AI時代・地政学的緊張の高まりとGXの現状

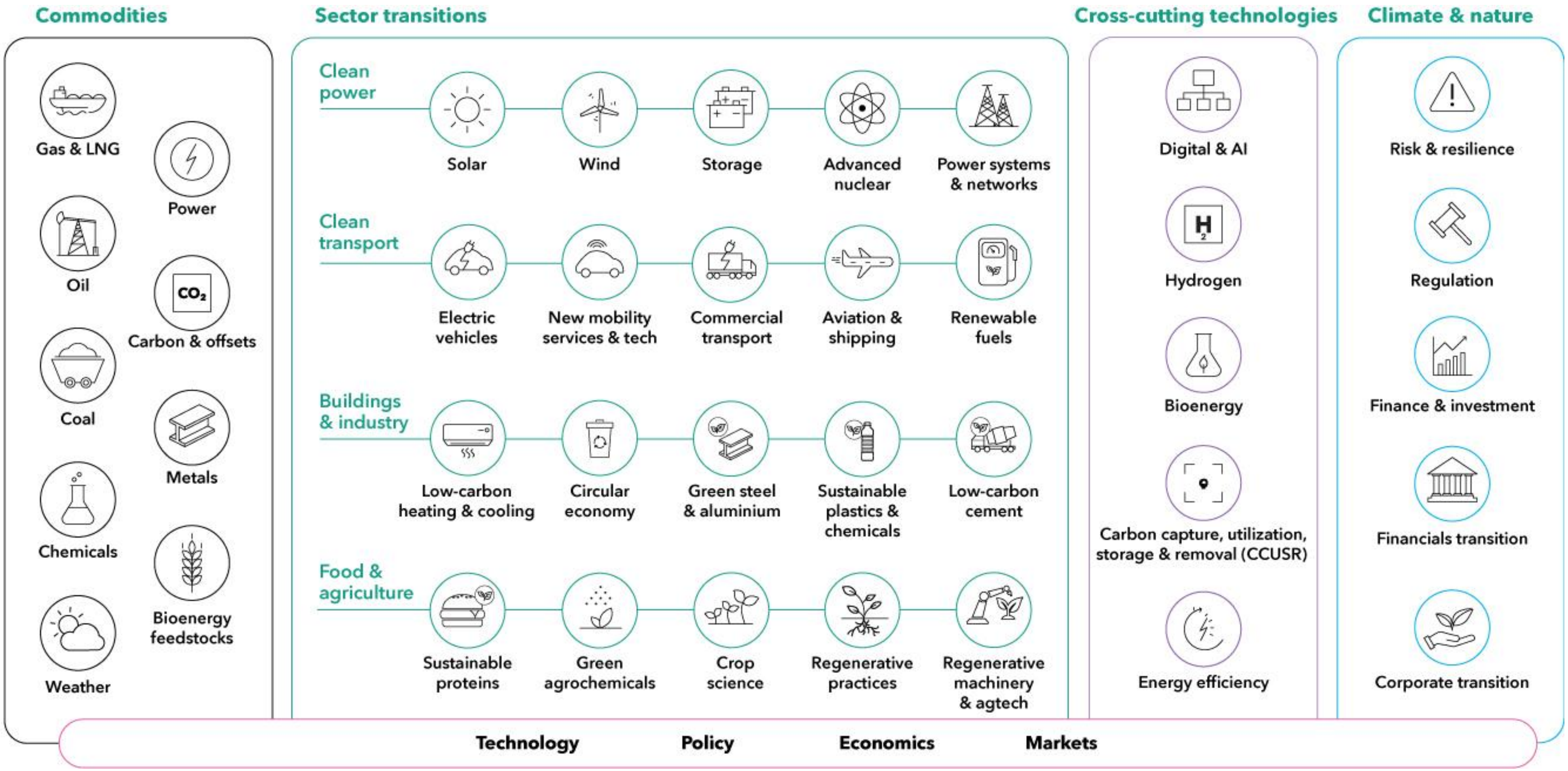
令和8年度第１回東京都再エネ実装専門家ボード

アリ・イザディ博士
トランジション分析 グローバルヘッド

2026年7月22日

BloombergNEF

BNEFのカバレッジ


Commodities
Gas & LNG
Power
Oil
Carbon & offsets
Coal
Metals
Chemicals
Bioenergy feedstocks
Weather
Sector transitions
Clean power
Solar
Wind
Storage
Advanced nuclear
Power systems & networks
Clean transport
Electric vehicles
New mobility services & tech
Commercial transport
Aviation & shipping
Renewable fuels
Buildings & industry
Low-carbon heating & cooling
Circular economy
Green steel & aluminium
Sustainable plastics & chemicals
Low-carbon cement
Food & agriculture
Sustainable proteins
Green agrochemicals
Crop science
Regenerative practices
Regenerative machinery & agtech
Cross-cutting technologies
Digital & AI
Hydrogen
Bioenergy
Carbon capture, utilization, storage & removal (CCUSR)
Energy efficiency
Climate & nature
Risk & resilience
Regulation
Finance & investment
Financials transition
Corporate transition
Technology
Policy
Economics
Markets

Photograph: SeongJoon Cho/Bloomberg. Note: AI data center solutions at the SK Telecom Co. booth in the World IT Show in Seoul, South Korea, on Wednesday, April 22, 2026.

Photograph:Jim Lo Scalzo/EPA /Bloomberg. Note: US President Donald Trump signs executive orders in the Oval Office of the White House in Washington, DC, US, on Monday, Jan. 20, 2025.

