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??1950????????????????????????AR6????
 ???????1920???1930??
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 ?????????????1980????????????????????????1960????2000????????????????????????????????
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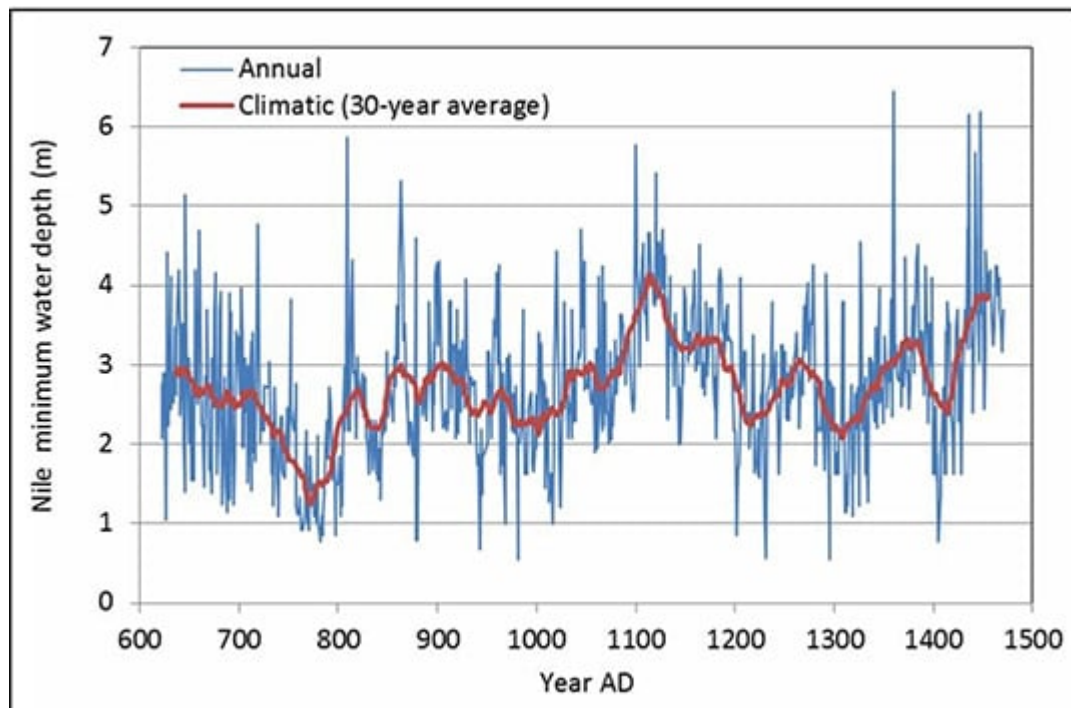
????????????????????????????????????CWG????????????????????????????????

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??800????????????????????????CO2????
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??Hurst 1951, Cohn and Lins 2005, Markonis
 and Koutsoyiannis
 2016??
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?6.1.1????????????650????622???1284??
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AR6??40????????????3?5??????????????????????????????...

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????????????????????variation????????change????????????????????????????
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IPCC?NCA????????????????????????

AR6?1950????????????????????????????

AR6????????????????????1950????????????????????????????SPM A3.2?

AR6????1950????????????????????????????????????1950??2018?????[1???
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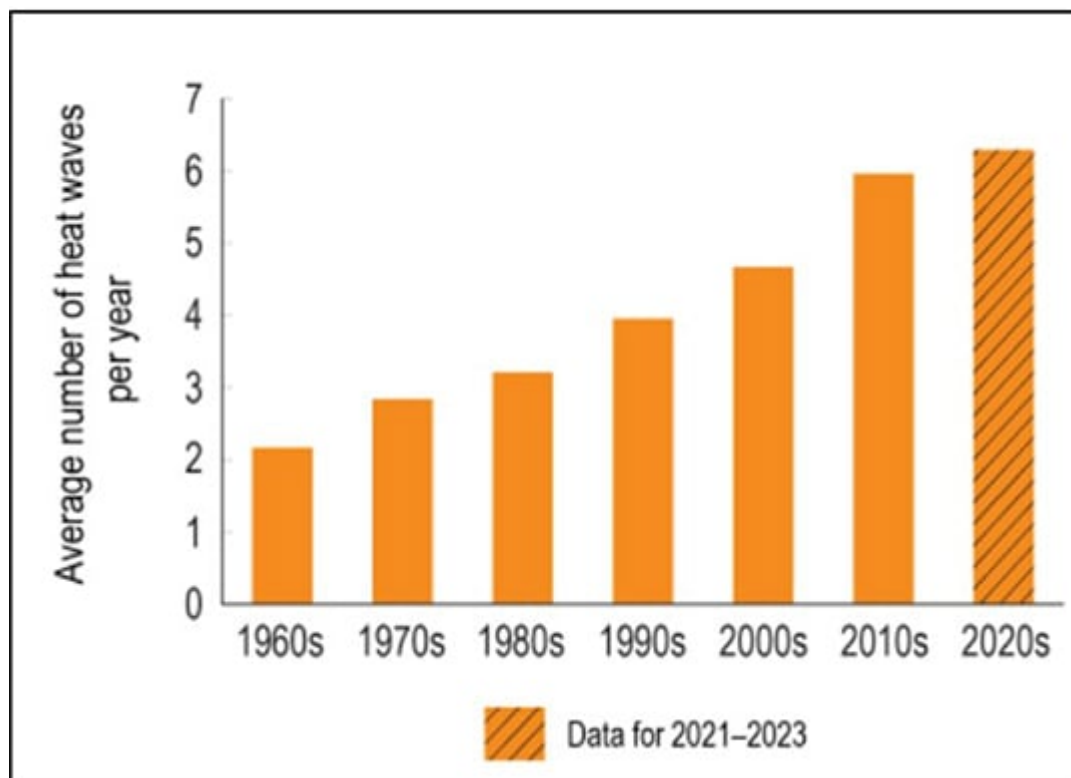
????????NCA4?NCA5????????????????????1901????1958????????????

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????5????????NCA5????????????USGCRP
 2023????????1960????10????????????6.3.7????



6.3.750

<https://www.globalchange.gov/indicators/heat-waves>

2025522

CWG

196022020610

8550

USGCRP202319602GHG

1960191019702

1960TminTmaxTmin

Karl et al. 1988, Runnals and Oke 2006, Christy et al. 2009, McNider et al.

2012

196070193019602

NCA

CWG

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Posted in ??? | No Comments »

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?? ?? · Saturday, August 9th, 2025



Laurence Dutton/iStock

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????????????????????A **Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate**????

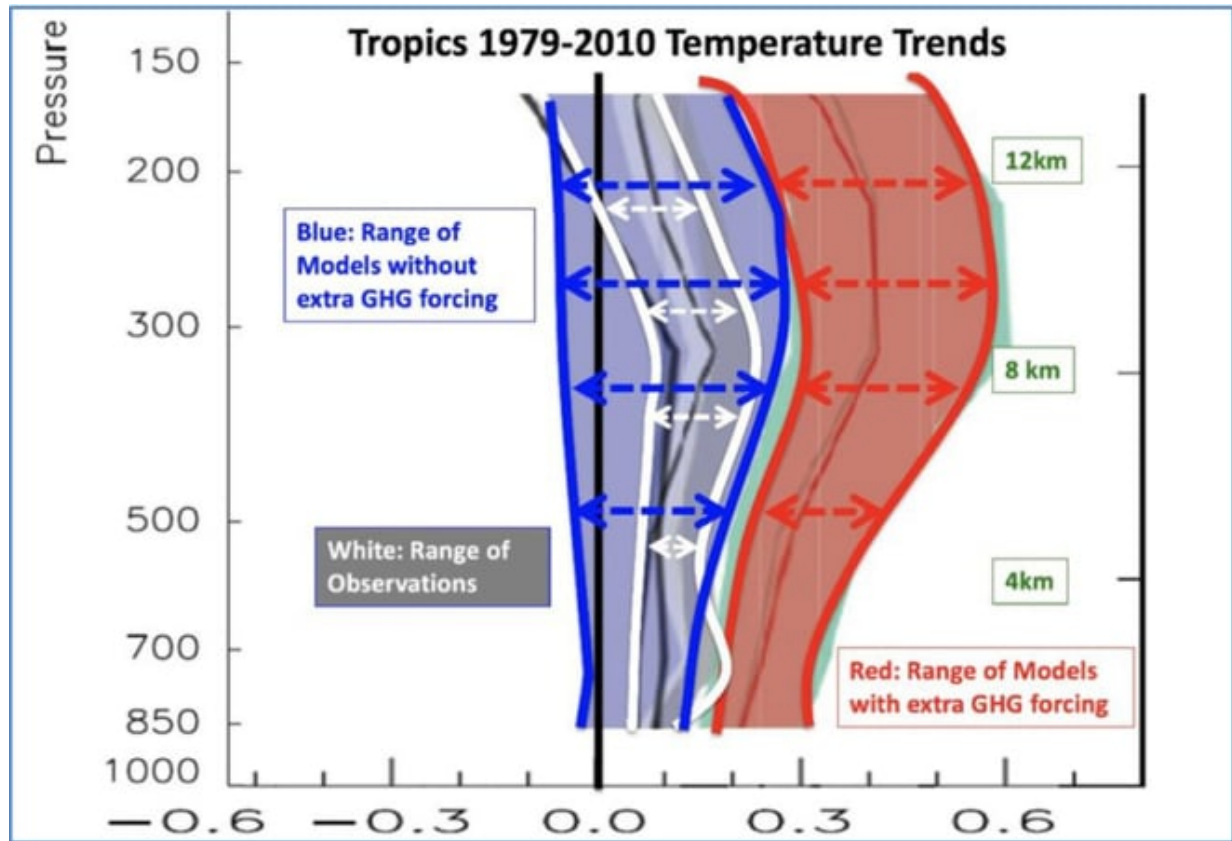
????5? ?????????????????

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5.5????????????????????1979?
 ?2010????????????????
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5.5°S-20°N: 0.1°C/10 years

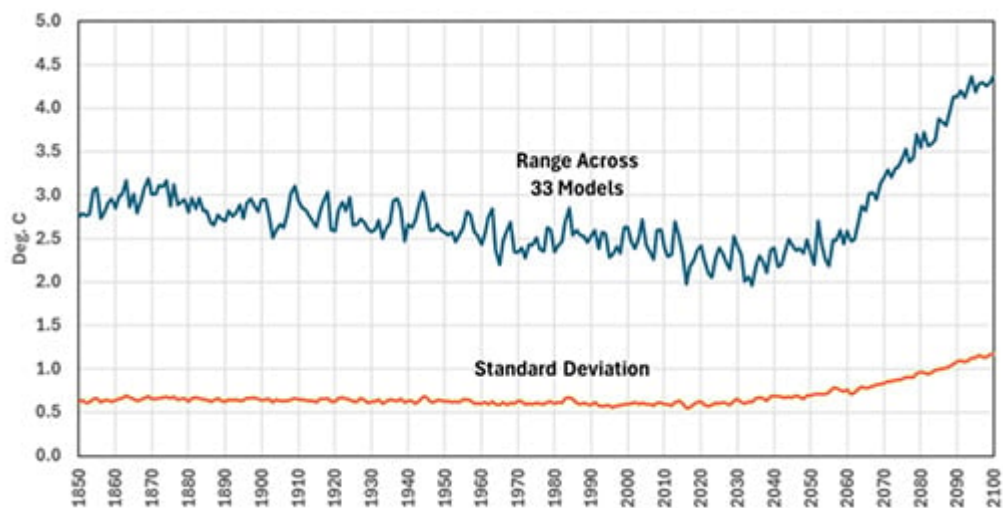
IPCC AR5 10.5.1

Figure 10.5.1: Tropics 1979-2010 Temperature Trends. The plot shows the range of temperature trends for models with and without extra GHG forcing, and the range of observations. The red range (models with extra GHG forcing) is shifted to the right (positive trends) compared to the blue range (models without extra GHG forcing) and the white range (observations).

