Global Energy Policy Research | GEPR

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

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

?? ??? ?? · Thursday, August 13th, 2026

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

??

????????????????????EU?????????1?2??

?????????

??????????????????????????????????23?4??
????????????????????????????????

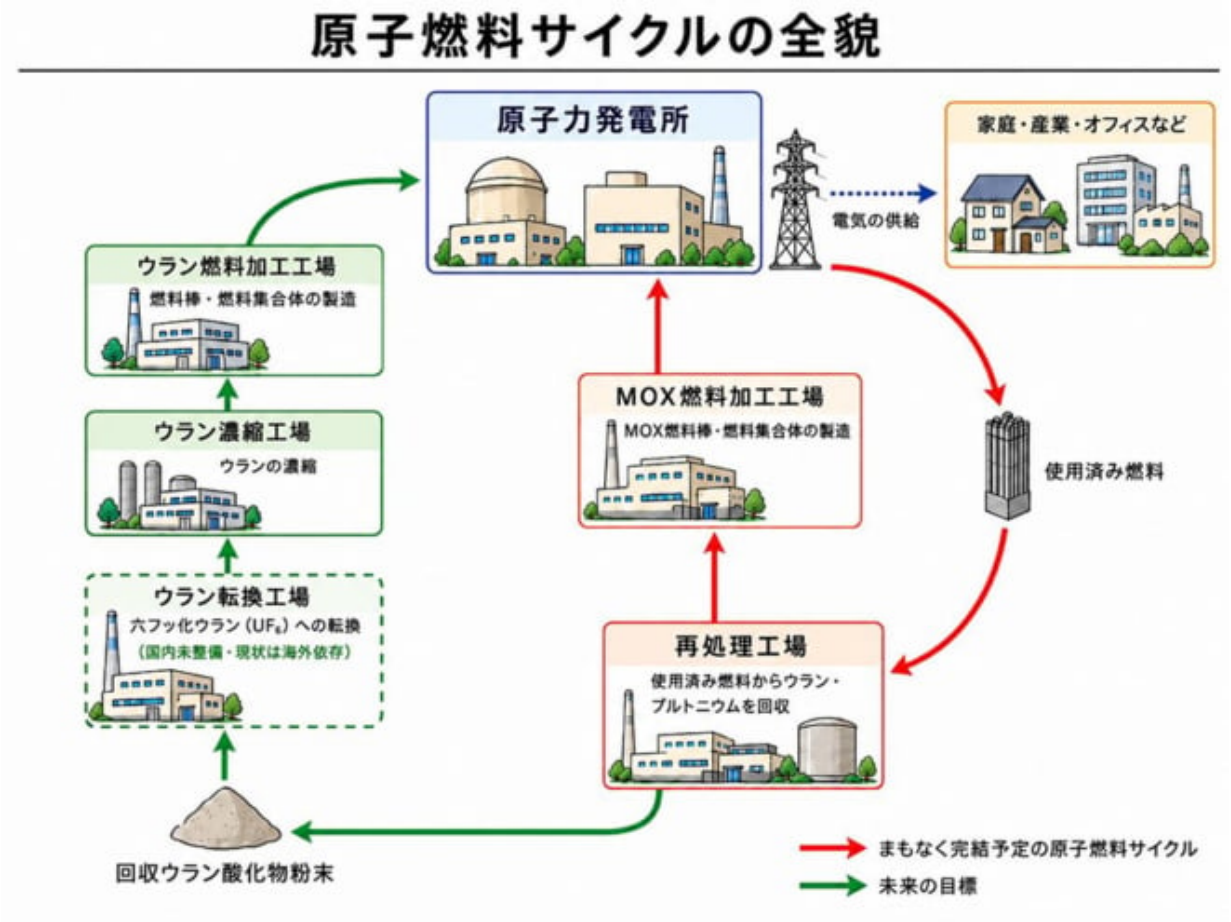
??

??

??“???”????????????????????????????????????
????????????????????????

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

??MOX????????????????
?????????“????”????????????????????????????????



?

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

??????????????????1985??????????????93????????????????????????41????????????????????

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

??
??
????????????????70????????????????????

??

??????????????90??

??1????
??

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

??
??
??

NPT???????????

??????????????????NPT??5?????
??????????NPT??????????????????????????????????

????????????????????????????????????IAEA????????????????????????????24????????
??

???NPT??NPT?????
??

????????5??
????????????????????????????????????NATO??????????????????????NPT????????????????????
??

? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?
60??NPT???????????
??
????????????????????????

????????????????????????????????????1976????????NPT????????????????????????6??????
????????????????????????????????

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

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

??

????????????????????????????1?2000??
???????

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

??EU?CBAM?????CO2???????????

?? ?? · Thursday, August 13th, 2026

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

???????????EU????????????? | ??? ??????????

???????????????????????? | ??? ??????????

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

???????????EU???????CBAM?????????? | ??? ??????????

??????????EU??????????? | ??? ??????????

???2026?1?1???CBAM???????????????????????????????????

??
?

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

CBAM?2026?1?1??????????????????**2023?5?16?**????????????????????????????????CO2?????**??????**

??????????2025?12?16???????????????????????**2025?12?31?**???????

??EU???????????CO2????????????????????????CO2?????EC????????????????????????CO2????????EU-ETS??????????????????CBAM????????????????????????????????????

???2026?7??31??EC?????????????????????????
?EU 2026/1740?????????

Implementing regulation – CFSP – 2026/1740 – EN – EUR-Lex

??????????????EC???**????????????????????????transcription mistakes???????????inadvertently omitted??????**???????????????????

2025?12????????????EU2025/2621??????????EU2026/1740????????????????????????????????????
??

????CN?Combined Nomenclature???????EU??HS?Harmonized System?????EU????

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

???????????CN 7218?7223?
??????8.67?10.0tCO2eq??Other Countries and Territories?????????4.82?5.02 tCO2eq????????????????????CBAM??????????????????????????

?**????????????CN 2804 10 00?**
??17.74??10.82 tCO2eq???????????????

?**????????????????????????????????????CN 7202?**
??

???????????

??????????CN 2601 12 00?
????????????????????????????N/A??
??????????????0.617??0.686 tCO2eq???????????????

??????????7????????????????

????????????????????2026?1?1???
???CN??2023?5???2?????????????
??????????????????????????????

???????????EC????????????????????????7????????????????????????????????????EC????????????
??EC?????????????????????????????????
??????EC??

?????????2026?1?1????????????????????????????????CBAM????????????????????????????????
????????????????????2023???????????????????2026?1??
?????????????????????????EC?????ESG?G?????????????????????

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

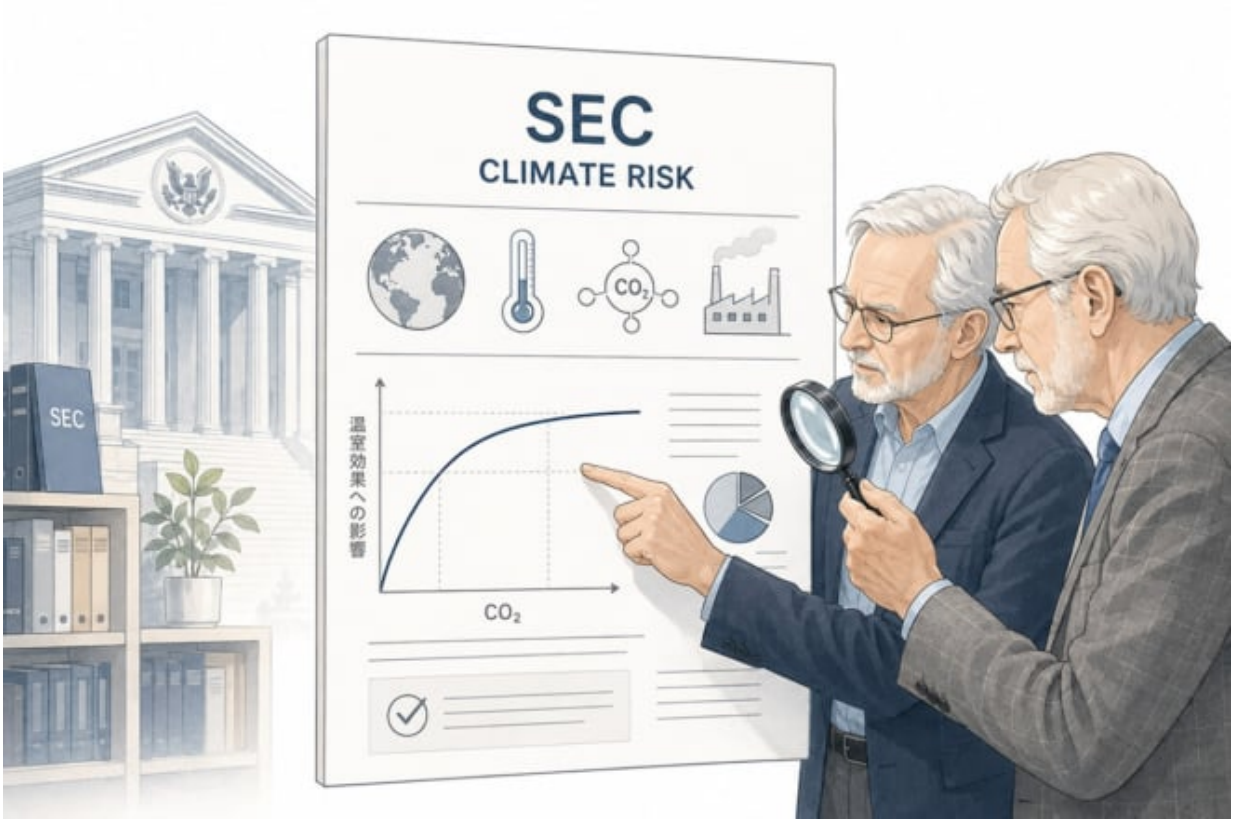
??????????????????????????????????EC??
???????CO2???????????????????EC??????????????????????????????

?

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

??????SEC??????????????????????????????

?? ?? · Tuesday, August 11th, 2026



?????????SEC??2024????????????????????GHG
??????????????????????????????????????

???????File No. S7-2026-19??????????????????????????????????MIT????????????????????2026?8?3??CO2???????CO2 Coalition??????????????

??????——?????????????

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

?????????????——??——????????????????????D

aubert v. Merrell Dow Pharmaceuticals, 1993??

??

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

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

???20ppm?????????????????1750????CO2????280ppm??????CO2????????????????????????????
??????????1750??280ppm??????420ppm??CO2???????????????0.32????????????75?????????
??CO2????600ppm?????????????????????0.28????????????

??

6???????????

?????????6??????CO2??

CO2??CO2????????????7,000ppm????????????????
??????????????????????CO2??

?????????

??

SEC?????????????????????10??????49??
????????????????SEC????????????????????????????????

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

??

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

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

?? ?? · Sunday, August 9th, 2026

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

??? 7???????????“?????????????”

??

【TV】

- NHK | おはよう日本（2026/08/04）

【新聞】

- 毎日新聞「7月中～下旬の西日本、平均気温が過去最高　温暖化も影響」（2026/08/04西部朝刊）
- 朝日新聞「『酷暑』観測地点、すでに昨年超え」（2026/08/04朝刊）
- 山陽新聞「７月記録的暑さ　温暖化が影響　東大研究者ら分析」（2026/08/05朝刊）
- 秋田魁新報「７月高温は温暖化が影響」（2026/08/05朝刊）
- 日本経済新聞 「7月後半の西日本高温、人為的温暖化で発生　東大など分析」（2026/08/05夕刊）