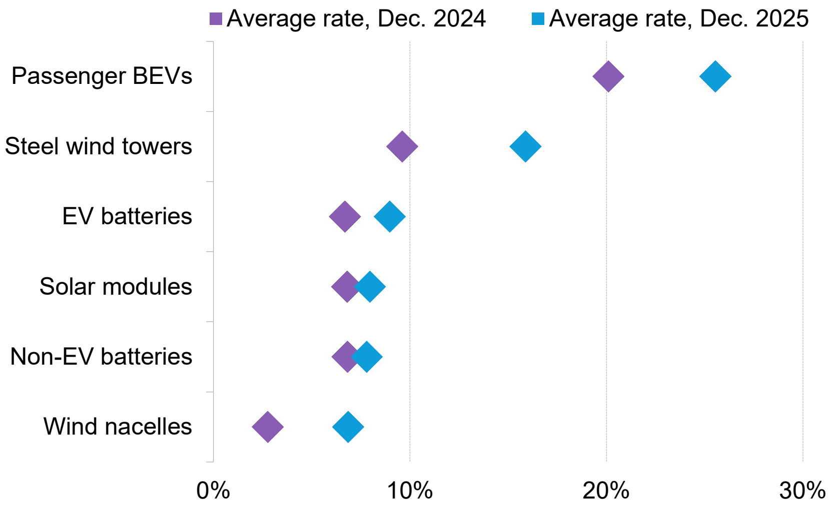
Photograph: Kent Nishimura/Bloomberg. Note: Posters displaying information on reciprocal tariffs in the James S. Brady Press Briefing Room of the White House in Washington, DC, US, on Wednesday, April 2, 2025.

Photograph: Alessandro Falco/Bloomberg. Note: Signage during the COP30 climate summit in Belem, Para state, Brazil, on Monday, Nov. 10, 2025.

Photograph: AMichael Nagle/Bloomberg. A television station broadcasts US President Donald Trump and a map of Iran on the floor of the New York Stock Exchange (NYSE) in New York, US, on Monday, March 16, 2026.

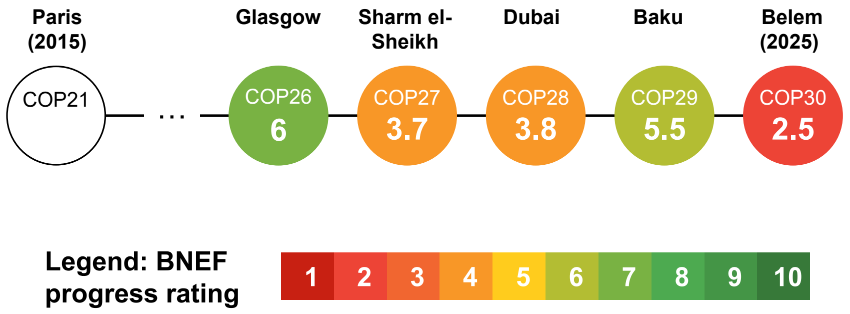
貿易・気候分野の国際協力は以前ほど機能していない

主要G20市場におけるクリーン技術の平均輸入関税率



Source: BloombergNEF. Note: Data shows the simple average tariff applied by the 15 assessed G-20 markets. BEV stands for battery-electric vehicle, and EV is electric vehicle.

