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??2030????????2005????????????????40????????????????
??CO2????????????????2030????25????????????????
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??50?52??
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米インフレ抑制法の気候変動対策支出内訳

(¥140/\$)

	億ドル/10年	億円/10年
グリーン電力投資・生産税控除	1,603	224,420
再エネ	651	
CCS	32	
原子力	300	
技術中立	621	
クリーン燃料税控除	234	32,760
クリーン自動車税控除	155	21,700
自家用車(最大\$7500/台)	89	
商用車	36	
郵便公社	30	
クリーン製造業税控除	403	56,420
多排出事業者向け補助金	95	13,300
建築物クリーン化補助金	453	63,420
農業再エネ化支援	126	17,640
気候対策農業支援	153	21,420
その他	293	41,020
	3,515	492,100

(7月27日CBO分析ベース: 成立法とは異なる)

出典: 電力中央研究所 上野貴弘氏レポート <https://criepi.denken.or.jp/jp/serc/discussion/22007.html>

????????????????15????????????2230????????????1????????740????????????2650????????
 ?????????????????????????????????CO2????????????????????????????

??CO2????????????????????????????
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EU??
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Posted in ?????????, ??, ?? | [No Comments »](#)

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?? ?? · Sunday, September 18th, 2022

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??2005??
???Wikipedia

CNN???????????



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2006??60??????????????????????

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???BBC????????????IPCC????????????????????????

??IPCC????????????8????????
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- ???600????????
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??2.5????????????????

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??9????????CO2????????????
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??2????????IPCC????????
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??10????????????????????
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??NGO????????
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??11????????????????
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????????????????1960????????????

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????????????2050????????21????

????????CO2????????COP????CO2????CO2????

CCS

CO2

12 CO2

10 15 CO2

FIT

13 CO2 CO2

(EV) EV

CO2

2050

14

3

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Posted in ???, ????? | No Comments »

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?? ?? · Thursday, September 15th, 2022



igorartmd/iStock

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?????EU?????????2??15????????????????10?????????
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Posted in ???, ?? | No Comments »

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?? ?? · Wednesday, September 14th, 2022

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CEO???EU?????????????????????50????????????????????
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herraez/iStock

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CEO????????????????????????????????

??40%????
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??2.5????????????
??????????2.8??????????3.8??????

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Posted in ???, ?? | No Comments »

??21????????????????ESG????????????

?? ?? · Saturday, September 10th, 2022

ESG??
????????????????????????SDGs??2015????????
?????ESG????????????????????

????????????????????SDGs??ESG??SDGs????????????????????
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?????ESG??



LumerB/iStock

8?16????21????????????SEC????ESG????????????SEC????????????
????????????????

8?23????????????????????????ESG????????????

8?24????????????????????????????????10?350????????????6????????13??
????????????ESG????????????????

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

??13????????????
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????????????10????????????BNP????????????UBS ????????

????????????????????8?24????????????????????????????1000??
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350????????ESG????????????????????UBS????????????

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ESG??

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8?24?????????????????????????????WV?????????????????????????????ESG?????????????????????????????
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??14???
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?????????????????????????NOMURA?????????ESG??

?? ???????????9????????Pew Research Center??12????????53????????????????????????
????????????????65????????12????

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

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?? ?? - Friday, September 9th, 2022

????????SPD??8?22????????????????????????
025??

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audioundwerbung/iStock

??6????????????????????LNG????????????????
??LNG??
??LNG????????????????

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8?23??EU?????
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??2025????????????????

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

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

????????EV??
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??CO2????????????????????????
????????????CO2??

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????CO2??2030????1000?kW????????????
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??253????????????????
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??LNG????10????????????????????????????
??8?26????

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??10????????????????????????????
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????9?5????????????????????????????????3????????2????4????????????????????????????
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??EU????????????????????
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Posted in ???, ?? | [No Comments](#) »

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?? ? · Saturday, September 3rd, 2022



ayhan turan/iStock

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

????7????????????????14???



??????372????2420????????????????????176????1650????????????????????

????????????????????????????????QR??
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????????????????????????7??CO2????????????????
????????1958?2022?4????CO2????????????????????

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

CO2 CO2 150 ppm

1 30 0.2 0.3

2 IPCC

3

3 80 60

HP 10 1950 60 1993 30

4 CO2

1000

() CO2

5 CO2 CO2

NHK

6
CO2 1850

CO2 100
mm

CO2
CO2

(

7
CO2
CO2
CO2

170 2000 42
CO2
CO2
CO2
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Posted in ??, ??? | No Comments »

LCOE

?? - Thursday, September 1st, 2022



vchal/iStock

IRENA J.P.Morgan

IRENA

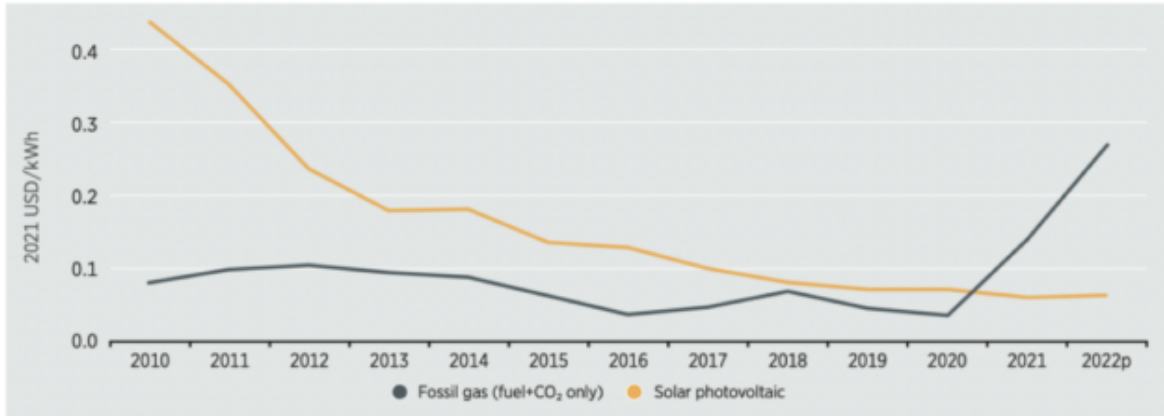
2022 13 IRENA 2021

Renewable Power Generation Costs in 2021 – Executive Summary (irena.org)

IRENA

- 2021 163GW LCOE G20
-
-

Figure ES.3 The weighted average LCOE of utility scale solar PV compared to fuel and CO₂ cost only for fossil gas in Europe, 2010-2022



?????2021?8?????????????2030????????????????????

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2. J.P.Morgan?????

?????5?J.P.Morgan????????????????????

12th Annual Energy Paper | J.P. Morgan Private Bank (jpmorgan.com)

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

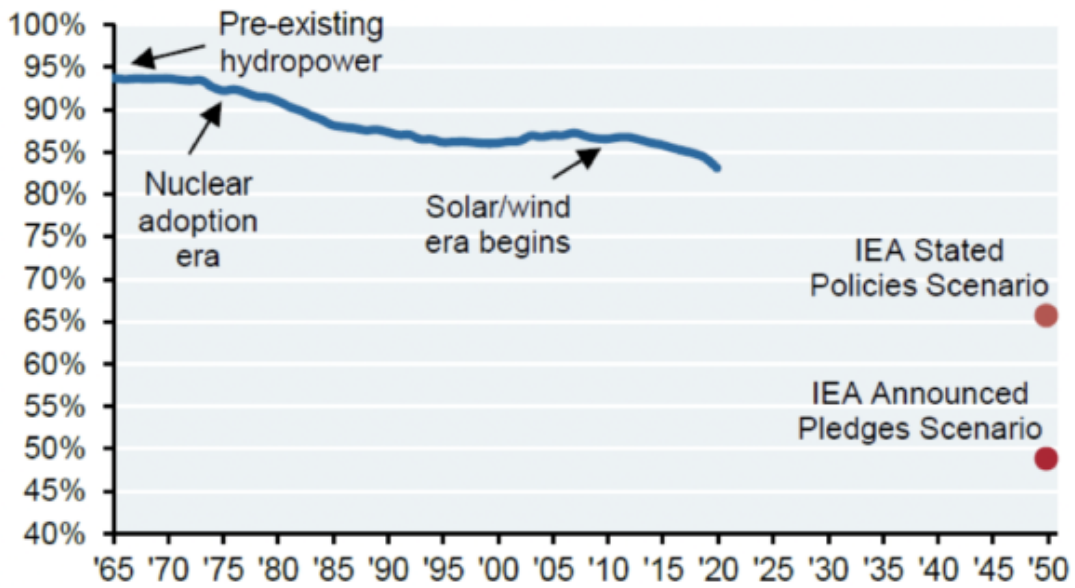
?2050??????

