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?????????https://t.co/28fLDfLme
— ?????????? (@kahoku_shimpo) January 27, 2024

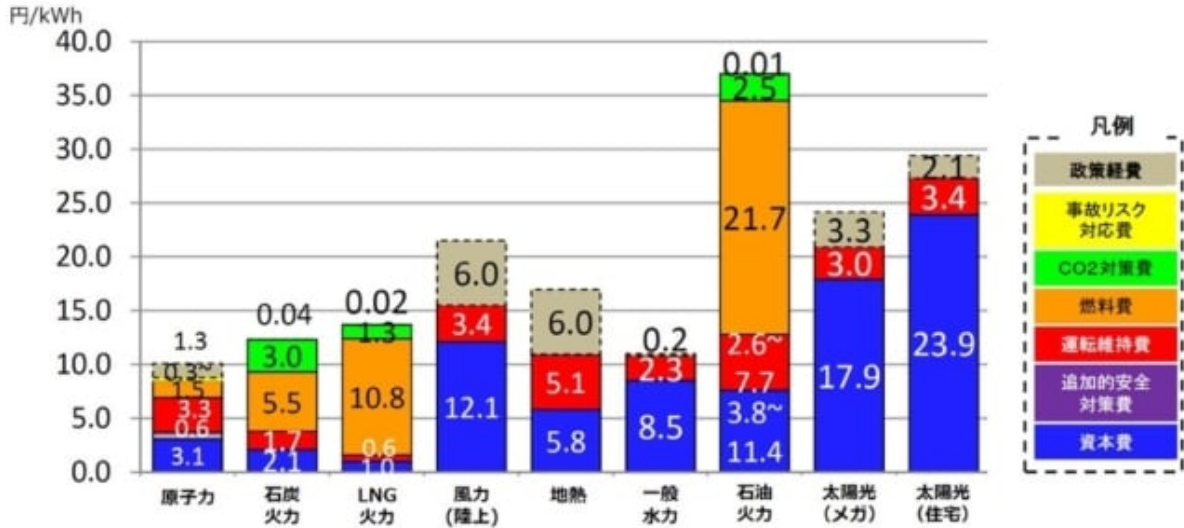
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??TSMC?
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1. **A**????????????????????**1,617**????????????????????
2. **B**????????????????**372**????????
3. **A**?**B**?4????????????????260kWh????????????????140????????????????
????611????
4. ?????????????????????140????????611????????????????

?????12????????????

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A?????????1????3????????1,352????????????????265????????????

B????2??811????????
??2????????????439????????811?
439?372???/????????375????????????

????????4????????4????????140????????611????????????????
140????????????????

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Lari Bat/iStock

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2. ?????????????

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3. ?????????CO2??????????

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

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

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?? ?? · Tuesday, February 27th, 2024

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1. ???
2. ?????????????????????????50????????????????
3. ?????????CO2????????????
4. ?????????????????
5. ??EV????????????????????????
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8. ?????????????
9. ?????????????????????
10. CO2????????????????????????????
11. ?????????????????????????

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

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

?? ?? · Saturday, February 17th, 2024



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??49????????????

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Climate change is “the single-most existential threat to humanity we’ve ever faced, including nuclear weapons.” ?Whitehouse.gov, January 31, 2023?

“If we don’t keep [global temperature] below 1.5 degrees Celsius over the — be — not go above that — we’re going to damn our children to a circumstance that is going to be the only truly existential threat under nu- — other than nuclear war.” ?Whitehouse.gov, March 14, 2023?

“The only existential threat humanity faces even more frightening than a — than a nuclear war is global warming going above 1.5 degrees in the next 20 — 10 years.”

?Whitehouse.gov, September 10, 2023?

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Posted in ???, ????? | No Comments »

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?? ?? · Monday, February 12th, 2024



Alberto Masново/iStock

????2023??2025?4??????1???????

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1. ???
2. ?????????????????????????????????
3. ???
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4. ?????????????????????????????????
5. ?????????????????????????????CO2????????????????
6. ??CO2??IPCC?????????1????CO2????????0.5????????????????
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7. ??????6????????????????????????1970??

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

?????????????????ESG????????????

?? ?? · Saturday, February 10th, 2024



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?47???3? ???

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???ESG?Environmental, Social, and
Governance????401K??
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ESG???ESG????
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Agenda47: President Trump on Making America Energy Independent Again

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47????3??2???

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

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?? ?? · Wednesday, February 7th, 2024

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?????????Voters???1????????????????????3??

???1????????????????????15????????????????????1????????1????????????????

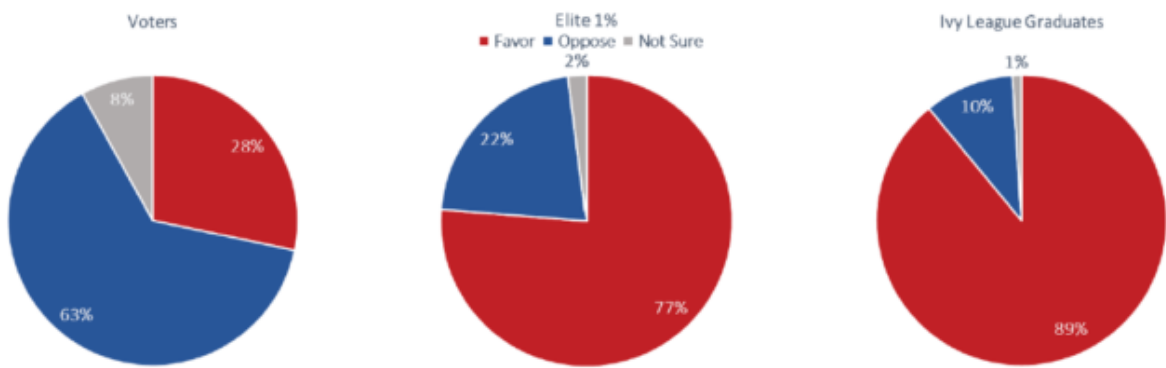
????????????????1??

????????????3????????

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

?????63%????????????????77????????????????89%???

To fight climate change, would you favor or oppose the strict rationing of gas, meat, and electricity?



2.????????????????????????

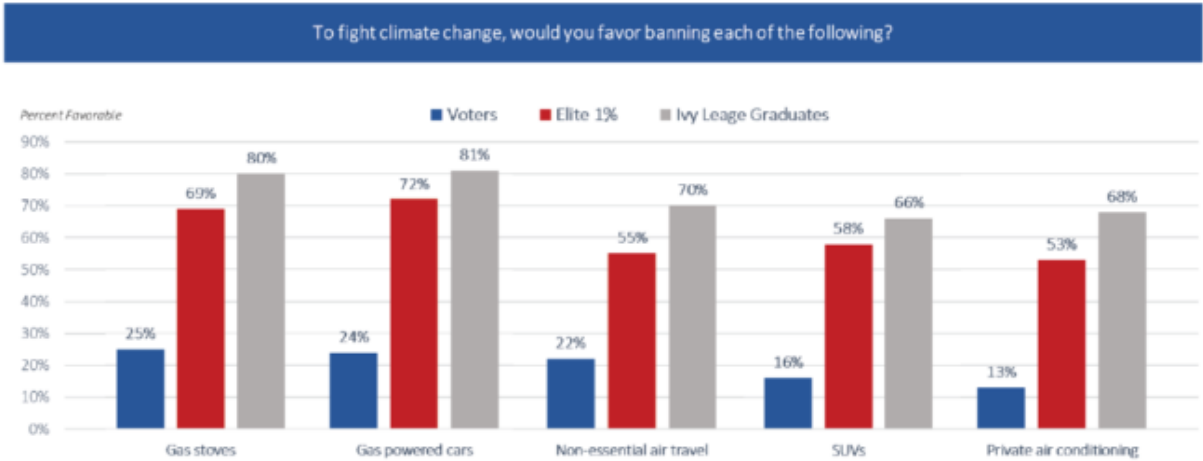
?????72??100??????????70??500?????

How much would you personally be willing to pay each year in terms of taxes and higher costs to reduce climate change?



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

????????????????????SUV????????????????????13??25????????????????53??
72????????????????????66??81????????????



????????????????????73?????14??84????????????????????
 ???44???

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Posted in ???, ????? | No Comments »

CO2??

