

# Global Energy Policy Research | GEPR

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

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

?? ? · Wednesday, August 7th, 2024



imagedepotpro/iStock

????????????????Climate4you????????????4?"for"????????????????????????????????Ole  
Humlum??

??  
???

????????????????The State of the  
Climate??7?20????????64????????????????????????????????  
????????????????????????????

### SHORT SUMMARY OF OBSERVATIONS UNTIL JUNE 2024

1: Observed average annual global air temperature change last 30 years is about +0.016oC (UAH). If this change rate remains stable, additional average global air temperature increase by year 2100 will be about +1.2oC.

2: Tide gauges along coasts indicate a typical global sea level increase of about 1-2 mm/yr. Coastal sea level change rate last 100 year has essentially been stable, but with periodic variations. If change rate remains stable, global sea level at coasts will typically increase 8-16 cm by year 2100, although many locations in regions affected by glaciation 20,000 ago, will experience a relative sea level drop.

3: Since 2004 the global oceans above 1900 m depth on average have warmed about 0.037oC. The maximum warming (about 0.2oC, 0-100 m depth) mainly affects oceans near Equator, where the incoming solar radiation is at maximum.

4: Sources and sinks for CO2 are many. However, changes in atmospheric CO2 follow changes in global air temperature, and changes in global air temperature follow changes in ocean surface temperature.

5: There is no perceptible effect on atmospheric CO2 due to the COVID-related drop in GHG emissions 2020-2021, demonstrating that natural sinks and sources for atmospheric CO2 far outweigh human contributions. Therefore, any future reductions in the use of fossil fuels are unlikely to have any significant effect on the amount of atmospheric CO2.

#### 2024?6??????????

1???30????????????????????+0.016??UAH????????????????2100????????????  
????+1.2? ??????

2????????????????1?2mm/????????????100????????????????  
????????????2100????????8?16cm????20,000????????  
????????????

3?2004????1900m????0.037????0.2????100m????  
????????

4?CO2????????CO2????????

5?2020?2021??COVID??GHG????CO2????CO2????  
????????CO2????  
????

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

??4?5??

4????????CO2????CO2????  
????????

1000

TV

CO2

????????

15

????????

1000

????????

????????

????????

Pacific Decadal Oscillation?PDO?Atlantic Meridional Overturning Circulation?AMOC?PD O

????????

???CO2???

5 IPCC 2021 18.2 Gt-C/ 215.0 Gt-C/ 3.2 Gt-C/ 2ppm 10<sup>9</sup>

CO2 8.9 Gt-C/ 6.4 Gt-C/ CO2 2.9% 5

CO2 2.9% CO2 2020 2021 COVID CO2

????

??????CO2??200 Gt-C/??3?4 Gt-C/??

??????CO2?3.2 Gt-C/??????????CO2?6.4 Gt-C/????????????????IPCC????????????CO2????????????????????????????????????

IPCC????????????CO2????????????CO2??200??2021????????????

????????????CO2??CO2??8/218.2?3.6%????????????3.2x0.036?0.11 Gt-C/????????????????2ppm????0.07ppm????????????????????????????????????

??IPCC????????????????????????CO2????????????????????????CO2?????(?2ppm???4?5 Gt-C)????????????

????????CO2????????????????????????CO2????????????????????150????????CO2??100????????????CO2????????????????????????CO2????????????????

**??CO2????????**

????????4????????????CO2??CO2????????

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

????????CO2????????????????1??

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

??1998?2010?2016?2020????????????2023????????????????????????????????

????????????????2022?2024??2022?1????

??10????????

??22?1????23????

????????????1????3?????????Polar Vortex????????????SSW????SSW????2?1????

??23?24?????3??SSW??

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

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

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

Posted in ???, ????? | No Comments »

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

?? ?? · Tuesday, August 6th, 2024



????????HP??

??  
???????

??

??

Mercur.de



- 
- EU
- 2023 X
- “ de-industrization”

### SENATOR VANCE DELIVERS A “WAKE UP CALL” TO MUNICH SECURITY CONFERENCE

NATO munition



GDP

GDP

NATO 70 80 90

10 10 20

?



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

??

?? ?? · Monday, August 5th, 2024



GX2040????????????????  
????HP??

??

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

??

????????????????????????????????????SAF

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

????????????????????GX????????????10????150??  
????????????????150????????????120????????????????????????????????

??

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

????????????8?9?2125????10??1300?

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

?



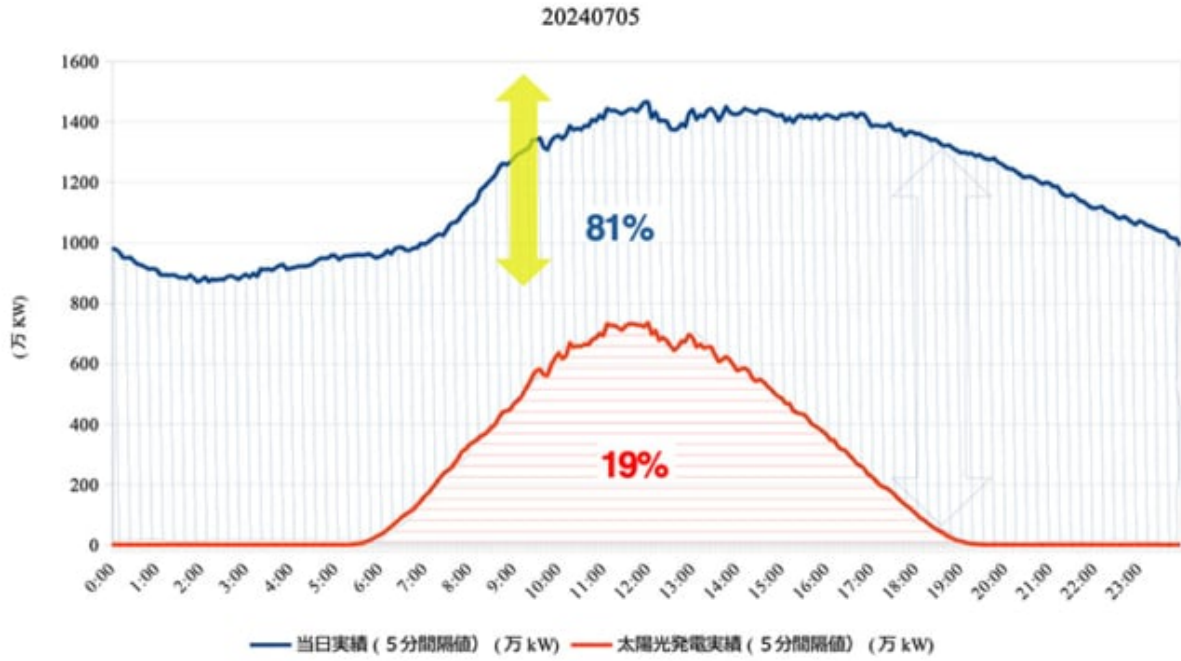
Posted in ??????????, ??? | No Comments »

??

GEPR??? · Friday, August 2nd, 2024







????????????  
 ?????????????????19%????  
 ?????????????????????????????????



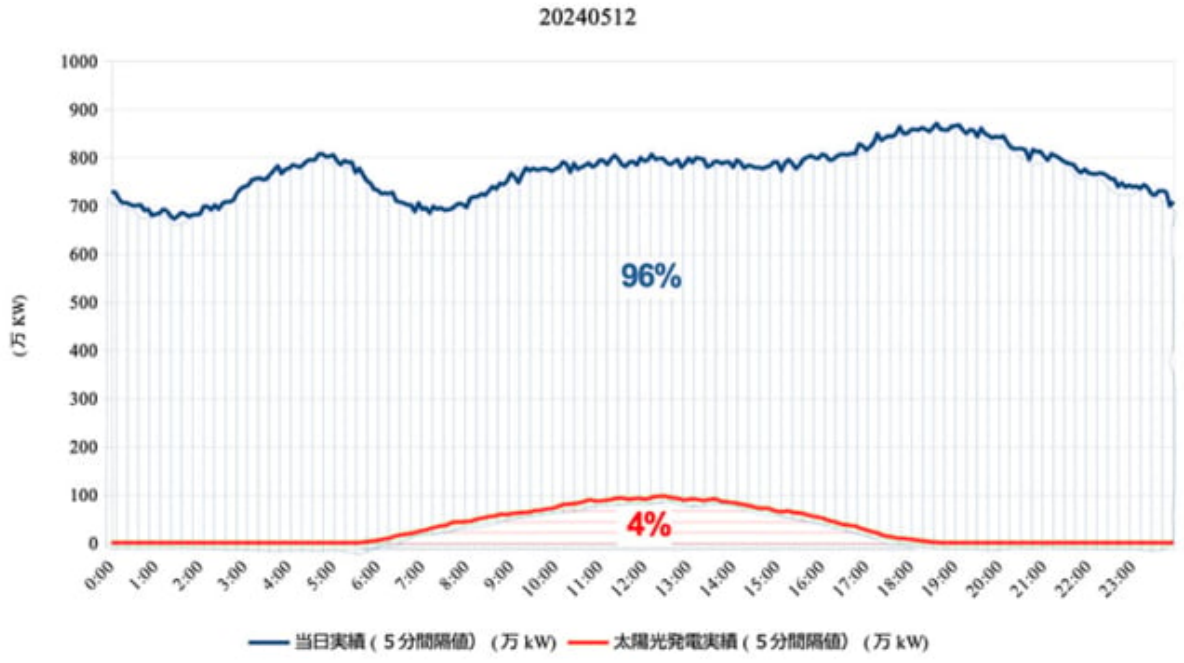
????????????  
 ?????????????????17%????  
 ?????????????????????????????????

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

??18%????????????

????????????18?19??  
??

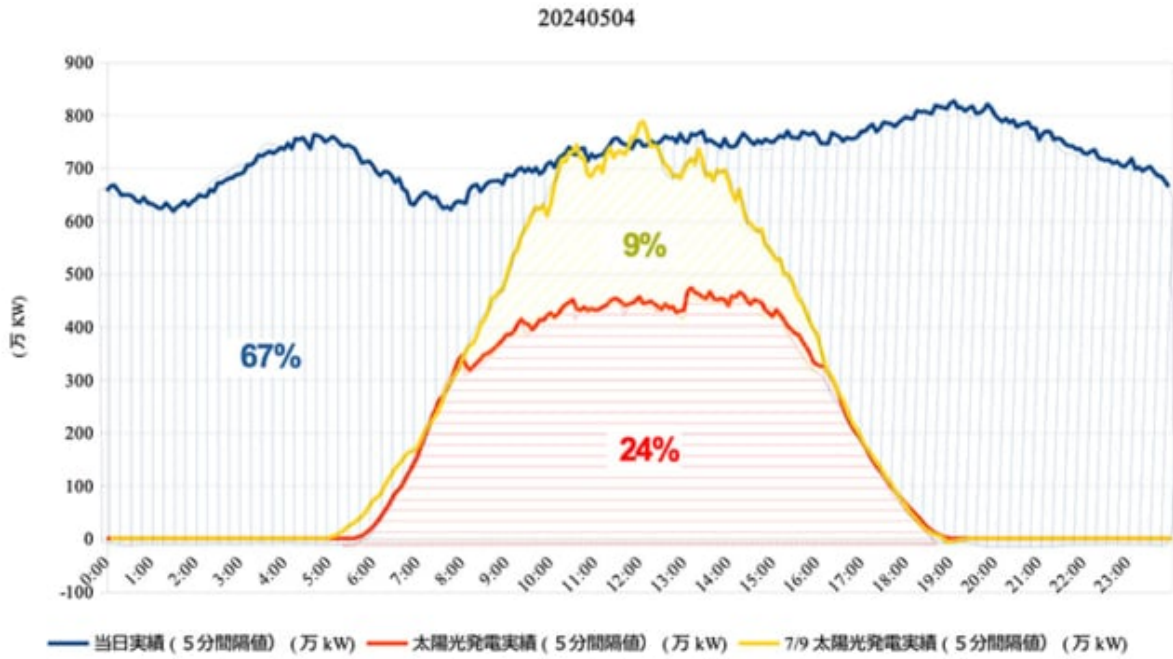
????3????????????????????4%????????????????96%????????????????????????????????????  
?????????