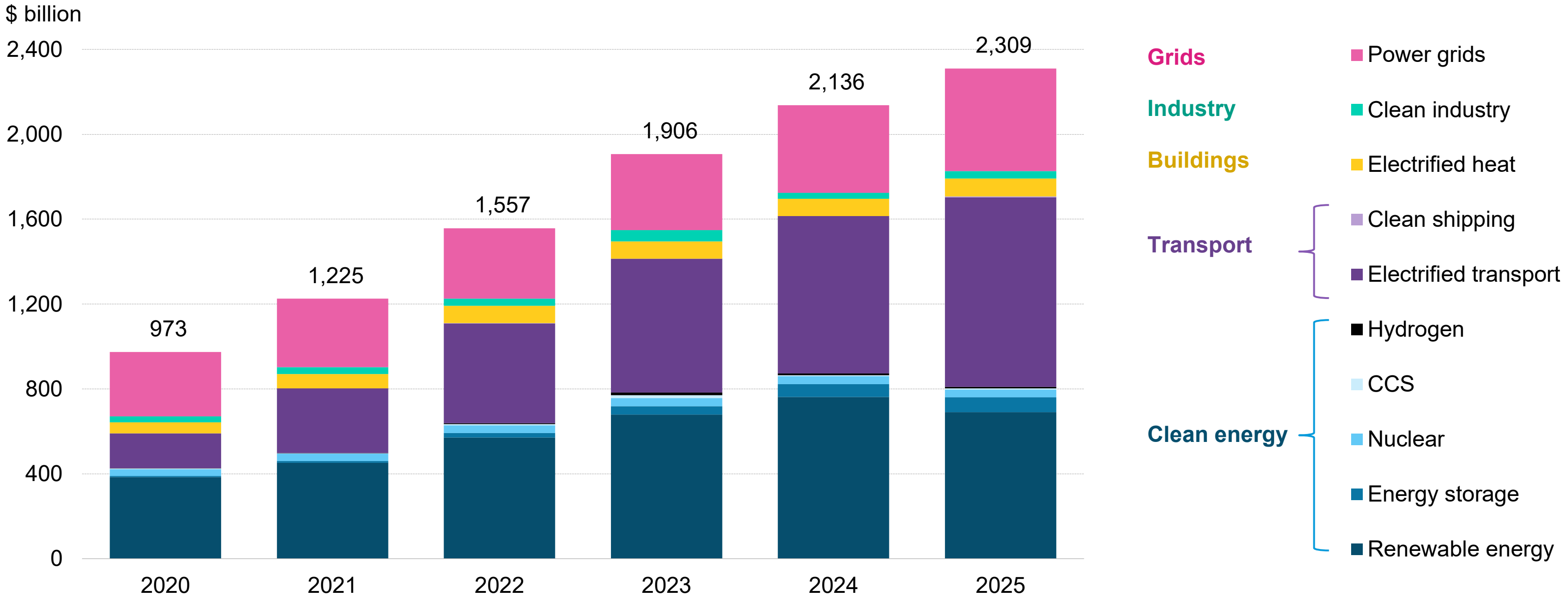
グラスゴーCOPからベレンCOPまでの達成度評価スコア



Source: BloombergNEF. Note: Scores are out of 10 for achievement against BNEF's expectations.

それでも、世界のエネルギー転換投資は2025年に過去最高の2.3兆ドルに達した

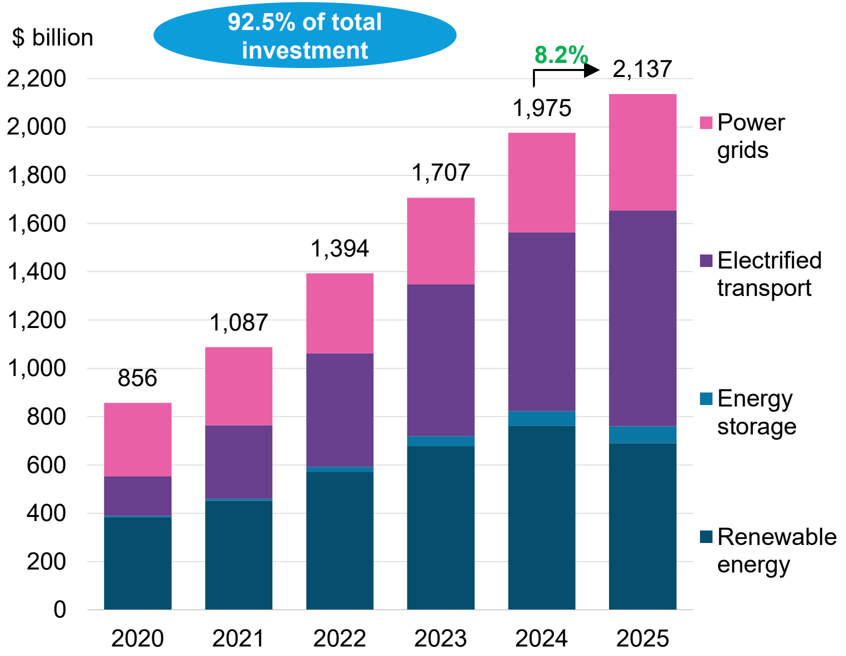
世界のエネルギー転換投資（分野別）



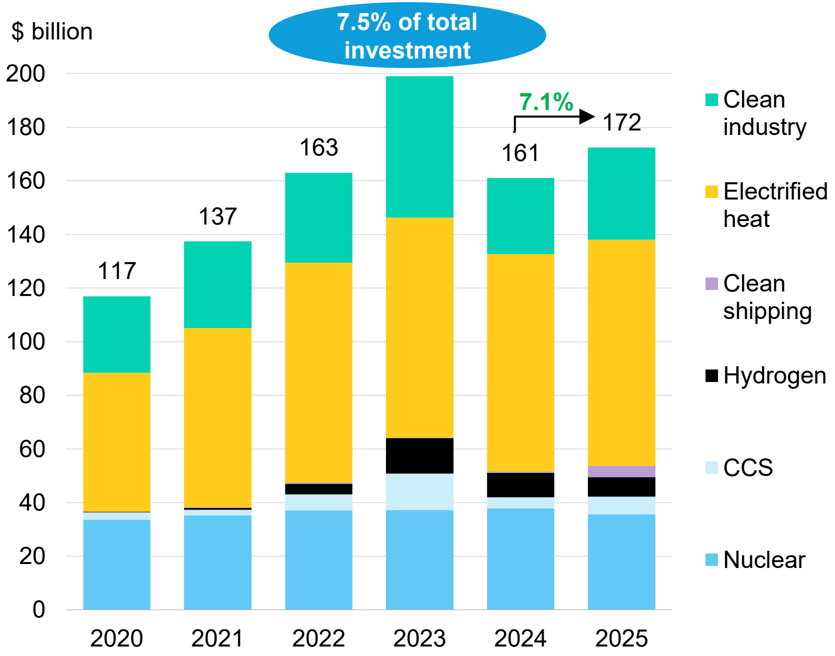
Source: BloombergNEF. Note: CCS refers to carbon capture and storage.