?? ?? · Monday, February 5th, 2024



Sakorn Sukkasemsakorn/iStock

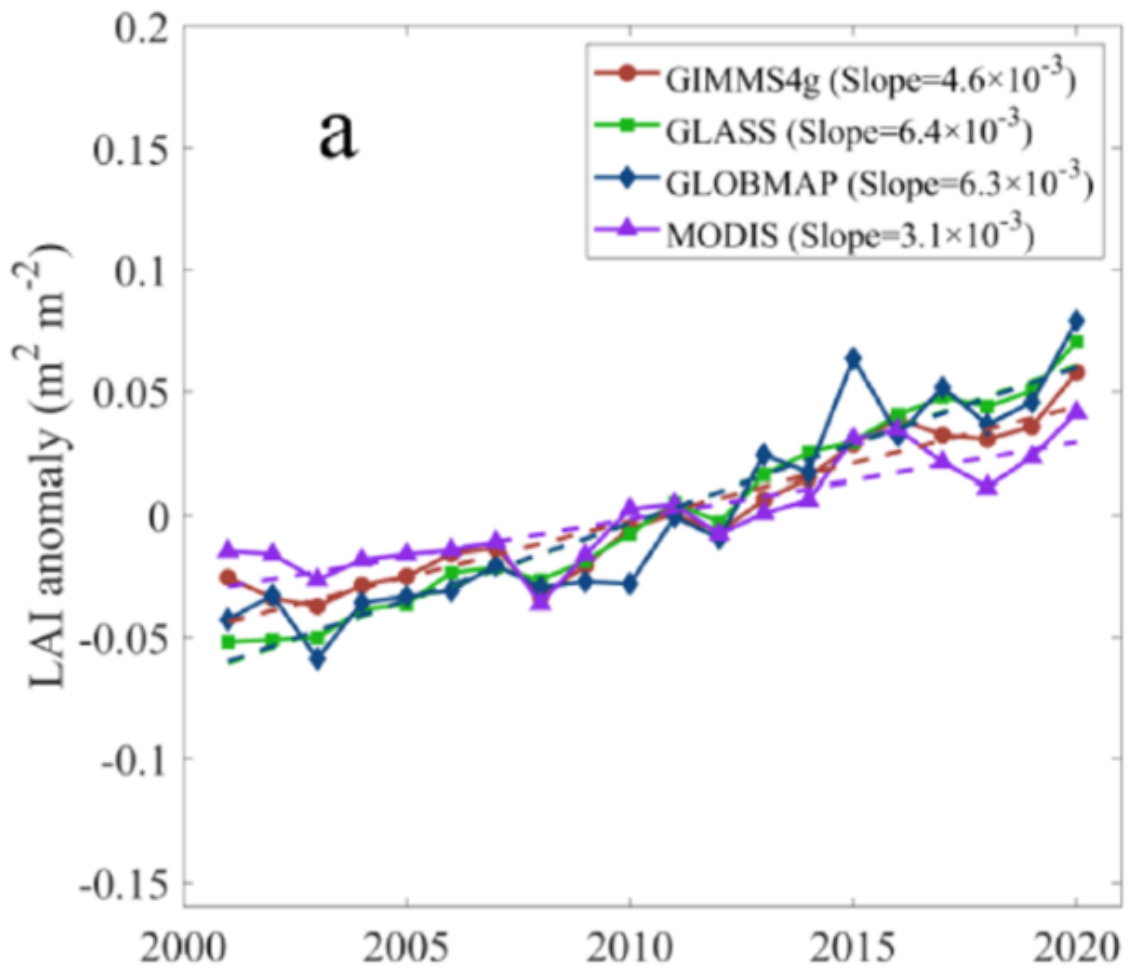
CO2???global
 greening)??

???2000??2020?????????????????Leaf Area Index, LAI??????

LAI??????1??3????1??????????1????????????????????
 ??1??

????????LAI?20??0.1????????????????????1????????????????0.1????????????????????????????????

4??



?1?LAI???

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CO2?????Srad?????P???????Soil Moisture, SM?????Airt??5??????????????2??

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

????ESG???

?? ?? · Sunday, February 4th, 2024



Adrian Los/iStock

????ESG?????????NISA?????

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ESG????????????????????2020???????????

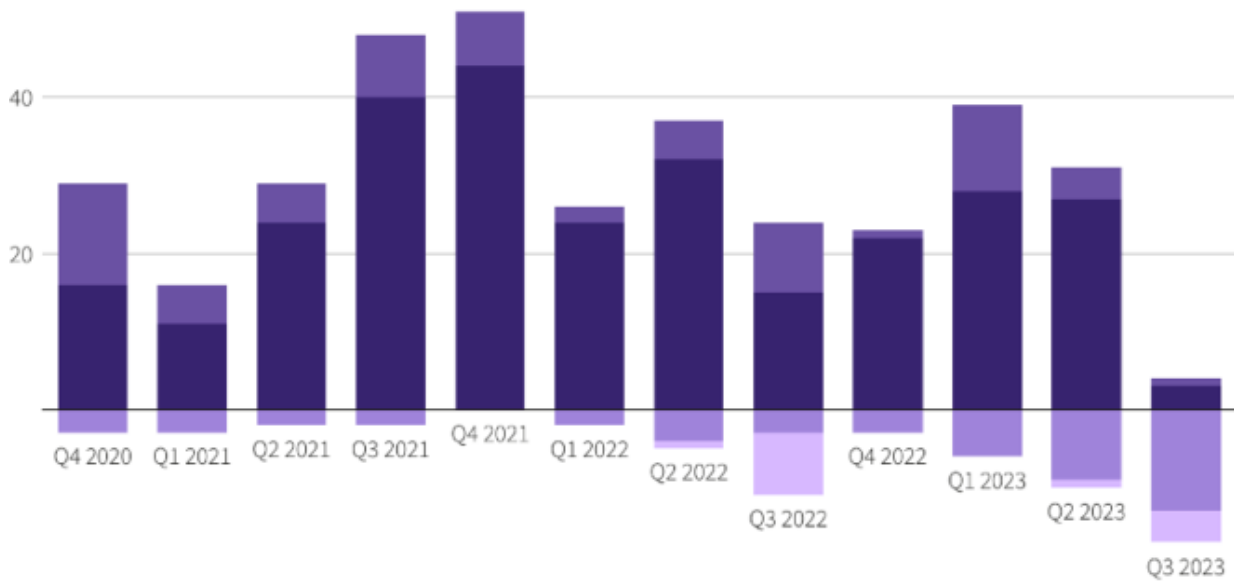
????????????????23????????????????3?????ESG??
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????????????13????????????????????????????3??????
??4????????????????????????????0.02??????????
????????0.85????????????

Sustainable fund launches plummet

Asset managers closed sustainable funds faster than they opened new ones in the third quarter

● Launches ● Funds moved into sustainable category ● Closures ● Funds dropping sustainability mandates



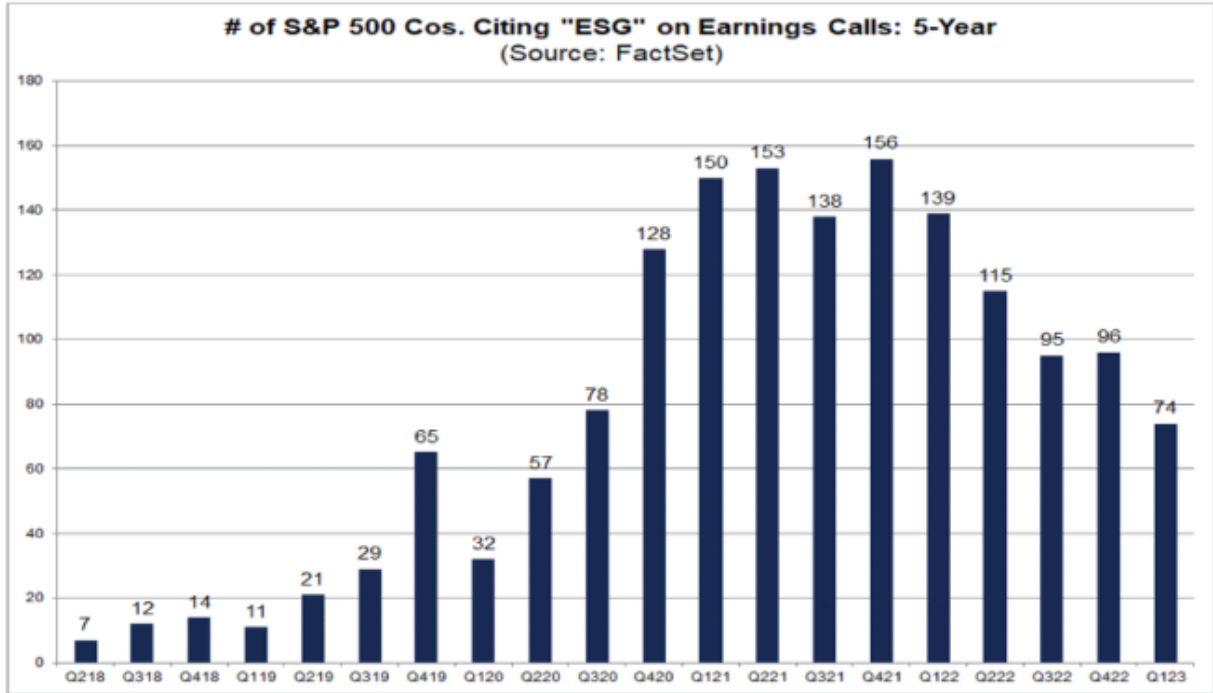
Source: Morningstar Manager Research

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??????ESG??????S&P500??????2020??2???????