IEA?????????????????????????????2050?????????????66?????

???10????????????????????????????
?????????????????70???

The world uses fossil fuels for ~83% of its energy

% of global primary energy consumption from coal, oil and nat gas



Source: BP Statistical Review of World Energy, IEA, JPMAM. 2021.

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????????????LCOE??LCOE????????????????
 ??????????????

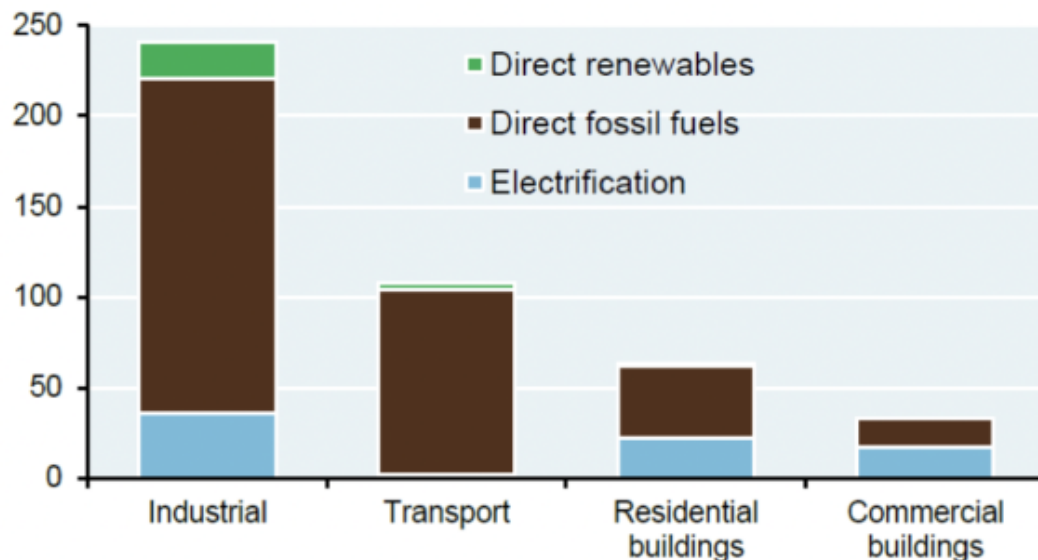
LCOE??i)???????????????????????????????? ii)????????????????????
 iii)??

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Low levels of electrification in global industry and transport

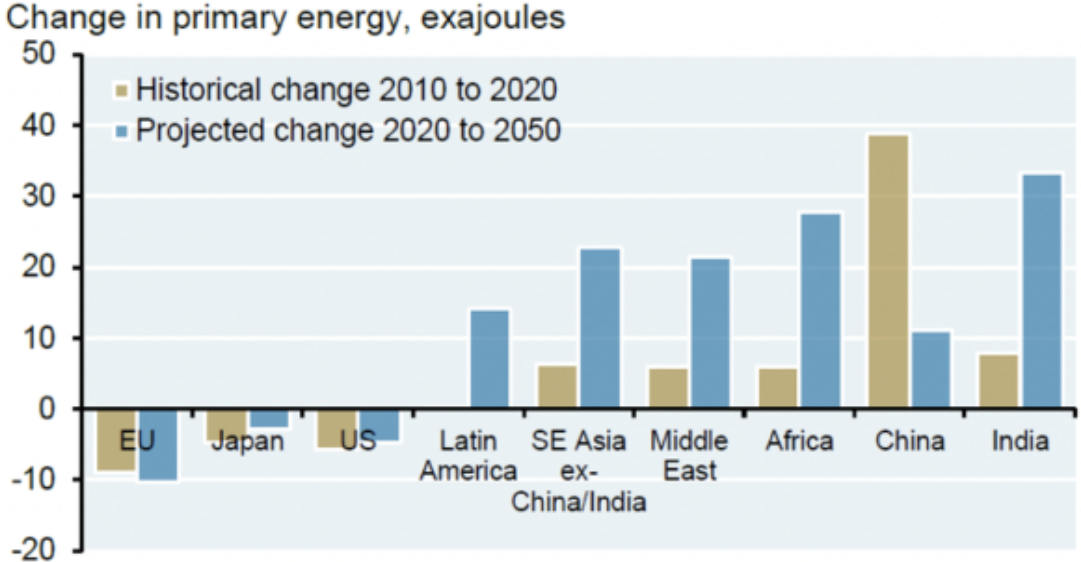
Quadrillion BTUs of final energy consumed by sector



Source: Energy Information Administration, JPMAM. 2021.

?????????????????
??25??
?????????

China is the only EM country projected to slow primary energy consumption growth over the next three decades



Source: International Energy Agency Stated Policies Scenario. 2021.

????????????????CO₂??
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????????????????IRENA????????LCOE????????LCOE??

3. LCOE??FCOE?

????LCOE??
????????????????????????????????

LCOE??
????????????25??10????????????????????2050????????????????????????????????

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????LCA????????????????FCOE?Full cost of electricity????????????????

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

COP27????????????????????????????????

?? ?? · Monday, August 29th, 2022



imagedepotpro/iStock



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????????????200????????11??CO₂????????????????
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???????? 8? Reuters?

????????????????????COP????????1997??COP3????????????????????????????COP3?1997??12????????
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COP?????????????????????? ?? ??????????????????????????? ? ?????????????
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COP????26????????????????????????COP????????????2015??COP21????????

????????????????????????1.5????????????????????????NDC????????????????5????????
????????????????

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

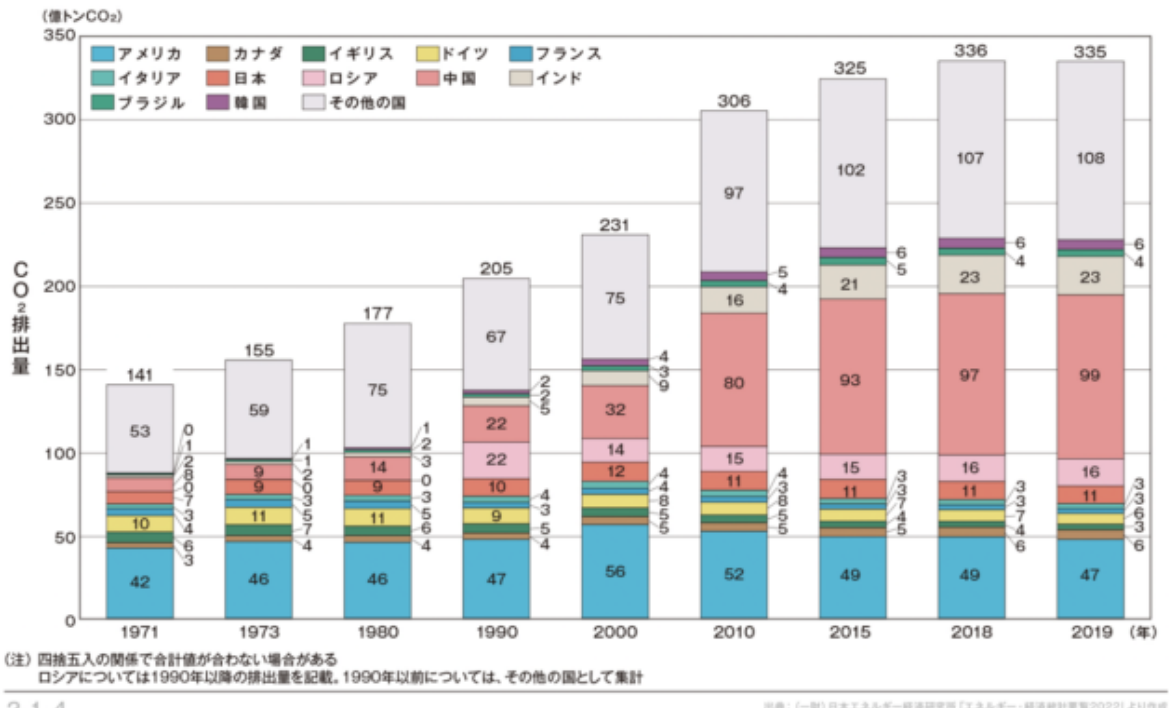
COP????????????????26????????????????????????????????