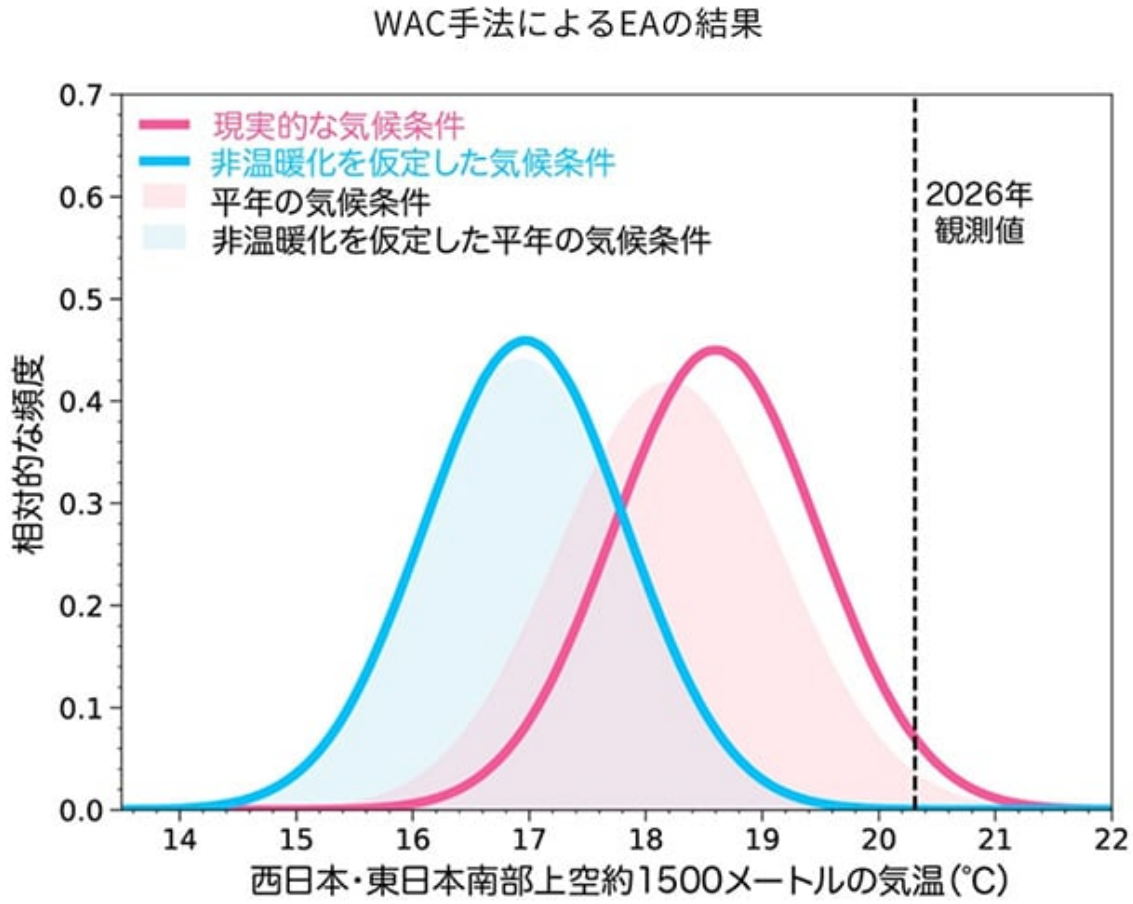
??????????????????

??????????????????????????????
????????????????????????1500?????????????1.6??????????????????????

??

??0.006%?????
???

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



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

??????????????[21]?

?????1.6??

???????????????1cm??

????????????????????????????????????[22]?

??

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

??[?6?]

??[?7?]?????
??????????????????????

??[?8?]?

??0.006????????????????????????????????

?

?1??2023?4?10????????????????????????????????
?????????2025?4?23??
?2????????????30????????????????????????????????????2025?3?6??
?3??????IPCC????????????????????????????????????2021?10?5??
?4??????????????????????????????????2021?5?24??
?5??????IPCC?????59????????????????????????????????????2022?5?20????????????????????????????????????
??????2023?6?29??
?6??2025?6?11??
?7??2020?11?6??
?8??????????????????30????????????????????????2024?9?26??

?

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

Posted in ???, ????? | No Comments »

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

?? ?? · Saturday, August 8th, 2026

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

???2050???????Ver.2??????????????WEEK????????

??????????????????YouTube??

?2050????????????2050???????Ver.2????

??10????????????20??????????????????[21]?

????????100??

??[22]????????????????????????????[23]????????????????[24]????????????????????????????????[25]?

??????????????????????????????????????2050??CO2????????????????0.006????[26]????????????10??150????????????[27]???????CO2????????????????????????????

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

??????2050??CO2???????????2050???????????????

????0.006????????????????????????????

??[?8?]??

??????????????????[?9?]??????????????[?10?]???????????????????

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

?

?1??????????????2020???????????????????2021?1?17??
?2??2025?4?27??
?3??2025?4?2??
?4??????IPCC?????51?????????????????????????????2022?4?19??
?5??????????????????????????????2020?7?18??
?6??????2050?CO2?????0.01???????????1mm?????????2020?10?7??
?7????????GX?????????????????????????????2022?11?3??
?8??2020?12?2??
?9??????????????????????100??7????????????2020?11?11??
?10??????????????????????????2026?6?28??

?

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

Posted in ???, ????? | No Comments »

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

?? ?? · Wednesday, August 5th, 2026

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

??

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

??

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

????????????????????????[21]?

??????????NHK??[22]?

??

???????

??

????????????0.006?

???????????IPCC???????2????CO2?????????????1??????????????????[23]?

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

?????CO2?????????10??????????2050???????????????

??????????????????????2050???????????????120???????????IPCC????????????1????0.5????????
?????

120??? ÷ 1??? × 0.5? ? 0.006?

???2050??CO2?????????????????????????2050?????????????0.006???????????

0.006??????????????????

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

??

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

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

??

??????????????[24]?

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

??????????????????????????——??????????????????

??

??????????????????????1975???????3?????????8???????????2025??????1975???26.4??????

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

??

??

??
?????

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

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

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

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

??

??

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

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

???2050????CO2???????????0.006?????

??

?

?1??

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

?? ?? · Thursday, July 30th, 2026

Ronald Stein, P.E.???????????America Out Loud NEWS?2026?7?21???????????Eurasia Review?The Heartland Institute?News With Views?David Blackmon’s Substack?Energy Security & Freedom Substack???????

Beyond net zero: Toward a carbon symbiosis society – America Out Loud News

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

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

????????????????????????????????????CO_2??

??

??

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

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

??

?

??

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

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

??

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

??

??

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

??

??

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

?????Carbon Symbiosis??

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

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

??

??

??

??

Posted in ???, ????? | No Comments »

??????????????????EU-ETS

?? ? · Wednesday, July 29th, 2026

7?17?????????????????????EU????????EU-ETS???

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

??

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

- ????????????????????????????????CCS??????????????????????????????????????
- ??
- ???????????ETS?CBAM???
- ??
- ????????????????????????????????????CO2????????????????????????
- ??

> ?????

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

7?????????????EU????????EU-ETS??????????????????????CBAM??????????????????????

> - EU-ETS??ETS??????????????????????
> - CBAM??
> ?CBAM?EU-ETS??????????????????????
> - ?????CBAM????????2034??
> - ETS??
> - ??????????EU-ETS??????????????????
> - ??
> ???????????

??????????????????????????????????????2025????????????????????????????CO2????????????????????
??????????????????????3??1?34%???????40%????????????????????????2023????????????????????????????
??????????????45%??

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

? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? E U -
ETS??4.3%??2031?35???3.7
%?2036?40???1.7%???????

??2038?????????????

???ETS??

????????????????????????7?23?24?????????????????????????9????????EU??????????????????????2026???20
27?????????????????????????EU????????????????????????????

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

??
??2050??3
??????????????????

??

> ? ? ? ? ? ? ? E U
> ETS??
> ??????
>
> ??
> ??
> ?????????????????????????

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

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

???????????ETS??????????????????????

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

> ??
> ??

> ??????????????????????????15??20??
> ??????????????????????????????

?????3?CO2?????? | ??? ??????????

> ???????????3??3????????
> ??CO2?????????????
> ???????????????????

> ??????????????3?????????????????????????2030???????2050????????????????????
> ????????????????????CO2??????????????????CO2????????????????????????????????
> ??????????????????

????3?????????????????????????????????????Microsoft?????????????????

AI?????????????????????????CO2???????

Google?Amazon?Microsoft?????????CO2?????????????Google?1,880????Amazon?8,085???????
Microsoft??????3??

Microsoft?CO2????25????AI??????????????????

> Microsoft??2026??25????????????????????
> ?????AI??
> ????????????????????????

> ????

> **????3?????????????????????????85.8???????????1????12???**????????????????????
> ??????????**?????????????**????????

> ????

> ????????3??**Microsoft????**
> **?????????????????????SAF?????**????????**??????????????????????????**????????????
> ??**??????????????????????**??????????

SAF????????Microsoft?????????????Microsoft Supplier Code of Conduct??????????

> 2030 ??SAF???????????????

???????????????54???????????????

> ??????????????Chooose????????????????????????????????????SAF?????????????
> ????

Chooose??Microsoft??????????????????

Enabling Microsoft suppliers to take climate action with sustainable aviation fuel | Chooose

> **????????????????????????????????????**
>
> 2025?9?10?
>
> ????
>
> Microsoft?????????Chooose????????????????????????????????SAF?????????????
> ?????????????SAF???????????????

???????????Microsoft?????????????????SAF????????????????????????????????Microsoft?????
???

??????????????????SAF?????????????????CO2?????????CO2???????????????3?????????????
????????????????????????????????

Microsoft?????3???????????

????Microsoft?????????????????????

Microsoft 2026 Environmental Sustainability Report — Data Fact Sheet Reporting on our 2025 fiscal year

1.1 Greenhouse gas (GHG) emissions

Table 1A – GHG emissions by scope ($mtCO_2e$)

	FY20	FY21	FY22	FY23	FY24	FY25
Scope 1	118,100	123,704	139,413	144,960	143,510	**170,887**
Scope 2						
Location-based	4,328,916	5,010,667	6,381,250	8,077,403	9,955,368	**12,030,556**
Market-based	456,119	429,405	288,029	393,134	259,090	**2,707,428**
Subtotal emissions (Scope 1 + 2 market-based)	574,219	553,109	427,442	538,094	402,600	**2,878,315**
Scope 3[1]						
Category 1 – Purchased Goods and Services[2,3,4]	4,587,000	5,265,000	5,417,000	5,648,000	5,606,000	**5,129,000**
Category 2 – Capital Goods[4]	3,434,000	4,085,000	4,785,000	5,990,000	6,291,000	**9,044,000**
Category 3 – Fuel- and Energy-Related Activities[5]	323,000	369,000	469,000	590,000	708,000	**1,075,000**
Category 4 – Upstream Transportation and Distribution[4,6]	293,000	358,000	464,000	421,000	665,000	**823,000**
Category 5 – Waste Generated in Operations	9,500	5,700	8,000	8,000	8,000	**14,000**
Category 6 – Business Travel	329,356	21,901	139,000	133,000	260,000	**239,000**
Category 7 – Employee Commuting	317,000	80,000	141,000	187,000	208,000	**284,000**
Category 9 – Downstream Transportation and Distribution[7]	182,000	195,000	193,000	194,000	118,000	**86,000**
Category 11 – Use of Sold Products	2,983,000	3,950,000	5,101,000	3,941,000	2,417,000	**1,540,000**
Category 12 – End-of-Life Treatment of Sold Products	17,000	19,000	18,000	4,000	3,000	**3,000**
Category 13 – Downstream Leased Assets	11,800	9,600	8,000	7,000	6,000	**6,000**
Subtotal emissions (Scope 3)[8]	12,487,000	14,358,000	16,743,000	17,123,000	16,290,000	**18,243,000**
Total emissions (Scope 1 + 2 + 3)[8]	13,061,000	14,911,000	17,170,000	17,661,000	16,693,000	**21,121,000**

Microsoft?????1?2?3????2020???2025???

FY20?FY25???????????

- ????1?45%??11.8????17.1????
- ?????2?????????????178%??432.9????1,203????
- ?????2????????????494%??45.6????270.7?????
- ????3?46%??1,249????1,824????

????????

??2??????????????????Microsoft??2025????????????10?????????????????????????????????

????3?FY20?FY25?576??????????????????????????2??????561?????163%??????????????????????????3??????????????????????????

?????????3?????2??????????????????

2025 Environmental Sustainability Report Accelerating progress to 2030

??????

> ?
> AI?????LCA????Makersite?????AI??????????????????LCA???????????????LCA??????????????????????????????????????
>
> ?
> ????????CO2??DEFRA??2014?3????????????????????????????????DEFRA????????????????????CO2??????
> ?

??????

?????LCA?????AI????????????????????????????DEFRA?2014??2020??2023?????????5?????10??????????????

AI????????????????????????????2??CO2????????????????????????

??CO2??GPU?????????????????????CO2????????????????????

????????????????CO2??????????????Microsoft??????2??????904??DEFRA??????????????

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

?????2??????CO2????????????????????SAF??

????Microsoft??????????????????????????????????????2?904??????????????1?513??1?CO2????????????????????????????????????CO2????????????????????

????????????????3??CO2??

