Global Energy Policy Research | GEPR

GEPR??????????????

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

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???BWR??

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

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2. MAAP????????????????

??MAAP?Modular Accident Analysis Program?????????????

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Darwel/iStock

1. ????????

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2. ?????????

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?????2020?10???????????2050????????????????????2035?????????EV????????????EV??????????????????550????????????????????????CO_2??????????????????????EV?????????????10????????????????????????????CO_2?????????????EV??????????????????????

3. ???????

??????2022??????????????IRA??????????????????????????????10???3700????????????????????
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EV??

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4. ???????

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4????????????????????1300????????????????????

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

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??EV????????????????????????????????
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??180????????????????

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Zero???

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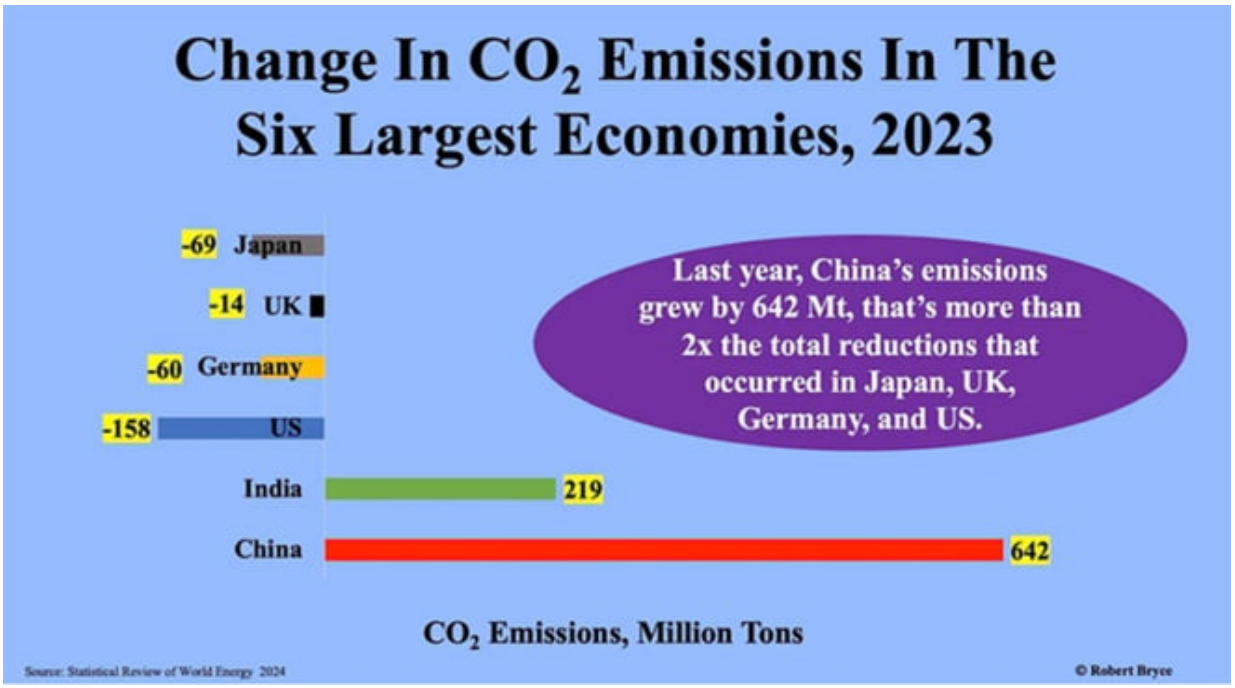
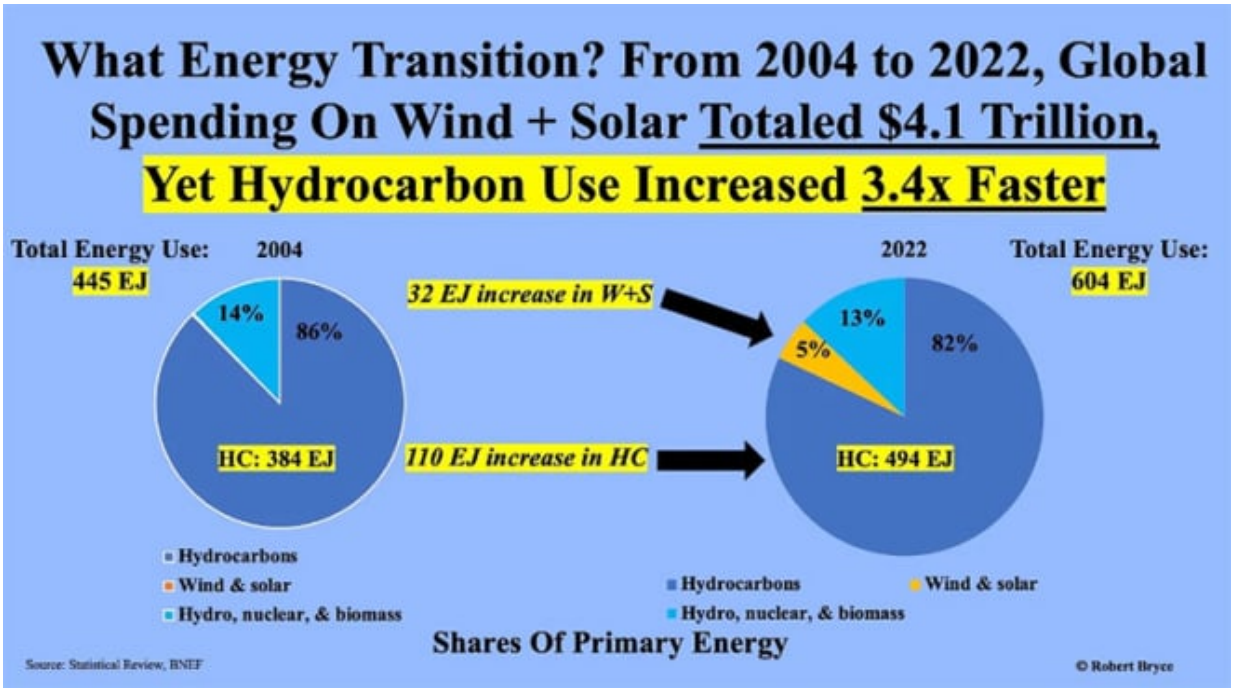
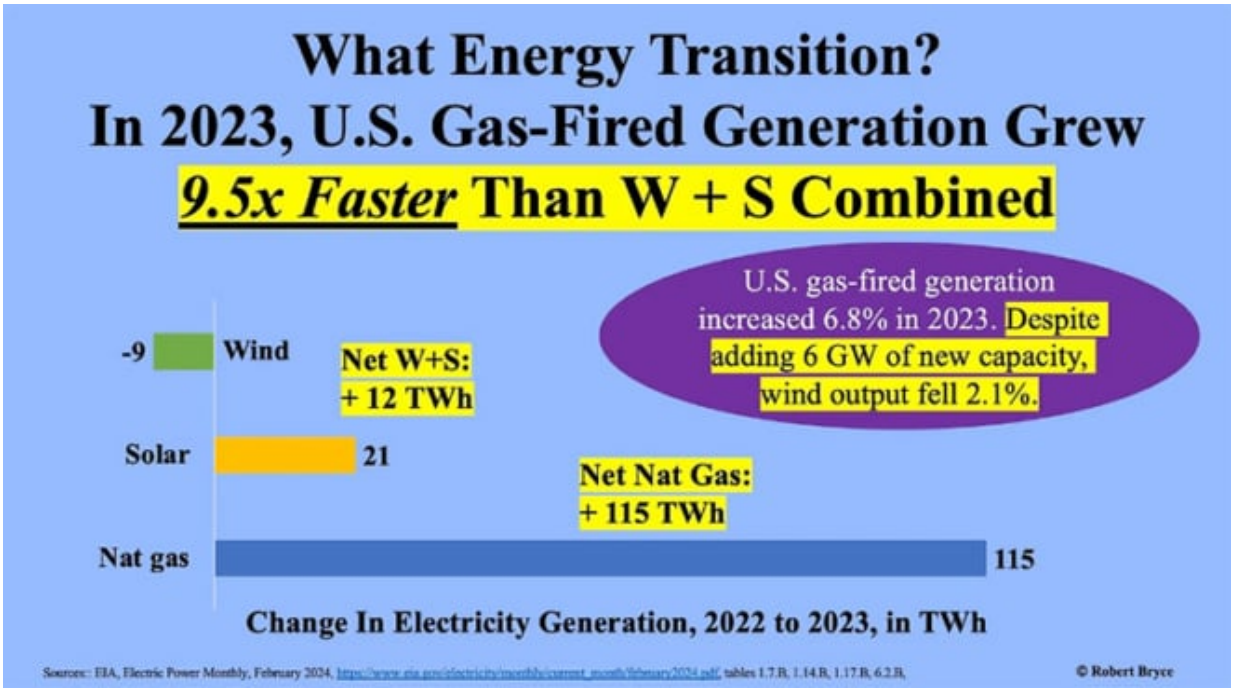
CO_2???



?????????????20?????????????????????????????????GX?3.4??????????????2023??????????????????GX??9.5??????????????????


What Energy Transition? From 2004 to 2022, Global Spending On Wind + Solar Totaled $4.1 Trillion, Yet Hydrocarbon Use Increased 3.4x Faster
Total Energy Use: 2004
445 EJ
14%
86%
HC: 384 EJ
32 EJ increase in W+S
110 EJ increase in HC
2022
Total Energy Use:
604 EJ
13%
5%
82%
HC: 494 EJ
Hydrocarbons
Wind & solar
Hydro, nuclear, & biomass
Hydrocarbons
Wind & solar
Hydro, nuclear, & biomass
Shares Of Primary Energy
Source: Statistical Review, BNEF
© Robert Bryce


What Energy Transition?
In 2023, U.S. Gas-Fired Generation Grew 9.5x Faster Than W + S Combined
U.S. gas-fired generation increased 6.8% in 2023. Despite adding 6 GW of new capacity, wind output fell 2.1%.
-9
Wind
Net W+S:
+ 12 TWh
Solar
21
Net Nat Gas:
+ 115 TWh
Nat gas
115
Change In Electricity Generation, 2022 to 2023, in TWh
Sources: EIA, Electric Power Monthly, February 2024, tables 1.7.B, 1.14.B, 1.17.B, 6.2.B,
© Robert Bryce