??????ESG????????????????74??????S&P500????????????????ESG????????????2020
 ??2????57????????????????2021??4????156????????????????ESG??????S&P500?????5?
 ?????4????????????????2022??4????????????2023??1????????????ESG?????S&P50
 0????23%?????



FACTSET

2018-2023

Q218-Q123

ESG



ESG
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ESG

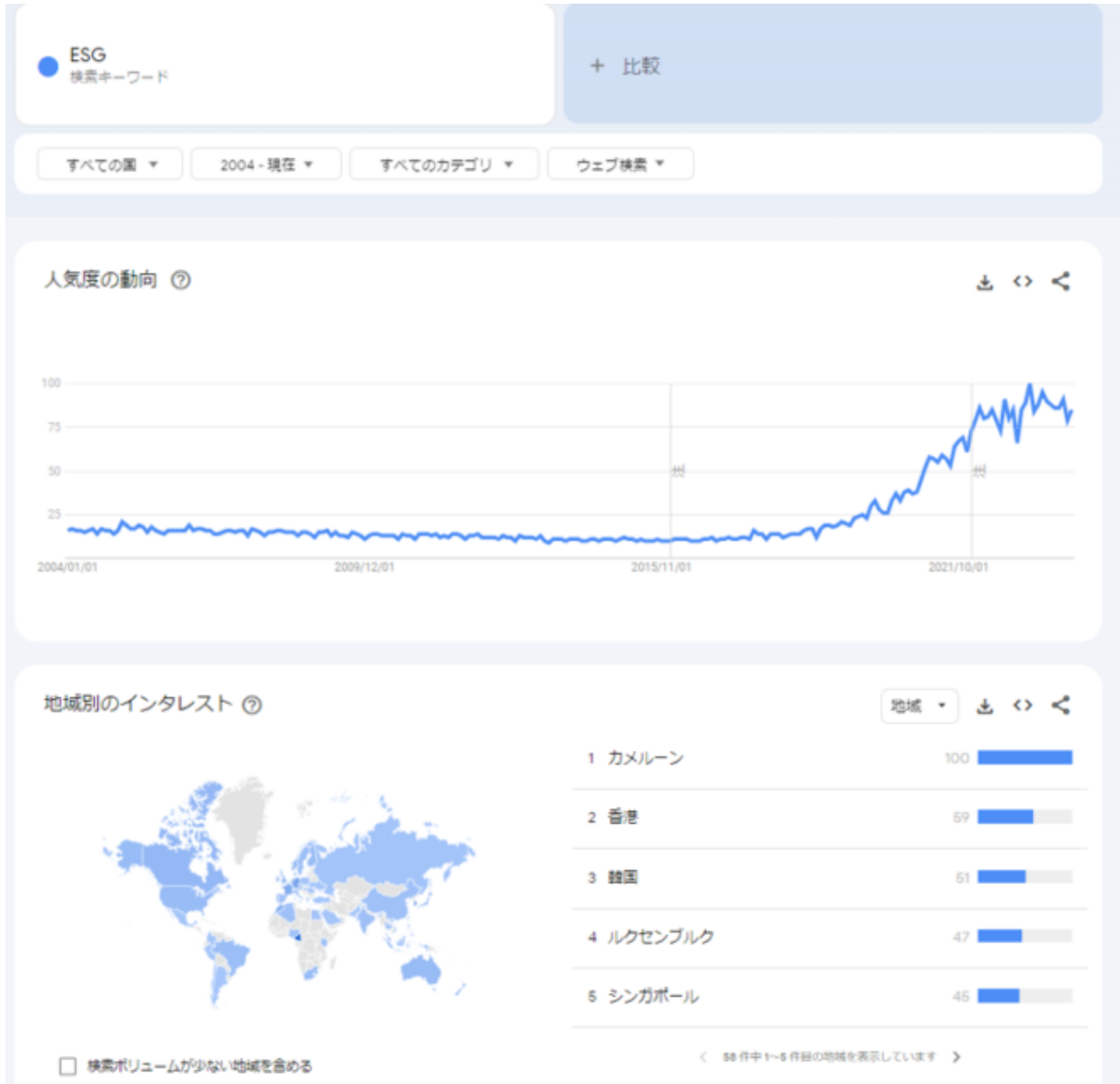


ESG
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2023??ESG??????????

ESG??ESG??ES
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ESG????CO2??
????CO2??
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????ESG?E????????CO2?????E????????????????????????????????
??E?S?G????????????????
E????????S?????G????????????????????????????????
??ESG??

????????????SDGs????????????????????????154??



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ESG??
ESG????????????????????????????????ESG????????????????????????

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EV?HV?PHV? COP

“transitional fuel?” COP

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“transition away from fossil fuels”

COP 2022, 2023

COP 127, COP 11

COP UAE

COP28

CCUS? COP

COP 28

125 CO2

CO2

CO2

de-industrialization

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COP EU de-industrialization

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??????????10??11????????????????5.4%?5.8%?????¹¹????????????????????

??0.3%????????????

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

??EU????????EU-
CBAM????????????????????CBAM????????????????????????????????

?CBAM????????????????????EU????????????????????????????????EU????????????

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ETS????????????3????2013????EU????????????????????1500????????????EU????????100
0????????????EU????????????1.5????????????????2500????????????1500????????10
00????????????????????????17????????????

????????EU????????ETS????????????????????????????????ETS????????ETS????????
FIT??EU????????????????????
EU????????????????????

??EU????????????????????CBAM?EU???

???EU???????

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

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EU CO2 EU
EU
EU

COP28

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EurActiv, January 16, 2024

Posted in | No Comments »

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?? ?? ? - Thursday, February 1st, 2024



ollo/iStock

10 CA?

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????????GDL????????

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??100????????GDL????????????4????????????????????????????????????
????????????????????????????????15?GDL????????

GDL????????????555????????????25????????????????3000????????????
????????38????35????????

??12?7?8?GDL??

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??6????????????????????????????????????1????2500?3000????????
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??6??10????????????EU????????????6????????
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DGL?4??
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??GDL??52????????????6????????
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???29?18????????????????????5????????????????????????????????????3????????????

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Posted in ???, ?? | No Comments »

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?? ?? · Wednesday, January 31st, 2024

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- 2????????????????????1000? ??????????