Figure 10.5.1: Tropics 1979-2010 Temperature Trends

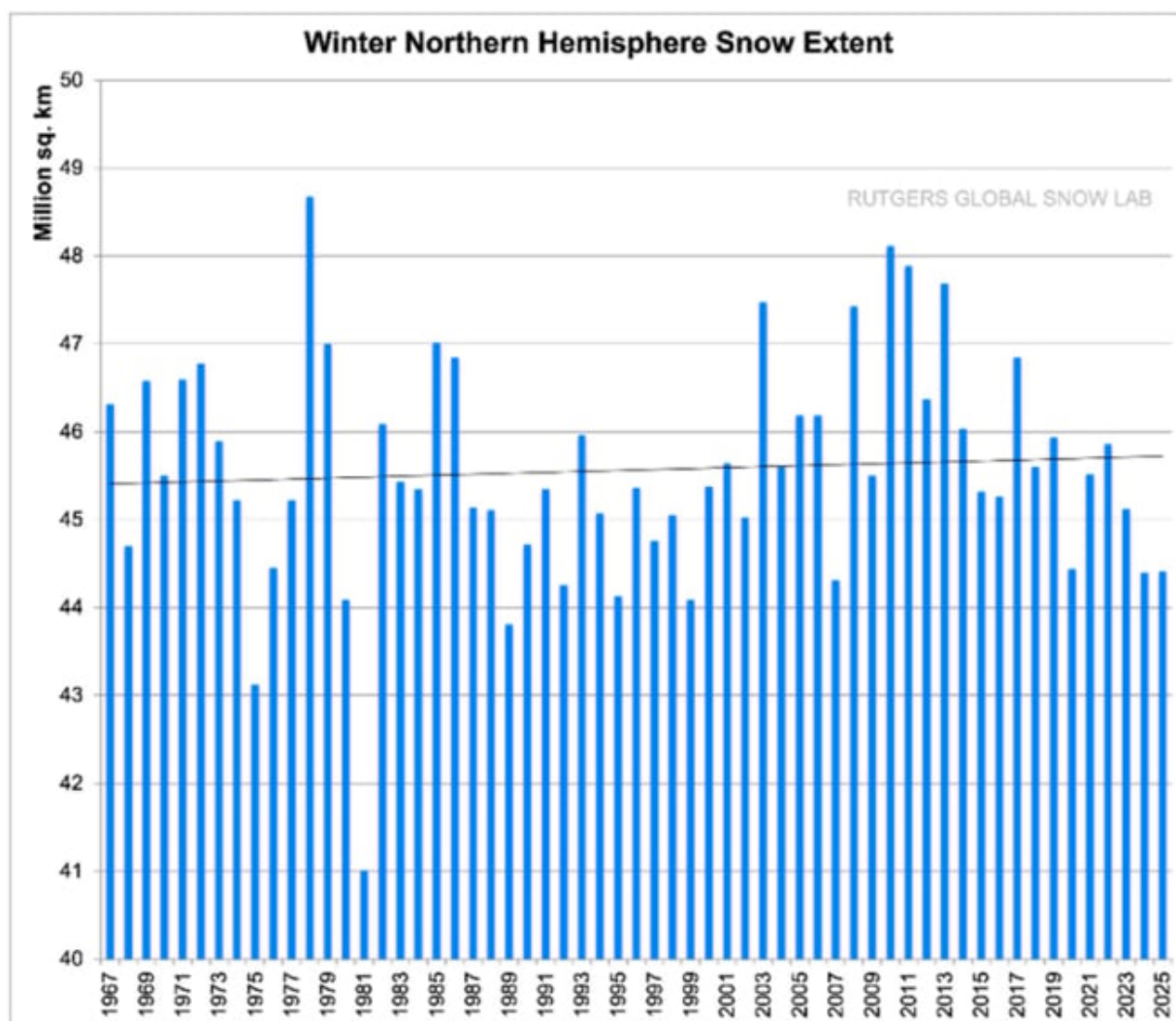
Figure 10.5.1: Tropics 1979-2010 Temperature Trends

Figure 10.5.1: Tropics 1979-2010 Temperature Trends. The plot shows the range of temperature trends for models with and without extra GHG forcing, and the range of observations. The red range (models with extra GHG forcing) is shifted to the right (positive trends) compared to the blue range (models without extra GHG forcing) and the white range (observations).



?5.1 ?????????????????????????????

??5.7????????????????????????
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?5.7????????????????

??? https://climate.rutgers.edu/snowcover/chart_seasonal.php?ui_set=nhland&ui_season=1

2025527?????

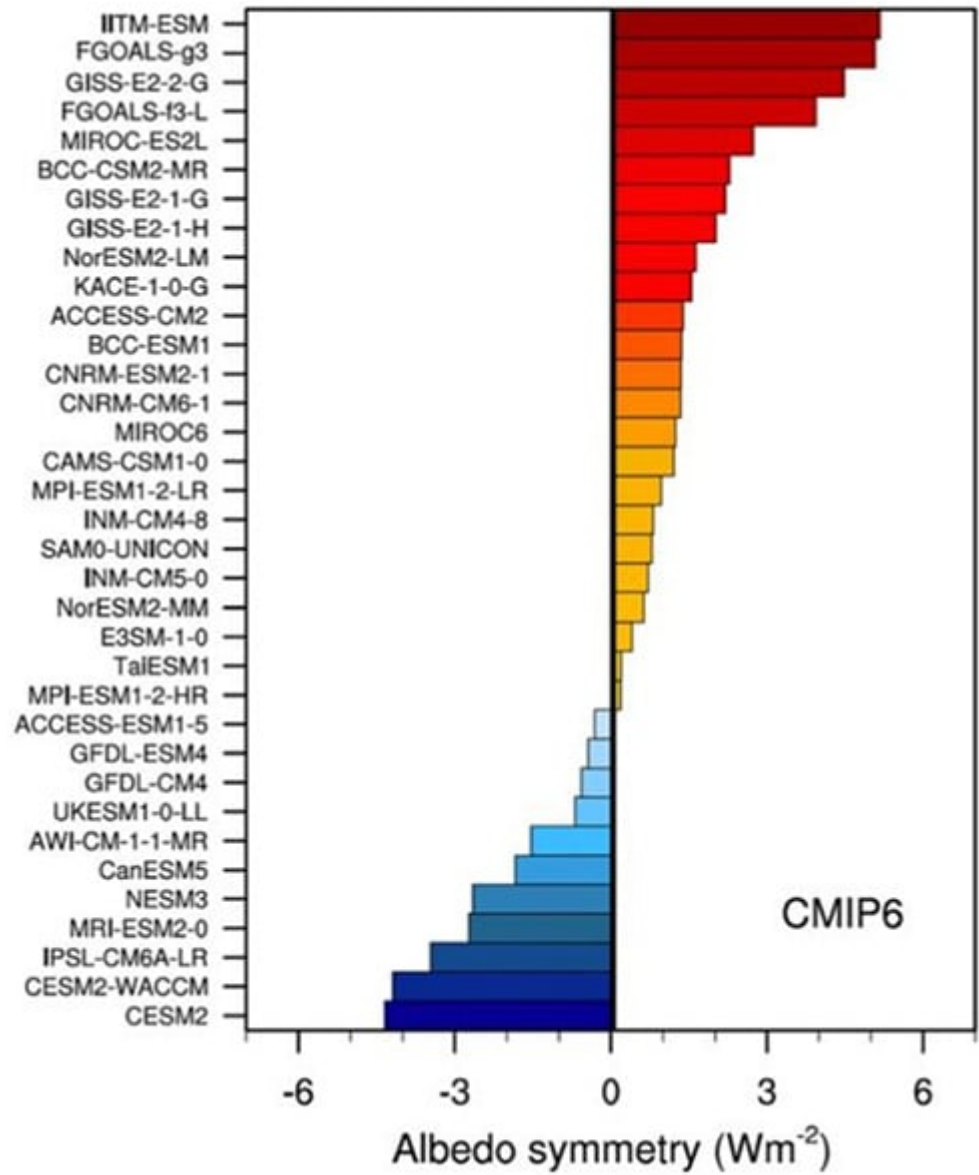
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Wm⁻²????????????????????????????????????5Wm⁻²????????????2.7
Wm⁻²??2????????



?5.8. CMIP6?????IPCC????????????????????20????????????????????
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Rugenstein?Hakuba?2023???

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Posted in ???, ????? | No Comments »

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?? ?? · Friday, August 8th, 2025



Sashkinw/iStock

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??A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate??????

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????CO2????????????ECS????????????????????????????IPCC????????????????
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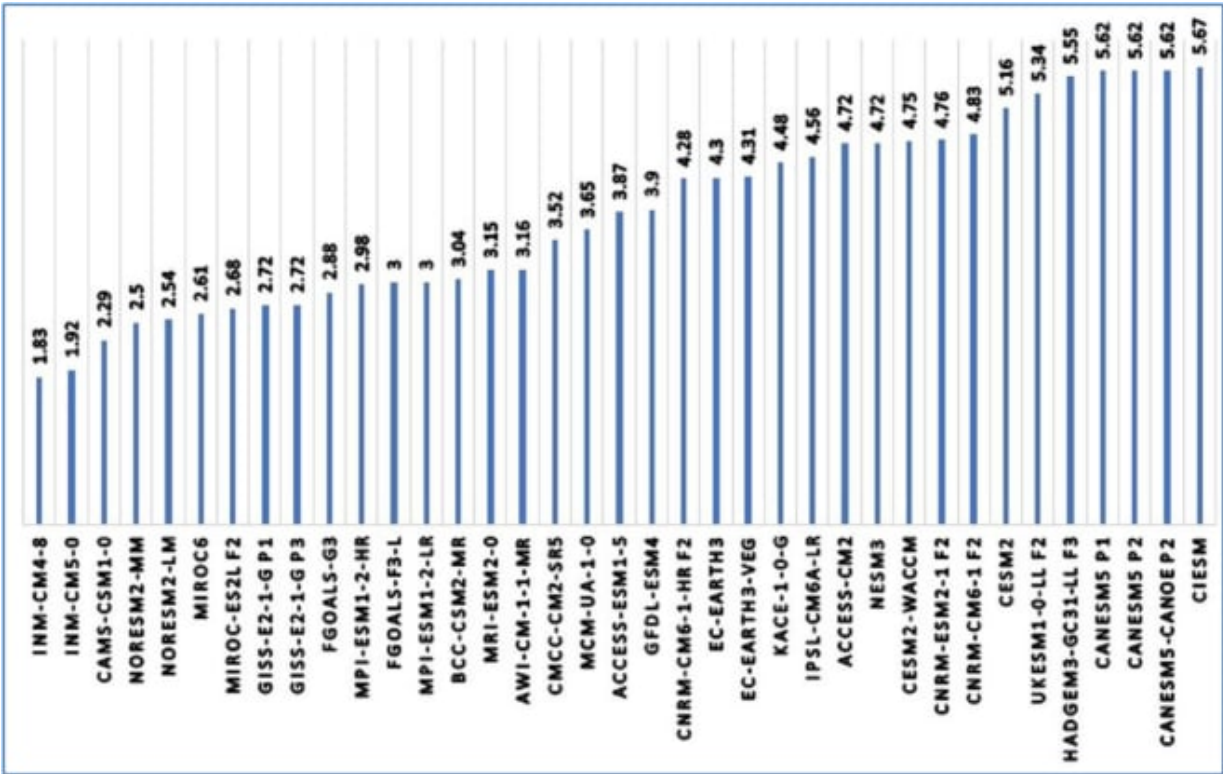
??????ECS????????????????????????????IPCC

AR6?ECS????????????4.0????AR5?4.5????????????????????????????

??AR6?ECS????????????2.5??AR5?1.5????????????????????????????AR6

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?4.1 CMIP6?????37????????????

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????Scafetta, 2021?

????4.1??MPI-

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Mauritsen?Roeckner?2020????????????MPI????????????

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ESM1.2??

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????MPI?????ECS??3????????????

??IPCC????????ECS????????

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??IPCC????????????????????????????????????ECS?????

????????ECS????????3.1°C????????2.6–3.9°C?????

