

????????????23????????????3?????ESG????????????????????????????
?????

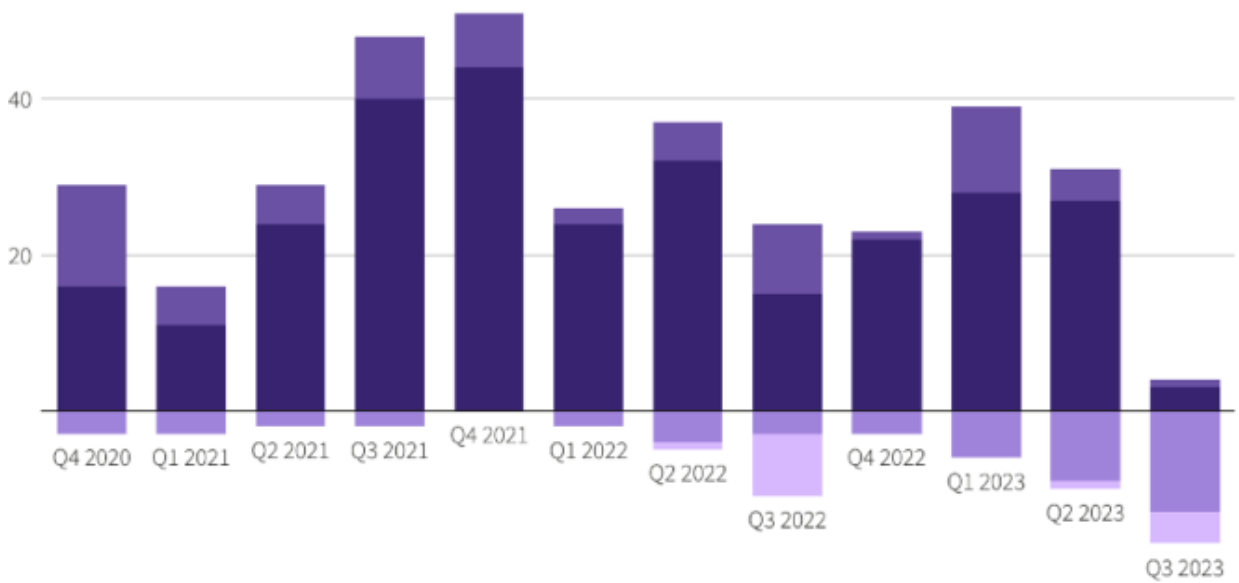
????????13????????????????????3???????

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

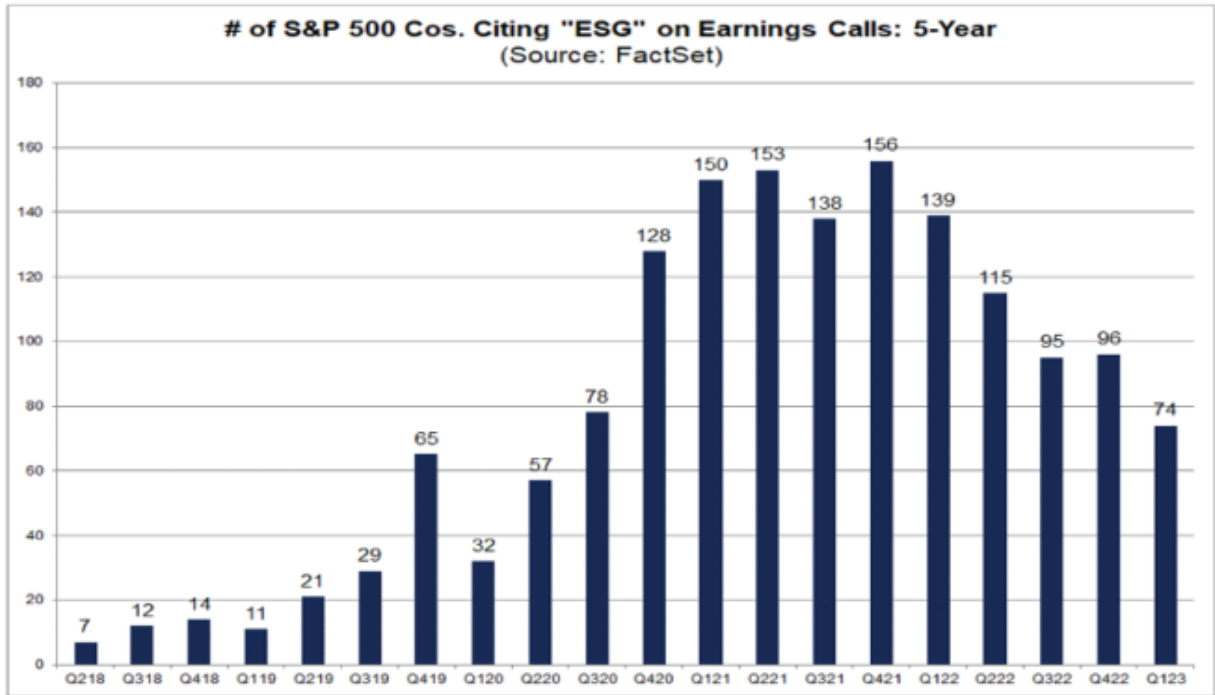


Source: Morningstar Manager Research

???????

???????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
ESG
ESG
“”

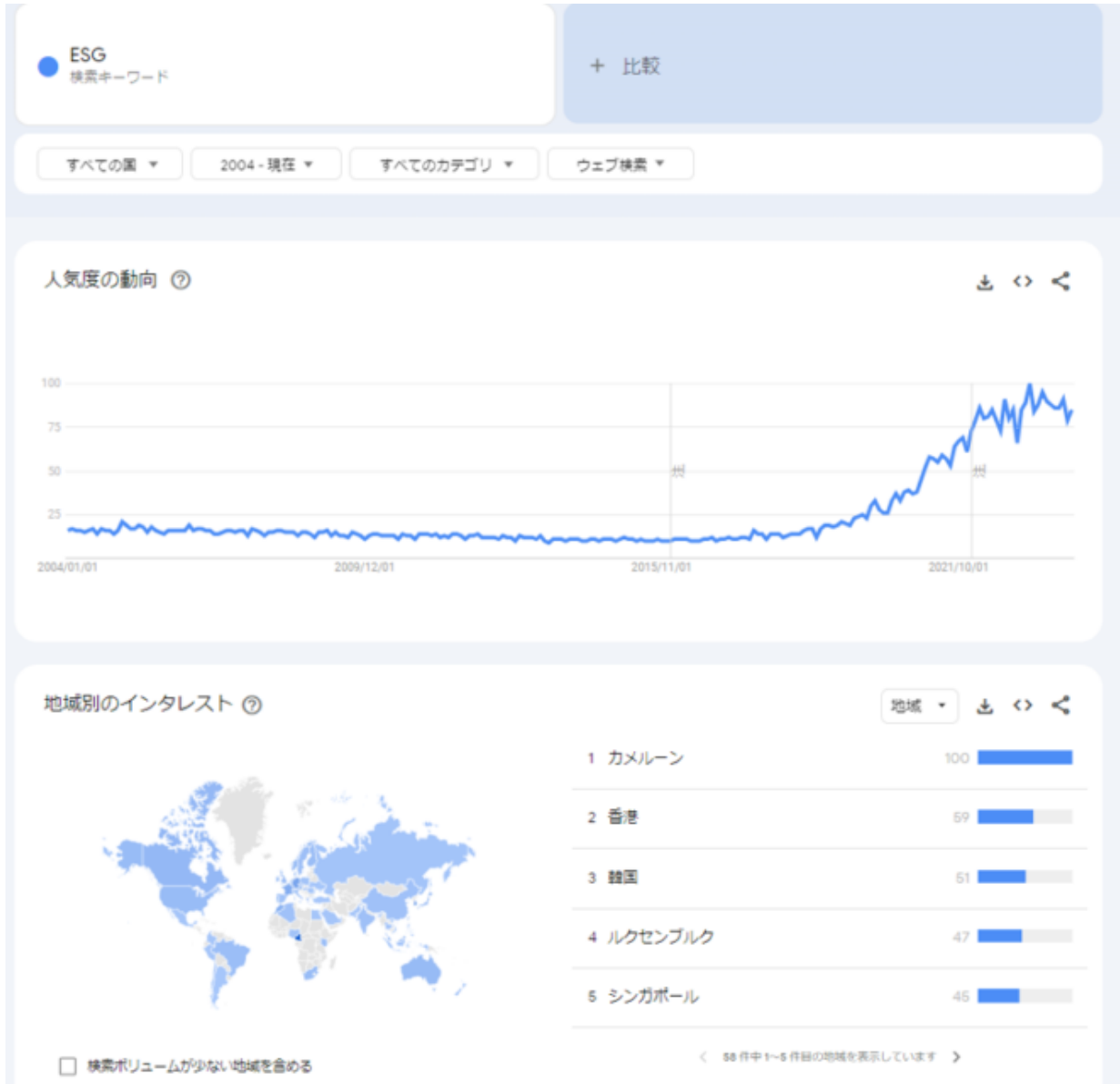
ESG

ESG
ESG
ESG
ESG

ESG
DWS
ESG

ESG





???Google???

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

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

ESG??ESG??ES
G??ESG????????????????????????

ESG????CO2??
????CO2??
????????????????????????ESG????????????

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

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

??ESG??

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



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

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

?



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

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

COP28????EU????????

?? ?? · Saturday, February 3rd, 2024



Evgeny Gromov/iStock

??12????????COP28??

??COP28????????5??GST????????????COP????

????????UAE????????????????????????????COP28?????“Ambition to Action (????)”

GST????????

??1????12?13????????GST????????NGO????????????COP????????????CCUS??

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

EV?HV?PHV?
“transitional
fuel?”COP
“transition away from fossil
fuels”COP
COP
COP??12?7?COP??1?
COP??UAE?
COP
COP28?
CCUS??COP?
COP?
COP28?
12?5?
CO2?
CO2?
de-
industrialization?

??????????10??11????????????????5.4%?5.8%?????¹³????????????????????
?????

??0.3%????????????
??????G7????????????????

????????????11????????????????????600????????????????????????????????
??
??????????????

??

????????????????????IT??
??EU????
????????????????????????????

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

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

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

????????EU -
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????????????
????????????????????????

??
??
??
?????

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

EU CO2 EU
EU
EU

COP28

?

EurActiv, January 16, 2024

Posted in | No Comments »

????????

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



ollo/iStock

10 CA?

????

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

????????????????????????????????????GDL????????????33?4000????????????
??100????????GDL????????????4????????????????????????????????????
????????????????????????????????15?GDL????????

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

??12?7?8?GDL??

????????????????????????????????????3????????????GDL?1????????1?9?????10
????????????12????????

????8????????????????1????????????????????????????????????
??

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

??
??

??340km????????
????????

????????????????DGL??1?24?6?
????????????????

??

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

??6????????????????????????????????????1????2500?3000????????
????????

????????????????????1????1????????????????????????????
??6??10????????????EU????????????6????????
??

??

DGL?4??
????????????

??
????????????X????????????35????????
????????

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

??GDL??52????????????6????????
“?”??16????????????

??
??

?????1994????????????100??
????????30????????????????????????

????????????????????????????????????3????????????????????????1????????????????????????????
????????????????????????????????????3????????????????

????????????????????????????????????41??

???29?18????????????????????5????????????????????????????????????3????????????

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

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

????????????????????2?1??
????????????

Posted in ???, ?? | No Comments »

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

?? ?? · Wednesday, January 31st, 2024

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



???????

??????HP??

?????????????—????????????????

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

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

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

???????.????????????????????????????????

??

SNS??

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

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

?????1?????

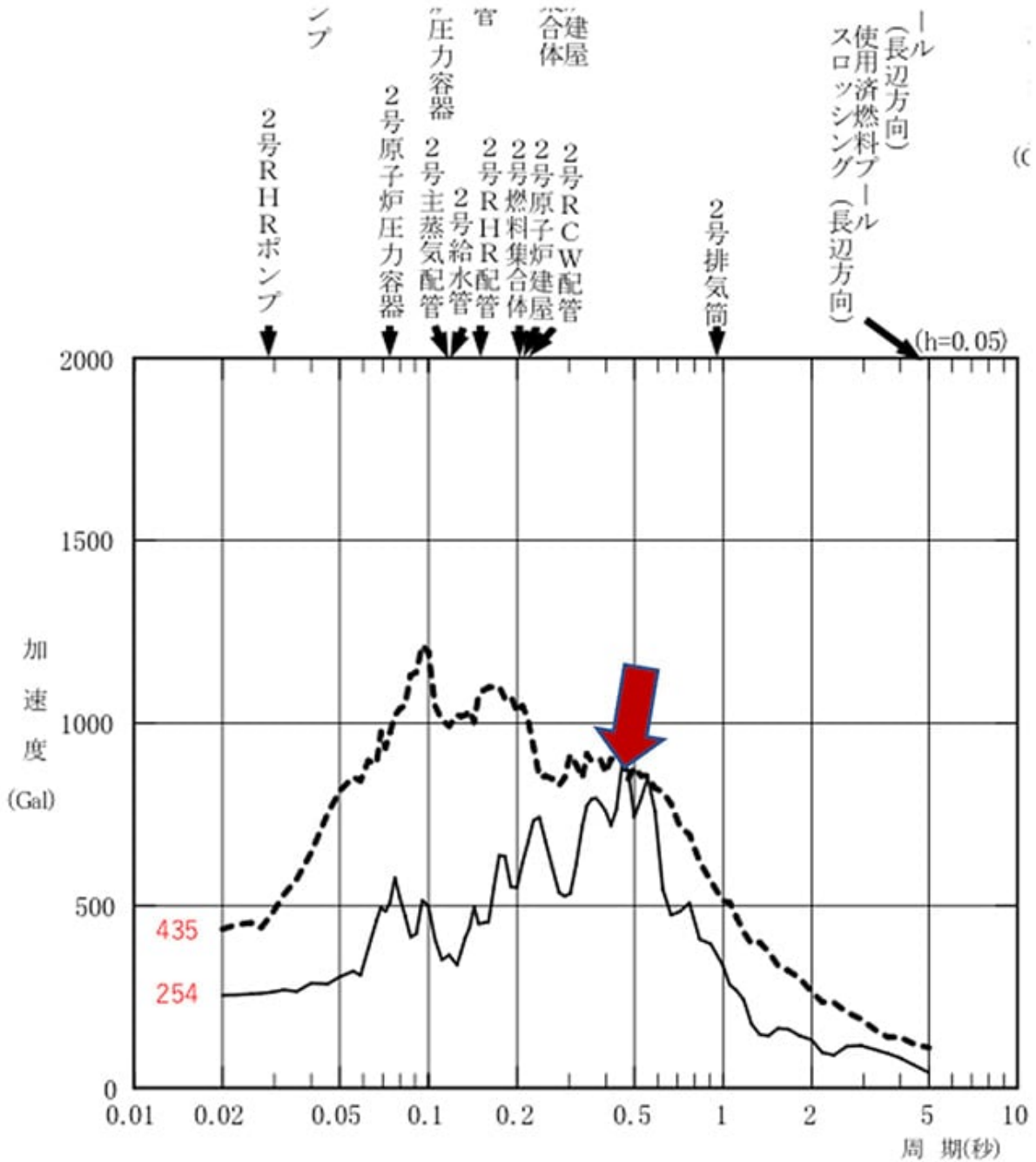
- ???2????????1????????????????????
- ?????????????????????1?2????600?????
- 2????????????????????1000? ??????????

- ?????1000??

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

??1?2????????????????????????
????????1????????????0.47????????918????????????957????????????????????????????????????

????????2????????????????????????846????????????871????????????????????0.47????????????????????



?1?????2????????????
?????????????????, P. 46?

1????????600??0.47????????????????????
????????871????600????“?”????????????????????846????????????????????

??

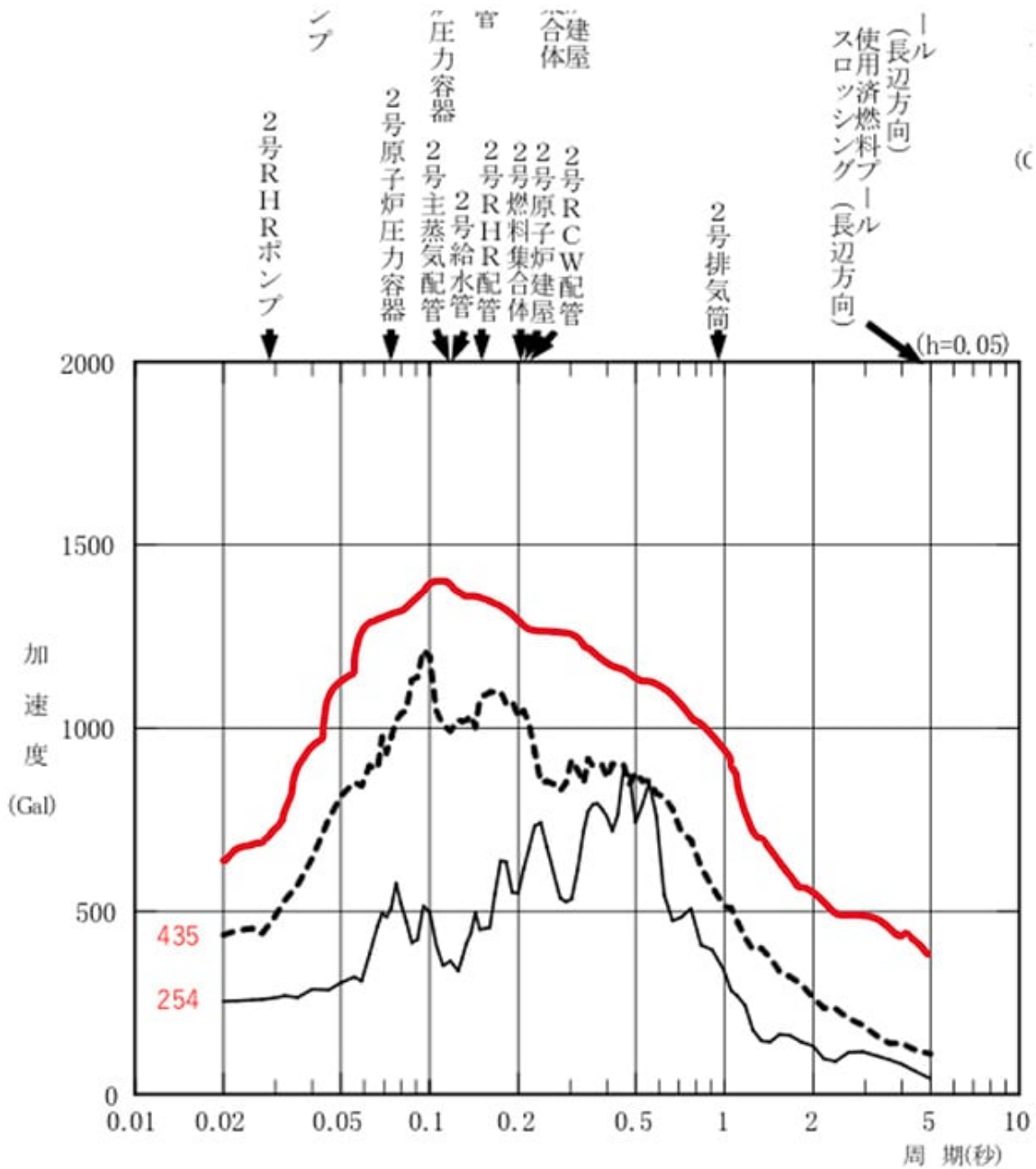
??F????????????????G????????????????G????????????
????????1G980????????980??1G????????????????????????????

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

????2?“?”????1000??

????2????????1000????????????????1000????????????????

????1000??



????????1000????????????

????????????????1000??
????????????1000????????????????????????????

????????????????????600????1000??
???

??

????????2000???????