成熟度の高い技術が投資を牽引する一方、新興分野も2025年に拡大

エネルギー転換投資の推移：成熟分野



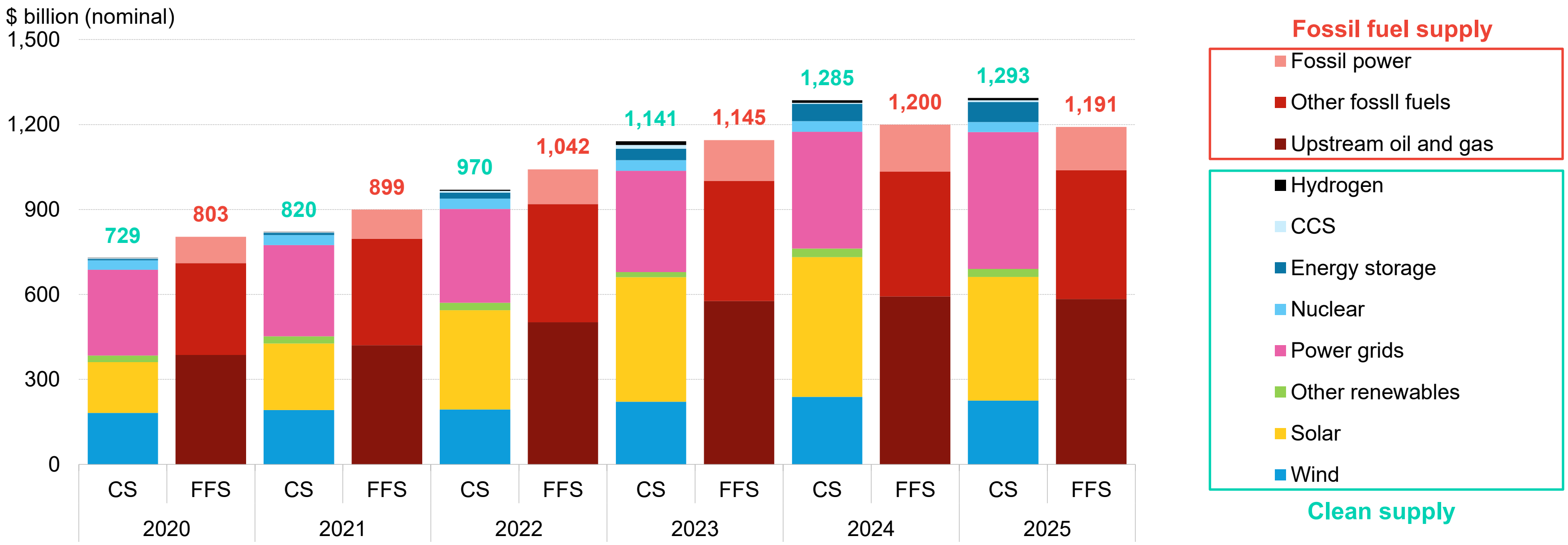
エネルギー転換投資の推移：新興分野



Source: BloombergNEF. Note: CCS refers to carbon capture and storage.

クリーンエネルギー供給への投資、再び化石燃料を上回る

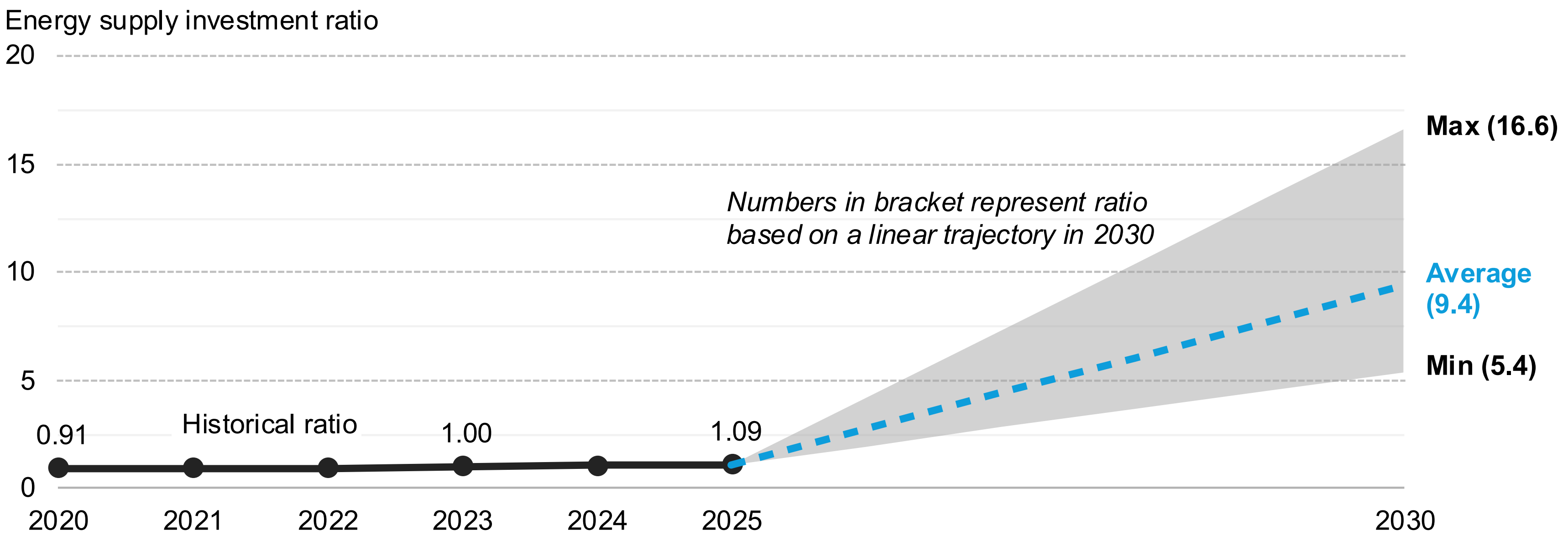
クリーンエネルギー供給と化石燃料供給への投資比較



Source: BloombergNEF, International Energy Agency (IEA). Note: CS stands for clean supply. FFS stands for fossil fuel supply. CCS stands for carbon capture and storage. Historical volumes for FFS investment were aggregated from IEA World Energy Investment 2025 (web). Investment includes upstream, midstream, downstream sectors and unabated fossil power generation. Dollar values have been adjusted to nominal terms. Investment in demand for fossil fuels - like gas boilers - is not included.