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

?? ?? · Tuesday, August 20th, 2024

vchal/iStock

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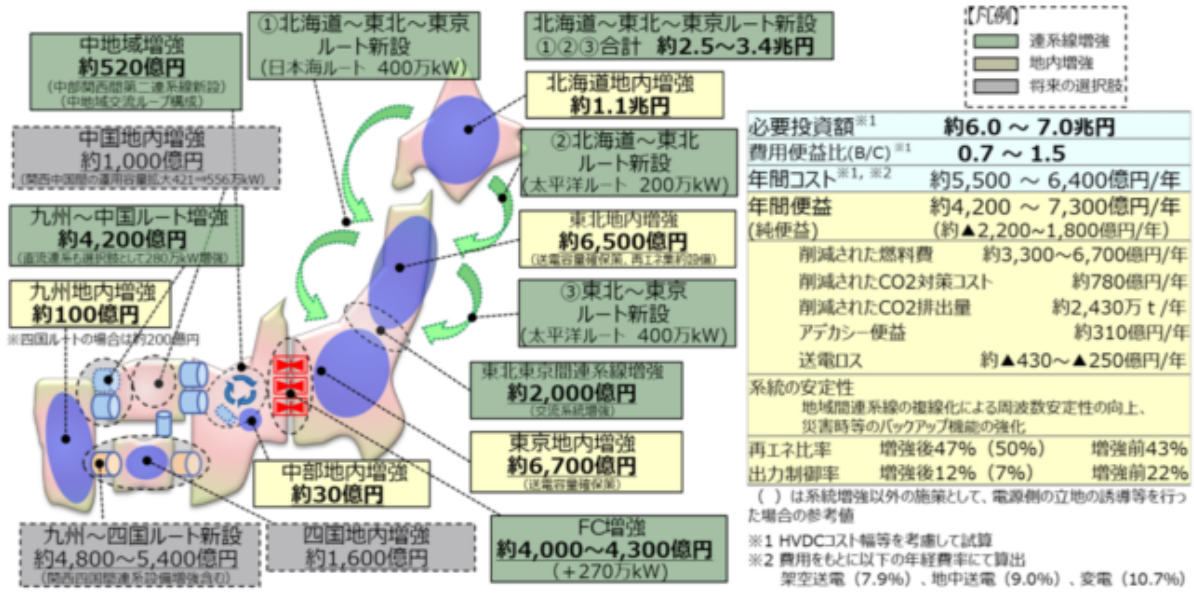

図 14 ベースシナリオの増強方策

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表 4　各シナリオの評価結果の比較

分析項目＼シナリオ	需要立地誘導シナリオ	ベースシナリオ	需要立地自然体シナリオ
系統増強の投資額※1（年間コスト※2）	**約6.0～6.9兆円**（約0.55～0.64兆円/年）	**約6.0～7.0兆円**（約0.55～0.64兆円/年）	**約6.7～7.9兆円**（約0.62～0.73兆円/年）
費用便益比（B/C）	**0.6 ～ 1.2**	**0.7 ～ 1.5**	**0.7 ～ 1.5**
年間便益（純便益（B－C））	約3,200 ～ 5,800億円/年（約▲3,200~300億円/年）	約4,200 ～ 7,300億円/年（約▲2,200~1,800億円/年）	約4,600 ～ 8,200億円/年（約▲2,700~2,000億円/年）
燃料費・CO2コスト削減	約3,200 ～ 6,100億円/年	約4,100 ～ 7,400億円/年	約4,600 ～ 8,300億円/年
送電ロス	約▲590～▲350億円/年	約▲430～▲250億円/年	約▲410～▲240億円/年
アデカシー便益※3	約330億円/年	約310億円/年	約310億円/年
CO2削減量	約870万t/年	約2,430万t/年	約2,830万t/年
再エネ比率※4	49%（50%）	47%（50%）	47%
再エネ出力制御率※4	10%（7%）	12%（7%）	13%

※1 偏在する電源等を大消費地に送電するための連系線等の広域連系系統の増強コストのみを記載しており、再エネ増加に伴う、調整力確保及び慣性力・同期化力低下等の対策コストは含んでいない。
また、HVDC 送電コストは、2050 年頃におけるスケールメリットや技術革新のコスト低減を先取りした単価を採用、海底ケーブル工事は占用料等を含まず、水深等を考慮したルート変更によるコスト増の可能性あり。
※2 系統増強を行うことで毎年発生する費用（減価償却費、運転維持費など）
※3 系統増強による供給力確保量の節減効果
※4（　）は系統増強以外の施策として、電源側の立地の最適化等を行った場合の参考値[32]
なお、電源については、再エネを最優先の原則の下で最大限の導入に取り組むという国の政策的議論を踏まえて、各シナリオにおいて同じ条件としていることに留意が必要

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?SDGs????????

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

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?? ??? ?? · Friday, August 16th, 2024

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21?12????????????????????????Bürgergeld??????????????????????????23?1??

Stadtratte/iStock

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????????1????????10??????????????????????????????2024???????????1??250?????4??????????????? ??

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??????????????????1???24??1??????????????????????12????????????????????????????

??????????????????????OECD??????????????????????????????1??

??12??“???”??

??72??

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????????????????????120??????????????????????4??1????3??400??????????120????????????????????????????

????????120??????????????20??

songqiuju/iStock

2024?7?24??

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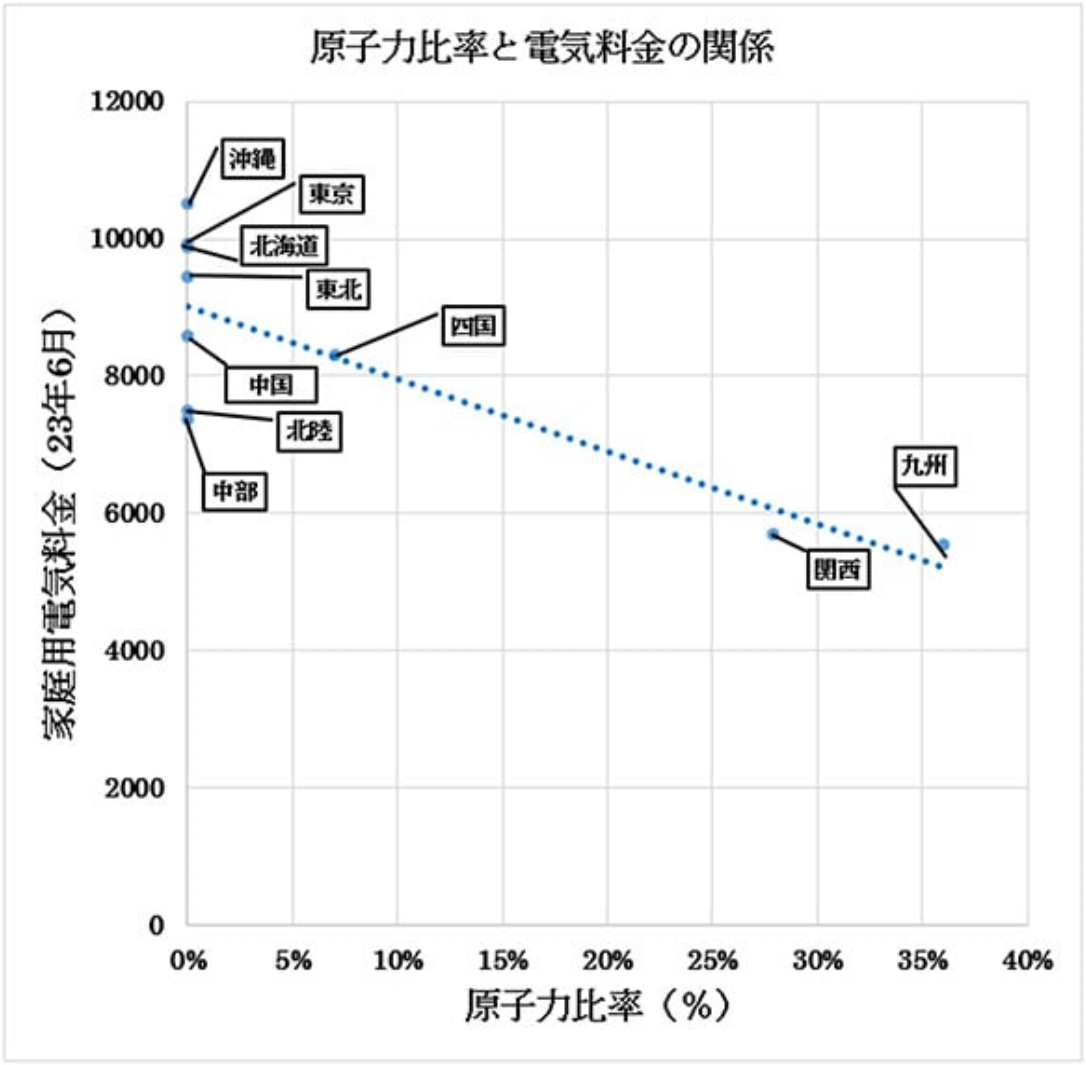
原子力比率と電気料金の関係
家庭用電気料金（23年6月）
原子力比率（%）
12000
10000
8000
6000
4000
2000
0
0%
5%
10%
15%
20%
25%
30%
35%
40%
沖縄
東京
北海道
東北
四国
中国
北陸
中部
九州
関西

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

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借入金返済的な科目は見当たらない？

（単位：億円）

			A 前回	B 今回	差引(B－A)
総原価	営業費	人件費	1,822	1,934	112
		燃料費	10,477	5,225	▲5,252
		修繕費	2,574	1,968	▲606
		減価償却費	2,937	2,510	▲427
		購入電力料	4,971	2,917	▲2,054
		公租公課	1,764	1,592	▲172
		その他経費	3,851	3,956	105
		小計	28,396	20,103	▲8,293
	事業報酬		1,340	1,199	▲142
	控除収益		▲635	▲763	▲129
総原価①			29,102	20,538	▲8,564
接続供給託送料②			－	15	15
接続供給託送収益③			▲135	▲890	▲755
託送料金据置影響④			－	▲125	▲125
小売対象原価 ⑤＝①＋②＋③＋④			28,967	19,538	▲9,429
現行料金収入⑥				20,415	（値下げ率） ⑧＝⑦／⑥
値下げ額⑦＝⑤－⑥				▲877	▲4.29%

?1?2017????????????????????????

?1??2017??

?2??????????????
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?3?2008??2018??

2015????????????????????????????????????2018??
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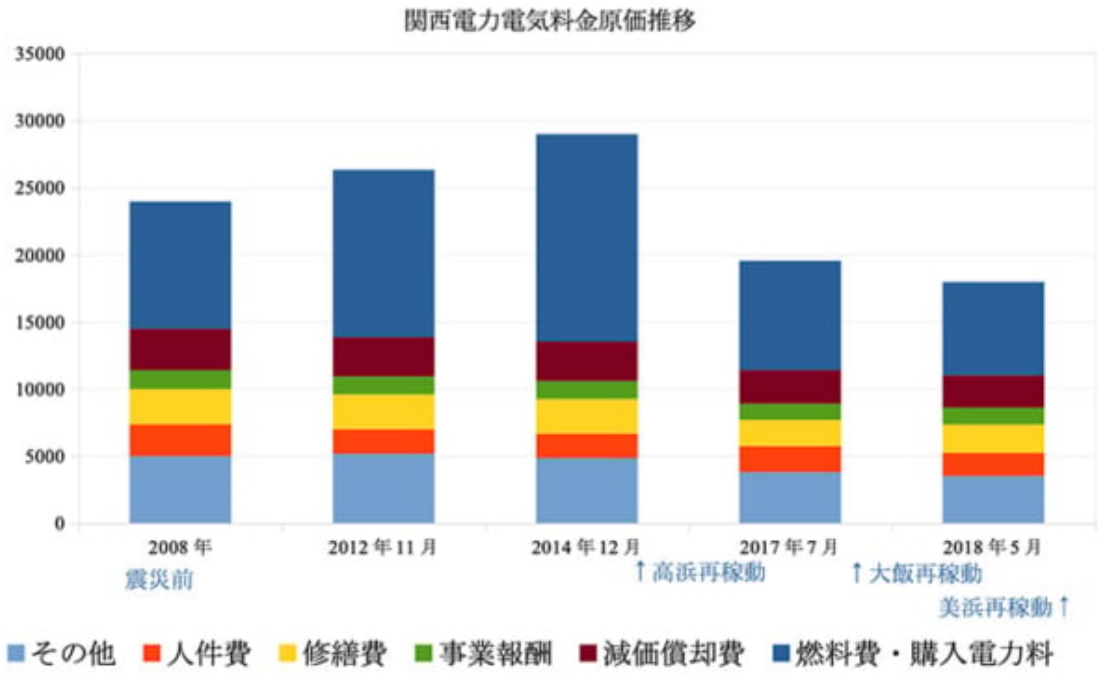
関西電力電気料金原価推移
35000
30000
25000
20000
15000
10000
5000
0
2008年
震災前
2012年11月
2014年12月
↑高浜再稼動
2017年7月
↑大飯再稼動
2018年5月
美浜再稼動↑
その他
人件費
修繕費
事業報酬
減価償却費
燃料費・購入電力料

?3?2008??2018???????????????