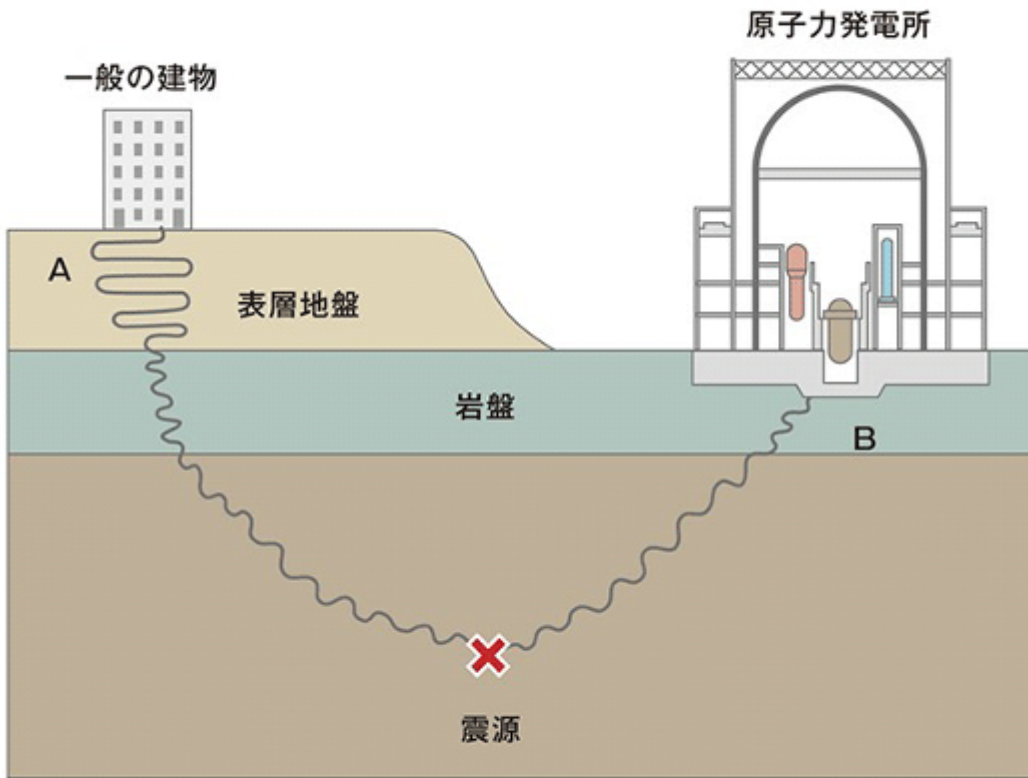
??
????????600????1000????????????????????——????????????????????????????

????????????????2,112????????200????????????????3,406????????????????5,115????????????
???????

????????????????????4,022????2008?6????????????????

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

??
??3?



堅固な地盤（岩盤）での揺れは表層地盤に比べ1/2~1/3程度

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

????????

??

??2,933????????????????????????????????1????????????2?????B????????????

????????????????????????????567????????

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

??

- ???
- ???

????—????????????

??

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

??

??

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

??

??

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

??

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

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

?? ? · Wednesday, January 24th, 2024



Cinefootage Visuals/iStock

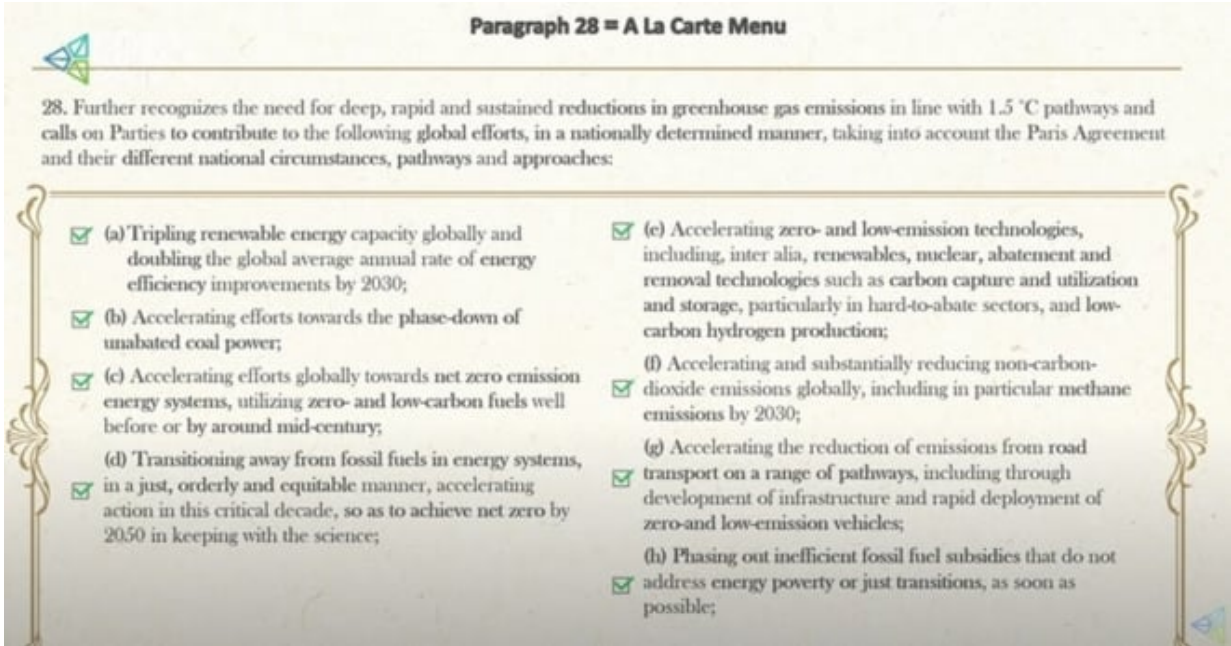
2023?12????????????COP28????????????????????????????????????

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

???COP28?2??28????
??

??

??
??



??????????

28.????1.5?????(call on Parties)

- a. 2030????3????2????
- b. ?????
- c. ?????
- d. ?????2050????10????transi
tion away from fossil fuels)
- e. ?????
- f. 2030????CO2????
- g. ?????
- h. ?????

?????

??8????CCUS????CO2????CCUS????

????8????8????

????2030????

????COP????COP28????2023?12?14????

????????????????????1928??
 ???10????????????????????
 ???UAE?
 ?????????????????????????????????????OPEC??2022??28??????????10.6????????????????
 ?????????????????????????????

??

Posted in ???, ????? | No Comments »

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

?? ?? · Saturday, January 20th, 2024



Slavica/iStock

??

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。



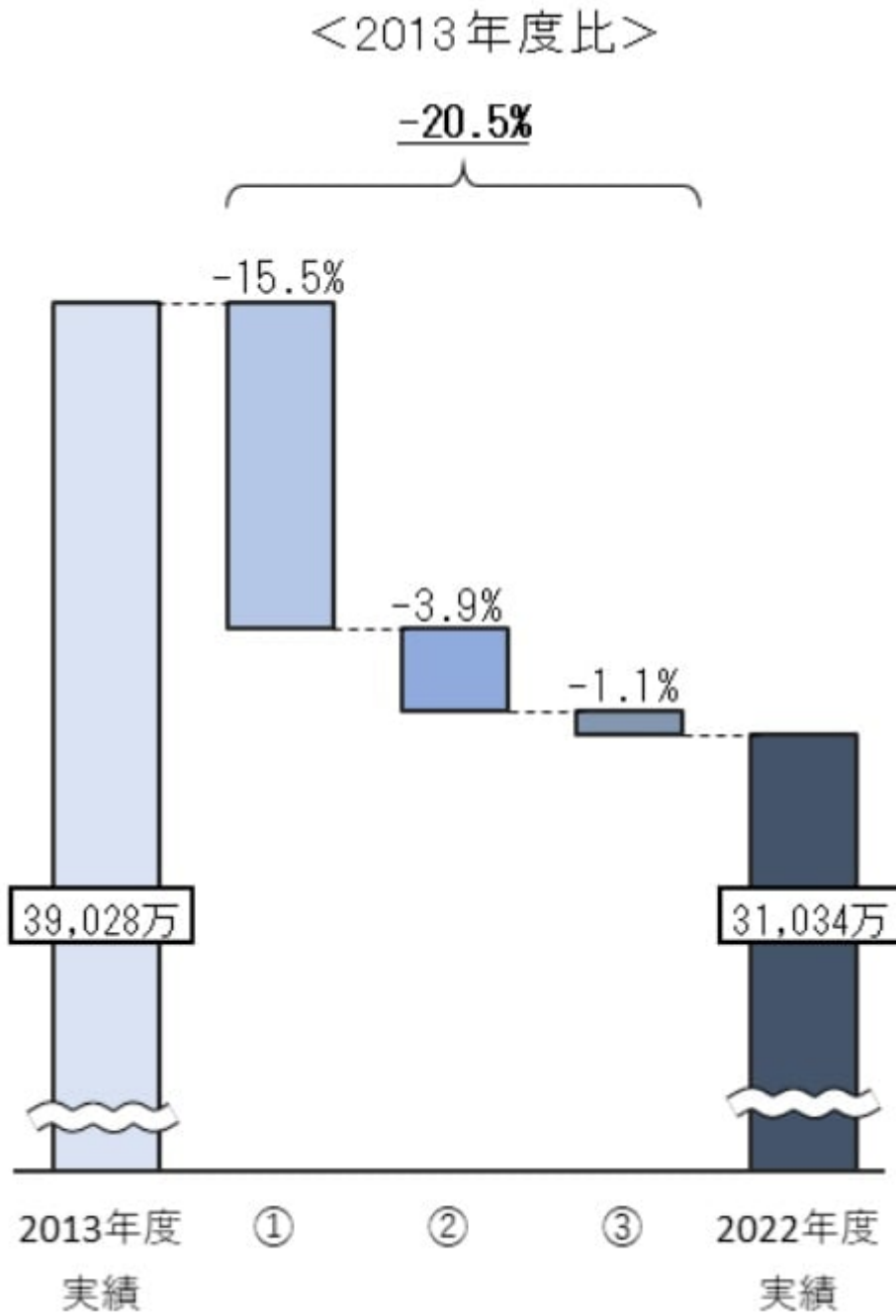
2

????????

????????????????196??

??

??



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

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

? ????????

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

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

????????2013????2022????CO2????????76????????????????

????????????????????24%????

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

????????????????????CO2????????????2030????2050????????????????????????????????????
??

?



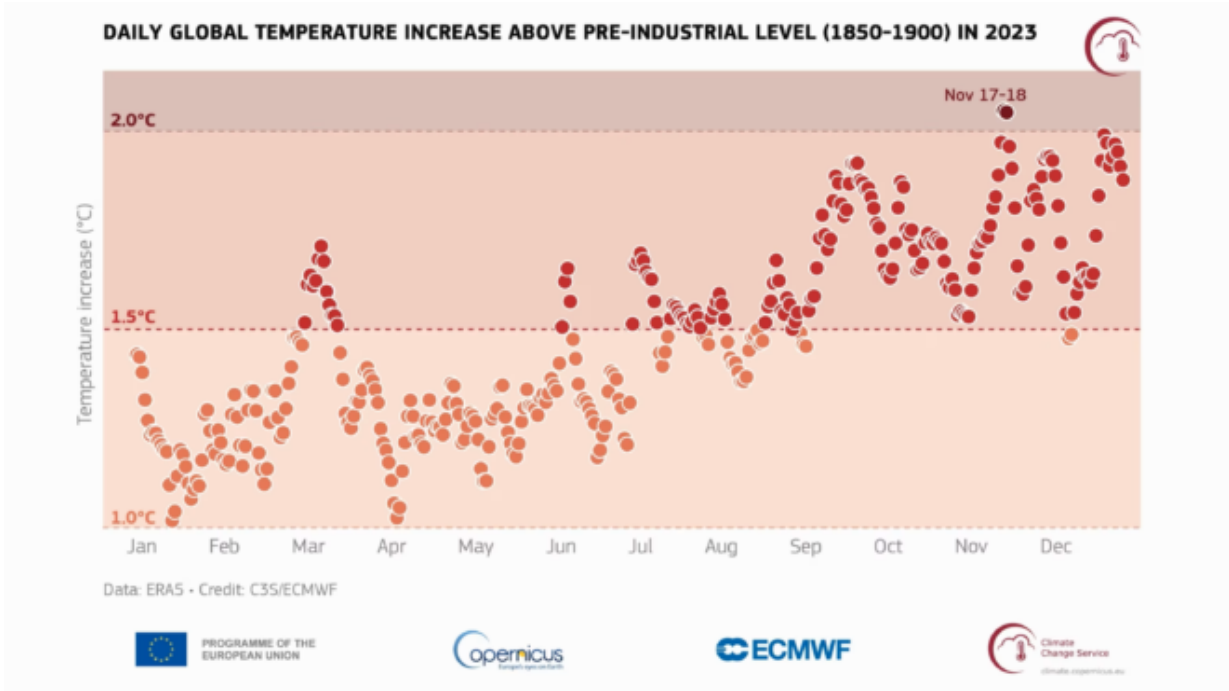
Posted in ??????????, ???, ????? | No Comments »

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

?? ?? · Wednesday, January 10th, 2024

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

????????1.5????????????0.02????????1.5????????
????????



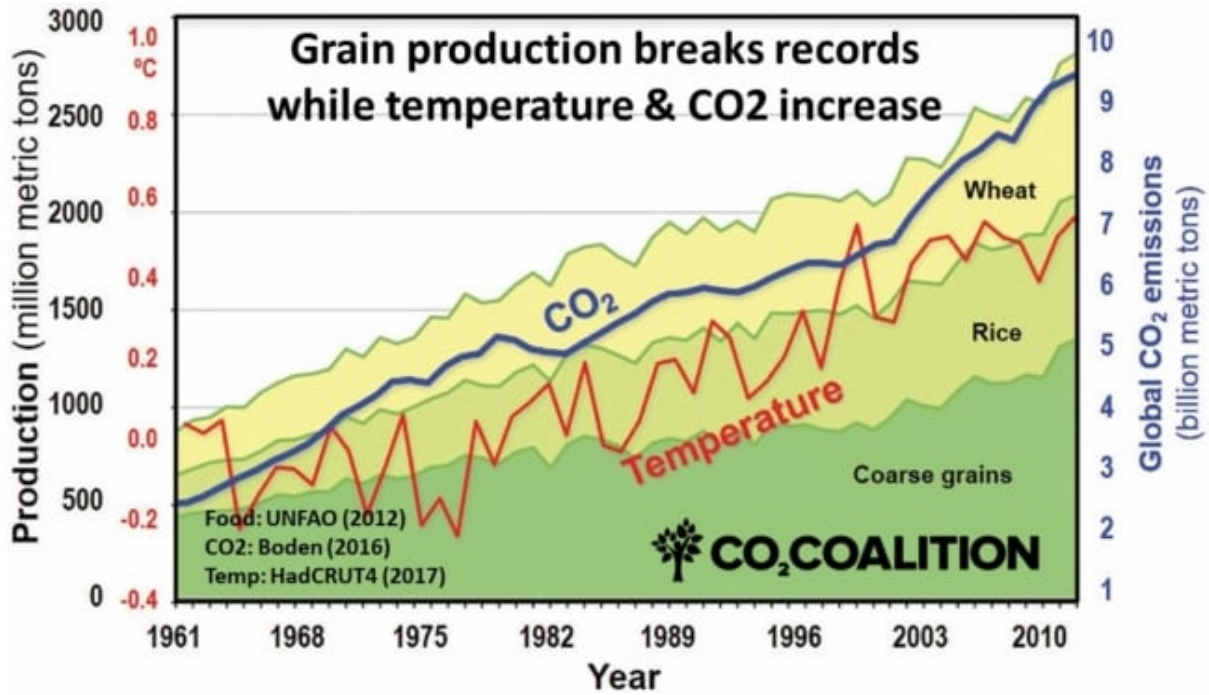
????1.5????(ABC News)

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

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

??

CO??



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

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

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

??300????????????????????????????3400????????????????????
??????????

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

??



Foresight??

????????????????????????????????2100?????2??

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

??

Posted in ???, ????? | No Comments »

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

?? ??? ?? · Tuesday, January 9th, 2024

??

??????22??23??
??

??????????????????3??????????????????3??
??145??18??????????????41??????

??2????
??CDU????????
????????????

??5000??1?
4??4500????????????????????????????????
“?”??6600??????????????

??
??
??

??????“????”????????????
????????????????????390????????54??
??30??
????????????????????5000??

??
??????????27??????????????????????????97????????????????????????????

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

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

??50????????????
??

??

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

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

?? ?? · Sunday, December 31st, 2023



shotbydave/iStock



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

???1973????????????????????????????

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

??

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

??

??

??

??

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

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

??

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

??ITER????????2????????????????????????????????
????????2??

??

????????50??OPEC????????????????????????????????
??OPEC????????????????????????????????
????????????????????OPEC????????????????????

????G7???CO2??
????????????

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

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

??

?



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

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

?? ?? · Saturday, December 30th, 2023



CampPhoto/iStock

???????

????????27??
????????????????????????????????????

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



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

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

??1?4????????????????5?6?7?????????
??????????



????????????
??2016?6?21?

?????????K?K??

??

??
??

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

??

??
??

??

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

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



A.
2020?9?????B?ID?????????????????A?ID????????????????????????????????
????????????????????????

B.
2021?3?16??
?????????????HD????????????????2021?4?14?????????????????HD????????????????
??
?????????

?Wikipedia???

??A??2015????27?8????????????????????
????????????????????????

??B??
??

??

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

??

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

???

?????—??????????????

????????67??

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

????????????????????????27??

??
???????

??



????????

Wikipedia??

??

??——????????

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

COP28??????

?? ? · Tuesday, December 26th, 2023



Heiness/iStock

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

??NDC??
????????????????????????????

???????????

????1.5????2050????????????????????IPCC?6????????????????2025????????2030??43????2035?
??6??1.5????????????????????????????????????
??????????????

??????¹²??1.5????????????2025????????2035????60????????????????26?27????2025????????
?NDC?????1.5????????????????????????47??

????????????1.5????????????????????IPCC????????2025????????2035??60????????????????
????????????????????????????recognize????????????2025????????????????????????????
??

??NDC??2025????????20
35??60????????????????????????????????????2025????????2035??60????????????????????
??

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

COP28????????????????????????????????1.5????????????????????????????????????
????????????????????????CO2????????????????????????????????

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

2030 3 2 CCS 29

COP CCS

???????

3

COP28 OPEC

12 UAE

NGO COP

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

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

??

????????????????B.Sc????????????????PhD????????????????MBA????????????????
 ???

??2
 8??

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

COP28????????????NHK????????????? “?????”????????????? ?????? ?????????????
 ?????????????????????NHK????????????????1.5????????????????

????????2050????????75???Doomsday????
 ?????????????????

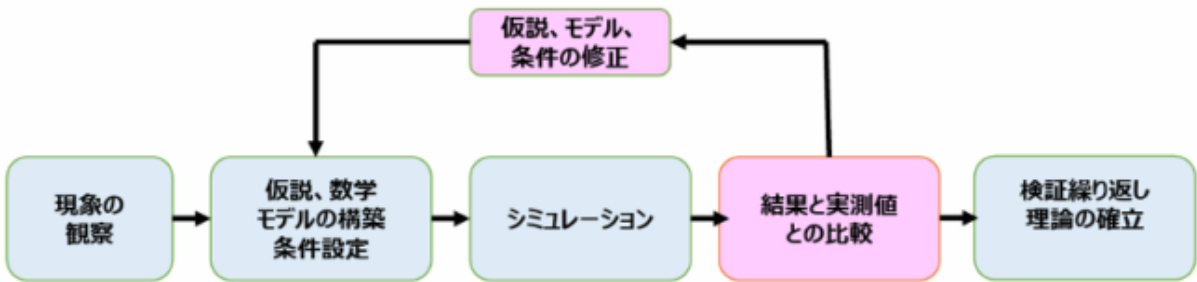
2. ?????????????5????

??5????????????????????IPCC????????????????????????????????

??20
09??Climategate??