?3?????????  
????????????????????????????4%????????????

????????????????100%??  
??

????????????????????4????????????2024?5?4????????????????????7?9????????????????  
????????????????????



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

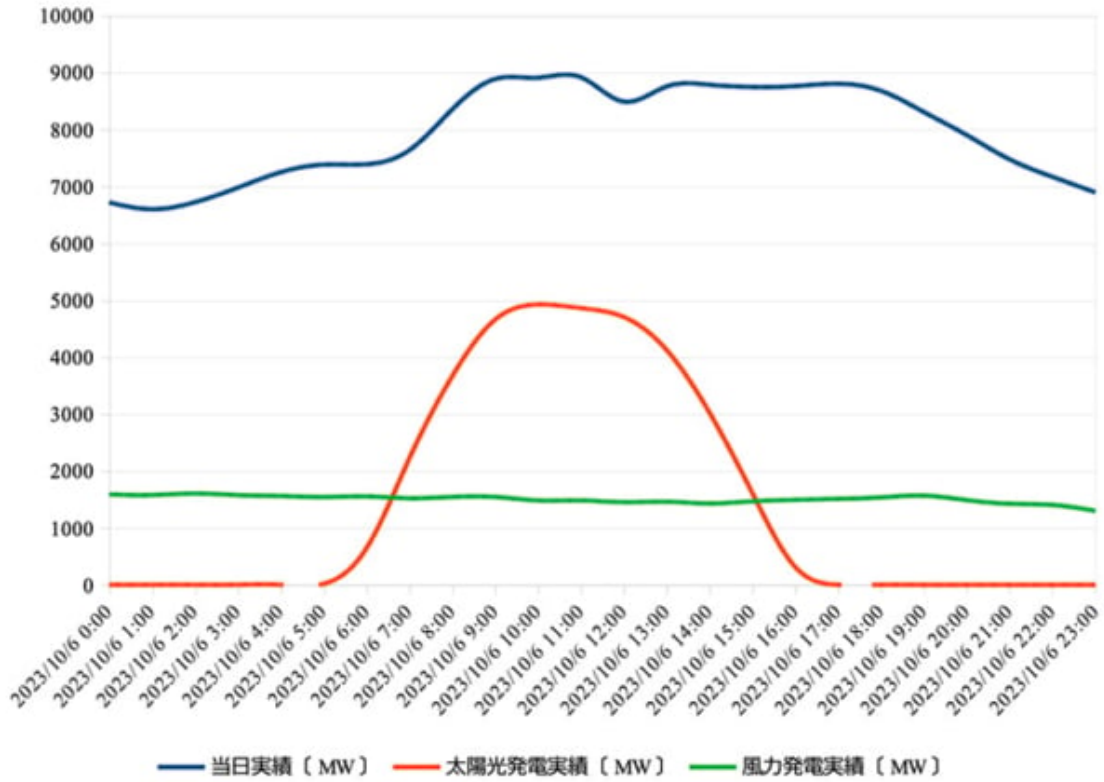
??  
 ???

??  
 ???

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

??web??MW????????????????1??  
 ?????????????????????????????????

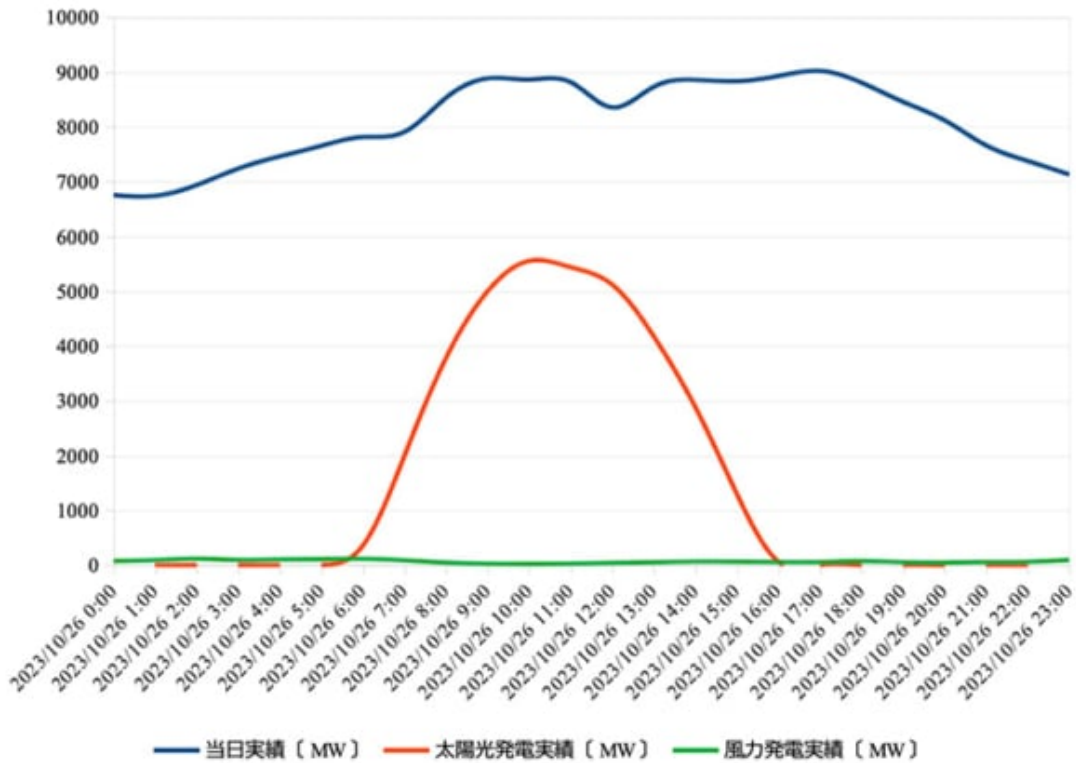
????????????????????????5????????1??



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

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

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



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

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

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

??

?

?? ??

1966???1990??

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

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

?? ?? · Thursday, August 1st, 2024



????????2??

7?26??  
???????????

??

?12??



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

??“????????”????????  
??

??

????2??1957??  
??

???????

?????????

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

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

??

????????????26????????????????????????????2????????????????????????????????????

??GX??

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

??

?? ? · Saturday, July 27th, 2024

7?15??2024????????????????????????????  
????????????????????

????2024????????????????





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

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



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

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

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



??  
??  
??dr  
ill, baby, drill????????????????????????????????????

???????

?10???

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

- ???1????????????????????????????????  
??

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



??

?? ??? · Saturday, July 27th, 2024



privetik/iStock

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

??2024?4?????????????  
?????????????1??CO2????????????????????1?????????

	??	??	?????
?????????????kWh?	41.05	28.51	1.44
CO2?????kg-CO2?kWh?	0.451	0.309	1.46

?1?????CO2?????????????????????????1???

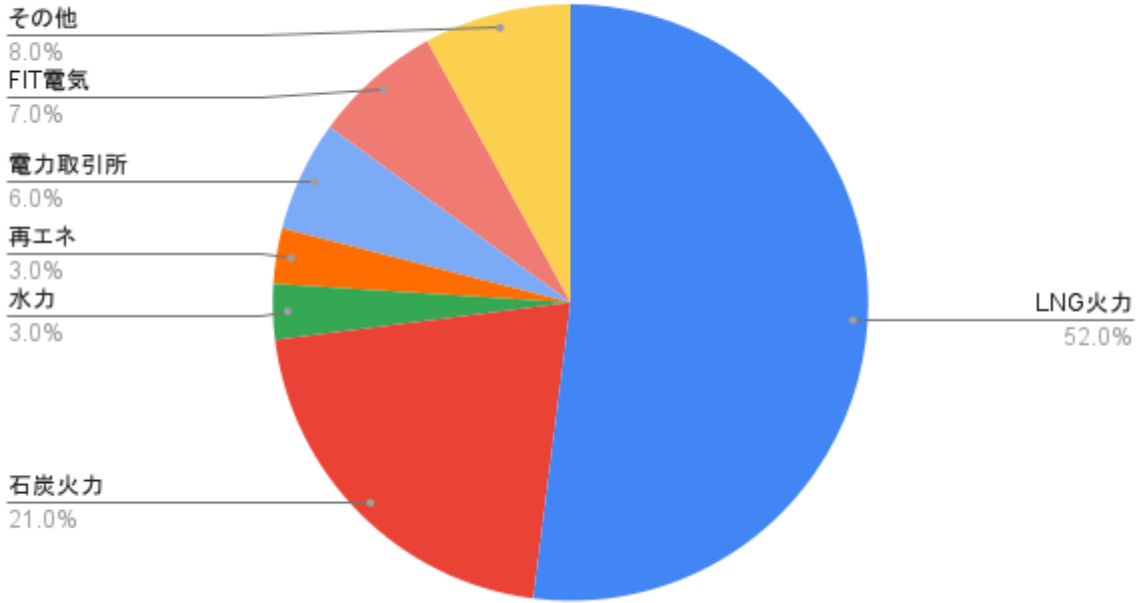
?1?????????????????????????1.5?????????????1.5??CO2???  
?????????????

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

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

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

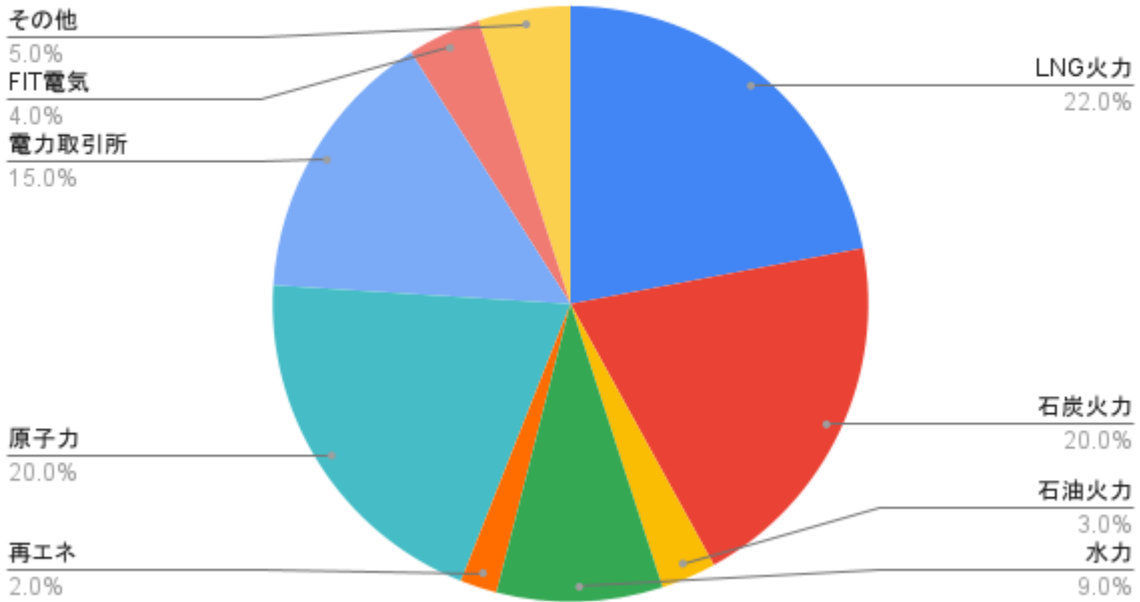
### 東京電力 2022年度実績



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

????????LNG?????73????????????????27??CO2????????  
???????????