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

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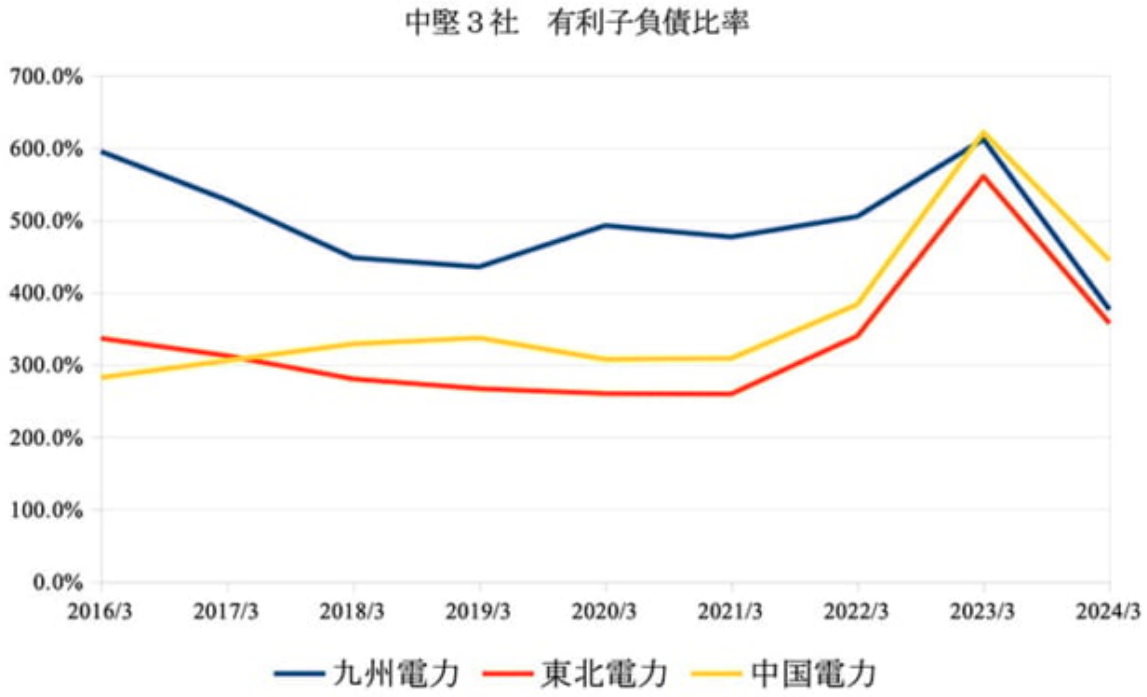
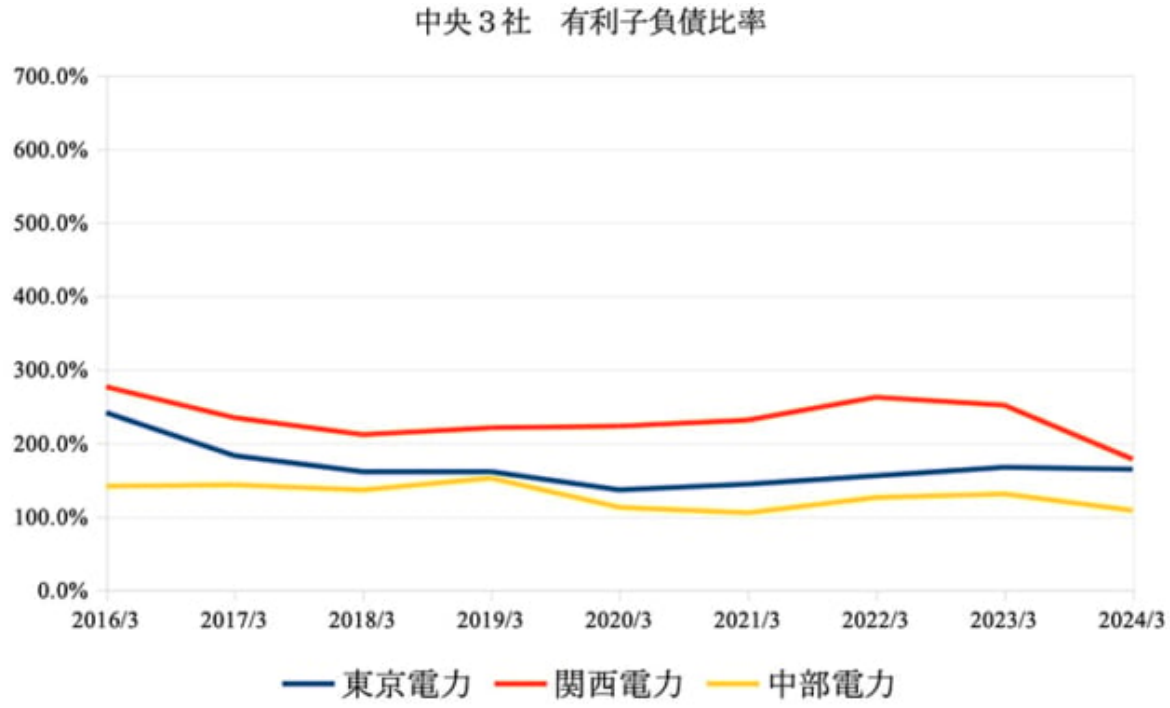


?4???3??????????????????????????????????



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

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

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2024?3?????3????????????????????????3??100%??????????????????

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1966?????1990??

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

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?? ? · Wednesday, August 7th, 2024

imagedepotpro/iStock

??????????????Climate4you???????????4?”for”????????????????????????????Ole Humlum??????????????????????????????

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

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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????0?100m????????????????????????????

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

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

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??4?5??

4??CO2????????????????????????????????CO2?????
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??1000????????????????????
???1000??

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TV??

??CO2????????????????????
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??1000????????????????????

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

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

?????????5???????????????IPCC????????????????????????????????2021?4????????????????????
CO2????218.2 Gt-C/???????????CO2????215.0 Gt-C/??????3.2 Gt-C/???????????????2ppm???????????????????Gt-C/????????????10^{9}???/????????

??????????CO2?????8?9 Gt-C/???????????????????6.4 Gt-C/?????????????CO2????2.9%????????????5????????????????????

?CO2????2.9%???????????CO2??2020?2021??COVID??????????????????????CO2???????????
??????????????????CO2???????????????50??
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???????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%????????????3.2×0.036?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??????????????????

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??1998??2010??2016??2020??????????2023??
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??10???????????

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

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

??CO2??? ??

Posted in ???, ????? | No Comments »

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?? ?? · Tuesday, August 6th, 2024

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- ????????????????????????????
- ????????????????????EU????????????????????????
- 2023?3????????X??

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

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?? ?? · Monday, August 5th, 2024

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

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

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

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GEPR??? · Friday, August 2nd, 2024

Alberto Masnovo/iStock

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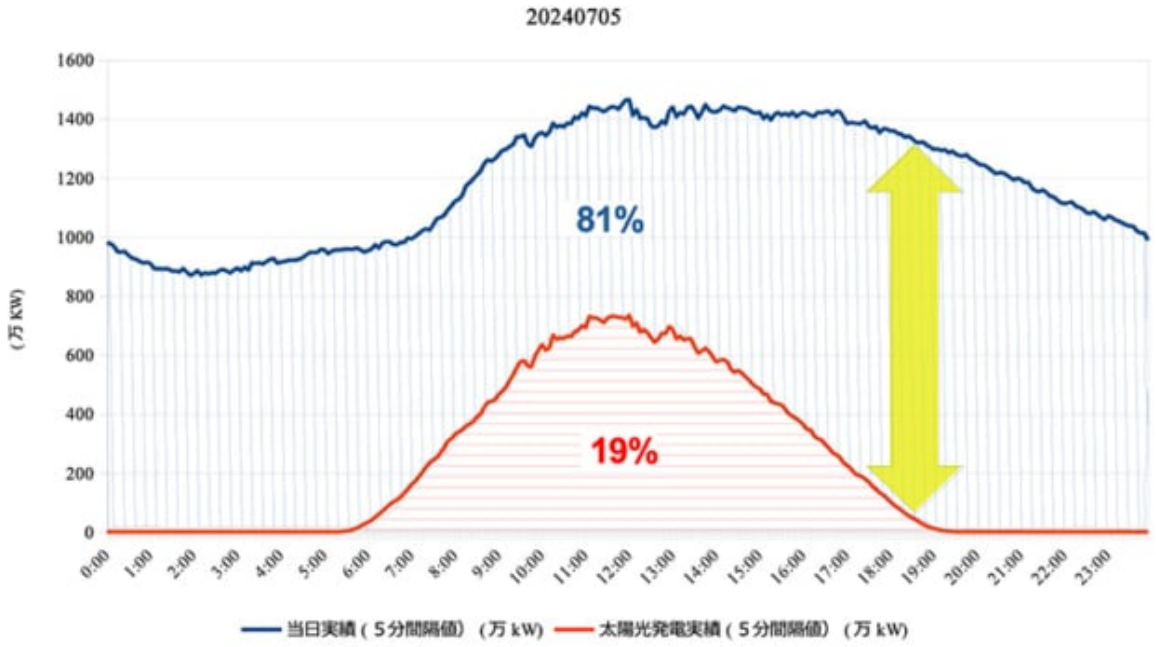
1. ??????????????

??2???????????1??????????????????????????????????????0??24?????????????KW??