パリ協定に整合する軌道への移行には、今後10年間で4:1の投資比率が求められる

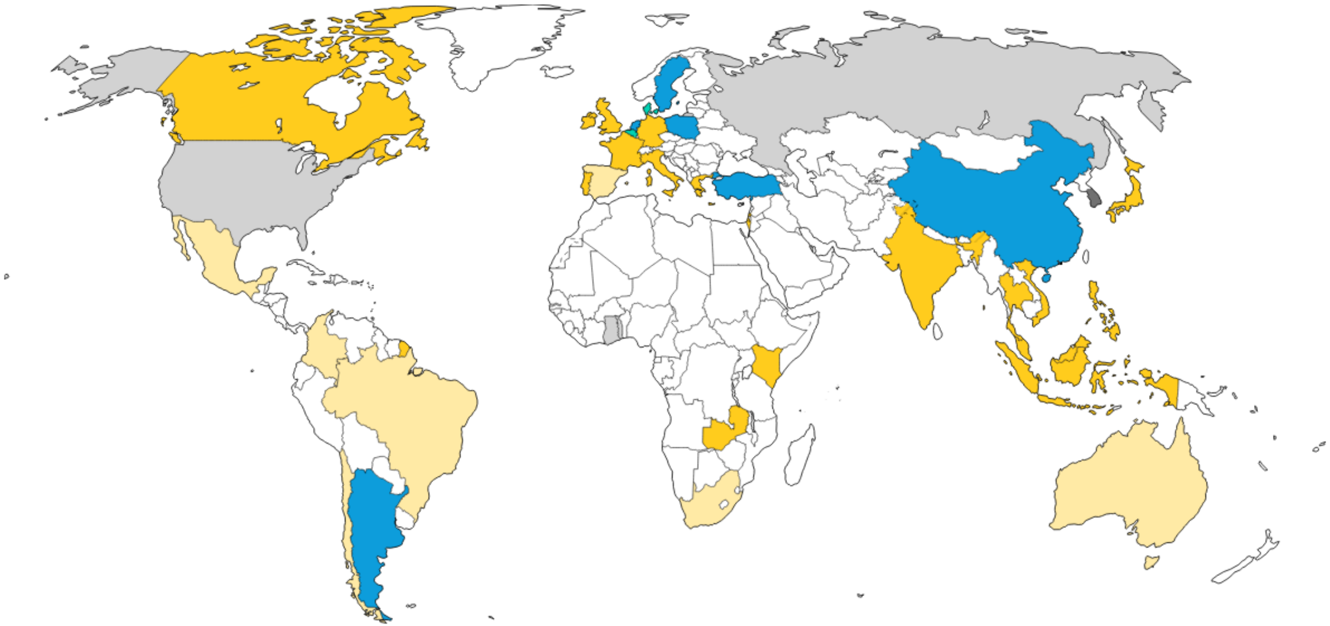
2℃を十分に下回る気温上昇に整合する気候シナリオに基づく、2030年までのエネルギー供給投資比率のレンジ



Source: BloombergNEF, International Energy Agency, UN Intergovernmental Panel on Climate Change, Network for Greening the Financial System, Bloomberg, Urgewald. Note: Ratios from 2015 to 2023 are based on historical investment levels from the IEA World Energy Investment reports.

再生可能エネルギーは、ほとんどの地域で新たな電力需要に対応する最も低コストな選択肢

最も低コストな大規模電源（2025年）



Onshore wind

Offshore wind

Fixed axis PV

Tracking PV

Gas – CCGT

Coal

Source: BloombergNEF. Note: LCOEs exclude subsidies, tax credits and grid connection costs, and include a carbon price where applicable. CCGT is combined-cycle gas turbine. Mapped data are for distinct economies.

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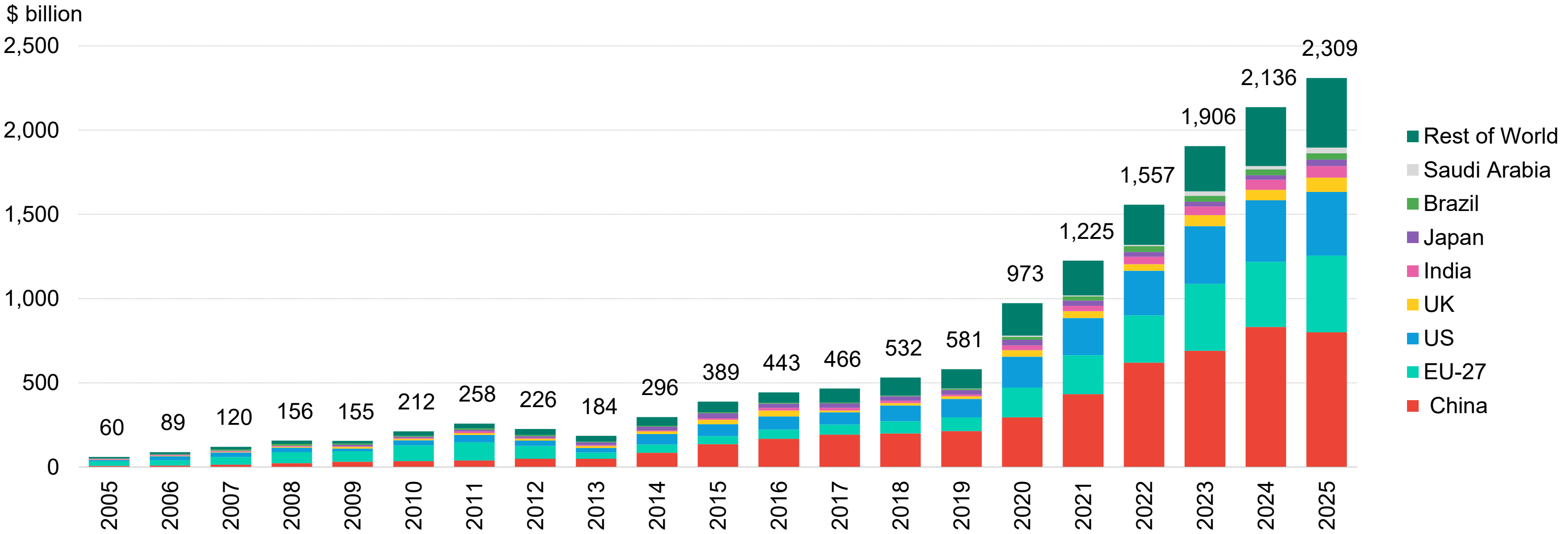
中国主導で、アジア太平洋地域が2013年以降のエネルギー転換投資を牽引