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

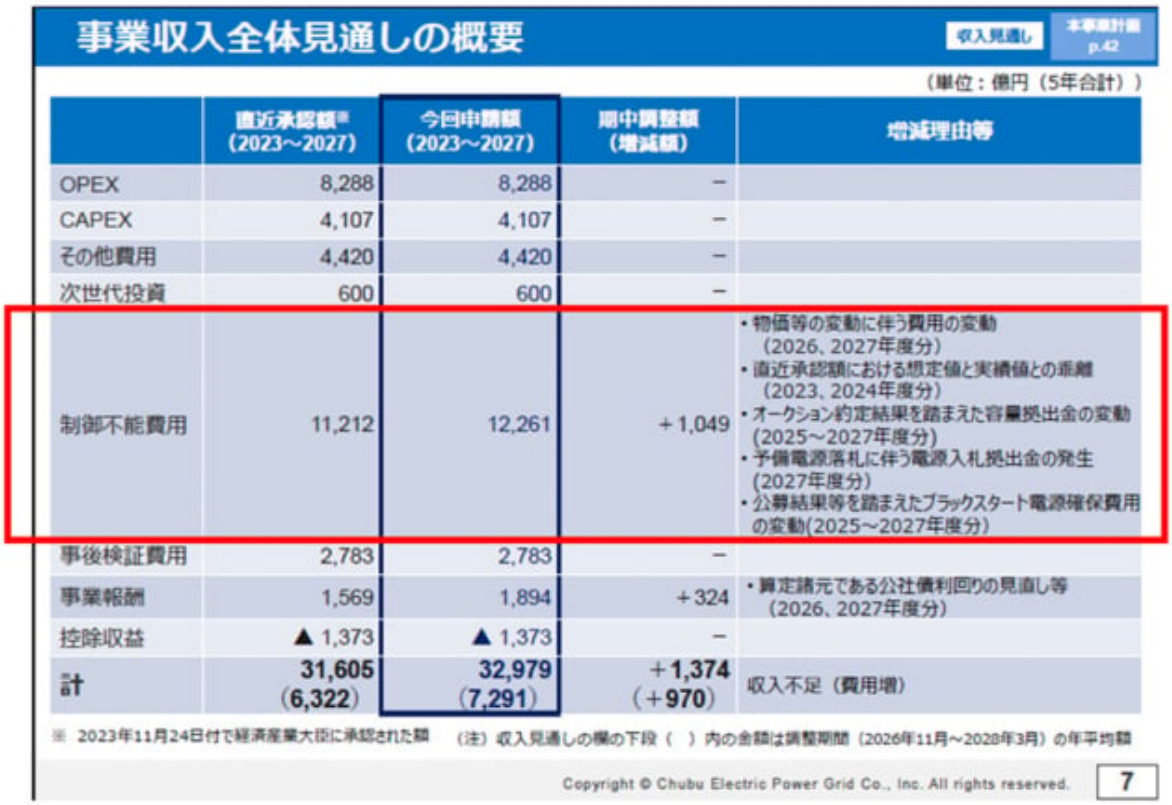
??? ?? · Sunday, July 26th, 2026

2026?7?????????????????????????????8??

??11?????????????????????

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

?1?????PG??



事業収入全体見通しの概要

収入見通し　本事業計画 p.42

（単位：億円（5年合計））

	直近承認額※（2023～2027）	今回申請額（2023～2027）	期中調整額（増減額）	増減理由等
OPEX	8,288	8,288	－	
CAPEX	4,107	4,107	－	
その他費用	4,420	4,420	－	
次世代投資	600	600	－	
制御不能費用	11,212	12,261	＋1,049	・物価等の変動に伴う費用の変動（2026、2027年度分） ・直近承認額における想定値と実績値との乖離（2023、2024年度分） ・オークション約定結果を踏まえた容量拠出金の変動（2025～2027年度分） ・予備電源落札に伴う電源入札拠出金の発生（2027年度分） ・公募結果等を踏まえたブラックスタート電源確保費用の変動(2025～2027年度分)
事後検証費用	2,783	2,783	－	
事業報酬	1,569	1,894	＋324	・算定請元である公社債利回りの見直し等（2026、2027年度分）
控除収益	▲ 1,373	▲ 1,373	－	
計	31,605（6,322）	32,979（7,291）	＋1,374（＋970）	収入不足（費用増）

※ 2023年11月24日付で経済産業大臣に承認された額　（注）収入見通しの欄の下段（ ）内の金額は調整期間（2026年11月～2028年3月）の年平均額

Copyright © Chubu Electric Power Grid Co., Inc. All rights reserved. 7

?1??????????????2023-2027?P.7?????????

??

??

??

??

??

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

??????????????????????????????NW??????779????????????????????????????????

??

??

??

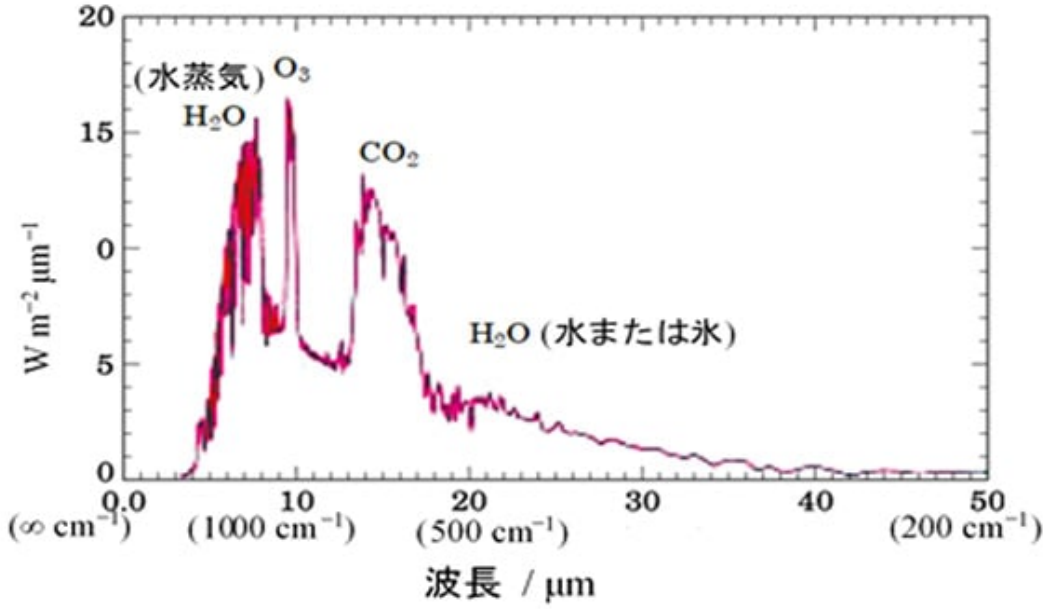
??

区分	項目	概要	織込額（億円/年）
制御不能費用	容量拠出金（2024年度～）	容量市場にて国全体で確保した必要な供給力（kW価値）にかかる費用	122
	ブラックスタート電源確保費用	広範囲の停電が起こった際に、外部から電源供給なしに発電を開始出来る機能を有する電源を公募により確保するために必要となる費用	28
	振替損失調整額	自社供給区域外からの振替供給に係る受電時に損失する電力分の調整に係る費用	58
	インバランス収支過不足額	電気事業託送供給等収支計算規則に基づき作成されたインバランス等取引損益	102
	最終保障供給に係る損益	電気事業託送供給等収支計算規則に基づき作成された最終保障供給取引損益	9

?1??????????????????2023-2027??????????

?1??

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



?1???

????????????CO_2???3????????????

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

?1??1?m???14?m?15?m??
????????????4?m?5?m?????????????????????

??
??

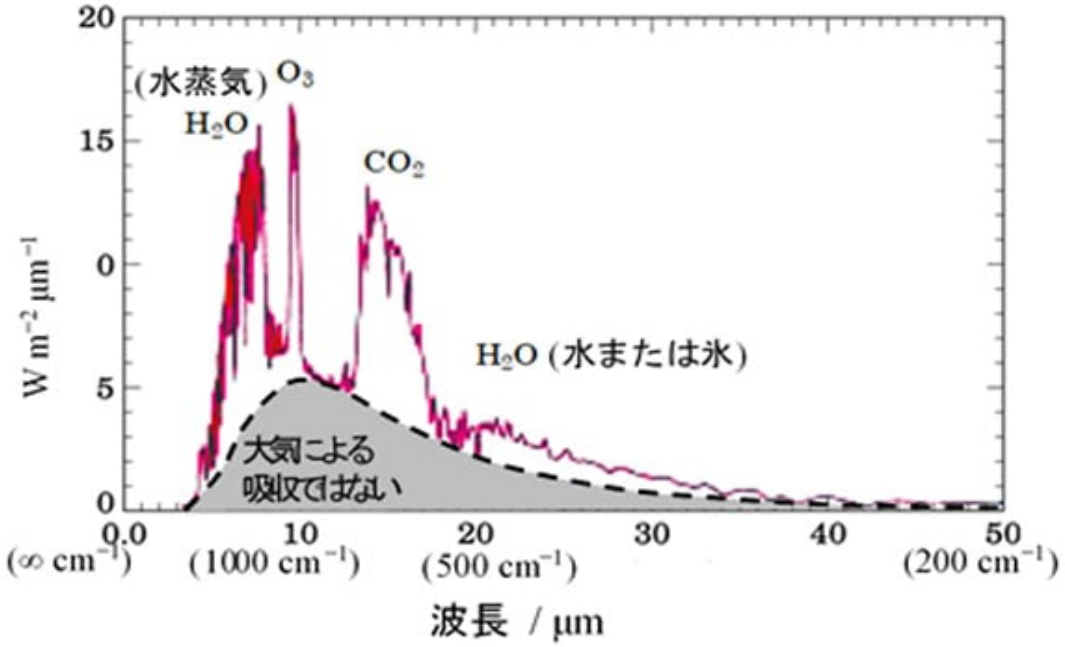
?1???CO_2?????13?m?17?m?????H_2O?????5?m?8?m???????????????CO_2?????????????180cm^{-1}?
=770cm^{-1}?590cm^{-1}?????H_2O???????????????750cm^{-1}?=2000cm^{-1}?1250cm^{-1}?????????1/4??????

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

?1??
??

??????6370km????????????????4?×?4.06×10^7
km^2?????????600km???6.97×10^3km?=
600km?6370km???????????????????4?×?4.86×10^7 km^2?????

?????????1.2??20%??????2????????????????????????????????
????????????????????



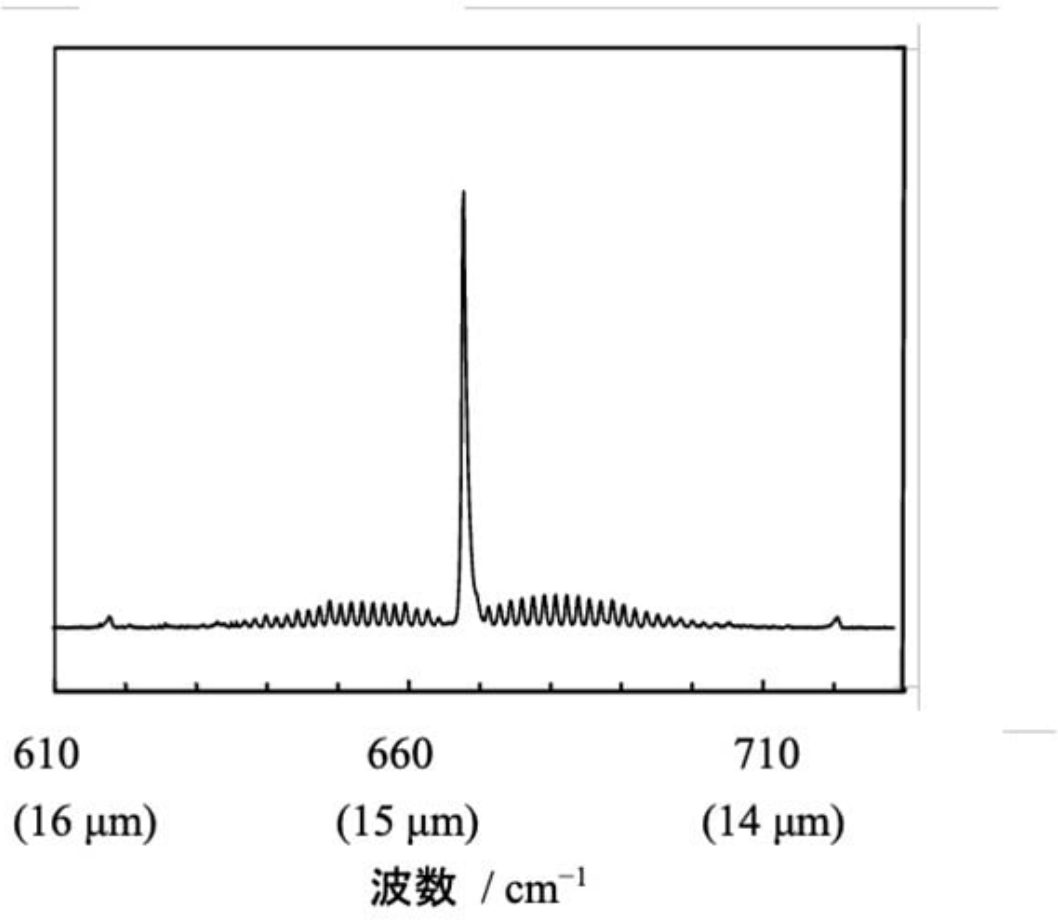
?2??

3. ?????????

? 0 ? 2 5 0 0

cm^{-1}??1????????

??????????????????3?[?1?]?



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

??????????????????0.1 cm^{-1}??1.5 cm^{-1}??????????

