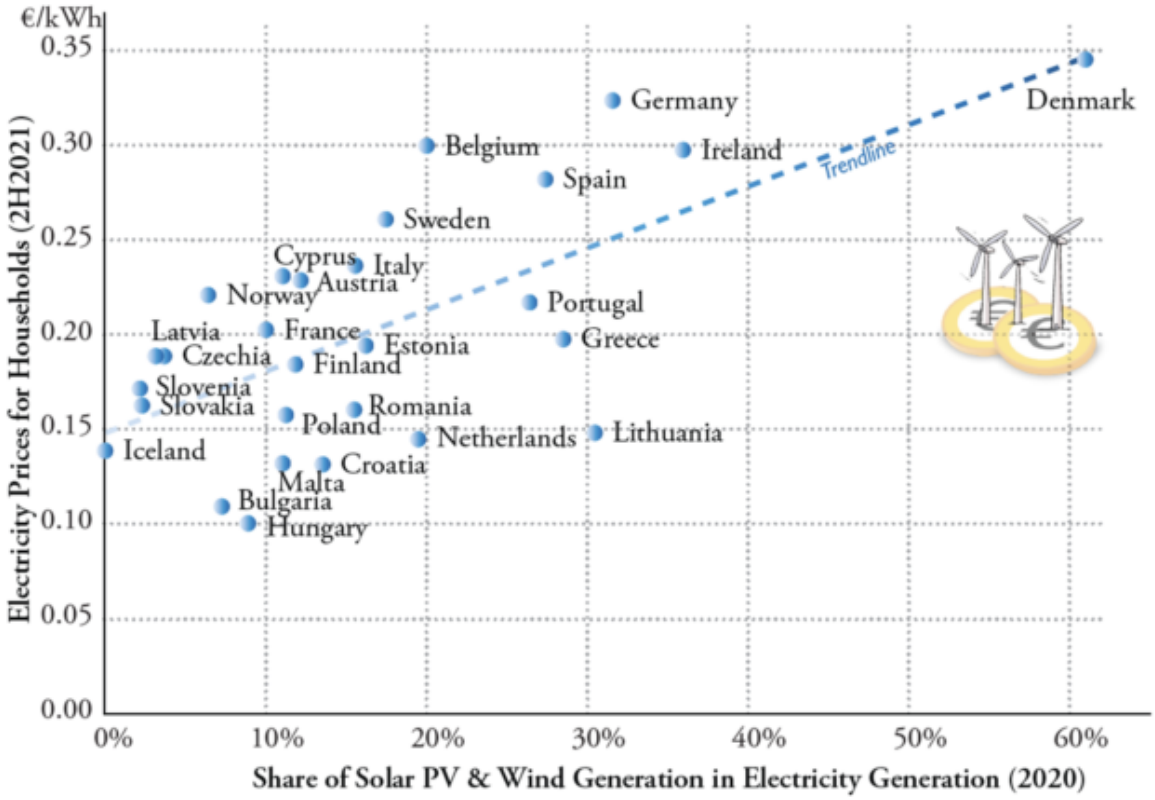
A Critical Assessment of the IEA’s Net Zero Scenario, ESG, and the Cessation of Investment in New Oil and Gas Fields.

??PV??

??PV??PV??

????????????PV??PV??????????????????????????????????????

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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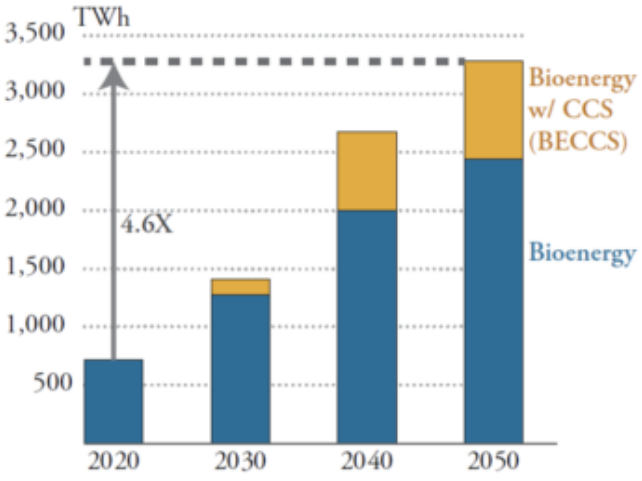
Figure 23. Bioenergy for Electricity Generation in NZE