1????????600??0.47????????????????????
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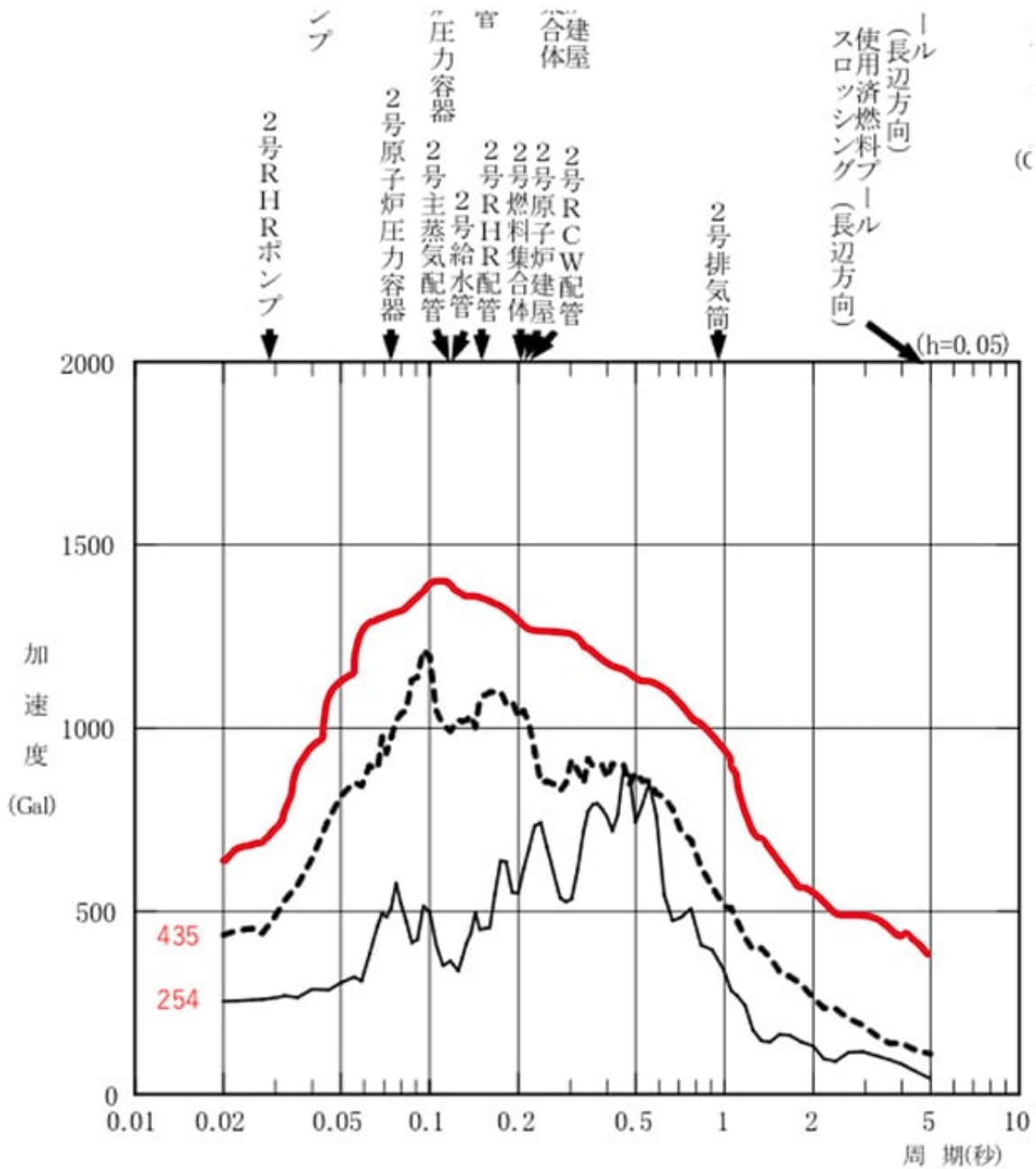
??F????????????????G????????????????G????????????
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Posted in ???, ?????????? | No Comments »

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?? ? · Wednesday, January 24th, 2024



Cinefootage Visuals/iStock

2023?12????????????COP28????????????????????????????????????

COP28??2050????????????????????10??
??transition away from fossil
fuels??

???COP28?2??28????
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????????????????????1928??
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 ???UAE?
 ?????????????????????????????????????OPEC??2022??28??????????10.6????????????????
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Posted in ???, ????? | No Comments »

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

?? ?? · Saturday, January 20th, 2024



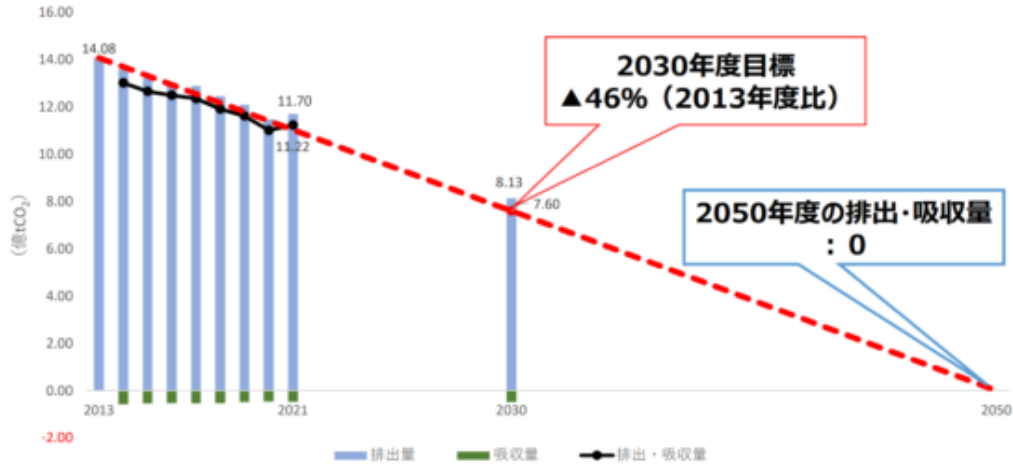
Slavica/iStock

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2030年度目標及び2050年カーボンニュートラルに対する進捗



- 2020年度からの増加については、コロナ禍からの経済回復により、エネルギー消費量が増加したこと等が要因と考えられる。
- しかし、2019年度からは3.4%減少しており、2030年度目標の達成及び2050年カーボンニュートラル実現に向けた取組については一定の進捗が見られる。



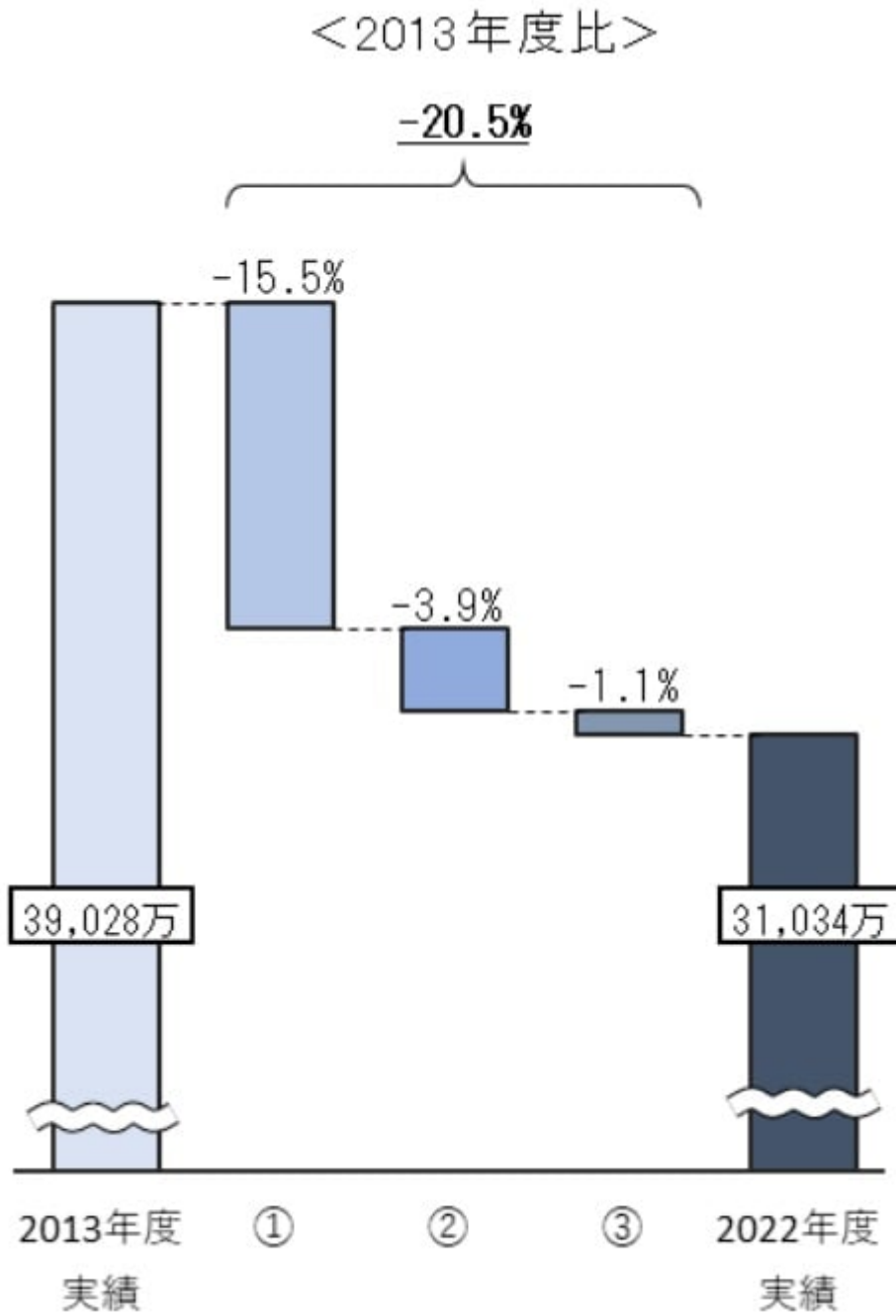
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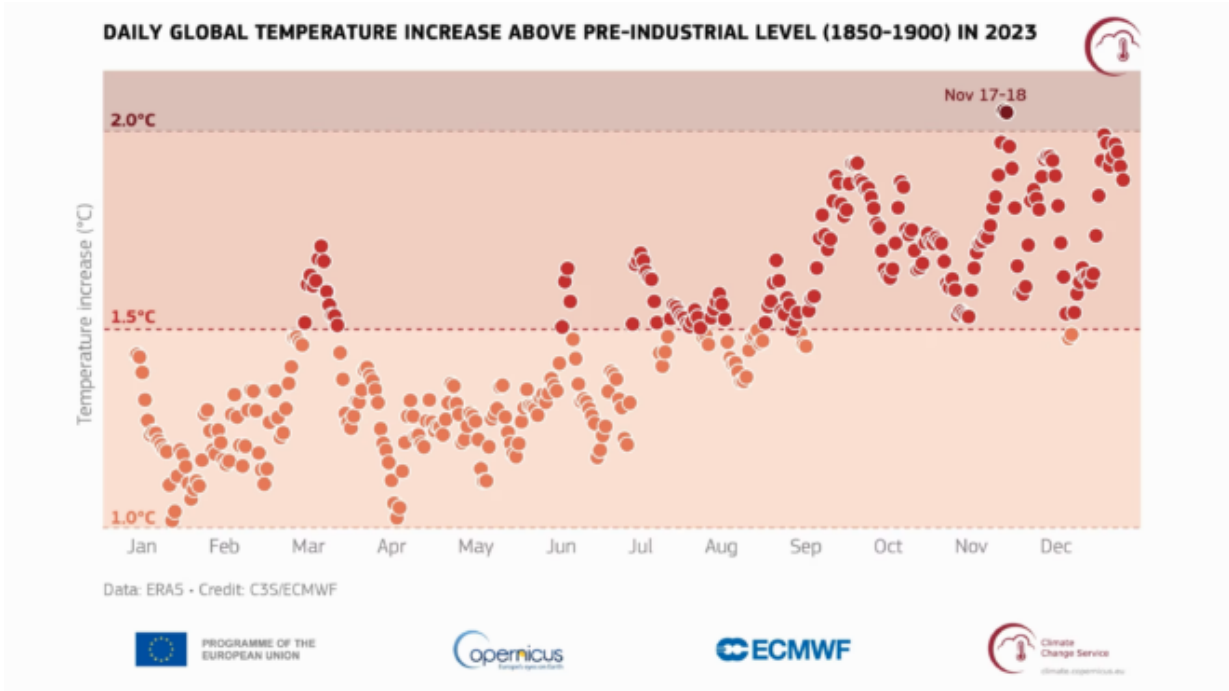
Posted in ??????????, ??, ????? | No Comments »