???????1?????????????????????????180 cm^{-1}?=770 cm^{-1}?590 cm^{-1}???????????12cm^{-1}??180 cm^{-1}×0.1÷1.5?????

??0.48%??100 %×12 cm^{-1}/2500 cm^{-1}????????[22]?

?1????????????????????????Q&A 181????????????????????????2024??
?2??2026??

Posted in ???, ????? | No Comments »

??????????????????????????200???????

?? ?? · Thursday, July 23rd, 2026

1861??

> ????????????????????????????????94???34.4?????????????

???34.4?——??CO2????????280?300ppm????427?430ppm?????????

??

??——??

???????????100??——??

??1853??????7???????29???????????1876????????????????????????28.5??

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

??

??

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

??

??200????????????????????????????????????

Posted in ???, ????? | No Comments »

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

?? ?? · Wednesday, July 22nd, 2026

??Pu??

????????????Pu??????Pu??

??

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

??

?????????????16%?2024????????????????????38%?2023??

??????????????OECD???38??????????????????2???????????

??

???????ABCD????????????America???????Britain???????China???????Dutch????????????????????
??

2???????????100?????????

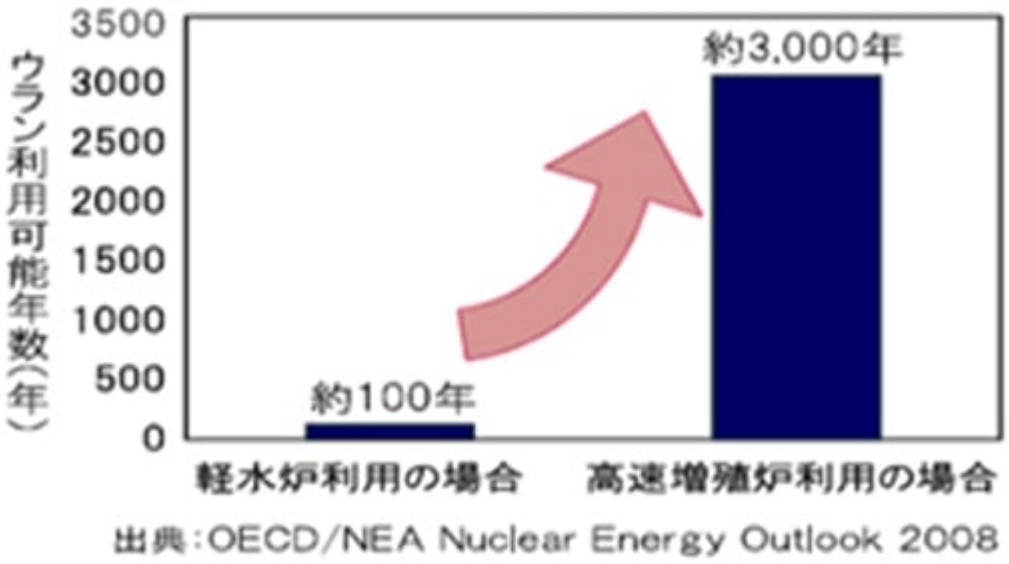
???????????100??

????????????50??100??
????????????????????????????????????

??????????4?6??????????????PFBR?50?kWe??

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

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



?1???????????
????????? ??????????0.5%? ???????0.75%? ????60%??

??

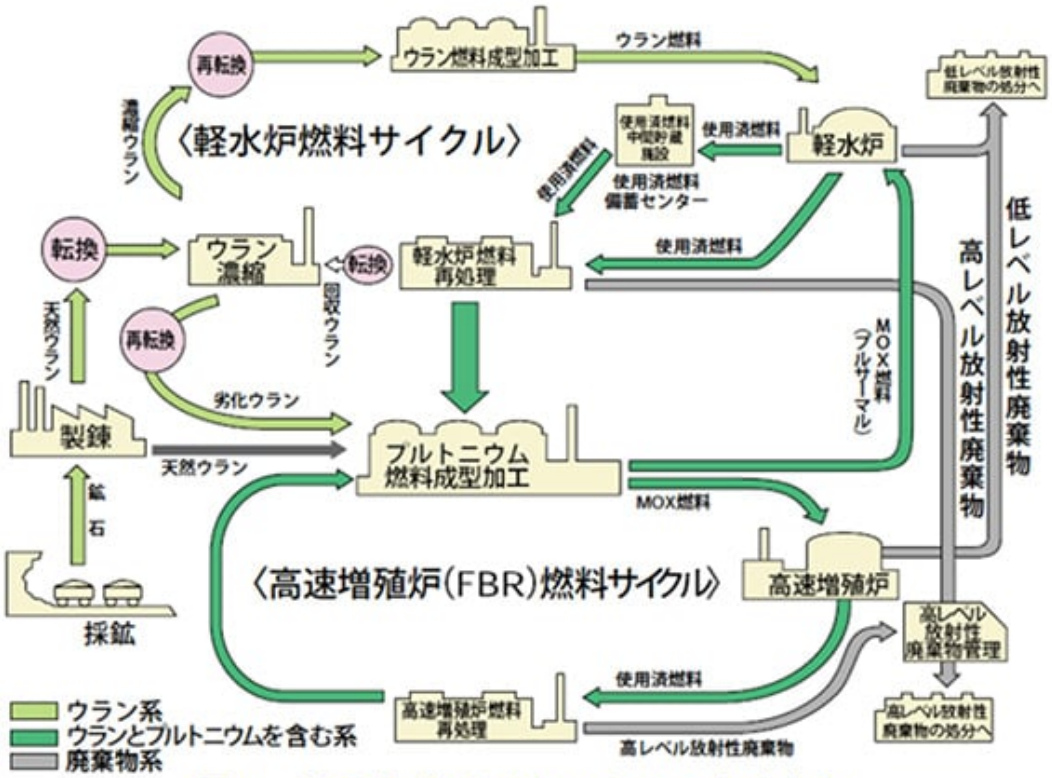


図１　原子燃料サイクル（ＦＢＲを含む）

[出典]（財）日本原子力文化振興財団：「原子力・エネルギー」図面集 2007、7-5（2007年2月）、p.149、電気事業連合会HP：http://www.fepc-atomic.jp/library/zumen/pdf-data/all07.pdf、5/29

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

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

??????????????????????45??????????????

??????????????????????????????????1,000?200,000 ppm?0.1?20%??0.003 ppm??6????????

主な岩石などのウラン濃度

高品位ウラン鉱床(20%)	200000	ppm
一般的ウラン鉱床(0.1%)	1000	ppm
リン鉱石(0.01%)	100	ppm
花崗岩	4	ppm
地殻中の平均濃度	2.8	ppm
海水中の濃度	0.003	ppm

出典：小野章昌、「ウランは十分あるか？」、Global Energy Policy Research (2016年10月25日)

??

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

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

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

?????4????????

??4????????????????????SFR????????????????????????????????????6??????????????????????????????????????

????SFR??????????????????????????????????3????SFR?????????

??——????????????

1951?12?20??????????????????????????????????????EBR-1????1,000 kWt?????200 kWe?????

??????????????????????CRBR??????????1977????????????????????????

21????????????????????????????4??????Gen-IV??????????????4????????????????????GIF??????SFR????????????????????????

??????????????????????????Natrium??34.5?kWe????4??SFR??

????——???????????

??

????????????Rapsodie????Phenix????Super Phenix???????MOX?????????????????????????

? ? ? S u p e r Phenix?120?kWe???????????SFR??1998??????????

???????ASTRID?60?kWe??

???——?????????????

????1959????SFR???????BR-5/10?BOR-60??????BN-350?BN-600??????2016??????BN-800?????????2035??????BN-1200????????????????????????????

??????????UO2?????????????UO2????MOX???????????????MOX???

BN-600???????????21????????????12??????????????????76%??

??——?????????????

???21?????????????????????2010?????CEFR?2.5?kWe??????????2017??2020?????????????????CFR?60?kWe×2???????????2030????????CFR?100??120?kWe?2??????????????

?????????UO2????????MOX?????????????????????????????????

??????????????Pu???

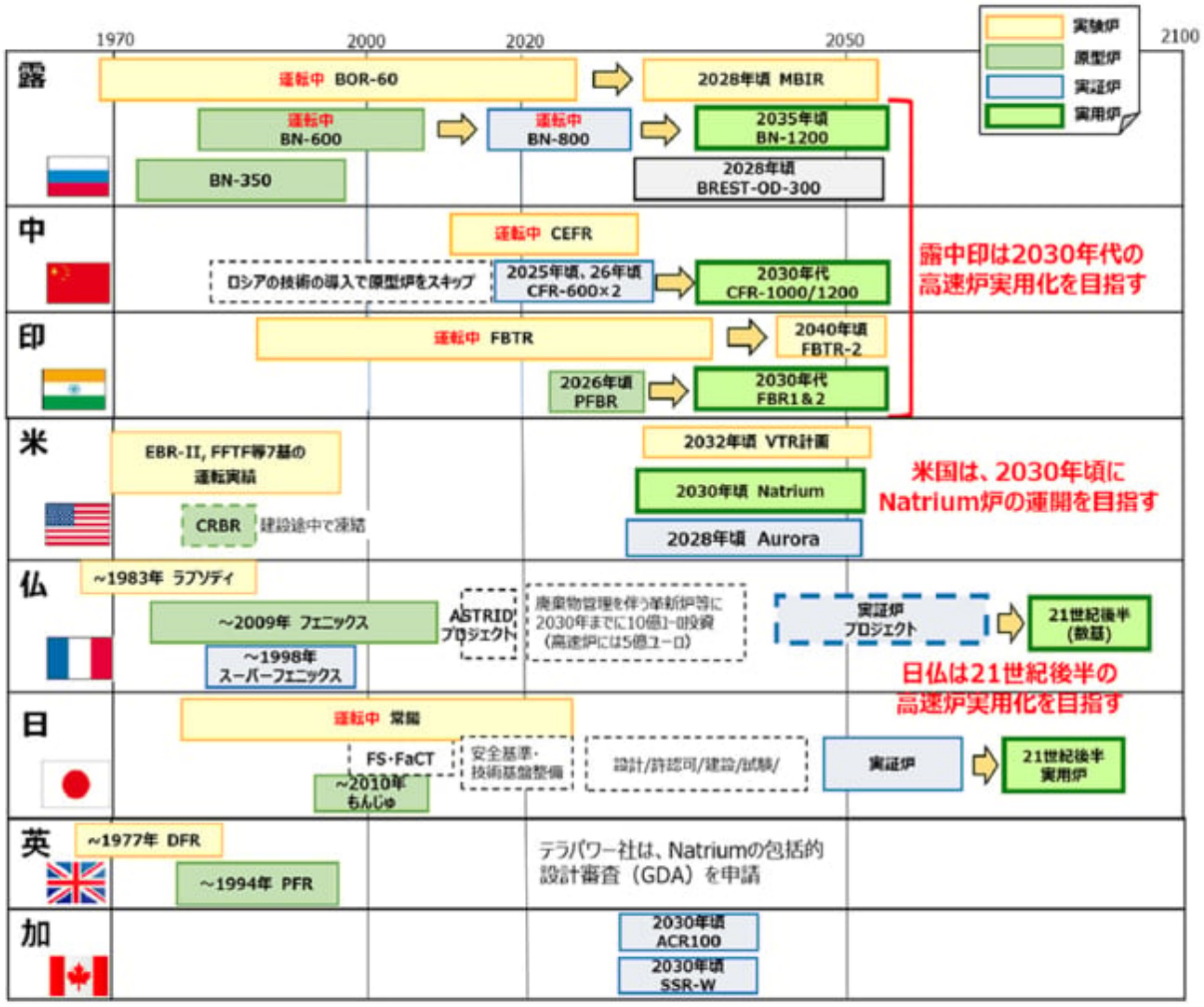
???——?????????????

????????????????????????Rapsodie????????1985???????FBTR?1.36?kWe??????????????????????????4???????PFBR?50?kWe???????????

??????????????????????????????2??3?????????????????

P F B R ? ? ? ? ? ? ? ? ? ? ? F B R 1&2?50?kWe????2???Pu??????????????MOX????????????????????Pu????????????????????????3?????????????????????????????

? 1974??Pu???????????????



?3????SFR?????
??????????????????????????????
?????? ????????????????????ERC???2025?11?27??

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

??200????????????????????

??

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

??

??PWR??????????????????

????????????????????????????????Pu??

????????????????MOX????????????????MOX??
??????????

??

4???????????????

Pu?????????????????????Pu??

??

??

??

??

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

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

??

???GHQ??

??

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

??250????????????????????

?? ?? · Tuesday, July 21st, 2026

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

2026?7?4??????????????????????250??3?????????????
??????????2025???5?????????

??
??

?????????????4?????????????Aalo Atomics???????7?4????????????????????????????Valar Atomics?????????????2??????????????????????NVIDIA??????????????????????

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

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

??????????????????????3???????4??
??????????????????????????