2022-2023
37°C
2022-2023
13°C
300
3.1°C
2.6–3.9°C

AR6
IPCC
Sherwood
et al.
2020
ECS
3.1°C
2.6–3.9°C

ECS
Lewis
Lewis
IPCC
AR6
Sherwood

Lewis
2022
Sherwood
2022
2.2
17
83
1.8
2.7°C
5
95
1.6
3.2
IPCC
AR6
ECS
2.3
5
Lewis
50
Sherwood
Lewis

ECS
AR6
AR5
CWG
ECS
Lewis
1.8

ECS
CO2
TCR
TCR
IPCC
Lewis

TCR
ECS
TCR
ECS
AR6
TCR
1.2
2.4
ECS
TCR
Lewis
2023
TCR
1.2
5
2.0
ECS
AR6

21
75
CO2
CO2
IPC
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1.2
2.4
Lewis
1.25
2.0

IPCC
Lewis
CWG

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Posted in ???, ????? | No Comments »

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?? ?? · Thursday, August 7th, 2025



Dilok Klaisataporn/iStock

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Climate Working Group, CWG2025723

A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate

CO2CO2

CWG

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3.1

IPCC202116TSI16002000TSI20TSI20

IPCC11IPCC

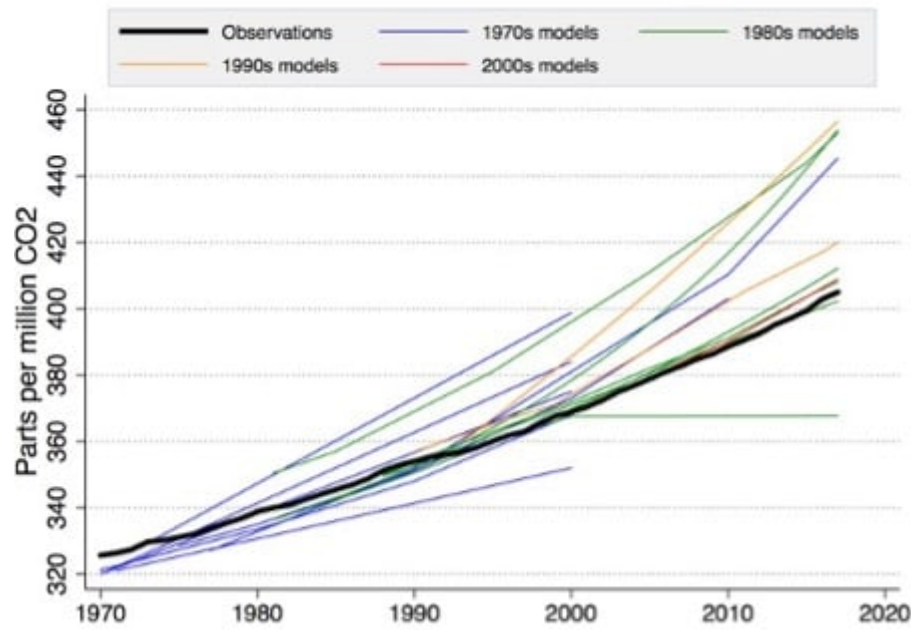
IPCC

TSI

TSIIPCC

IPCC

IPCCIPCC34SRESMcKittrick2012SRES1SRES2019CO2SRESIPCC3.2.1



3.2.1 1970??
???Hausfather et al.?2019??S4

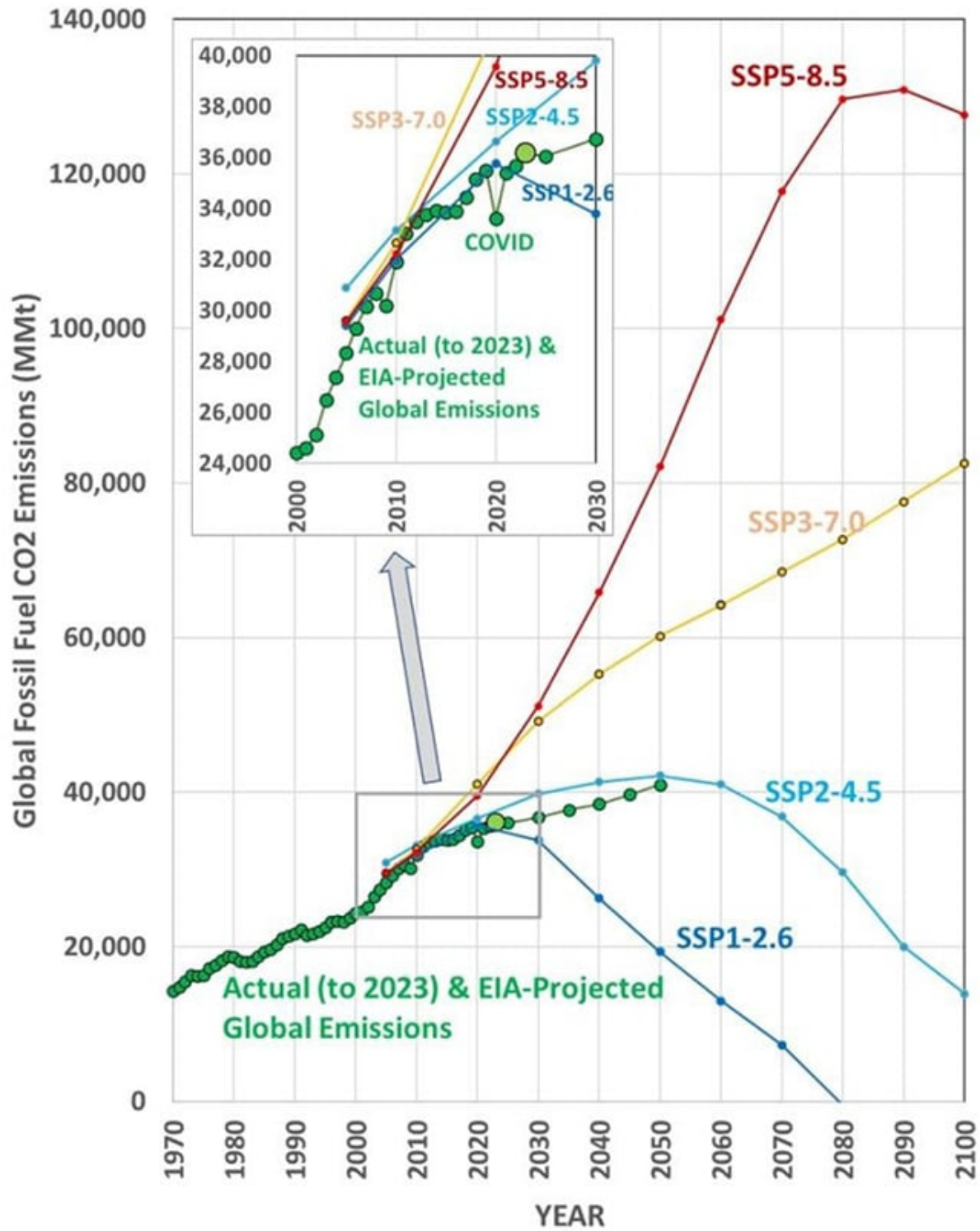
?????IPCC??

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Pielke?Ritchie?2020???RCP8.5????????????1?????20????????????????????2??RCP8.5????????business
usual????????????????????????????????????10?????????SF?????????????????“?”????????????????
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3.2.2?????IPCC????????????SSP5-8.5????RCP8.5??
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3.2.2. CO2 Emissions (MMt) EIA-Projected Global Emissions SSP1-5

IPCC SSP EIA

Friedlingstein 2024

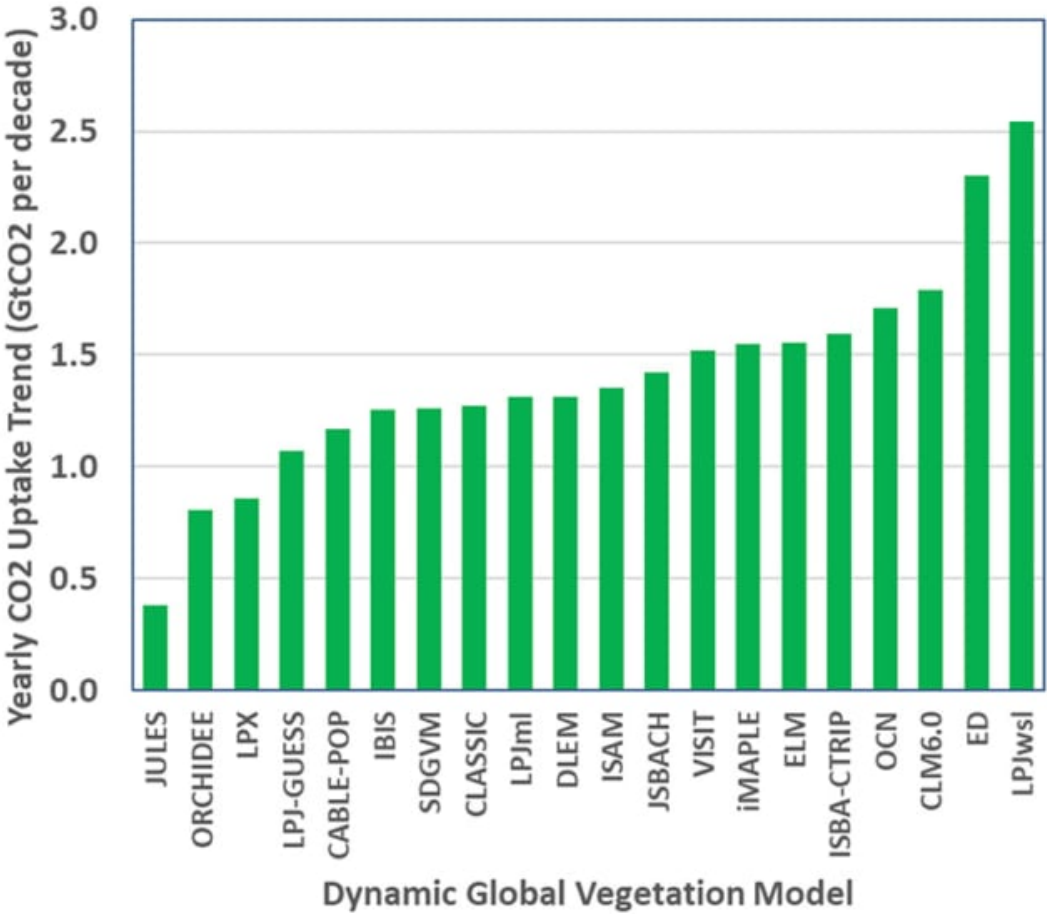
CO2 Emissions (MMt) EIA-Projected Global Emissions SSP1-5
?

50 EIA-Projected Global Emissions SSP1-5
Ciais et al., 2013

CO2 50
CO2

20
Friedlingstein,
2024 3.2.3
1959 202
3 65

CO2 CO2



3.2.3 1959 2023 CO2 GtCO2/10
Friedlingstein, 2024 20

CWG IPCC CWG CWG

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Posted in ???, ????? | No Comments »

??????CDP?SBTi????????????

?? ?? · Wednesday, August 6th, 2025

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?CDP??

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[illegible][illegible]

CDP????ESG??
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CDP????????????????SBTi????????????????CDP????????????????
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- CDP????????????????????
- ?????????????????CDP????????????????

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CDP????????????????A?B?C?D????????SBT??TCFD????????
??RE100?Climate Action
100+?TNFD????????JCLP????????

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CDP?RE100?TCFD?SBTi????????????????
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- ?ESG????????????????????
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?SDGs???????

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

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?? ?? · Wednesday, August 6th, 2025



Tunatura/iStock

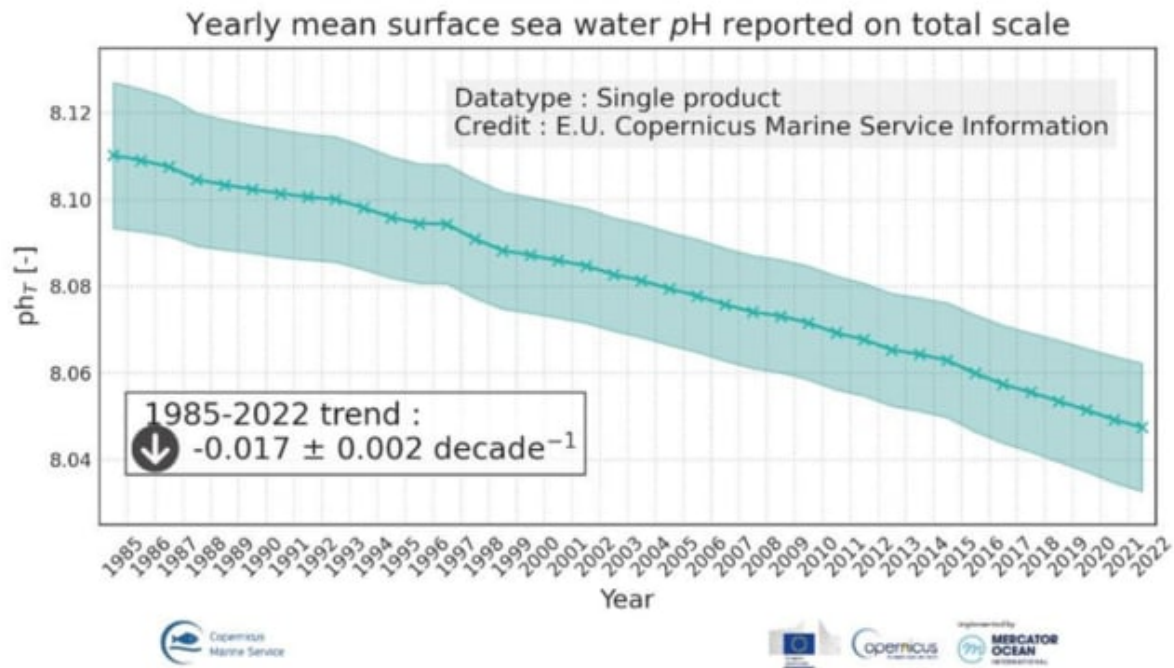
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??Climate Working Group,
CWG?????2025?7?23??A Critical Review of
Impacts of Greenhouse Gas Emissions on the U.S. Climate??