### 関西電力 2022年度実績



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

????????LNG????????45????????????????20????????????????35??  
????CO2????????????????



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

?? ?? · Saturday, July 20th, 2024




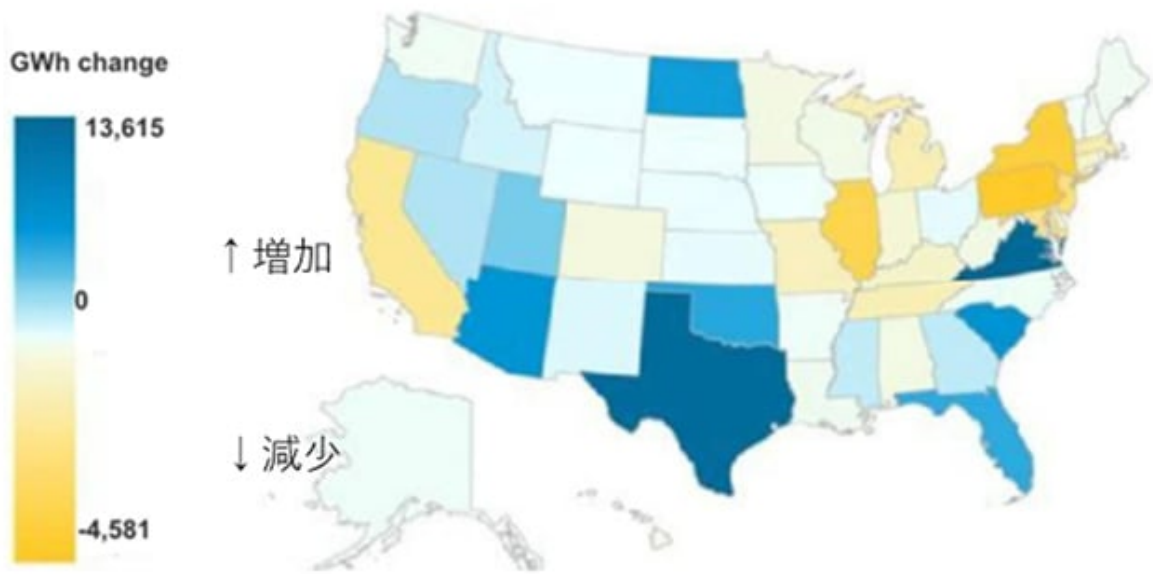
da-kuk/iStock

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

??6????????????????EIA????????????????<sup>11</sup>????2019??23??4????????????????????????????????  
 ?????????EIA????????????????????????????????4????????????????????????????IT????????  
 ?????????????????

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

**U.S. states change in commercial sector electricity consumption (2019–2023)**  
change in annual sales of electricity to commercial customers, gigawatthours (GWh) 



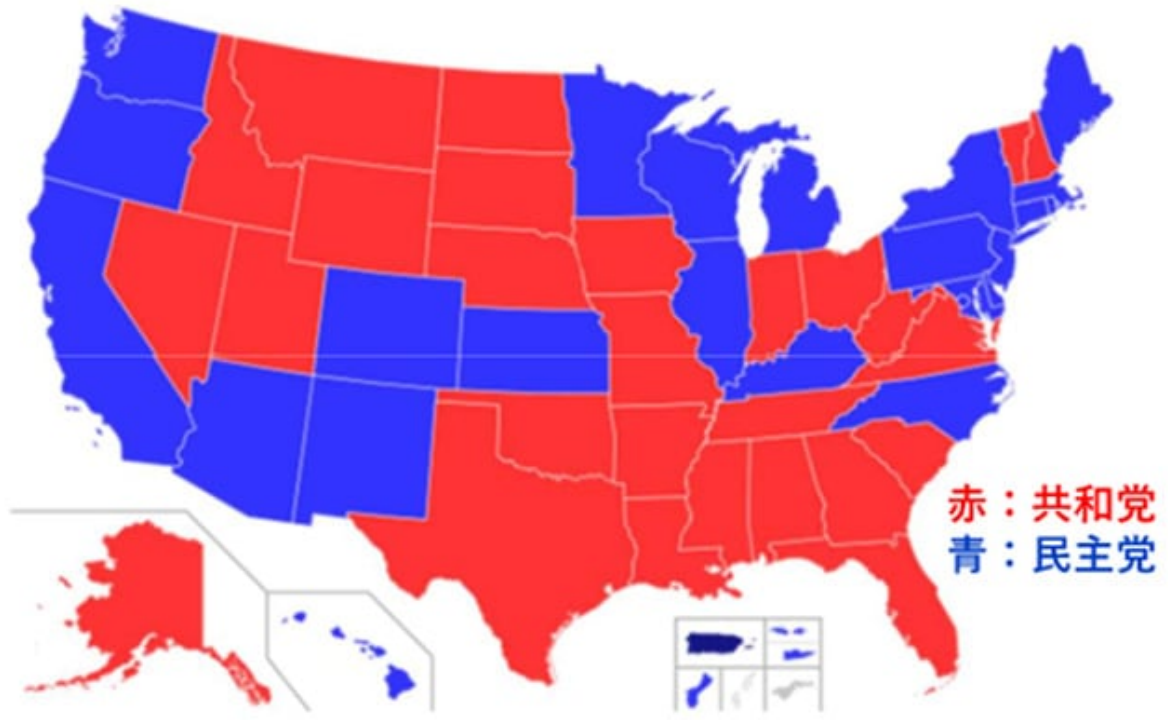
Data source: U.S. Energy Information Administration, [Electricity Data Browser](#)

出典：Commercial electricity demand grew fastest in states with rapid computing facility growth”, Today in energy, June 28, 2024, EIA

?1 ??????????2019?2023?

??

??Red state????????????????????????????????????Blue State????????????????????



出典：Wikipedia " List of current United States governors"

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

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

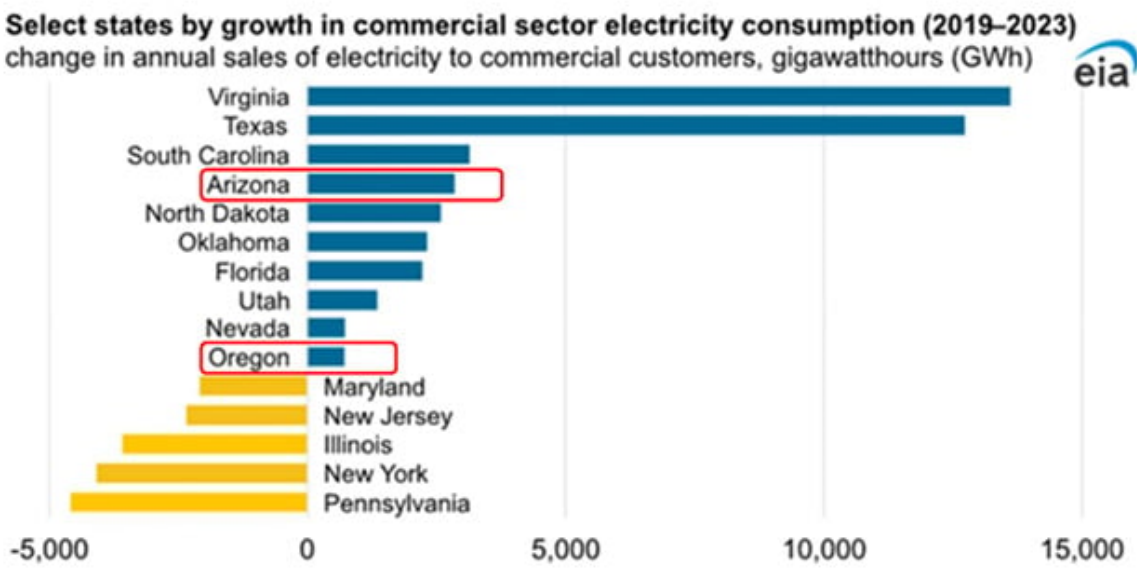
?????????????

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

EIA??4????????????????10??????  
????420?kWh?10????????????40????????280?kWh??????3??????????????

??<sup>22</sup>2019????94????????????????????????????  
??  
??????????????????3?





Data source: U.S. Energy Information Administration, *Electricity Data Browser*

出典：Commercial electricity demand grew fastest in states with rapid computing facility growth”, Today in energy, June 28, 2024, EIA

23 ?????????????????

2022年、米国で商業部門の電力消費量が10.8c/kWhから9.35c/kWhに減少し、12.41c/kWhから9.05c/kWhに減少した。これは、エネルギー効率の向上と再生可能エネルギーの導入によるものである。米国では、商業部門の電力消費量が21.81c/kWhに増加した。これは、データセンターの増加によるものである。

2023年、米国で商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。RGGIは、CO2排出量を削減するためのプログラムである。これは、再生可能エネルギーの導入によるものである。

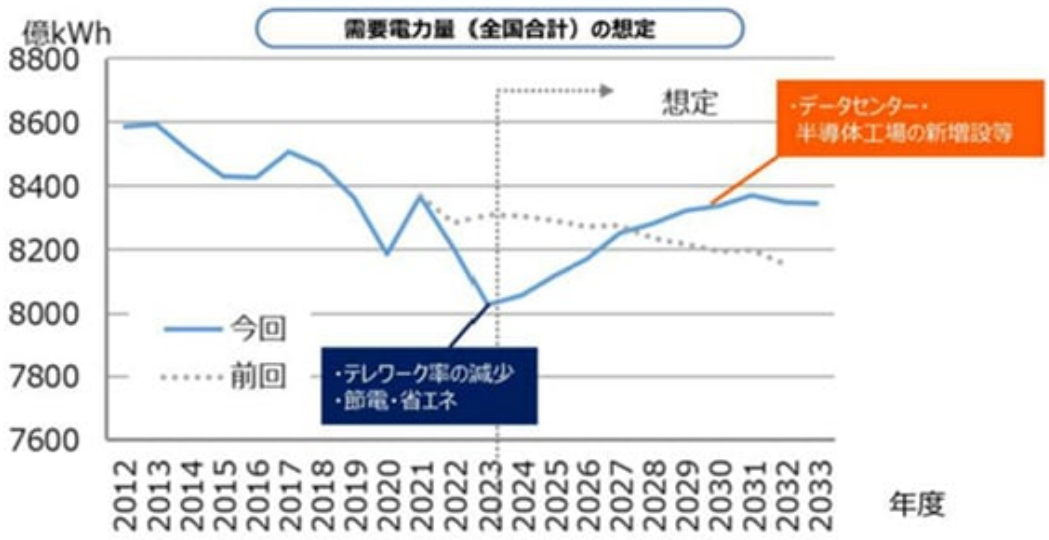
米国では、商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。これは、再生可能エネルギーの導入によるものである。

米国では、商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。

米国では、商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。これは、再生可能エネルギーの導入によるものである。

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

米国では、商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。これは、再生可能エネルギーの導入によるものである。ITとAIの需要は、米国で商業部門の電力消費量を15.5c/kWhに増加させた。これは、データセンターの増加によるものである。米国では、商業部門の電力消費量が15.5c/kWhに増加した。これは、データセンターの増加によるものである。



(出典) 電力広域的運営推進機関HP 2024年度 全国及び供給区域ごとの需要想定について

出典：第55回総合エネルギー資源調査会基本政策分科会 (2024.5.15)資料 1

74 ?10??????????

??CO2??

??  
 ???DX??150??GX?????????????????????????

??20??GX????????????????????????GX????????????????????????????  
 ???????????????????????????

??  
 ???

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

CO2??374??  
 ???<sup>24</sup>?????????????????????  
 24??

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

??

????????????????????5????????????????????????????10??  
 ?????2????????????????????????547?kw????????????80????????????????????383?kWh????????300?400?kWh  
 ?????75????CO2????????????????????????????????????

??5?10??  
 ???

??  
??

?