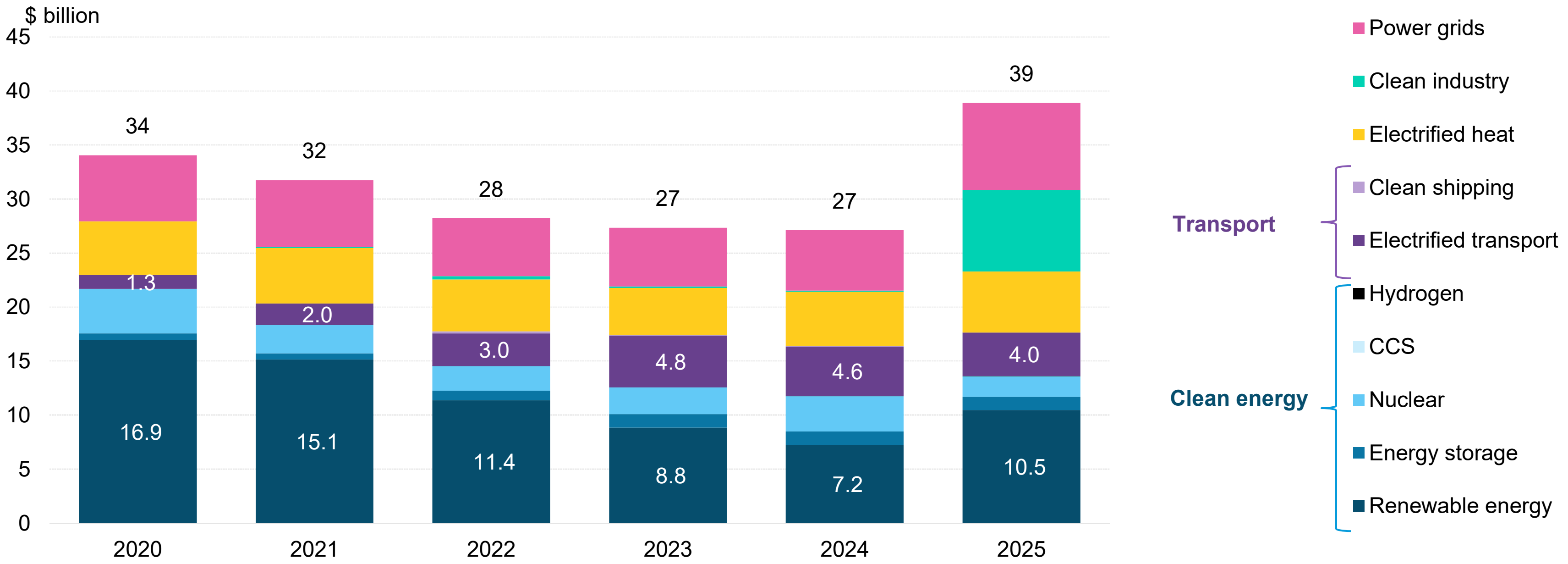
世界のエネルギー転換投資（国・地域ブロック別）



Source: BloombergNEF. Note: Start years differ by sector, but all sectors are present by 2020. The step change in 2020 is caused in part by the addition of power grids into the scope from that year onward.

日本のエネルギー転換投資は今10年間の最高水準を記録

日本のエネルギー転換投資（分野別）



Source: BloombergNEF. Note: Start years differ by sector, but all sectors are present from 2020 onwards. Most notably, power grids start in 2020. CCS refers to carbon capture and storage.

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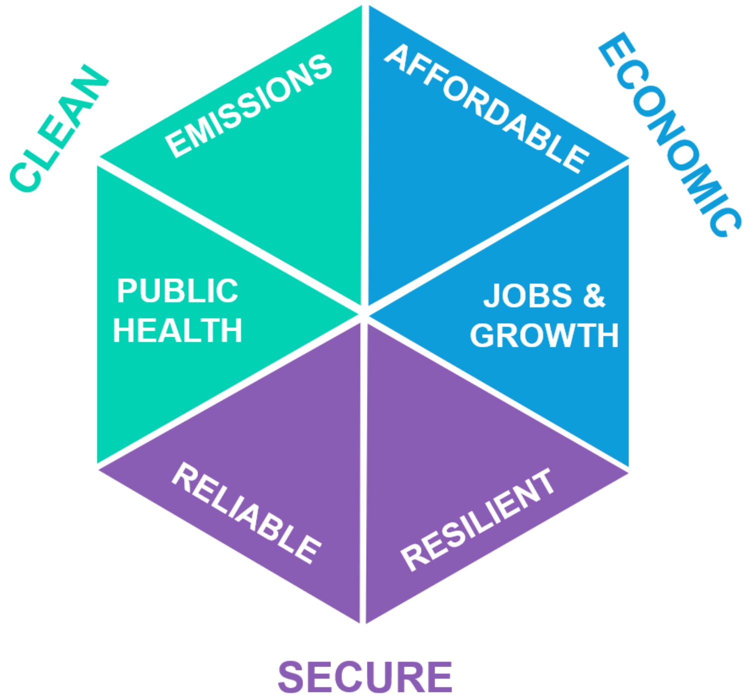
エネルギー・トリレンマへの回帰