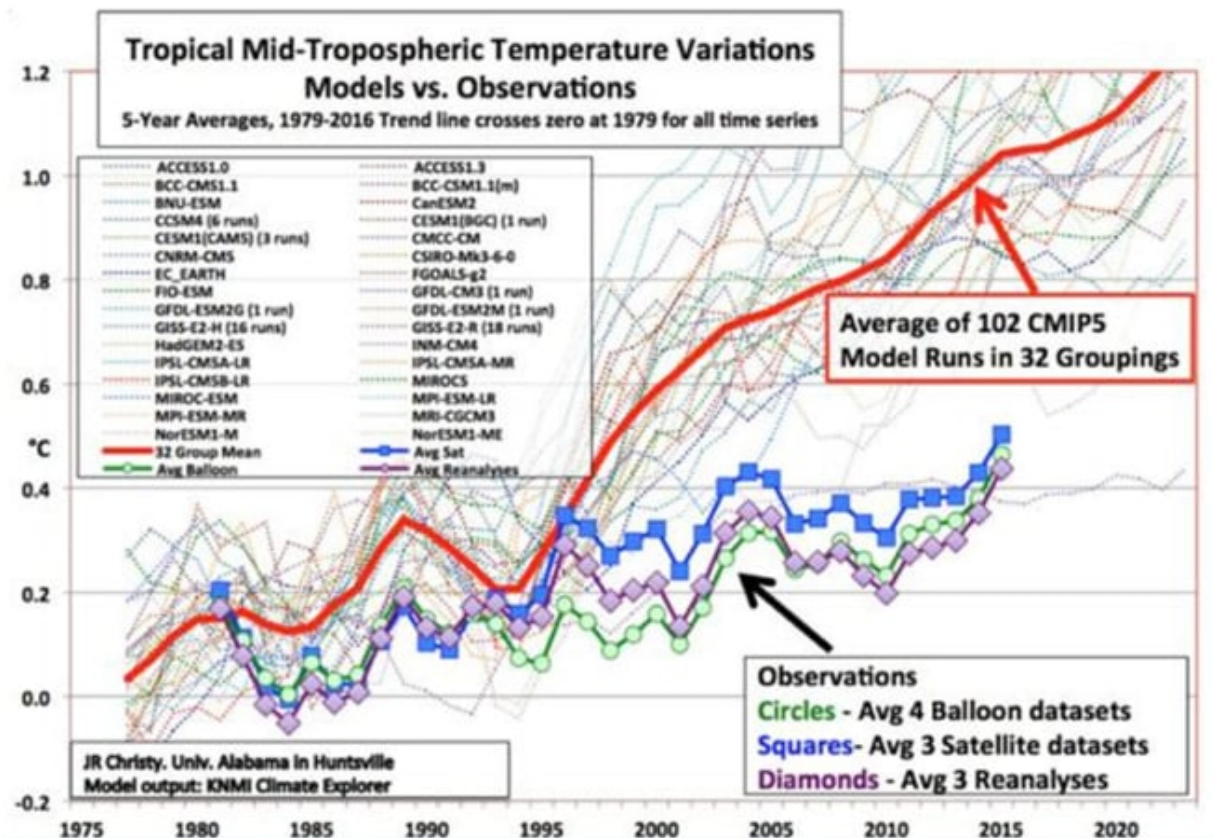
??
????????????????????????

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



????/????????????????????????????????????X-??1975?????????Y-????????????????

??1990?????????0.3??
?????????1.2?????4????????????????2050?????????????5????????????



??

????????????????????????????????
 1995??1995????Tippin
 g Point??

3. Science in name only

??
 ??

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

??
 ?

??
 ???

??
 ???30??2050??
 ???

4. ???

EU?????Science in name only??

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

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????

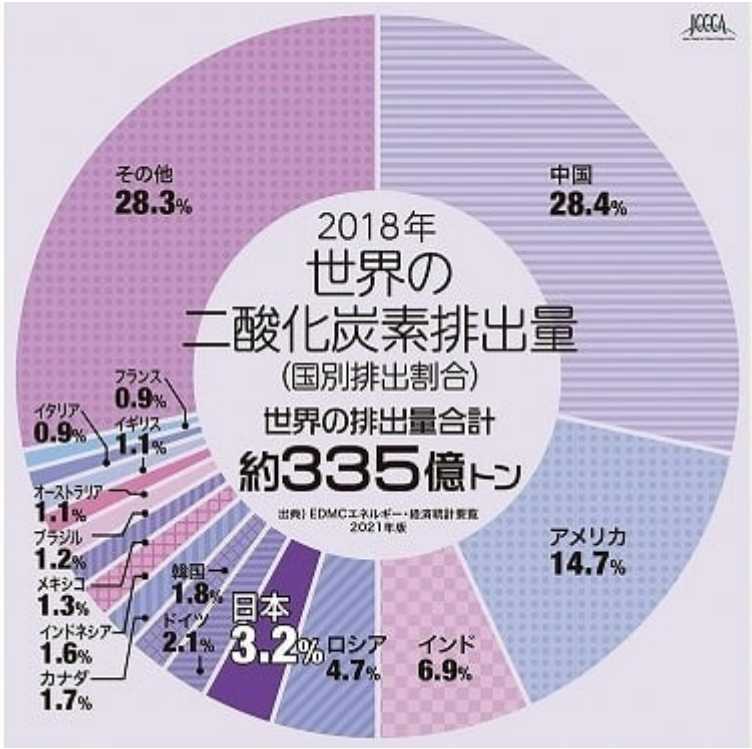
????COP????COP27????1.5????

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

????COP????

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

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



????????????????(JCCCA)

????????????????100??
??

????????COP????????????????????????COP??ND
C????????????????????

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

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

??7.6????????100??CO????????????????????
????????

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

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

?? ?? · Friday, December 22nd, 2023

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

??
??
???

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

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

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

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

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

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

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

??Google????????????????????????????

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

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

??
??
???

????????????????????????DeepL?Google????????????????????????????????
????????????????????????

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

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

COP28????12?18??

(7) 公正な移行

COP27 で決定された「公正な移行に関する作業計画 (JTWP)」について、雇用、エネルギー、社会経済等の要素を含むこと、作業を 2026 年まで継続し、その時点で効果や効率性について評価を行い、継続を検討すること等が決定された。

????????28????COP28????
?????

??
??

??

??

?



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

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

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

?? ?? ? - Thursday, December 21st, 2023



Ignatiev/iStock

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

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

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

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

??

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

????????????????????????????????GDP?0.35%????????????????????
??

????????????????????????????????600????????????????????
????????????????????????????????11?15????????????????????600????????
????????????????

??
????????????????????1949????????????????????

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

????????????????????23????????2????????????????????1????????????????
????????????????????????????????????

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

????????????????????12????????????????3????33????????????14????15??

??4??

??
????????

??
??

??
??

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

??????????4????12?13????????????????????????3????????????????????????????????

??
??

??30????45?50????????????????1??????
??

????????????????????????????????????7.5????3.5??
?3.5??

??
??????

EU??
??

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

?16?17??no farmer, no food, no future??

?17????????????????????????17??

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

????????????1400????????????????11????????????????????????????

??
??

5????????????????3????????5??
????

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

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

????????????????????15????????????????????

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

??

??

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

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

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

?? ?? · Tuesday, December 19th, 2023



yudhistirama/iStock

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

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

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

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

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

??

??

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

??????

- 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 ?
??
- accelerating action in this critical decade??????2020??

??300????????????????????????????????6????????????????????

????????????????NHK??

??

??

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

??2030????????1????????????????2030????????5.8-5.9????2050????????5????????????????????

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

1????1????????????150???1?????15??2030??????????????????
??

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

?



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

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

GEPR??? · Thursday, December 14th, 2023



deepblue4you/iStock

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

?? ??

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

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

????????????????????VRE??VR
E????????????????GHG????????????

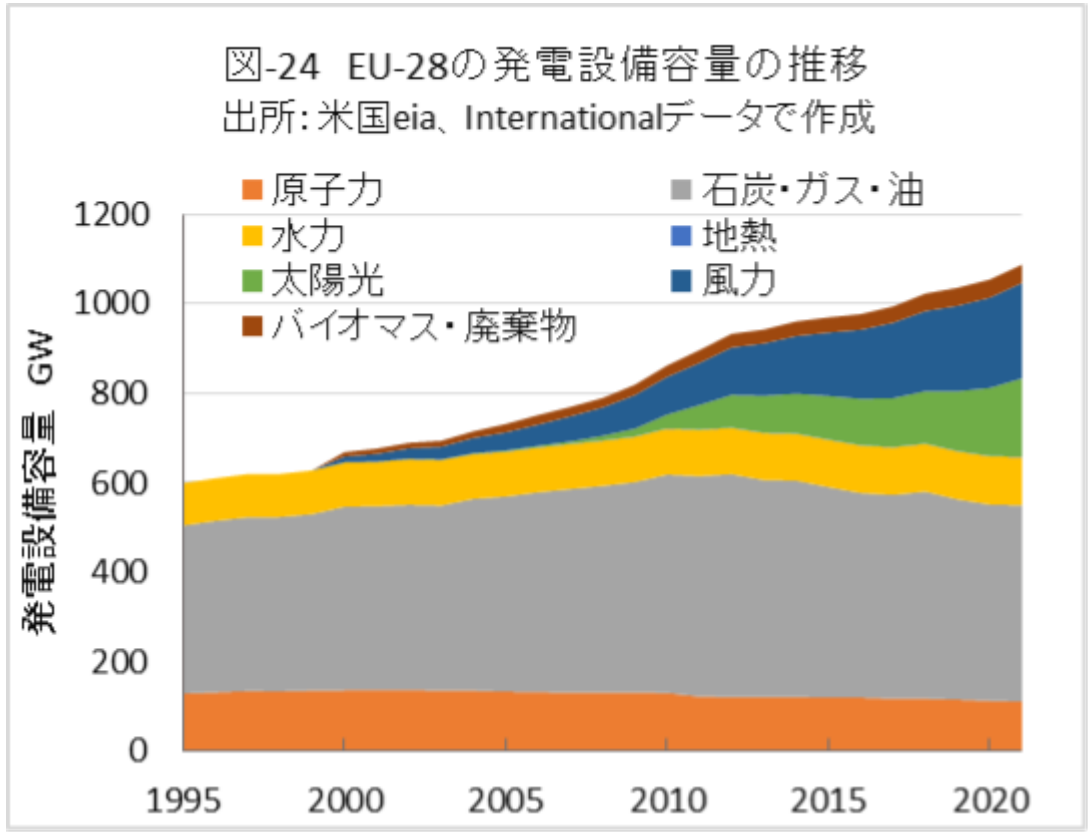
?23??-

??EU-28??10??

GHG????????????????????EV??VR
E????????????????????

EU??VRE???

?24??EU-28??2000????????VRE????????2010????????????????
??????23????????????????????2010????????????????????



VRE????????????????GHG????????????????????VRE????????????????????????????CO2????????
??????

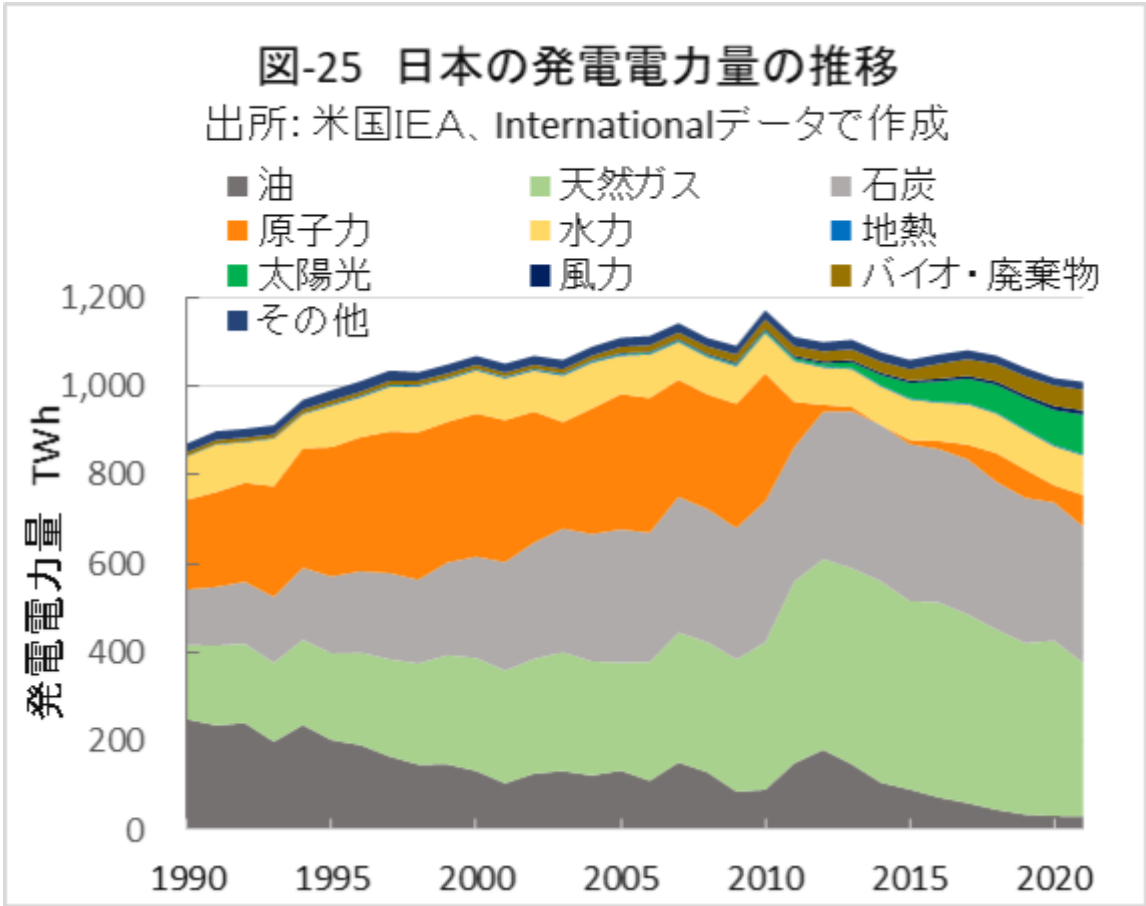
VRE??

????????50%????????????????????????????10%??
??

????EU-28???VRE????????????????????GHG????????VRE????????????????????????GHG??????
???VRE????????????????????????????????

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

??25????????????????????????????????1990?????1?kWh??????
??2009????????????????????



2011年3月、福島第一原子力発電所事故の影響で、原子力発電の稼働率が大幅に低下し、火力発電（石炭、天然ガス、LNG）の稼働率が急増した。

2012年7月、FIT（固定価格買取制度）の導入により、再生可能エネルギー（太陽光、風力）の発電量が急増した。2017年には、FITによる再生可能エネルギーの発電量が全体の約25%に達した。

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）排出量が極めて少ないエネルギー源であり、脱炭素社会の実現に不可欠な存在である。

VREの導入は、エネルギー安全保障の観点からも重要である。再生可能エネルギーは、燃料の輸入に依存しないため、エネルギーコストの安定化に寄与する。

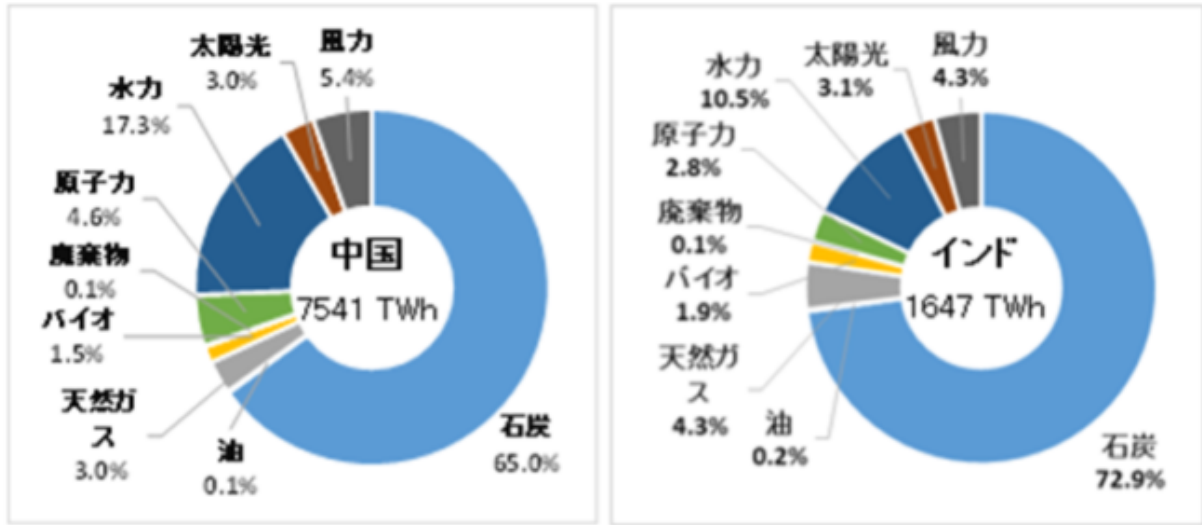
VREの導入は、GHG排出量の削減に大きく貢献する。VREの導入率を高めることは、日本のエネルギー政策の重要な課題である。

GHG排出量の削減目標（2030年）を達成するためには、再生可能エネルギーの導入をさらに加速させる必要がある。

2026年までに、再生可能エネルギーの発電量を全体の約2/3に引き上げることを目指している。

図-26 中国とインドの電源構成 (2019年)

出所:IEA データで作成



??????

????GHG????2/3????????????????????2050?GHG????????????????????GHG????????????????

??

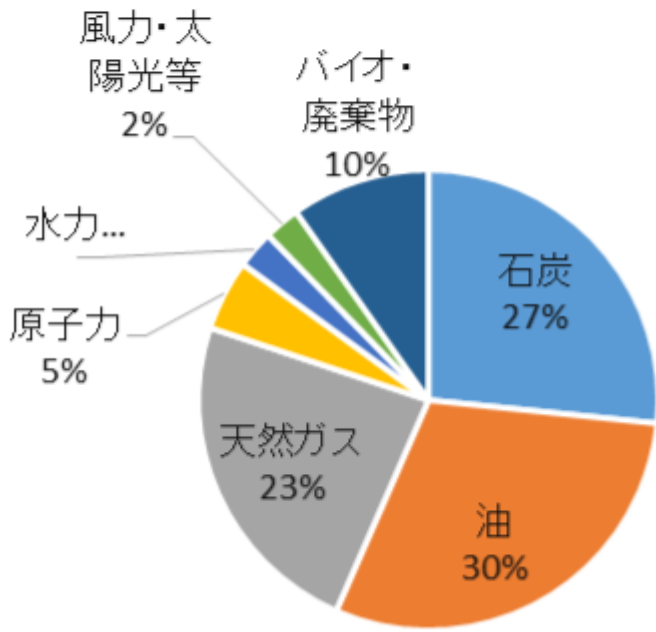
????????

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

????????GHG??VRE????????????????27????

????????TES????????????????27%????????