?1?“Commercial electricity demand grew fastest in states with rapid computing facility growth” Today in energy, IEA,  
June 28, 2024

?2????????????????DC??

?3?RGGI????????????????????????????CO2??  
??

?4?????1kW?????????10?????????14?????????300?kWh?????????????????????245?????????5240?????????

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

??

?? ?? · Tuesday, July 16th, 2024

??  
??



??????

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

??



??  
??

??  
??



??  
??

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

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

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

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

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

??CO<sub>2</sub>??15????????????????????????????7????????????EU????????????3????????????????  
??0.01????????

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

??EU?2050????????????????????

??GDP?4????????????????????????????10????????  
??60??25??????0.01????????????

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

????????????????2050??  
????????????????????EU????????????????

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



??1985?????????CO2?60?????1??  
?

??????AIMS??

????????????????AIMS??  
????????????????AIMS??

????????????????2012????????AIMS??  
????????????AIMS????????????????????

??

??

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

??????



??  
????????10??  
????????3??

?



Posted in ???, ????? | No Comments »

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

?? ?? · Saturday, July 13th, 2024



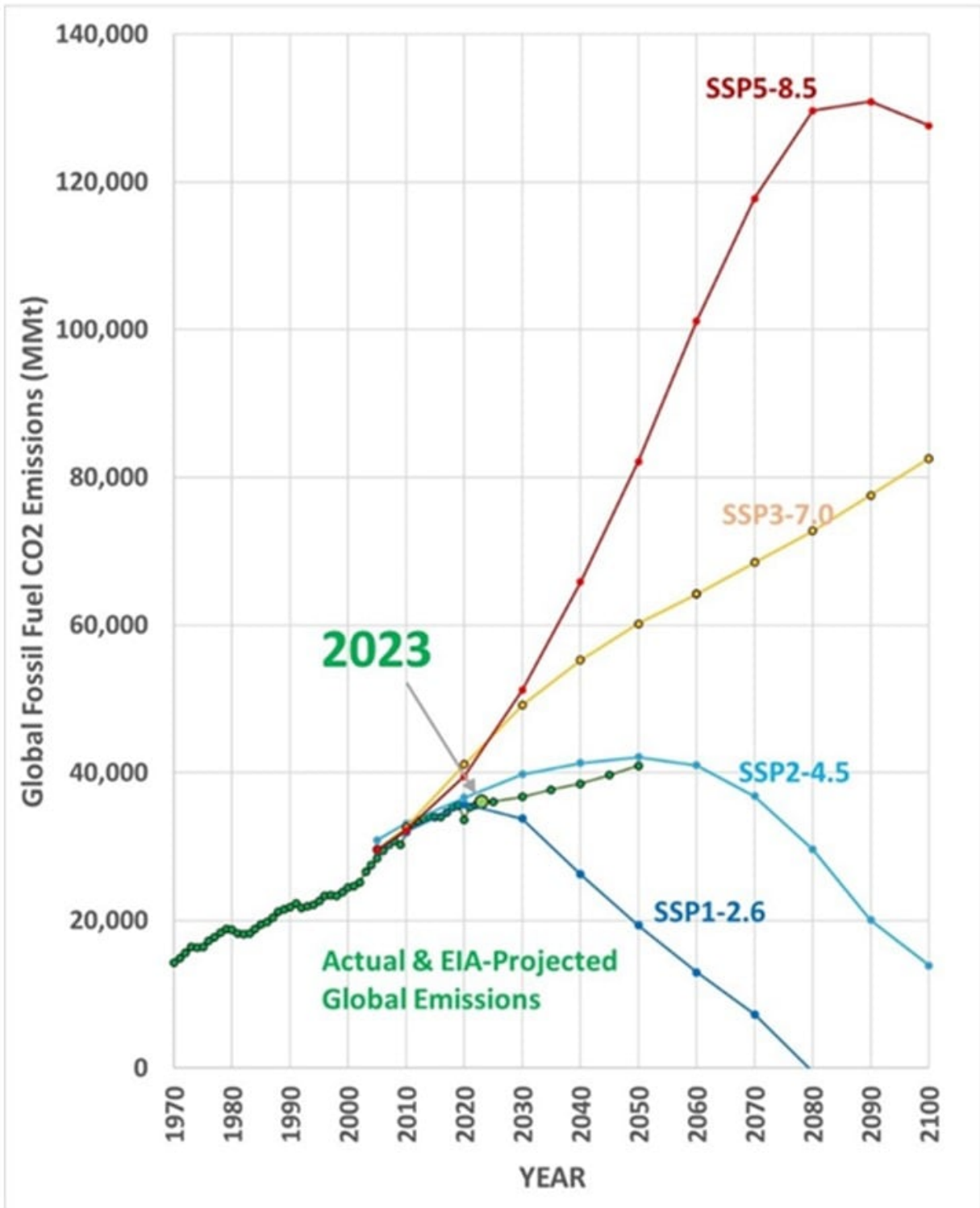
alexis84/iStock

??CO2????????????????????IPCC????SSP5-8.5????????

??

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

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



????????????CO2????????????2050????????????Department Of Energy, Energy Information Administration??????

??EIA????????????CO2????????????EIA????????????

????????CO2????????IPCC?SSP5-8.5????????????2050????????????



????????Jr. ??????????????????IPCC ???  
????????????????

IPCC?SSP5-8.5 ???  
??

??

??

?



Posted in ???, ????? | No Comments »

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

?? ??? ? - Friday, July 12th, 2024



Stadtratte/iStock

????????????2011??  
??



?????????  
Wikipedia

????????????23?1??  
??3?????????  
3??  
??  
??

??  
??  
??  
??

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

??  
??  
??“OK”????  
??  
??5000????  
?NATO??????????????????????????????

??  
??1  
1??

????????6?17????????GNP?2????????????????????  
??

????????18????????????????????????????????????  
??“????”????

??

??  
????????NATO? ?????????????????????????????

6????????????18????????????6????????????????

??  
??

??5000????  
??“?  
”????????????

??  
??

??

??75????8????  
????????????????????580????530????????????  
????????????

??

??

??

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

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

?? ?? · Monday, July 1st, 2024



zhengzaishuru/iStock

**???????100???**

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

????6????????????????????????????????????180??????—????????????????????

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

GX????????????????????????????????????DX????????????????????????DX????????????????????????  
?100?kW????????100????????????

????UAE????????COP28????????IAEA????????2050????3????????????????????

????????????????????????????????10????????????????????DX/GX????????????????

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

**???????4???**

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

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

4. ?????????

?4?????

??  
??

????1??????6000????1??

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

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

???????????

??6?25?4???????????

??5?15????????7????????????????????????4????????????  
??????

??  
??

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

??——????????  
??

?????????DX?GX

??

??  
??

??DX?GX????????

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

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

???????????????????? vs. ??????

?? ? · Saturday, June 22nd, 2024

REPowerEU 2030 100

European Hydrogen Backbone EHB 5

EHB EU 800 98 CO2



Petmal/iStock

2030 1000 2050 5000 CO2 10%

EU

FC

2017 2020 100 4 FC 2023 27 FC 8000

??

??????2030??  
??

????????????????1??  
?3?4000??

??LNG??  
??

??2030??70????????????????????????????????????

??t-  
online????????????EU????????????????????????????????????

????????????????2017????2023??  
????????????????

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

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

????????????????????????????????????23??  
????????????????????????????????????2???????

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

????????23?8????????????????????24??  
????????????????????

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

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

??3GW?7GW????  
????????3GW???????

????????????????3GW??100  
????????????3GW??

??  
????????3GW??

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

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



??  
??

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

??  
??

??  
??  
?????

??  
??  
?

??

??

??  
??

??  
??

??  
??

?? ?

??

????????????????????SDGs??7????????????4????????????  
??

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

## ????COP29

?? ? · Friday, June 21st, 2024





COP29 HP??

6????????60????????????????SB60????????SB60????2023??COP28????????????????2024?11??COP29????????????????????

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

COP29????COP????????2015????????????????1000????????????????????????????????N CQG????????????NCQG?COP29????????????????2025????????????NDC????????????????????

????1.5????2050??

COP28????????????????????????2025????????2030?43??2035??60????2019????2030????? ??????3????????????2????????????1.5????????????????????????????????

????????????????NDC????????2030????6????????2050????????????????????2030?????4 .3????????2050?????5????????????????????????????

??

SB60????????

????????????????COP29????????????NCQG????????????????4??

??



COP29????????????????????1.5??

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

??

?? ?? · Monday, June 17th, 2024



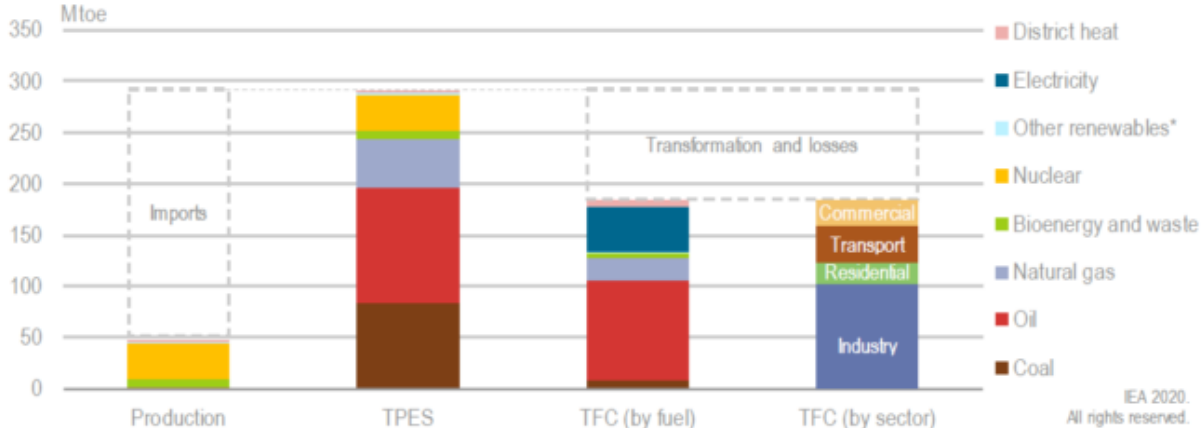
1xpert/iStock

??

??



Figure 2.2 Overview of Korea's energy system by fuel and sector, 2018



Both energy supply and demand in Korea are highly dominated by fossil fuels due to a strongly developed industry sector.

\* Other renewables includes wind power, geothermal, hydro and solar energy.  
 Note: TPES = total primary energy supply. TFC = total final consumption.  
 Source: IEA (2020), IEA World Energy Statistics and Balances (database), [www.iea.org/statistics](http://www.iea.org/statistics).

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

????IEA????????????????????185????????????????????37????????????????????

????????????????????3????????????????????1????????????????10?10????????????????

????????????????45????????????????5163????2022????1????8.7????????????

??

??

??

?



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

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

?? ?? · Sunday, June 16th, 2024



3alex/iStock

?????2050?CO2??GX????????????????

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

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

????????

??  
??

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

????????CO2??

??  
???

????????CO2????????????????2050????????????G7????????????  
????????????????????????????????????20????????????6????????????  
????????

??

????????????????????????????????1992????????????????1991????????  
??  
??

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

??  
????????????????????????????????NATO?G7????????????  
????????

??  
????????????????????G7????????????????????  
????????????????????

????????????????????????180????????????????  
????????????????????ESG????????????

??

??EV??ESG??EU????EU????SDGs????  
????SDGs????

?



Posted in ???, ????? | No Comments »

??

?? ? · Saturday, June 15th, 2024



RapidEye/iStock





365 IPCC 6

IPCC IPCC

1 IPCC 1 63

CO2 50 ppm 410 ppm CO2 3 4 109

200 CO2 200 3 4

CO2 CO2 CO2 CO2

IPCC

CO2 ppm CO2 3 CO2

CO2

21

79

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

# ?????????? TSMC????vs.??????????

?? ??? · Monday, June 10th, 2024



Hase-Hoch-2/iStock

???