Source: BloombergNEF

アジアの多くの経済圏は化石燃料供給の混乱に対して高い脆弱性を抱える

中東情勢がエネルギーコストに与える影響に関するBNEF評価（市場別・部門別）

Region	Market	Power	Industry	Transport
	Australia			
North Asia	Japan			
	South Korea			
	Mainland China			
	Taiwan			
Southeast Asia	Indonesia			
	Malaysia			
	Philippines			
	Singapore			
	Thailand			
	Vietnam			
South Asia	Bangladesh			
	India			
	Pakistan			

Source: BloombergNEF. Note: Power refers to average electricity generation cost. Industry refers to average energy input costs for industry. Transport refers to the average energy input costs for transportation. Green means least exposure to increased energy costs. Yellow means higher costs likely. Red means higher costs are certain.

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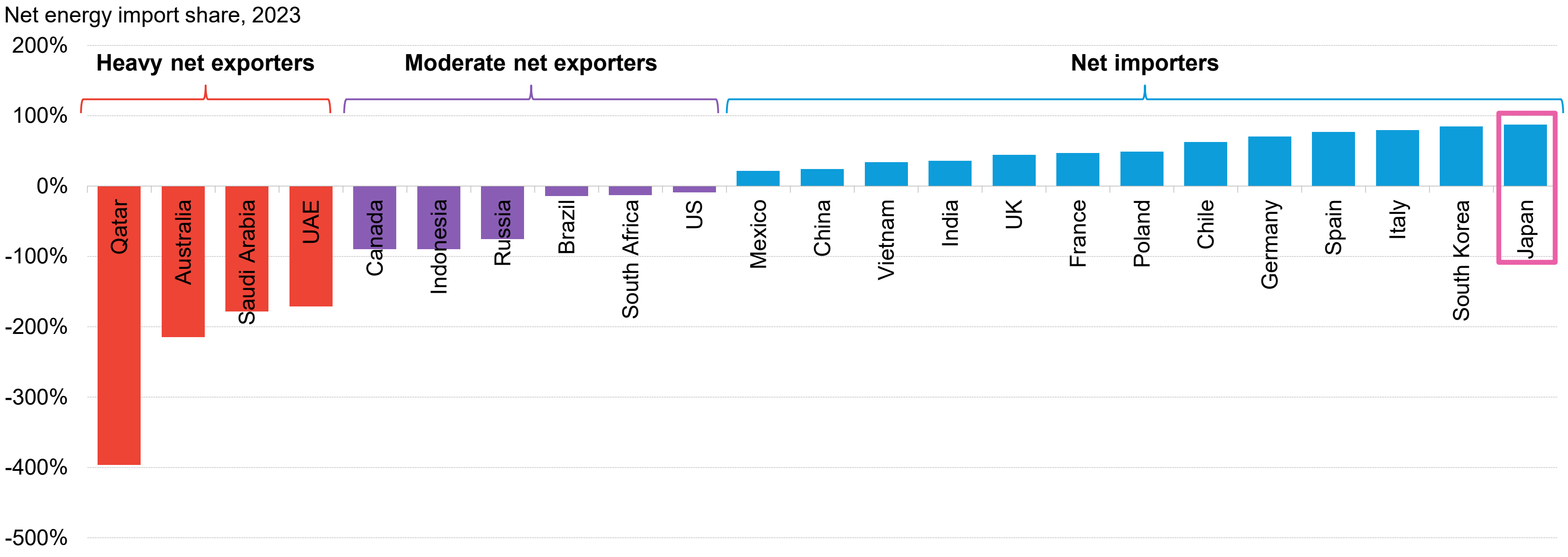
日本のエネルギー供給は依然として化石燃料輸入に大きく依存

