



GDL????????55????????25????????3000????????  
?????38????35????????

??12??8??GDL??

??3????????????GDL?1?????????9?????10  
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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????  
“?”????????????16????

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

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

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?? ?? · Wednesday, January 31st, 2024



Nathanx1/iStock



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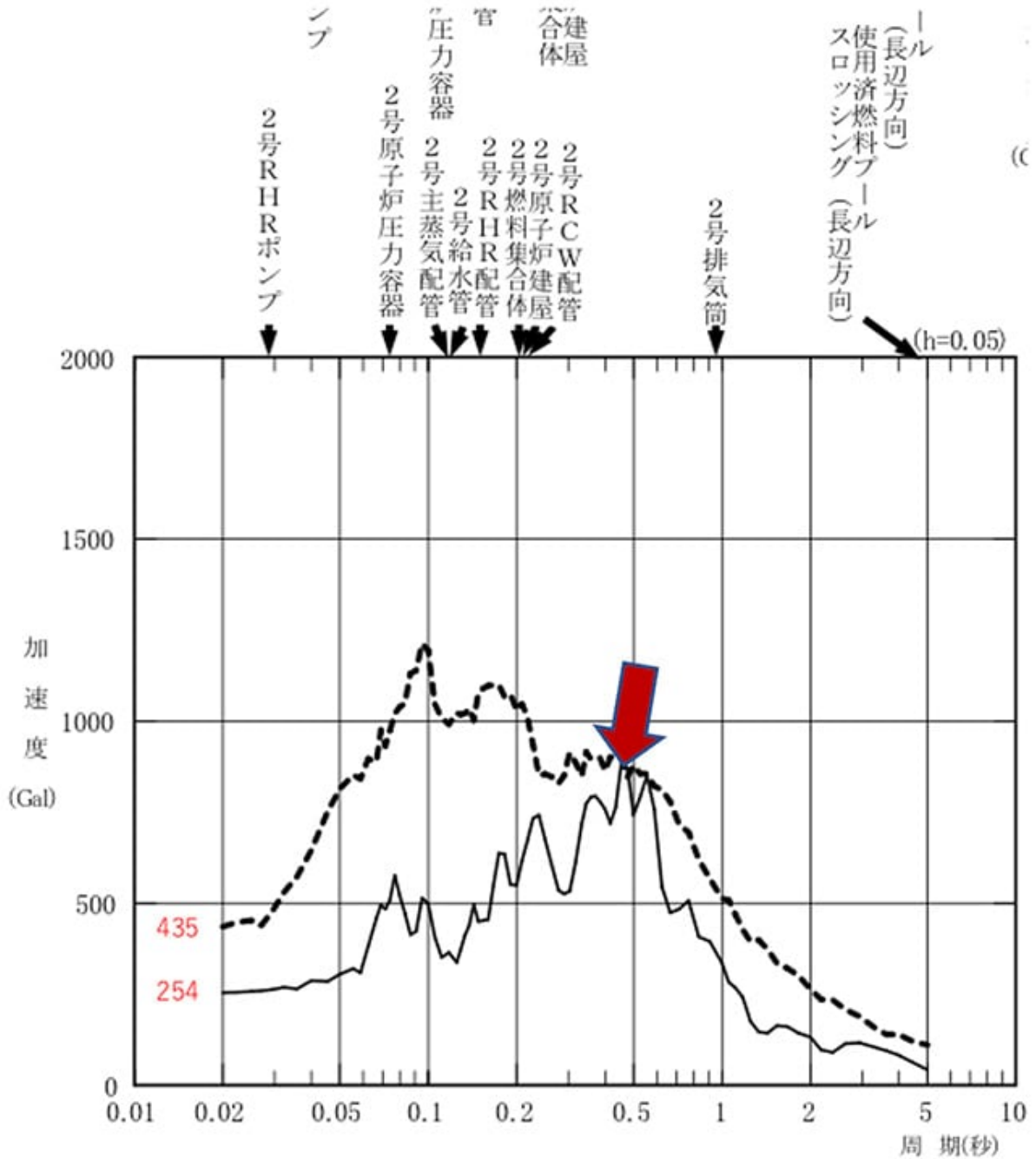
- ???2????????1????????????????????  
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- ?????????????????????1?2????600????
- 2????????????????????1000? ?????????
- ???1000????????????????????????????????????

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

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



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

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

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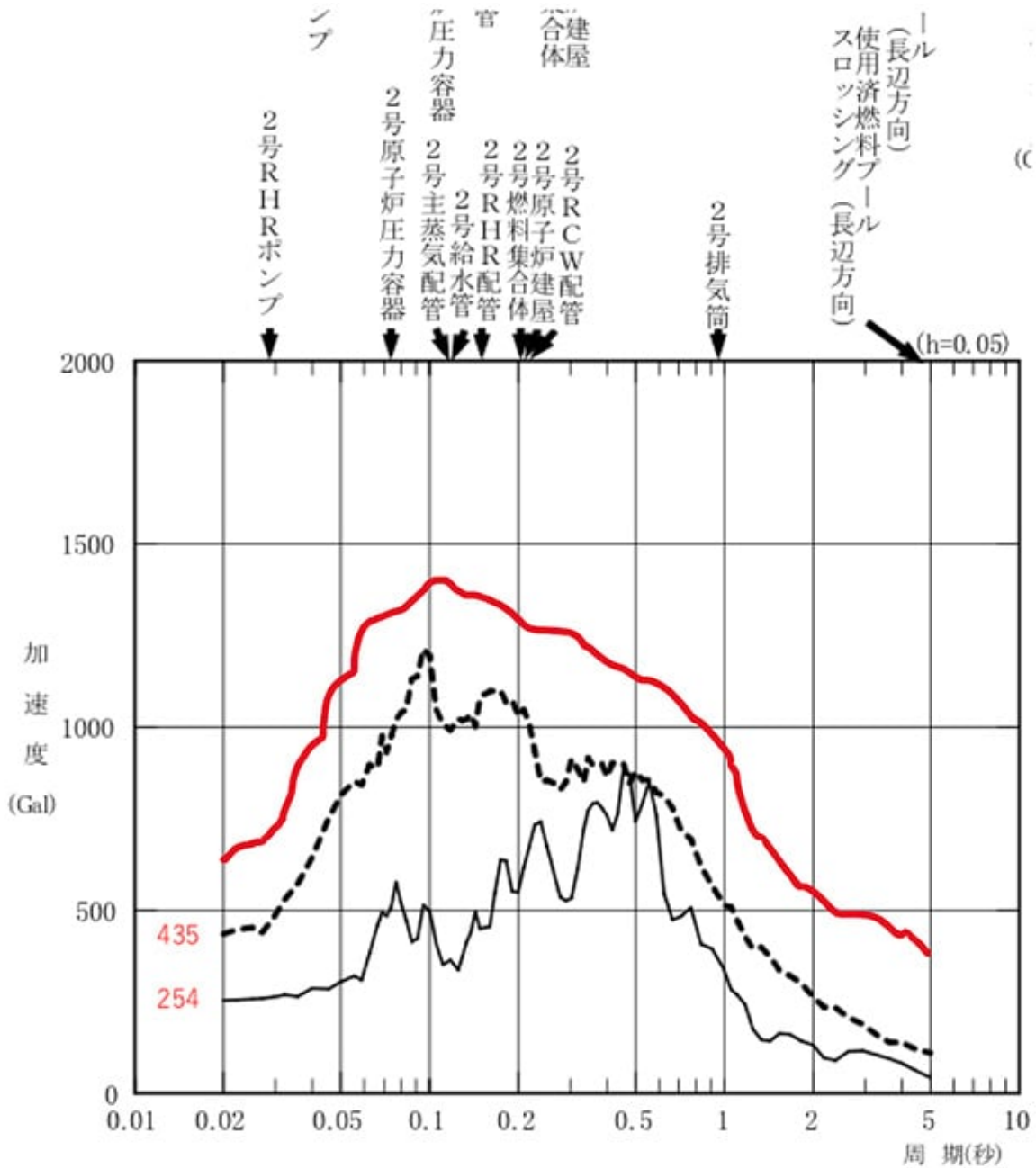
??F????????????????????G????????????????????G????????????  
 ?????????1G980????????980??1G????????????????????????????

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?????2?“?”?????1000??

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特設サイト  
 能登半島地震による各原子力発電所への影響について

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

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?? ? · Wednesday, January 24th, 2024



Cinefootage Visuals/iStock

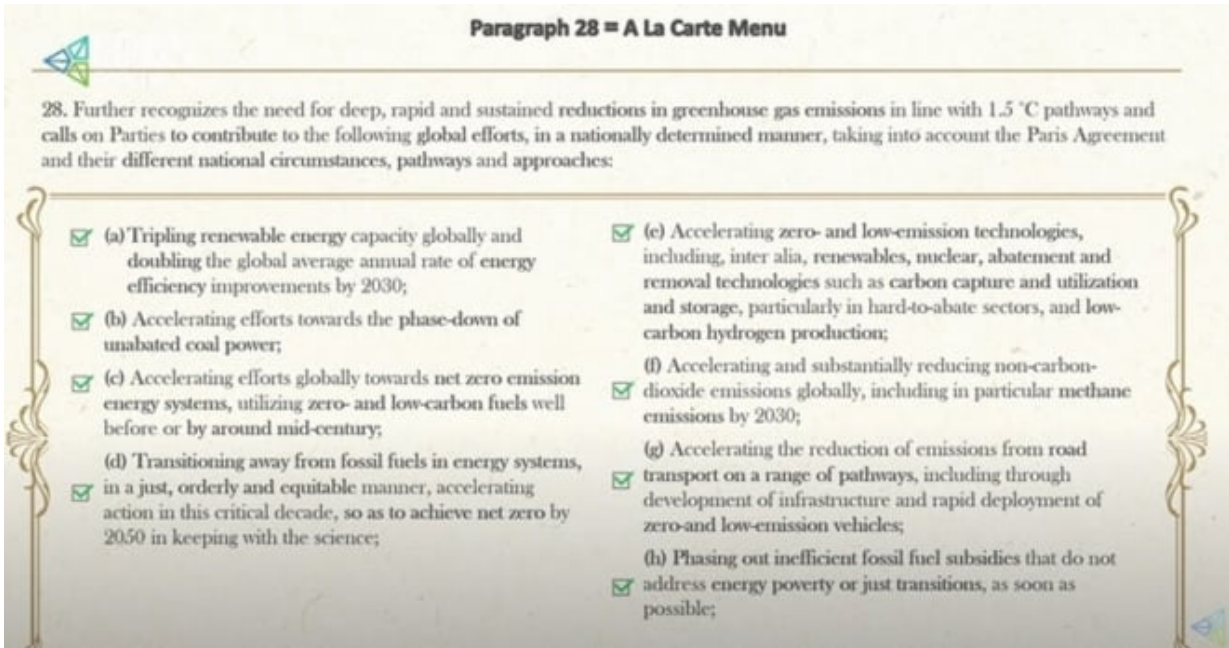
2023?12?????????COP28????????????????????????????????

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

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

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

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

????2030????

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

????????????????????1928??  
 ???10????????????????????  
 ???UAE?  
 ?????????????????????????????????????OPEC??2022??28??????????10.6????????????????  
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Posted in ???, ????? | No Comments »

## ???CO2????????????????????????????

?? ?? · Saturday, January 20th, 2024



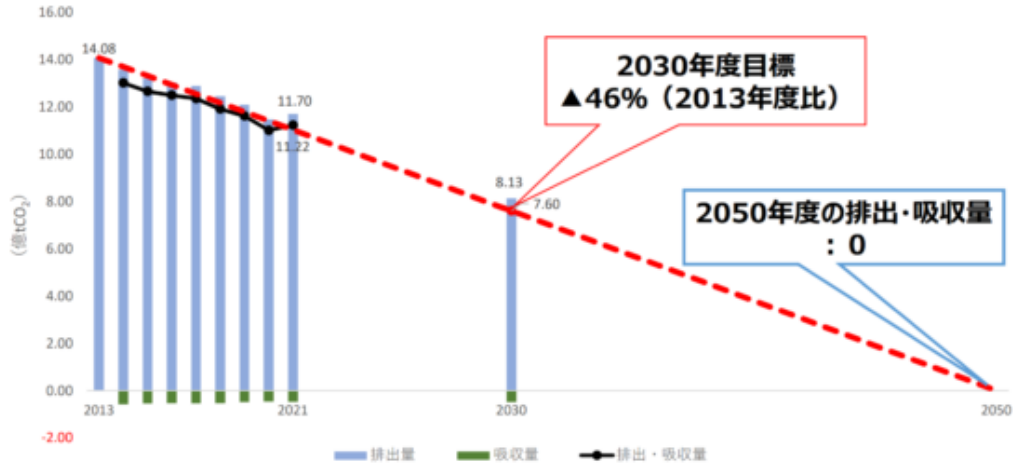
Slavica/iStock

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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。



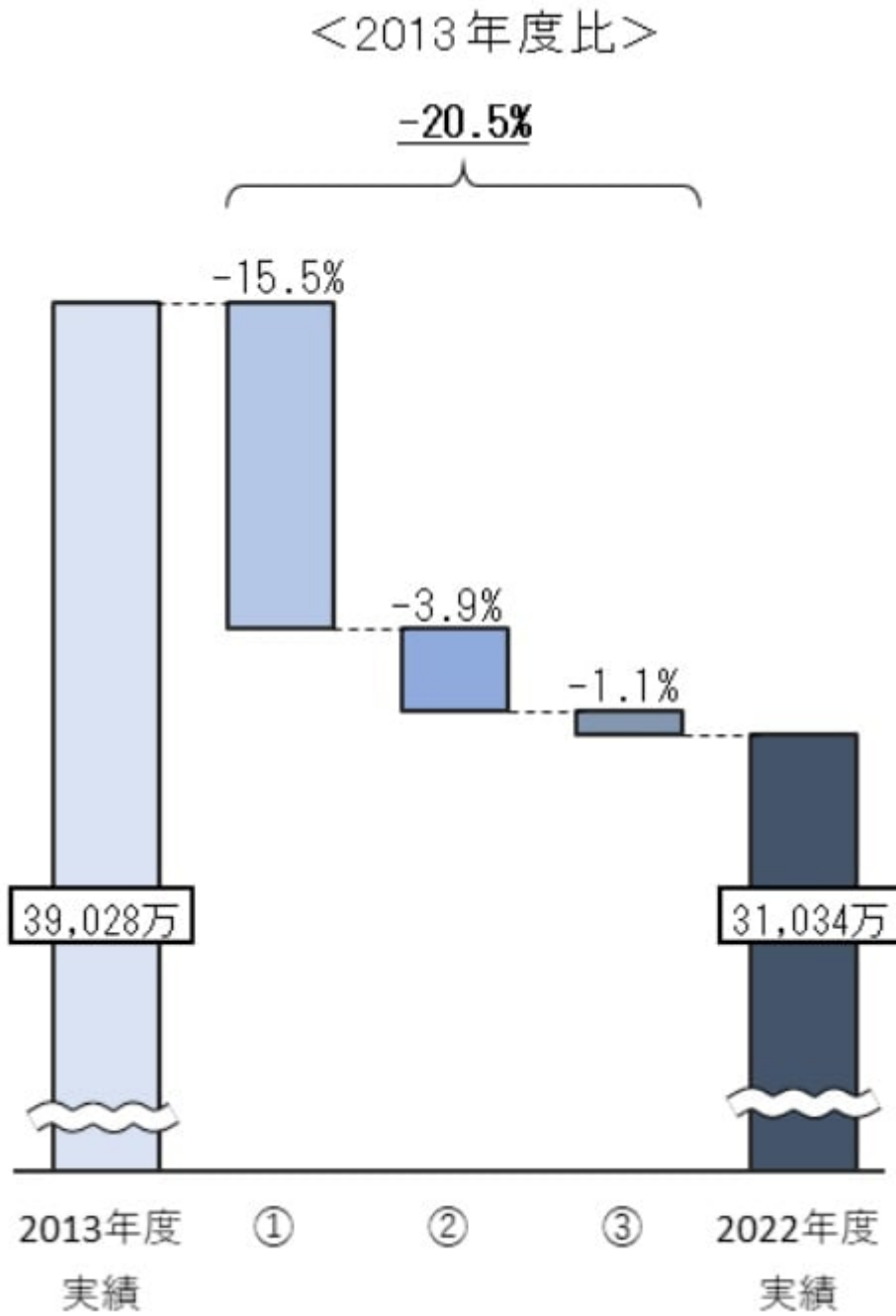
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????????2013????2022????CO2????????76????????????????