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

??2026?2????????????????????????????????
??

??Valar Atomics??

??——????????????????????
???AI??

4. ?????????????

??250??

??

5. ??????????????????????????

??1970??

????2025?5??

?Whole Earth Catalog??

6. ????????????3???

??10????????????????????????????

????????????????????????????????1977????????????50??

7. ????——????????

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

??

????????2026?7?14??

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

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

?? ?? · Monday, July 20th, 2026

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

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

??

??

??

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

??1?2???

??

N_auto?????????????????
DoD?????????????????????50?80??
?_inv?????????????????????

??

??2??????????????????????2?????7???7???????????
??????????????????

??

? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?
N_auto?1?2????????????????????????5?7??

????????N_auto?5?7??

???????????kWh????????????kW??
??

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

??

$$E_area = G_avg \times ?_module \times ?_sys$$

E_area?????????????????????kWh/m²/day?
G_avg?????????????????????3.8 kWh/m²/day?
?_module?????????????????????20??
?_sys???????????????????????????????????80??

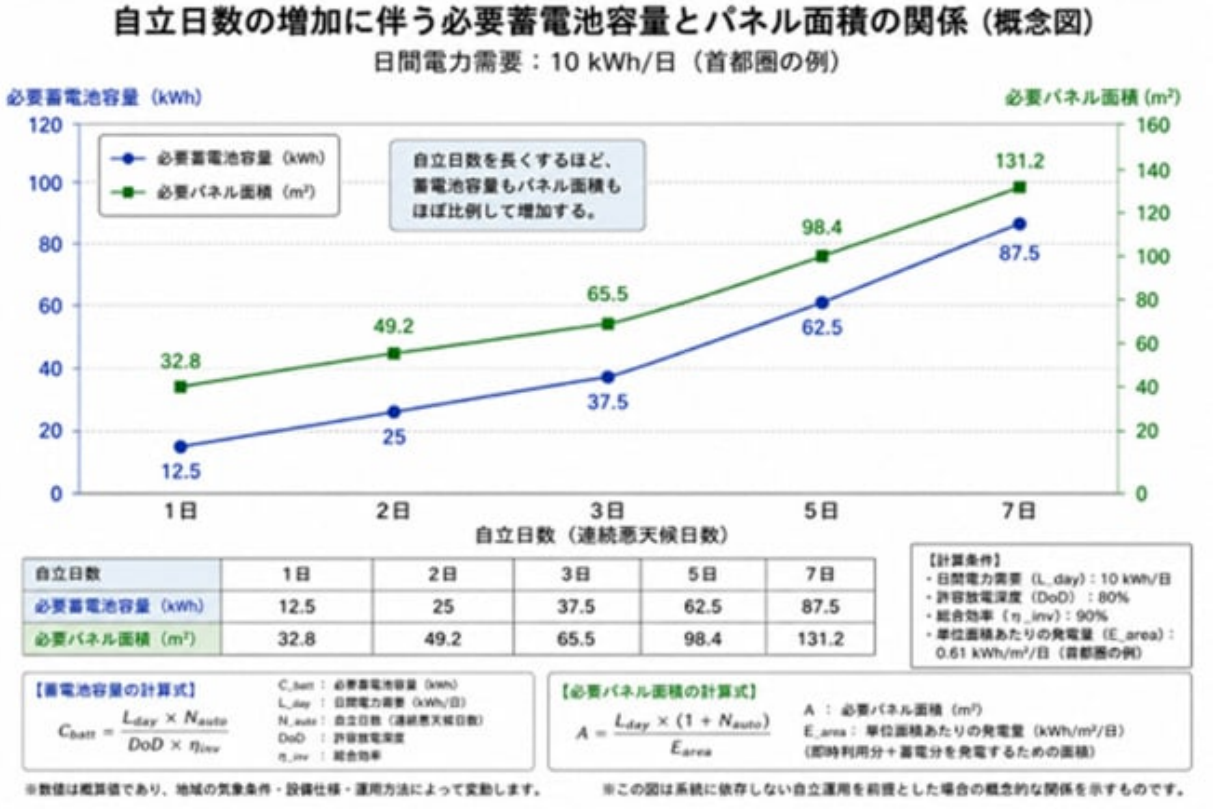
? ? ? ? ? ? ? ? ? ? ? E _ a r e a ? 0 . 6 1
kWh/m²/day????????10kWh?????????????????????????16.4m²????????????????????????????2???????????
?????49m²????????7???????????131m²??

????????????????????????????????40?60m²??

??

??
??

???2?3??



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

??

????????????????????????????????573kW/km²????????????????????????1.7????????23??????????
??????????34??13?km²??

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

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

????????????????????????????????LNG??
??????????????????

??

??
?????????

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

??E_area????????????????????????
??

?????????573kW/km²????????????????????????FIT??
??

??

??

????

??

??

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

RE100?????????????

??? ?? · Sunday, July 19th, 2026

??
????????

??????????????????????100??RE100?Renewable Energy 100?????

RE100??????????????????????100??2018???????????
??????????????????RE100??

RE100??

RE100??

????????RE100????????????????????????????ESG??100??????
????????????????????????????????????

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

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

??????????RE100???????2025??????????443?????95????????????????????RE100????????????????
??RE100?????????????44TWh???????????????36???????????RE100????????????????????????????
15.8TWh??????

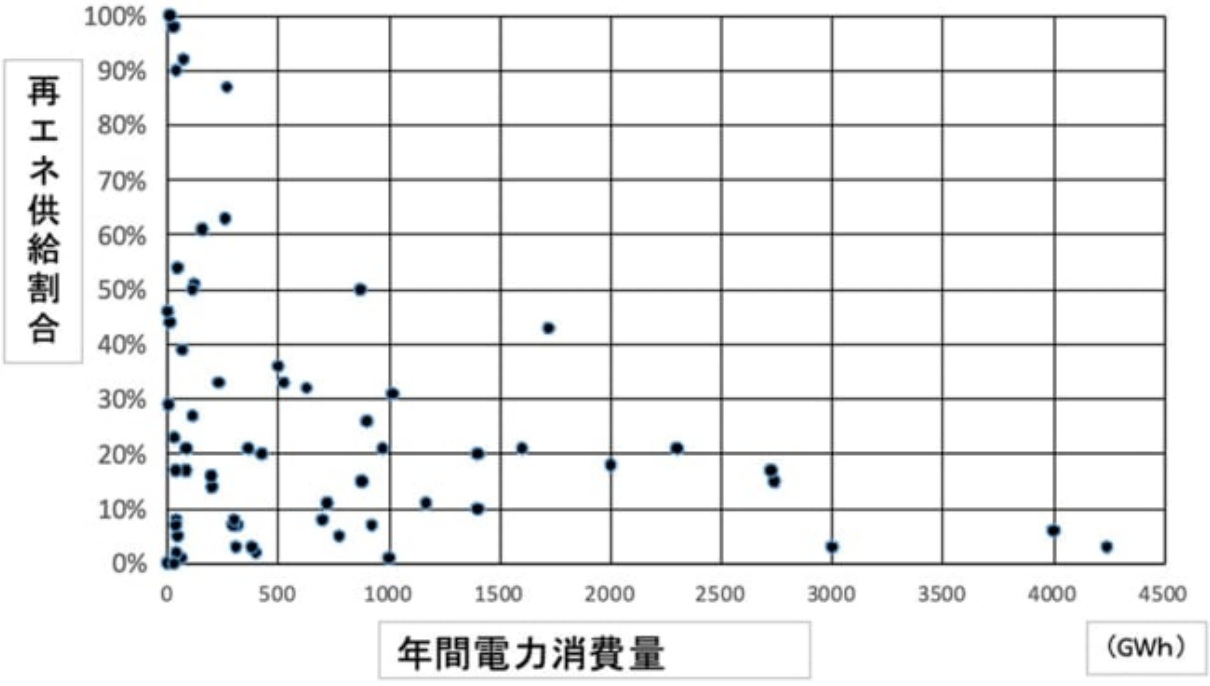
????????????????????????2024???????????????8,609.9?kWh??????861TWh????

????????????RE100????????????44TWh????????5.1????????????????????????15.8TWh??????????
???1.8????????????????????????????????

????RE100????????????????????????RE100??18?????12?????
??11?????8??
??????

???????1???????????1??????RE100????????????????????GWh????????????????????????????????
?????????AI??
????????

図. 1　RE100参加各社の年間電力消費量と再エネ供給割合（%）



?1?RE100????????????????????????

??????????????????1,000GWh?????????????????????????50???????????300GWh??????

????????????????????????????????????PPA??

????24??

???????????RE100??

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

??

RE100????????100??RE100??????????J-??

??

??100??

??

??ESG???

????????????100??PPA??100????????????????????????????????????

?????????

RE100????????????????????????????????RE100??RE100??RE100????????????????

??????????????????????ZEB??RE100?SBT????100??

????????????????????????????????????SBT??????????????????????RE100????????????????????????

??????????????????????RE100?SBT??kWh?????????????????CO2??

CO2??CO2??CO2??

????????????????????????????????????RE100??

??RE100????????????????????????????????????
??

?1??????????????????RE100??RE100????????????????
??????????????????????????

環境省	
事業名	RE100との関連性
地域脱炭素推進交付金	地域の再エネ設備導入・PPA・蓄電池等を支援。RE100企業の再エネ調達環境の整備に寄与。（補助金ポータル）
建築物等のZEB化・省CO?化普及加速事業	RE100企業のオフィス・工場・商業施設の省エネ・再エネ導入を支援。（環境省）
脱炭素技術等による工場・事業場の省CO?化加速事業（SHIFT）	製造業の省エネ設備更新・CO?削減投資を支援。RE100参加製造業との親和性が高い。（環境省）
Scope3排出量削減のための企業間連携による省CO?設備投資促進事業	サプライチェーン全体での脱炭素化を支援。RE100企業のScope3対策を後押し。（環境省）
中小企業を含むバリューチェーン全体の脱炭素経営高度化事業	サプライヤーの脱炭素経営・情報開示を支援。RE100企業の調達先対応に関連。（環境省）
グリーンファイナンス普及・拡大促進事業	RE100企業のGX投資・再エネ投資を金融面から支援。（環境省）
ESGリース促進事業	省エネ設備・再エネ設備の導入をリースで支援。（環境省）

経済産業省	
事業名	RE100との関連
省エネルギー投資促進・需要構造転換支援事業費補助金	工場・事業場の大規模省エネ、電化・脱炭素燃料転換、EMS導入を支援。RE100参加企業の設備更新を直接支援。（エネルギー庁）
省エネルギー投資促進支援事業費補助金	高効率設備、空調、ボイラー、コンプレッサー、EMS等への更新支援。（省エネ・非化石転換補助金）
再生可能エネルギー導入拡大に向けた分散型エネルギーリソース導入支援事業	蓄電池・エネルギーマネジメントシステム（EMS）等の導入支援により、再エネの有効活用を促進。（エネルギー庁）
FIT・FIP制度の運用	RE100企業による再エネ調達市場の形成を支える制度。2025年度の買取価格等が設定。（経済産業省）
※chatGPTで検索	

?1?????????RE100?????????

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

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

????100??RE100????????????????????????
??????????????????

?????RE100??
??

RE100??ESG????????????????????????ES
G??

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

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

?? ?? · Saturday, July 18th, 2026

??????????????????????????HP???????????592,000???????11?7,268????????????????????????

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

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

2015?5???????????1?????????????????????2018?10???21????????????????????????????

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

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

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

???????

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

- ??
  ?3???

????????

- ??4???

??????

- ??3??1????????

?????????

- ??6???
- ??7???

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

???1?kW?????????????????????1,200?????????

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

- ??2???
- ??3???
- ??4???6???
- ??
  16???
- ??17???

?????????

- ??
  ????????????????????????????16???
- ??17???

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

- ??18???

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

????

- ?6?????????????????????????1??????????100????????????????????????????24???

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

??2011?9????????????????????2014?8??

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

??

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

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

??

?????

??????????????????????????????????????1???????1,200????????????????????????????????

?????

??
??

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

??
???????

4. ????????????????????????????????

??

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

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

???????

1,200??
??

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

??
????

?????

??

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

??
??

5. ??

??3???????2???????2024?10?18?????????????????????

??	????	METI???
??????	8.0??	2.7??
??????	7.9??	7.4??

??	????	METI???
?????????	5.6??	3.3??
???	2.3??	2.24??
??	**23.8??**	**15.7??**

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

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

?? ?? · Friday, July 17th, 2026

?HYBARI????????????JR???????????????
Wikipedia??

JR????2027??????????????????????????HYBARI????????????????????????????????

JR??????????????HYBARI??27????????30?????? – ??????

1??????70km?????????CO2??

???????????

HYBARI??CO2????????????????????????????

??????????????????????????JR??

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

?????????????9???????????????SMR?????????????????????????CH?+2H?O?CO?+4H?????????
??1kg??????CO2????????5.5kg??????