????2??CO2????????????????2.2????????????????????????????????????CWG????????????????

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2.3??pH 1985?2022
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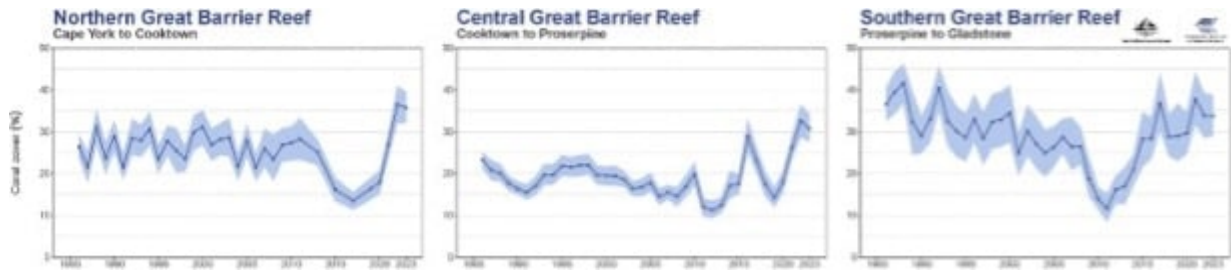
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????????????????????pH6.5??7.0????????????????????????????????????2018????????????
????????????????????2????????pH?7.4??7.5????????????????????????????????Rae et
al., 2018????????????????pH????????pH????

??2.3????????
????????IPCC?2100????pH????7.8????

??pH????????????pH????????
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1957??De'ath??2009????????GBR????1990????14????
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????AIMS????AIMS,
2023??2.4??AIMS????2011????
???Beeden et al., 2015????Woods Hole,
2023??1990??2009??GBR????CO????



2.4 1985-2023
AIMS 2023?

CO2 GBR
CO2

CWG

24500 2
CO2

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Posted in ???, ????? | No Comments »

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?? ?? · Tuesday, August 5th, 2025



hikastock/iStock

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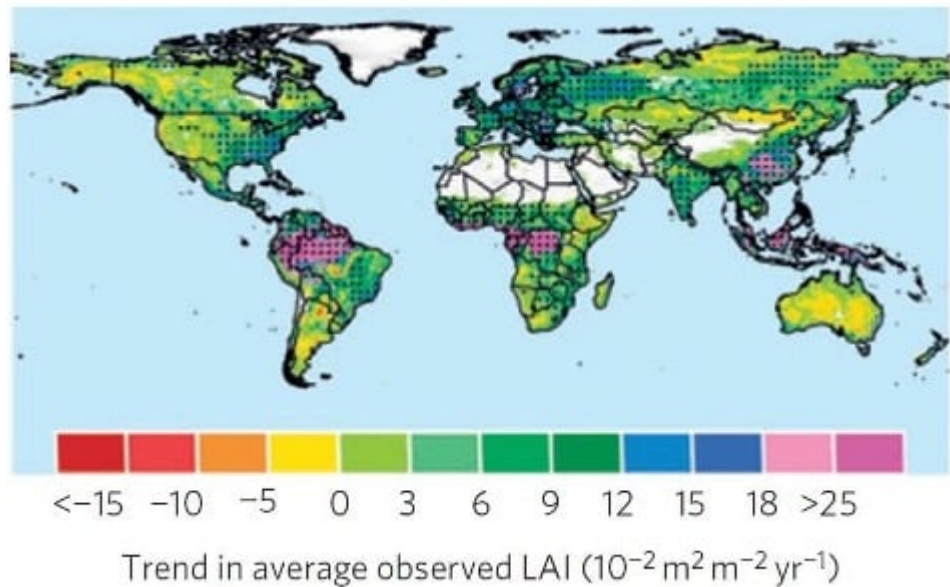
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CWG????2025?7?23????????????????????????????????????A Critical Review of
Impacts of Greenhouse Gas Emissions on the U.S. Climate??

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2.1? CO2????????????

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2.1 LAI
Zhu 2016

LAI
LAI

CO₂ 2,000-4,000 ppm
5,000-1,000 ppm
Berner 2006, Judd et al. 2024
3,500-170 ppm
Gerhart and Ward 2010

CO₂

60
C₃
CO₂
CO₂
2

-
- CO₂ CO₂
CO₂

2.2 CO₂



2.2
 14
 Gerhart and Ward 2010
 Current 1988

Deryng 2016
 Zhang 2024
 4

CO2

IPCC
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IPCC
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CO2
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Posted in ???, ????? | No Comments »

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?? ?? · Monday, August 4th, 2025



2025723A Critical Review of Impacts of Greenhouse Gas Emissions
on the U.S. Climate

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Posted in ???, ????? | No Comments »

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

?? ?? · Sunday, August 3rd, 2025



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crbellette/iStock

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??Climate Working Group, CWG????????????????????A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate????????

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Posted in ???, ????? | No Comments »

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?? ?? · Saturday, August 2nd, 2025



oasis2me/iStock

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28??

議論 ガス抜きならぬ“大糾弾大会”
自民・両院議員懇談会

懇談会後 続投の理由について

この午後8時すぎ

自分自身の責任については—

所属議員の皆様の意見が聞けたわけではない
世論と我が党の考え方が一致することが大事
総合的に踏まえて適切に判断をしたい

(Q: 続投の意思に変わりは?)

ごさいません

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<https://agora-web.jp/archives/250701073617.html>

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近年の党派別得票数・率(比例)の推移

	2022年 参院選	24年 衆院選	25年 参院選
自民	1826 34.4	1458 26.7	1281万票 21.6%
立民	677 12.8	1156 21.2	740 12.5
国民	316 6.0	617 11.3	762 12.9
公明	618 11.7	596 10.9	521 8.8
維新	785 14.8	511 9.4	438 7.4
参政	177 3.3	187 3.4	743 12.6
共産	362 6.8	336 6.2	286 4.8
れいわ	232 4.4	381 7.0	388 6.6
保守	— —	115 2.1	298 5.0
社民	126 2.4	93 1.7	122 2.1
ちみ	— —	— —	152 2.6

※得票数・率はいずれも四捨五入。総務省の衆院選・参院選結果調(速報)より

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

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?? ?? · Friday, August 1st, 2025



RapidEye/iStock

2025723
A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate??

4

2050??CO2

Executive Summary

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[?2.1??9?]
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[?3.1?]

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?? ?? · Friday, August 1st, 2025



XH4D/iStock

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Electricity generated from wind and solar cannot replace fossil fuels! – America Out Loud News

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

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??? ?? · Wednesday, July 30th, 2025



Megane Adam/iStock

2025?7?15??46????????????????

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

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??? ?? · Thursday, July 24th, 2025



JaviJ/iStock

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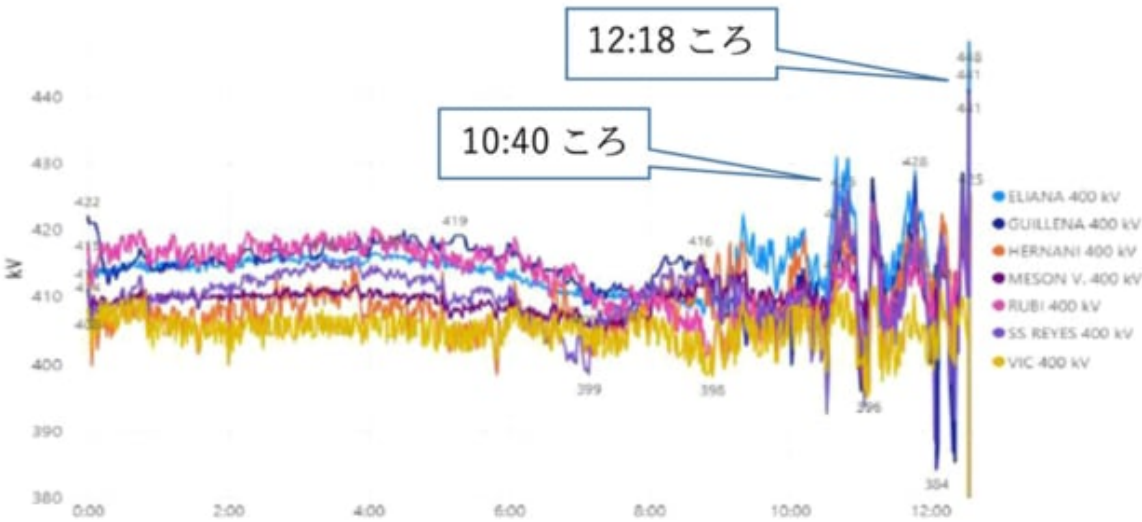
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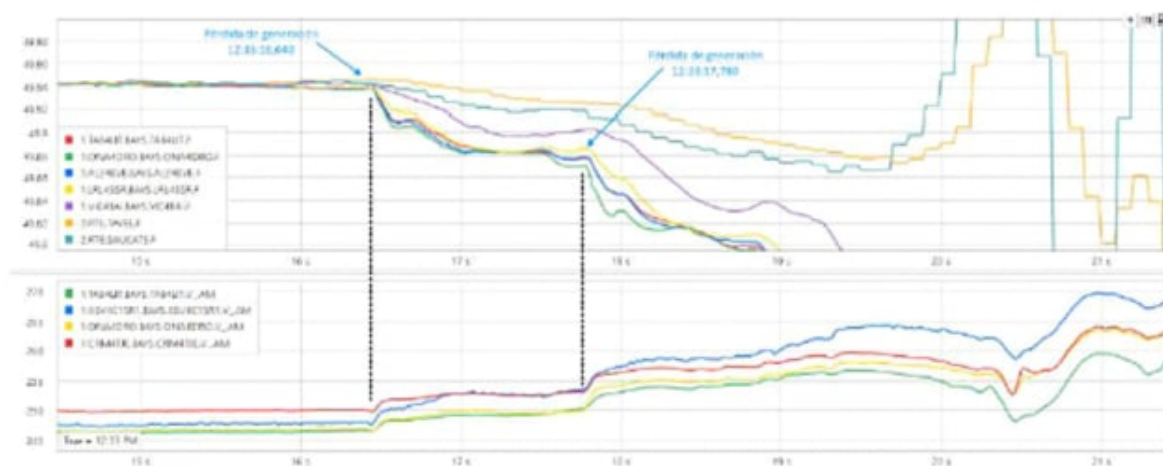
4?28????10??2????????????????????????????????



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

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?? ?? · Monday, July 21st, 2025



nu1983/iStock



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?????7?3??Eisenhutzenstadt????BASF?Schwarzheide?
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[????????????????????????](#)

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digit billion????????????????

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



BRICS Brasil 2025

BRICS??UAE?????
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- [illegible]

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G7??BRICS????????????????????????????????????

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1975???1?G7????????????????G7?BRICS?G20????????????????????

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1?Saudi Arabia sits on fence over BRICS with eye on vital ties with US
2?BRICS Summit signs historic commitment in Rio for more inclusive and sustainable governance

Posted in ???, ?? | No Comments »

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?? ?? · Saturday, July 19th, 2025



DesignRage/iStock

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News??
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SKW??????????	????????????????	????????????????	????????????????2025?1?22??
????????????Voestalpine???	????????????????	????????????????220????	????????????????2024?10?25??
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Posted in ??????????, ??? | [No Comments »](#)

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?? ?? · Wednesday, July 16th, 2025



BeeBright/iStock

2004??1????????????????????????????