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

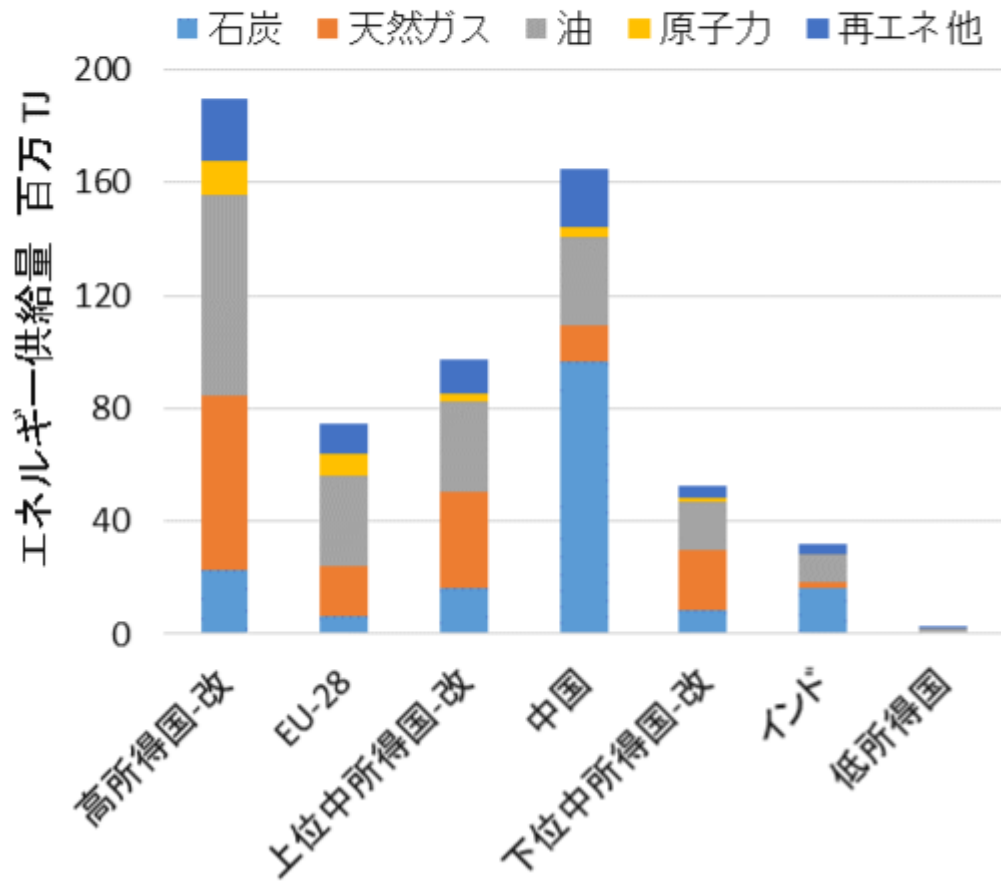
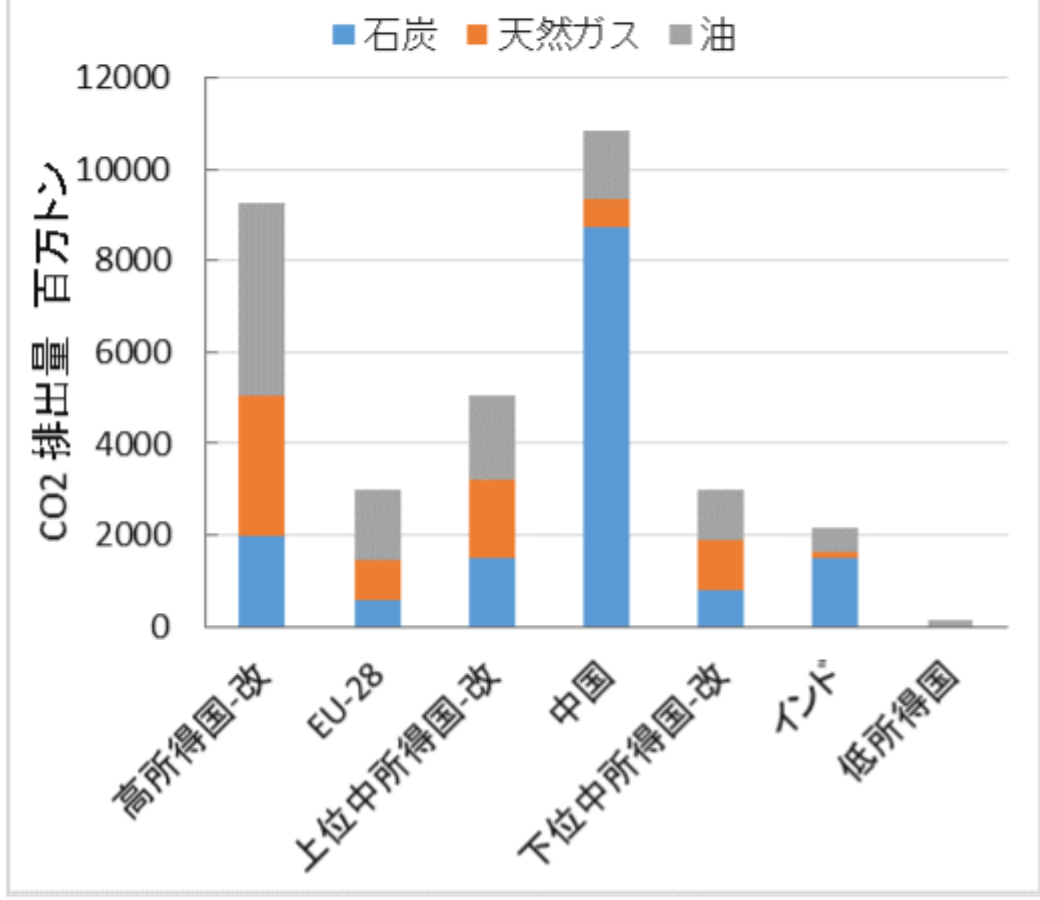


図-29 グループ別燃料燃焼CO2排出量 (2020年) 出所: 米国eia, Internationalデータ



2020年、世界のCO2排出量は52%増加し、16%減少した。

CO2排出量は0.56トンを削減した。

LCAによると、LNGはCO2排出量を0.6から0.65に削減し、35%削減した。

18%削減し、IEAによると2020年のGHG排出量は57%削減された。

70%削減し、排出量を削減した。

削減された。

30%削減し、1970年からの削減率を向上させた。

削減された。

??

????????????????????100??
????????????????2050?GHG????????????????????????????????????

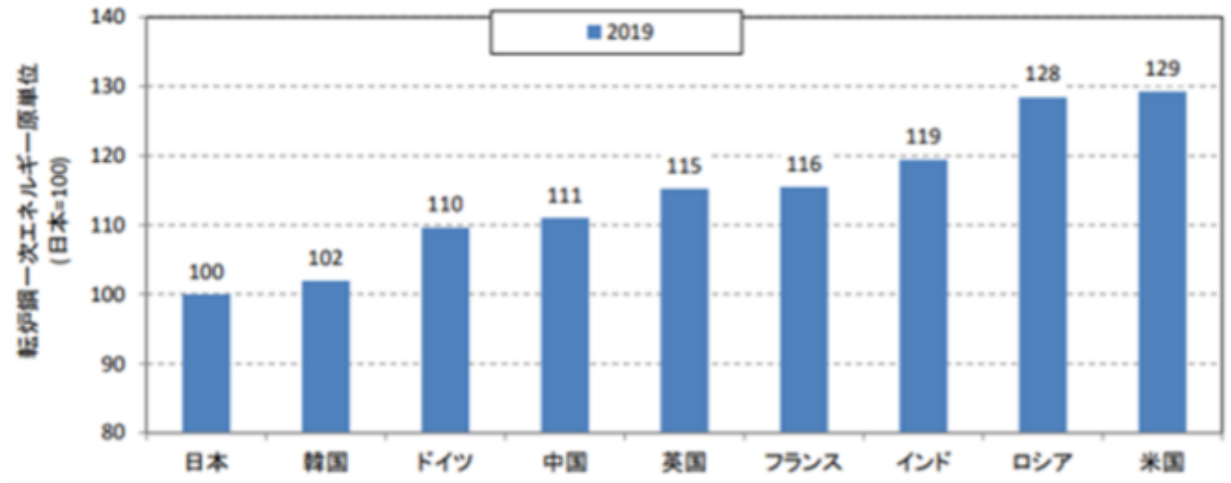
???????

????????????????GHG??

????????????????????23????????475??
??

??30????????????
???-??

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



??

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

????????????????????GHG??

?????

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

GHG??EU????????GHG???60?70%????????????????????GHG?
????????????????????????

?

?? ??

????????????????1970??kindle????????
????????????????

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

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

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

GEPR??? · Monday, December 11th, 2023



deepblue4you/iStock

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

?? ??

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

???????

????????????????VRE????????????????????????????????????Energy-
Charts??
??

2045??6?????4????????????????????????3?????
????????????????????????????

??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??

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

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

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

??
??

????????????????????????????????50m??
????????????????

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

??

??????

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

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

???????

??

??
??

??30%????????????

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

???????

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

????????????????????GHG??

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

???????????

1990????????????CO2????CCS????????????2010????CCS????????????2015????????CCS
????GHG????????????????????

????????????????CCS????????????????CCS????????????????????????????CO2????
????????????CCS????????????

?????CCS??CCS????????
????????????????CCS????????????????

??VRE????????????????
????????

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

VRE????????????????VRE????????????????????????????

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

?

?? ??

????????????1970??kindle????????
????????????

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

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

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

?? ?? · Sunday, December 10th, 2023

????COP28??



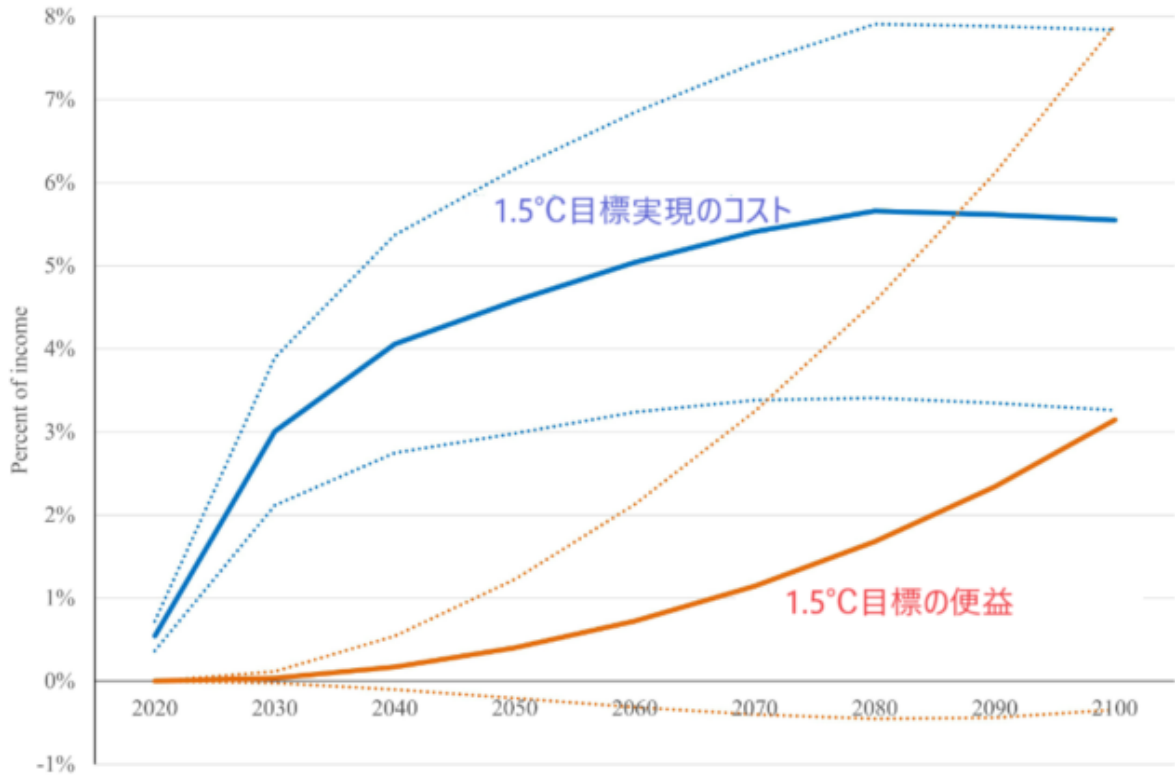
??????

??????100????????????????????100??
????????

1.5????????????2?10?

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

????????1????2050????1.5????????????GDP????4.5????????????????0.5????2100????5.5??
????????3.1????



1.5°C (Tol)

IPCC SSP5-8.5 2100

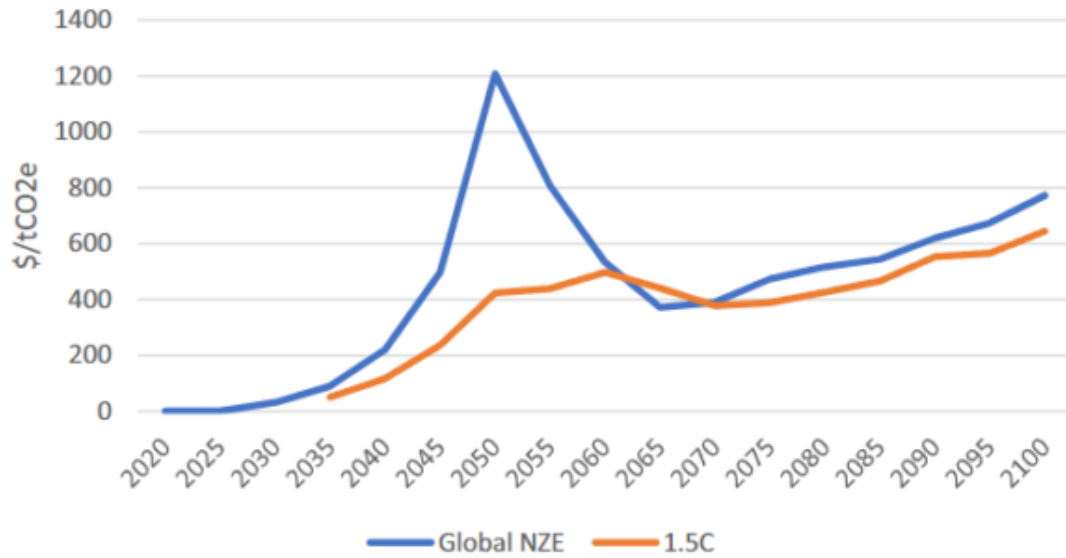
1.5°C

1200

1200

Jennifer Morris et al. 2050 CO2 1200

Global Emissions Price



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

????????????????80????????????????18????????????GX????1????GX????????????
????????????????

????????????????2050????????????????????1.5????????????????500????????
????????????????

????????400????????????????70????????????????

????????????????COP28????????????????1.
5????2050????????????????

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

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

?? ?? · Sunday, December 10th, 2023



wildpixel/iStock

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

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

??

??

??

??

IPCC????????????????????????CO2????????????????2100????????????????????????????????????
????????????????????????IPCC????????2050??

??

??

??

??

??

?? ??

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

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

???????

????????????????GHG??
??

2020????????????????????????6%????????3%????????25????????????????????????????????????
????????????????????????????

14??15??7??
????????????????????????????

EU-28????????????????????GHG??

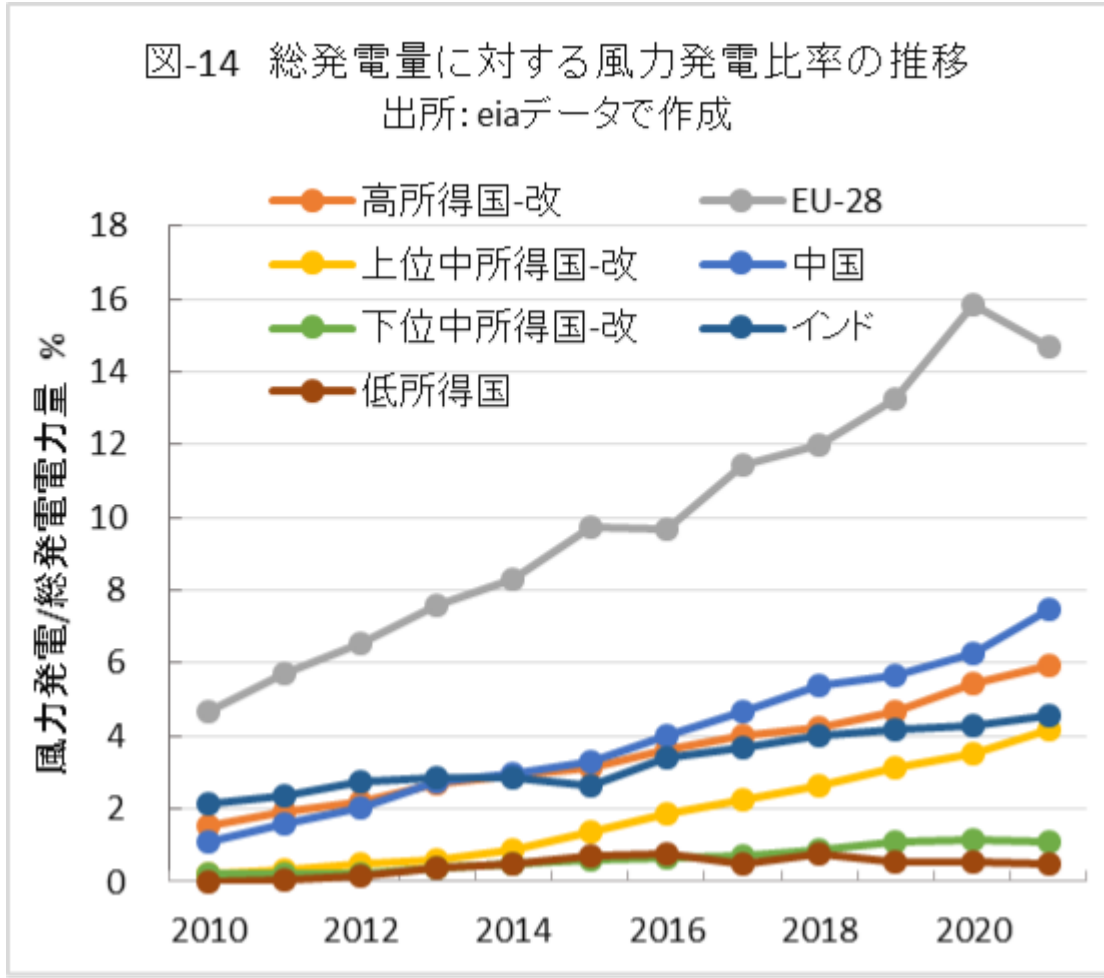
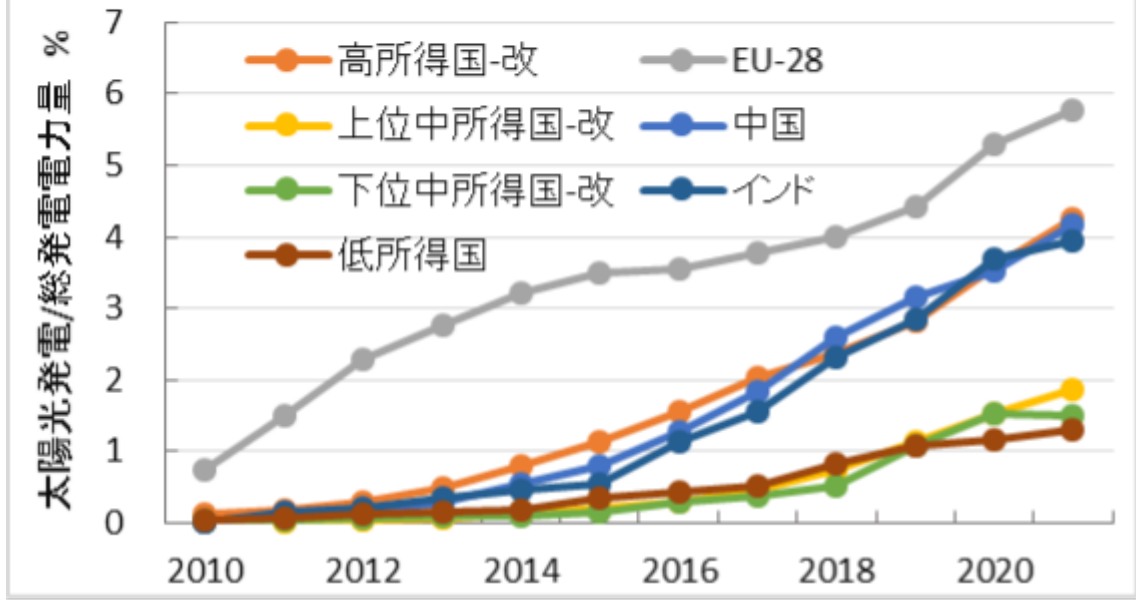


図-15 総発電量に対する太陽光発電比率の推移
出所: eiaデータで作成



Variable Renewable Energy, VRE, GHG, EU-28, GHG

VRE, kW, 25.33%, 14.17%, kW, VRE

VRE, EU-28, VRE, VRE

VRE, VRE, VRE

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

VRE, Energy-Charts

Energy-Charts?

Energy-Charts, ISE

30

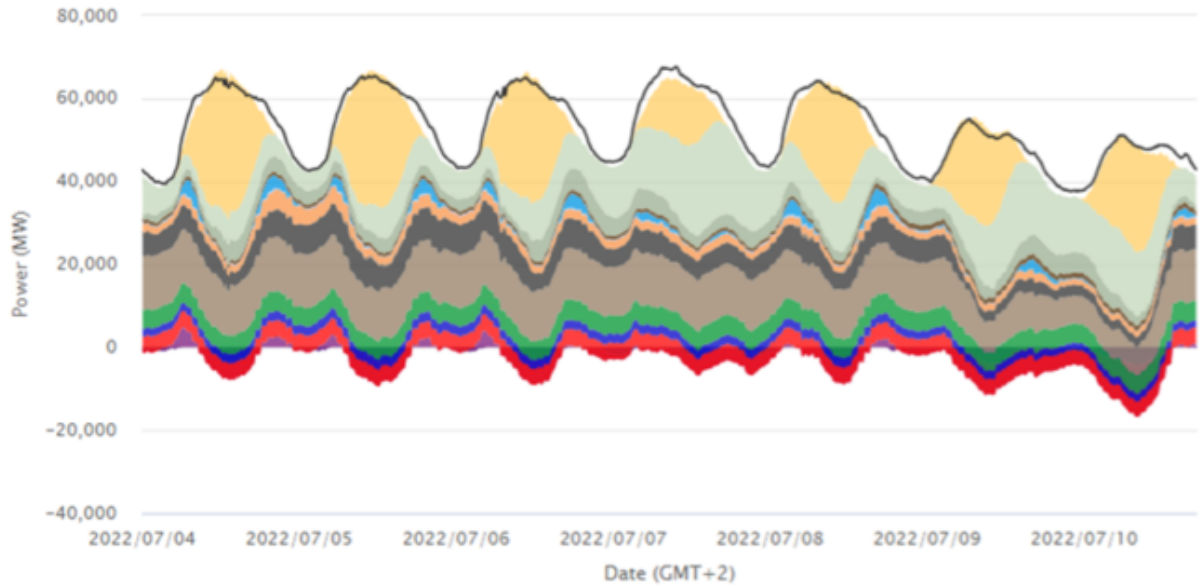
CO2

Energy-

Charts????????????2022??27??74??10??
??