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

? ??????????????
? ????800?900?????????????????????
? ???????????
? CO??????
? PSA?????????

????????????????????????????????????CO2?????1kg???9?12kg?????????

??

?????HYBARI?????????????????????????????1???????20kg??224Nm³??????????????180?240kg?CO
2???????????????

???????????

???????????224Nm³???????????????56Nm³??40kg??
???????????????1.5?2??????90?120Nm³????????????

1?????????70km?????????????????????????????????????

Well-to-Wheel???????????

??Well-to-
Wheel???????????????????????????????

IEA?JH2A??
??

JR??HYBARI?????????????
??????????????????????

??????CO2??

????

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

?????????CO2??——??????????????????

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

???????????JBS???????????

?? ?? · Thursday, July 16th, 2026

inga/iStock

??????????????????????????????????JBS?????2040?????????????????????????????CO2??????????
????

???????????JBS?2030??????1?????2?CO2??????30%????????????????????????2050????????CO2??
????70%?????????????2030????2050????????2019????????3???????????????

ESG Today?????JBS??????????????????????????3????????????????????????

> ??
> ??

??JBS??
??????????????????????3??

????3??????????????????????? – NPO?? ?????????

> ????3???????????????????????

??????JBS??
?????Edie2021?3?24??

> JBS??**2040?????????????????????**????????????????????????JBS?2019?????**2030?**
> **???????1???2?????????????30%??**??
> ??????????????????????????????????????
>
> ????
>
> ????????????????????????JBS??**1.5°C?????????????????????SBTi??????????????**
> ?????????**????????????????????????????????1.5°C???????????**????????????????
> ??????????????????????
>
> ????
>
> ???????????????2040????????**100%??????????????RE100**????????????????????
> ???TCFD??

??

2030?????????1?2???????30%?????????10???2040????????????????????3????????CO2??????????
????100%?????????????????

????????????????????????CO2???????????????????30%?????????????CO2???????????????2030??????
??????????

??????????????????JBS?SBTi?????????????RE100??
????????????????????????

??????JBS??????????1?2???????2030??30%???2050??70%????????????????????????????????????
????????????????????????????????JBS??

??????????????SBTi????? | ??? ??????????

> ????????????????????CO2??
> ??

> ??
> ??
> ??
> ??????????????????

?

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

????AfD??????????????????????????????

?? ??? ?? · Tuesday, July 14th, 2026

Konoplytska/iStock

1?????????????? AfD????????????????????????????????????

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

??

??
??

??????????????7?4??5??????????????????AfD??
???????1??????????AfD????

??AfD??????????????????????????
??600??????????????????????????????1000??????????????????

??????????????????NGO??

??????????????????AfD??????????????????????????????????AfD??????????????????????????AfD??????????????????????????????

?????7?4???100???1926??SNS???
??????????????????????????AfD???????7?????????????????????4??5????????????????????????
????????????????????

??
??????

????????3??????????????????????????2500??
??????????

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

??????4?????????????10????????????AfD??????????????????????

???AfD??????????????????????????????4??
?????????????????????

??10??????????
????????????????????????????????

??
???????

??
????????

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

??
????13??????????????????????????????????AfD????????????????????????????????

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

Yuliya Taba/iStock

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

??

????????????????????????1995??????????????????????????????????587???????????1?????1???????????
??????????????????[21?]?

?????????????221?????

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

分野・対策の種類	件数	寿命 1 年延長当たり費用の中央値	医療を 1 とした倍率
医療	310	1 万 9,000 ドル	1
事故・傷害防止	133	4 万 8,000 ドル	2.5 倍
有害物質管理全般	144	280 万ドル	**147 倍**
環境部門の有害物質管理	124	420 万ドル	**221 倍**

?A???????1????????
??144?????????????????1993????????????

???Tengs et al.?1995?, Table I[21?]?

????????1??????????????1?9,000???????????????4?8,000??????

??????????????280???????????420??????????????????150???221?????

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

??

規制機関	主な対象	件数	寿命１年延長当たり費用の中央値	FAA を１とした倍率
FAA	航空安全	4	2万3,000ドル	1
CPSC	消費者製品安全	11	6万8,000ドル	3.0倍
NHTSA	自動車・道路交通	31	7万8,000ドル	3.4倍
OSHA	職場の安全衛生	16	8万8,000ドル	3.8倍
EPA	環境・化学物質	89	**760万ドル**	**330倍**

?B?????????1????????
???????FAA???????CPSC???????????NHTSA?????????OSHA?????????EPA??????????????

???Tengs et al.?1995?[212]?

EPA?????????????1????760???????????????????330??????????????112????????????97??????????
?86?????

??

????????[212]?

????????100??300????????????????????????100??
??????????????????????????????

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

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

対策	寿命１年延長当たり費用	シートベルト着用義務を１とした倍率
喫煙する妊婦への禁煙助言	0ドル以下（費用節約）	–
シートベルト着用義務	69ドル	1
飲料水の塩素消毒	3,100ドル	約45倍
住宅用煙感知器の設置（一つの推計）	21万ドル	約3,000倍
原子力発電所の放射線排出基準（一つの推計）	**1億ドル**	**約145万倍**

?C??????????1????????
???0??

???Tengs et al.?1995?, Appendix A[212]?

??????????????1????69????????????????????????????????1???????????????145??????

??

??[21]?

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

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

??

??

??????????????????????????????[22?]?

??

??

??????

?1?Tengs, T. O., Adams, M. E., Pliskin, J. S., Safran, D. G., Siegel, J. E., Weinstein, M. C., and Graham, J. D. (1995), "*Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness*," Risk Analysis, 15(3), pp. 369–390. ?DOI???PDF?

?2?Gold, L. S., Slone, T. H., Stern, B. R., Manley, N. B., and Ames, B. N. (1992), "*Rodent Carcinogens: Setting Priorities*," Science, 258(5080), pp. 261–265. ?DOI???PDF?

?

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

Posted in ???, ????? | No Comments »

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

?? ?? · Sunday, July 12th, 2026

asbe/iStock

6?29????????????45%??

?????????????????????????GX?Sustainable Japan??

??????2020?????5????????35%??????????????????????????????2023??35%?45%???????????

??????????????????????45%????????????????????????????????????2024?????44%?2025???48%????????45%??

??

??

??

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

???????2015?????????????????ESG??????????????????????ESG?????2021???????????????????

??????????????????ESG????????????????????????????????GFANZ?NZBA?Climate Action 100+????????????2??

???45%??????????ESG??45%??????????????????????
?????ESG??

??

> ???????19????????2025?10??
> ????????????????????????????????????

????2025?10?????????????45%??
???

?

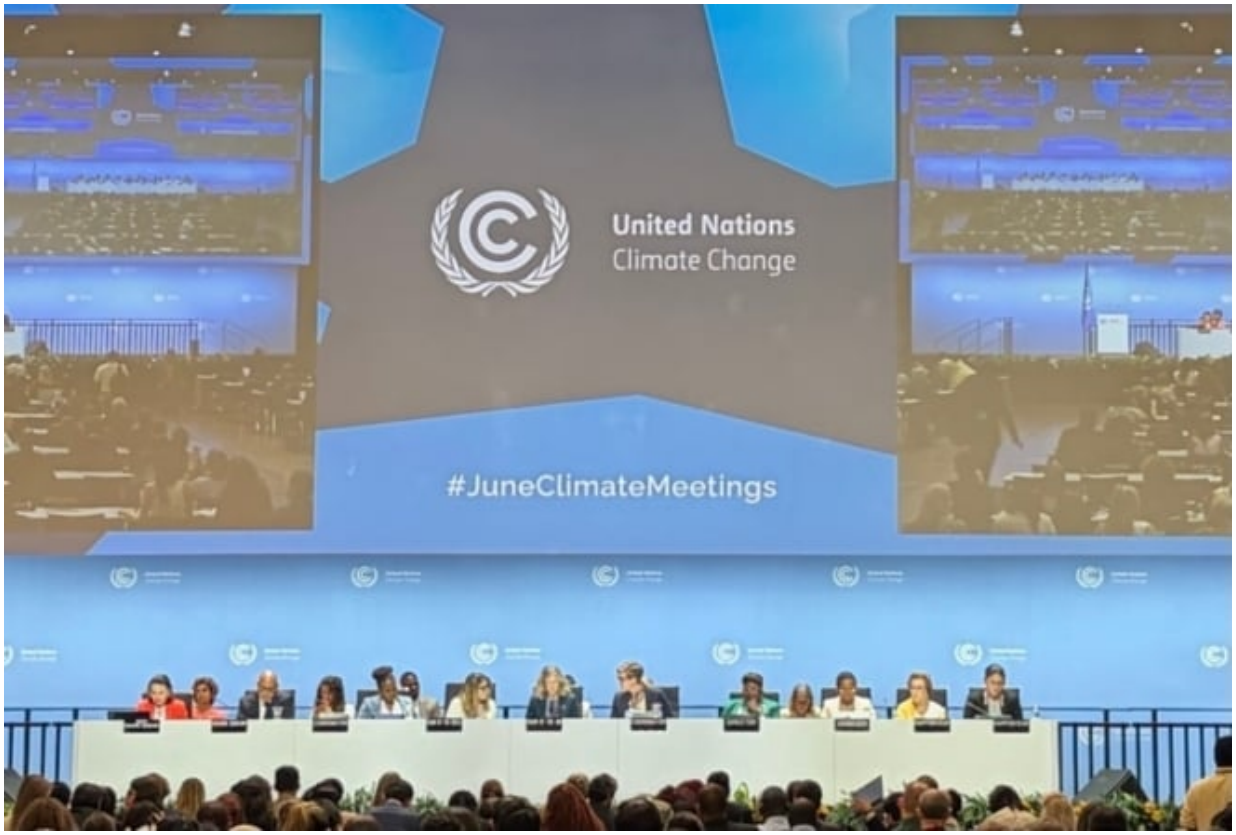
Posted in ???, ????, ????? | No Comments »

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

?? ?? · Saturday, July 11th, 2026

2026?6????????????????????????UNFCCC???????11??????????????????COP31??????????????????

??



?????
???HP??

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

??????????????Mitigation Work Programme?MWP???????????

EU???COP31???????
?

??

?1.5?????????

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

EU??1.
5???????????????????????????????

???????????1.5????????????????????Adaptation????????????????????????????????

EU?CBAM??????

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

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

EU??
??

??????????you-first-ism??

??

??

???????????

??

?????1.5????CBAM???

??

???????????“?????”??COP31????????????????????????????

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

??

??29??2017??4?7??2020?10?26???**2050????????????**????????????????????????????????????

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

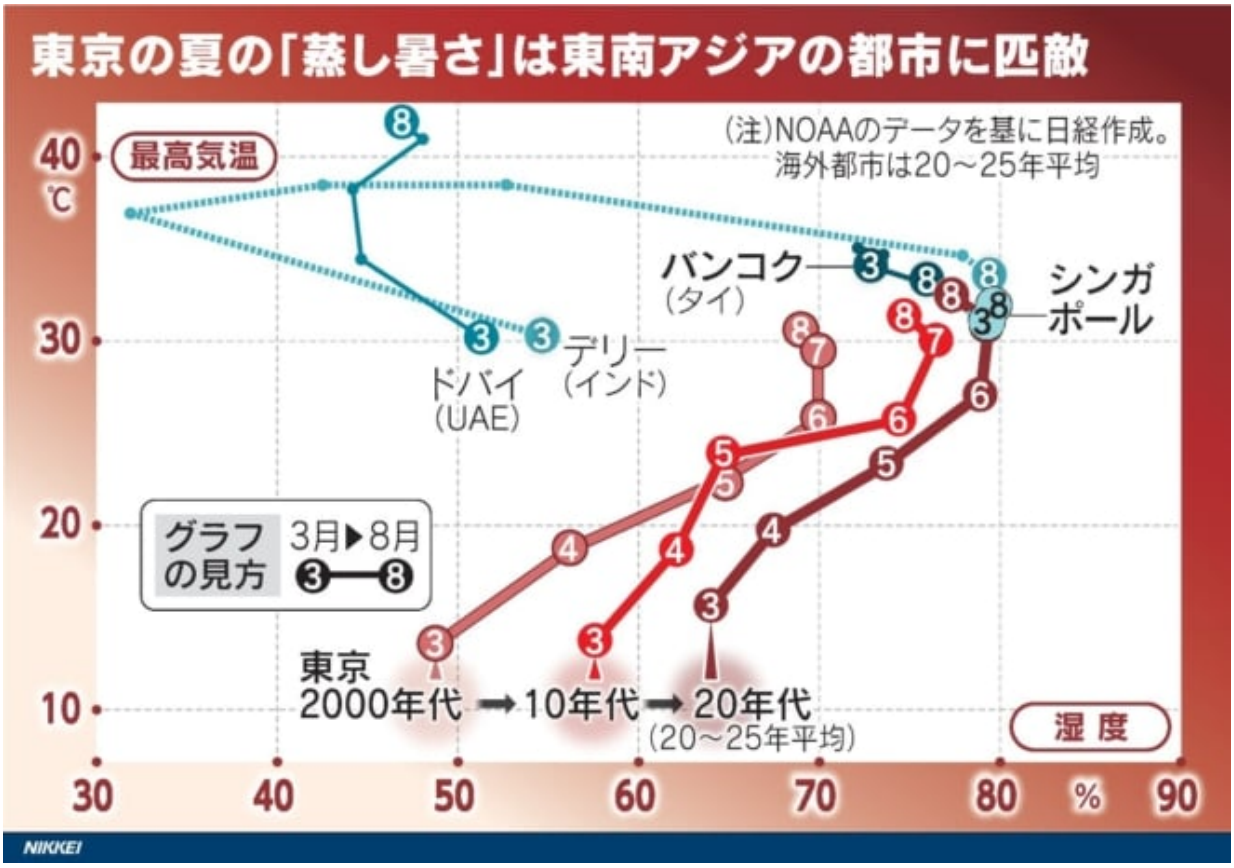
narvikk/iStock

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

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

??????????????????????????????28???