????????????????????????CO₂????????????CO₂????????????????????????????
????????????????????COP??

CO₂????????????????????????????????

????CO₂????????2000??230????2019??1.5??340????????????

世界のCO₂排出量の推移



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0.06????????

CO₂????CO₂??

CO₂

CO₂????COP????CH₄????CH₄????CO₂80??20??GWP-20??C
H₄2030????30????????????

2030????6????????
N₂O????????
30%????????

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2020????1000????????
COP27????1000????????

COP27????????

COP27????????

??2030????5800????????????

2?????COP27??
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Posted in ???, ????? | No Comments »

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

?? ?? · Sunday, August 28th, 2022



marrio31/iStock

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8?24????2?GX(????????????)????????

????????????GX????????????????????????????????4????

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- ?????????????????????????????
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?6??26????

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???passive safety?????

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In-Vessel Retention(?????)????????Ex-Vessel Retention(?????)?????

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????1/???????

2????????????????????100????1/????????????????3????????????2????????????????????1????1/??????
???

Safety by design???

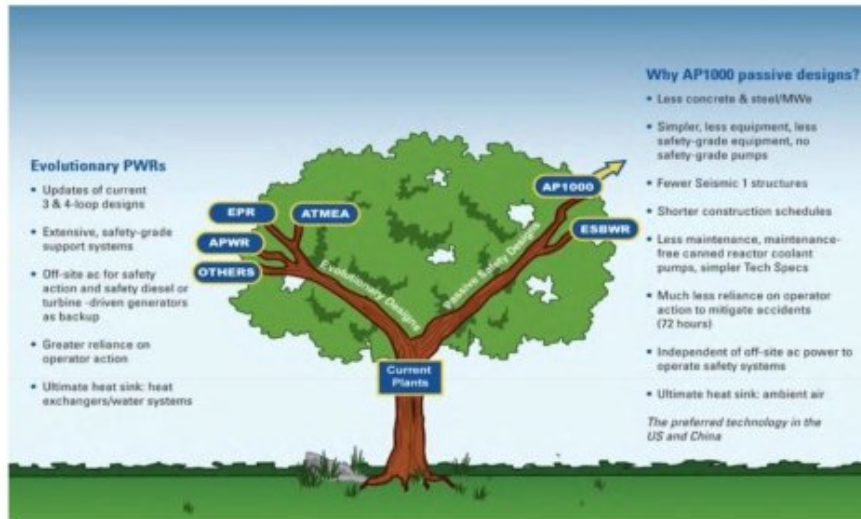
?Safety by design????????1980????????????????????1979??????TMI??????????by
design??Safety by
design????????????????????????????????????

TMI?????????????????????????????????safety by
design??
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AP1000: Generation III+ & Evolution



©Westinghouse Electric Corporation.

Current Plants) safety by design (passive safety)
AP1000 ESBWR
ATMEA EPR APWR ABWR
AP1000

ABWR APWR ATMEA

ABWR APWR ATMEA

ABWR APWR
ABWR 6 7 3 11

ABWR ABWR

4 3 4 PWR APWR
APWR safety by
design ATMEA



Posted in | No Comments »

Friday, August 26th, 2022

GX

ABWR APWR ATMEA

7 10

	【新規建設に向けた方針等】	【既設炉の運転延長に向けた方針等】
 アメリカ	<ul style="list-style-type: none"> エネルギー省「革新的原子炉実証プログラム」等 2 炉の建設支援、8 炉型の研究開発支援 (2020) 老朽石炭火力をSMR等で置換可能と分析 (2022) 	<ul style="list-style-type: none"> 運転期限なし (40年+20年単位延長) 現時点で80年までの運転延長認可は6基 さらに9基について審査中
 イギリス	<ul style="list-style-type: none"> ジョンソン首相「エネルギー安保戦略」(2022/4) 2050年までに発電割合を25%に、24GWの導入 1基/1年に建設ペース加速へ、支援を抜本拡充 	<ul style="list-style-type: none"> 運転期限なし (10年ごとに安全審査) 2035年に40年となるサイズウェル原発で 20年延長を検討中
 フランス	<ul style="list-style-type: none"> マクロン大統領「新規原子炉計画」(2022/2) 2050年へ大型革新軽水炉14基を建設・検討 建設・運営主体の電力会社EDFを完全国有化 	<ul style="list-style-type: none"> 運転期限なし (10年ごとに安全審査) 56基中20基が40年超運転へ 運転延長も対象にグリーンファイナンス検討中
 オランダ	<ul style="list-style-type: none"> 新連立政権「政策協定」公表 (2021/12) 新たに2基を建設する方針を表明 	<ul style="list-style-type: none"> 運転期限は法律で規定 (期間のルールなし) 60年運転認可済の原発の再延長方針を表明
 韓国	<ul style="list-style-type: none"> 尹大統領「エネルギー政策の方向性」(2022/7) 2030年原発割合30%以上、国内2基建設等 	<ul style="list-style-type: none"> 運転期限なし (10年ごとに安全審査) 既設炉の継続運転手続きの迅速化を表明

????????Gx???????

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??3?????ABWR???

????????(SMR)

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????ABWR????????6?7????????2????????5????????BWR????????????
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??ECCS????????????
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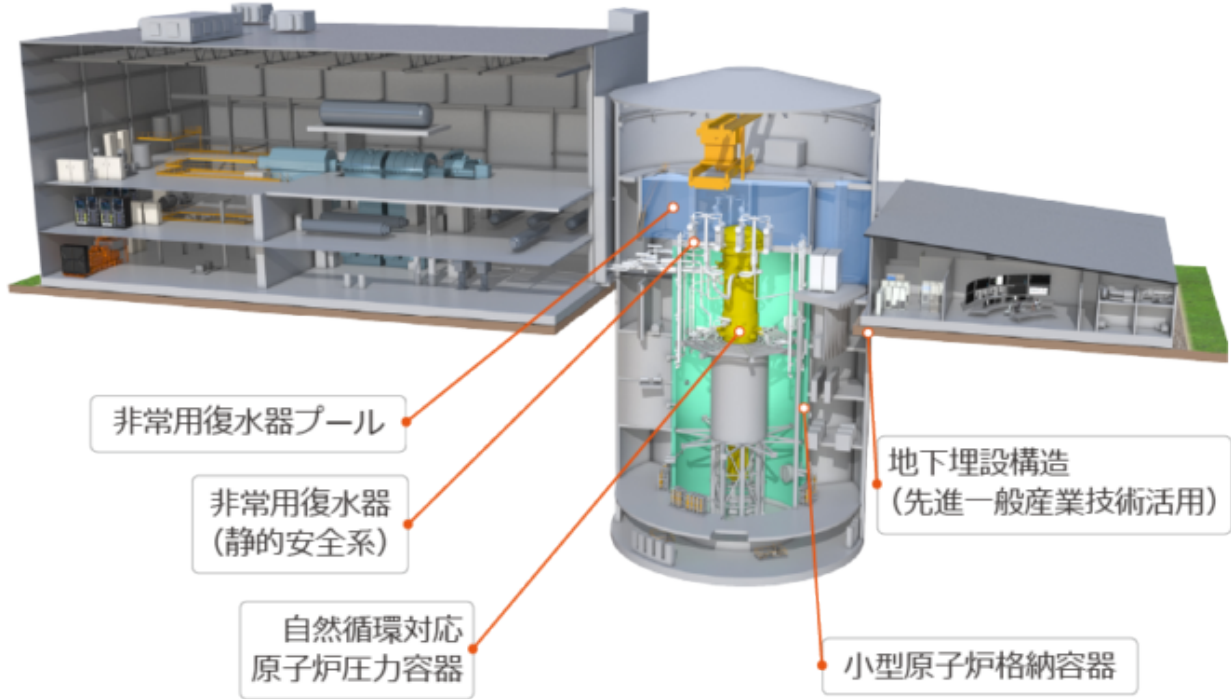
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??APWR????????????????
??ABWR????????????