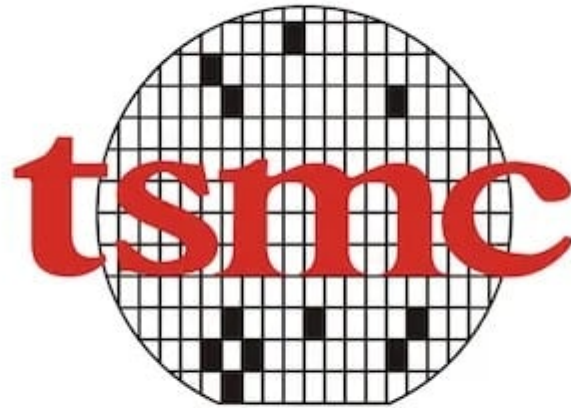
????AI??

????????????????????TSMC????????????????????????????????????NTT?NEC????????????????????????  
?TSMC?2024?2????????????????????2025?4????????????????????

??

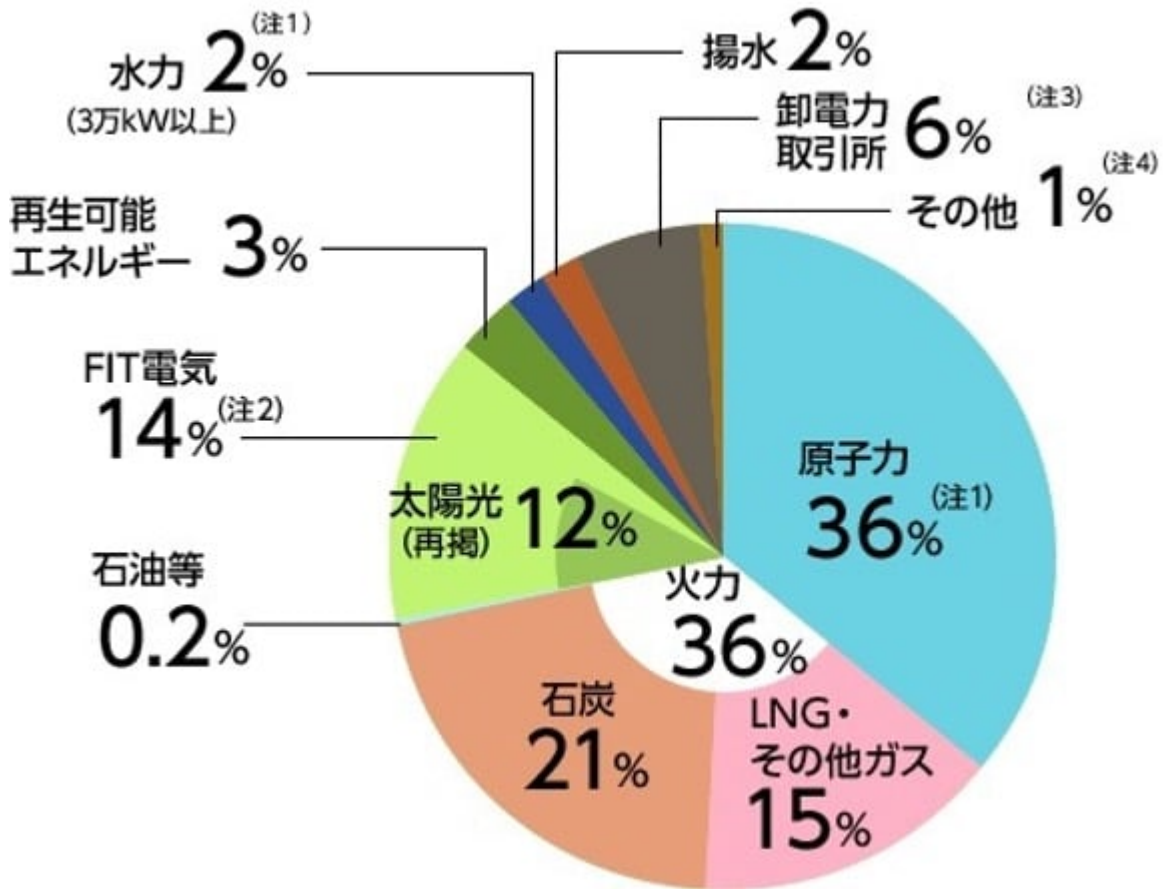
??

TSMC???????



TSMC??3??1????????????????????????2??  
??

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



?1????????????2021??  
??????????HP????

????????????????????????????????????2024?4????????????1kWh??28.78?/kWh????????3??10??  
????????????????28.51?/kWh??

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

??

????????????????TSMC????????????????????????

????TSMC????????1811?kWh?2021??<sup>22</sup>????????????????????????20?/kWh??????3.6?/?  
??

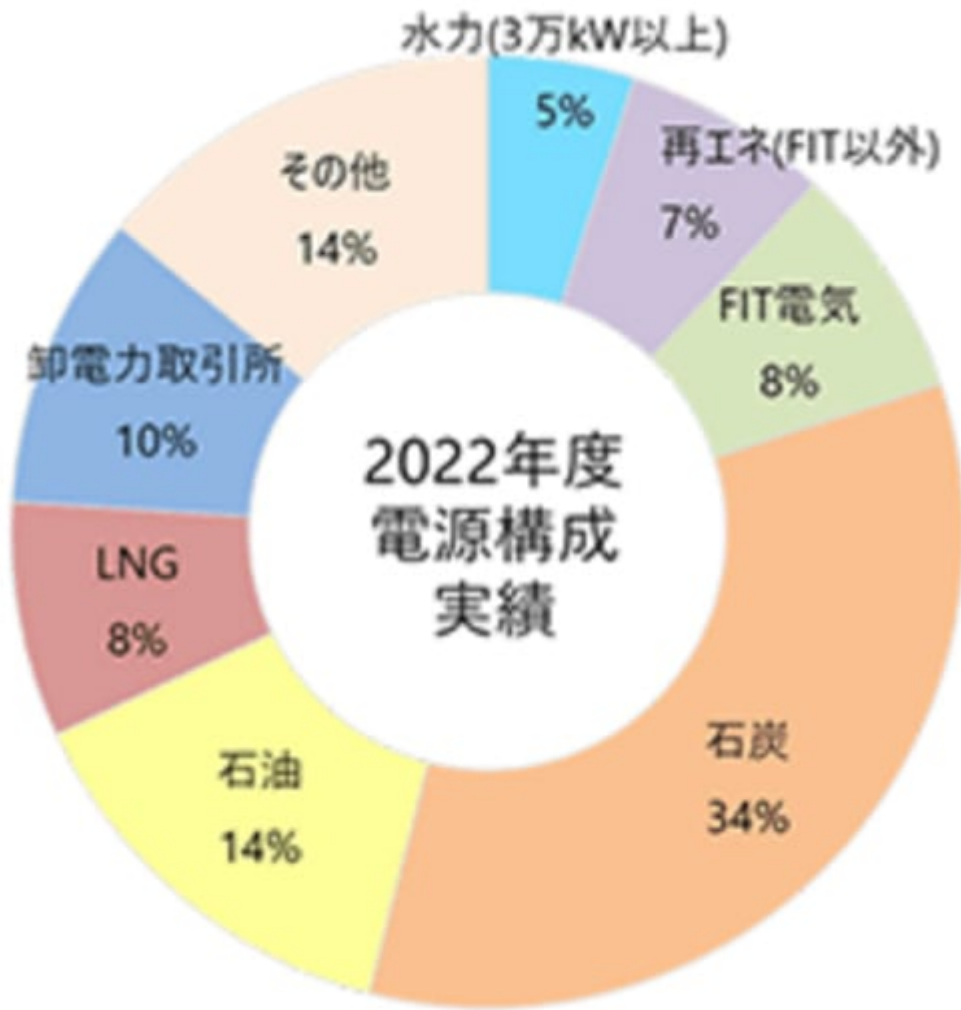
??

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



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

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



2020年  
HP

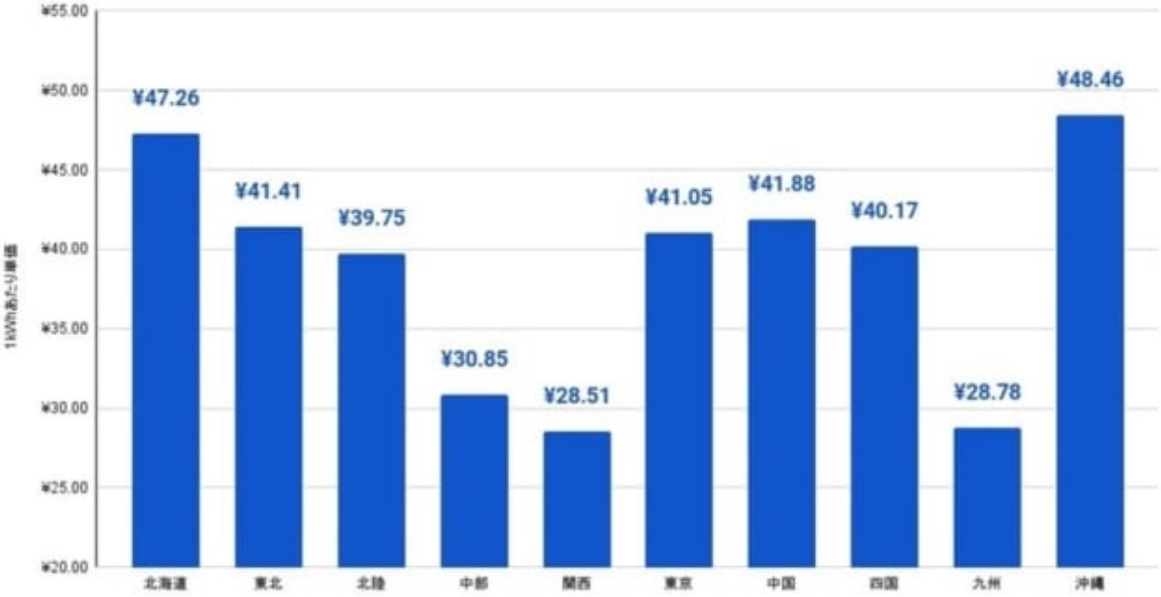
2024年4月1kWh 47.26/kWh  
10月 48.46/kWh

2024年4月1kWh 47.26/kWh  
10月 48.46/kWh

2024年4月1kWh 47.26/kWh  
10月 48.46/kWh

10月1kWh

【地域別】電気料金1kWhあたりの目安単価 (2024年4月以降)



3?1kWh?????????1?

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

??

?2???TSMC?????????Fab18  
????5?8???Fab18????????????????????

Fab18  
????5?8????88?kW????70?kWh??

70?kWh ×?47.26?28.78?/?kWh?1294?/?

???????

????????????????????????1300??  
???????????

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

88?kW????????????

88?kW × 24h × 365??77.0?kWh

???????????

70?kWh/77?kWh?90.9?

??

?????3?1??

??  
??

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

???

??TSMC??

??

??

??  
??

?1?1kWh????????????????????????????????

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

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

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

?? ?? · Saturday, June 8th, 2024



Tula Kumkrong/iStock



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

2050??CO2??????2040??CO2????????????

????????????????????2040????????????????

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

??????2???

?1????????????????CO2????????4????????6????????  
CO2????????????????????????????????????

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

????????????????????????????????17????????83????  
????????

????????????????????35????????65????

????????????????????17????83????  
????83????

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

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

????????????2023????508.1TWh????53????  
????47????17????16????9????

????47????CO2????

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

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

????????

????????

????????

????2030??2040????  
????

??CO2????

?



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

??????2024????????????????????????????????