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

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??? ?? · Wednesday, July 16th, 2025



2025?7?2?NHK????????????????????????????????7??1?5????????
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7??????1?5????????????????????????????????????1?5????????2017????????????????????????
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	定格出力	運転開始年月	2025 年現在の稼働年数
1 号機	110 万KW	1985 年 9 月	40 年
2 号機		1990 年 9 月	35 年
3 号機		1993 年 8 月	32 年
4 号機		1994 年 8 月	31 年
5 号機		1990 年 4 月	35 年
6 号機	135.6 万KW	1996 年 11 月	29 年
7 号機		1997 年 7 月	28 年

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2017?6????????????????????6?7????????2????1?5????????

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1?????30???????5???????100????????

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2025?7?3????????

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

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?? ?? · Monday, July 14th, 2025



style-photography/iStock

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???ChatGPT??

- ?????????????????????????????????8????3????????7????????1????????????????????
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????????????	Envision?Chifeng Net?Zero Park????????	500?MW????2.5?GW?2025?07???? 2?GW????????300?MWh????????	?	? ??(Hydrogen Insight, hydrogentechworld.com)
	Iberdrola Puertollano???? 20?MW???100?MW??PV2022?05??	????????20?MWh????????		? ??(Iberdrola, eFUEL- TODAY)

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???H2?????CH4????????1????????????????3????

1 mol あたりの燃焼反応と標準燃焼エンタルピー（25 °C, 1 bar）

燃料	化学反応式（完全燃焼, 生成物は液体水）	$\Delta H^{\circ}_{\text{c}}$ [kJ mol ⁻¹]
水素	$\text{H}_2 (\text{g}) + \frac{1}{2} \text{O}_2 (\text{g}) \rightarrow \text{H}_2\text{O} (\text{l})$	-285.8 Chemistry LibreTexts
メタン	$\text{CH}_4 (\text{g}) + 2 \text{O}_2 (\text{g}) \rightarrow \text{CO}_2 (\text{g}) + 2 \text{H}_2\text{O} (\text{l})$	-890.3 webbook.nist.gov

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

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?? ?? · Saturday, July 12th, 2025



peterschreiber.media/iStock

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

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 1kWh??

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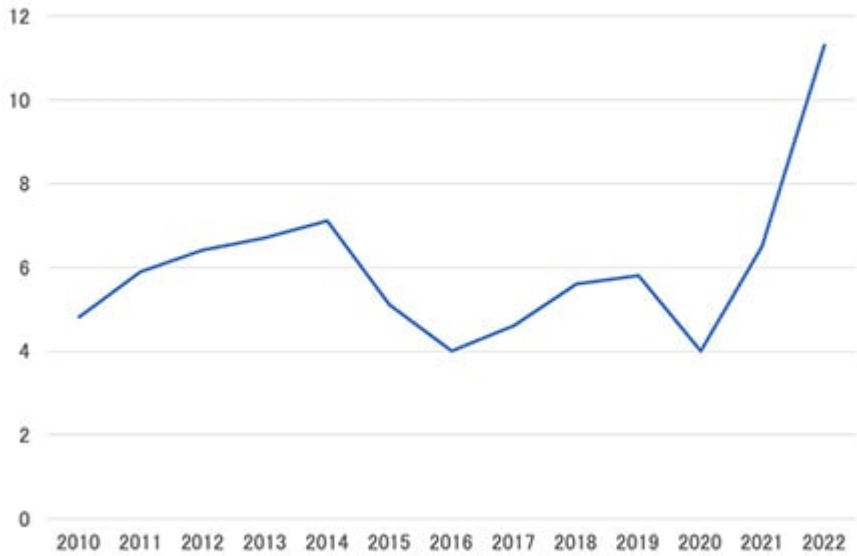
4. PV????????????

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???2022??

平均化石燃料費の推移(円/kWh)



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2010??	17.87 ?	22.86 ?	25.95 ?
2012?2015??	19.43 ?	25.91 ?	29.93 ?
2016?2022??	19.52 ?	26.00 ?	30.02 ?

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

????“????”????????
?? ? · Thursday, July 10th, 2025



Natali_Mis/iStock

2025?6?20??NHK?????????

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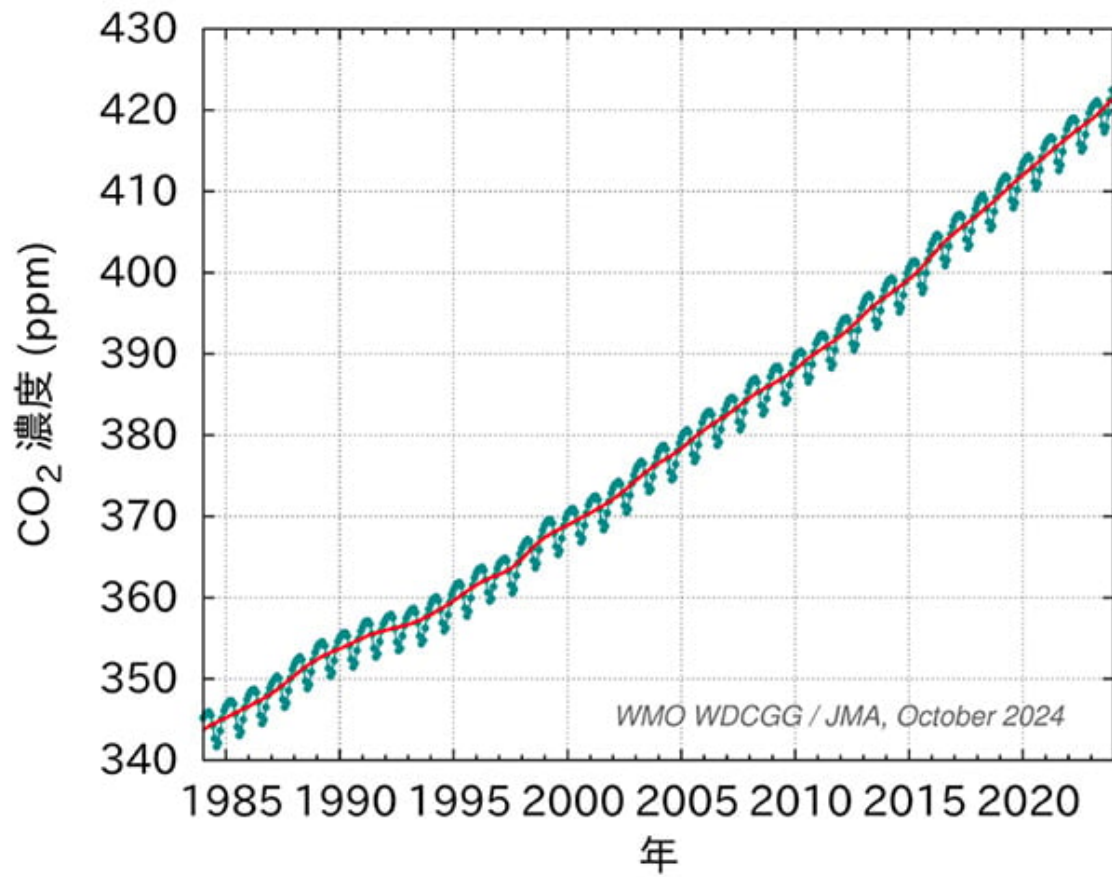
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1. ?????CO₂????????????

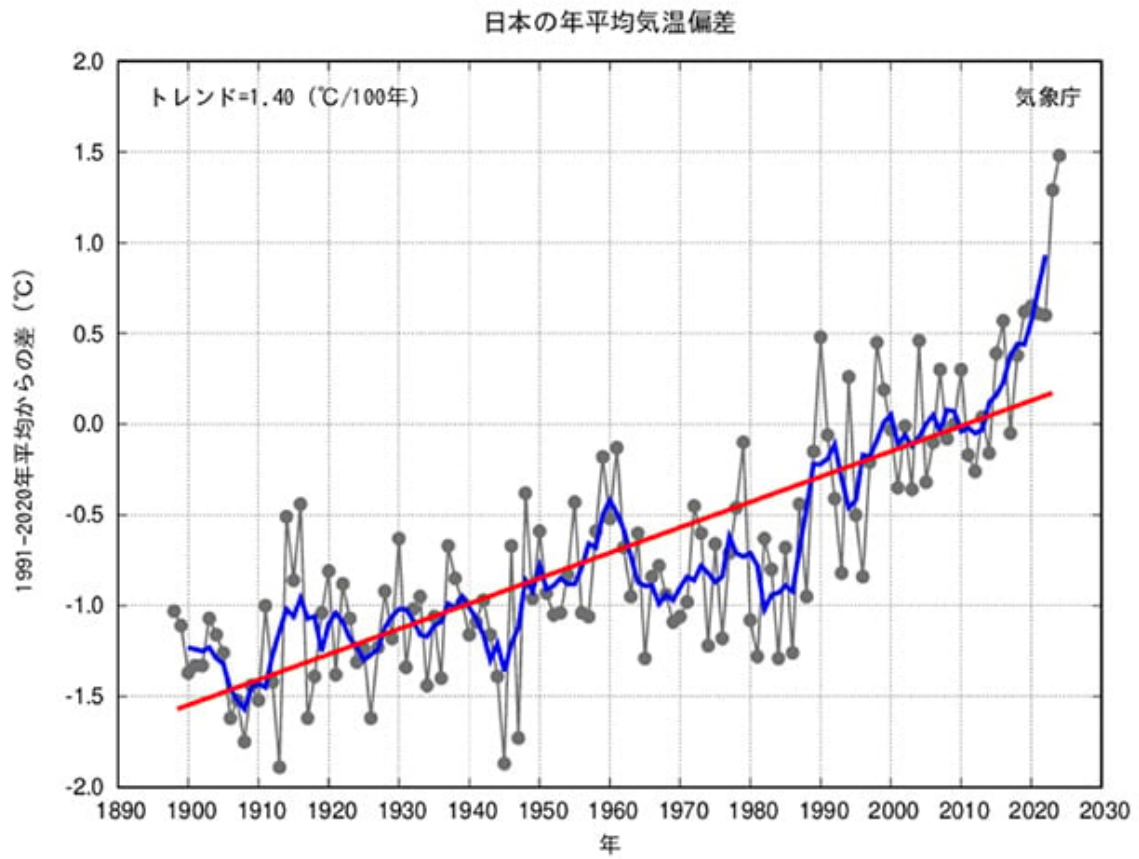


?1?1985?2024????CO₂?????

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?1?????Web????????????????CO₂????????????????????????????????

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



??1900?2024????????????
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O₂??2021????????????????CO₂????????????????

????CO₂??

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?4?????Web????????????????????????????????33m/s????????????????

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本文へ > English キー

ホーム

環境省について

政策

法令

報道・広報

地球環境・国際環境協力

ホーム > 政策 > 政策分野一覧 > 地球環境・国際環境協力 > 気候変動の科学的知見

気候変動の科学的知見

いまだからこそおさえておきたい気候変動の科学的知見について情報をまとめました。

- [日本の気候変動評価について](#)
- [ココが知りたい地球温暖化（国立環境研究所）](#)
- [気候変動適応とは|気候変動適応情報プラットフォーム（A-PLAT）（国立環境研究所）](#)
- [日本の気候変動2025（気象庁）](#)
- [IPCC AR6 よくある質問と回答（気象庁）](#)
- [『おしえて！地球温暖化』（2019年3月）\[PDF 4.37MB\]](#)



?5?????????????Web?????????????
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??IPCC????????????????????????????

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2021??2????????????2????????????
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A-PLAT???????-1-3 ???????

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PLAT?????3????????