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

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

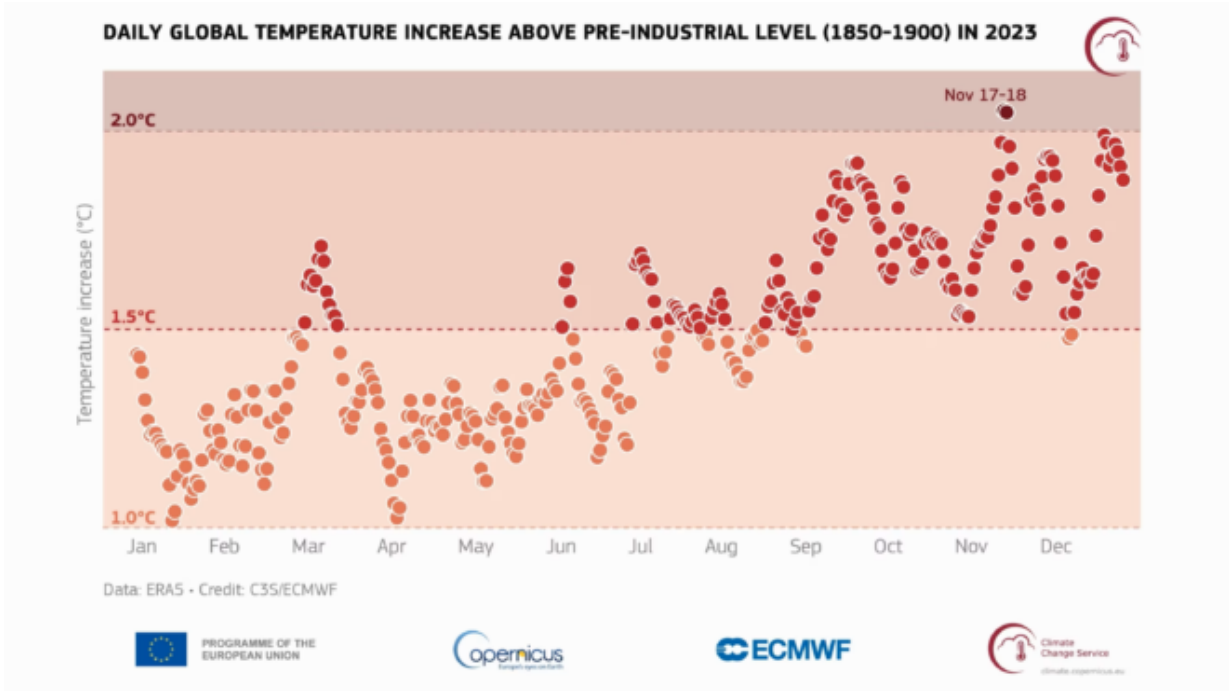
????????1.5????????????????

?? ?? · Wednesday, January 10th, 2024

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

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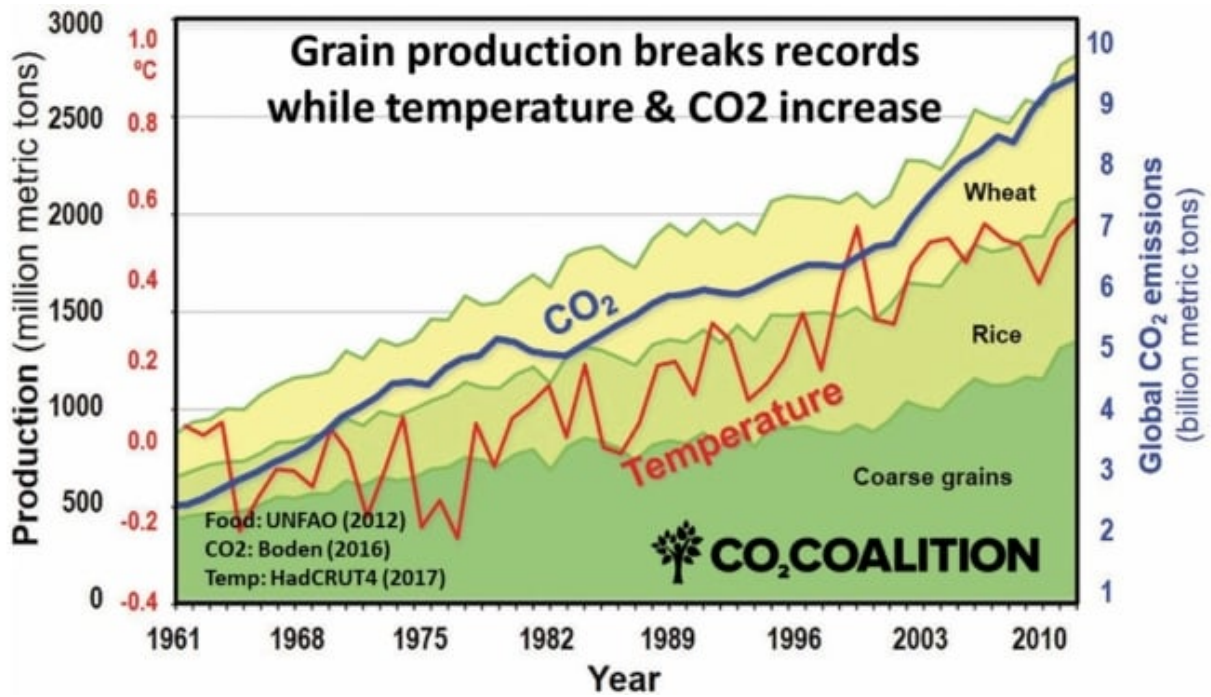
????1.5????(ABC News)

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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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??50????????????  
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Posted in ???, ?? | [No Comments »](#)

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?? ?? · Sunday, December 31st, 2023



shotbydave/iStock



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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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??????<sup>12</sup>??1.5????????????2025????????2035????60????????????????26?27????2025????????  
?NDC?????1.5????????????????????????47??

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?NDC??2025????????20  
35??60????????????????????????????????????2025????????2035??60????????????????????  
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COP28????????????????????????????????1.5????????????????????????????????  
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????????????28????1.5??  
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????????????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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## COP28 ?????????????????????

COP28????????????NHK????????????? “?????”????????????? ?????? ?????????????  
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????????2050????????75??Doomsday????  
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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????

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

### ????COP????

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

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



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- ?????????????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????





Ignatiev/iStock

**EV??????...???????**

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

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????????????????????????????????11?15????????????????????600????????  
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**??????3???????**

????????????????23????????2????????????????1????????????  
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????????????????12????????3????33????????14????15??





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

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

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??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;<sup>5</sup>

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;<sup>6</sup>

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

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

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





deepblue4you/iStock

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

?23??-

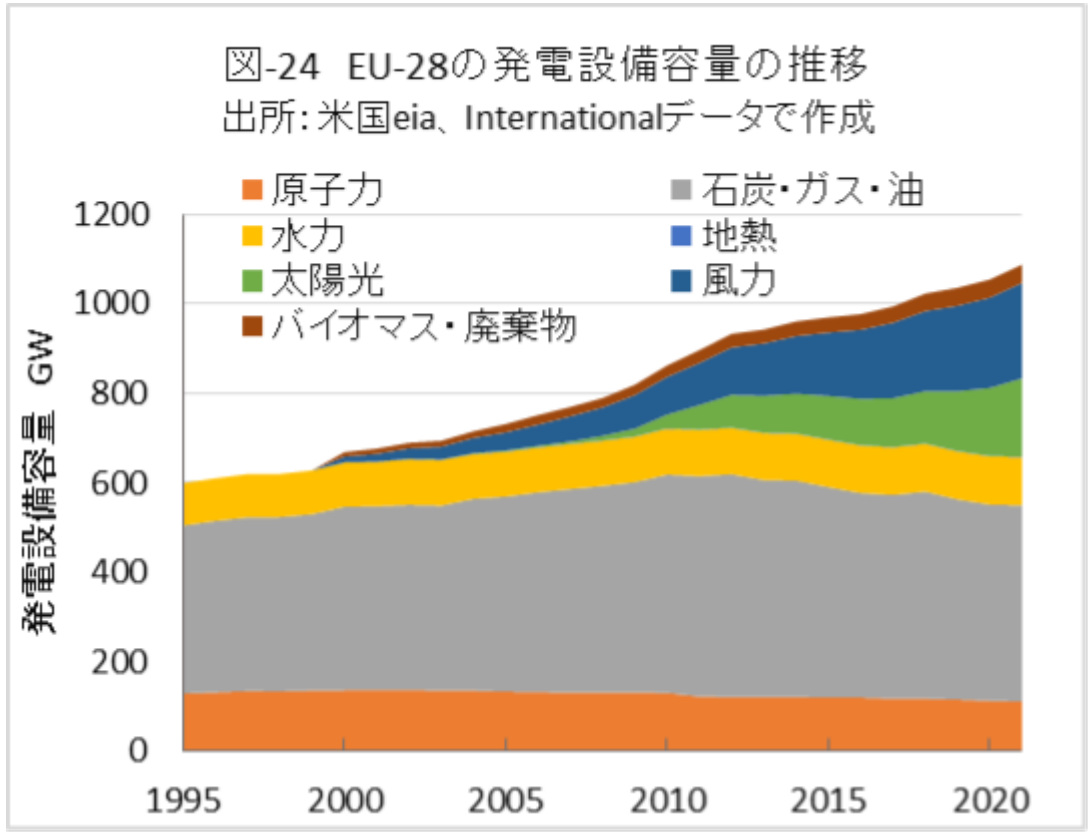
??EU-28??10??



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

EU??VRE???

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



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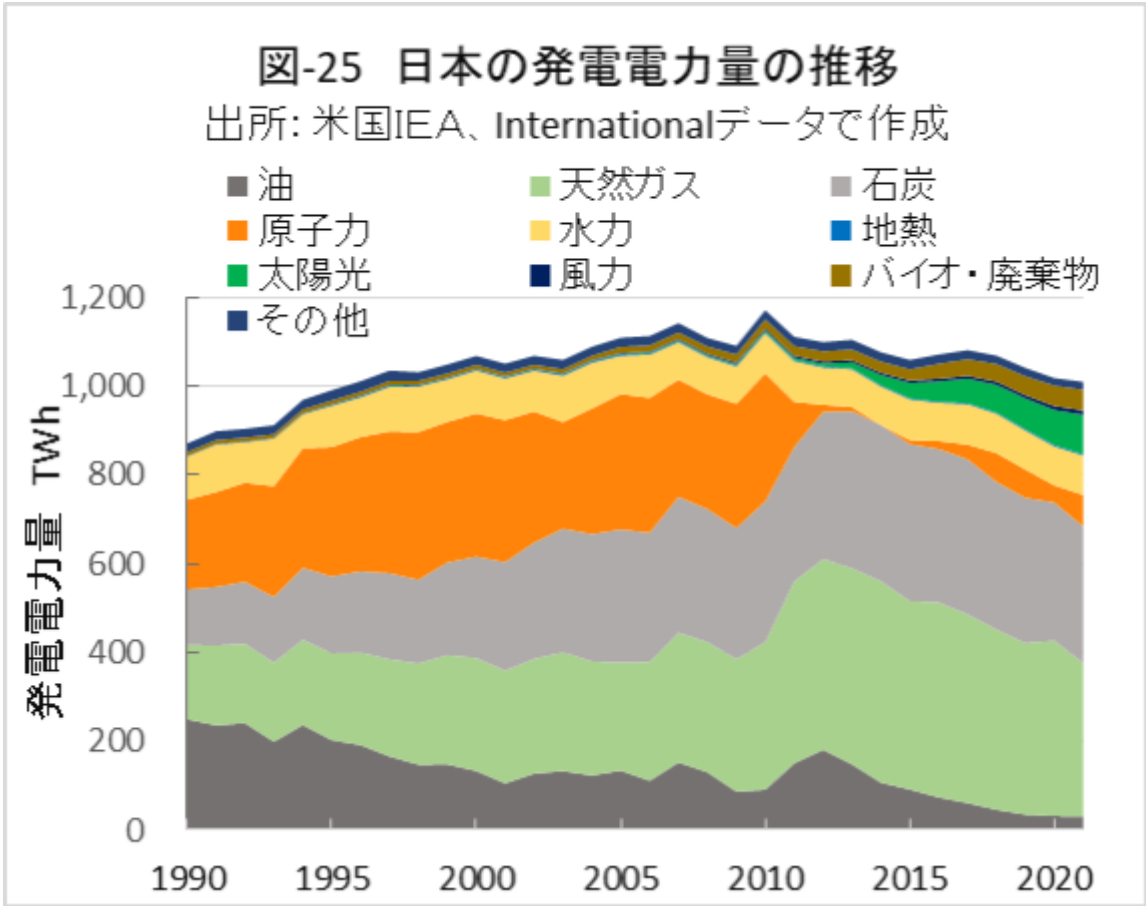
VRE??

????????50%????????????????????????10%??  
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????EU-28??VRE????????????????????GHG????????VRE????????????????????????????GHG?????  
??VRE????????????????????????????????????