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

?? ?? · Wednesday, January 10th, 2024

EU????????????2023????????????1.48????????

????????1.5????????????0.02????????1.5????????
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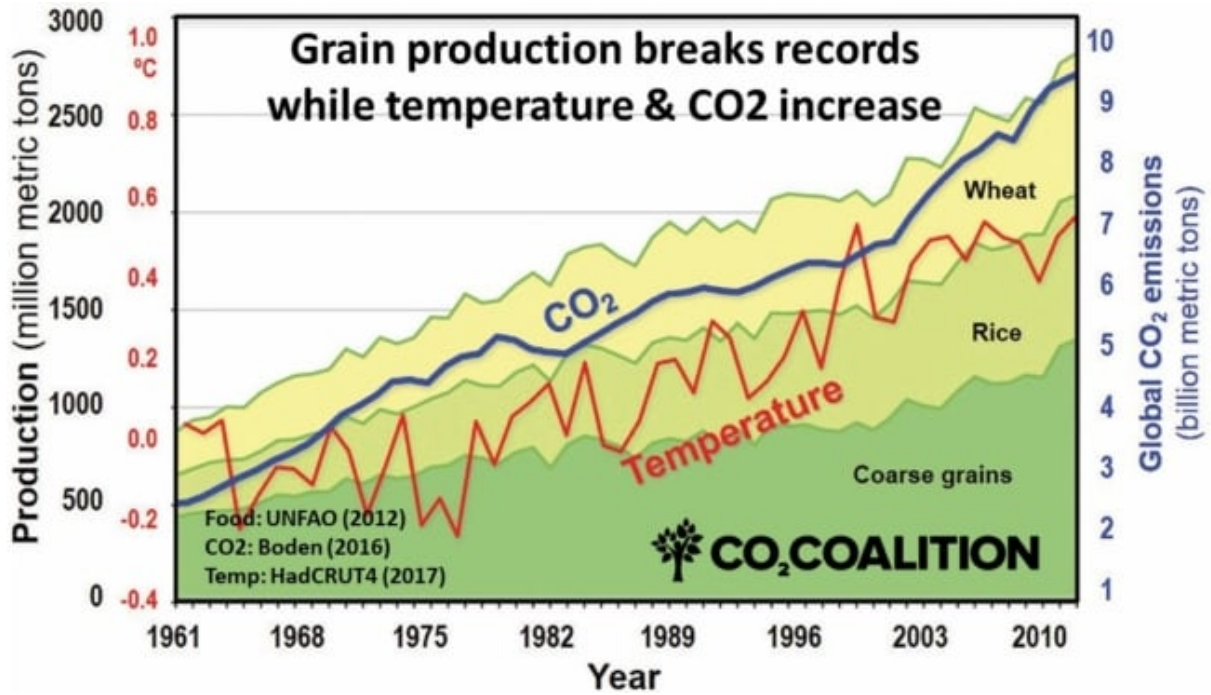
????1.5????(ABC News)

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CO????????????????

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CO??



CO2????????(CO2 Coalition)

??10????????WMO??????????4.5mm????????IPCC????????7mm????????????????????????????????

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??145??18??????????????41??????

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4??4500????????????????????
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Posted in ???, ?? | No Comments »

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?? ?? · Sunday, December 31st, 2023



shotbydave/iStock



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

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?? ?? · Saturday, December 30th, 2023



CampPhoto/iStock

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21?4????????????????????????????????????28????????????????????????????????????67????????????????
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Wikipedia??

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

COP28???????

?? ? · Tuesday, December 26th, 2023



Heiness/iStock

12????????COP28????????????????????????????????COP??????

??NDC??
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????1.5????2050????????????????????IPCC?6????????????????2025????????2030??43????2035?
??6??1.5????????????????????????????????????
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??????¹²??1.5????????????2025????????2035????60????????????????26?27????2025????????
?NDC?????1.5????????????????????????47??

????????????1.5????????????????????IPCC????????2025????????2035??60????????????????
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?NDC??2025????????20
35??60??2025????????2035??60????????????????????
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COP28????????????????????????????????1.5????????????????????????????????????
????????????????????????CO2????????????????????????????????

????????????????28????1.5??
??8????????????????????????????2050??
????????????10??transition away from fossil
fuels)????????

2030 3 2 CCS 29

COP CCS

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3

COP28 OPEC

12 UAE

NGO COP

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2030 5.8 5.9 67 2050 2030 4 3,000 2050 75 68 69

1.5 1000

1.5?????

1.5

2021 1.5 2030 2010 45 2021 2022 2023 3

1.5 COP

1?https://unfccc.int/sites/default/files/resource/cma2023_L17E.pdf

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

????????SINO?Science in name only?

?? ?? · Saturday, December 23rd, 2023



metamorworks/iStock

1. COP28???

11?30????2??UAE????????COP28??90,000????????????????????

11?21?????She Changes
 Climate????????COP28????????????????????1.5°C????????????????????
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????????????????B.Sc????????????????PhD????????????????MBA????????????????
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COP28 ?????????????????????

COP28????????????NHK???????????? ?“?????”???????????? ???? ????
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????????2050????????75??
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Posted in ??????????, ??, ???? | No Comments »

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

?? ?? · Friday, December 22nd, 2023

????????COP28????????COP????????????????????????????????????

????????(phase out)????????????????????????????????(phase down)????????(transition away)????????????????

COP????????

COP????????????????????????????????(UNFCCC)????????1994????????1997COP3????????

????6????????1????????

????2015????NDC????2????1.5????2016????

????COP????1.5????EU????2021COP 26????

????COP????COP27????1.5????

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????COP????1????U AE????11????

????1.5????EU????CO????



?????????? “?? “???”2050???????????? “???”????????????”??????
“??“???? “??”??????????????

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????12?19????????????????????

COP28 ??????????????????



NHK????????COP28????????????????????

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??NHK????????????COP28????????????????????

DeepL?NHK????????transition away????????????