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

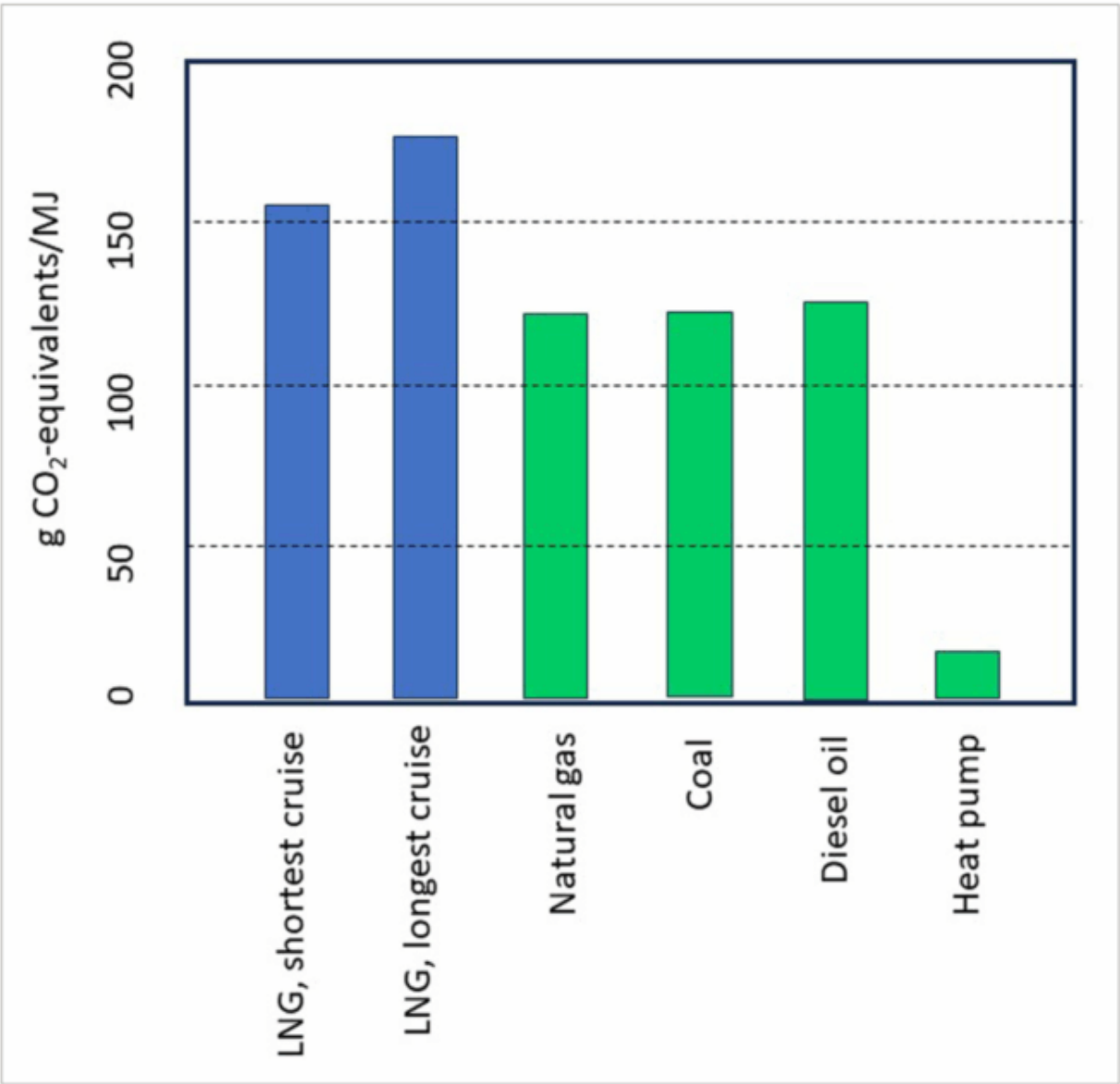
LNG????????CO2????????????

?? ?? · Wednesday, July 9th, 2025



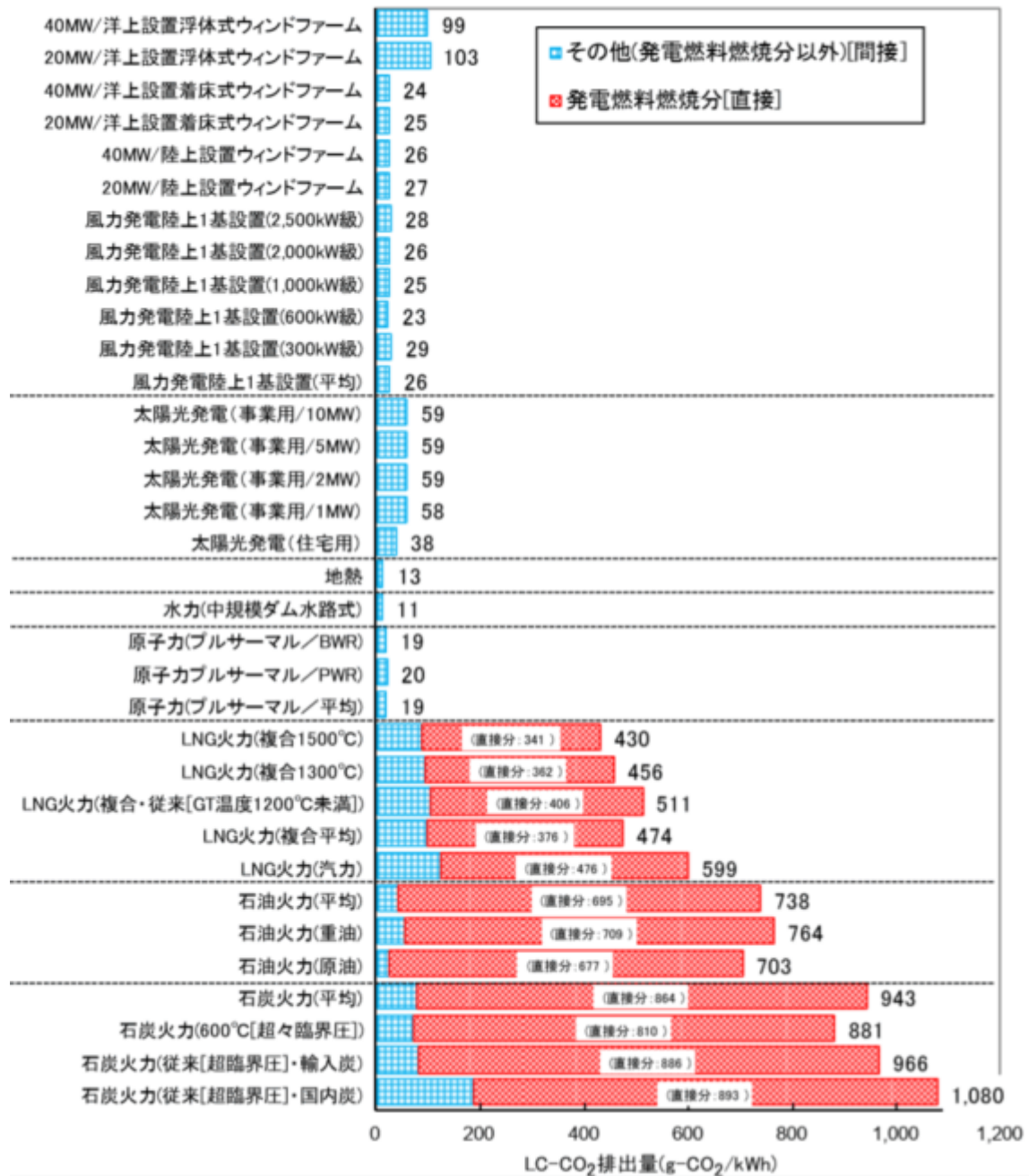
Lari Bat/iStock

?CO2????LNG????????CO2??1????CO2????
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1. ?????????

- 20? GWP ???????? ? LNG ?????????
- 100? GWP???? ? ? CO????????????????

2. ??????MJ ? kWh ??

- ?????????????GTCC > ?????????
- ????????????? kWh ??????

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- 4. ?????????
- 2000???? vs 2020????

??GWP????????????????????

??????GWP?Global Warming
Potential????????????????????1kg????
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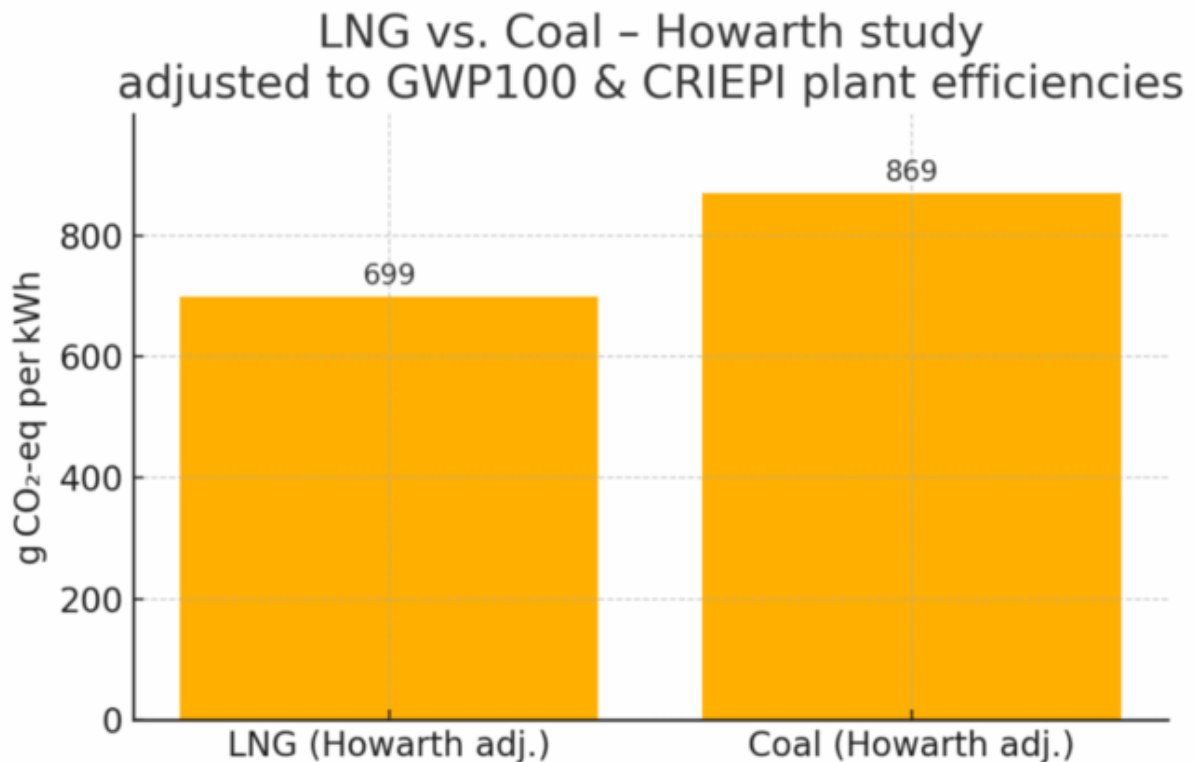
????????????100????20?GWP?=82.5????100?GWP?=28????3?
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????????20????????LC-
CO2??38%????????

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???????GWP100????????????????????LNG????????????????????
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- LNG GTCC?1 500 °C??430 g CO?/kWh
- ??USC?600 °C?? 881 g CO?/kWh
????????699 g/kWh??? **1.6??** ?????????????????????

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

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

?? ?? · Tuesday, July 8th, 2025



maroke/iStock

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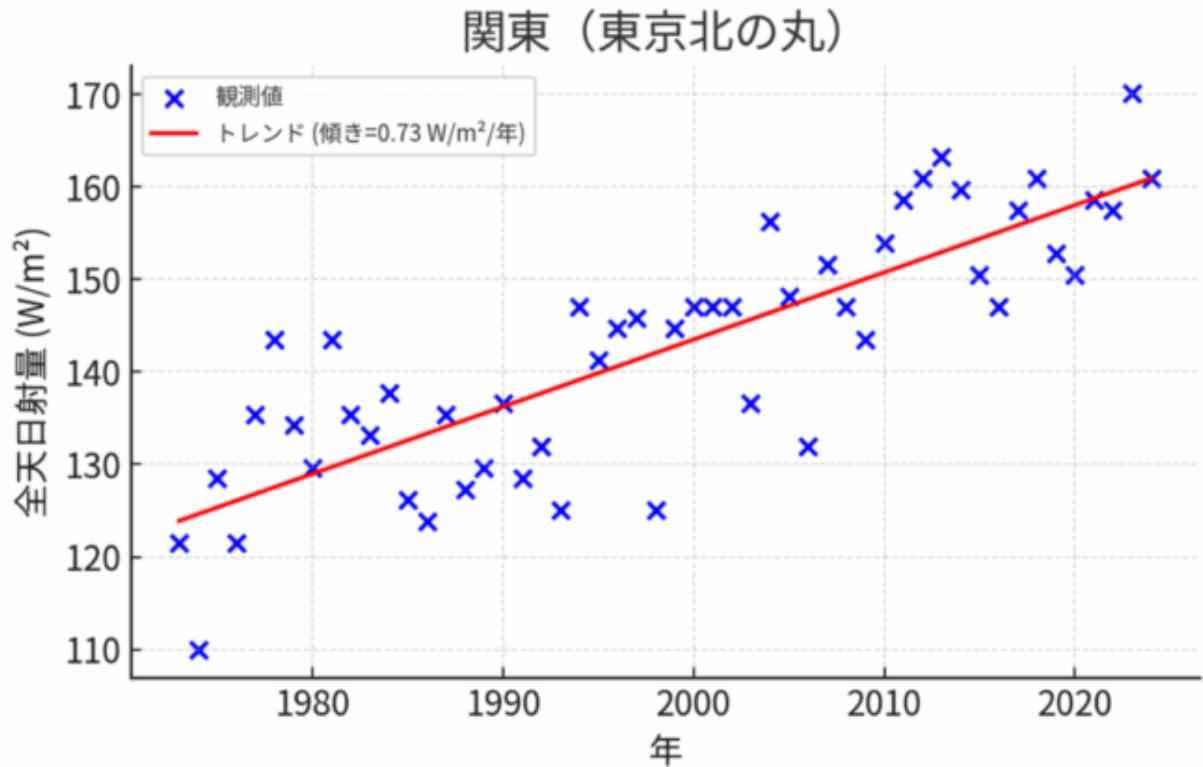
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???????0.73W/m²/???????????1???????????0.73????????????????????????50?????36.5
 W/m²?????1975?????????????????3????????????????????