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


20240705
1600
1400
1200
1000
800
600
400
200
0
(万 kW)
81%
19%
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
当日実績（5分間隔値）（万 kW）
太陽光発電実績（5分間隔値）（万 kW）

?1??????????????
????????????????**????19%**??????
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20231207
1600
1400
1200
1000
800
600
400
200
0
(万 kW)
83%
17%
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
当日実績（5分間隔値）（万 kW）
太陽光発電実績（5分間隔値）（万 kW）

?2??????????????
????????????????**????17%**??????
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????????????????????????????????12??
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??**18%??**????????????
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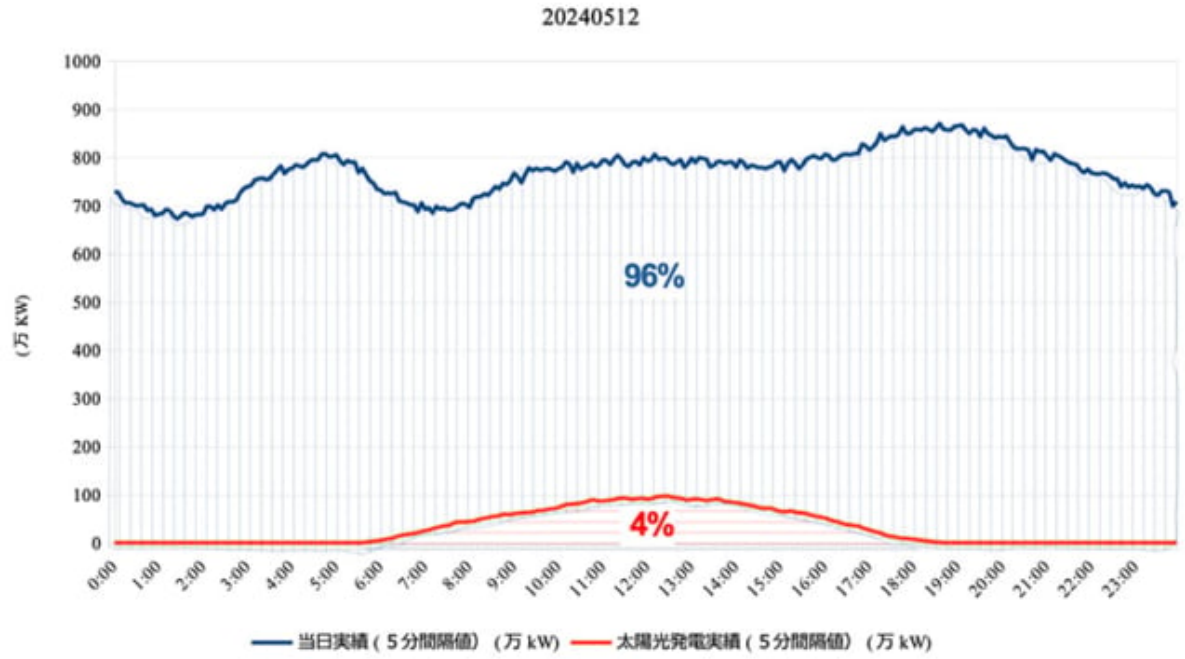
??????????????18??19??

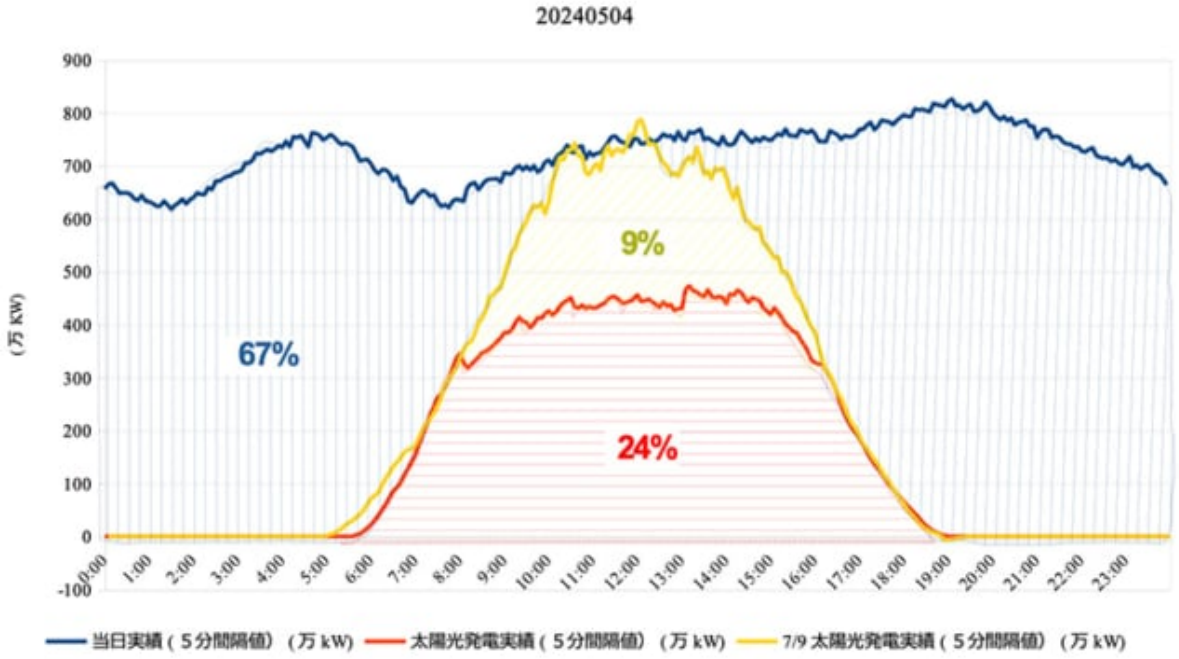
????3?????????????????????????4%?????????????96%??



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

??????????????????100%??**??**?

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


20240504
(万 kW)
900
800
700
600
500
400
300
200
100
0
-100
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
67%
9%
24%
当日実績（5分間隔値）（万 kW）
太陽光発電実績（5分間隔値）（万 kW）
7/9 太陽光発電実績（5分間隔値）（万 kW）

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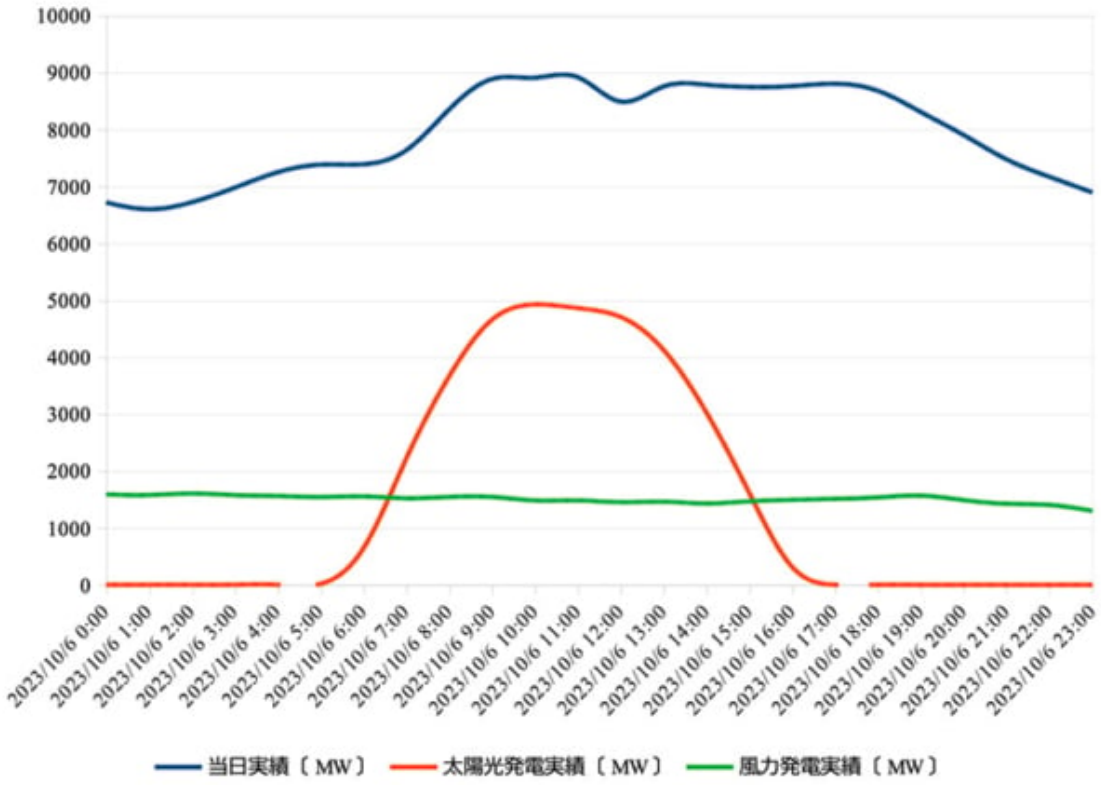
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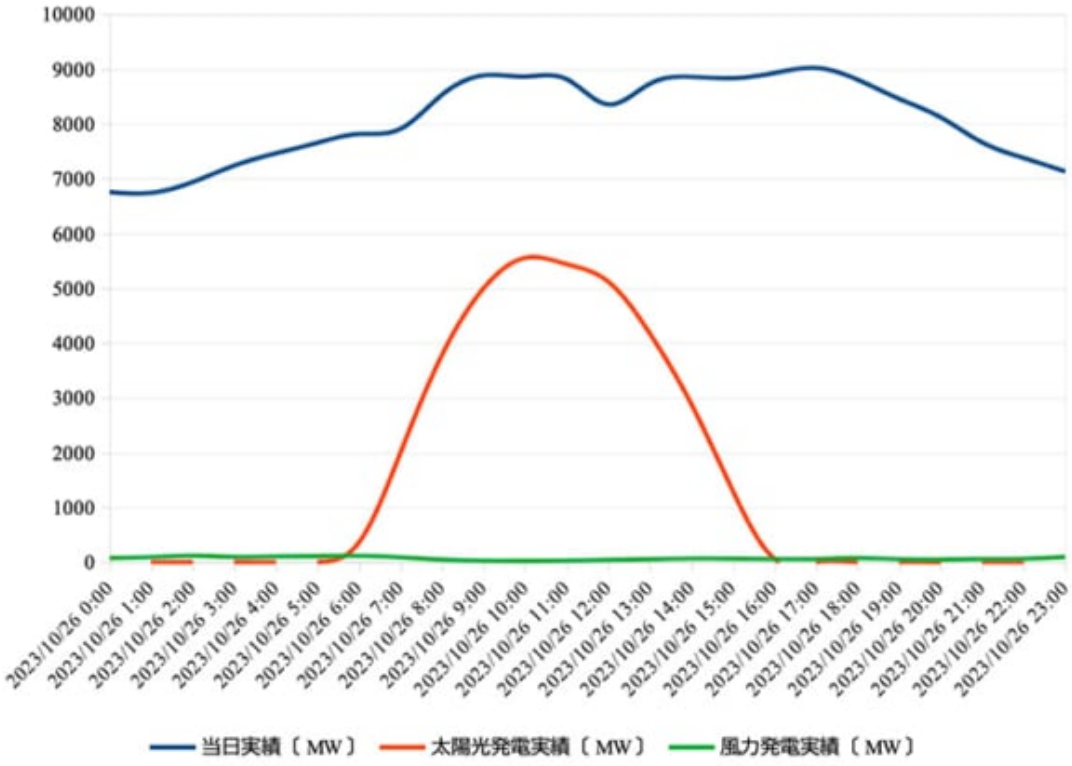
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Posted in ???????????, ??? | No Comments »

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?? ?? · Thursday, August 1st, 2024