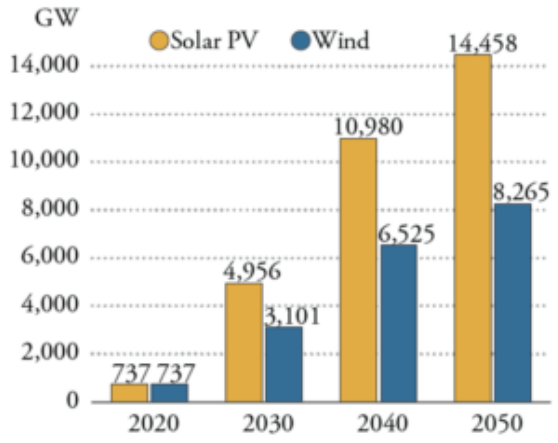


Source: IEA, *Net Zero by 2050* (2021)

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

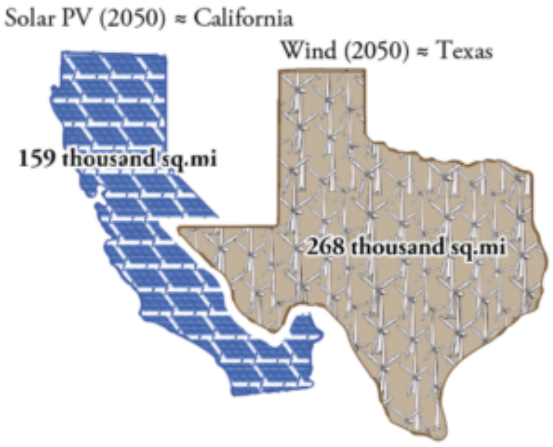
Source: Energy Policy Research. Land requirement calculations made using FreeingEnergy.

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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PV???1??
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Posted in ???????????, ???, ????? | No Comments »

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?? ? · Monday, July 3rd, 2023

CHUYN/iStock

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GST?????????????????????????3???????????

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GST???IPCC?6??????????????
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0??????2019????GST???????????????????????????????

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Posted in ???, ????? | No Comments »

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

?? ?? · Monday, July 3rd, 2023

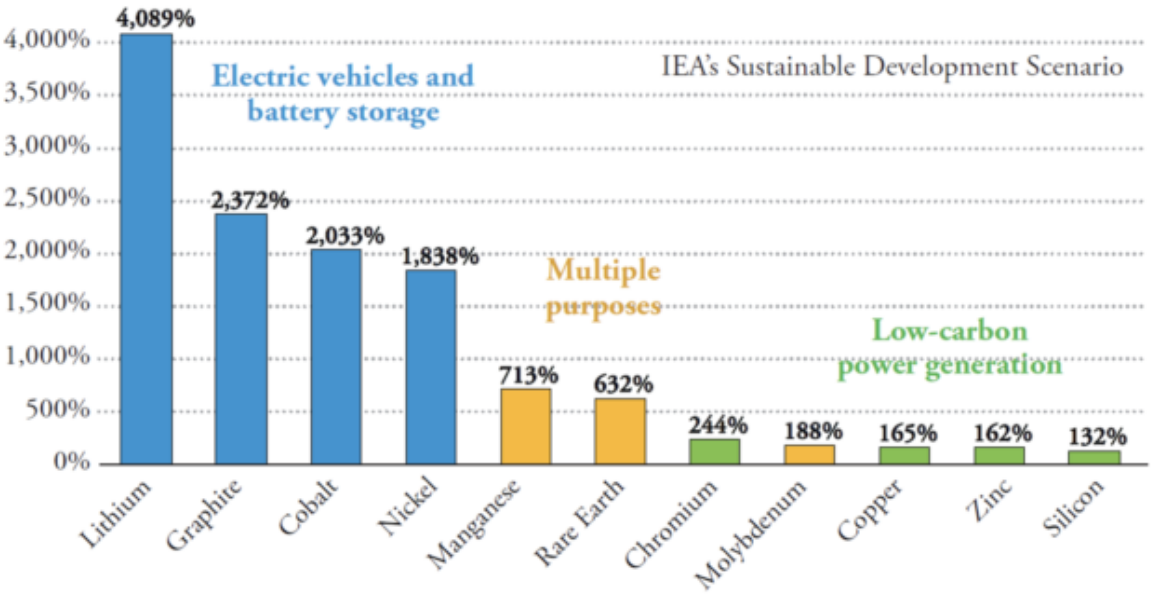
PhonlamaiPhoto/iStock

??????????????????????????????(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.