Public net electricity generation in Germany in week 27 2022

Energetically corrected values



Energy-Charts.info - last update: 2023/06/02 18:13 GMT+2

??

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

?2?2022????????????????????????????????????1?kWh?1000TWh????????????????????????????????????
????????????????25%????????12%????????

表-2 ドイツの電源構成（2022年公共正味発電電力量）

電源	正味発電電力量		正味発電容量 GW	設備利用率 %
	TWh	%		
太陽光	57.6	11.7	64.16	10.2
陸上風力	98.2	20.0	56.91	19.7
洋上風力	24.8	5.1	7.89	35.9
非再生エネルギー廃棄物	5.3	1.1		
再生エネルギー廃棄物	4.6	0.9		
その他	0.6	0.1		
貯水式水力	1.1	0.2		
地熱	0.2	0.0		
ガス火力	45.2	9.2	33.84	15.2
油火力	1.0	0.2	4.77	2.4
瀝青炭火力	55.4	11.3	19.06	33.2
褐炭火力	105.9	21.6	18.69	64.7
バイオマス	41.9	8.5	8.91	53.7
流れ込み式水力	15.8	3.2	4.94	36.5
原子力	32.8	6.7	4.06	92.2
年間正味発電電力量	490.4	100.0		
電力輸出入(輸入-輸出)	-27.6	-5.6		
揚水発電発電電力量	6.0	1.2		
揚水発電ポンプ動力量	-8.1	-1.7		
年間電力負荷量	482.3			
年平均1日発電電力量	1,344.0	GWh		
年平均発電量	56.0	GW		

(注記)

- 1) 公共正味発電電力量は、自家発を含まない、電力ユーザーのコンセントから出て消費される値。
- 2) 太陽光、風力の発電容量は年間平均値、その他は2022年末の値。
- 3) 電力負荷量は電力系統に投入された値。

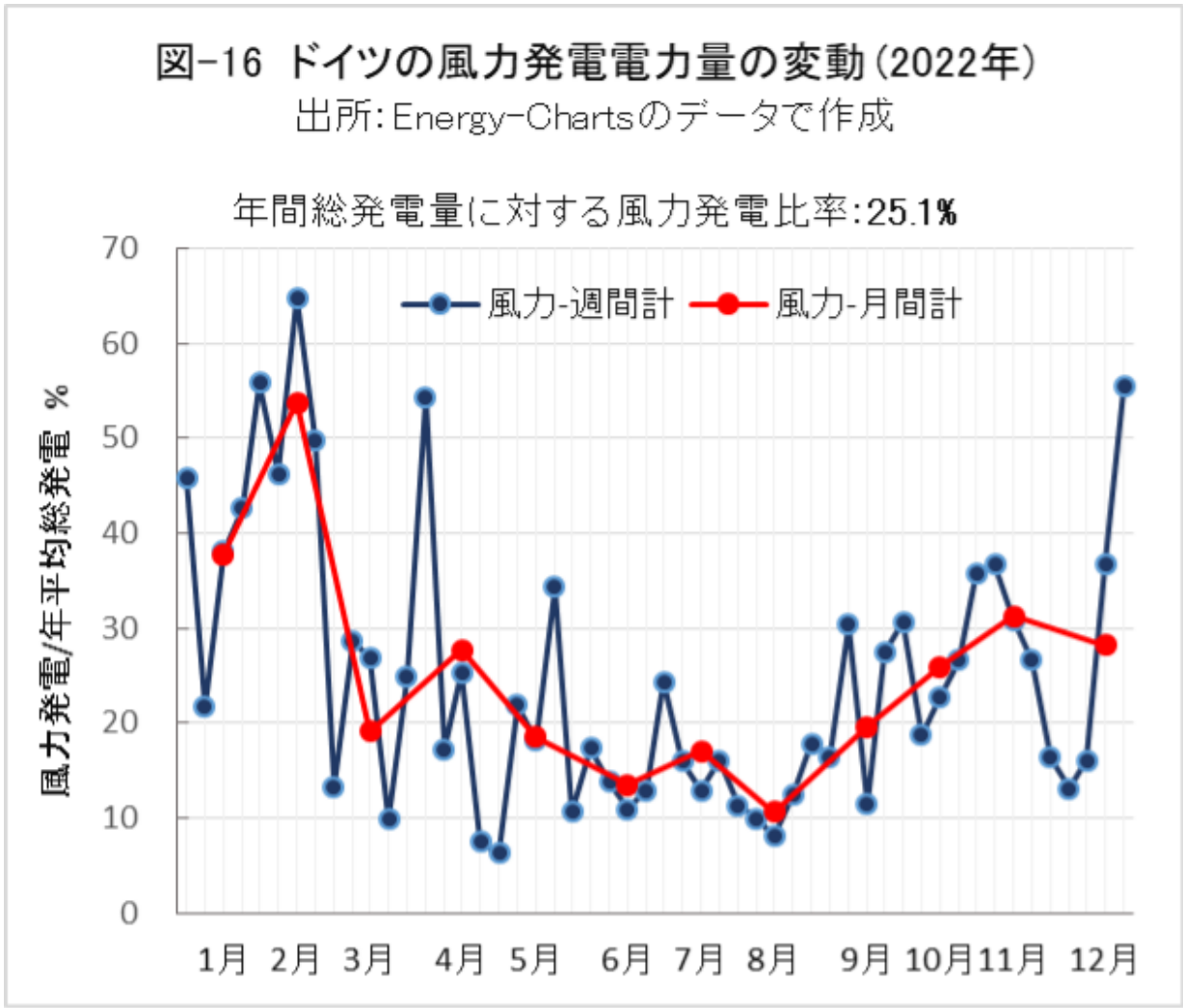
16% 2022年 100% 65% 25% 10% 60%

0.3 2.6

1

図-16 ドイツの風力発電電力量の変動(2022年)

出所: Energy-Chartsのデータで作成



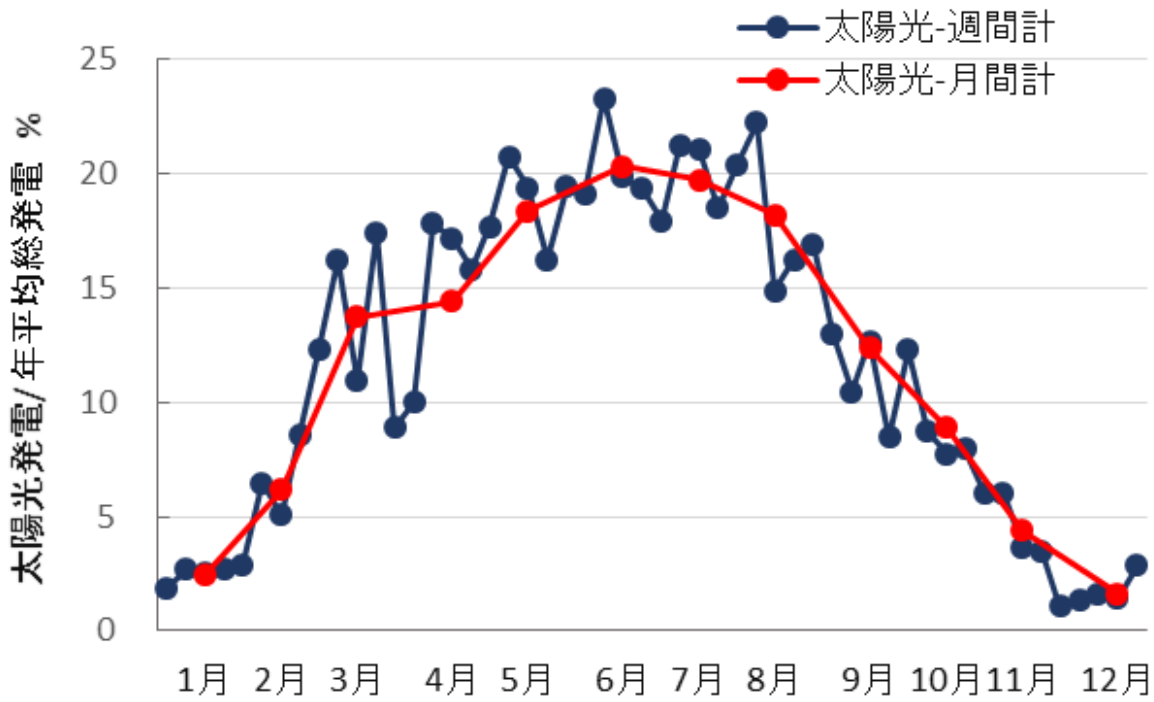
17%??12%????????????????????1?23%??0.1?2.0????????????????????

??0.14????????????1.7????????????????

図-17 ドイツの太陽光発電電力量の変動(2022年)

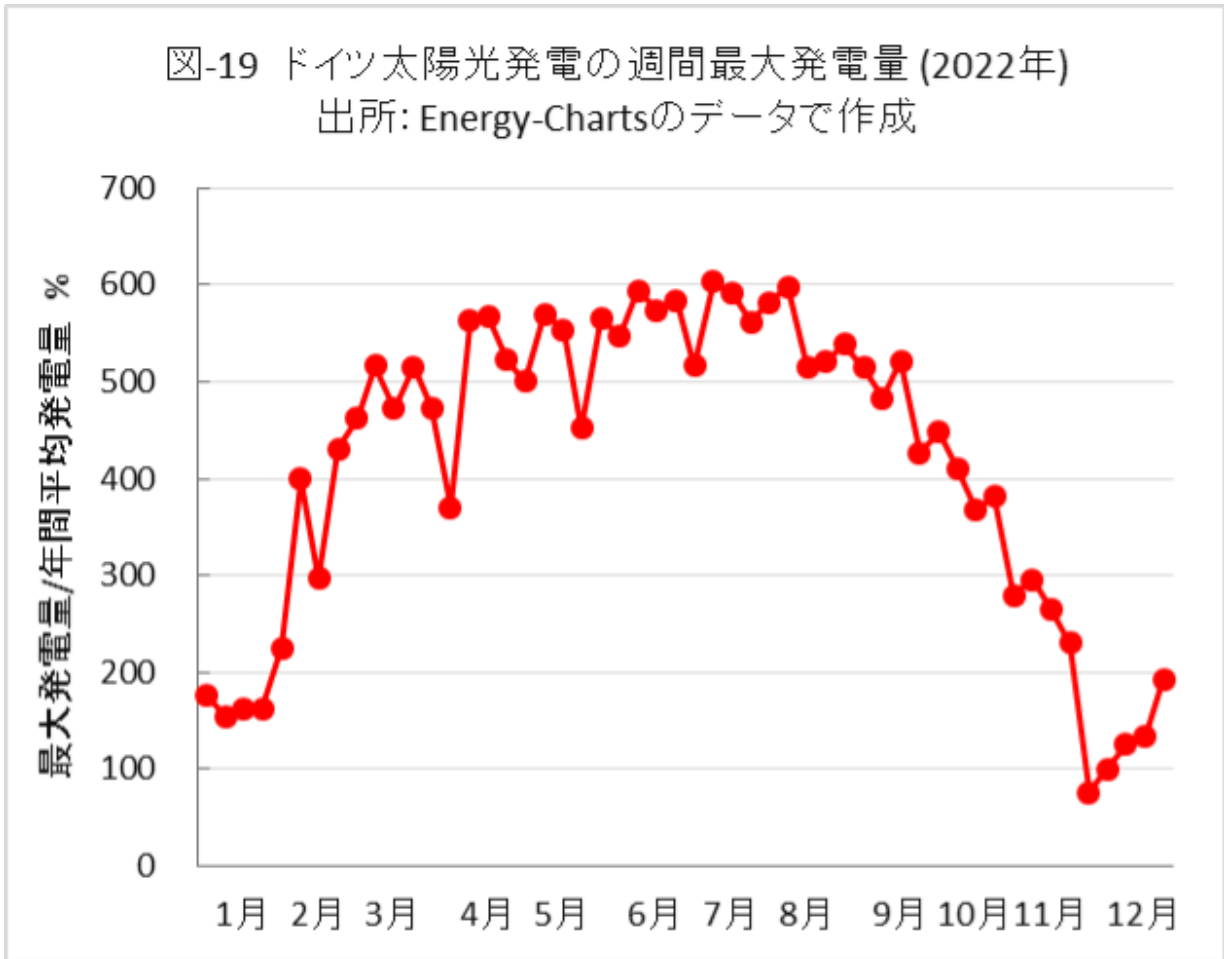
出所: Energy-Chartsのデータで作成

年間総発電量に対する太陽光発電比率: **11.7%**



18%
10% 4%

図-19 ドイツ太陽光発電の週間最大発電量 (2022年)
出所: Energy-Chartsのデータで作成



??

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

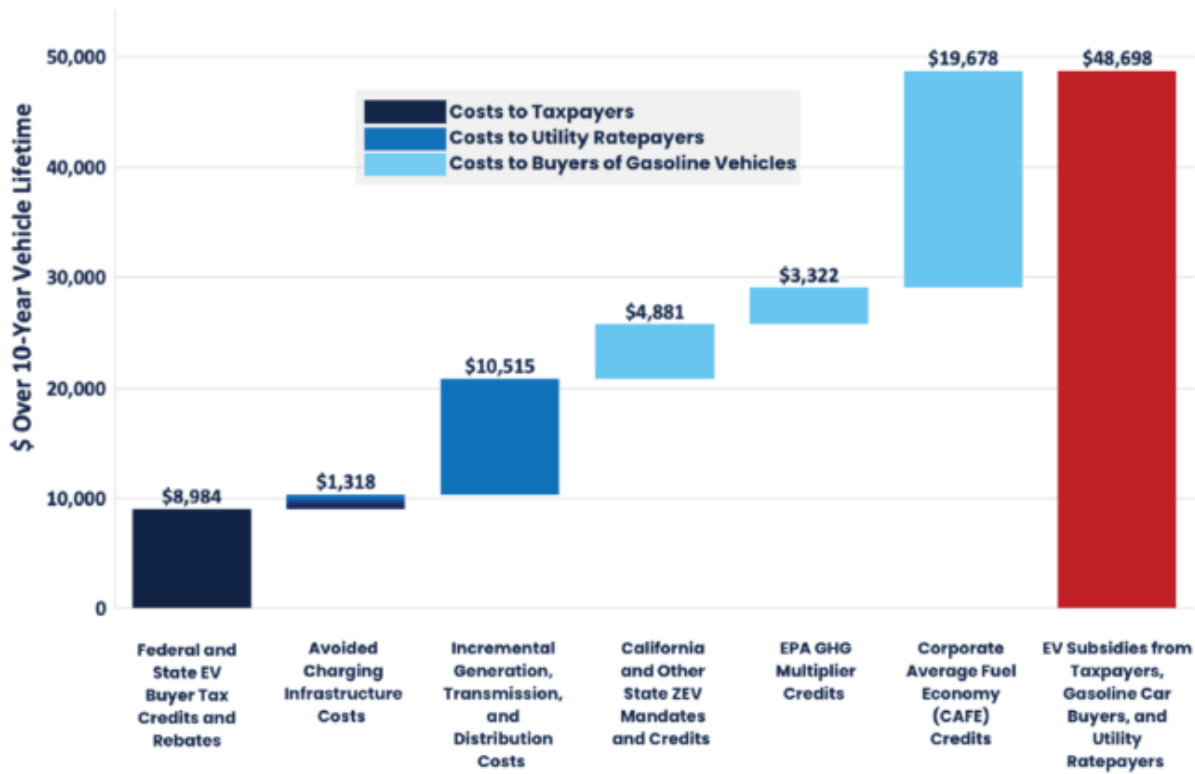
??20??21??2022????????????????????

??Q&A????????

??

- ?????????????????????????????????????10515?????1318????????????
- ???4881+3322+19678= 27881????????

Figure 1(a)
Subsidies and Regulatory Credits Accrued by a MY2021 Electric Vehicle Over 10 Years



????????8984??

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

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

?



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

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

?? ?? · Thursday, December 7th, 2023



alashi/iStock

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

????????????????????2023?11?30???????



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

????????????????????2023?12?2?????????



????????????????2??X????????????????

???

1????????????1000??????????

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

??

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

????????????????1????????3.4?2022?1?25?????????



????????25??
????????????1????????3.4????27????????????????????????????

?????26?????24????????????????170.2????????????????????????????????????3.2?
?????1????????3.4????????????

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

????????9?????????????????????



????????????????????9??

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

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



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

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



GX??CO2????????????
??

??

???

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

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

??

???

????????????????????????????????2021?06?17??JETRO?



2020?6????????????CO2??2020?6?17????????????????????????????????CO2????
??CO2??3??1?????????2??1????????????
??
?????????????????2030?????????????????????1990????????????????????????????????????
??????????????

???????

????????? – ?????????????????????????????2023?9?25??Blackout-News?



?????????????????2045??
???

??
????????????????????”????????????????
??????????????????”

?????

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

?????

??

???

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



??
??

??
???

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

??
??

???????

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

?

??

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

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

?? ?? · Thursday, December 7th, 2023



HunterBliss/iStock

1. IPCC?????

IPCC?CO2????????Princeton????????1??????1967??3??????1975??????????1979??MIT????????
?R. Newell ??????????????

????DOE??1979????????????????????????????????????CO2????????????????????????¹⁷?R.
Newell?????????????R. Cess????????????????Lawrence Livermore?????????????????R.
Newell????????????????????

1986????????????????2????1988????????????????????????????????????IPCC????????????????????
????????????????CO2??

??1990??Hadley????????????????????CO2????????????????????????????????CO2????????????????
????CO2????????????????????????????????????

Hadley?????IPCC Working
Group1?????IPCC??R.
Courtney????????????????????

R. Courtney, ." Global Warming : How It All Began ",(1999)

????CO2????????????????????fake science????????????R. Newell????????IPCC????????????R.
Cess????CO2????????????????S. Schneider?J. Hansen? M. Schlesinger?T.
Wigley????????????????????????????????????

R.
Cess????????????????????????????????CO2?300ppm??600ppm????????????????????3????????????????
????????????????????????????????????2????????1.5????????????????????????????????

??????1????????CO2??2005????????????????
????????????????????????????????????CO2??????2????????????????????????????????2006????????????????????
????????

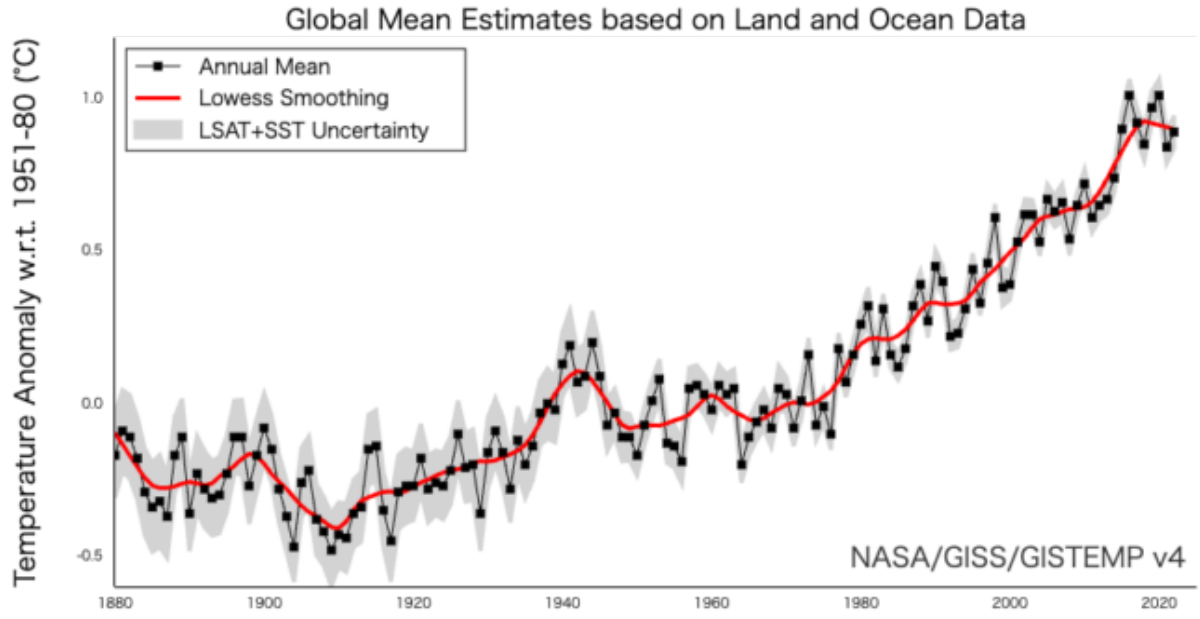
??Green New Deal???Clean Power
Plan??????2015????????????????????????????EV????????????????????????????2050?Net
Zero????????????????????????2020?10????????????2050?Carbon Neutral??????????