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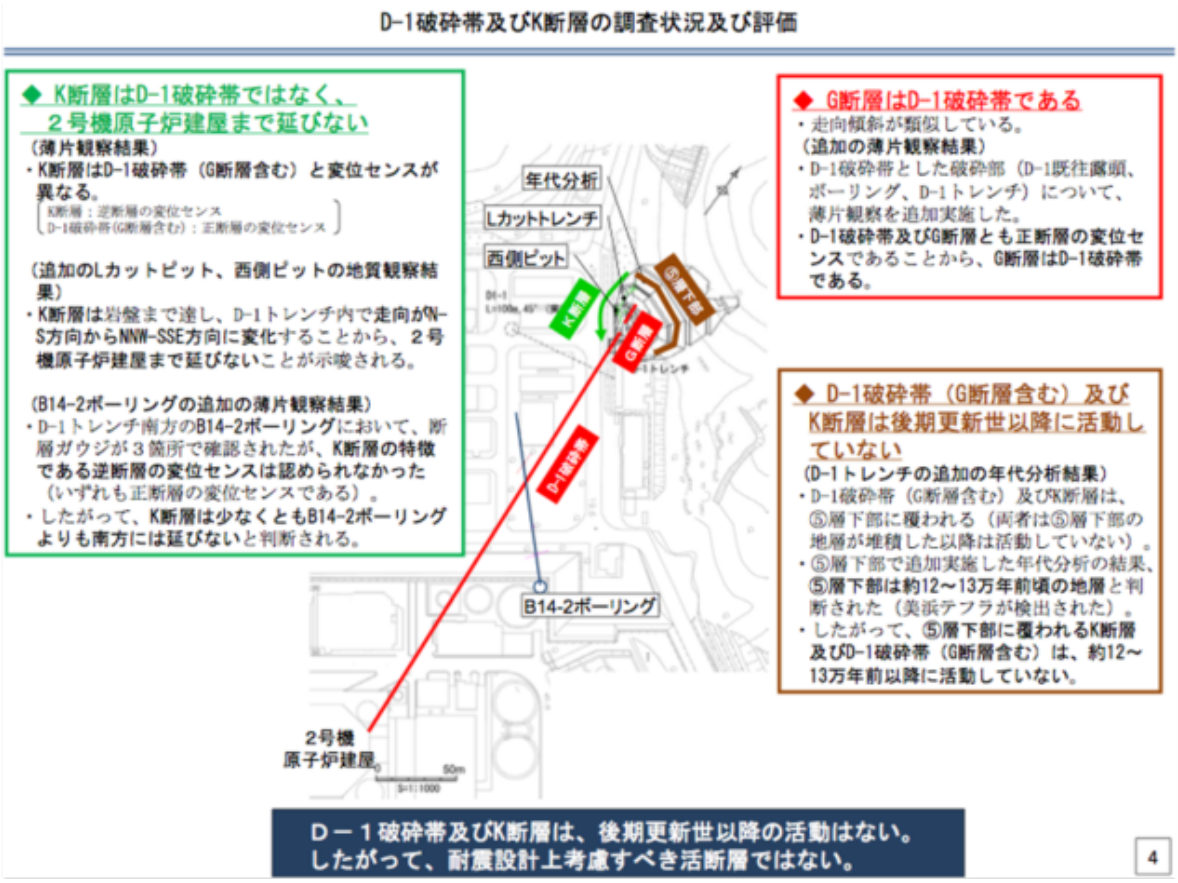

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Posted in ???????????, ???, ????????? | No Comments »

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?? ? · Saturday, July 27th, 2024

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?? ??? · Saturday, July 27th, 2024

privetik/iStock

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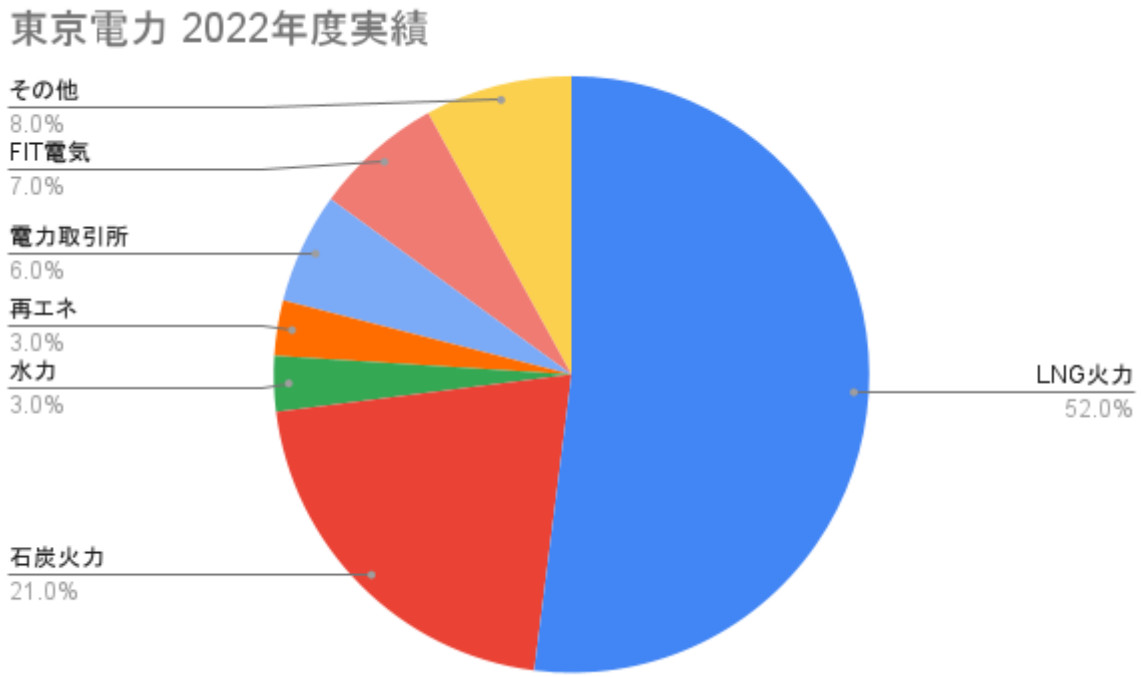

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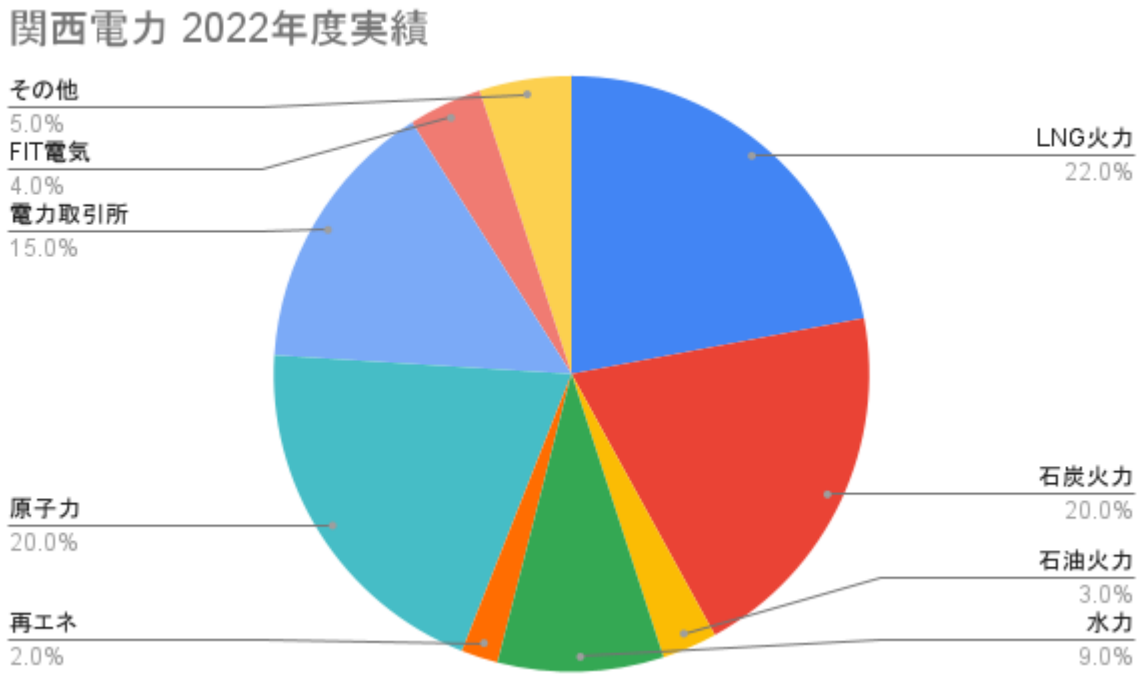

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Posted in ???????????, ??? | No Comments »

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?? ?? · Saturday, July 20th, 2024

da-kuk/iStock

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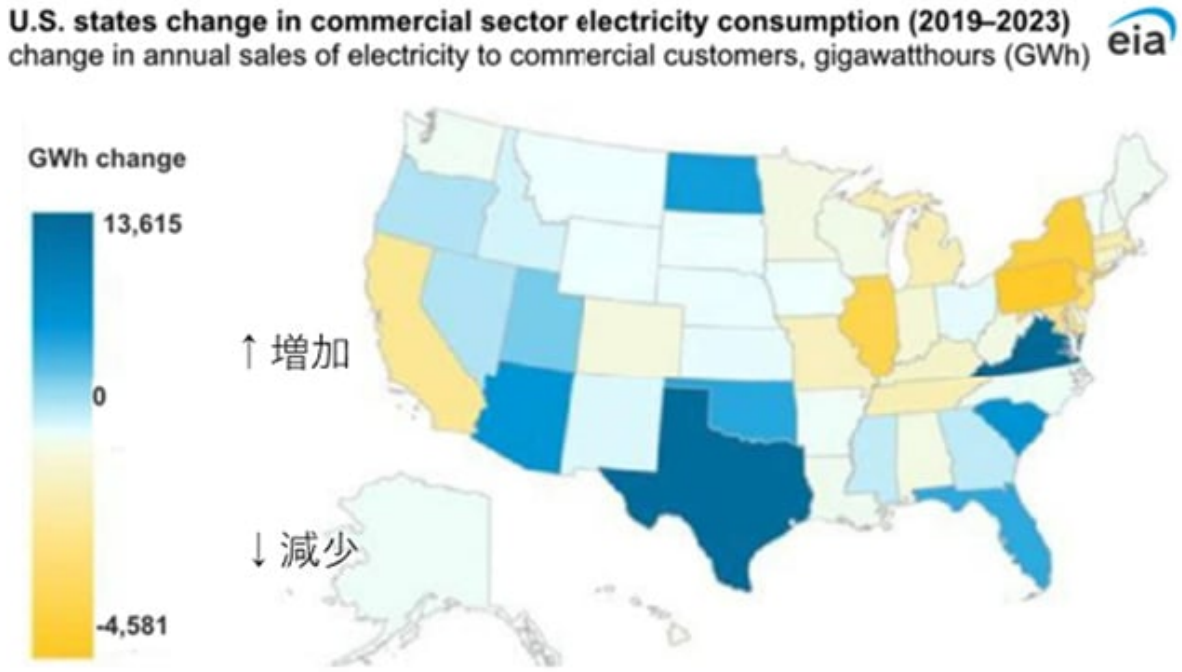

Data source: U.S. Energy Information Administration, *Electricity Data Browser*

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

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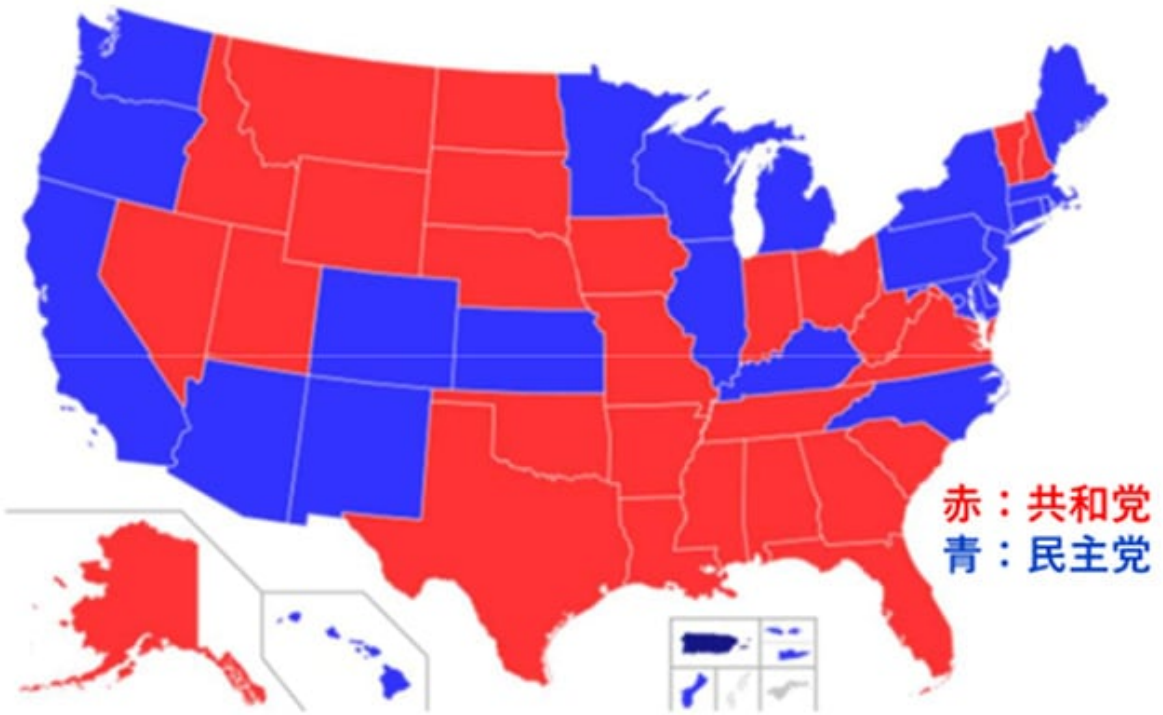