?????????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????????????
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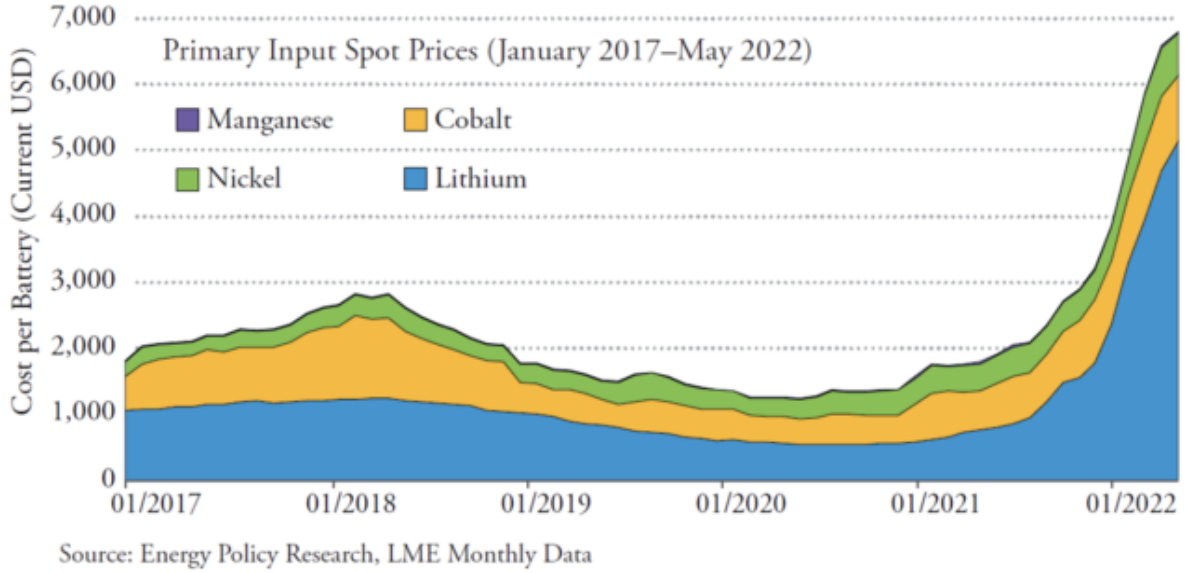
Figure 34. Tesla Battery Cost Based on Monthly Average



Source: Energy Policy Research, LME Monthly Data

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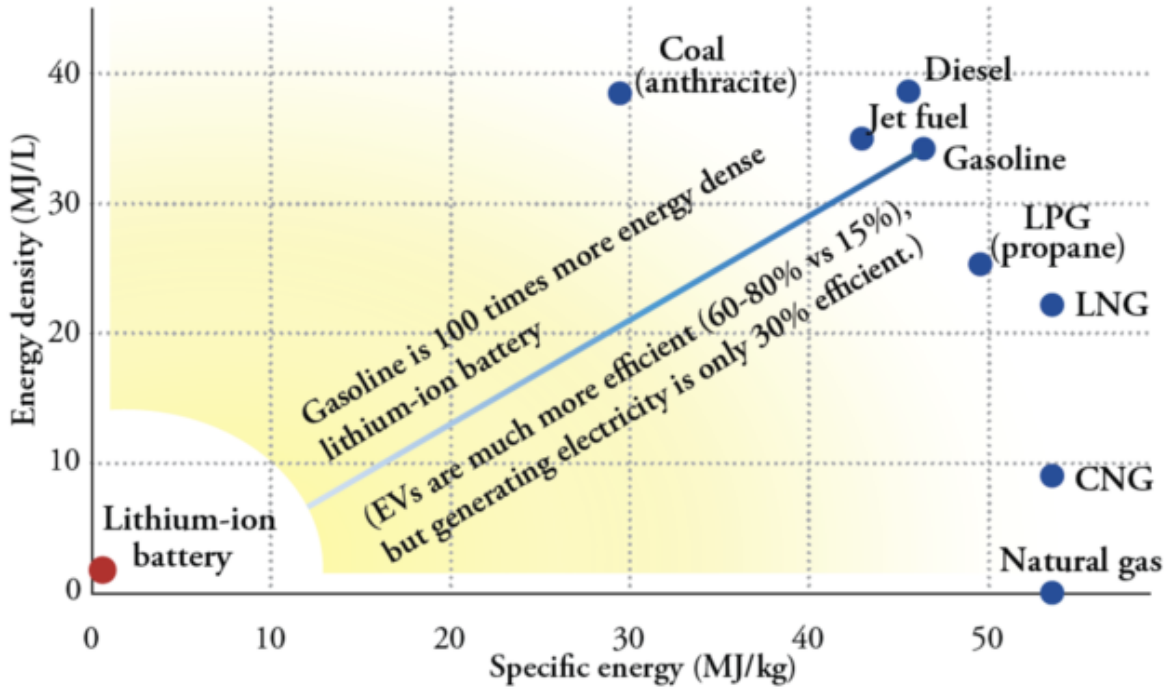
Figure 35. Energy Densities of Common Fuels, Li-ion battery



Source: Energy Policy Research, various sources

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