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



2011年3月11日の東日本大震災以降、天然ガスが25%増加し、LNGの消費量が急増している。

2012年7月のFIT導入以降、太陽光発電が急増し、2017年には25%に達している。FIT制度の終了後は、FIT非対応の太陽光発電が急増している。

**再生可能エネルギー(VRE)**

VREはGHG削減に有効なエネルギー源である。VREの導入を促進するためには、再生可能エネルギーの普及を促進する必要がある。

VREの導入を促進するためには、再生可能エネルギーの普及を促進する必要がある。再生可能エネルギーの普及を促進するためには、再生可能エネルギーの普及を促進する必要がある。

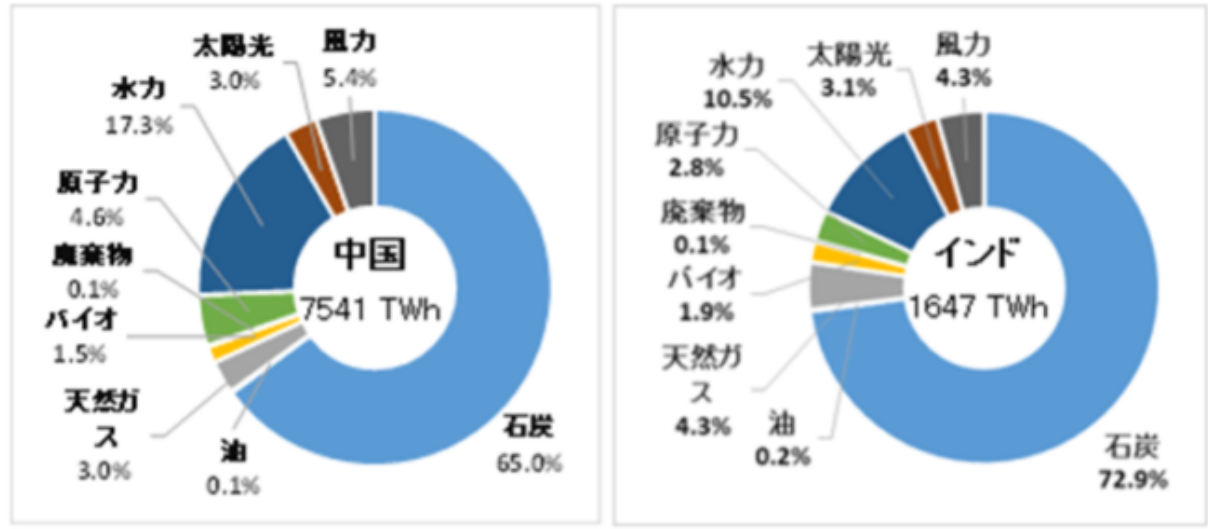
VREの導入を促進するためには、再生可能エネルギーの普及を促進する必要がある。再生可能エネルギーの普及を促進するためには、再生可能エネルギーの普及を促進する必要がある。

GHG削減に有効なエネルギー源である。GHG削減に有効なエネルギー源である。GHG削減に有効なエネルギー源である。

26%の削減に貢献している。2/3の削減に貢献している。2/3の削減に貢献している。

図-26 中国とインドの電源構成 (2019年)

出所:IEA データで作成



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

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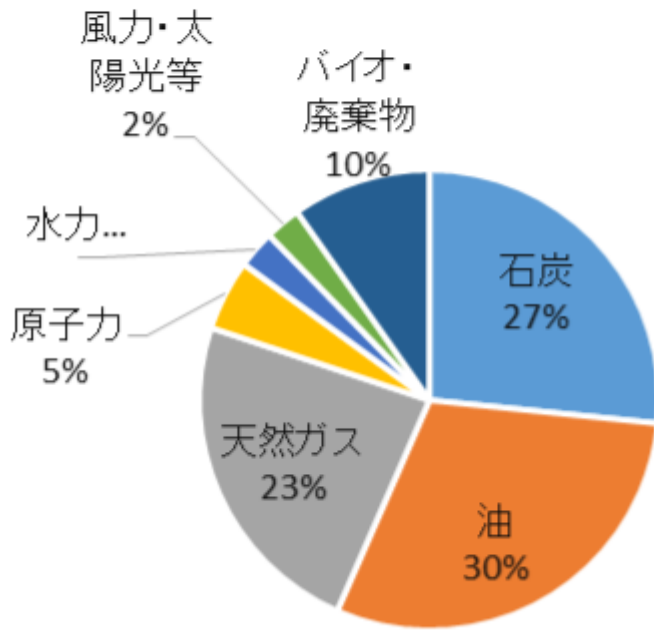
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2050?GHG??GHG????????????????

????????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

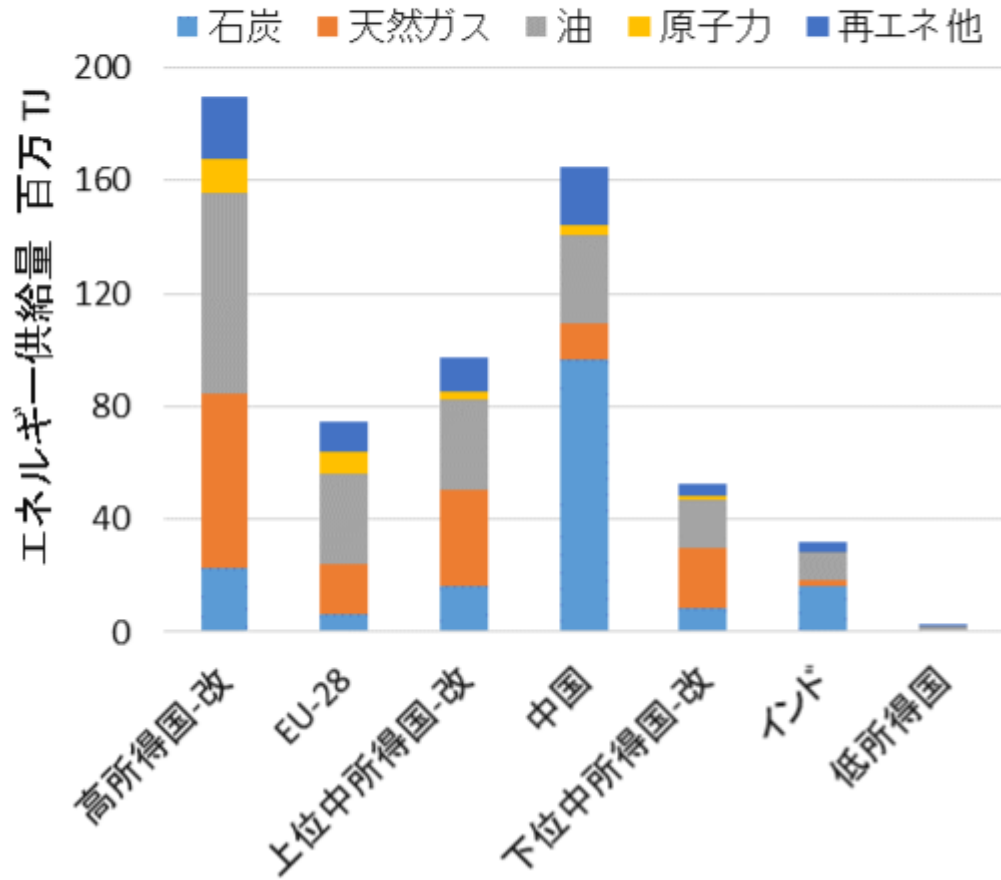
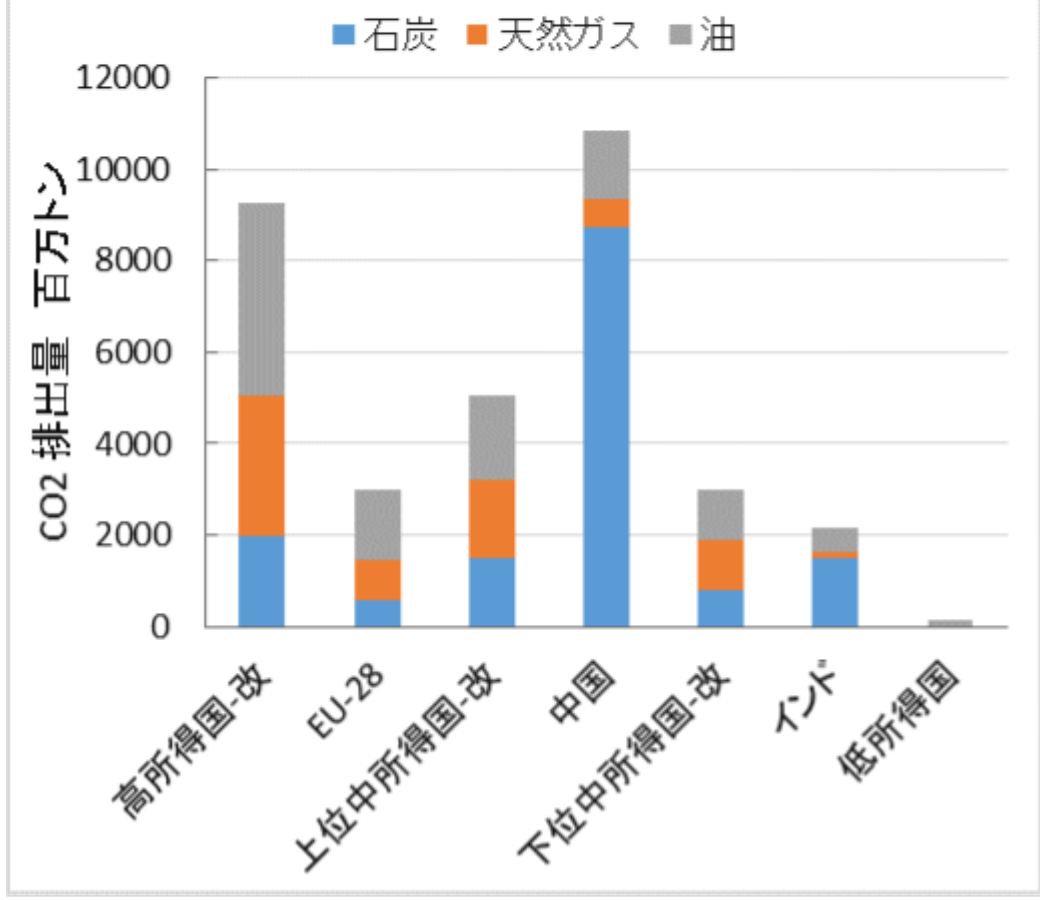




図-29 グループ別燃料燃焼CO2排出量 (2020年) 出所: 米国eia, Internationalデータ



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トンを示す。

LCA分析によると、LNGはCO2排出量が0.6と0.65の間で、35%削減された。

18%の削減は、IEAの2020年推定値57%と比べて、GHG削減率を示す。

70%の削減は、GHG削減率を示す。

削減率を示す。

30%の削減は、1970年からの削減率を示す。

削減率を示す。

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

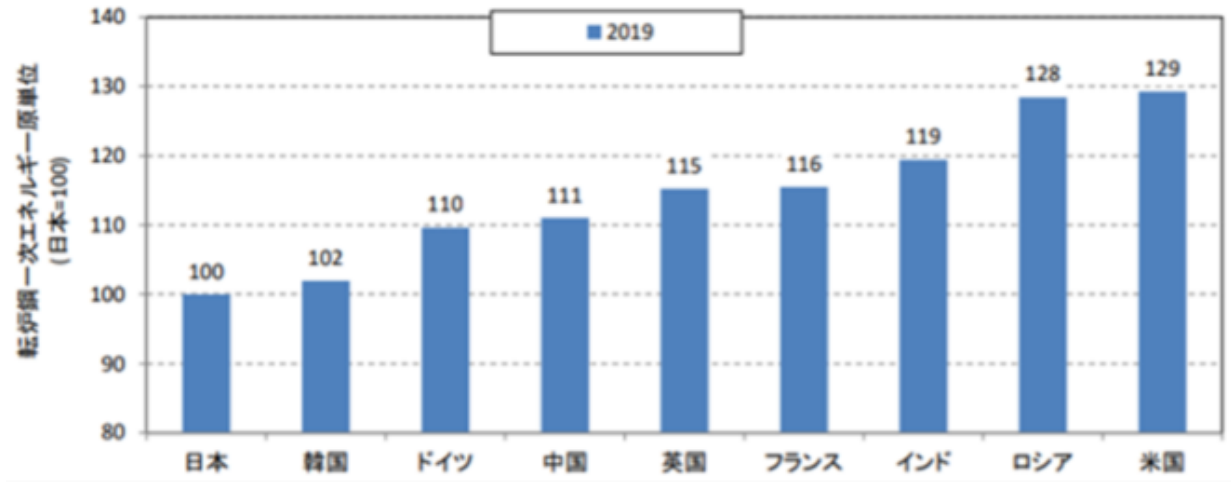
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??30????????????  
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図-30 高炉-転炉鋼の一次エネルギー原単位 (2019年)  
出所：2019年時点のエネルギー原単位の推計(鉄鋼部門-転炉鋼)、RITEほか



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??CO2????????

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GHG????????????????????GHG????????????????????????????????2050????????????GHG????????????  
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GHG??EU????????GHG???60?70%????????????????GHG?  
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Posted in ??????????, ??? | No Comments »

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GEPR??? · Monday, December 11th, 2023



deepblue4you/iStock

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

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??3??1????????1/3?1/2?  
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1990????????????CO2????CCS????????????????2010????CCS????????????????2015????????????CCS  
????GHG????????????????????????????

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

## 2050????????????????????????????????

?? ?? · Sunday, December 10th, 2023

????COP28??



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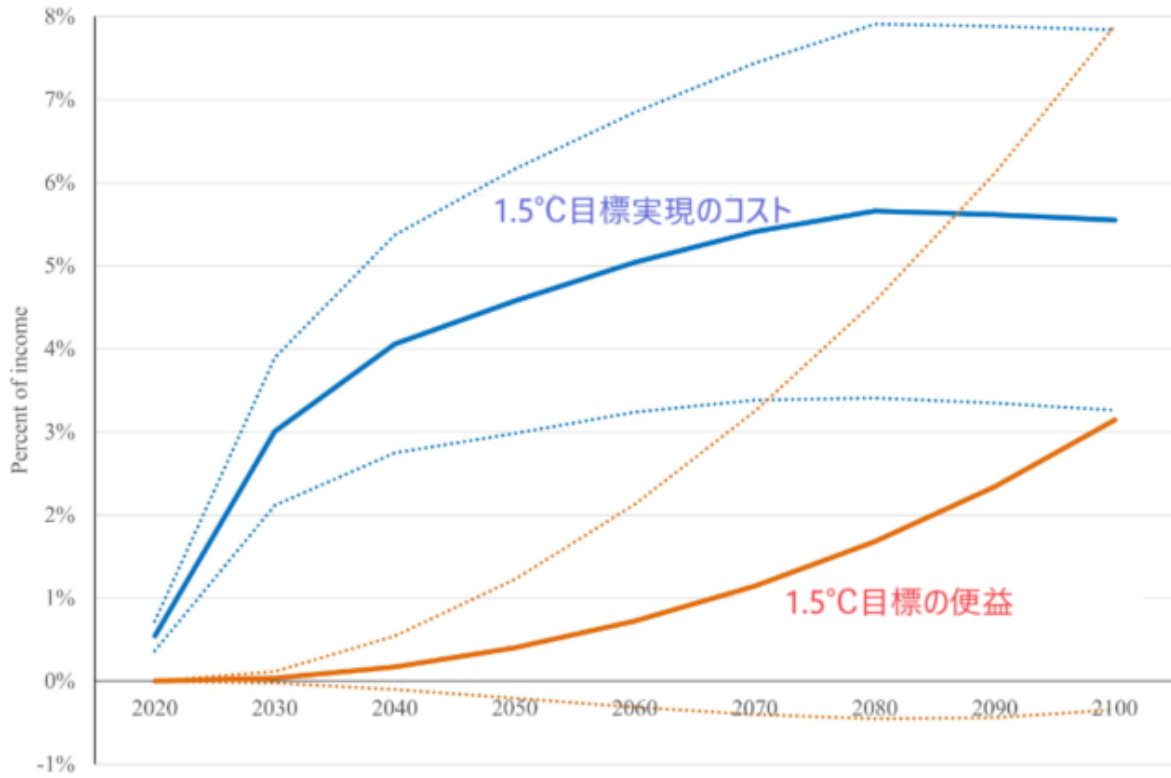
??????100????????????????????100??  
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### 1.5????????????2?10?