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

CO2????????????????????????NASA GISS????IPCC?WMO?NOAA????????????????????NASA
GISS?Director?1981-2013?????J. Hansen?????G. Schmidt????????????????????????

J.
Hansen?1988??99?CO2????????????????????????????????
????????????????????????????

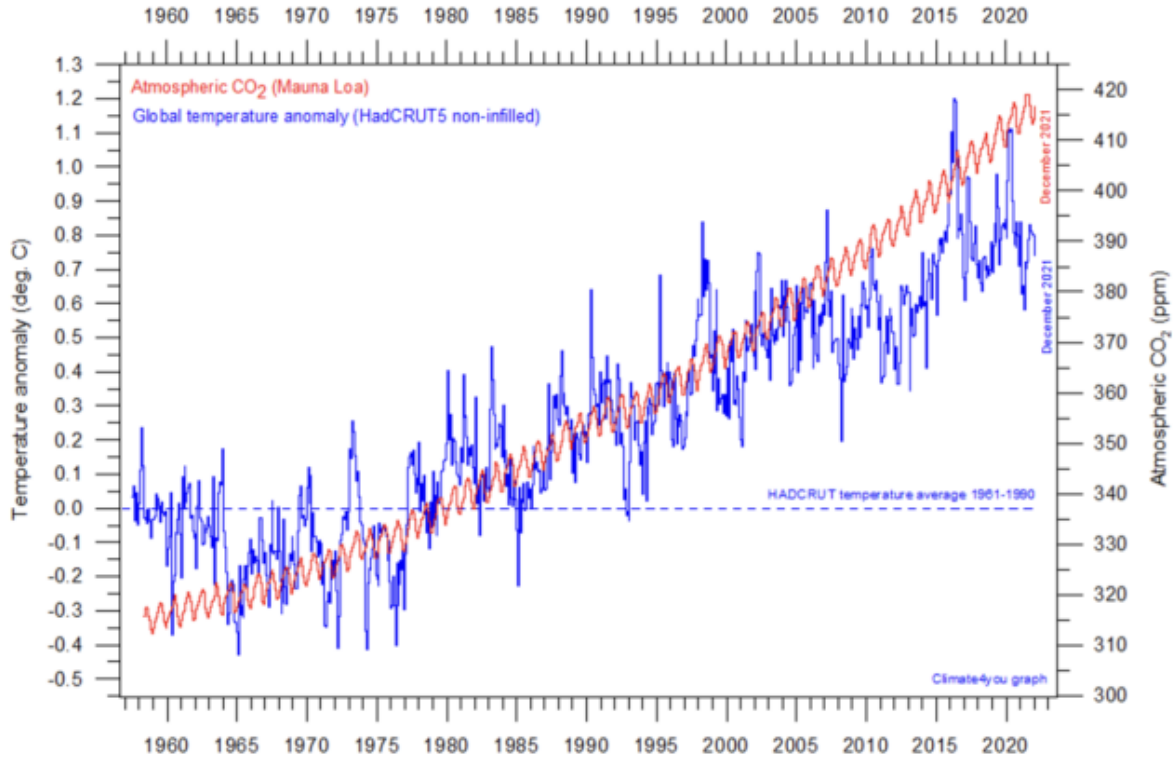
<https://realclimatescience.com/overwhelming-evidence-of-collusion/>



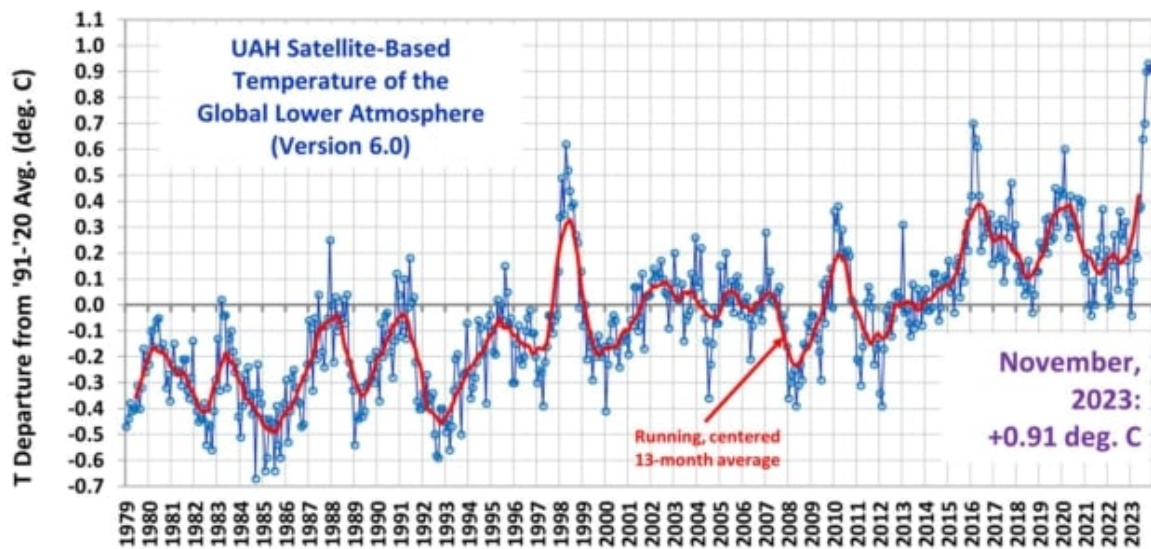
Data.GISS: GISS Surface Temperature Analysis (GISTEMP v4) (nasa.gov)

?? ? N A S A

GISS?????????????????????HadCRUT5?UAH?????????????????????CO2?????????????????2023????
?????El Nino?????????????????????



<https://www.climate4you.com/>



<https://www.drroyspencer.com/latest-global-temperatures/>

? . ?????????????????????????????????

?????????????????????CO2?????????????????????CO2?????????????????????600?????????????????????CO

??
?????????2016?9??24-53??



Newton Special

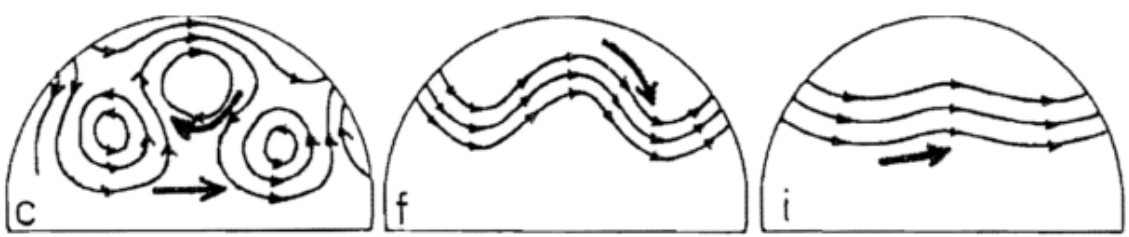
熱波、大干ばつ、集中豪雨 —— 世界を襲う気象災害
異常気象と地球温暖化の脅威

協力 江守正多 / 木本昌秀 / 塩竈秀夫 / 坪木和久 / 森 正人 / 渡部雅浩
執筆 宮内 諭 (編集部)
現在、地球は過去に例を見ないペースで「温暖化」が進んでいる。異常気象と地球温暖化はどのように関与しあっているのだろうか。そして、今後、地球環境はどのように変化していくと考えられているのだろうか。

Amazonでのご購入はこちら [Amazonで買う](#)

Newton ????????

?????????????????Bucha??



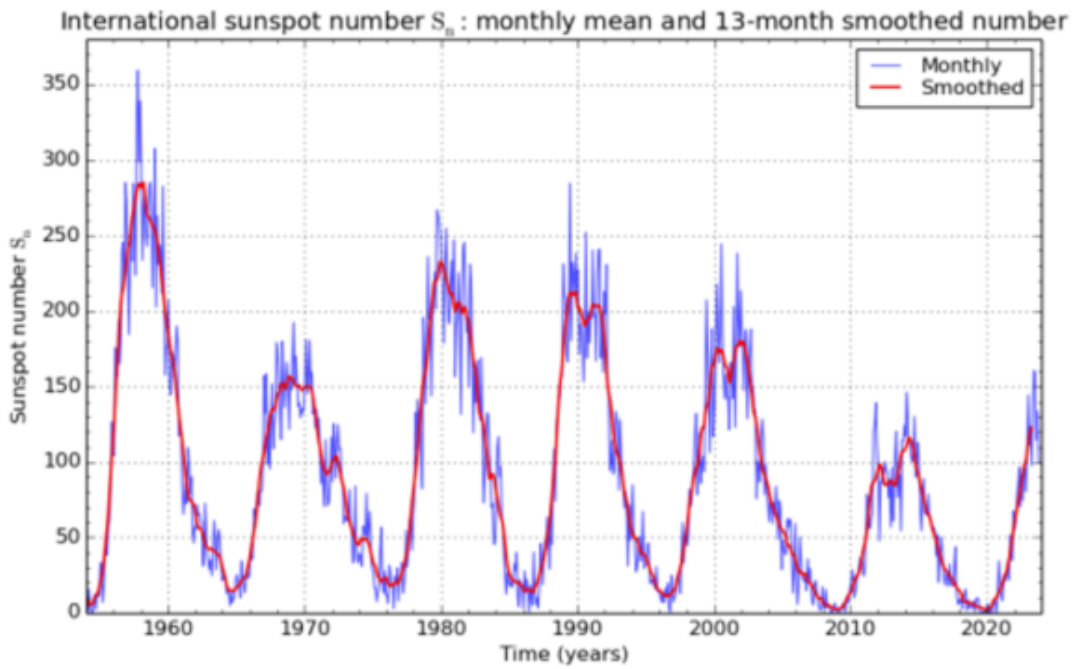
太陽活動低い
偏西風蛇行大
異常気象多い

太陽活動中位
偏西風蛇行中
異常気象中位

太陽活動高い
偏西風蛇行小
異常気象少ない

???V. Bucha, Annales Geophysicae, Vol.6, 513-524 (1988)

????SIDC?????????????????????cycle20?1964-1976??cycle24,25?2008-????????????????????



SILSO graphics (<http://sidc.be/silso>) Royal Observatory of Belgium 2023 November 1

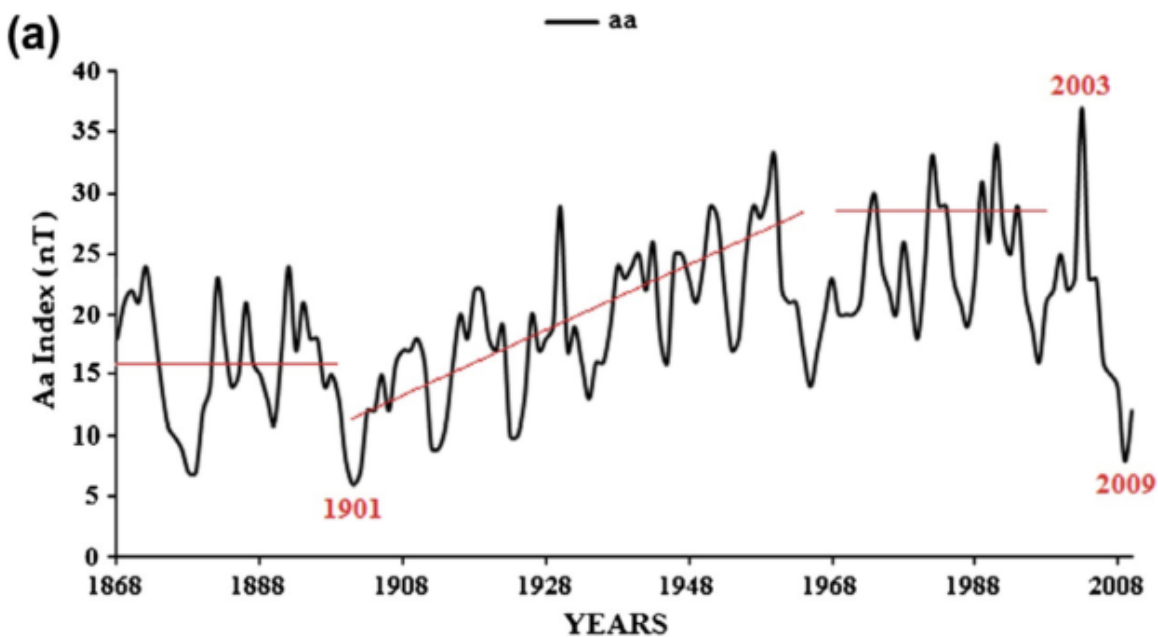
????????????????fake

science??44???????

????????????????????????????????11??22??44????????????????

- 2006??18???
- 1963??38???
- 1918?????
- 1877??????????25cm???
- 1833????1m???

??

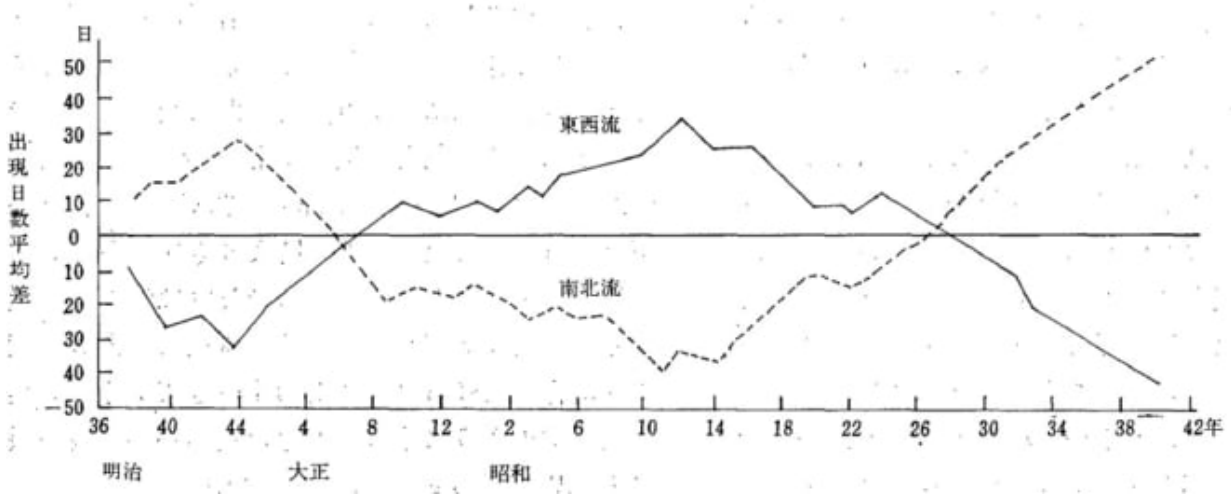


??????Zebro, J-L et al., Journal of Adavanced Research (2013),4, 265-274

1300?1918?	???	???????????
1919?1962?	??????	???????????
1963?1976?	??????	???????????
1977?2005?	??????	???????????
2006???	???	???????????

????????????????????1951????????????1910?2000????????????????1960?1980????????????????
 ???1975????????????????????Bucha??????
 ???

??1918????????1952???
 ?cycle20????????????????????????



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

????????????????1963??38??

1963?	38??????????????
1964?	????????????????????
1965?	????????????9?100???????
1966?	????????????????????
1967?	???????
1968?	????????????????????????????????10??
1968??1969?	????????????1969?3???
1969?	????????????100????????????2000??
1969?	?????????6-8000??
1971?	1????????3????????100??
1972?	????????????????????????????
1973?	?????????????
1973?	????????????????????????????250????????????????????????????????9?????

?????????????????cycle20????????????38?????????????????????cycle24,25????????????????18????????????
 ??????

IPCC????????1988????1977-2005????????????????????????????????????2000???Independent???CO2?
 ?????????????????????????????

????????????????2006??2005/12-2006/2????????18????????????????????????????????
??2009????????????????????????

2006?? ?????18????????????

2010?? ????????

2010?? ?????????????????????????????????

2012?? ?????????????

2013?? ?????

2014?? ???????????

2014?? ?????????????????????????????

2015?? ???????????

2016? ?????

2017?? ?????????????

2017?? ?????????????????

2018?? ?????????????????????

2019?? ?????????????

2019??2020?? ?????????????????????

2021?? ?????????????????

2021?? ???

2022?1? ??????????50.7???

2022?? ?????????????????????????????????

2023?? ?????????????

2023?? ?????????????????????????????????

4. ??

????????????1967,1975????CO2????????????R. Newell????????????????1979????????

CO₂????1979????????

???IPCC????????CO2??
???

??EV????EV????550????????1??CO2?
????????????????????

COP28????CO2??
??

?????? 1 ? ? ? ? J -
POWER????????????BBC??
????????????????

?

?1?

1985????????DOE????Lawrence Livermore????
DOE Report: PROJECTING THE CLIMATIC EFFECTS OF INCREASING CARBON DIOXIDE (1985)

1990????R. Newell????H. W. Ellsaesser??
W. Ellsaesser, A different view of the climatic effect of CO2-Updated*, Atmosfera (1990), 3, pp. 3-29.

??2011?157-171?
????????????????????

Posted in ??, ???? | No Comments »

????????????????
GEPR?? · Tuesday, December 5th, 2023



deepblue4you/iStock

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

?? ??

????????????????GHG??

??????????

GHG??GHG????????????????????????1????????????1?
 ?????GNI??4?????????????

表-1 世界銀行データベースの所得分類
 (2021-2022年)

所得グループ	所得範囲 (1人当り名目GNI, US\$)
高所得国	> 12,695
上位中所得国	4,096-12,695
下位中所得国	1,046-4,095
低所得国	< 1,046

?????EU-28??
 ???????????????????????

EU-28??

????????????????????????????????4?25?2019?????????GDP?????????????????GDP????2/3????????????????????16
%???????

図-4 所得分類別世界の人口比率、2019年
出所：世銀データで作成

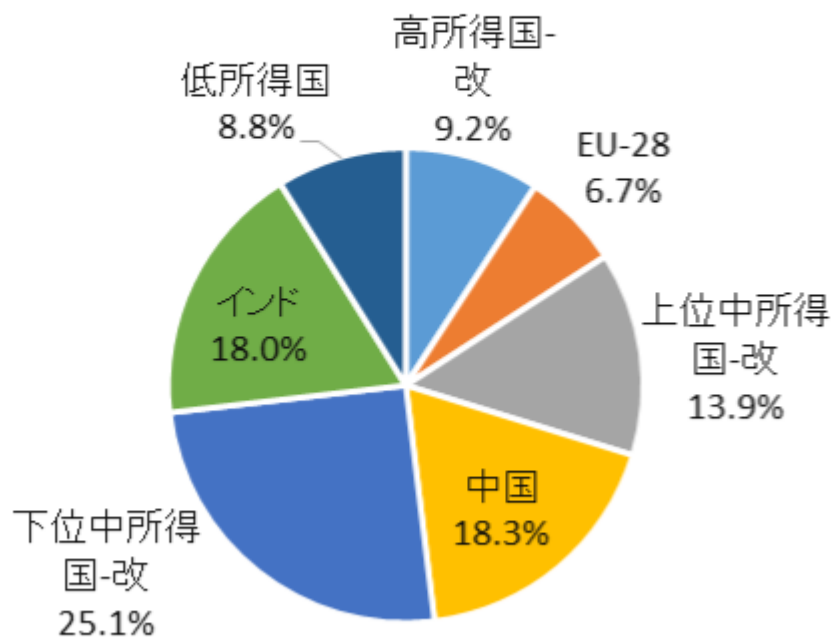
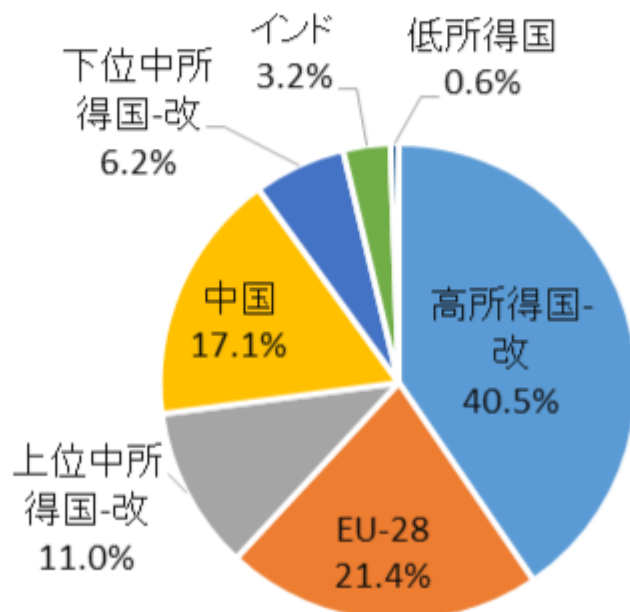


図-5 所得分類別世界のGDP比率、2019年
出所：世銀データで作成



????GHG???