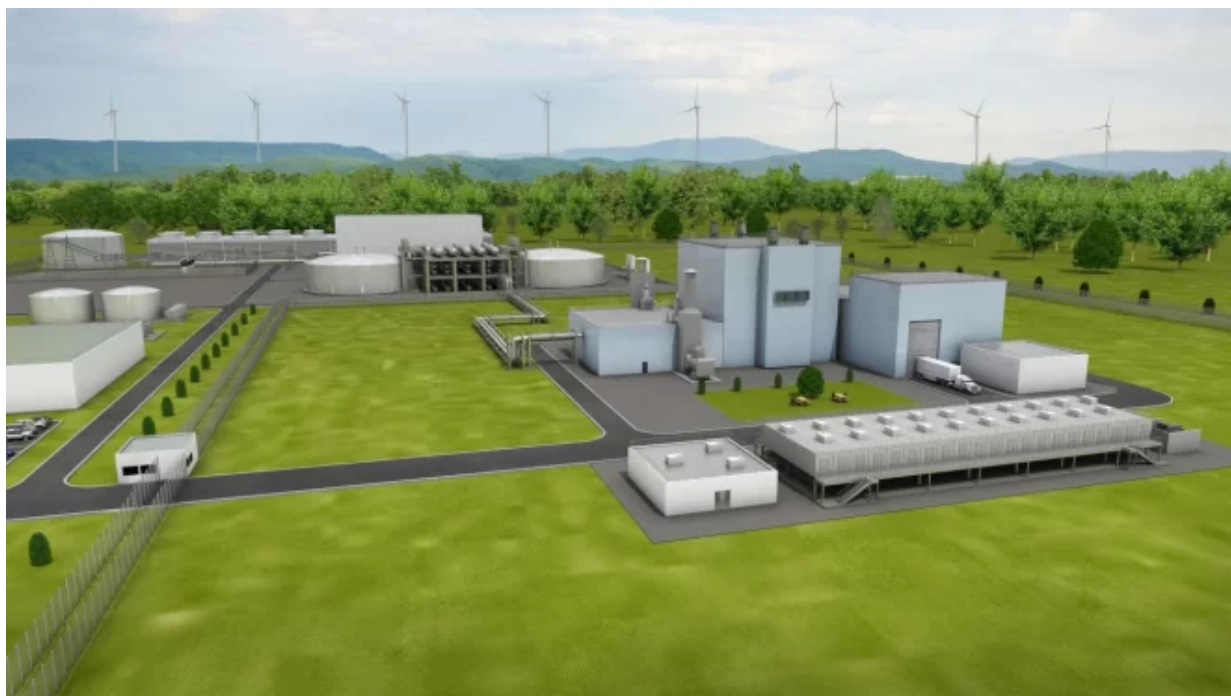
SMR?????7?kW??

????????????????2029????????????????????BWRX-300?2030????????????



BWRX-300??????????

??SFR????????????
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????1990??
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??SMR????????????

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

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????????????????????????300??1000????????
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Posted in [??????????](#), [??](#), [????????](#) | [No Comments »](#)

?2035????????EV????????????????

?? ?? · Friday, August 26th, 2022



Naeblys/iStock

2025????1000????????????????????????EV????????????????????????

????2035????????EV????????????????????

??EV????????????????????????
60??CO₂????????????

????????????????????????????????EV????????????CO₂????????6??12.5?km????????????????
?10??20????????????EV????????????????????????????????

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????????IEA????????????????????????????????????2040????????6????????????????????
??3????????4?3????????

??35????????50?
70????????90????????????

??1????????
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6??2022????3????
????EU????????????

??2????????????????????
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????????????????????EV????????????????????????????????????

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

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

?? ? · Thursday, August 25th, 2022

??Wedge
Online????????????????????????????????

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poco_bw/iStock

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 ??????GDP??
 ??????????????????????2010?????????????????2015????????????????????????????

??COP????
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????????COP26??
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????????????????????????????????NGO??
 ??????????????1.5?????????1.5????????????????????????????

1.5?????????????????????2050?????????????????2030?45????????????????????????????????
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??LNG????????????????LNG
 ??????LNG??
 LNG??

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????????????NGO?1.5????????????????????????????????????1.5??2050????????????????2030??45?????
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????????????????????????????1.5????????????????????????????2030????????????????????
??2030????????????2030??45????????????????????

??1.5????????????????????????????????????
everybody’s business is nobody’s business ??????????

????????????1.5????????????????NDC????????????????2060??2070????????????????
????????????????????????????1.5????????????????????????????????????

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

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?? ?? · Wednesday, August 24th, 2022



mirza kadic/iStock

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??8?????1????????25
0?????3????????3??120?????1.65?????????????????

????????7??2.7?????372????????????30?????????????
??10?1????????????????????????????????????
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???1kWh????2.419????????33????????????????????????????
??2?kWh????????????????75?8????????????????

????????????????8?18????????????????????????????????????10????????19????7????????????24?3?????
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??3????????????
??LNG????????????????

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

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

????????????????????????????????????LNG??
??
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????????????EU??
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Welcome to Japan!

“Welcome to Japan!”

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

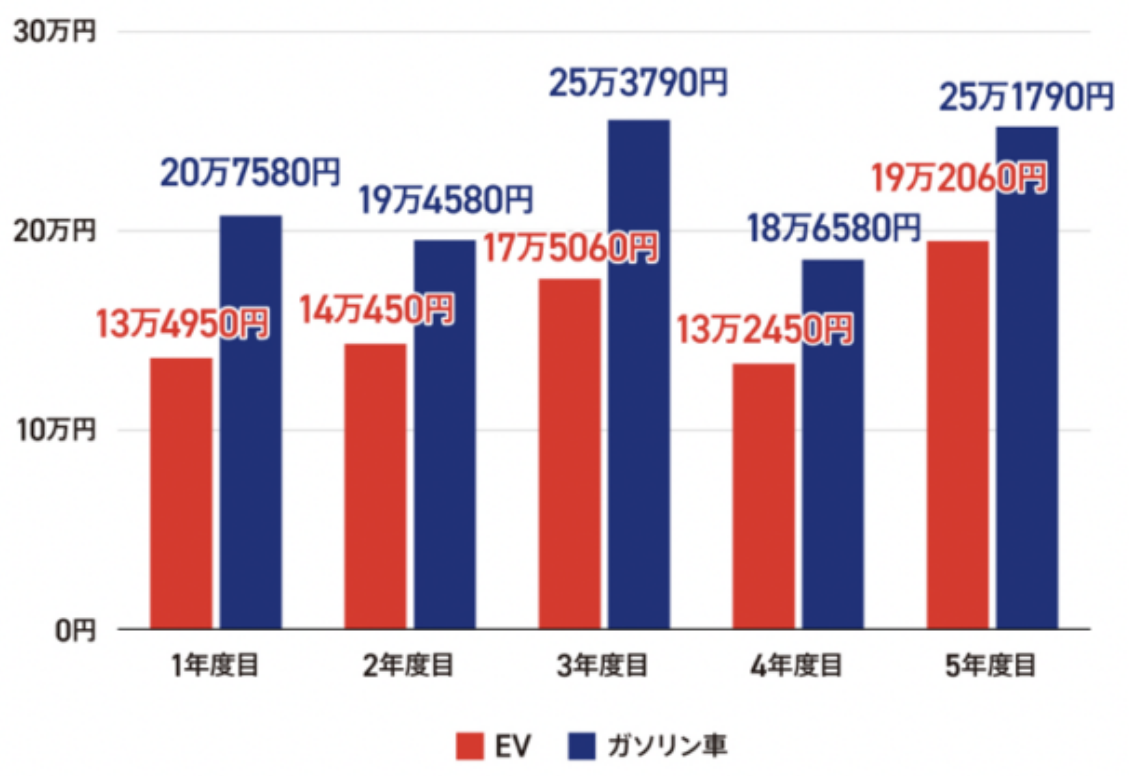
2035????????EV????????????????????