??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

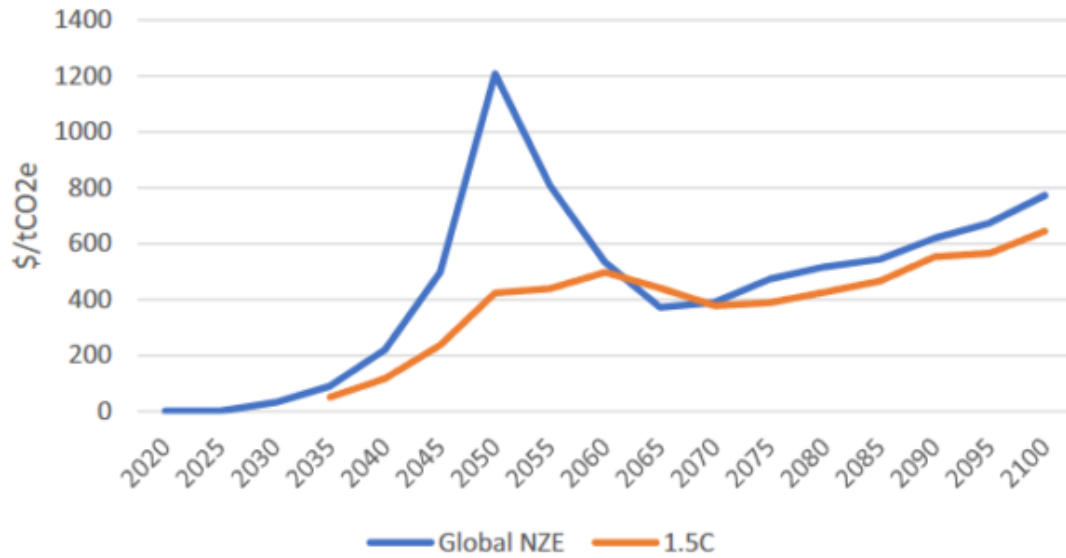
1.5

2

1200

Jennifer Morris et al. 2050 CO 1200

### Global Emissions Price



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

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?? ?? · Sunday, December 10th, 2023



wildpixel/iStock

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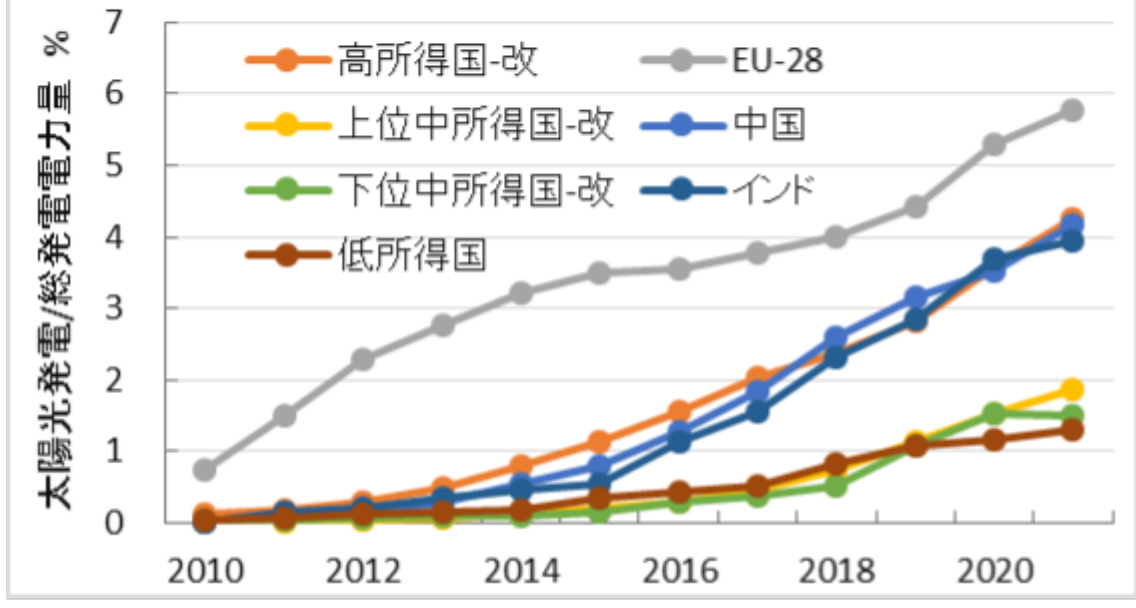
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図-15 総発電量に対する太陽光発電比率の推移  
出所: eiaデータで作成



Variable Renewable Energy, VRE GHG EU-28 GHG

VRE kW VRE 25% 33% 14% 17% kW

VRE EU-28 VRE VRE

VRE VRE VRE

Energy-Charts

Energy-Charts Energy-Charts

Energy-Charts

Energy-Charts ISE

30

CO2

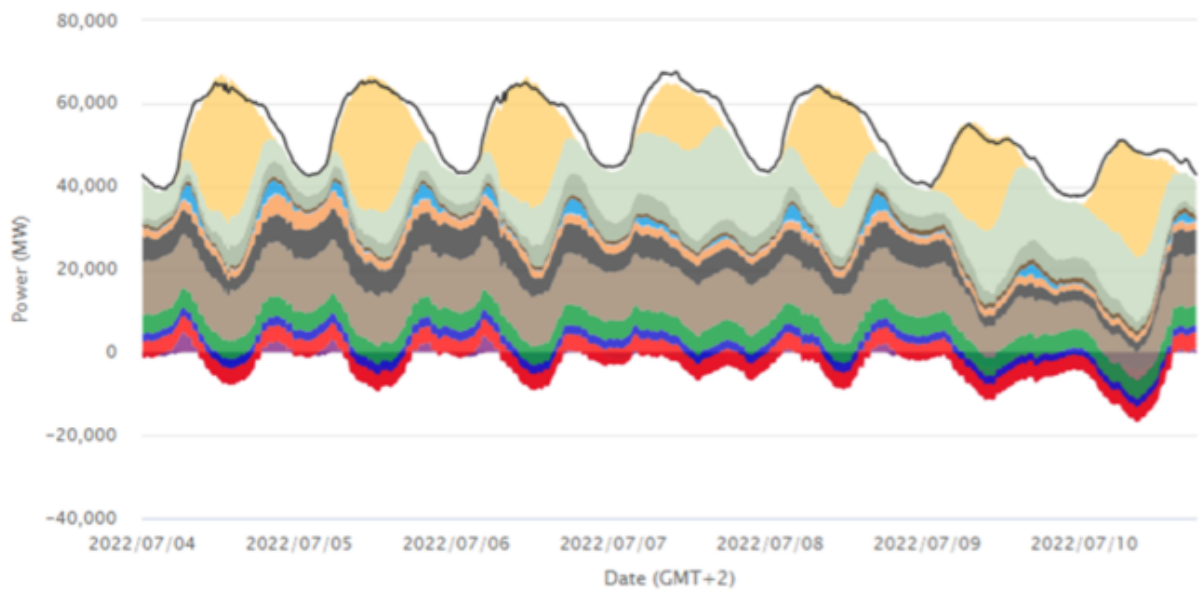
Energy-



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

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#### ????????????????

??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
非再エネ廃棄物	5.3	1.1		
再エネ廃棄物	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		

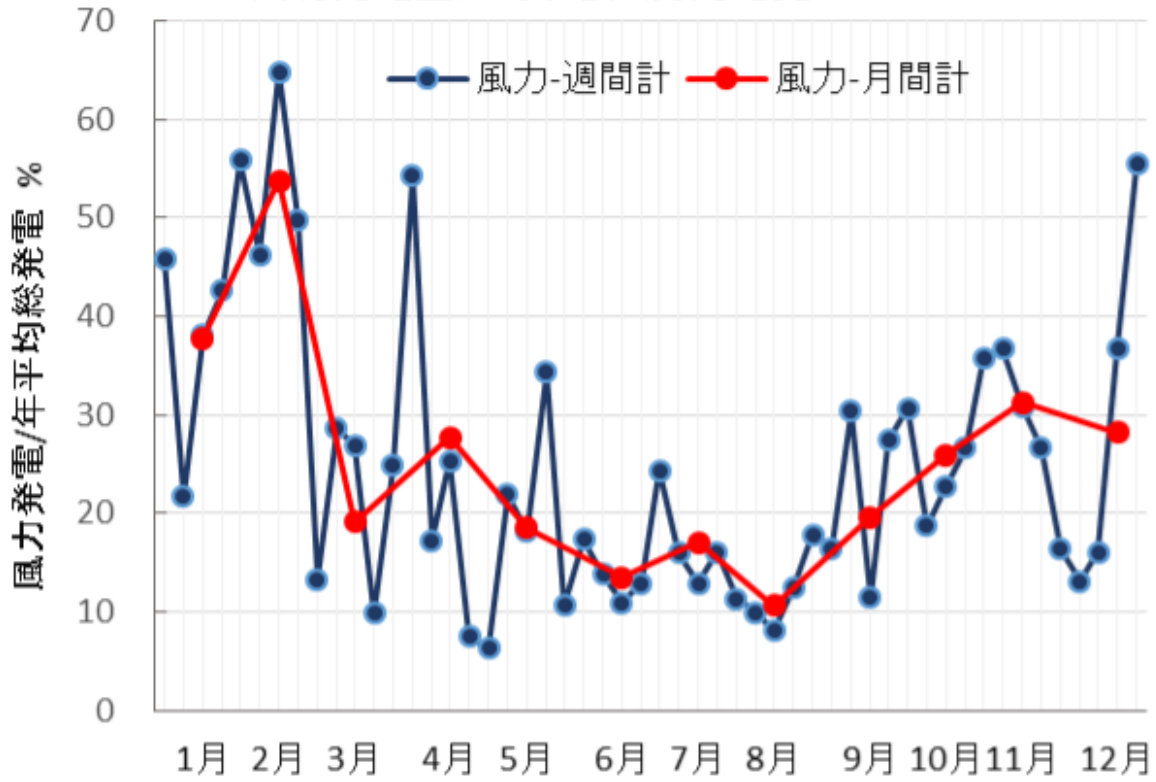
(注記)  
 1) 公共正味発電電力量は、自家発を含まない、電力ユーザーのコンセントから出て消費される値。  
 2) 太陽光、風力の発電容量は年間平均値、その他は2022年末の値。  
 3) 電力負荷量は電力系統に投入された値。

16% 2022年 100%  
 6% 65% 25% 10% 60%  
 0.3 2.6  
 1  
 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

年間総発電量に対する風力発電比率:25.1%



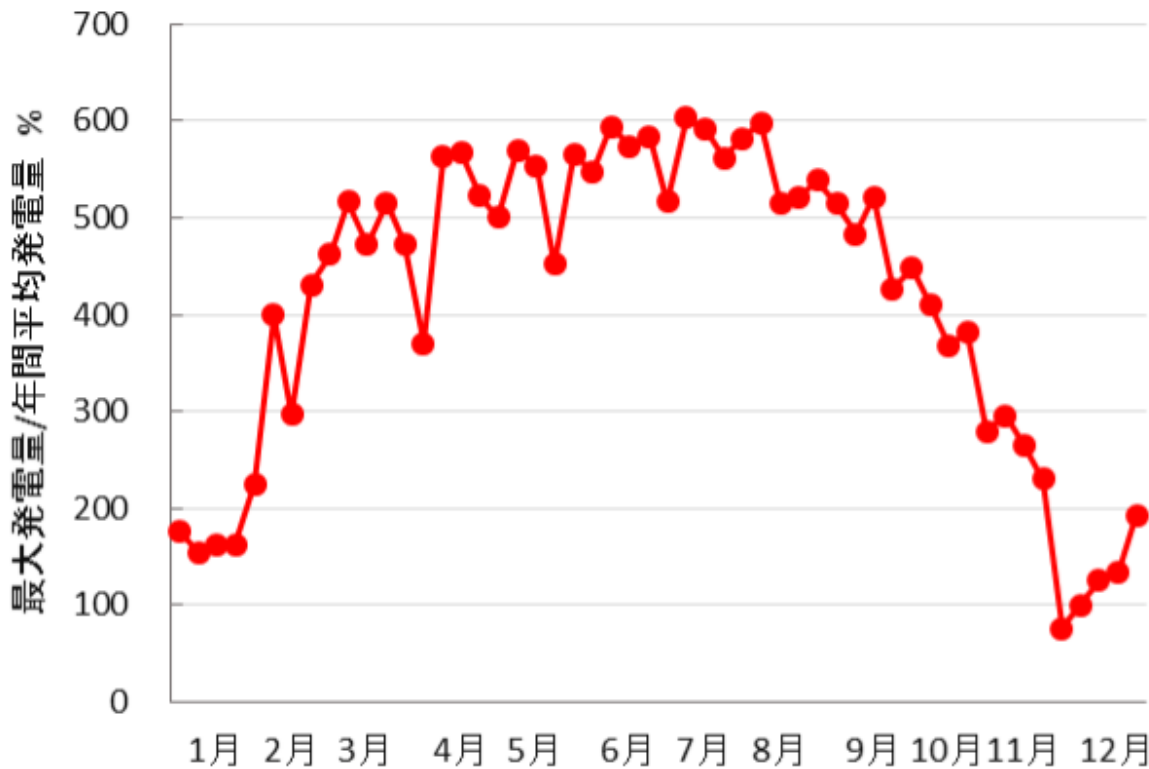
17%? 12%? 23%? 0.1? 2.0?

0.14? 1.7?





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



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??2021??2022????????????????  
??Q&A????????

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?? ?? · Thursday, December 7th, 2023



alashi/iStock

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



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



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



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

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

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**????????9????????????????????????**



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GX??CO2????????????  
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**????????????????????????????????2021?06?17??JETRO?**



2020?6????????????CO2??2020?6?17????????????????????????????????CO2????  
??CO2??3??1?????????2??1????????????  
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**????????? – ?????????????????????????????2023?9?25??Blackout-News?**



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?? ?? · Thursday, December 7th, 2023



HunterBliss/iStock

### 1. IPCC?????

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

????DOE??1979????????????????????????????????????CO2????????????????????????<sup>21</sup>?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????????????????  
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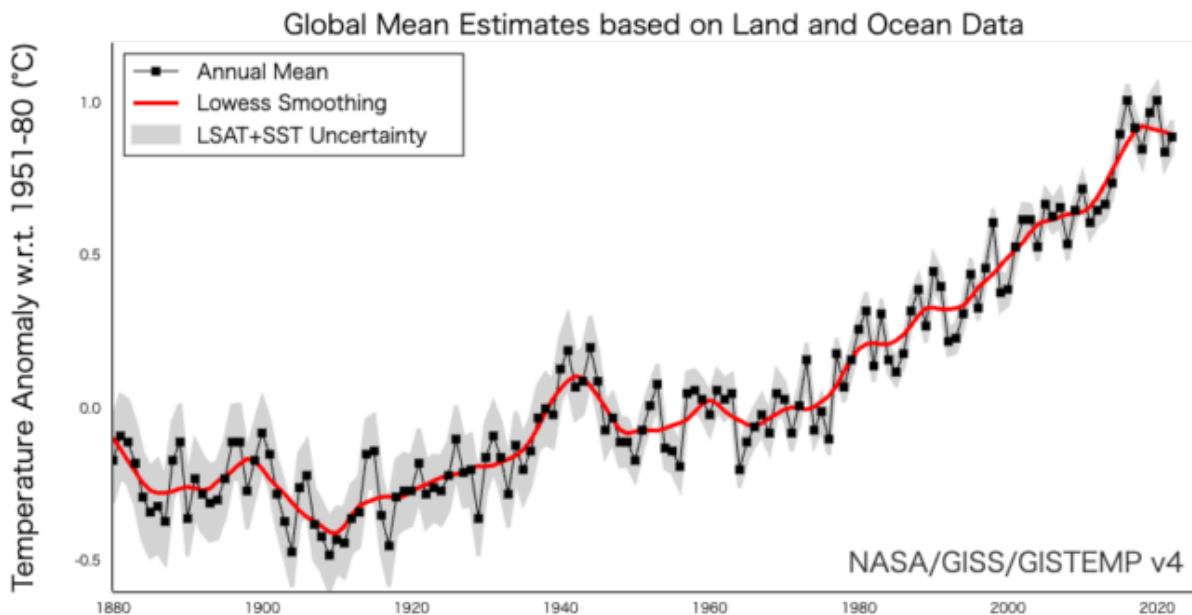
????????????????????????????????????Green New Deal???Clean Power  
Plan??????2015????????????????????????EV????????????????????2050?Net  
Zero????????????????????2020?10????????2050?Carbon Neutral????????