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- 10????????????COP28?????12?13??????
- ?????????????COP28????????12?13??????
- ???COP28????????????12?17??????
- COP28????????????1?????12?13????????
- COP28????????????12?13??????
- COP28????????????????????????12?14??BBC????????



Ignatiev/iStock

EV??????...???????

12?17??7?????????EV????????????????????5?????

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????????????????????11?15????????????600????????
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????????????????23????????1????????

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4

no farmer, no food, no future

EV

1400

EV

11

EV

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EV

????????????COP28??

??NHK????????COP28????????????????????????????

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28. Further recognizes the need for deep, rapid and sustained reductions in greenhouse gas emissions in line with 1.5 °C pathways and calls on Parties to contribute to the following global efforts, in a nationally determined manner, taking into account the Paris Agreement and their different national circumstances, pathways and approaches:

- (a) Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030;
- (b) Accelerating efforts towards the phase-down of unabated coal power;
- (c) Accelerating efforts globally towards net zero emission energy systems, utilizing zero- and low-carbon fuels well before or by around mid-century;
- (d) Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science;

Draft decision -/CMA.5?Outcome of the first global stocktake

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- calls on Parties ??COP????????????????????????
- contribute to the following global efforts ?????????????????????????????
- in a nationally determined manner ?????????????????????????????
- different national circumstances,.., in a just, orderly and equitable manner ?
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- accelerating action in this critical decade??????2020????????????????????????????????????

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67. *Highlights* the growing gap between the needs of developing country Parties, in particular those due to the increasing impacts of climate change compounded by difficult macroeconomic circumstances, and the support provided and mobilized for their efforts to implement their nationally determined contributions, highlighting that such needs are currently estimated at USD 5.8–5.9 trillion for the pre-2030 period;⁵

68. *Also highlights* that the adaptation finance needs of developing countries are estimated at USD 215–387 billion annually up until 2030, and that about USD 4.3 trillion per year needs to be invested in clean energy up until 2030, increasing thereafter to USD 5 trillion per year up until 2050, to be able to reach net zero emissions by 2050;⁶

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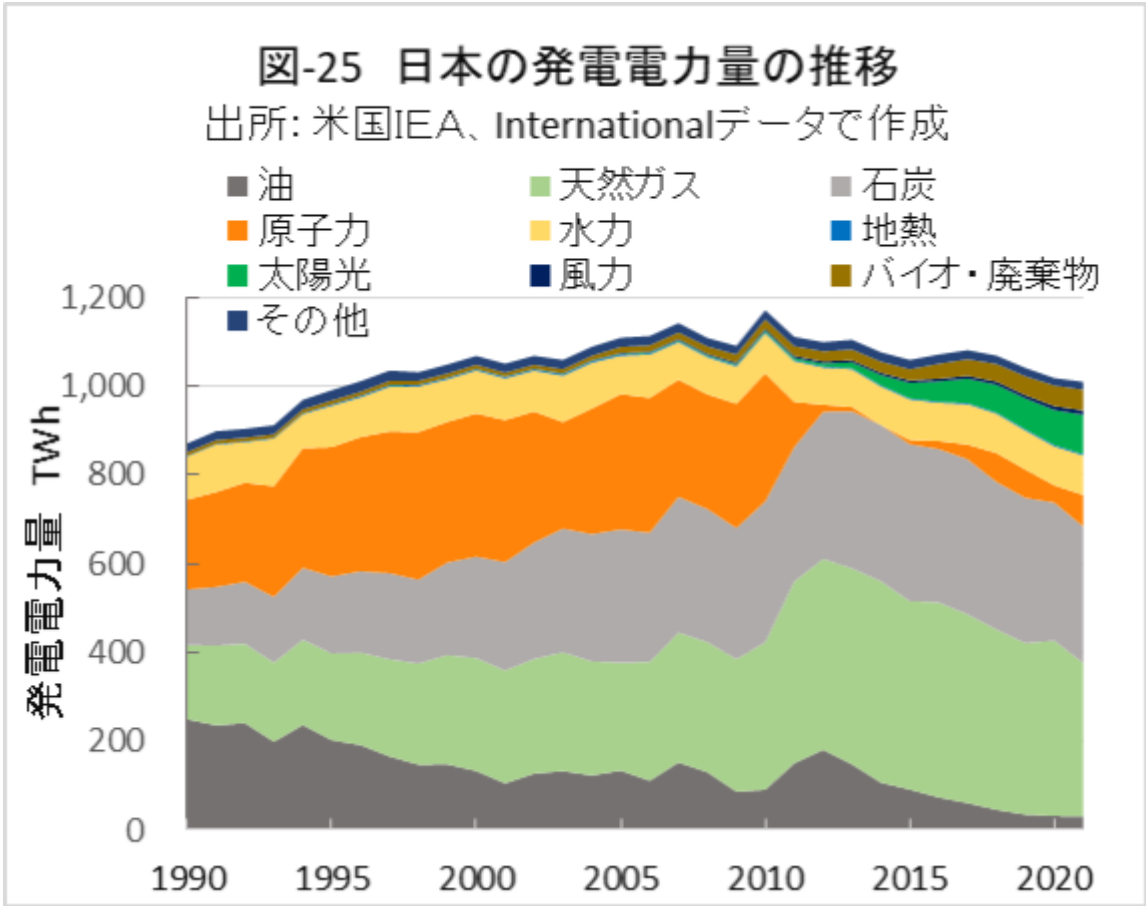
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2011年3月11日の東日本大震災以降、原子力発電の稼働が大幅に減少し、火力発電（石炭、天然ガス、油）の稼働が増加した。また、2010年代後半から2020年にかけては、再生可能エネルギー（太陽光、風力）の発電電力量が急激に増加している。LNGの発電電力量も増加傾向にある。

2012年7月のFIT（固定価格買取制度）の導入により、再生可能エネルギーの発電電力量は急激に増加した。FIT制度は2017年まで適用され、その後2020年まで適用された。FIT制度の導入により、再生可能エネルギーの発電電力量は急激に増加した。

再生可能エネルギー（VRE）

VRE（再生可能エネルギー）は、GHG（温室効果ガス）の排出量が非常に少ない。VREの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。

VREの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。VREの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。

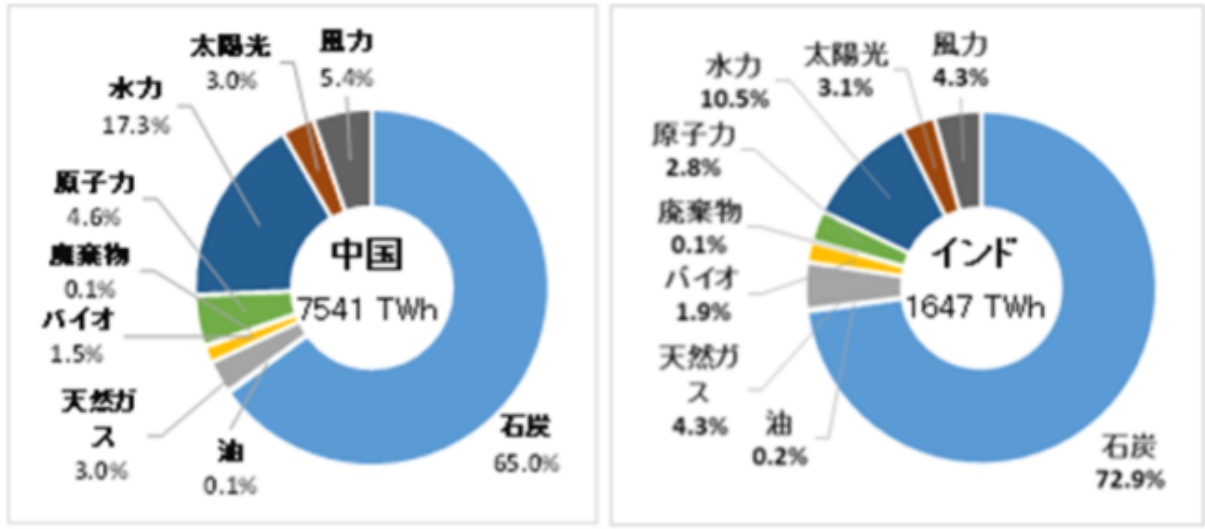
VREの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。VREの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。

GHG（温室効果ガス）の排出量が非常に少ない。GHGの排出量が非常に少ない。

2026年までの再生可能エネルギーの発電電力量は、再生可能エネルギーの発電電力量の一部を占めている。

図-26 中国とインドの電源構成 (2019年)

出所:IEA データで作成



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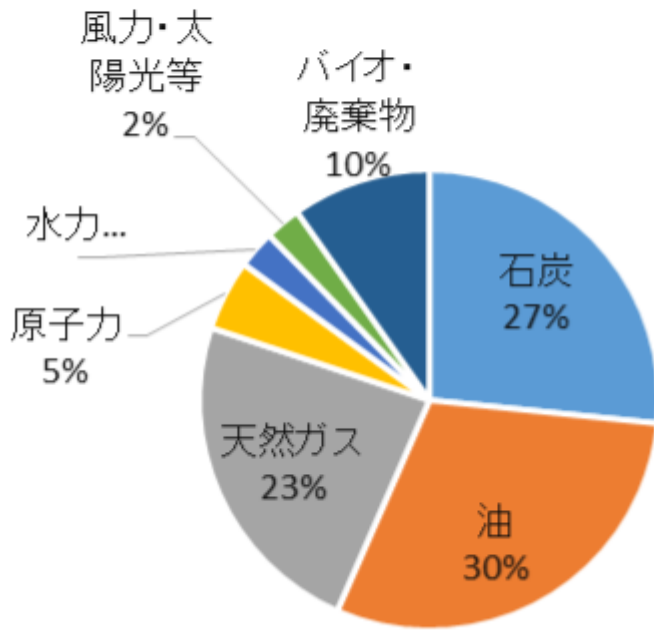
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2050?GHG??GHG????????????????