出典：Wikipedia “ List of current United States governors”

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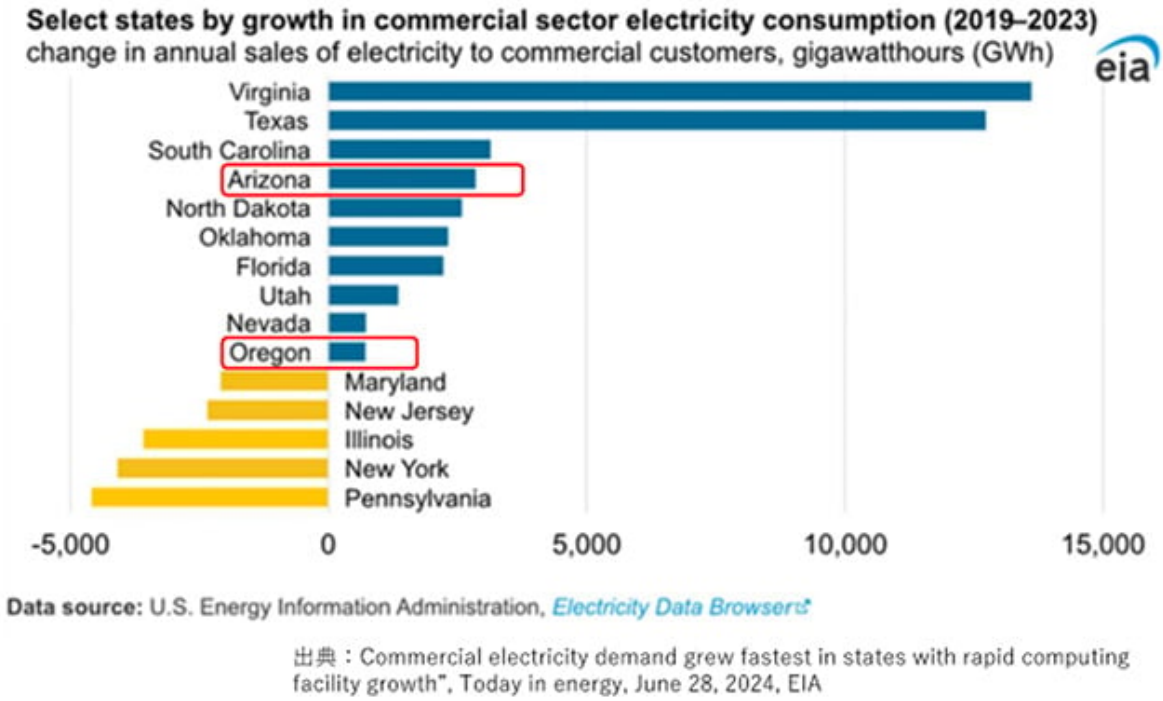

出典：Commercial electricity demand grew fastest in states with rapid computing facility growth", Today in energy, June 28, 2024, EIA

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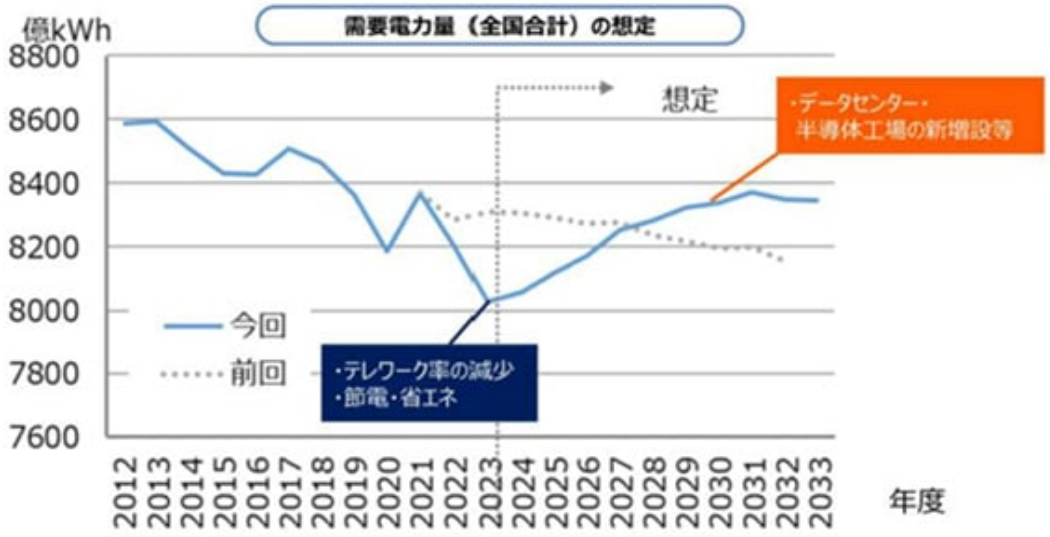

（出典）電力広域的運営推進機関HP 2024年度 全国及び供給区域ごとの需要想定について

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

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?1?“Commercial electricity demand grew fastest in states with rapid computing facility growth” Today in energy, IEA, June 28, 2024
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Posted in ???????????, ??? | No Comments »

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?? ?? · Sunday, July 14th, 2024

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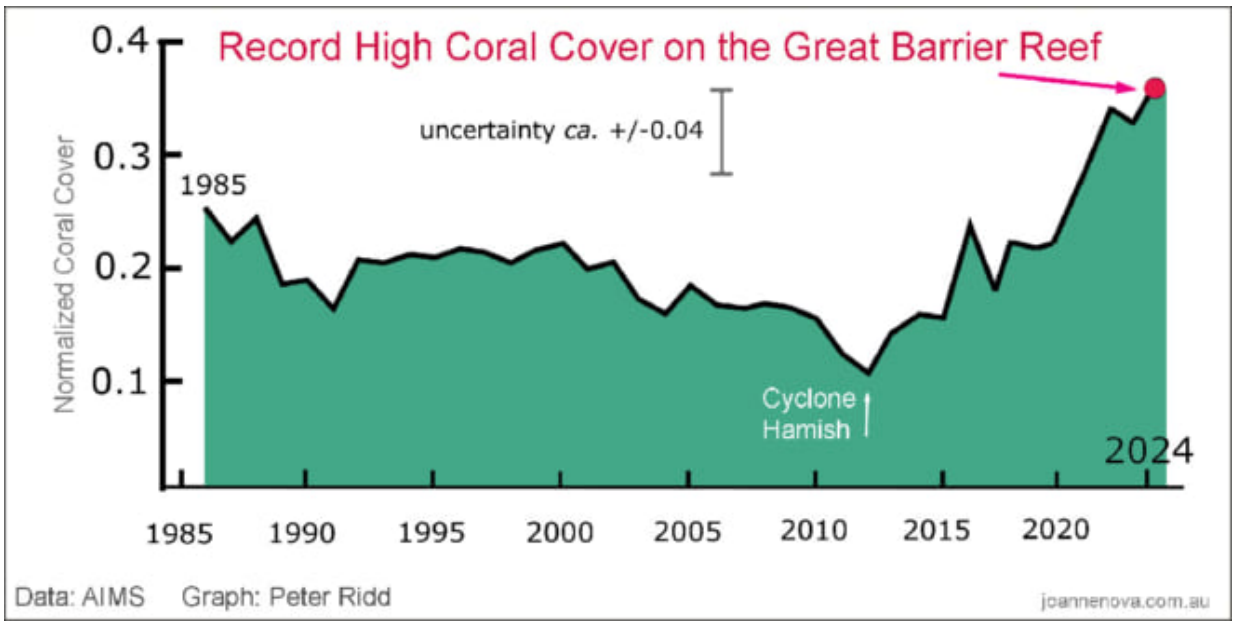

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?? ?? · Saturday, July 13th, 2024

alexis84/iStock

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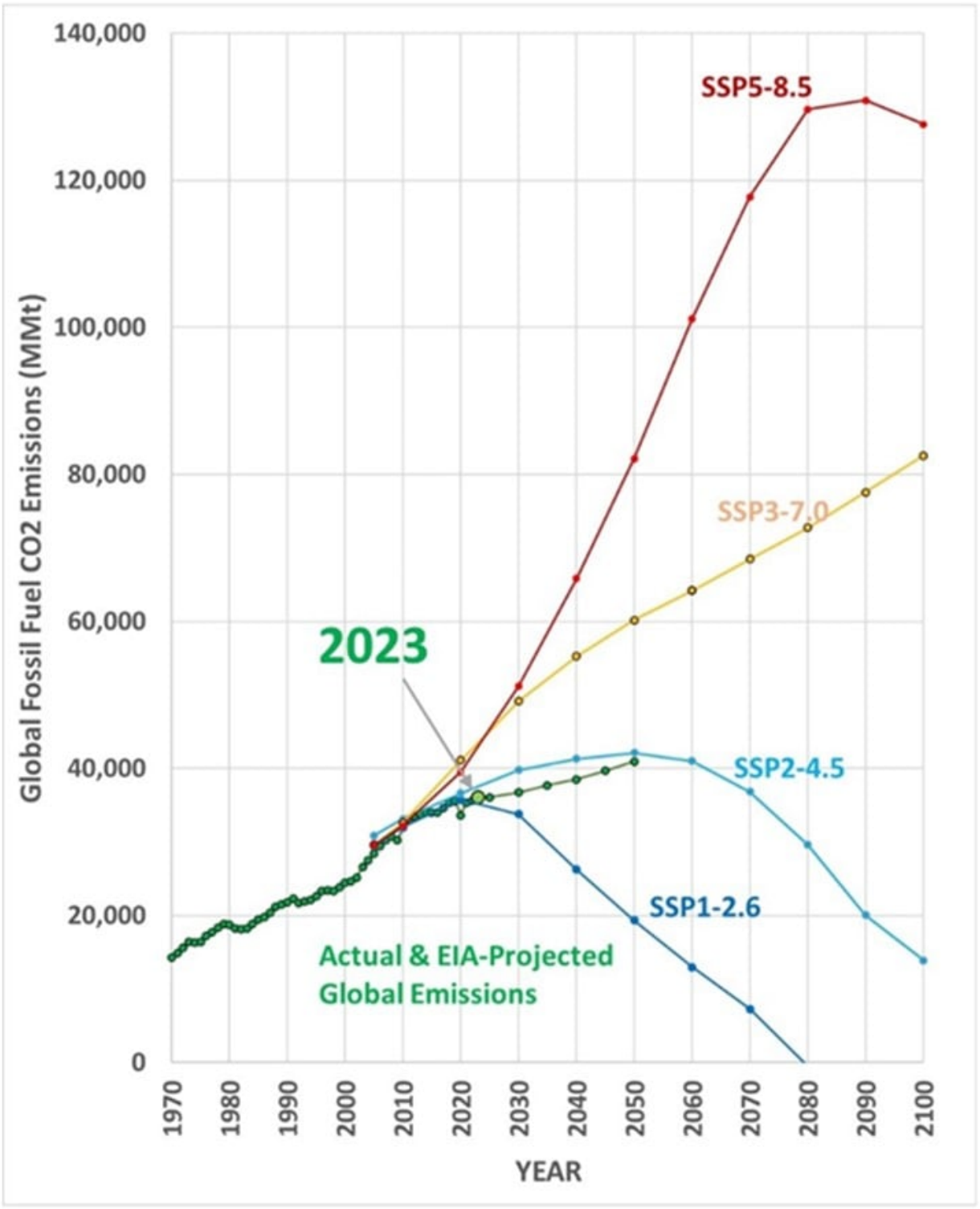

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Stadtratte/iStock

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Posted in ???, ?? | No Comments »

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?? ?? · Monday, July 1st, 2024

zhengzaishuru/iStock

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

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?? ? · Saturday, June 22nd, 2024

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Petmal/iStock

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

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?? ? · Friday, June 21st, 2024

COP29 HP??