?? ?? · Tuesday, August 23rd, 2022



deepblue4you/iStock

??2020?10??2050?????????
??????2035????????????????EV?????????????????
????EV????????????????????1??



?1 EV????????????
 ???TEPCO

????????CO₂????????EV????????

????????ICV????????EV????????2????????2????????????????????
 ???

????????????????????????????????EV????????????????????
 ?CO₂????????

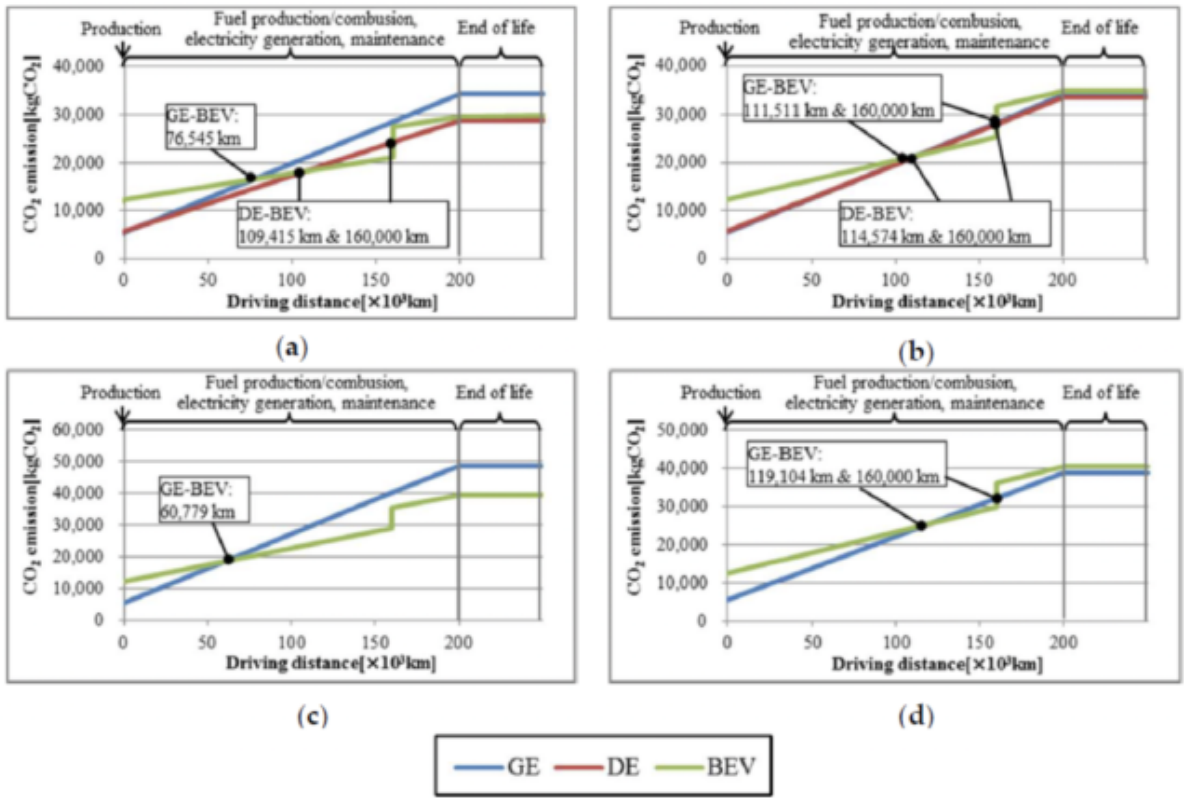
???EV????????CO₂????????ICV????????EV????????

EV??
 ?????????????????

????????????????????40????30????????CO₂????????EV????????
 ??125,000km????????13,500km????????EV????????9????????60,000km????????
 ?EV????????????????????EV????????

???2019

????????????????????GE????????DE????????BEV????CO₂????????BEV?CO₂????
 177kg- CO₂/kWh??GE?DE?BEV????????DIP: Distance of Intersection Point????



2 CO2 emissions during life cycle for GE, DE, and BEV.

(a) EU; (b) Japan; (c) US; (d) China

GE, DE, BEV, CO₂, BEV, CO₂, BEV

(a) EU: 109,415 km, BEV, DE, 109,415 km, 160 km, BEV

(b) Japan: 111,511 km, BEV, GE, 160 km, BEV

(c) US: GE, 60,779 km, BEV, GE

8 km, 1 km, EV, 70, 100, CO₂

EV, 8, BEV, CO₂, 2035, EV, 550

CO₂

???

Posted in , | No Comments »

ESG??????????

?? ?? · Sunday, August 21st, 2022



Pict Rider/iStock

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

[FT]????????SEC?ESG????????



SEC?5?ESG??

SEC????ESG??
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??MFA????????????????

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ESG??SEC?????????????

ESG??SDGs?????????
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ESG??SEC????????????????????????????????
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?SDGs????????????????????????????????

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?? ? · Saturday, August 20th, 2022



kovalchuk/iStock

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1????????????1.5?????2??
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2?1.5????2??2??
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???IPCC????????2????????????CO2????2075????????????1.5????????????2050????????????30?5
 0????????????????????????????????CO2????30?50????????????????????????????????????
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??2050????????????50?????
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Posted in ???, ????? | No Comments »

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?? ?? · Thursday, August 18th, 2022



artJazz/iStock

2021??8??2030??LCOE?Levelized cost of electricity??

????????????????2030?????????1kWh???8.2??11.8?????????????????????

????????????????????????????????2020?????11.5????????????????LNG?????????????CO2??????????????????????????
???2030??????26.1?????????????????????

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?1?Full cost of electricity “FCOE” and energy returns “eROF”, Dr. Lars Shernikau, Prof. William Hayden Smith, Prof.
Rosemary Falcon (Vers. 05/2022)

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

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?? ?? ? - Tuesday, August 16th, 2022

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2020????????????????1MW??30.47????????7??
?50????????????????????????????40?50????????????

????2?????7?????315????????????????????????????????21?????4????????????????????
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Santje09/iStock

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Posted in ???, ?? | No Comments »

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?? ?? · Sunday, August 14th, 2022

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Highwaystarz-Photography/iStock

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<https://www.pref.kanagawa.jp/osirase/0502/kouhyou/2015j/2015j0124-2.html>

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Agreement??
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?? ?? · Tuesday, August 9th, 2022