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図-27 世界の一次エネルギー供給量
(2020年) 出所: IEAデータ



28??29??7????????????CO2??????????

図-28 グループ別 一次エネルギー供給量
(2020年) 出所: 米国eia、Internationalデータ

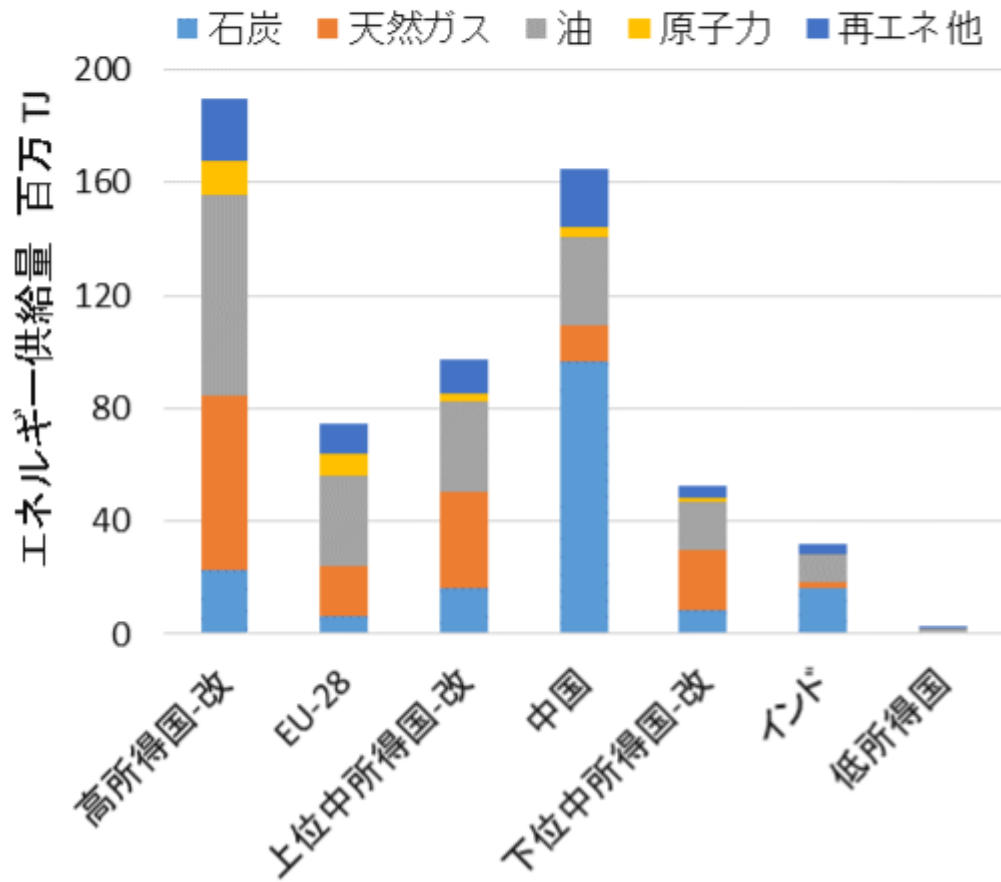
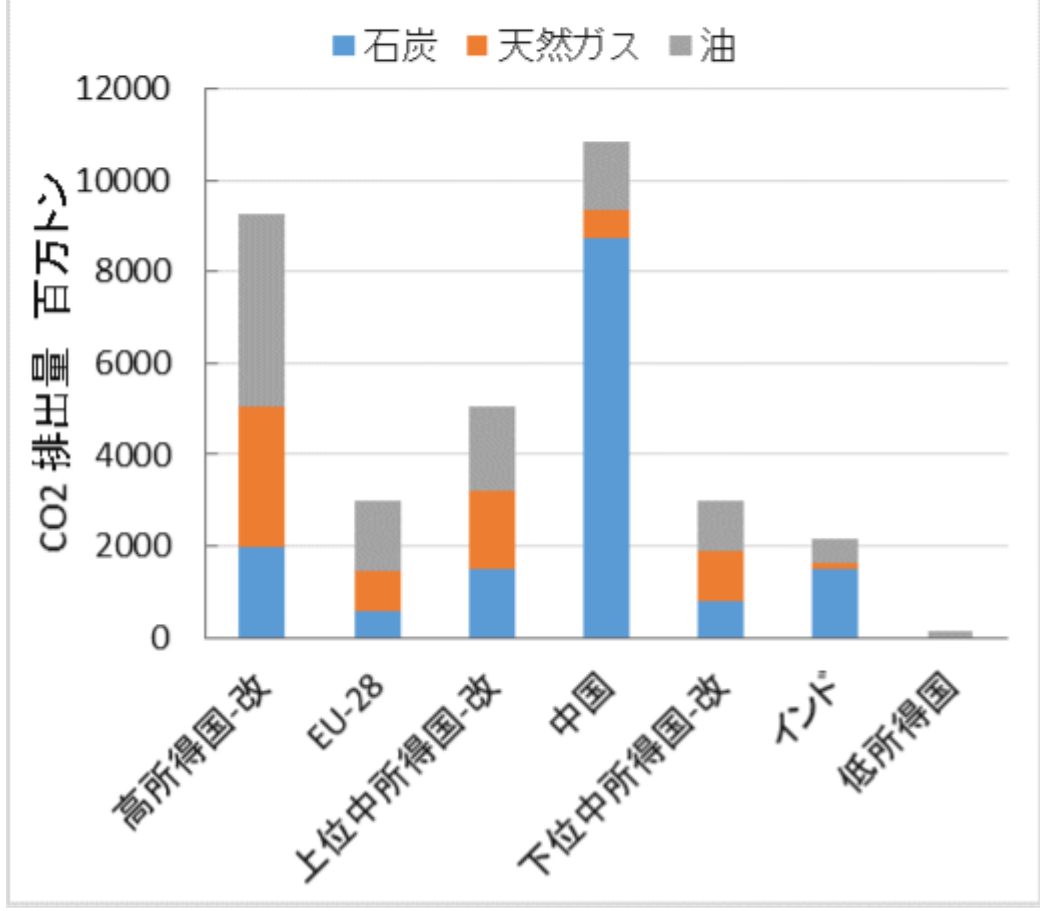