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

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

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?? ?? · Monday, June 17th, 2024

1xpert/iStock

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IEA. All rights reserved

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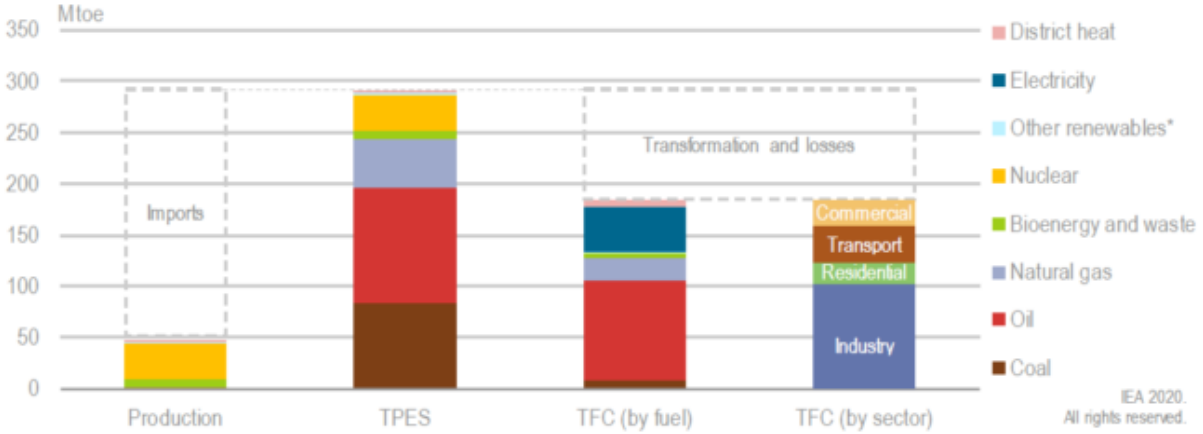
Figure 2.2 Overview of Korea's energy system by fuel and sector, 2018



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.

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3alexd/iStock

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RapidEye/iStock

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?? ??? · Monday, June 10th, 2024

Hase-Hoch-2/iStock

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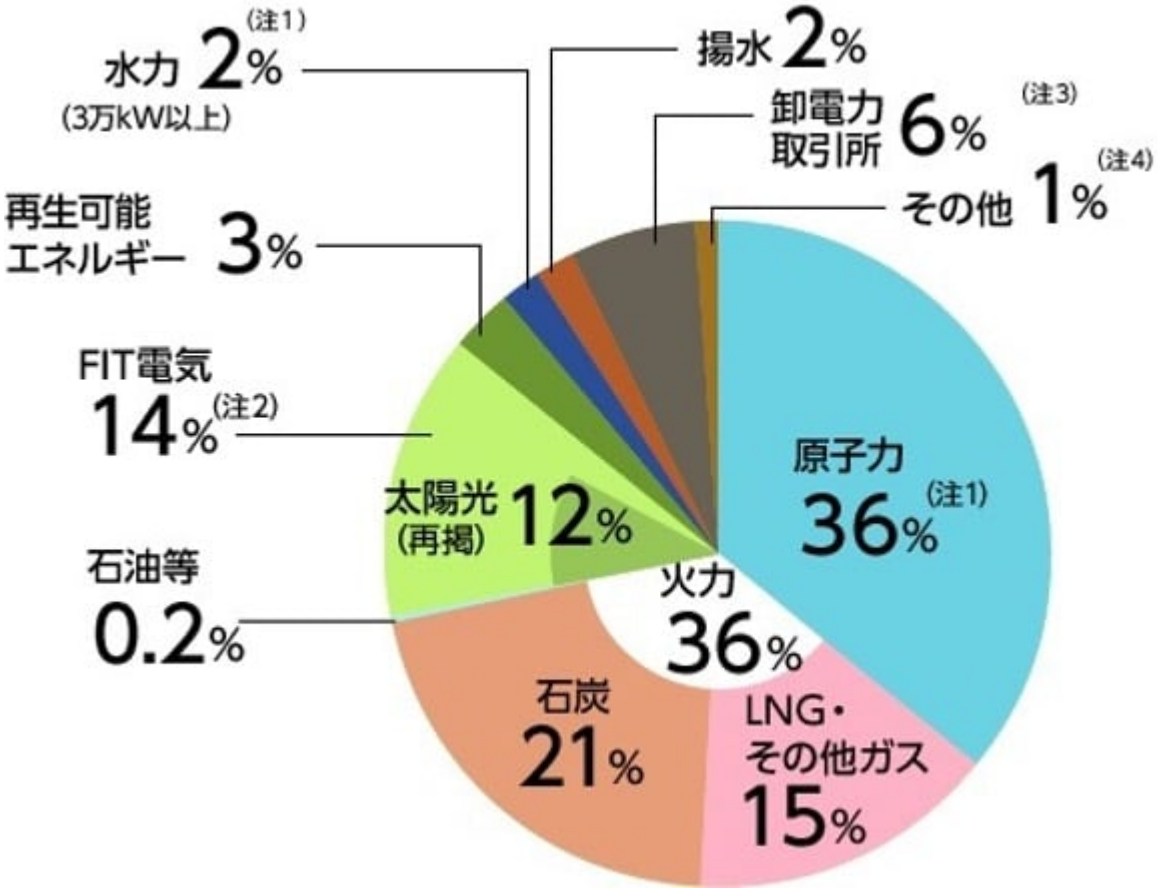

?1????????????2021??
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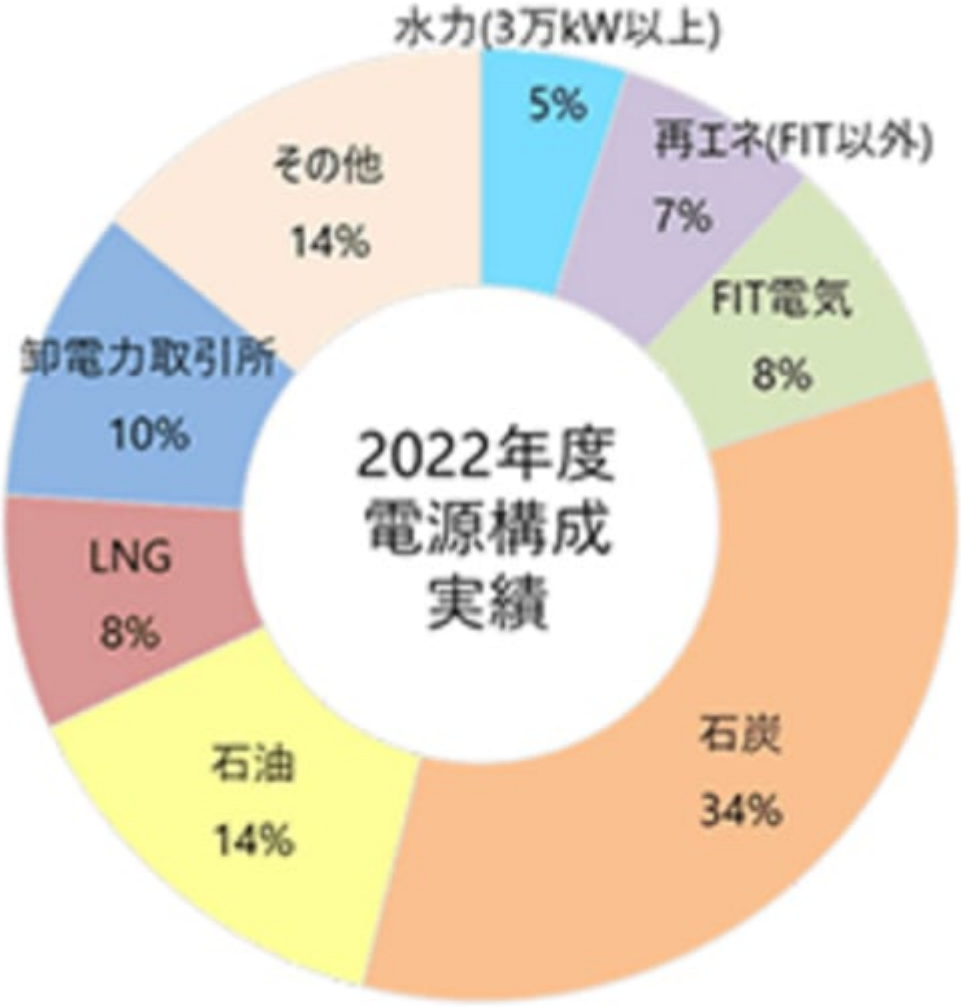

?2??????????2020?
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Posted in ???????????, ???, ???? | No Comments »

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?? ?? · Saturday, June 8th, 2024

Tula Kumkrong/iStock

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?? ??? ?? · Friday, June 7th, 2024

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Sinisa Vidic/iStock

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Jorisvo/iStock

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?? ?? · Tuesday, June 4th, 2024

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> ?? https://t.co/iZypBM74D5
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> — ???? (@ikedanob) April 18, 2024

2012?12????????????????????40?????42????????????????????????????????20???????????2?????????
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> — ???? (@ikedanob) March 27, 2024