?? ?? ? - Friday, June 7th, 2024

6?9?????6?9???EU?5?????????????????????????????27?????????????????720?????????????????99????????????? ?????????????????????????????????6???



Sinisa Vidic/iStock

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

31????????????????????EU??EU?????  
?????????

????????EU????????????27????27??  
????????EU??



EU??  
????????????2019????????????????????CSU????????????????  
??  
????????????????????

??EU????????  
????????????????EU????????????????????5????EU????  
??

??3?  
??  
??

????EU????????4????????????????????????????????????  
??  
????????????????????????????????????

????????1????????????????????????21????????????????  
????????CEO????????????????????????????????????E  
U????22????23????18????????????????????????  
????????????????????

????????????????  
Wikipedia??

??  
??350????  
????????????????????15.5????19.5????????  
??????

??EU??  
????????????????????????????????????“????”????19.5????????10????????????????

??  
??EU????????7????????????????????21?10????  
????????????????????

??29??  
??

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

????75?24????????????????????????????????12?6????????????????????????????  
????????????????????CDU??  
????????????????????????????





????????????19????????????

????????????2011????????????FIT????  
??????

????????????40????????????EU????  
????65????????



2011????65?/kWh?FIT????40????  
?20????

???????????? <https://t.co/iZypBM74D5>

— ??? (@ikedanob) April 18, 2024

2012?12????40????42????20????  
????20????

????2030????44????  
???TF???

**????????TF**

2022?3?2????3?17????335????  
????3????

????TF????3????1000????  
????4500????270????67????5????

????TF????????????????????  
????

????????????TF????

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

3?11????2????FIT????  
????

????1990????

????

????(JEPX)????

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

????????????????1????????????????3????????????21????????????????????????????????  
??

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

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

????????TF??2021????6????????????  
??



??TF????????????TF????  
?????

?? <https://t.co/JxGxQd6abK>

— ??? (@ikedanob) March 27, 2024

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

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

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

??TF????????????????????2023?12?  
??

????????????????????TF??  
????????????????????????????

????????????????TF??  
??

??TF??  
??

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

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

?? ?? · Sunday, May 26th, 2024

??

??  
?????

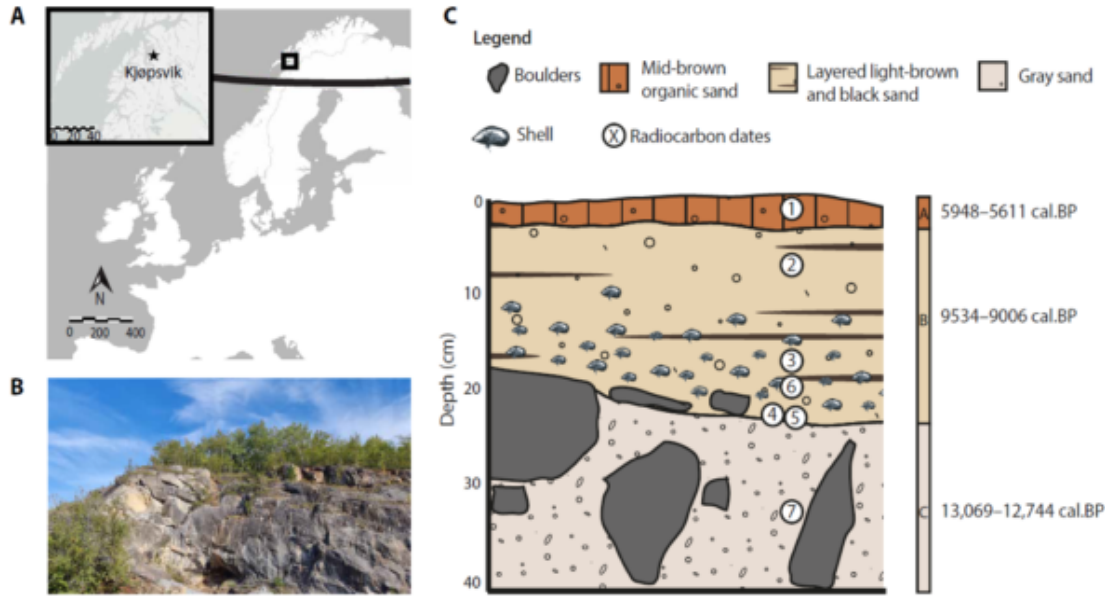


??  
??DNA??

?????Boilard et al,  
2024??????82????????????DNA????????????????????????????????  
??

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

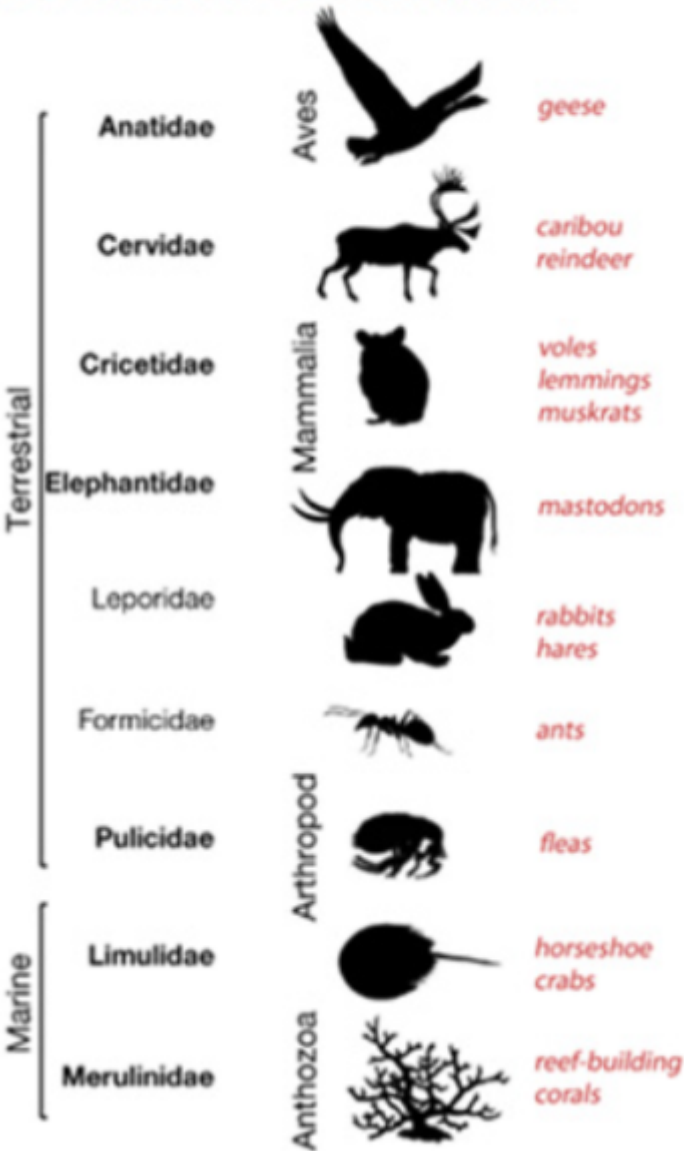




????????????DNA????????????????????????????360????80????????????????????11????19????????????????  
????????????????????????????Kjaer et al.2022??



**Fig. 4: Early Pleistocene animals of northern Greenland.**



??

?????DNA??  
????????????????????????????????????

?



Posted in ???, ????? | No Comments »

??

?? ?? · Saturday, May 25th, 2024



KE ZHUANG/iStock

80????????????????2040??

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

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

???

??  
?

2022????10kW??  
??  
??????????????????????????

??  
?? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ???? ????  
Environment??  
for

??

??  
PCB?Poly Chlorinated  
Biphenyl??

??

??????

??  
??

??

??

??

??  
PCB?????????  
??  
??

??  
PCB?????????  
??

??

??

??

??

?

6?14????????????????????



?SDGs????????????????

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

**???0.85?????????5300????????????????**

?? ?? · Thursday, May 23rd, 2024

????????????????????????????????3.11????????????????????7????????????????????  
????????????????????

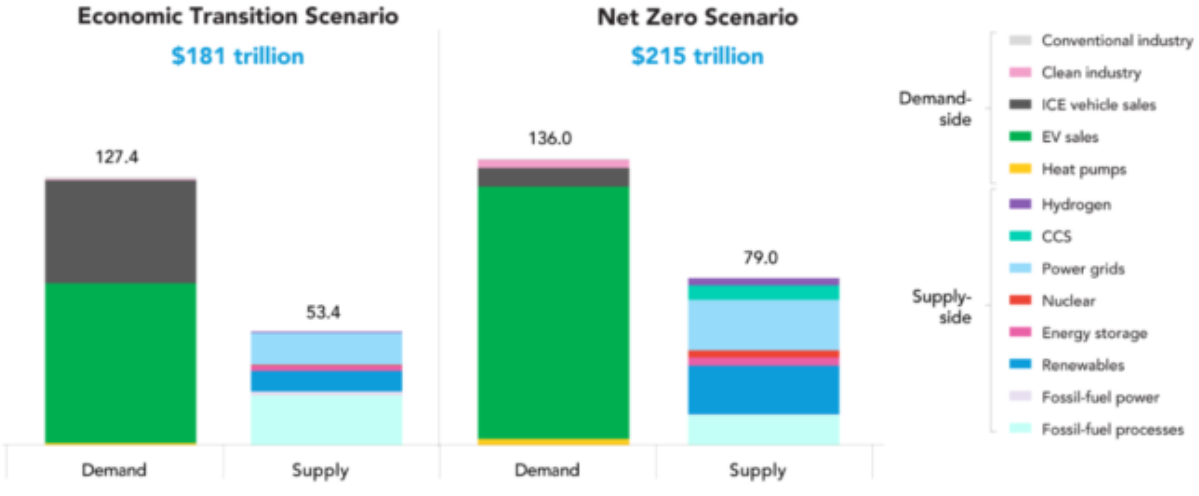


ChatGPT

**2050?????????34??**

??2050??IEA????????????4.5????30??135????????????????  
????????????????????????????25??34??5300????????

### Global energy investment and spending across 2024-2050, Economic Transition Scenario and Net Zero Scenario



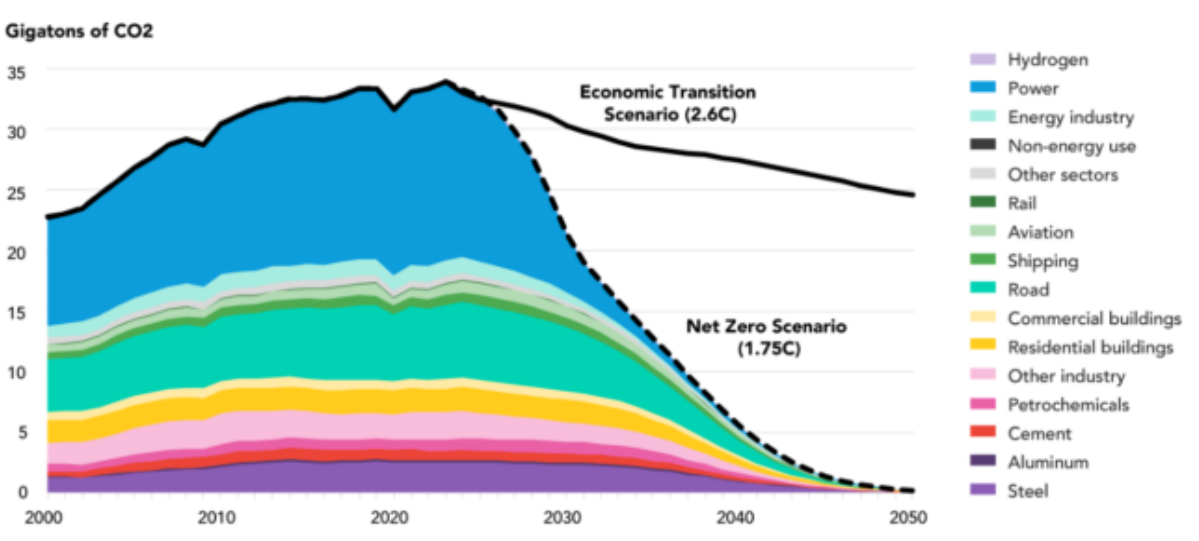
Source: BloombergNEF. Note: ICE is internal combustion engine, EV is electric vehicles. The numbers above the bars indicate cumulative investment and spending figures from 2024 to 2050.