図-29 グループ別燃料燃焼CO2排出量 (2020年) 出所: 米国eia, Internationalデータ



2020年、世界のCO2排出量は52%増加し、16%減少した。2020年のCO2排出量は、

2019年と比較して、CO2排出量は0.56億トン増加した。

LCA（ライフサイクルアセスメント）によると、LNG（液化天然ガス）のCO2排出量は、

18%減少し、6%増加した。IEA（国際エネルギー機関）によると、2020年のGHG（温室効果ガス）

排出量は70%減少した。これは、再生可能エネルギーの増加と、

化石燃料の燃焼量の減少によるものである。

30%の削減は、1970年代後半から2010年代前半にかけての

削減ペースの鈍化によるものである。

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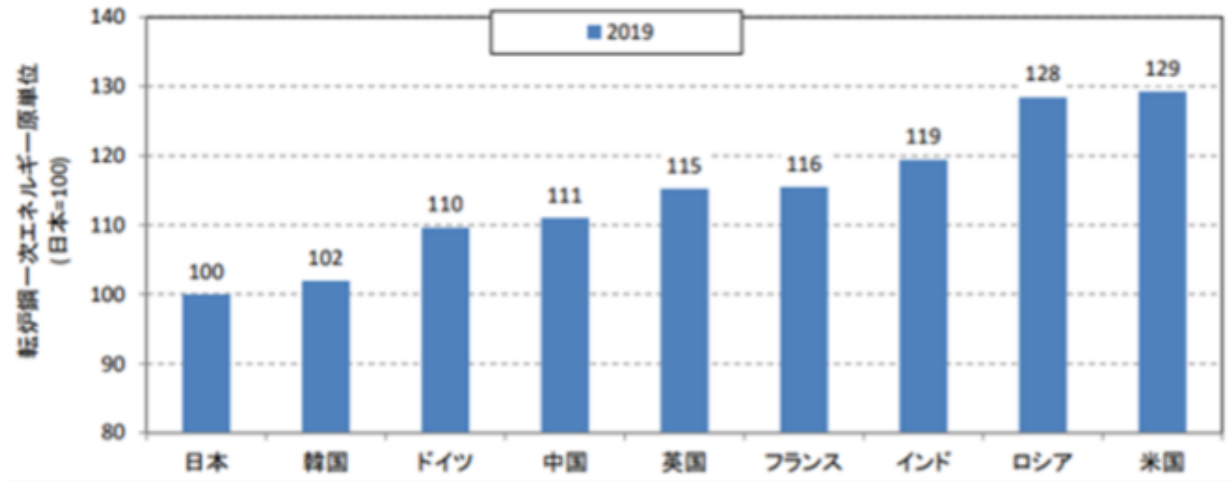
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図-30 高炉-転炉鋼の一次エネルギー原単位 (2019年)
出所：2019年時点のエネルギー原単位の推計(鉄鋼部門-転炉鋼)、RITEほか



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GHG????????????????EU????????GHG???60?70%????????GHG?
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Charts??
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2045??6?????4????????????????????????3?????
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??Power-to-
X??CO2????????????????????????3????????????

表-3 ドイツ2045年GHGネットゼロの風力・太陽光発電の変動対策

分類	技術名	電力不足時の対策	電力余剰時の対策
季節変動と発電ピークの抑制	風力と太陽光比率の適正化	風力発電と太陽光発電の季節変動を相殺	
	太陽光発電の抑制	ピーク発電量が大きい太陽光発電比率を抑制	
電力貯蔵	定置バッテリー	高応答性の電力供給	余剰電力で充電
	移動(車載)バッテリー	同上	電力余剰時に充填負荷をシフト
	揚水発電	同上	余剰電力で揚水
余剰電力の燃料変換	電気分解H2製造		高応答性の電力利用、H2貯留可
	H2ベースのメタン合成		発電・加熱用燃料
	H2ベースの液体燃料合成		移動体燃料、貯留可
その他	メタン・水素複合サイクル発電	ディスパッチ可能電源	
	ヒートポンプ熱電併給複合地域暖房	熱電併給で暖房	ヒートポンプで暖房と蓄熱
	電気発熱体	常時使用だが、CO2フリーのボイラ等代替	
輸出入	電力輸出入	再エネ発電の地域差を利用し欧州電力網を強化して輸出入	
	合成燃料・バイオ燃料輸入	国内燃料変換生産の不足を補完	
考慮されていない技術	CCS	CCSが石炭火力の延命になるという環境団体の反対による	
	原子力	原発分だけ再エネを減らせるが、福島第一事故で脱原発を決定	

出所: フラウンホーファーISE, 「気候中立的なエネルギーシステムへの道」, 2021年11月改訂の情報で作成

VRE??

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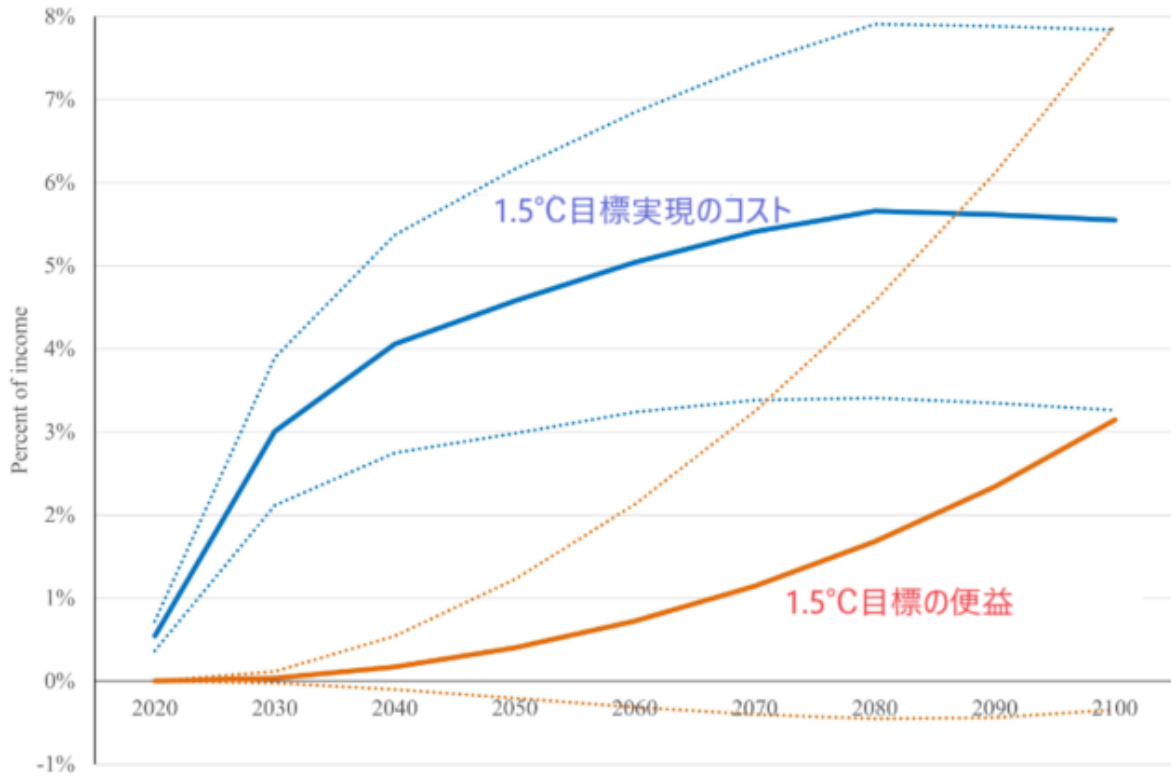
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S.Tol????????????????????????61????????39????????????????????????????????????

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1.5°C (Tol)

IPCC SSP5-8.5 2100

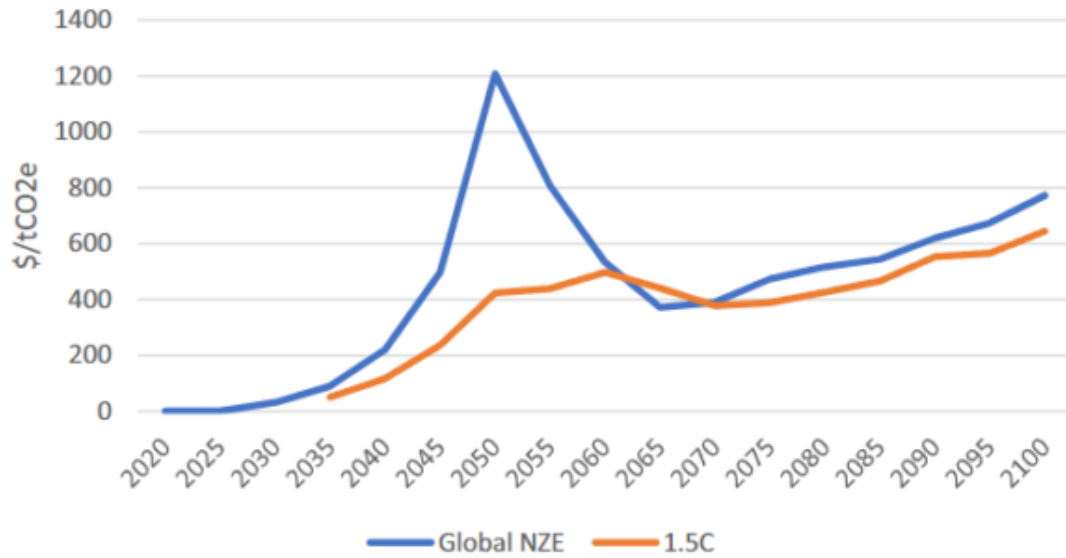
1.5°C

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Jennifer Morris et al. 2050 CO2 1200

Global Emissions Price



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