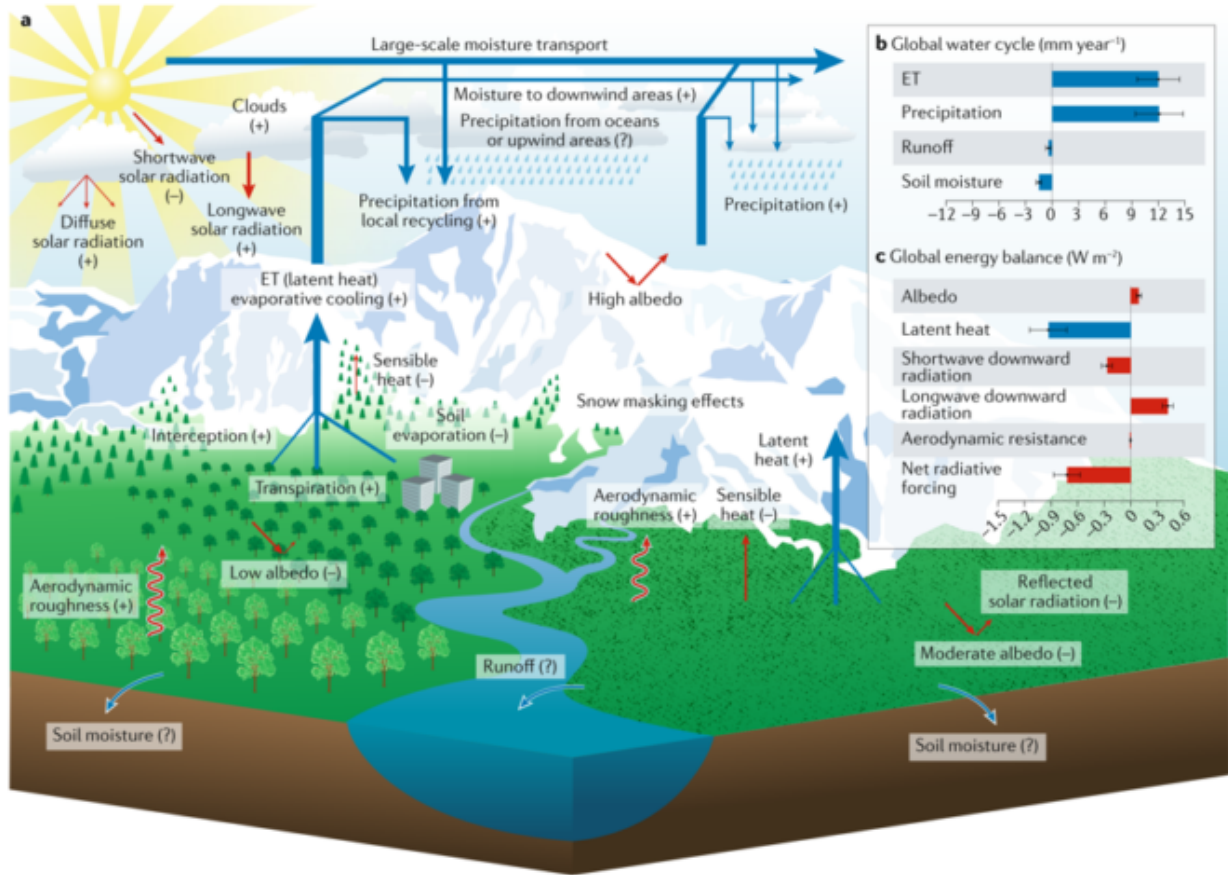


Petmal/iStock

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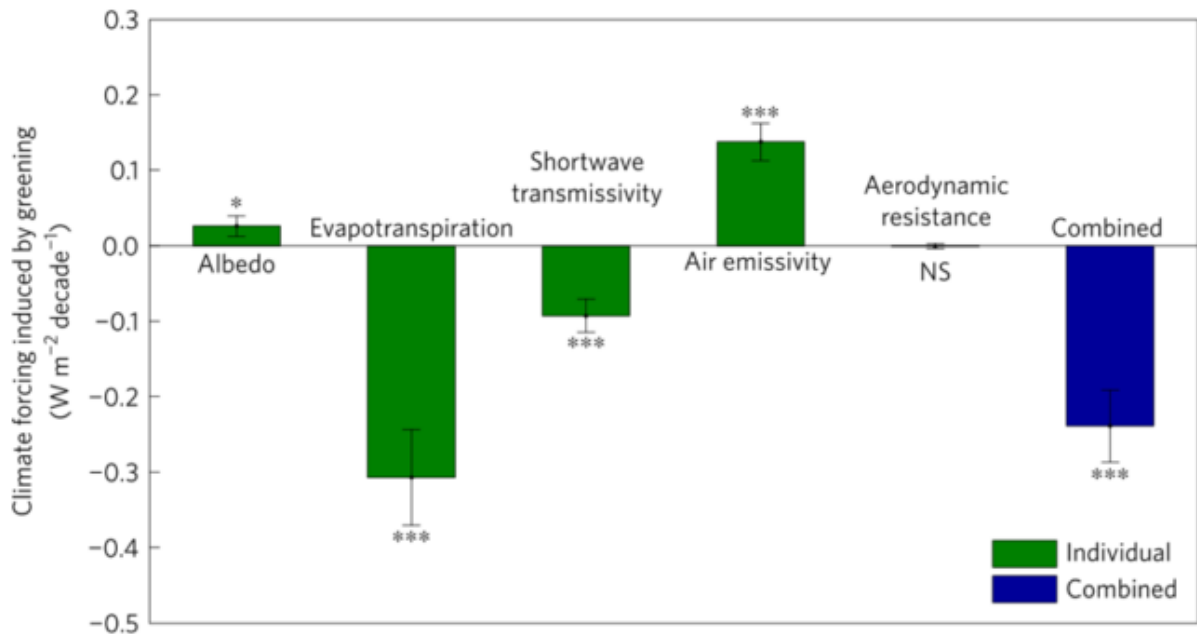
????????LAI????30????8% ?????????????CO2??
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Piao, S., Wang, X., Park, T., Chen, C., Lian, X., He, Y., Bjerke, J. W., Chen, A., Ciais, P., Tømmervik, H., Nemani, R. R., & Myneni, R. B. (2020). Characteristics, drivers and feedbacks of global greening. *Nature Reviews Earth and Environment*, 1(1), 14–27.

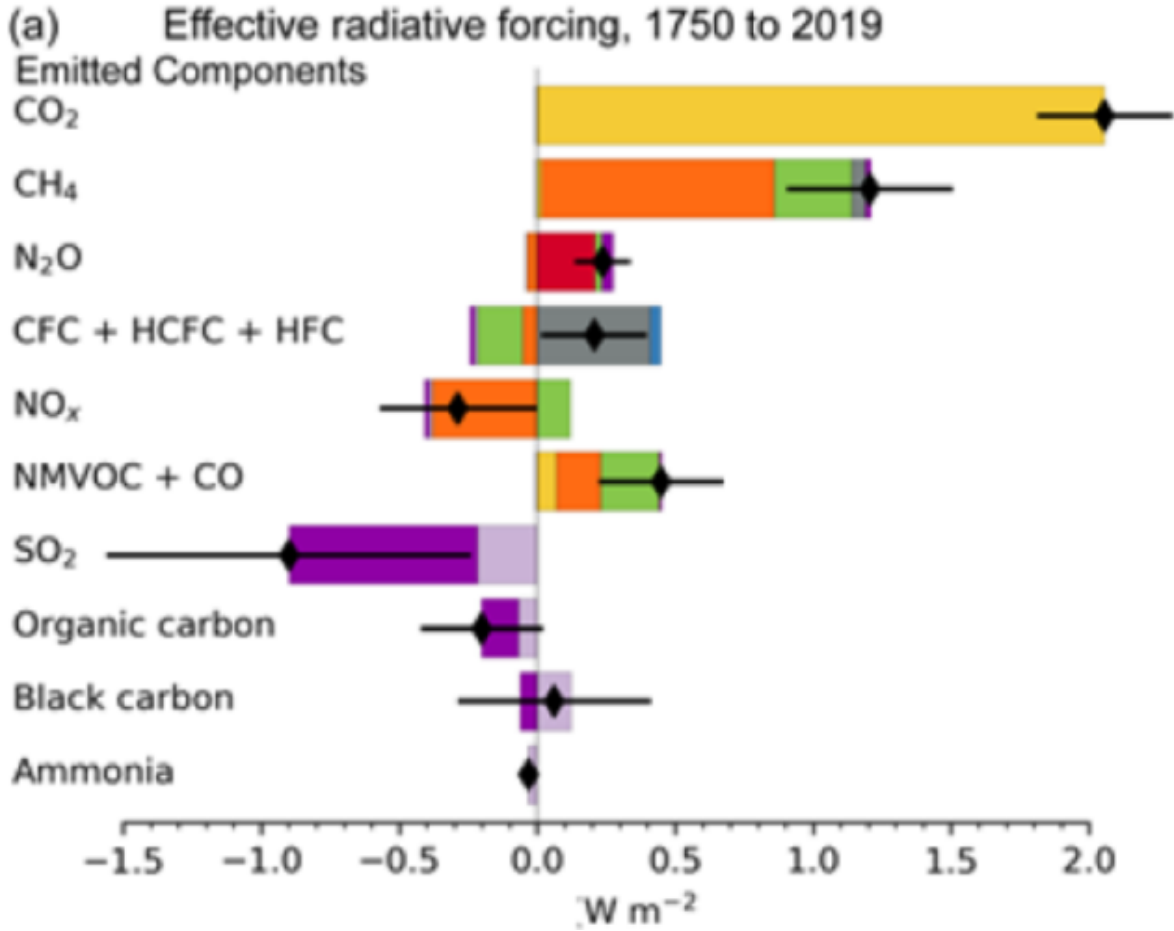
??10?????0.24W/m²???????