Bloomberg??

????????????????????????????????181????????2050??215????????34????????  
????????????????????????????????????

??2050????????2.6????????????????1.75????????????????  
??34????????0.85????????????

### Energy-related emissions and net-zero carbon budget, Economic Transition Scenario and Net Zero Scenario



Bloomberg??

????????????(C/B)????????1??GDP?9  
??

???????

???2050??

?????????2100??2.6?

??2023????????????????  
????????????????????2100??2.6????????????????2050??2??????

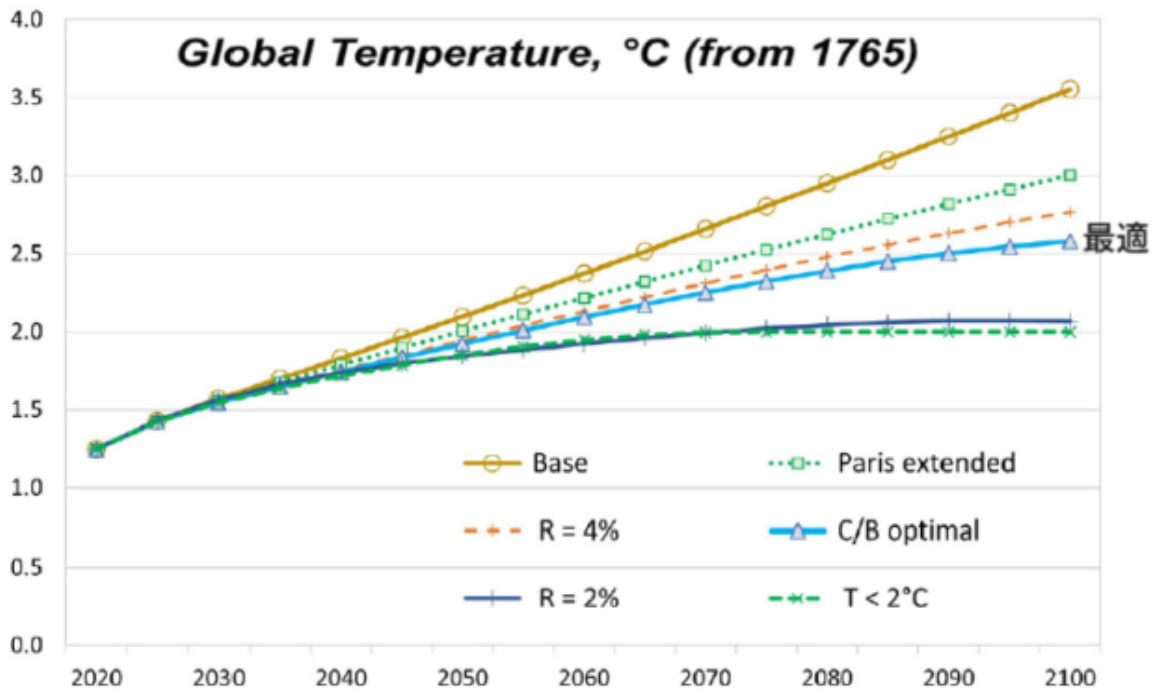


Fig. 3. Global temperature increases in different scenarios.

Barrage-Nordhaus

??125??/?????????59??9000????????????????????????????21?  
??????



**Table 2. Social cost of carbon, alternative scenarios (2019\$/tCO<sub>2</sub>)**

Scenario	Social cost of carbon (\$/tCO <sub>2</sub> , 2019\$)		
	2020	2025	2050
C/B optimal	50	59	125
T < 2 °C	75	89	213
T < 1.5 °C	3,557	4,185	16,552
Alt damage	124	146	281
Paris extended	61	72	159
Base	66	78	175
R = 5%	32	37	74
R = 4%	49	58	107
R = 3%	87	102	172
R = 2%	176	207	302
R = 1%	485	571	695

This table shows the importance of discounting and alternative damage estimates on the SCC. It includes the SCC for the 1.5 °C scenario to indicate the cost induced by the catastrophic loss of output to reach the target. The label "R = X%" is scenario with a constant discount rate of X% per year.

Barrage-Nordhaus

????T?1.5????4185????9000????2100????2.6????2050  
????70????

??

??0.85????????????????

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

??

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

# 21????????????LNG????????????

?? ?? · Thursday, May 23rd, 2024



Oleksii Liskonih/iStock

## ????LNG????????

????????EIA????2023????LNG????22??12%????119??????11.9Bcf/d????????  
????????LNG????????

??2000?  
????????????10????2016????????????????????????????LNG????????????LNG????????????23?  
12????LNG????13.6Bcf/d????????????

????????????LNG??2023??LNG?????  
????????????????????????????????LNG????????????????????

20??  
????????????????????????????

????????????20??  
??????????????

??20????????????????????????  
????????????????????????????

??21??  
??

??????????

??20??

??8??  
??COP28????????????????????????????????????  
??

??  
??

??NAFTA??-162????????????????????LNG????  
??34????????????????????????????????LNG????????????????  
??

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

??1????????????????LNG????????????????????????????????

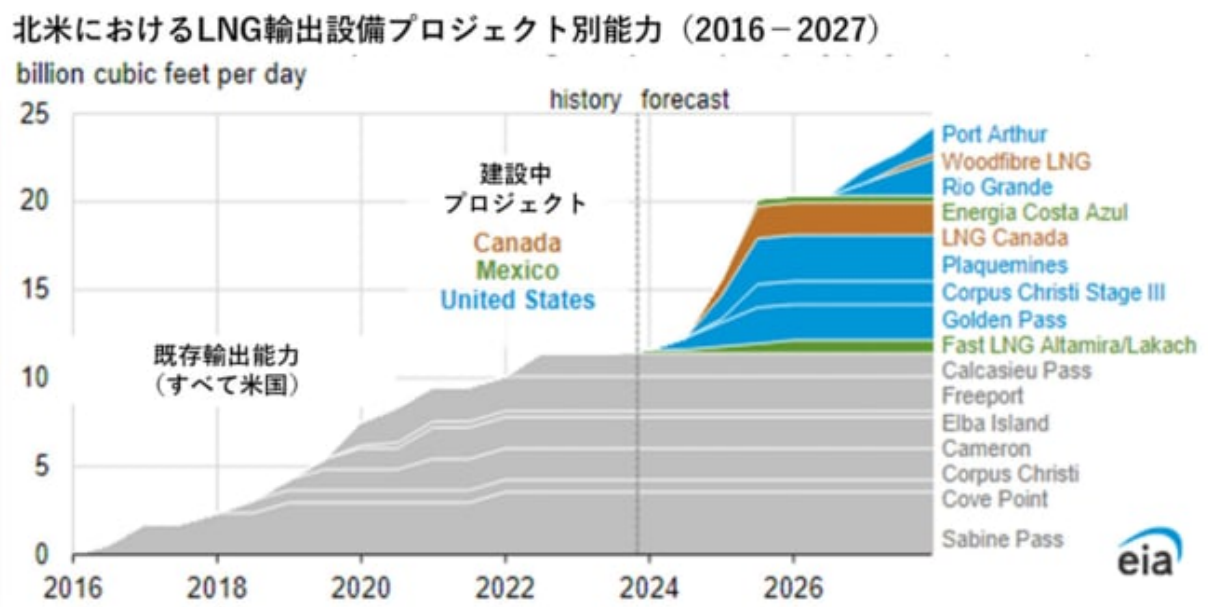
1?26????????????LNG????????????????????????????????LNG????????????????????????????????  
??  
???????

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

????3??LN  
G??  
???????

?????????

????????????????????????????????LNG????????23????11.4 Bcf/d????????????????2027????24.3  
Bcf/d??9.7 Bcf/d??2.1 Bcf/d??1.1  
Bcf/d?????



????????????????”Today in Energy”

??LNG????????????????????LNG????????4????????????????????????????

??  
??

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

??20????????????????????21????????????????????????????????????

??

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

**80????????????????????????????????????2040???**

?? ?? · Wednesday, May 22nd, 2024



Voyagerix/iStock

**1. ????????**

??

??  
??

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

??

??  
????????????????????????????709????????????????????????????????

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

??25?30????????????2012????????????FIT??2  
032????20??2015??2,351????2040??80????????

??CIS????????????????  
??  
????????????????????

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



??  
??

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

??  
??WDS????????????????  
????????????????

??

2022?????10kW??  
??

**4. ????**

?????????????2040??80??

?????????????????????????17??83????????  
????17??

??

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

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

?? ?? · Monday, May 20th, 2024

??

311????????????????????????

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

<pic.twitter.com/lAsK5AdESg>

— ????? (@ISOKO\_MOCHIZUKI) May 16, 2024

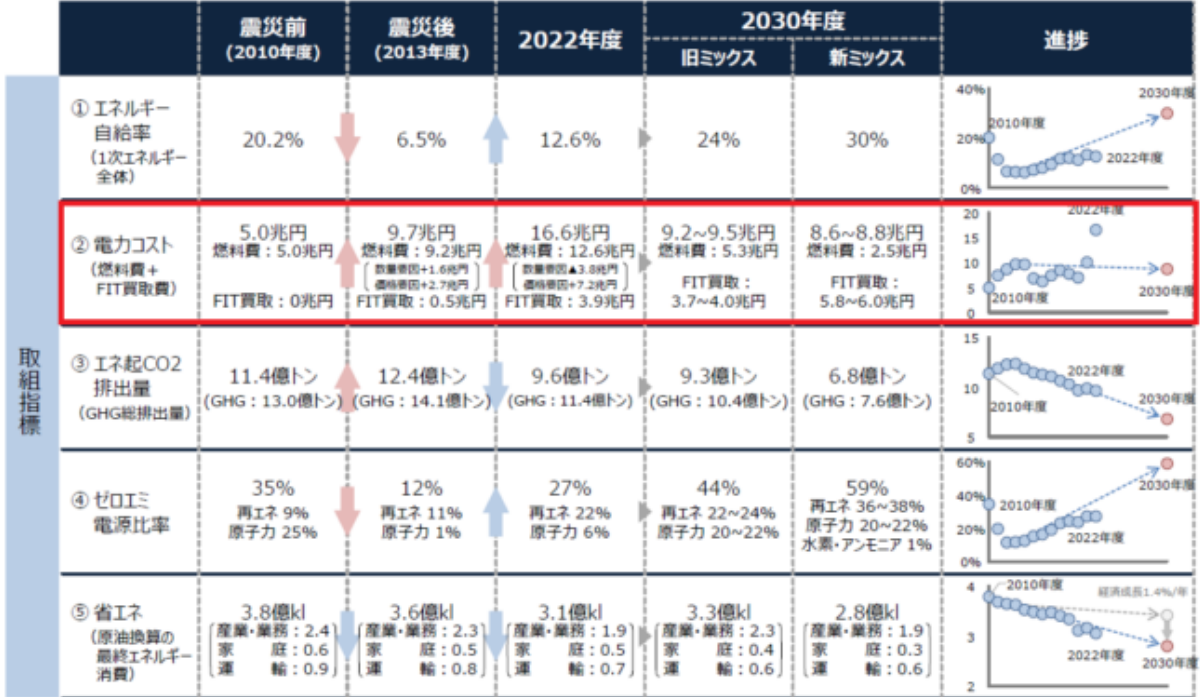
??2?????????GX??  
?