????????????????????????GHG????????????10??1%?????
????????2050?GHG??

????????????????GHG??GHG????????????????????
??GHG??????????????

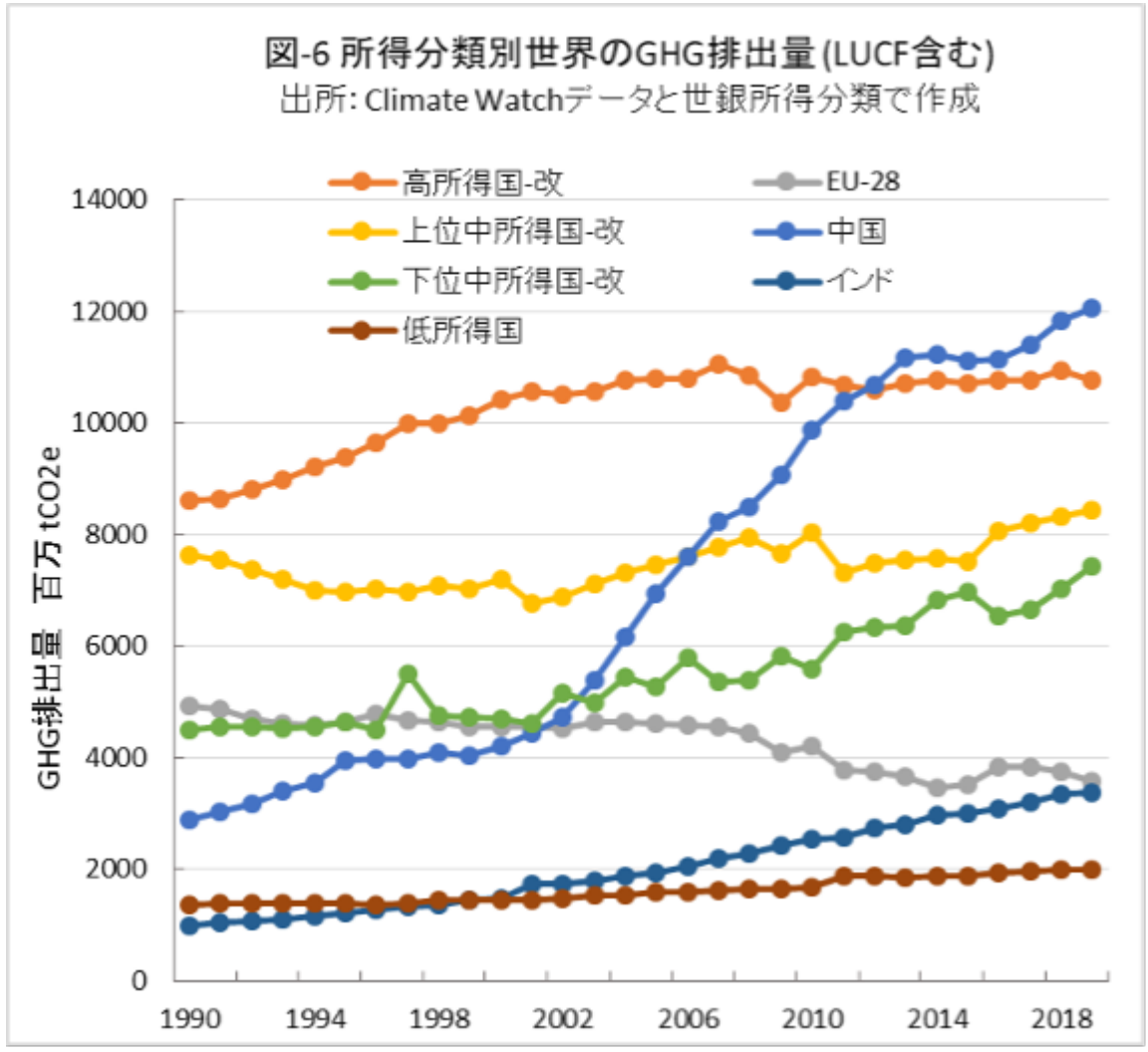
GHG??GHG????????????????????

????GHG?????

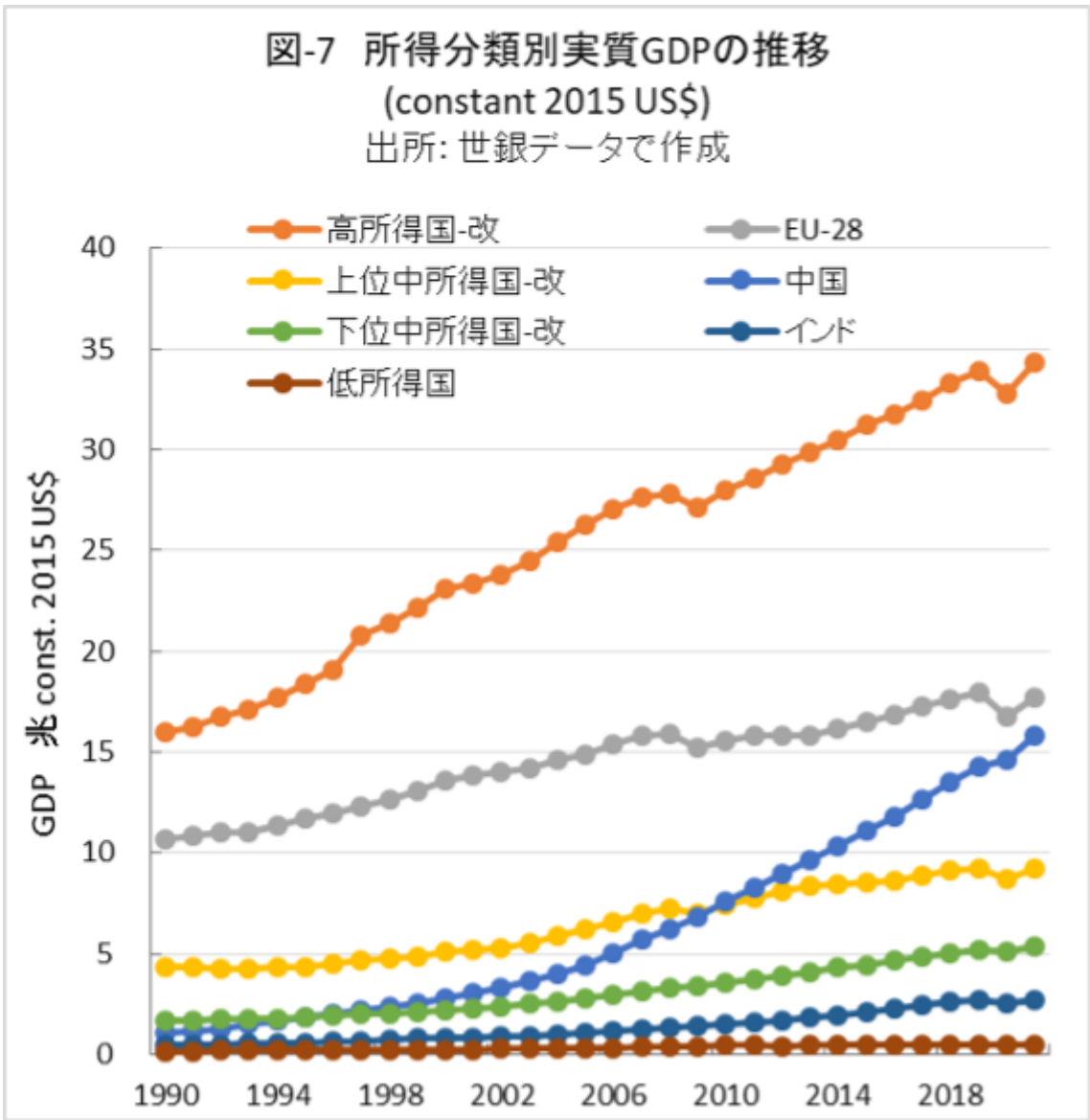
?6?????GHG????????????????????GHG?????Climate
Watch????????????????????????GHG????????????????????????????????????Climate
Watch????????????????????????????????????IPCC?6????????????????????????????

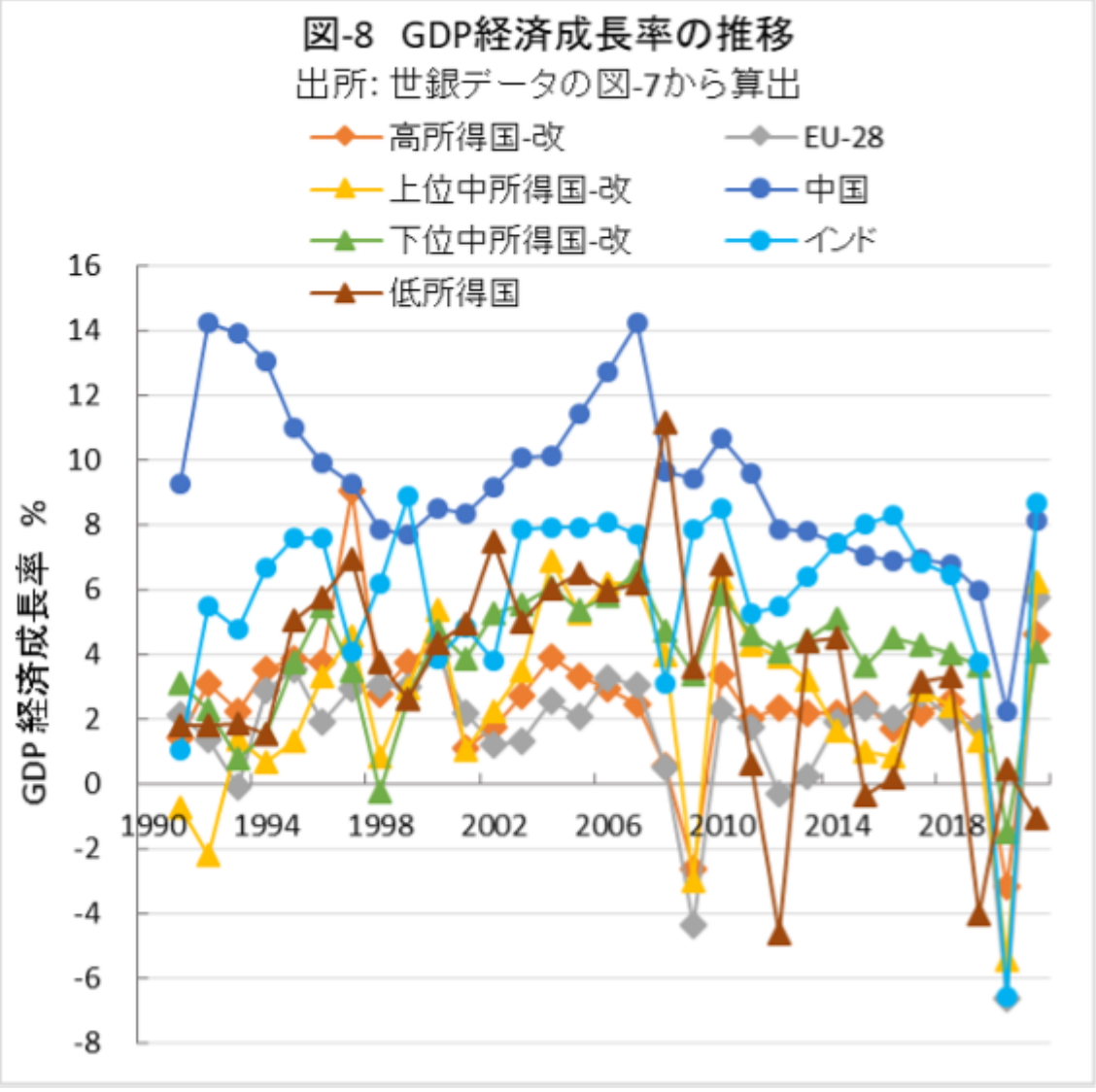
6?????WG3????????????????????CO2????????????8%????????????????????CH4????F-
????30%?N2O??60%????????????????
CO2????70%????????????????????????????GHG????????????10%????????????????

????GHG??6????????????GH
G????????????GDP????????????????????



????????GDP?????8?GDP???????GDP???
?





??-
 ??EU-28????????2008????????????????3?4%????????????????2%????????????????-
 ??GHG??EU-28?GHG????????????????????
 ???????????????

????????????????????10%????????????????????9%????????????GHG????2002????2013????????
 ?????????????????????????????????????6%????????????GHG????????????????

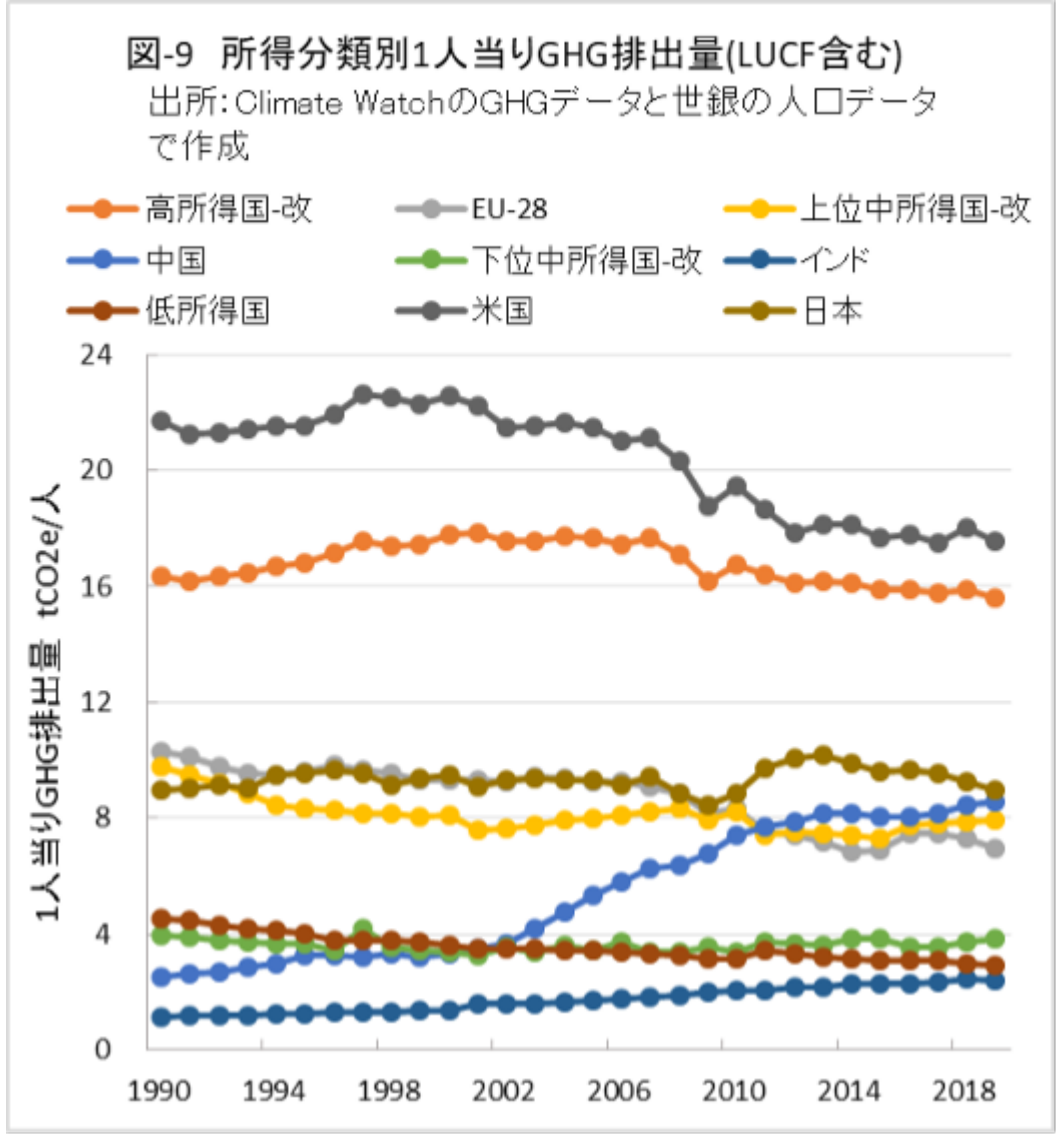
??????-??????????-
 ?????????????????2005????????6%????????????????2.5%?4%?3.4%???GHG????2000????????????
 ?????????????????-????????????????

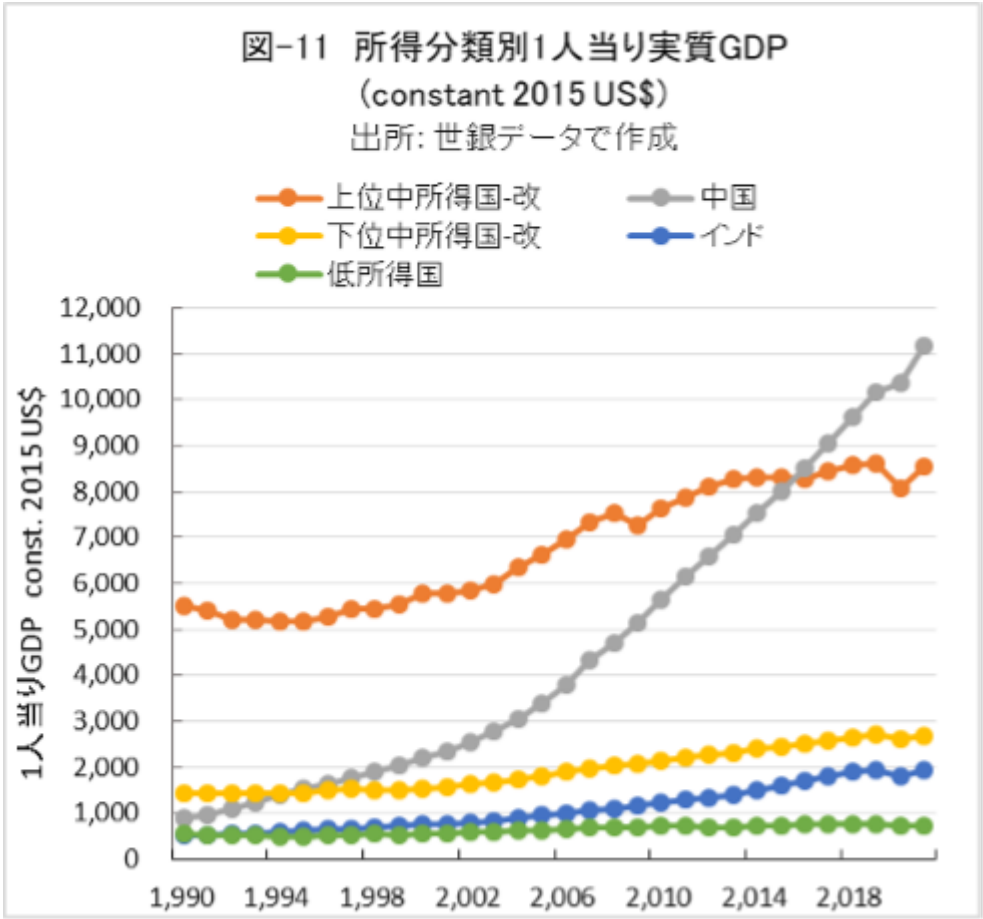
????2%????????????????GHG????GHG????????????EU-28????????GHG????????????????
 ???4?5%????????????????????????????????GHG????GHG????????????????????GHG??
 ?????????????????

1???GDP?GHG

????????????????????GHG????????????GHG????????????????????1????????1????????
 ?GDP????????GHG1????????????????????

????????1????GHG????????????????1????GHG????????????????????????????????2?????
??GHG????????????????????
9????????1????GHG????????????????????????????????10?1????GDP?????????