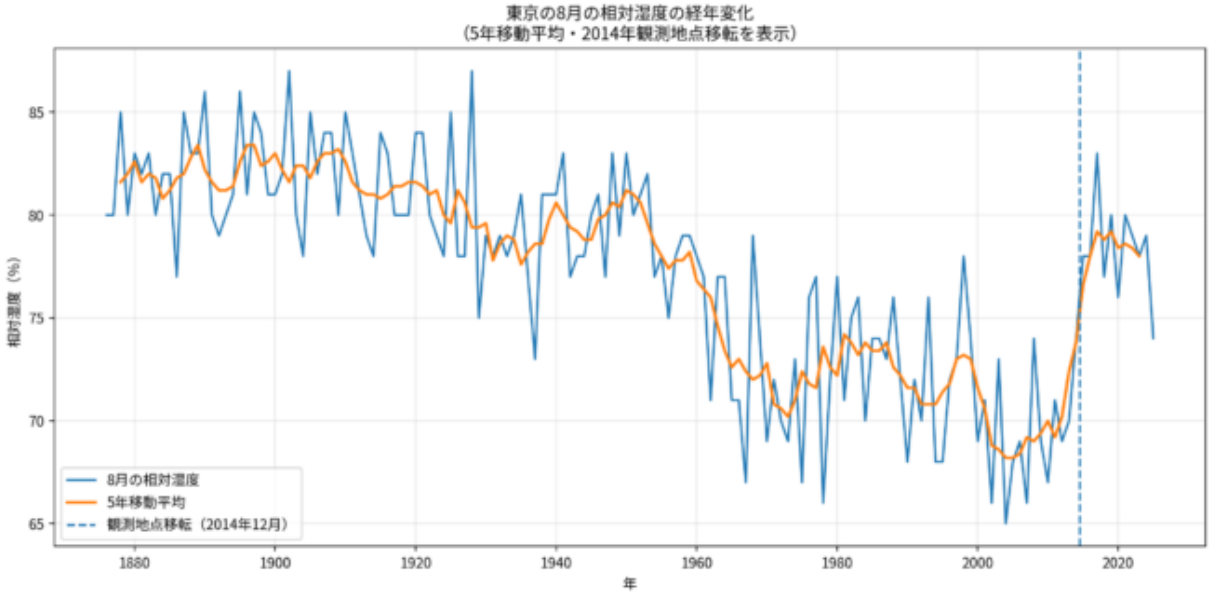
??8????????????????????????????



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

??

??



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

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

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

??

?????????10??????6??

2014??
??

?

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

Posted in ???, ????? | No Comments »

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

?? ?? · Tuesday, July 7th, 2026

Liudmila Chernetska/iStock

EU-ETS????????????

E U ? E U - ETS??????????????????????????????????????2050??

??6?17????**??3????????????????E U -**

ETS??????????????????????[?1?]???3????????????????????????????6??

????7????????????????????????????????????EU-ETS??

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

? ? ? ? ? ? ? ? E U - ETS????????????????????????????**????????????????????**??????????????????3??**??**????????

??????????????????????EU-ETS????????????????????????

E U - ETS????2026??**??100??**???2026???97.5???????????????????2.5????????????????????????????????????27?95??28?89.1??29?77.5??30?52.5??31?39??32?26.5??33?14????????????????????????8???2034????????????????????????????????CO2??EU????????????????????

?2034??????????????…??

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

??????????????????????????????????????**????????????????????????????????????**????????

??EU-ETS??EU-ETS????????????????????????????

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

?1?ArcelorMittal, thyssenkrupp Steel and voestalpine call for pragmatic ETS reform, to secure the competitiveness of European steelmaking and help to accelerate decarbonisation

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

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

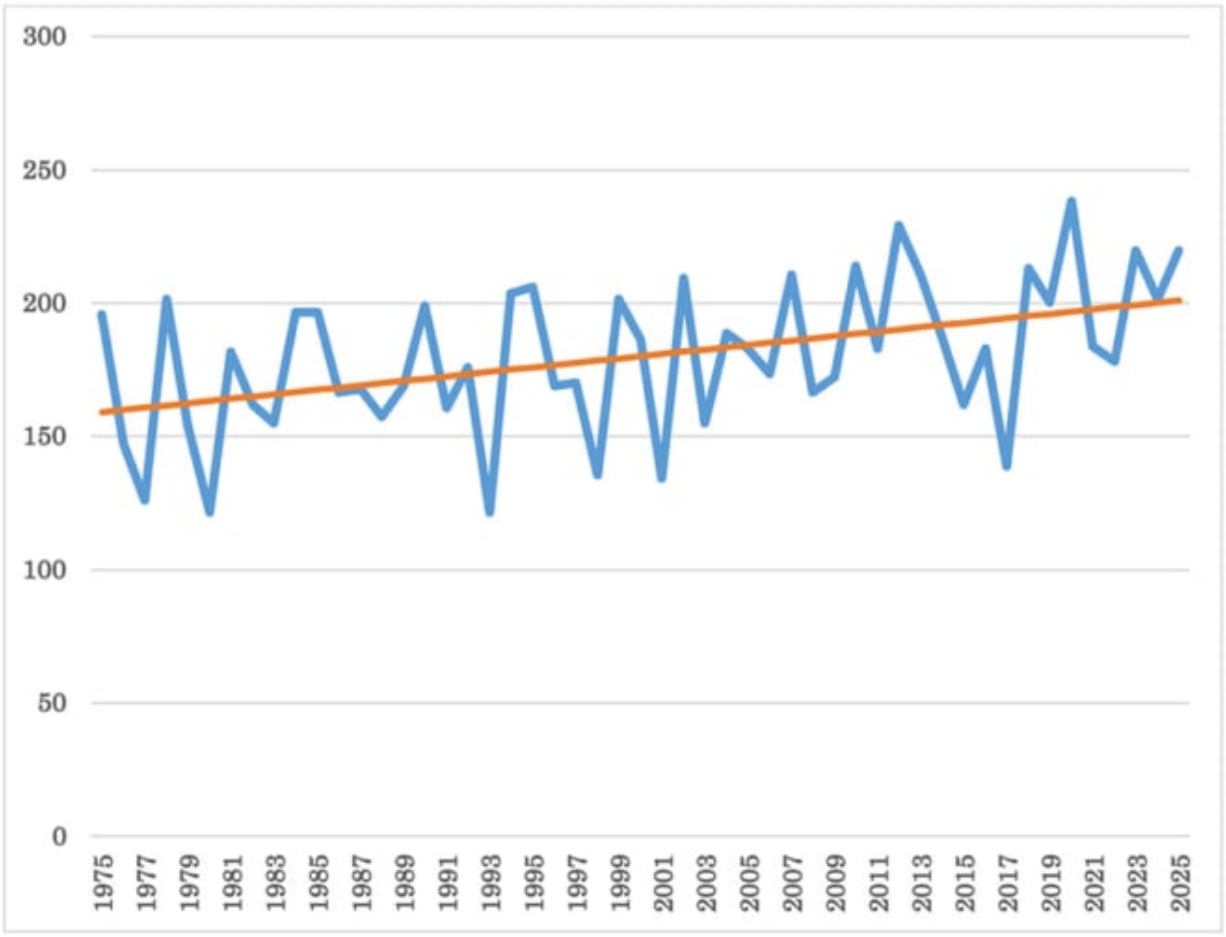
?? ?? · Monday, July 6th, 2026

gyro/iStock

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

??1975????????3??

???8??????????????????????2025???1975????26.4??
???3?????????



?????8???????????????W/m2?

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

??
??

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

??

??

????????????????????WBGT?????

??
??????????????????????????????????28??

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

??

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

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

??4?5????????????????????31????????????????????
????1??4?6????????????????????????????

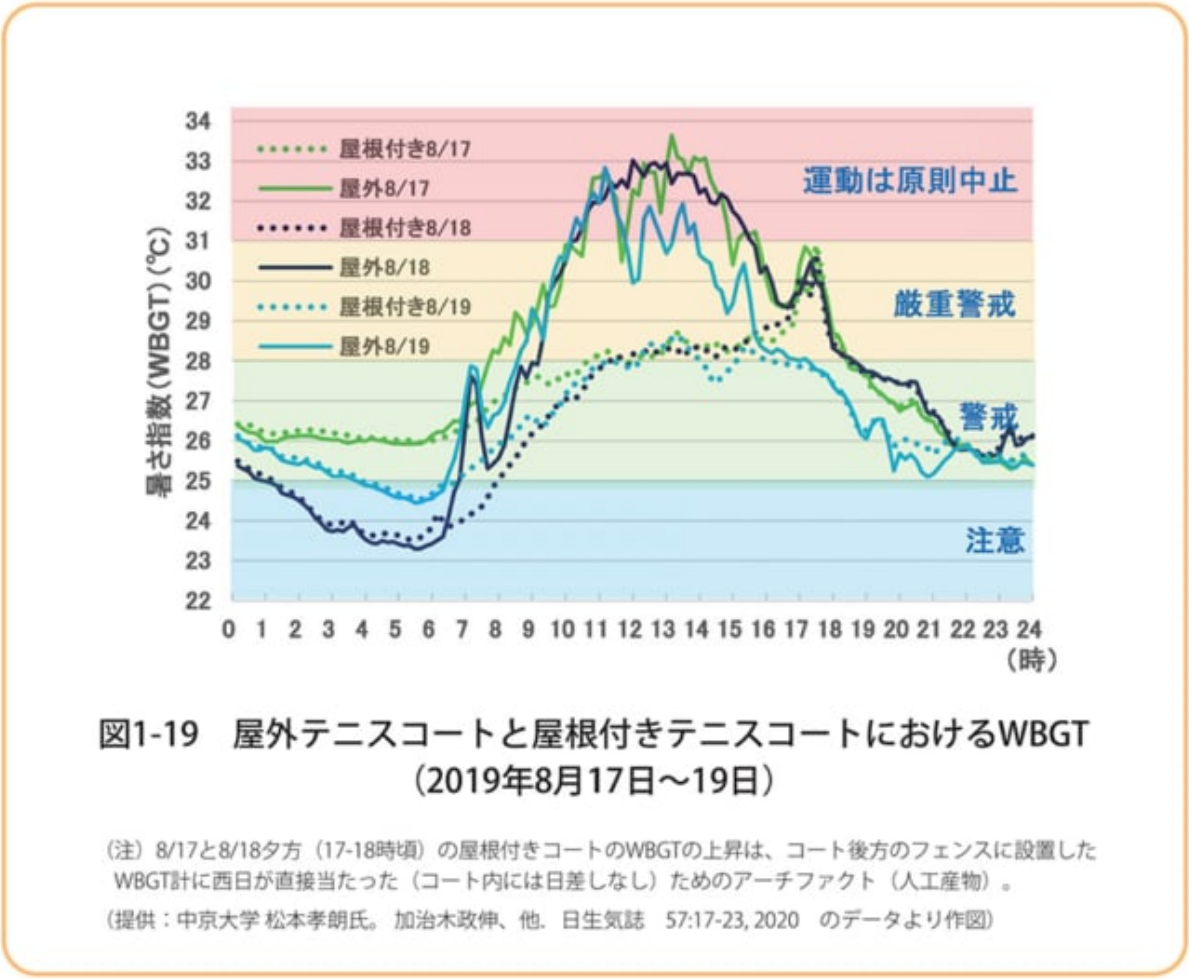


図1-19　屋外テニスコートと屋根付きテニスコートにおけるWBGT
（2019年8月17日～19日）

（注）8/17と8/18夕方（17-18時頃）の屋根付きコートのWBGTの上昇は、コート後方のフェンスに設置したWBGT計に西日が直接当たった（コート内には日差しなし）ためのアーチファクト（人工産物）。

（提供：中京大学 松本孝朗氏。 加治木政伸、他. 日生気誌　57:17-23, 2020　のデータより作図）

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

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

??????????????????4??5??4??5??????????????