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Posted in ???, ????? | No Comments »

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?? ?? · Monday, July 7th, 2025



Tomwang112/iStock

GX????????5??

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 ???GX-ETS????????????????????????????????

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GX????GX?ETS???23???26?

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289??/t?CO???

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53.8??/????????

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??2030????????????44????????????			
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??FIT?FIP????????			
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?2????????????????????????			

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????????????	??5?kWh??????	2030???44???????	2009???2022??	???????????????	
???????????????	?????????20??kW??	LNG???52?HHV??????44?HHV???????????????	2010???2023??	???????????????????	
???	????DR???????	???????	??????DR??	2023??	???????????
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GX?ETS??????	10??CO??????	2026??????	2023??	?????????	
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???????FIT/FIP?	??????	3.98?/kWh?25??	2012?	????2.7????	
??????	???	0.375?/kWh	1974?	??????????	
FIT/FIP????????	?????	????/????	2012/22	??????	
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????????	????????	?????????CCS??	2021?	??????????	
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GX????	????????	???20????????????????CCS????????????		????1/3?1/2????20?0.4?0.7%??	

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2021??

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2006?

[illegible]

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

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v-graphix/iStock

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2005	JEPX ???????	??
2005	JEPX ????	???????????????????????????? ????????????24????????????24????????????
2009	JEPX ???????	?????????1?????30?????????30?????????
??????2011	????????????????????????????????????	??
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2017	?????????	???2030??44???"?????"????????????????????????????
2017	??????DR????	???"?????"???kW?????????????????62?????????????????
2019	????????	?????????????????????"???"??
2020	????	?????????????????????????????"2020?????????????"?????4????????kW????????????????????????????
2021-24	??????	??
2024	???????????????	???20????????????????????2050????????????????????

[illegible][illegible]

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1995	IPP(?????) ??	?????1?????	????????1995?3????
2000	???????????2?MW?	?????????	?????????????????
2003	JEPX ??	?????????????	2005?4?????
2004?(2005?)	????????????50?kW?	????????	???64?%???????
2012	???????? (FIT) ??	????????	??????????
2013	????????????3?????	???????????????????	?????4??
2015	OCCTO ??	?????????	?1?????????????
2016.4	?????????????	???????????????	???? 200???
2018.5	?????????????	?????????	?1?????????
2019.4	???????????????	?????????????	???????????????????
2020.4	?????????	???????????	??????????HD???
2020.9	???????1?????????????	??? (kW)??	FY2024????????1.7??
2021.4	????????24???,1?????	???????????????	Phase?1 ????
2022.4	????????????RT???	5??15?????	Phase?2?3??
2023.4	???????????????	???????????	?????0.5?/kWh
2024.4	???????????????????	????????CCUS???????	CfD ?20?????
2025 (??)	?????????????????????	???????????????????	???WG???????

2004??2011????????????????????????????????
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[illegible]

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2022/12?–?2023/3	???7????	??	3?% ?	????????????????
2023/7?–?8	????????	?????	????? <5?%	7/1–8/31 ?????8????????
2023/12?–?2024/3	??	??	3?% ??	????????

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???1933?(?8)	????????	818?	?	?	?	????????????????
???1942?(?17)	?????	0	0	9? ??	1????????	??412??????
???1951?(?26)	????????	9?(72???10?)	?	?	????????	?????“??(?)?”????
?????1994	?????	10?	?	?	???IPP?????	????????????????
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?? ?? · Sunday, July 6th, 2025



Shutthiphong Chandaeng/iStock

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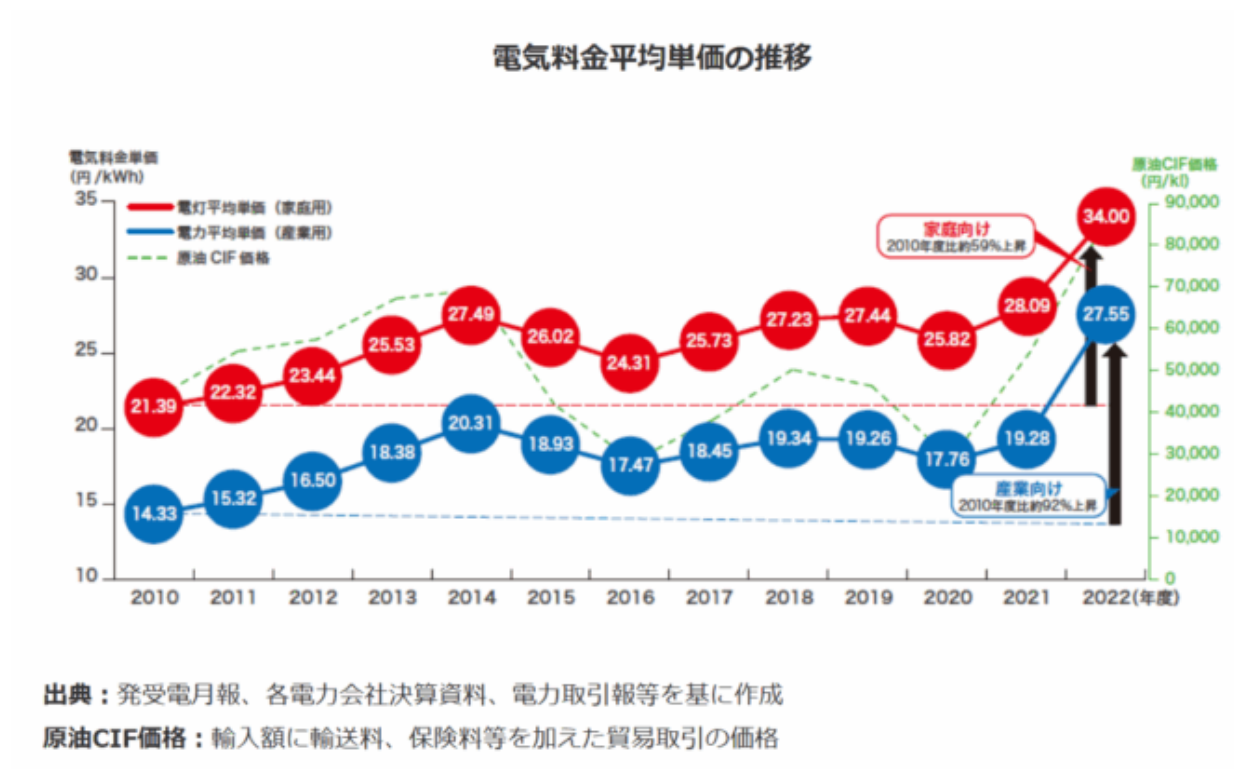
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?? ?? · Saturday, July 5th, 2025



Stefan Pinter/iStock

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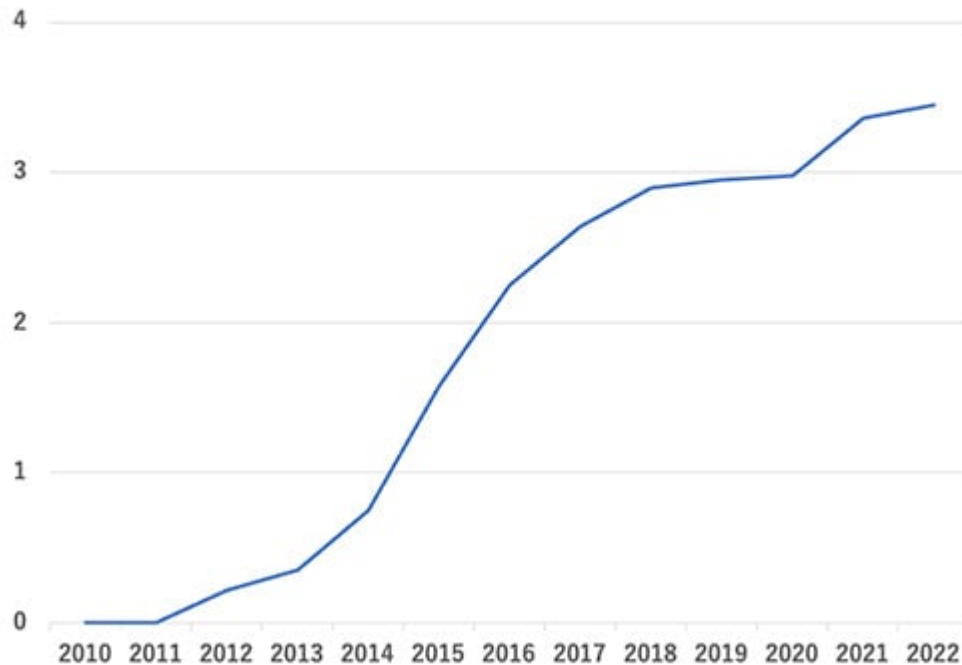
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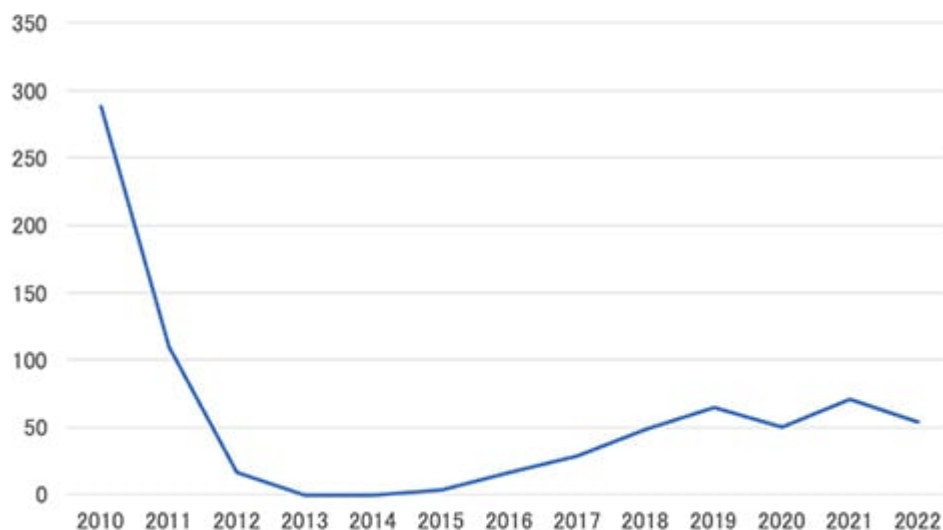
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再エネ賦課金の推移(円/kWh)