**2. ?????????????????????**

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

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

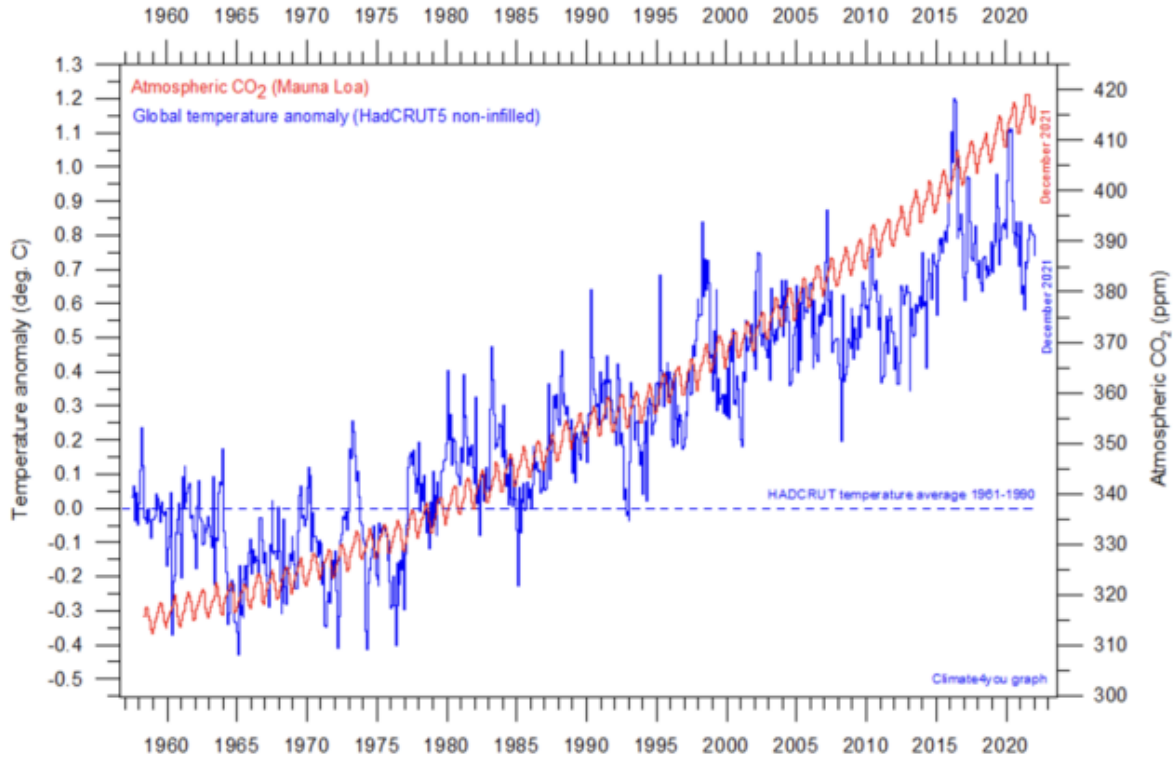
<https://realclimatescience.com/overwhelming-evidence-of-collusion/>



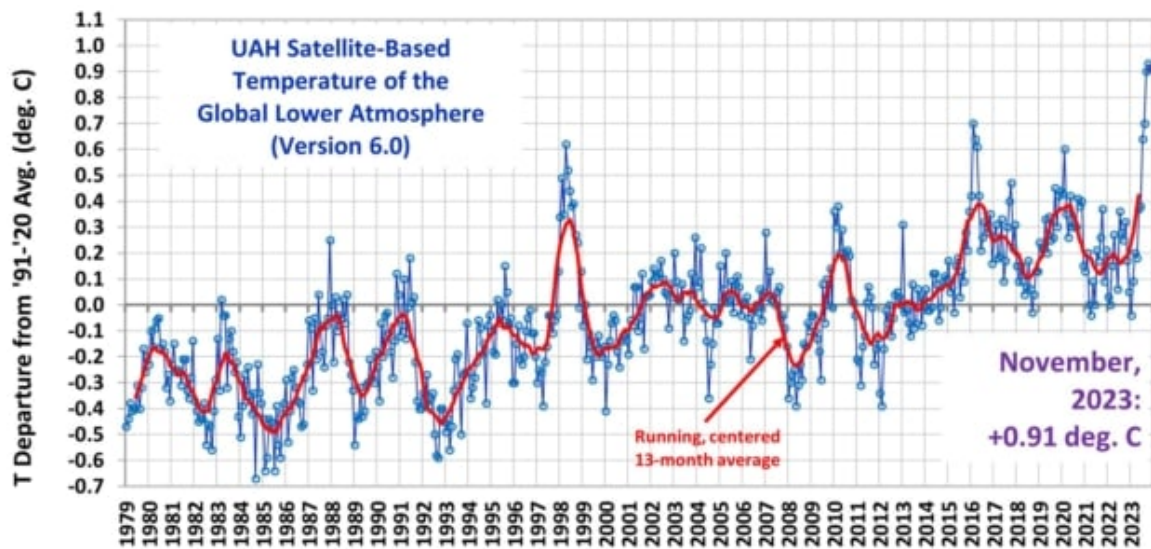
Data.GISS: GISS Surface Temperature Analysis (GISTEMP v4) (nasa.gov)

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



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



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

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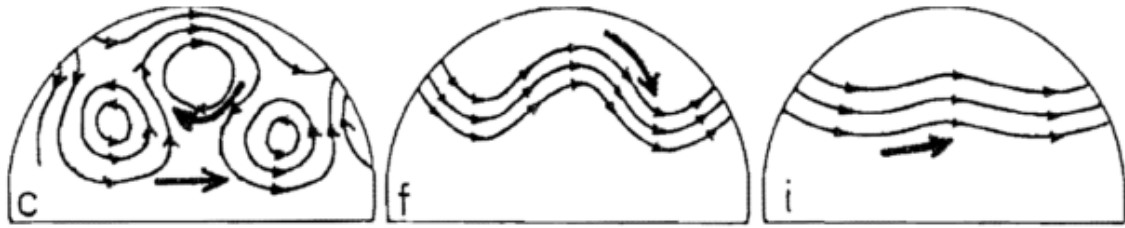
2??  
????????????2016?9??24-53??



**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??

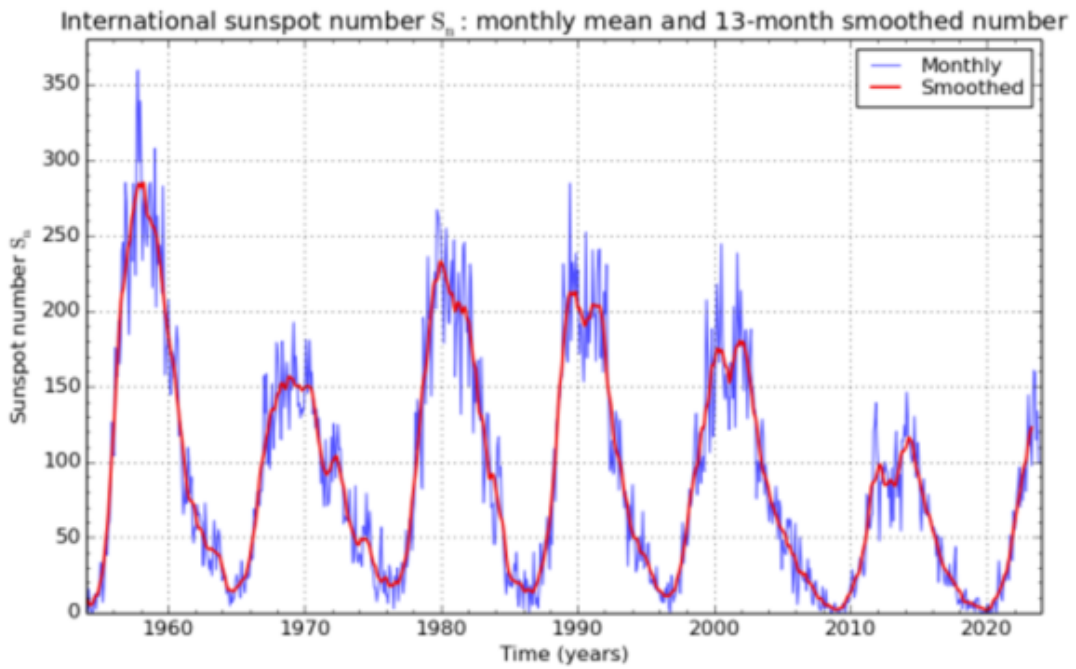


太陽活動低い 偏西風蛇行大 異常気象多い  
太陽活動中位 偏西風蛇行中 異常気象中位  
太陽活動高い 偏西風蛇行小 異常気象少ない

???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

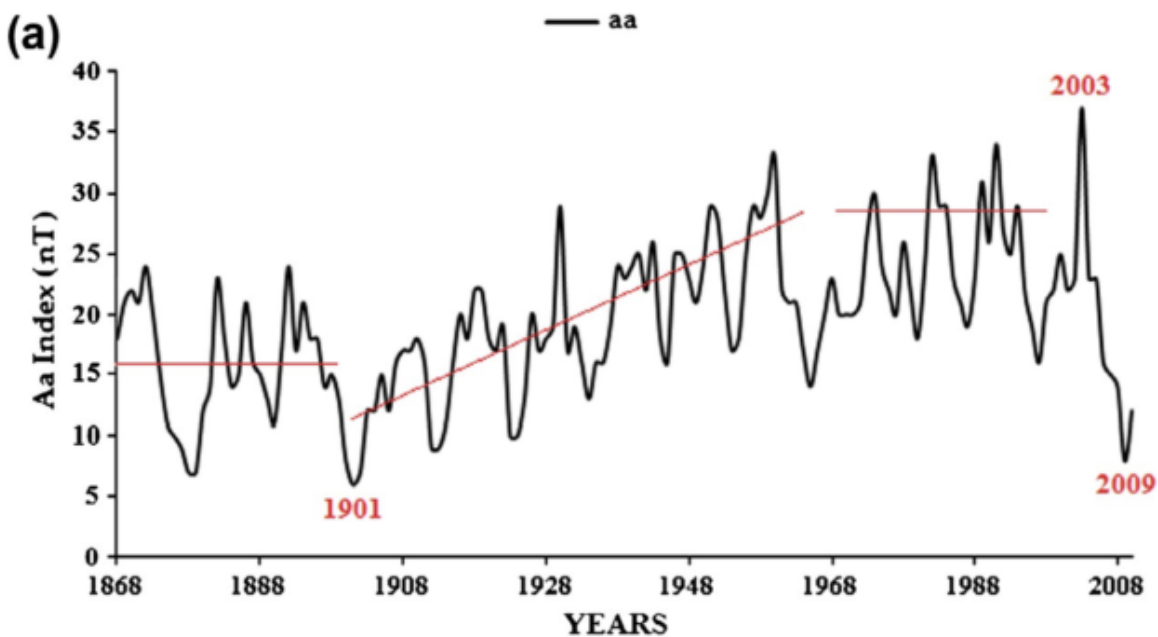
????????????????fake

science??44???????

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

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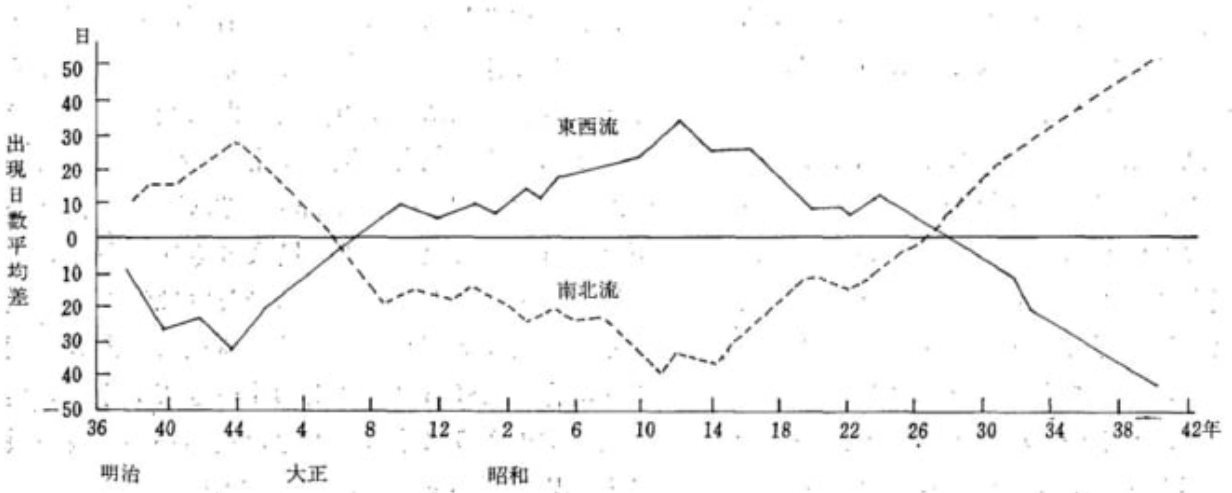


?????Zebro, J-L et al., Journal of Adavanced Research (2013),4, 265-274

1300?1918?	???	???????????
1919?1962?	??????	???????????
1963?1976?	??????	???????????
1977?2005?	??????	???????????
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 ???1975????????????????????Bucha??????  
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??1918????????1952???  
 ?cycle20????????????????????????



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????????????????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????????????  
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IPCC????????1988????1977-2005??2000???Independent???CO2?  
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????????????????2006??2005/12-2006/2????????18????????????????????????????????  
??2009????????????????????

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

2010?? ????????

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

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

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4. ??

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

**CO<sub>2</sub>????1979????????**

???IPCC????????CO2??  
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POWER????????????BBC??  
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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



EU-28??

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

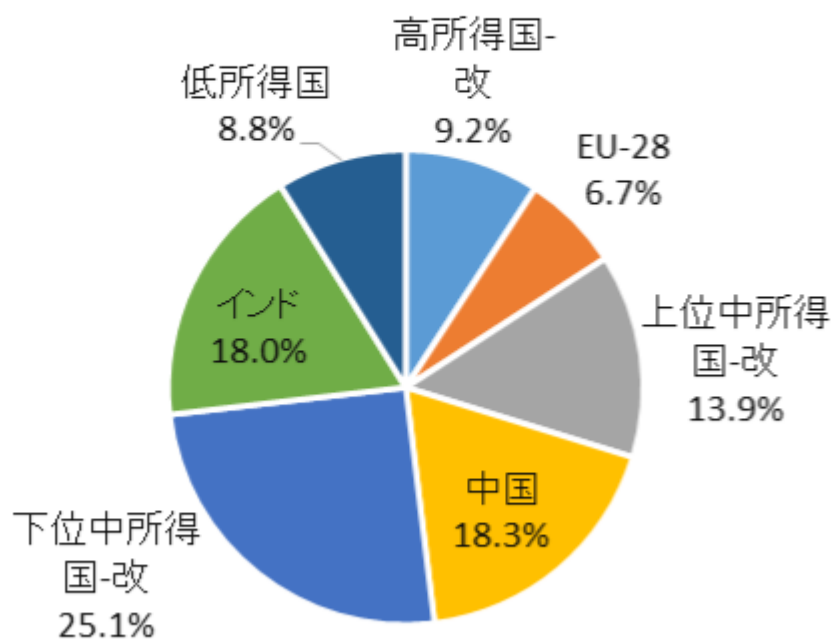
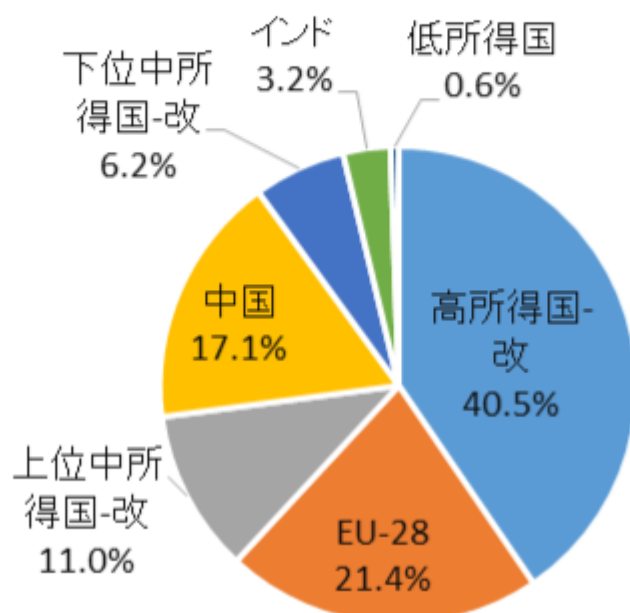


図-5 所得分類別世界のGDP比率、2019年  
出所：世銀データで作成



????GHG???