Zeng, Z., Piao, S., Li, L. Z. X., Zhou, L., Ciais, P., Wang, T., Li, Y., Lian, X., Wood, E. F., Friedlingstein, P., Mao, J., Estes, L. D., Myneni, R. B., Peng, S., Shi, X., Seneviratne, S. I., & Wang, Y. (2017). Climate mitigation from vegetation biophysical feedbacks during the past three

decades. Nature Climate Change, 7(6), 432–436.

0.24W/m²????????????40????????1W/m²????IPCC????1750????CO2????????2W/m²????
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IPCC AR6 Fig. TS.15

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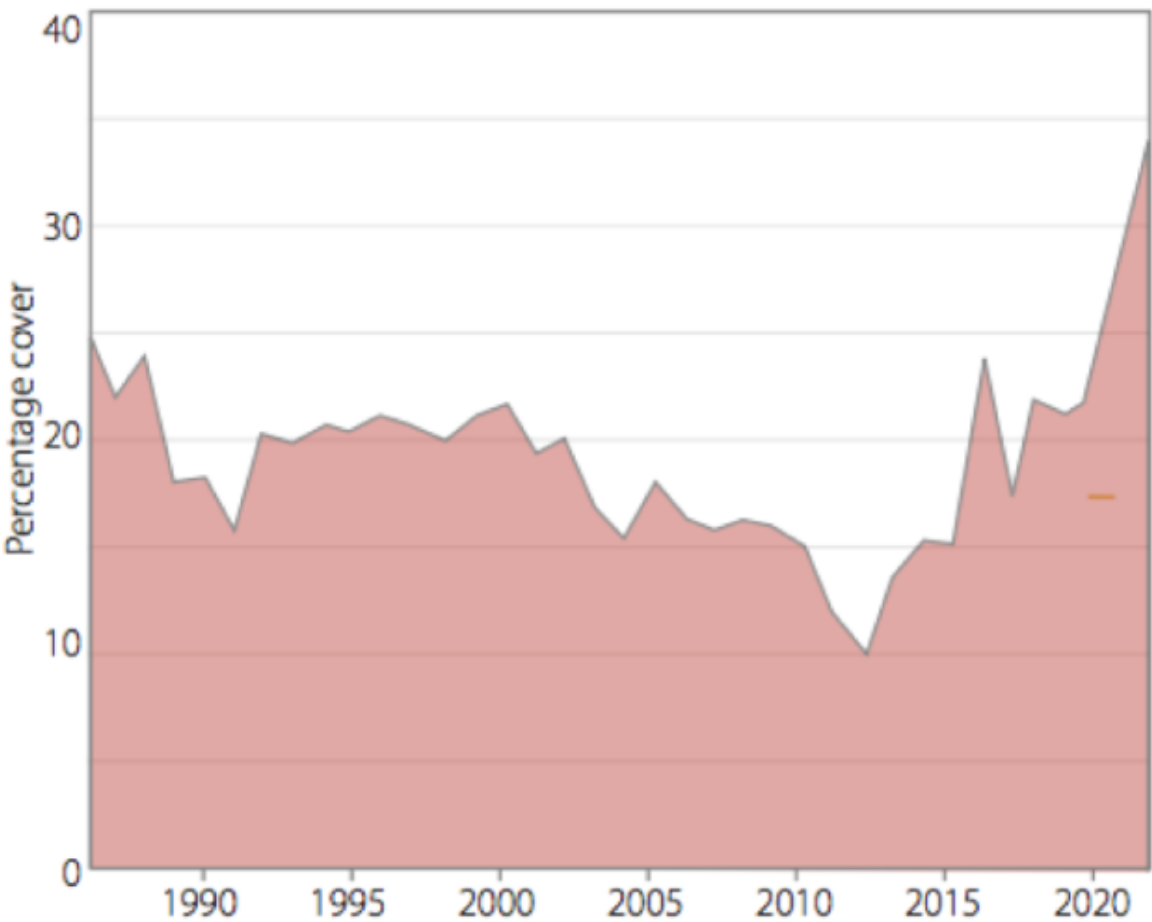
IPCC?????60????????????????????

?? ?? · Sunday, August 7th, 2022



Maerie/iStock

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2022????5%??10%????????????????????????????
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Without significant changes to the rates of disturbance and coral growth, coral cover in the central and southern regions of the GBR is likely to decline to 5–10% by 2022. The future of the GBR therefore depends on decisive

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Great Barrier Reef is damaged beyond repair and can no longer be saved, say scientists

By Helena Horton
29 May 2017 • 1:17pm



Helena Horton, Daily Telegraph, 29 May 2017

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?IPCC????58????????
?IPCC????59????????

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Posted in ???, ????? | No Comments »

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?? ? · Friday, August 5th, 2022

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Posted in ??, ????? | No Comments »

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?? ?? · Thursday, August 4th, 2022



blew_i/iStock

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Q&A??

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

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?? ?? · Wednesday, August 3rd, 2022



HowardPerry/iStock

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?? ?? · Monday, August 1st, 2022



Yamko/iStock

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2. **????**——3????2022????????????????2019??
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27??????GX????????????????????????????????????GX????????????????????
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Posted in ??????????, ???, ?? | No Comments »

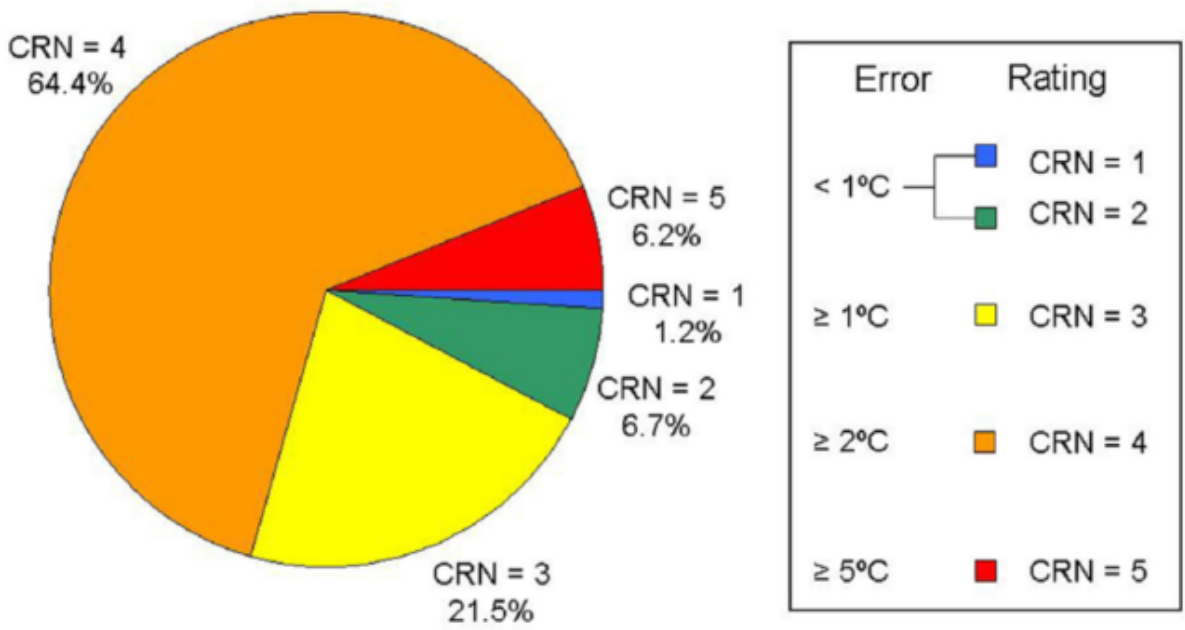
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?? ?? · Monday, August 1st, 2022