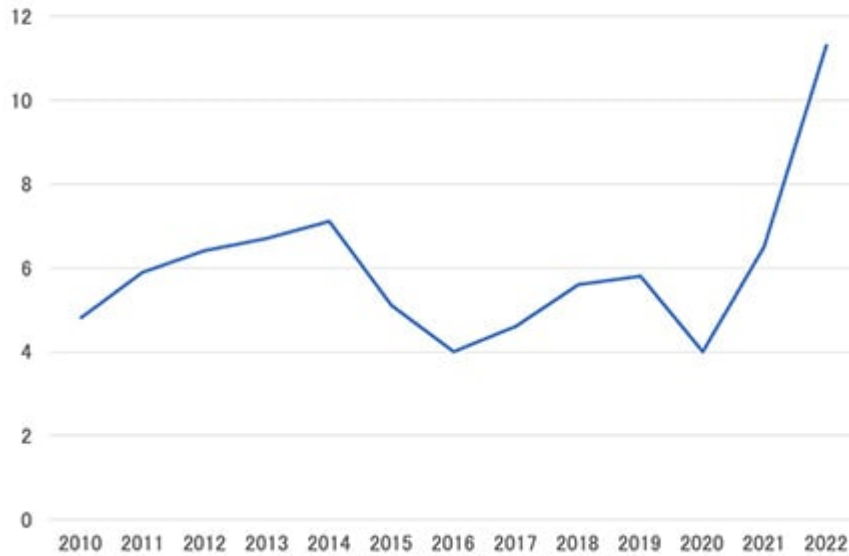
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原子力発電量の推移(TWh)



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平均化石燃料費の推移(円/kWh)

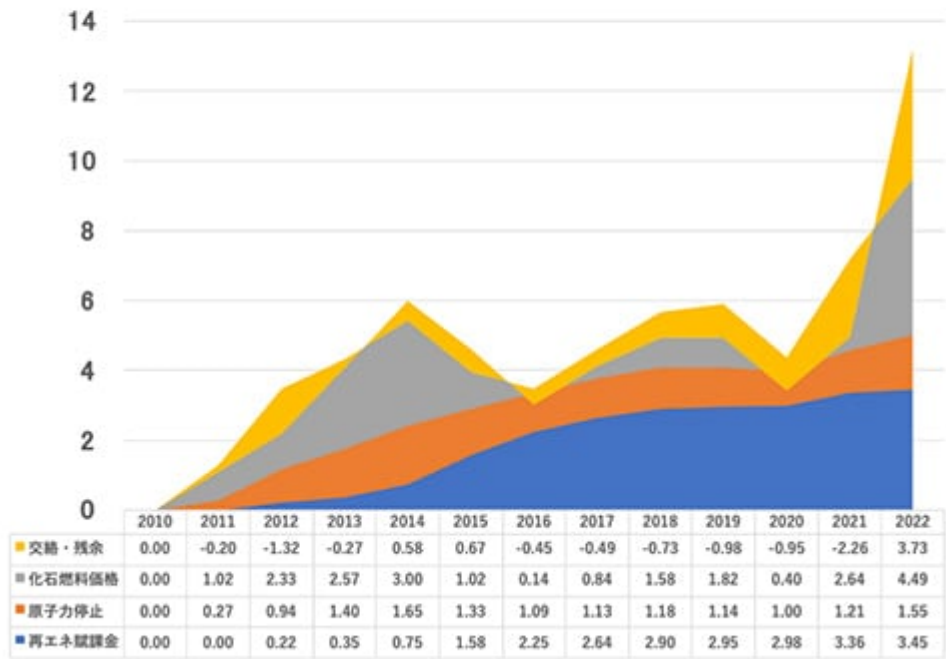


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産業用電気料金上昇の要因分解 (2010年～2022年)



家庭用電気料金上昇の要因分解 (2010年～2022年)



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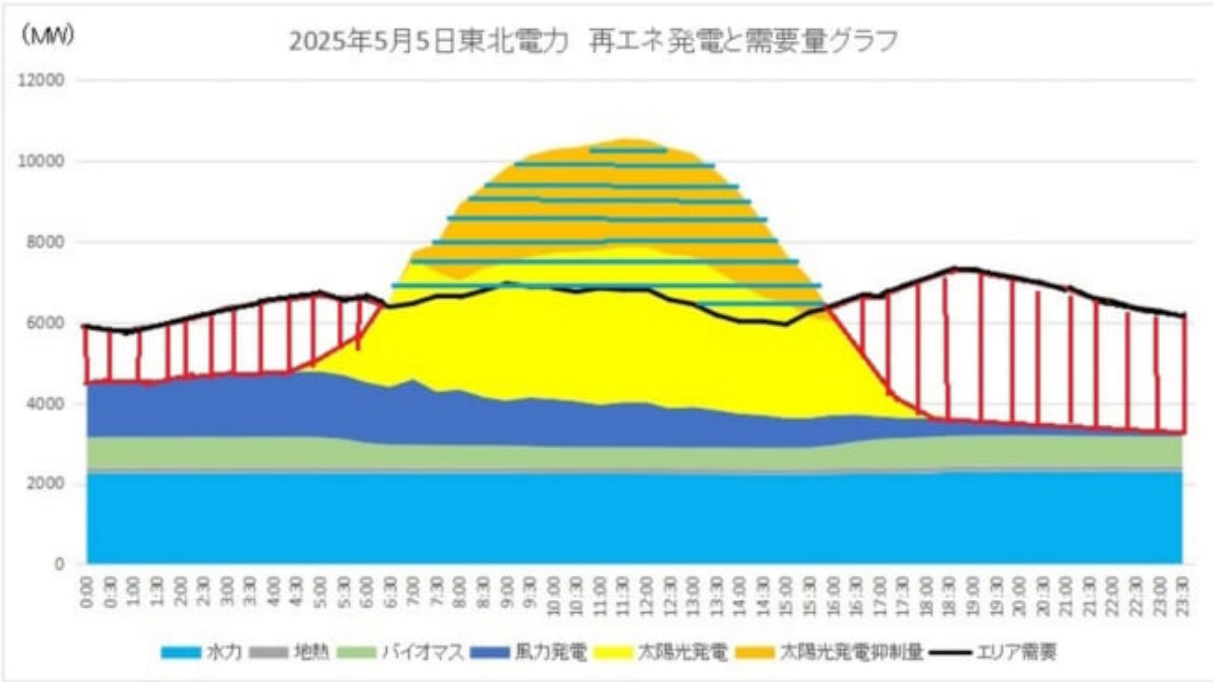
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		エリア需要 (MWh)	再エネ発電量 (MWh)	再エネ抑制量 (MWh)	再エネ供給率
2025/4/1	火	241,262	91,511	—	37.9%
2025/4/2	水	232,381	101,052	—	43.5%
2025/4/3	木	232,355	88,227	—	38.0%
2025/4/4	金	222,814	129,282	—	58.0%
2025/4/5	土	192,704	131,213	6,552	68.1%
2025/4/6	日	178,491	115,010	299	64.4%
2025/4/7	月	203,840	134,152	—	65.8%
2025/4/8	火	208,024	124,733	—	60.0%
2025/4/9	水	205,923	127,745	1,834	62.0%
2025/4/10	木	206,962	111,870	—	54.1%
2025/4/11	金	199,986	105,636	—	52.8%
2025/4/12	土	176,470	110,642	—	62.7%
2025/4/13	日	177,803	111,765	—	62.9%
2025/4/14	月	204,509	107,877	—	52.7%
2025/4/15	火	212,598	97,690	—	46.0%
2025/4/16	水	213,398	152,218	2,695	71.3%
2025/4/17	木	200,398	143,898	10,103	71.8%
2025/4/18	金	196,261	119,988	—	61.1%
2025/4/19	土	171,951	133,407	9,668	77.6%
2025/4/20	日	166,403	109,055	1,803	65.5%
2025/4/21	月	188,907	140,338	9,148	74.3%
2025/4/22	火	193,887	133,728	8,659	69.0%
2025/4/23	水	196,580	94,326	—	48.0%
2025/4/24	木	193,197	119,621	2,454	61.9%
2025/4/25	金	190,875	114,991	—	60.2%
2025/4/26	土	171,563	148,566	16,822	86.6%
2025/4/27	日	161,107	148,993	20,375	92.5%
2025/4/28	月	177,112	115,424	—	65.2%
2025/4/29	祝	174,787	131,610	5,390	75.3%
2025/4/30	水	182,591	145,558	9,376	79.7%
2025/5/1	木	177,077	141,262	13,173	79.8%
2025/5/2	金	175,857	129,694	1,807	73.7%
2025/5/3	土	155,322	141,100	22,107	90.8%
2025/5/4	日	153,823	129,497	12,480	84.2%
2025/5/5	祝	156,939	149,929	25,693	95.5%
2025/5/6	祝	171,324	91,890	—	53.6%
2025/5/7	水	189,855	121,828	—	64.2%
2025/5/8	木	191,799	149,669	16,025	78.0%
2025/5/9	金	190,163	129,848	2,916	68.3%
2025/5/10	土	177,993	110,095	—	61.9%
2025/5/11	日	167,130	135,649	8,280	81.2%
2025/5/12	月	190,609	103,390	—	54.2%
2025/5/13	火	192,307	142,577	15,444	74.1%

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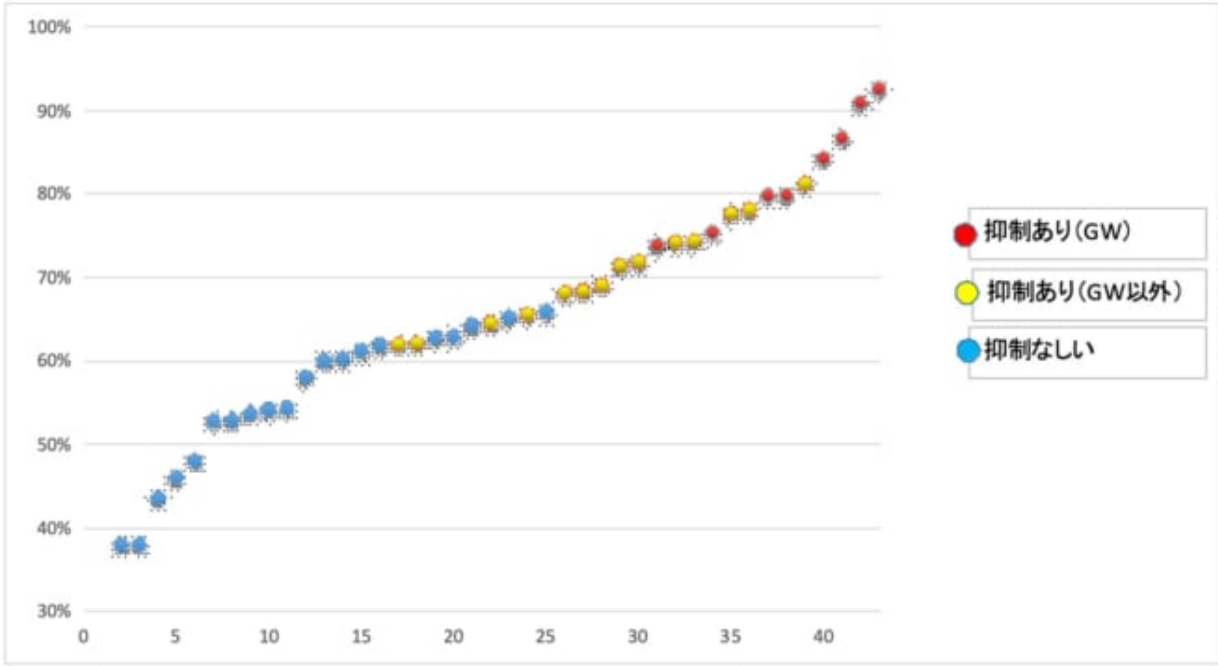
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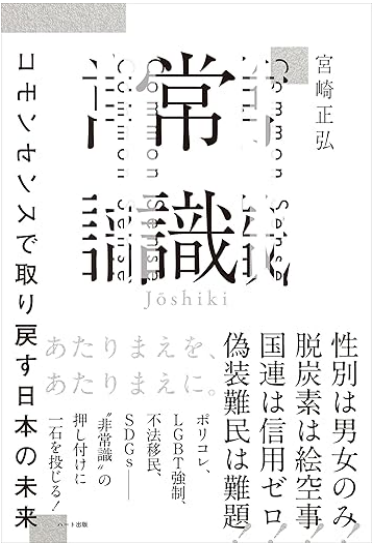
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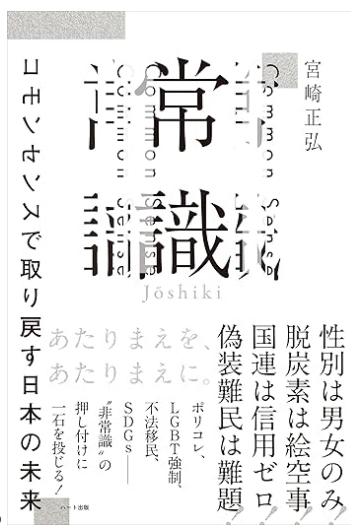
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