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

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

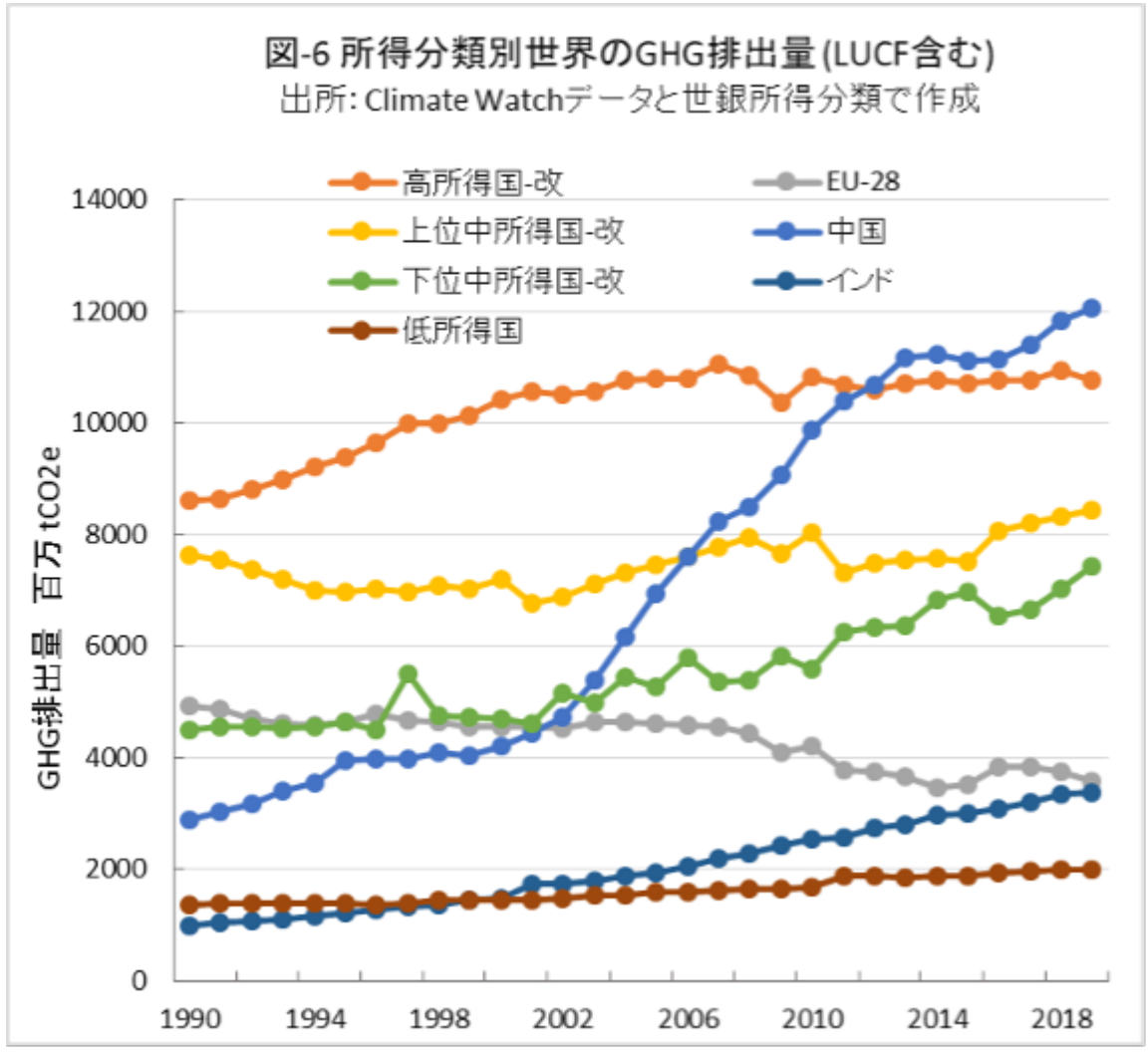
GHG??GHG????????????????????

????GHG?????

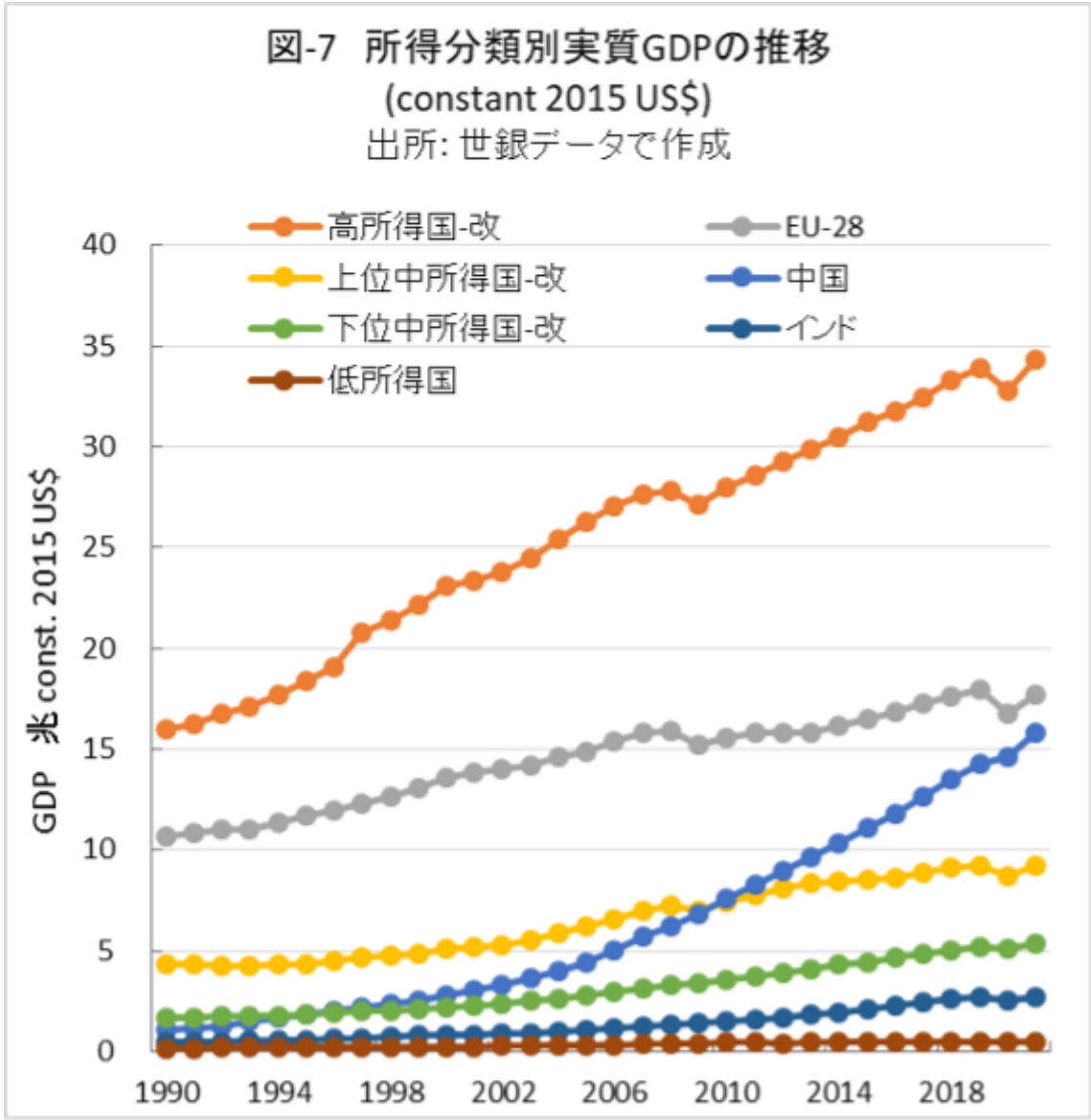
?6?????GHG????????????????????GHG?????Climate  
Watch????????????????????????????GHG??Climate  
Watch??IPCC?6????????????????????????????

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

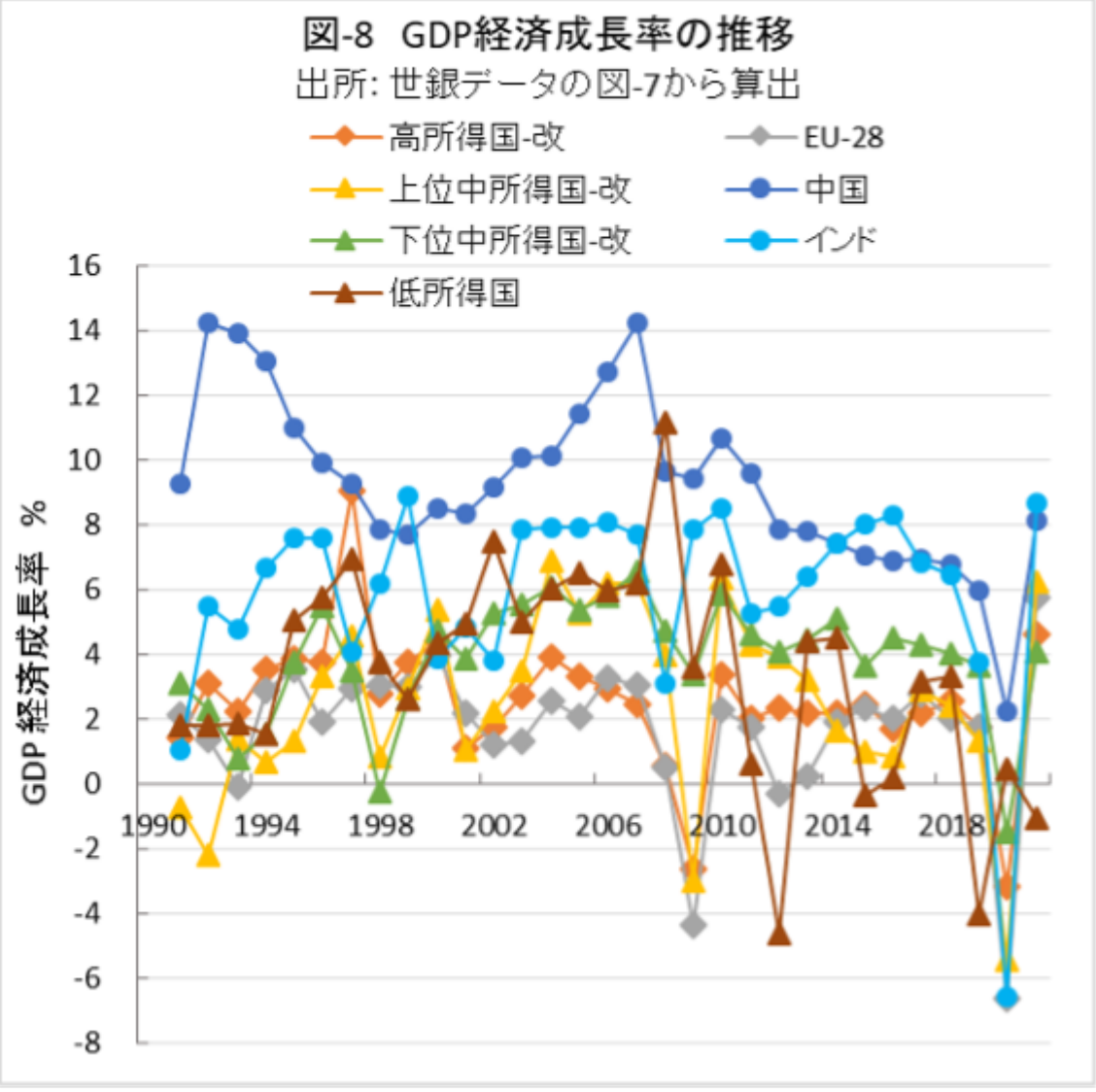
????GHG??6????????????GH  
G????????????GDP????????????????????



????????GDP?????8??GDP????????GDP??  
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??-  
 ??EU-28????????2008????????????????3?4%????????????????2%????????????????-  
 ??GHG??EU-28?GHG????????????????????????  
 ???????????????

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

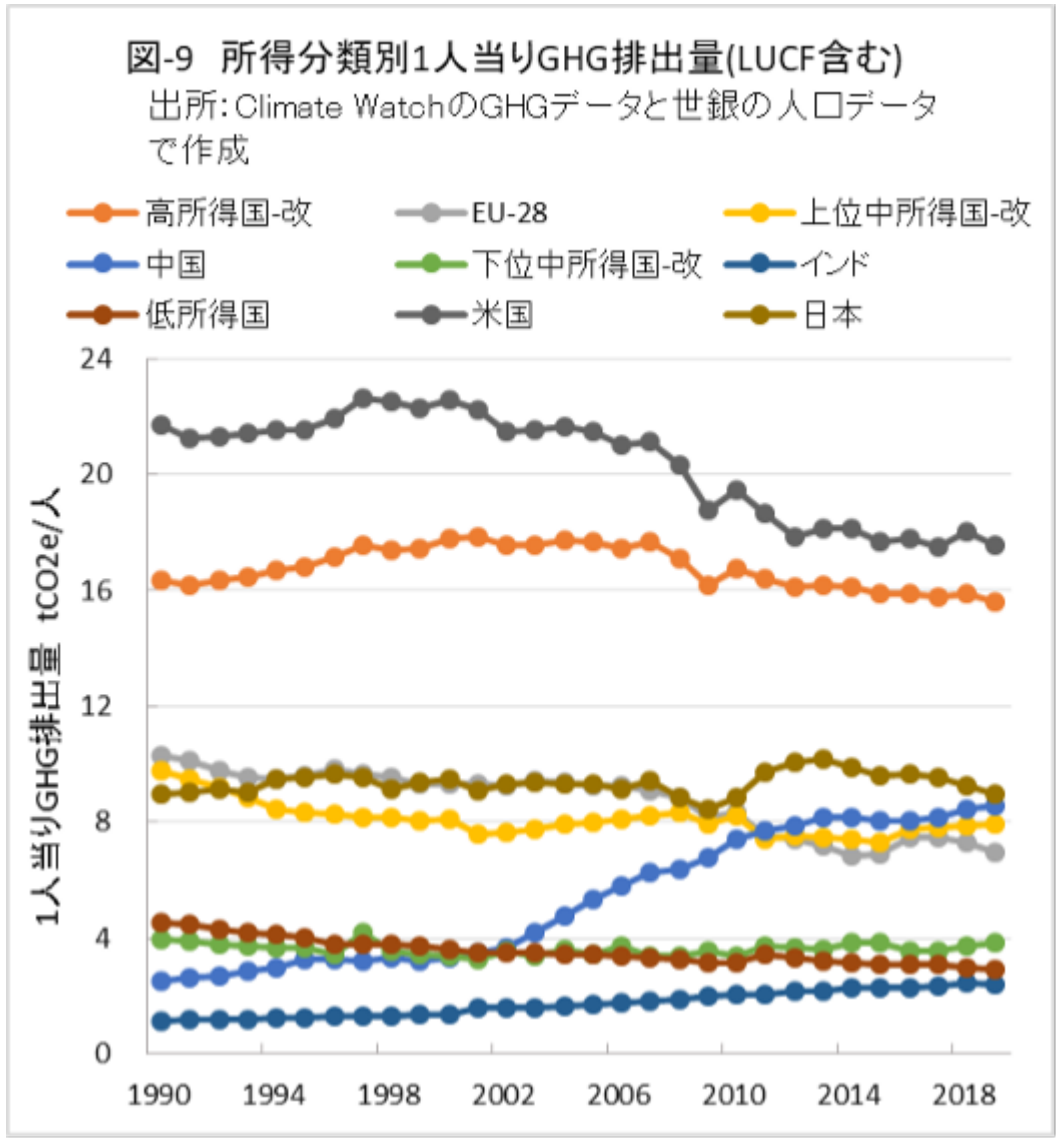
??????-??????????-  
 ?????????????????2005????????6%????????????????2.5%?4%?3.4%???GHG????2000????????????  
 ?????????????????-????????????????