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????????????????????8%????????????CRN rating????????????????CRN=1, 2
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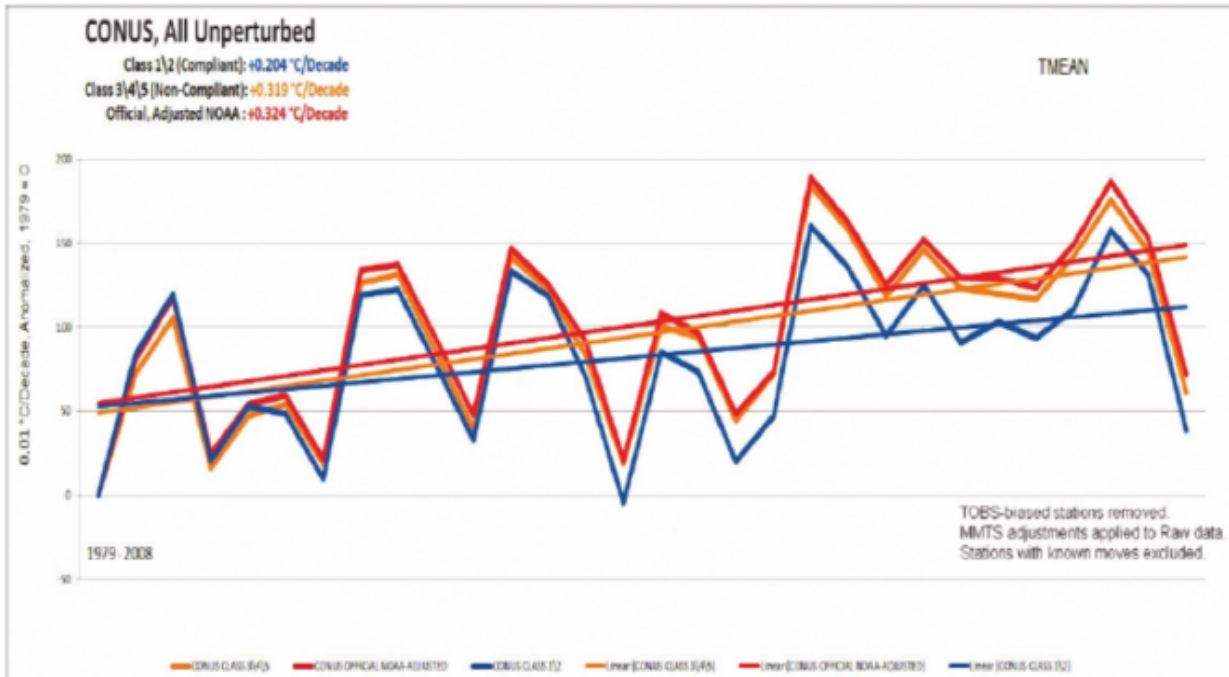


Figure 8: Top: placement of CRS in parking lot at University of Arizona Atmospheric Sciences Department on July 21, 2007. Lower left: detail at ground level of CRS placement on July 21, 2007. Lower right: detail at ground level of CRS after removal on November 23, 2007. Source: Warren Meyer, Bob Thompson.

????????NOAA????????10????0.324????????????????????

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????CRN=1,2 ?????????????10????0.204????????????????6??????



????????????????????(US Climate Reference Network)????????????????????2005??



Posted in ???, ????? | No Comments »

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?? ?? · Wednesday, July 27th, 2022



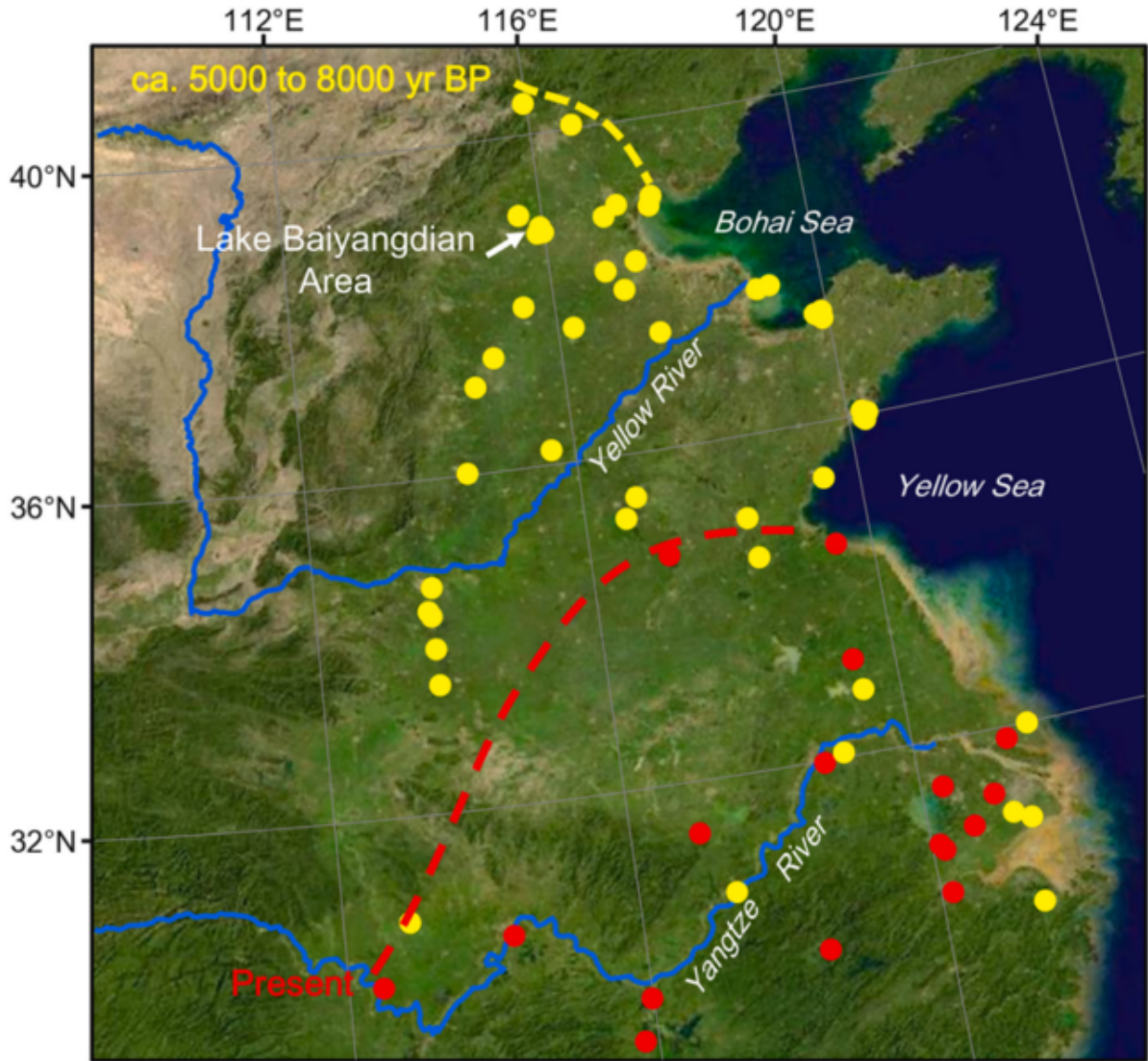
Yuriy_Kulik/iStock

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??????1????????7.7????????3.5??????

???????(Baiyangdian)??

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?? ? · Monday, July 25th, 2022



Meindert van der Haven/iStock

7?17??
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- [Energy Security and the Role of the International Energy Agency \(IEA\) - 2021](#)
- [Energy Security and the Role of the International Energy Agency \(IEA\) - 2021](#)
- [Energy Security and the Role of the International Energy Agency \(IEA\) - 2021](#)
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Posted in [Energy Security](#), [IEA](#), [2021](#) | [No Comments](#) »