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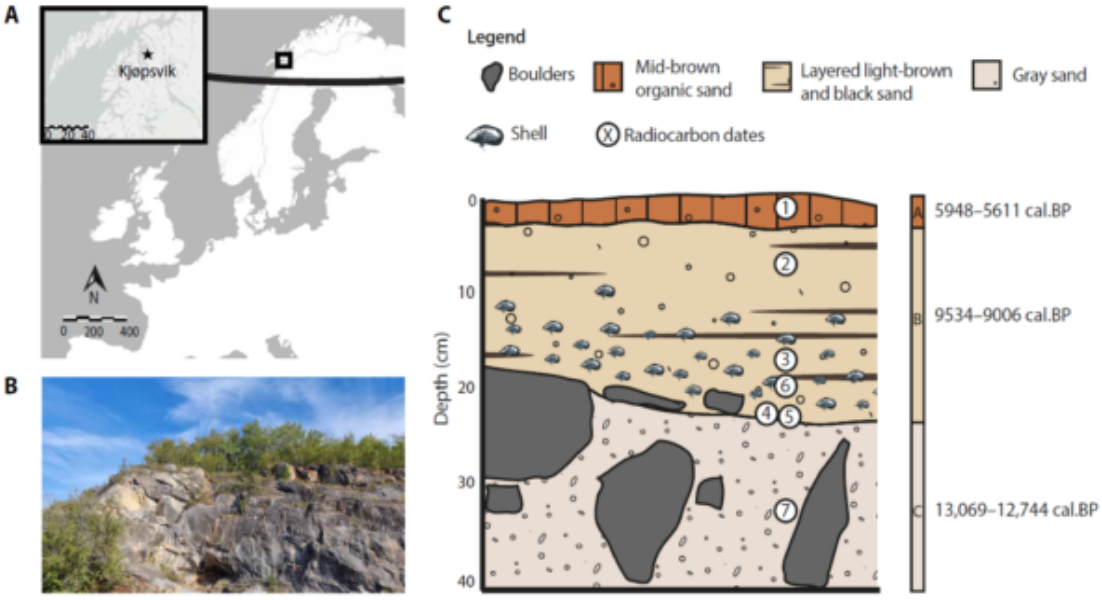
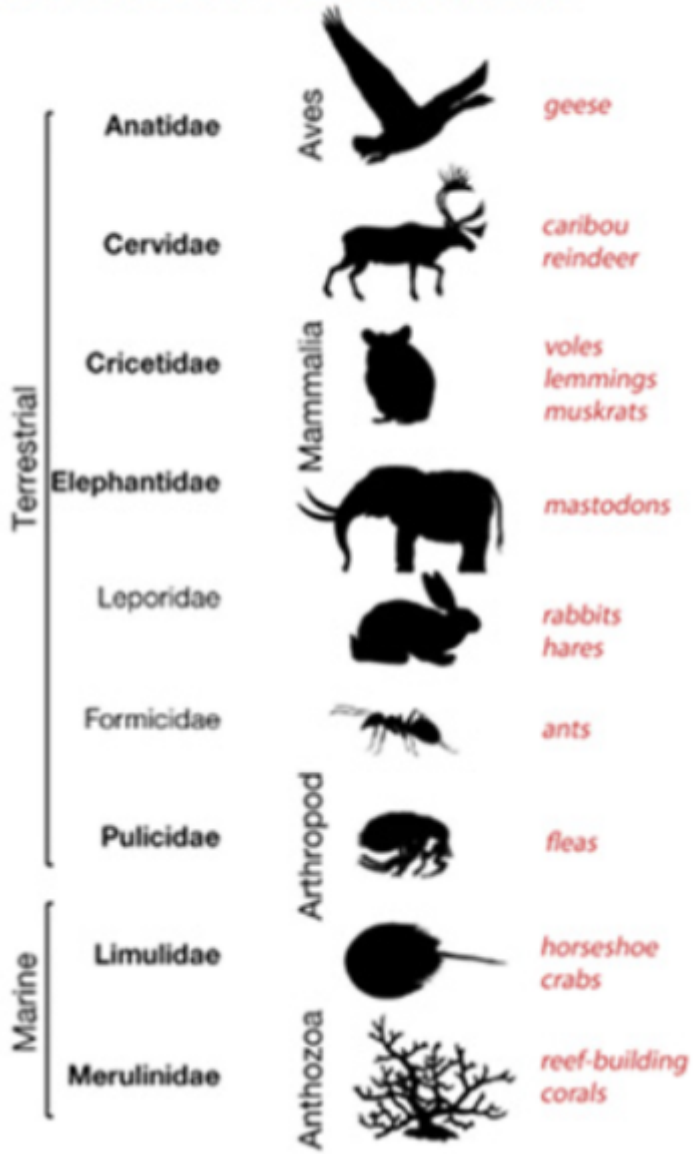


2?????????????DNA????????????????????????360?????80???????????????????11???19?????????????????????????????????Kjaer et al.2022??

Fig. 4: Early Pleistocene animals of northern Greenland.



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?? ?? · Saturday, May 25th, 2024

KE ZHUANG/iStock

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

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?? ?? · Thursday, May 23rd, 2024

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ChatGPT

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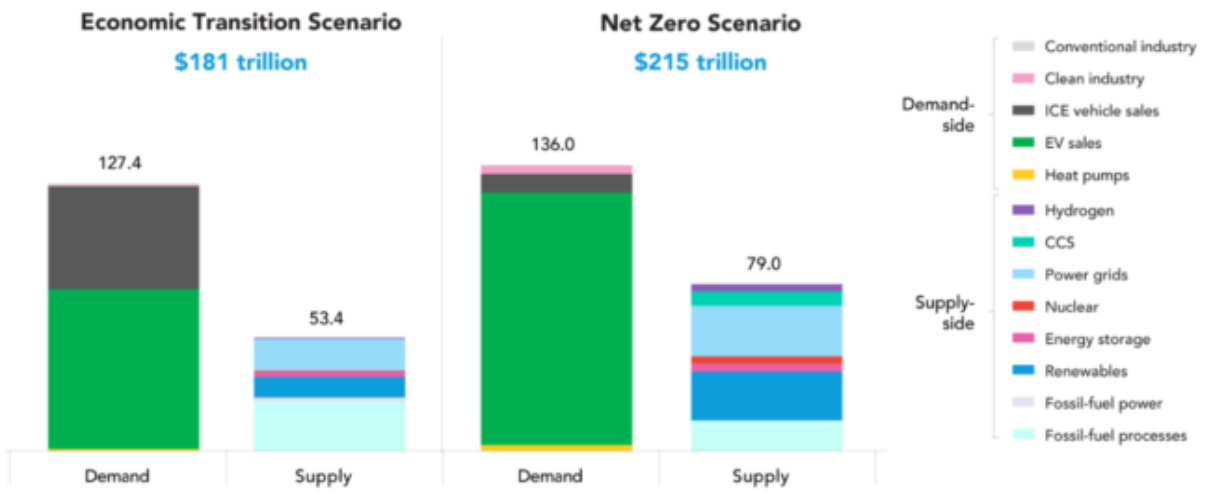
Global energy investment and spending across 2024-2050, Economic Transition Scenario and Net Zero Scenario



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??

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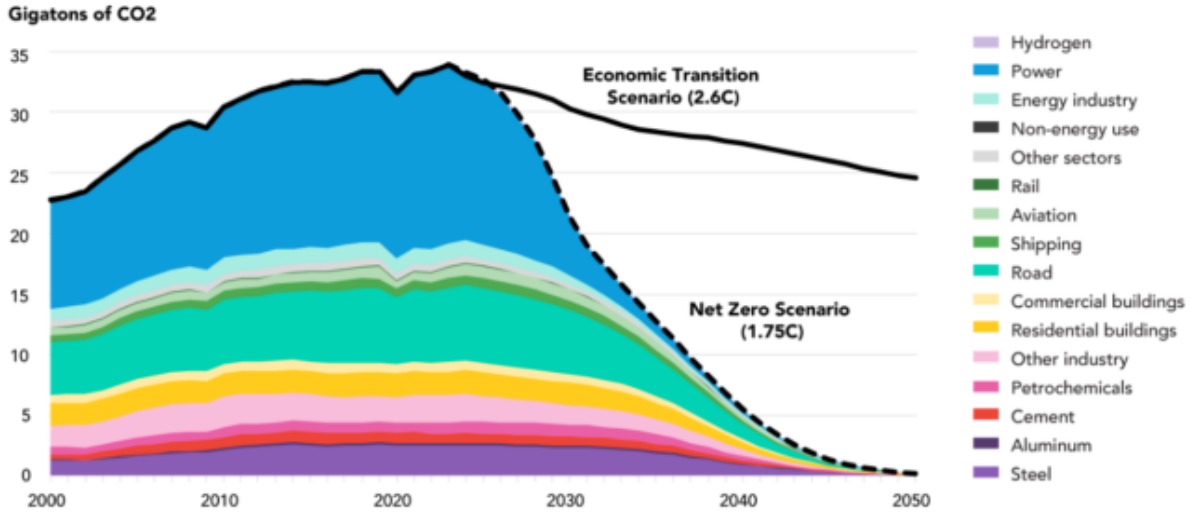
??2050?????????2.6??????????????1.75??????????????? ??**34??????0.85?**??????????

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



Bloomberg??

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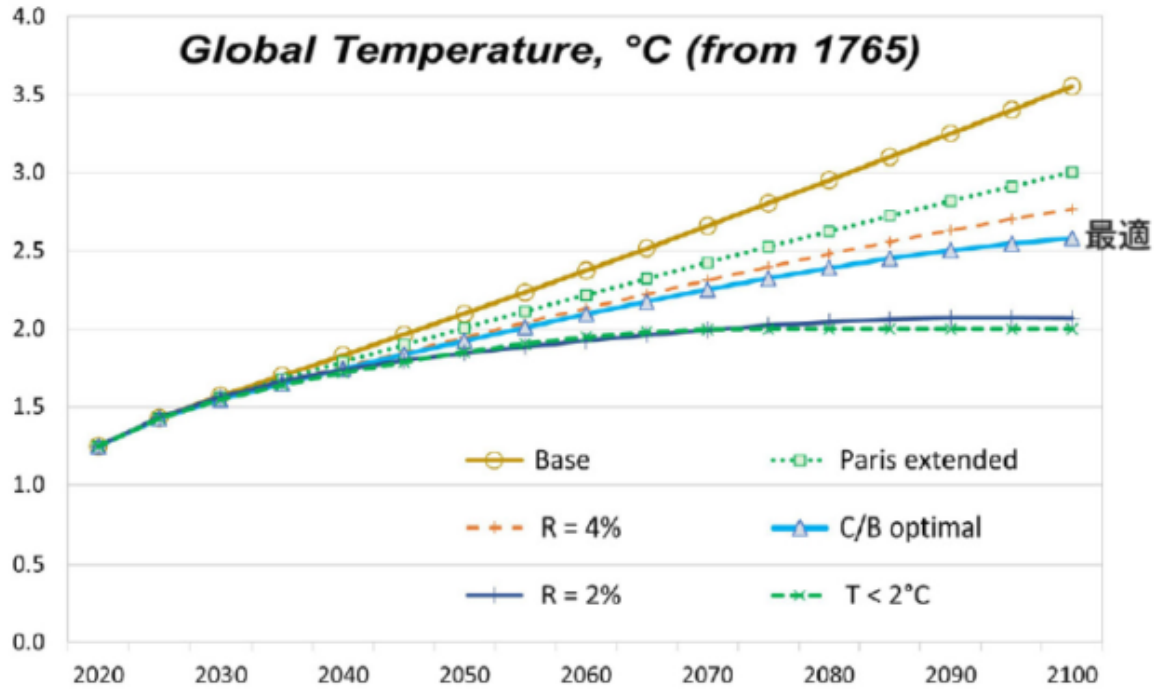

Fig. 3. Global temperature increases in different scenarios.

Barrage-Nordhaus

??125??/????????59???9000????????????????????????21?
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Table 2. Social cost of carbon, alternative scenarios (2019$/tCO$_2$)

	Social cost of carbon ($/tCO$_2$, 2019$)		
Scenario	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

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