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

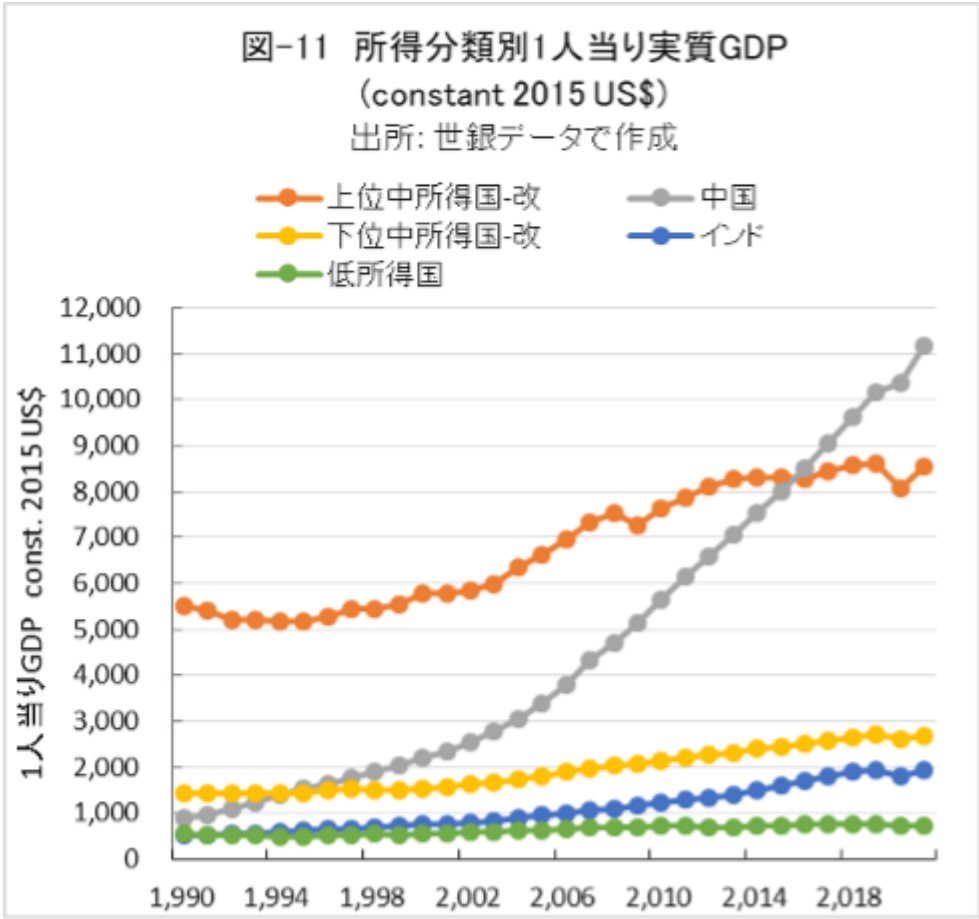
**1???GDP?GHG**

????????????????????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の平均は約10t CO2e/人であった。GHG排出量は、

**GHG排出量**

2020年GHG排出量は約1000t CO2e/人であった。2016年のGHG排出量は約1000t CO2e/人であった。

GHG排出量は、2010年GHG排出量は約1000t CO2e/人であった。

2023年GHG排出量は約10t CO2e/人であった。1990年のGHG排出量は約10t CO2e/人であった。

GHG排出量は、2000年GHG排出量は約10t CO2e/人であった。

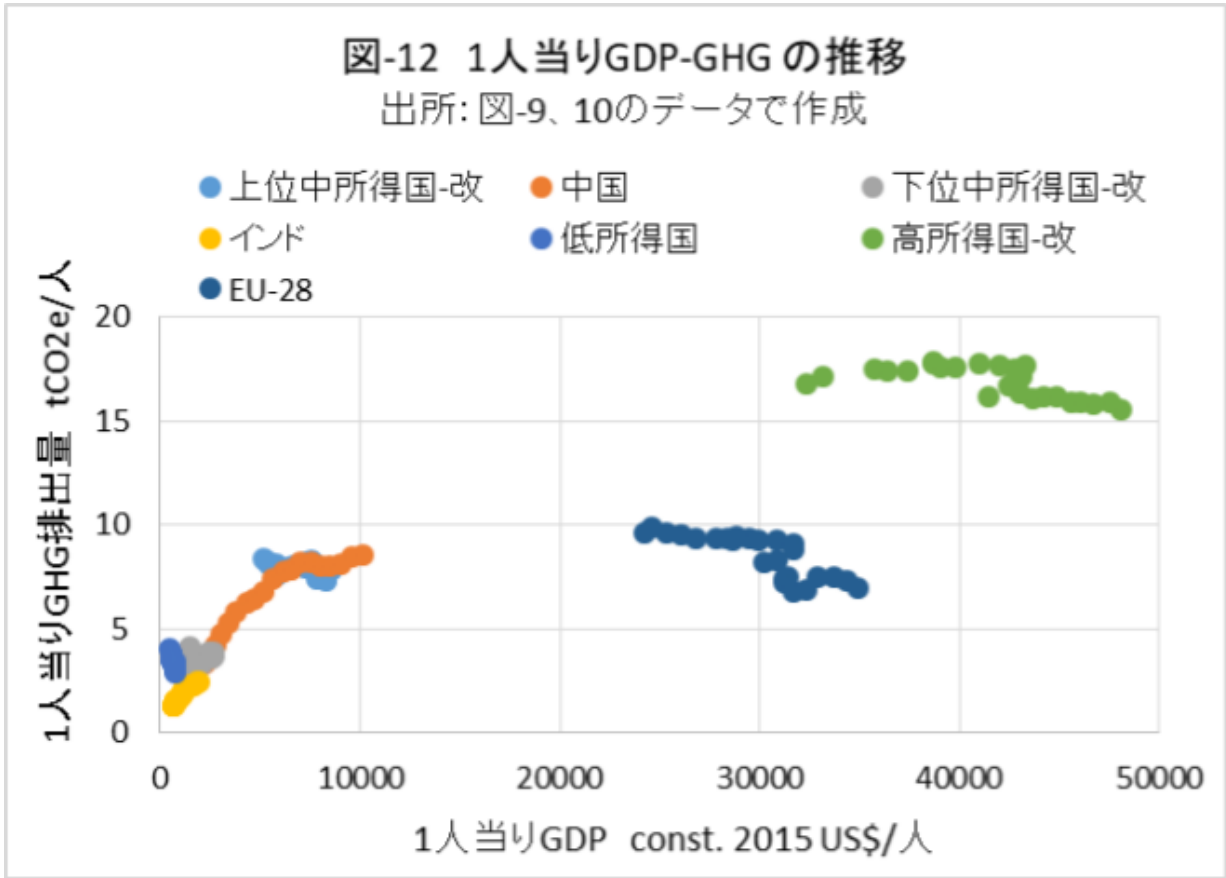
2000年GHG排出量は約10t CO2e/人であった。

1990年GHG排出量は約10t CO2e/人であった。FITの導入によるGHG排出量は約10t CO2e/人であった。

**GHG排出**

GHG排出量は、2010年GHG排出量は約1000t CO2e/人であった。

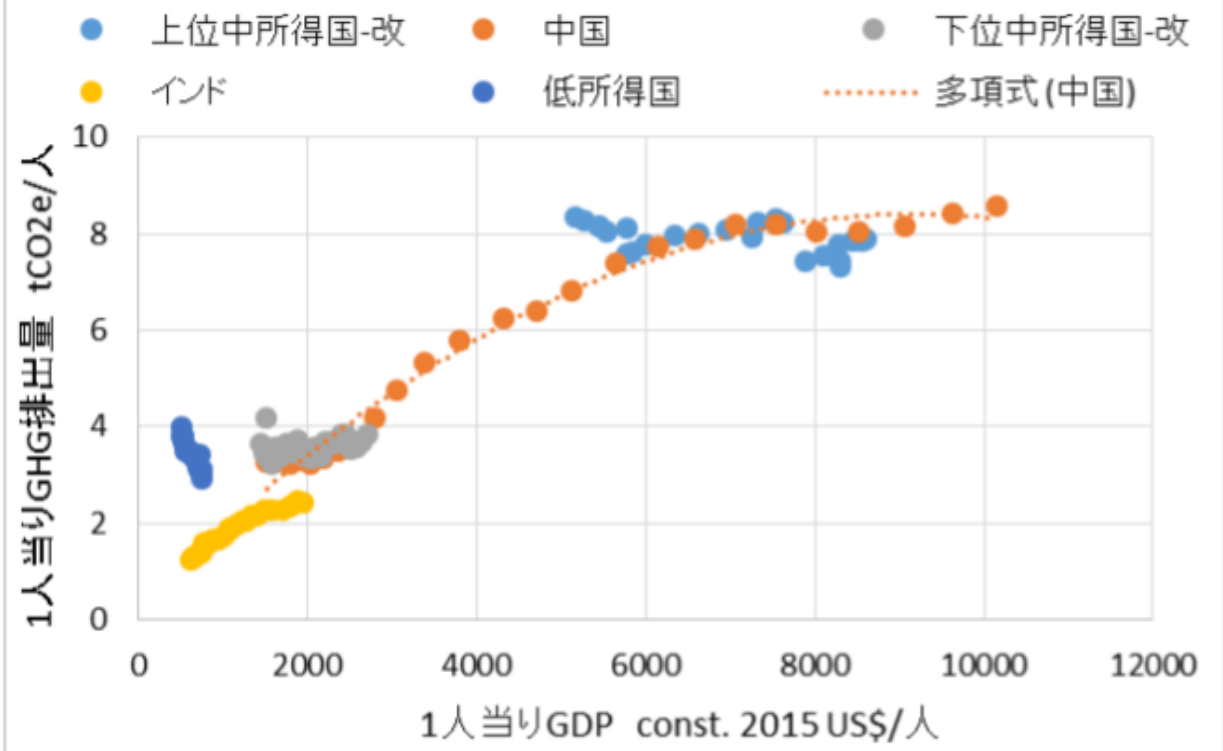
12 GDP GHG 1995 10 1995  
GDP GHG EU-28 GHG  
???



13 GHG  
????

図-13 発展途上国 1人当りGDP-GHG (1995-2019年)

出所: 図-9,10のデータで作成



??????GHG??

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????????????????1970??kindle????????????????????  
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Posted in ??????????, ??? | [No Comments »](#)

**COP28??80?**

?? ?? · Monday, December 4th, 2023



Heiness/iStock

**1. COP28??**

COP28?UAE??10?21????????????????????????  
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COP??CO2??  
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??27????COP??CO2??????27????????????????????????CO2  
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CO2??CO2??  
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**2. ??????**

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?????????2006?????2022???1990??????50????CO2??  
??45??????????????

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Request to Reconsider Proposed Regulations on Battery Electric Vehicles

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

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



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

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

???Lignite????:????????????????????????????????

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### 3. ???

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

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

### ????????????????

GEPR?? · Monday, December 4th, 2023



deepblue4you/iStock

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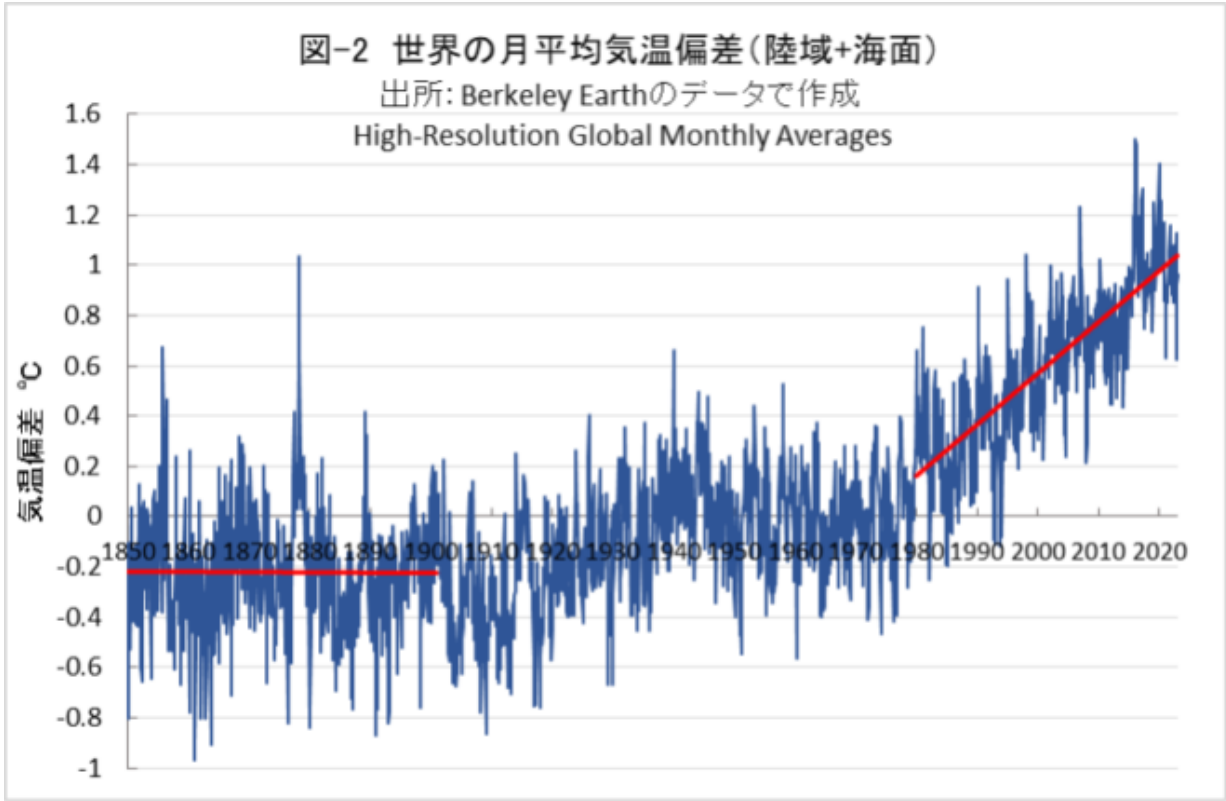
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????????GHG????????????????????