1990年GHG排出量は約16t CO2e/人であった。EU-28は約10t CO2e/人、中国は約1t CO2e/人、インドは約0.5t CO2e/人、低所得国は約0.2t CO2e/人であった。

GHG排出量

2020年GHG排出量は約1000億t CO2eであった。中国は約300億t CO2e、インドは約100億t CO2e、EU-28は約100億t CO2e、低所得国は約50億t CO2eであった。

2020年GHG排出量は約1000億t CO2eであった。中国は約300億t CO2e、インドは約100億t CO2e、EU-28は約100億t CO2e、低所得国は約50億t CO2eであった。

2023年GHG排出量は約1021億t CO2eであった。GDPは1990年と比べて約10倍増加した。GHG排出量は1990年と比べて約10倍増加した。

2023年GHG排出量は約1021億t CO2eであった。GDPは1990年と比べて約10倍増加した。GHG排出量は1990年と比べて約10倍増加した。

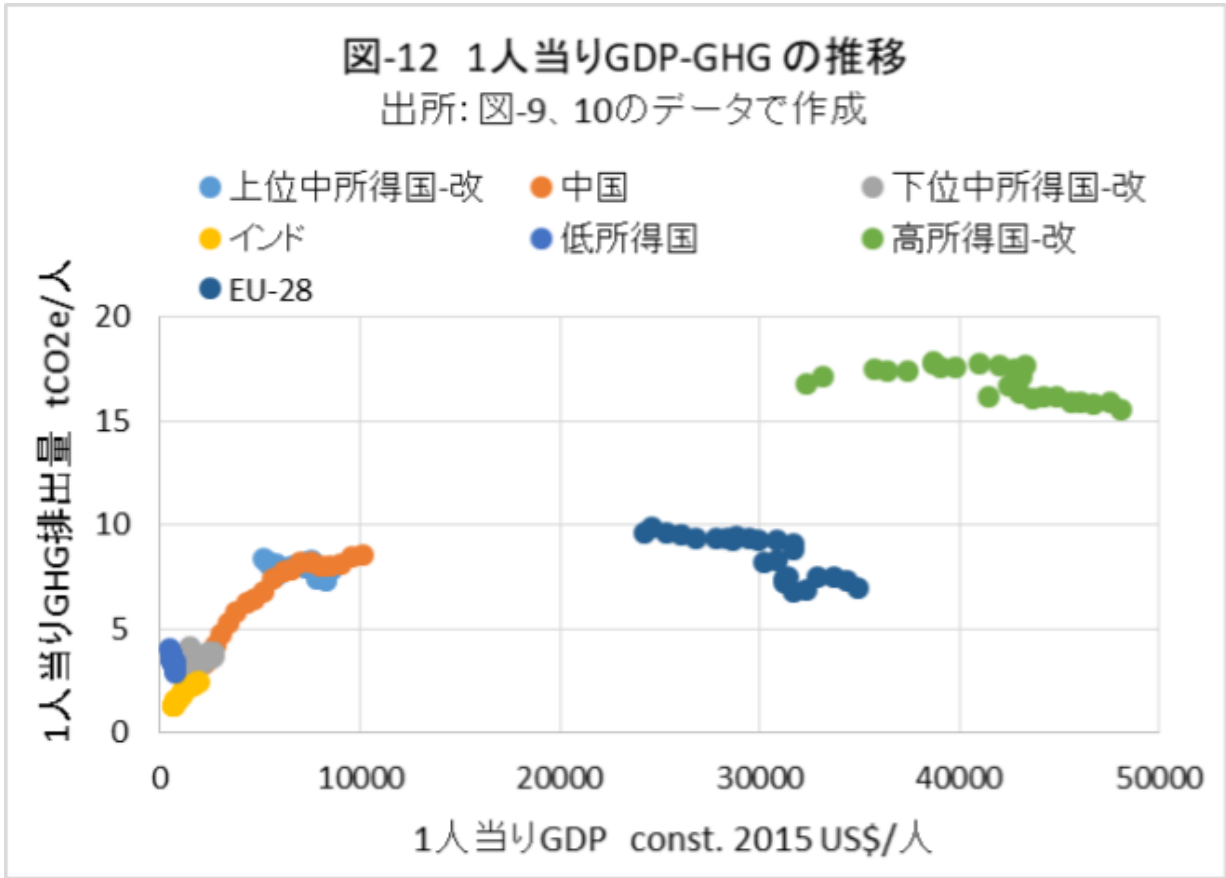
2000年GHG排出量は約2000億t CO2eであった。GHG排出量は1990年と比べて約10倍増加した。GHG排出量は1990年と比べて約10倍増加した。

1990年GHG排出量は約16t CO2e/人であった。FITはGHG排出量を削減するための政策である。GHG排出量は1990年と比べて約10倍増加した。

GHG排出

2020年GHG排出量は約1000億t CO2eであった。GHG排出量は1990年と比べて約10倍増加した。GHG排出量は1990年と比べて約10倍増加した。

12 GDP GHG 1995 10 1995
GDP GHG EU-28 GHG
???



13 GHG
????

Request to Reconsider Proposed Regulations on Battery Electric Vehicles

?????

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

1. BEV????????????????
2. BEV????????????????
3. BEV????????????
4. BEV????????????????

???

????????2010????????2022????????2050????????????????

Renewables*	36.59%
Coal	27.96%
Gas	14.86%
Nuclear	12.26%
Hydro	3.30%
Oil	0.83%
Other	4.20%

How is Electricity Generated in Germany?(2019/2022)

(*) Wind:56.2%, Solar: 21.2%, Others:22.6% ?

??14.9????????78????????????????

Oil	35.2%
Natural gas	25.1%
Renewables	14.9%
Lignite	9.1%
Coal	8.6%
Nuclear	6.4%
Other	0.7%

What Primary Energy Sources are Consumed in Germany? (2019/2022)
???Lignite????:????????????????????????????
????????????????????????????



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

3. ???

??
??

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

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

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

GEPR??? · Monday, December 4th, 2023



deepblue4you/iStock

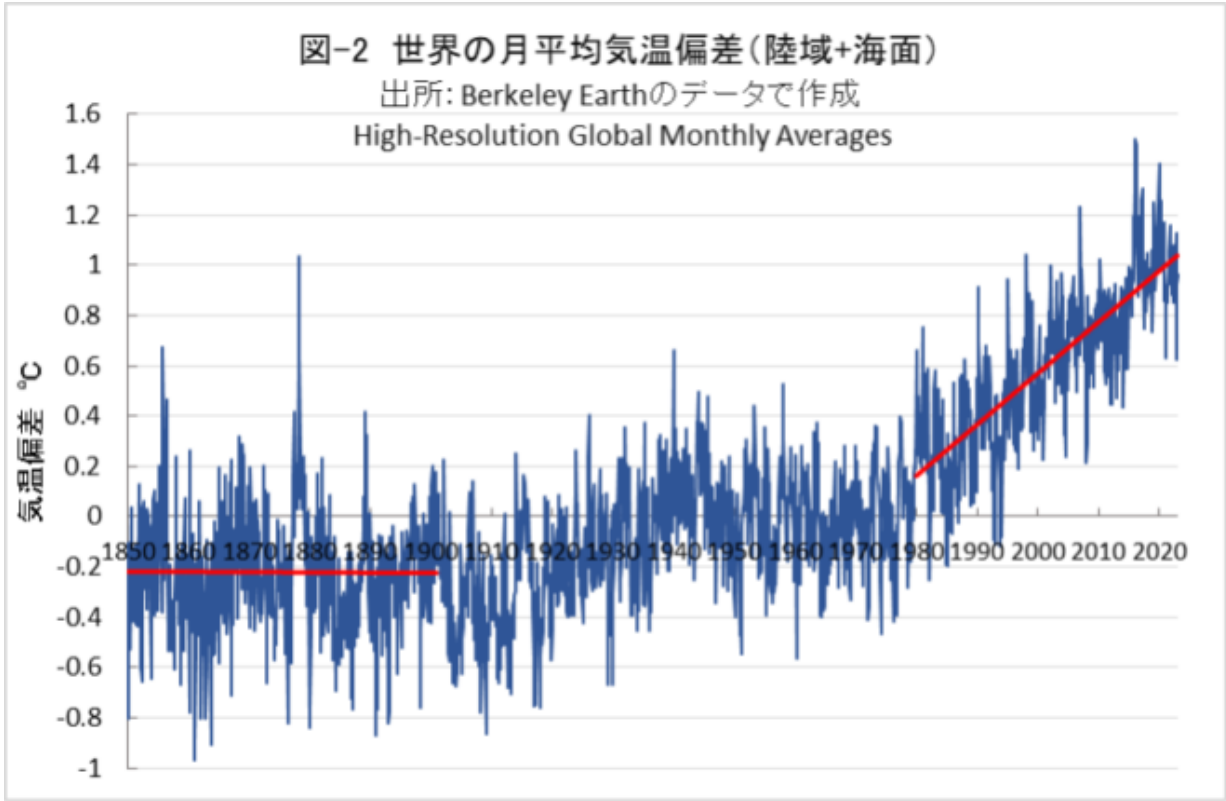
?? ??

??

?????????GHG????????????????????

??????GHG??????1/3????2050????GHG?????????????????GHG????????????????
????????????????????????????????????EV????????????????????

?????????????????GHG??
??????

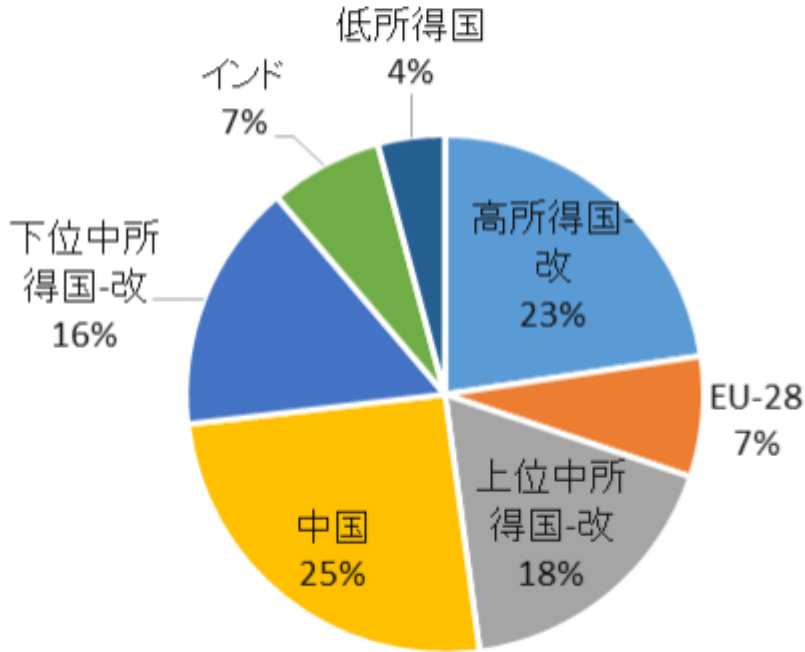


1850??????2022??????1.2????????????????????????????????2030????1.5????????????????????????1.5??
 ???

??GHG????????????????????????????????2050????????????????????GH
 G????????????????????2060????????2070????????????????

?3????????????????????????GHG????????1/3????????????????1/3????????1/3????????????????
 ?????????????????GHG????????????????????

図-3 所得分類別世界のGHG排出量比率
(2019年, LUCF含む)
出所: Climate Watchデータで作成



????????????GHG??GHG????????????
???

????????????GHG??

??

?

?? ??

????????????1970??kindle????????????????
????????????????

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

????????SMR????

?? ?? · Saturday, December 2nd, 2023



mrdoomits/iStock

????SMR????????????????

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

??1942????????1????????????????????????????
??



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

??Wikipedia

????????????1980??
????????????????

??2010????????????????2011??
????????????????????

9??

????????????????SMR??

????SMR????????????????????NuScale????????????????????????????????????11????????????
????????????

????????SMR????????????

■ ?????????SMR????????????

??SMR ??????

????????SMR????????????SMR??
?????

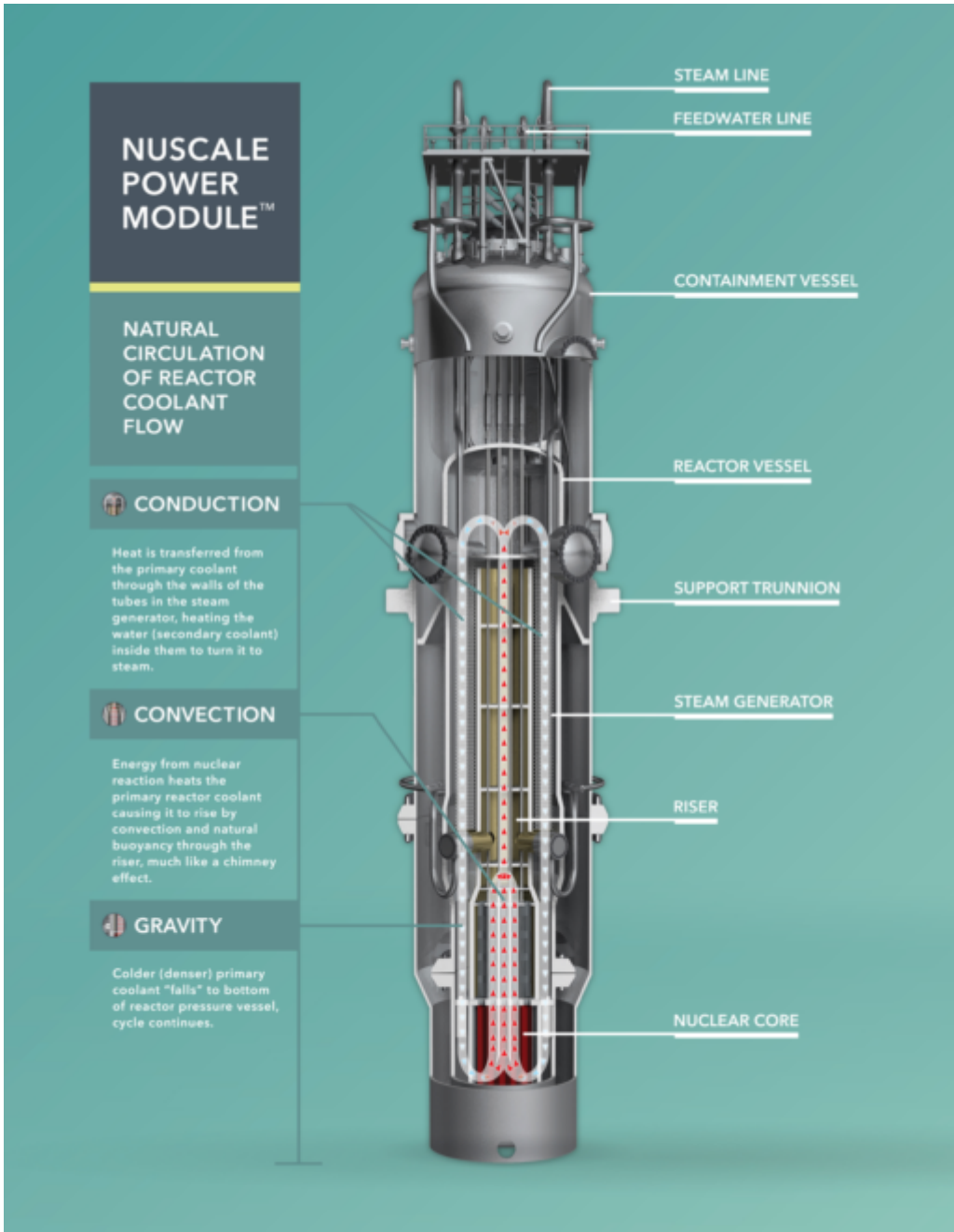
GX????????????????



????????SMR??
??SMR????????SMR????????

????????SMR??

??



SMR????

??
NuScale??SMR??

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

??

???????

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

??80????????????????

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

SMR??
??10????????

??10????????????????SMR????????????????
10??

????????????????NuScale??SMR????1?????????5?kW?????????????????7.7kW?1.5????????????
??
?????NuScale??SMR????????????????????????????

??SMR??????

NuScale?SMR??
??????????

SMR????????????????????????????????40????????????????1980????????????????????PRISM????????
??4S????????????

4S????????????????????472/2020????????????????????????????????2004????????????????
????????????????????

????????????????????????????????**PBMR**????????????????1993????????????????????
??2010????????????????
?

??

NuScale??SMR????????????**IHI**????????????2023?9????????????????????

??SMR??

NuScale??SMR??

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

????????????????????100?kW????????????????????

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

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

?? ?? ? - Thursday, November 30th, 2023



????????????? bluejayphoto/iStock

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

11?15????????????????2????????????????????????????????????2021????????????????????????????
????????????????????????????????600????????????????????

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

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

????????????????????????24?27?2129????????????600????????????????????????????????????
????????600??

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

????????????????????????109??2009????2
016????????GDP?0.35????????????????????????????????????

??
???

????21?12????????????22????????21????????????????????????“????????????”????
?

??
????????600??
????????????????????????????

?????“???”?21??
????????????????????????

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

??
??
??

????????CDU??
????????????????????????

????????600??EV????????????
????????????????????????

??100?????1.5????????????1????
????????????????????????

??CDU????????????
??CDU????????????CDU????
????????????????????????

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

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

????DIW??
??
????????????????????

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

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

CDU??
????????????????4????????3????????????????????????10??
????????????

????????????????????CDU??
??“???”????????????????????????????????

Posted in ???, ?? | No Comments »

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

?? ?? · Wednesday, November 29th, 2023



Darwel/iStock

COP28?11?30????????????UAE??
????????????????????????????????????

????????????????????????????????1.5????????²¹????????????2030????????????????CO2????????????
????????????????????????????????

????5????????G7????????????????

????2035????????????????????????????????1.5????????????????????????????????
??
????????????????????

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

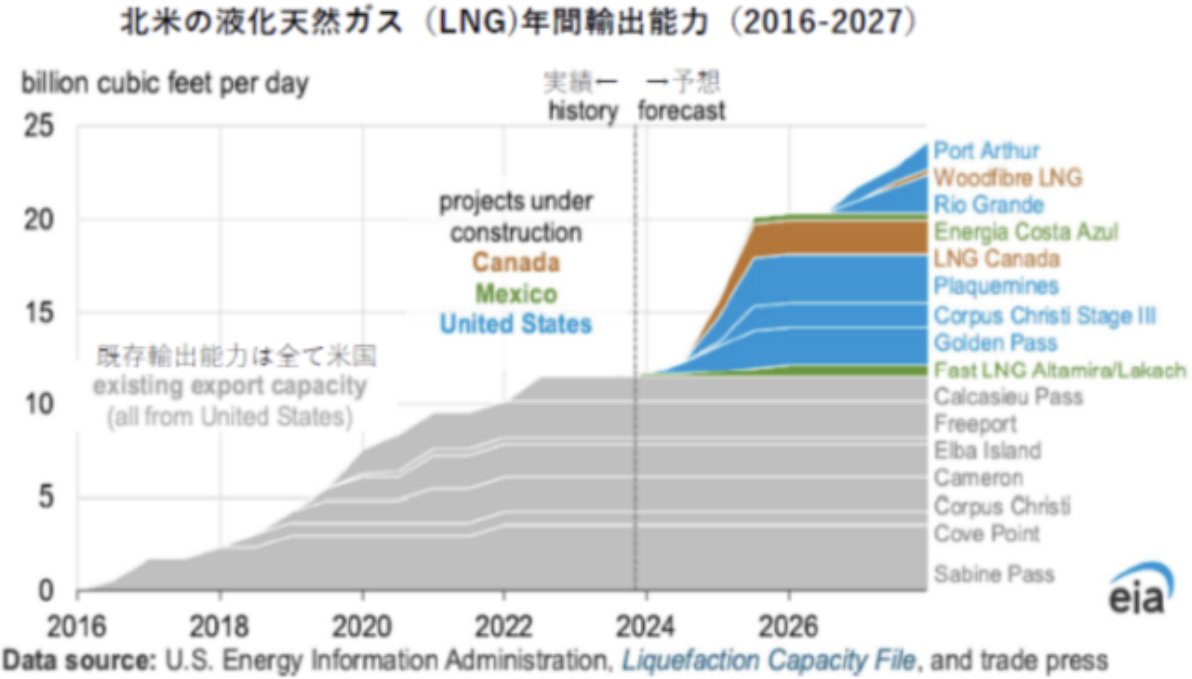
?????????11??EIA????????????????????????????????

11?2????????????²²⁾??
????????????2022?8?????1???23?7???1??????22?????3310????²³⁾?????????????
?????

?????????????????1440?????51%?????????????1860?????6??
?????????????300/???100?????????????????????????????20?????????????????

??
??

?EIA?11?13??????²⁴⁾??2027?????LNG??????
??



?????????????????????????????????129?Bcf/?????????????????????11?Bcf/?????????21?Bcf/?????????97?Bcf/????????
??????????????????????

????2010??2018????????????????????
????????????????????????LNG????????????????????2027????????????????????????????????????2030????????????????????
??

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

??

??

??

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

?

1??1.5????????????????
??21(a)????????????????????????????????1.5????
??COP26????????????????????????????????

?2?“EU sanctions on Russia’s coal increase U.S. coal exports to Europe”, Today in Energy, November 2, 2023, EIA

?3??

?4?“LNG export capacity from North America is likely to more than double through 2027”, Today in Energy,
November 13, 2023, EIA

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