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

??????GX????????????????????????????????????10????120?kW????????????1000  
?kW????????????????????????????????????2030????????????????????????????

??FIT????????????????16.6????2030????8.6?8.8????  
????????????????

### 2030年度エネルギーミックスの進捗（全体像）



※ 四捨五入の関係で合計が合わない場合がある。  
 ※ 2030年度の電力コストは系統安定化費用（旧ミックス 0.1兆円、新ミックス 0.3兆円）を含む。  
 出典：総合エネルギー統計（2022年度速報）等をもとに資源エネルギー庁作成

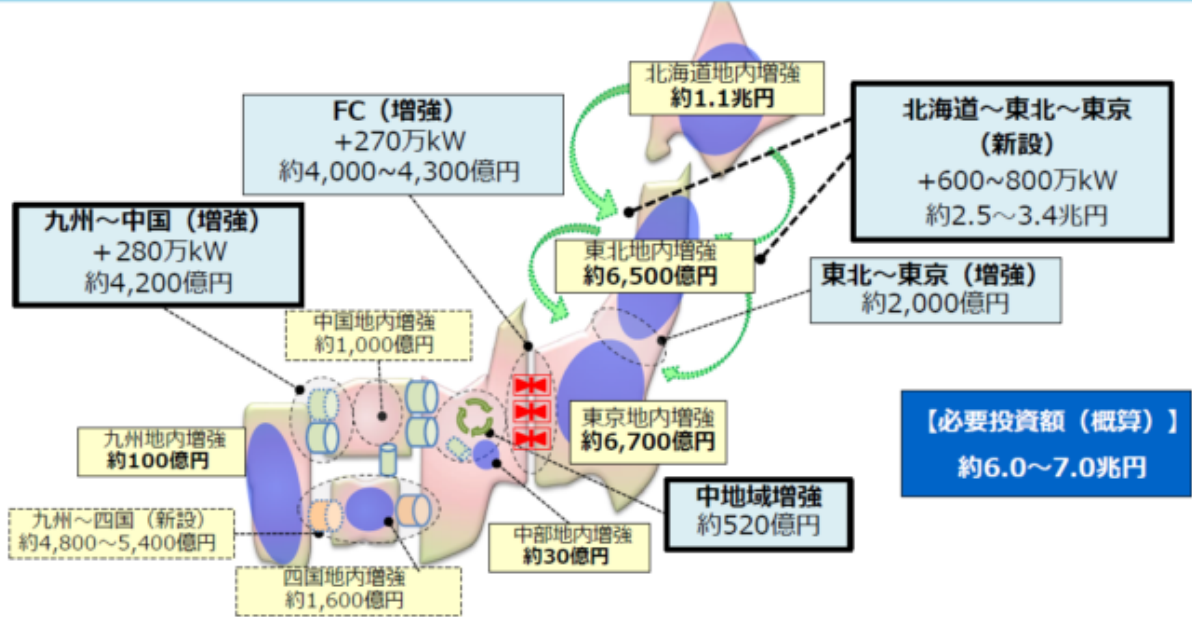
????????

??6?7????????????????????  
????????????????GX????????????????????



# マスタープランに基づく全国規模での系統整備

- 再エネ大量導入とレジリエンス強化のため、電力広域的運営推進機関において、2050年カーボンニュートラルも見据えた、広域連系システムのマスタープランを2023年3月29日に策定・公表した。
- 並行して、北海道～本州間の海底直流送電等について、具体的な整備計画の検討を開始。



(出典) 広域系統長期方針 (広域連系システムのマスタープラン) (電力広域的運営推進機関2023年3月29日策定) のうちベースシナリオより作成

????????

??8.8????????????????  
????????16.8????????????????????

?????GX????????????7????????????????????????????????????23.8????????????1.5????????????????????  
????????????????????????????????

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

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





Animafloa/iStock

????????????????????4????????????38????????????????????????????????????  
????????????????????

???SED  
????????????????????40????????????????????????????

??  
????????????????????????????????????38????????????????????????????

??



?????????  
draghich/iStock

18?????25??  
??

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

??  
??  
??

??  
??



???????

??????????1952??  
??????????????????



?????????

??2400??????????800??1?????????  
??



??????????

????????????????????????????????30??  
??

??18?????????  
????????????????????????????

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

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

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

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

??  
??

1989????????9.1????????????????????????????????18.9??  
??1960????????????????????????  
??

?????4????12?4??

?????

??13?????????????????  
??  
??

Posted in ???, ?? | No Comments »

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

?? ?? · Friday, May 17th, 2024



MarioGuti/iStock

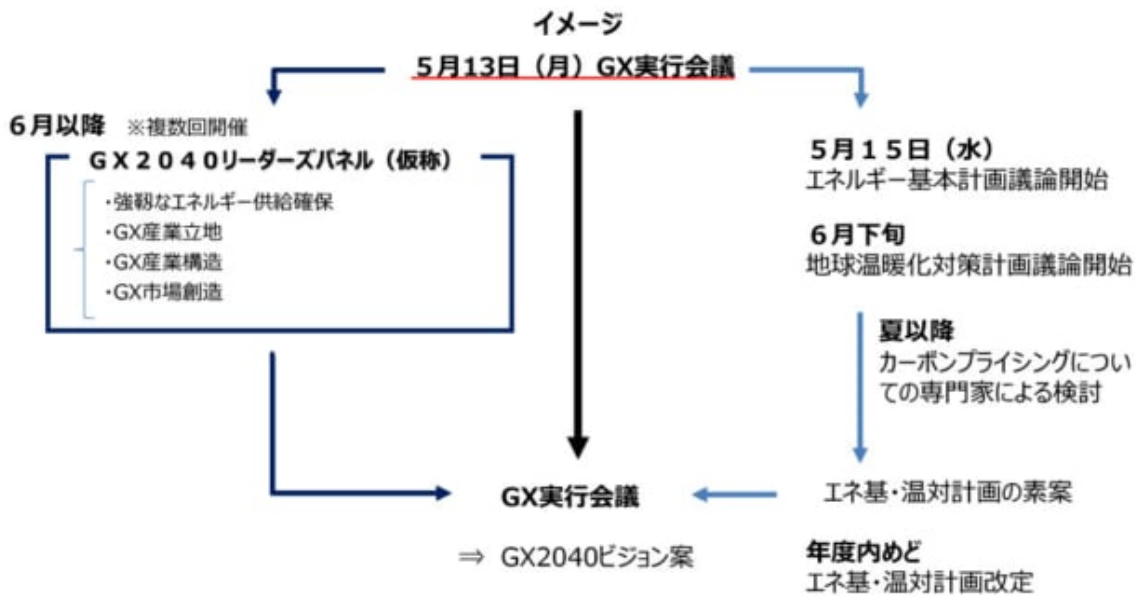
????????????????????

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



今後の進め方（案）

- 今後、これらの論点について、6月以降『GX2040リーダーズパネル（仮称）』を開催し、有識者から見解を聴取。それを踏まえてGX2040ビジョンにつなげる。
- こうした議論も踏まえ、エネルギー基本計画・地球温暖化対策計画の見直しや、カーボンプライシングの制度設計につなげていく。



11

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

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

2030年度エネルギーミックスの進捗（全体像）

	震災前 (2010年度)	震災後 (2013年度)	2022年度	2030年度		進捗
				旧ミックス	新ミックス	
① エネルギー自給率 (1次エネルギー全体)	20.2%	6.5%	12.6%	24%	30%	
② 電力コスト (燃料費+FIT買取費)	5.0兆円 燃料費：5.0兆円 FIT買取：0兆円	9.7兆円 燃料費：9.2兆円 FIT買取：0.5兆円	16.6兆円 燃料費：12.6兆円 FIT買取：3.9兆円	9.2~9.5兆円 燃料費：5.3兆円 FIT買取：3.7~4.0兆円	8.6~8.8兆円 燃料費：2.5兆円 FIT買取：5.8~6.0兆円	
③ エネ起CO2排出量 (GHG総排出量)	11.4億トン (GHG：13.0億トン)	12.4億トン (GHG：14.1億トン)	9.6億トン (GHG：11.4億トン)	9.3億トン (GHG：10.4億トン)	6.8億トン (GHG：7.6億トン)	
④ ゼロエミ電源比率	35% 再エネ 9% 原子力 25%	12% 再エネ 11% 原子力 1%	27% 再エネ 22% 原子力 6%	44% 再エネ 22~24% 原子力 20~22%	59% 再エネ 36~38% 原子力 20~22% 水素・アンモニア 1%	
⑤ 省エネ (原油換算の最終エネルギー消費)	3.8億kl 産業・業務：2.4 家庭：0.6 運輸：0.9	3.6億kl 産業・業務：2.3 家庭：0.5 運輸：0.8	3.1億kl 産業・業務：1.9 家庭：0.5 運輸：0.7	3.3億kl 産業・業務：2.3 家庭：0.4 運輸：0.6	2.8億kl 産業・業務：1.9 家庭：0.3 運輸：0.6	

※ 四捨五入の関係で合計が合わない場合がある。  
 ※ 2030年度の電力コストは系統安定化費用（旧ミックス 0.1兆円、新ミックス 0.3兆円）を含む。  
 出典：総合エネルギー統計（2022年度確報）等をもとに資源エネルギー庁作成

43

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

????????????????????????????????FIT????????????

?????? ???

??

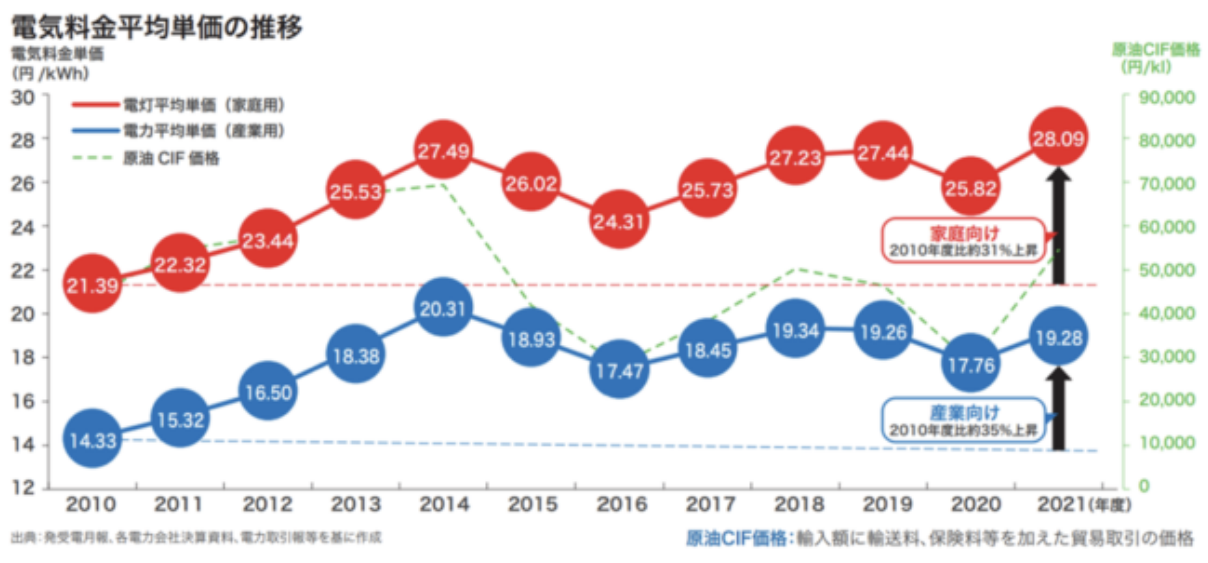
- ?????????????
- ?????????????
- ?????????????
- CCS????????
- ?????????
- ?????????
- GX????????
- GX????????

??????FIT??

????????????????????????FIT????????????????????????????????

????GX??

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



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

????????????????????????????????2010????????14????21????????

??

?



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