?????4?5????????????????????????????????25??28????????28??31???????????31???????????31????
??31????????????????????

??????????????27??????????????31??
?

???8??????3??

??1990??????????????????UV??????8?????
?10????13??

??
??

??????????????????????????????100??2????????????????????100??1????????????????????????????????
????????????????????????????

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

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

??8?????3????????
???

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

?

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

Posted in ???, ????? | No Comments »

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

?? ?? · Saturday, July 4th, 2026

??????????????????????????????
????HP??

????

???????2026?7???

IHI?????ACME??????????????????????????????40??4800????
??IHI???7???????

??2045????15????????????????????
??

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

??????NH???????N??????H??3???????

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

?????????????1????????176kg???823kg?????N??3H??2NH????????????????????????????????????
???????????180kg????830kg??????

?????

?????????????1kWh???0.038???2024??IRENA?????2???
?????Bhadla??

???????CAPEX?????????????????????????4?5????????????????????????????????2?2.5?????????????
??????????3?4?????????????????????

??????????????????????????????1kg???3.5?5???51?73?/Nm3???????????4??/kg?58?/Nm3????????????
?1???????????630?900???????720?????????????7???????

??????????????????????????????????1?????25?35?????????

???????????????????400?600????400?????????????1?????26?35????????????????????????????????
??8?12??
????????1?????80?150???????????????

??????????????????????1?????850?1050??1?????40
0?500????????????????????????????????2?2.5??????????????

??????????

??????????????????????2030??30?/Nm3?2050??20?/Nm3?????CIF????????????????????????????????
58?/Nm3????????2030????????1.9???2050????????2.9??????????

?????58?/Nm3????????????????????????????????????CIF??????????????CIF????????????????????
????????????????????????2?3??????????????????????????

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

??????????????????????????????????3????????????????????7?????????????????????1?2????????????????
???

??
???

????LCOE??24??365?????????????
??

FCOE??

??????????

??SIGHT????????????????????????????????
?3??????1??1kg???8.82???????????0.1???/kg??2??7.06????3??5.30???????????

??2045????15???????????????????

?????3????????/kg??

???

??2045????

15??

??

??

??
???????

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

??

??????????????????????50Hz????60Hz??
??

??
?????????

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

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

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

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

? ? ? ? ? ? 2 0 2 4 ? ?
??1kWh????5.4??????????6.8??/kWh?????2MWh?2
,000kWh????????????????????????????????1?4,000??
????????????

??

?????1??
??10?15?????????

????????????????????????????????????——?????????????

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

??

??

??

??

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

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

??——???????????——?????
??????????????????????

??

???????

??

??????????

??

??

??

??

iiievgeniy/iStock

??????????????2027??????????????

?????2027??????????????????????

2027?4??

??

27?4??

??

????????????????????????????????????2026?5??????????????????130??????124.3??2026?????????126.5????????2027??

??

??????????????2027??????????????????6????????2,760??14???????12,600????????????????????????????14??????6???????4???14?????18????????????

??6??????2,760??????????????????4??????????????????14??????????????????????????

????????????????????????????6????????87??J??????????124,890??????100??C?????206,400???????

?????2,697???????????????81,510?????????30????????????????????????????????????

??

??????????????JIS??

??2????15????????????????????????????7????????????
????????????8?????????????????????

???????2026????????????????????????????????52,000????????????????????????????????????
??2026???????

??
??

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

??

??

??
????

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

?

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

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

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

?? ?? · Wednesday, July 1st, 2026

hrui/iStock

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

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

項目	主計算の値
土地利用密度	2.5ha/MW（=0.40MW/ha）
設備利用率	18.3%
過積載率	130%
メガソーラーの発電コスト	10.9 円/kWh
系統電力の排出係数	0.250kg-CO2/kWh

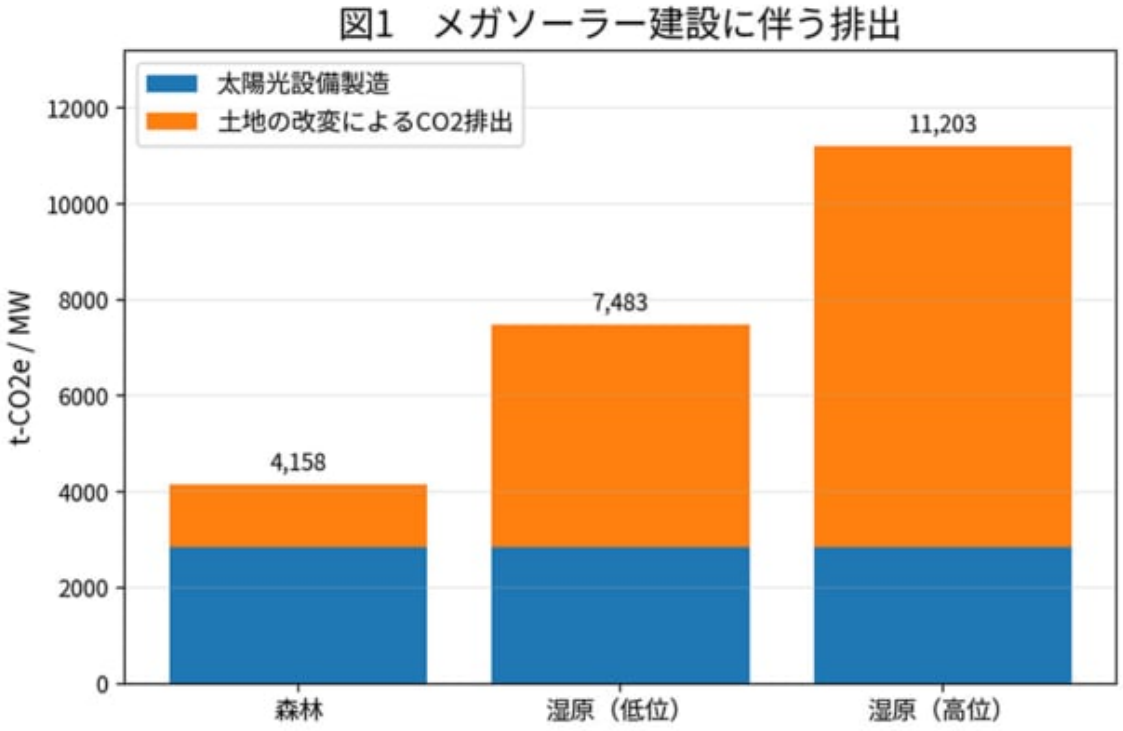
?1??????????????

??????1????????????????????????2.5ha/MW?????1ha???0.40MW????????????????????18.3%??????130%??

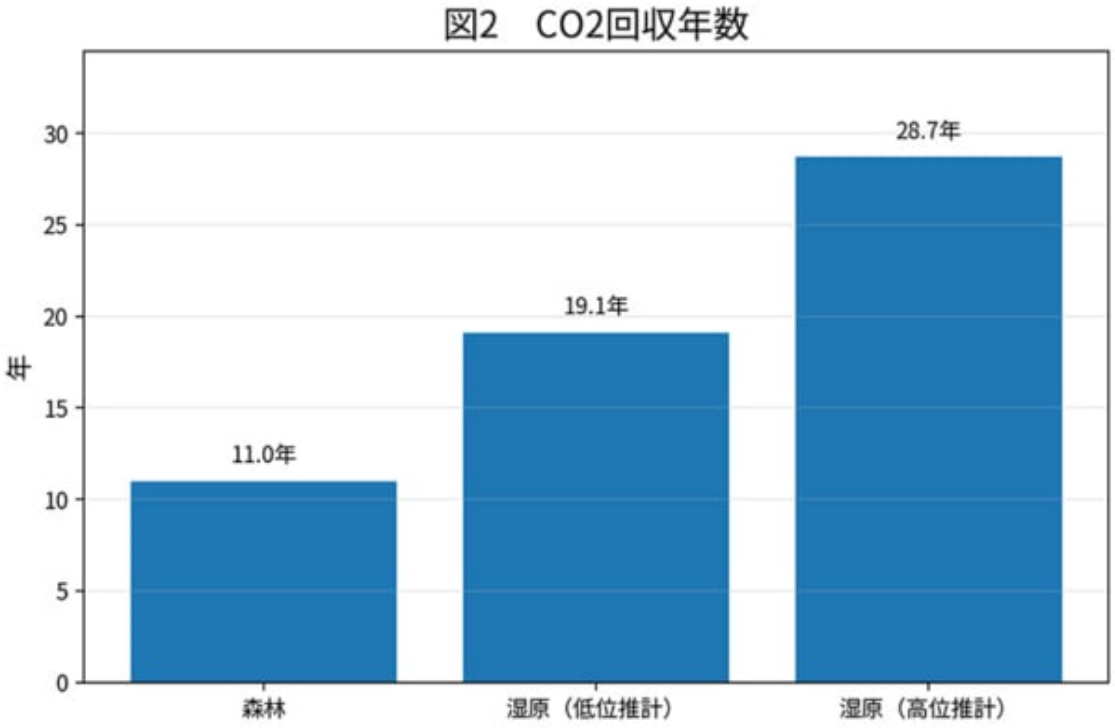
??CO2????????????????????1MW???2,845??CO2??

??1,313??CO2????????????????????????????????4,158??CO2????

??????????????????????????????????????1MW???4,638?8,358??CO2????????????????????????
?????????????7,483?1?1,203??CO2????



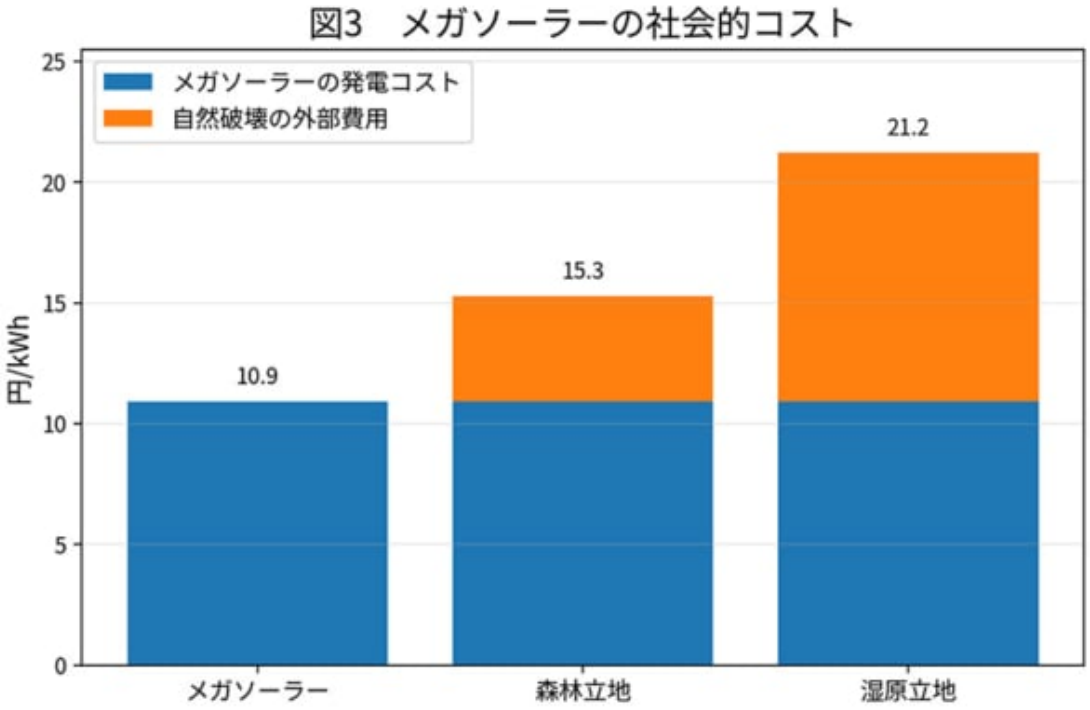
??????????????????????????CO2????????????????????????CO2?????????????2????????????2030???
??????????????11??????19?29??????



??????????????????????????????????280.8??/ha/????????ha?????????????????????4.38?/kWh???
??????????????????????????????661.8??/ha/???????????ha??????????????????10.32?/kWh????

?????????????10.9?/kWh???????????????????????????????15.3?/kWh???????21.2?/kWh????

??4?????????????????



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

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

???????

1. ?????2026??????????????????????? CIGS Working Paper Series No. 26-006J???2026?5?29????2026?6?29??
2. ?????2026??????????????????????? CIGS Working Paper Series No. 26-009J???2026?6?23????2026?6?29??
3. ?????2026???????????????????????????CO2??? CIGS Working Paper Series No. 26-0010J???2026?6?15????2026?6?29??
4. ?????2026???????????????????????????CO2??? CIGS Working Paper Series No. 26-0011J???2026?6?15????2026?6?29??

?

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

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