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

????????GHG??  
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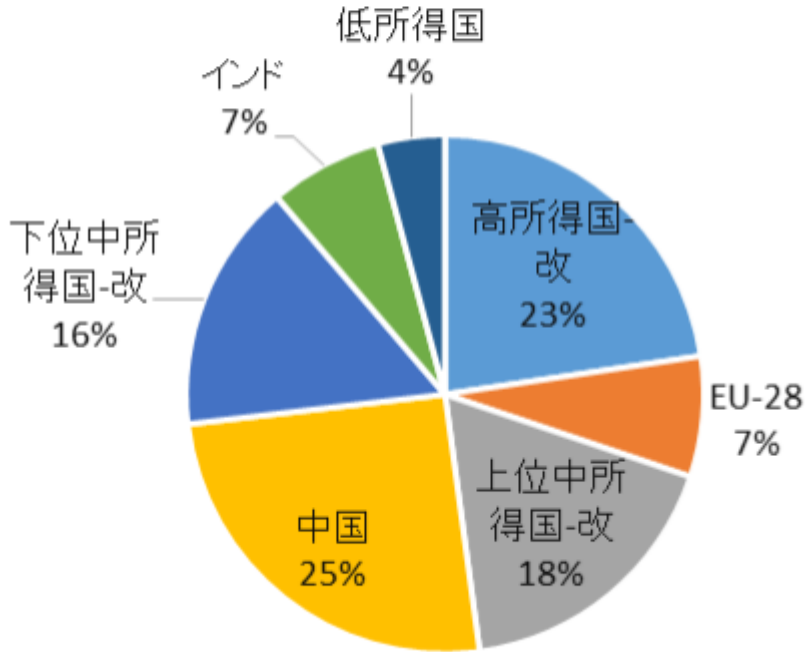


1850??????2022??????1.2????????????????????????????????2030????1.5????????????????????????1.5??  
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??GHG????????????????????????????????2050????????????????????GH  
G????????????????????2060????????2070????????????????

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

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

?? ?? · Saturday, December 2nd, 2023





mrdoomits/iStock

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

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??1942????????1????????????????????????????  
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??Wikipedia

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??2010????????????????2011??  
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9??

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

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**??SMR ??????**

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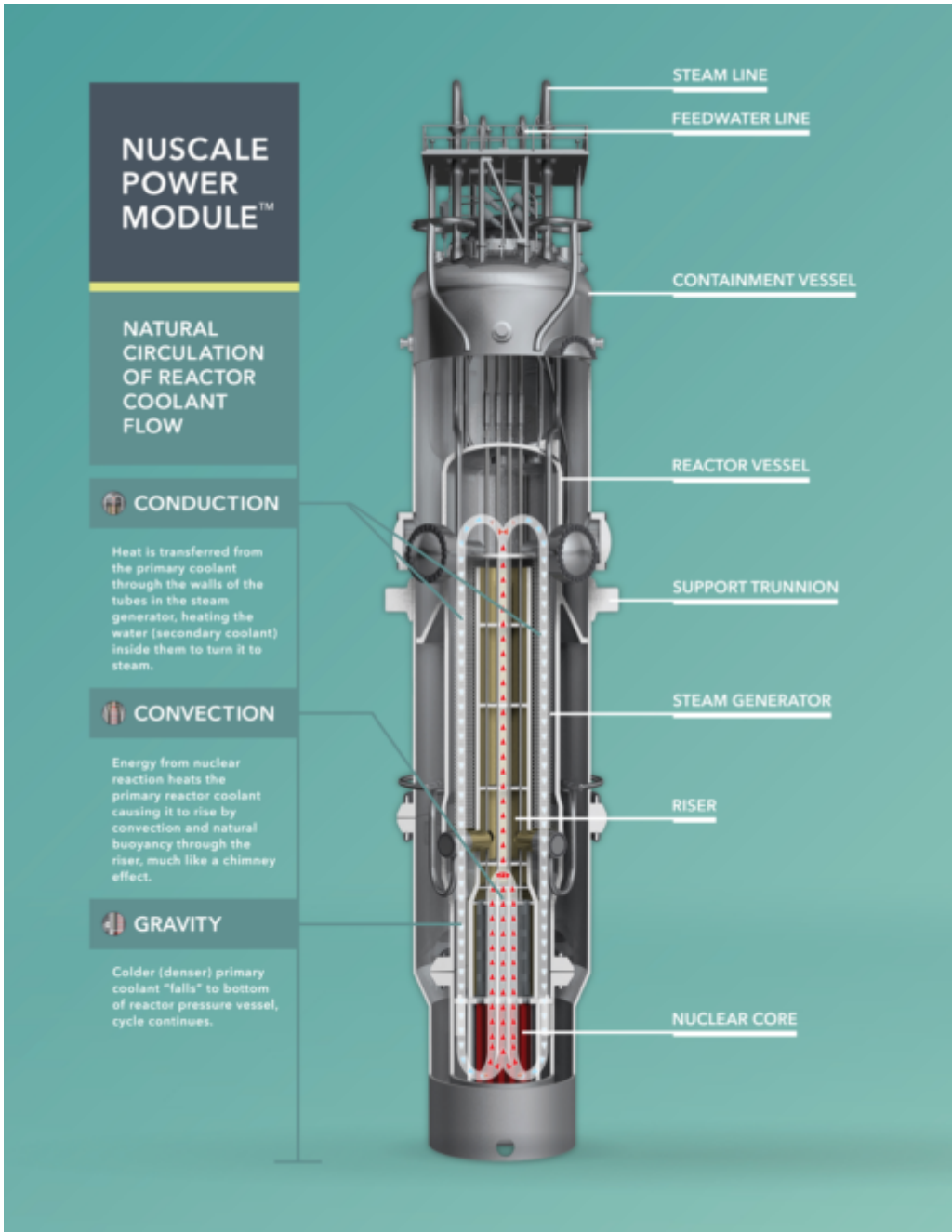


GX????????????????

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

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SMR????

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NuScale??SMR??

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**SMR**??  
??10????????

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

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

??SMR??????

NuScale?SMR??  
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SMR????????????????????????40????????1980????????PRISM????????  
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4S????????????????472/2020????????????????2004????????

????????????????????PBMR????????1993????????  
??2010????????  
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NuScale??SMR????????IHI????????2023?9????????

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

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



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

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

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



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

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11?15????????????????2????????????????????????????????????2021????????????????????????????  
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??EV????????????????????????????????  
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016????????GDP?0.35????????????????????????????????

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????21?12????????????????22????????21????????????????????????“????????????????”????  
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??100?????1.5????????????????1????  
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??CDU????????????  
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??CO2????????  
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CDU??  
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??“???”????????????????????????????????

Posted in ???, ?? | No Comments »

## COP28????????????????????????????????????

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



Darwel/iStock

COP28?11?30????????????UAE??  
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????????????????????????????????1.5????????<sup>21</sup>????????????2030????????????????CO2????????????  
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????5????????G7????????????????

????2035????????????????????????????????1.5????????????????????????????????  
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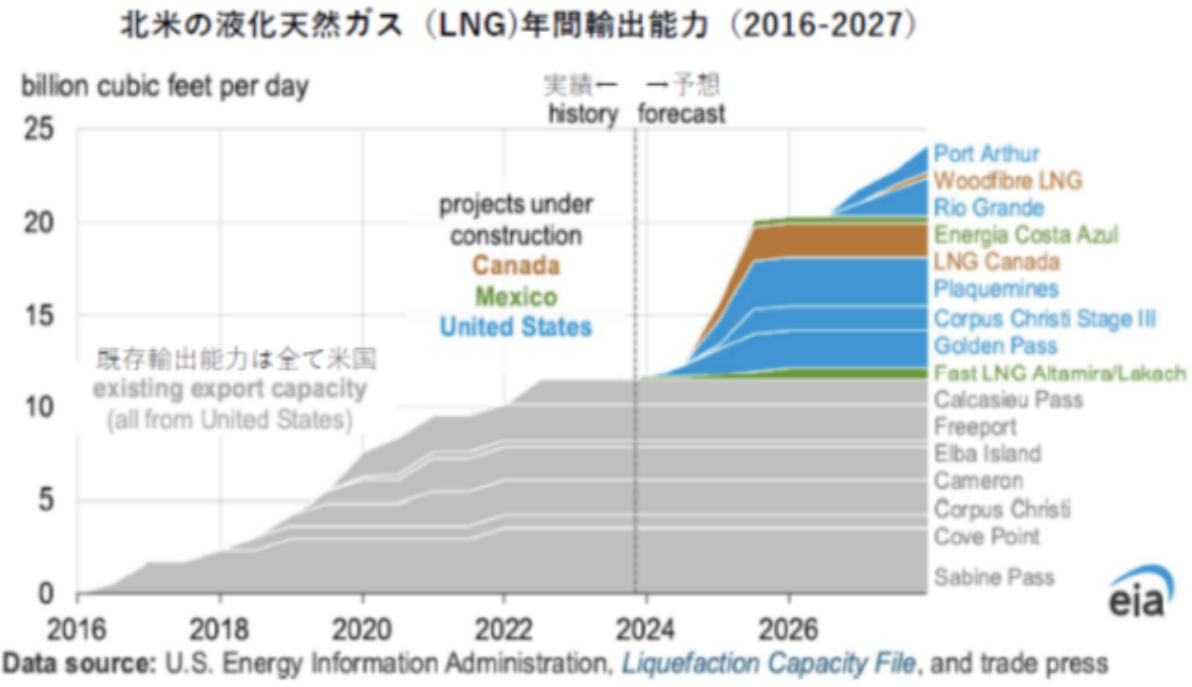
?????????11??EIA????????????????????????????????

11?2????????????<sup>22)</sup>??  
????????????2022?8?????1????23?7???1??????22?????3310????<sup>23)</sup>?????????????  
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?????????????????1440?????51%?????????????1860?????6??  
?????????????300/???100?????????????????????????????20?????????????????

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?EIA?11?13??????<sup>24)</sup>???2027?????LNG??????  
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?????????????????????????????????129?Bcf/?????????????????????11?Bcf/??????21?Bcf/?????????97?Bcf/??????  
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????2010??2018????????????????????  
????????????????????????LNG????????????????????2027????????????????????????????????????2030????????????????????  
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??COP28?  
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1??1.5????????????????  
??21(a)????????????????????????????1.5?????  
????????????????????????????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????????????????????????????????????1?????????

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 »

## ????COP28? ??????????????

?? ? · Monday, November 27th, 2023



124??14??COP28????????COP6????????????????????????17????CO  
P????????????????????

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COP28????COP????2023????14????????????????GST??1????????????

GST??  
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?????2025?????Nationally Determined Contribution:  
NDC??

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COP28????GST????????????????????????????????

?5?G?????????????????G?????????1.5????2050????????????IPCC?6????????  
??2025????????2030??43??2035??65????????GST????????????

????????G????????????????????????????????????2030????????????2050????????????????  
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???9?G20????????????????1.5????????????  
????????GHG????2025????????????IPCC?6????????????????IPCC????????????  
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????????2025????????????????????????????????NDC????????G????2035?65????????  
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????????????????????Third World Network ?????????

11????????Third World Network ?????????



IPCC?6????????????????????2025????????2030??43??2030??60????????  
????????????????????

GST???BASIC????????????LMDC?Like Minded Developing Countries:  
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1.5????????????

?1.5????????????????????1.5????????????????1.5?2050????  
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????GST?IPCC?6????????????????????????????????1.5????????2025????  
??2030??43??2034??60????????????IPCC?6????????????



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GST??  
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??GST????????????

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G20????????????????NDCs????????????????2030????????5.8?5.9????????????  
????2020????????1000????????7?8????1000????????????????1.5????????

????COP28??

?1??  
????????ADB?AFDB??

?2????????????????LDC????????????????????

?3????????????????????????????????????liability????compensation????????  
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1000????????????2025????????????????????

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**UAE????????**

??UAE?COP28?2030????????????2????????????????????



UAE????????????????????  
 COP28???????

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??GST??

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

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

**CO2????????1.5????????????**

?? ?? · Saturday, November 18th, 2023

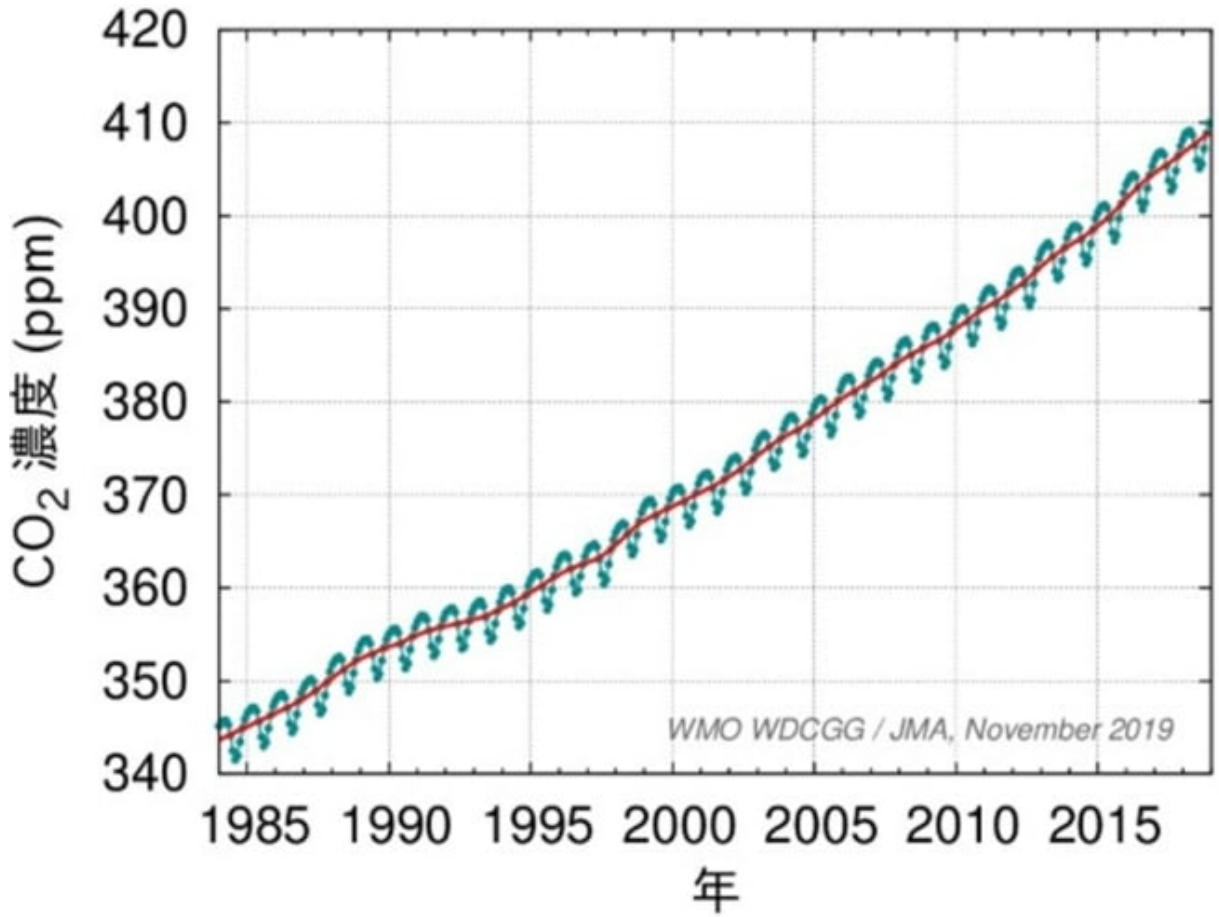


MR1805/iStock

CO2????????420ppm????????1850????280ppm?1.5????????????????

**???CO2????????1.5??????...????????????????????????????**

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



????CO2????40????2ppm?????  
 ???HP??

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

???????280ppm??????????

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

??1850????????????????1??

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

??1850??280ppm??

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

??????RCP8.5????CO2????????????????????????

????????????????RCP6.0????????????????1.5??630ppm????2090????

CO2????????????????????????????1????????420ppm?1.5??630ppm????420ppm?28

0ppm????560ppm????????????????????CO2??  
???

????????150??1????????????CO2????????????????2090????????????1????????70????????1????????????  
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Posted in ???, ????? | No Comments »