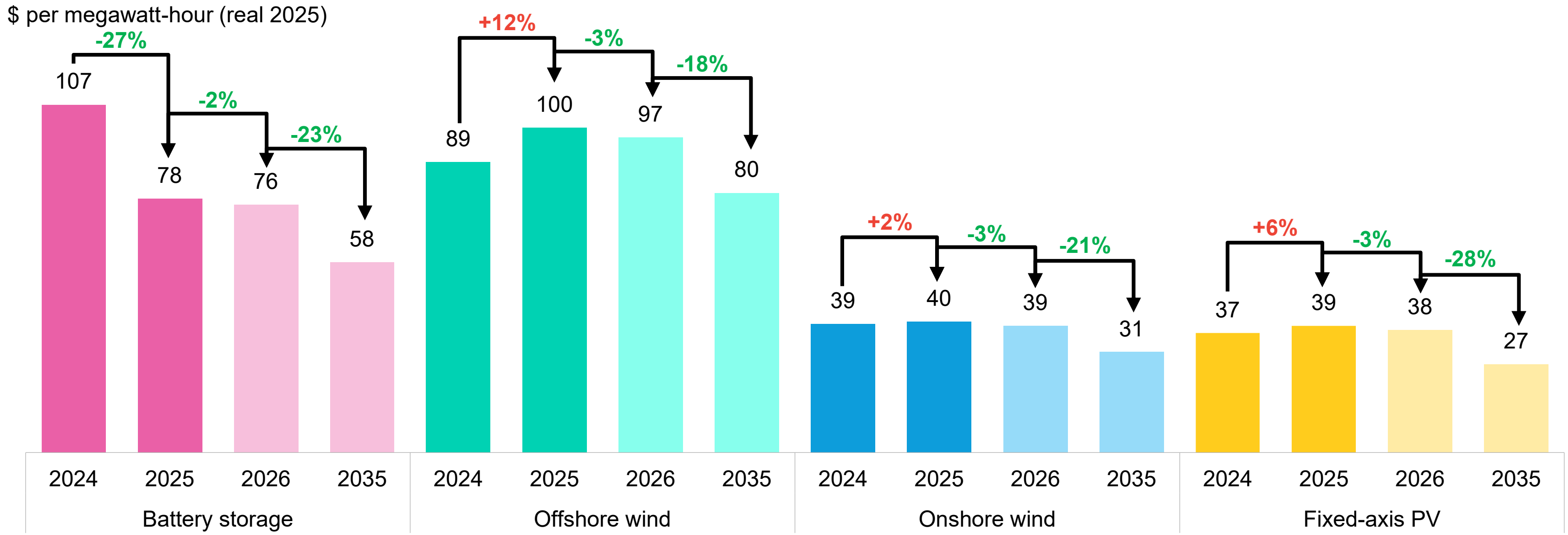
主要国のエネルギー純輸入量の国内エネルギー消費に占める割合



Source: IEA via World Bank, BloombergNEF.

太陽光・風力・蓄電池のコスト競争力はさらに向上へ

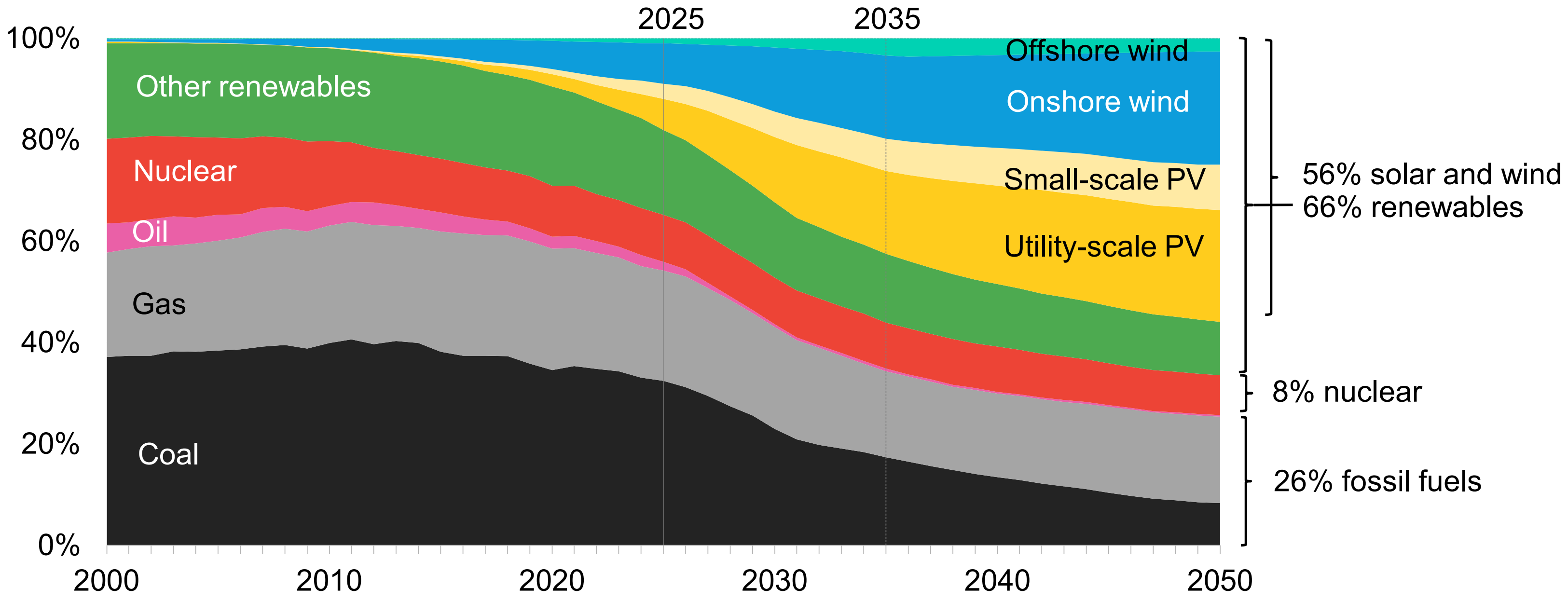
均等化発電原価（LCOE）の世界ベンチマーク（資金調達時期別）



Source: BloombergNEF. Note: Global benchmarks are capacity-weighted averages using the latest market capacity estimates for 2024, and capacity forecasts from sector teams' Market Outlooks for 2025 and 2035. LCOEs do not include subsidies or tax credits. Offshore wind includes transmission costs. Battery storage reflects 4-hour systems. PV refers to photovoltaic solar.

2050年には再生可能エネルギーが世界の発電構成の中心となる見通し

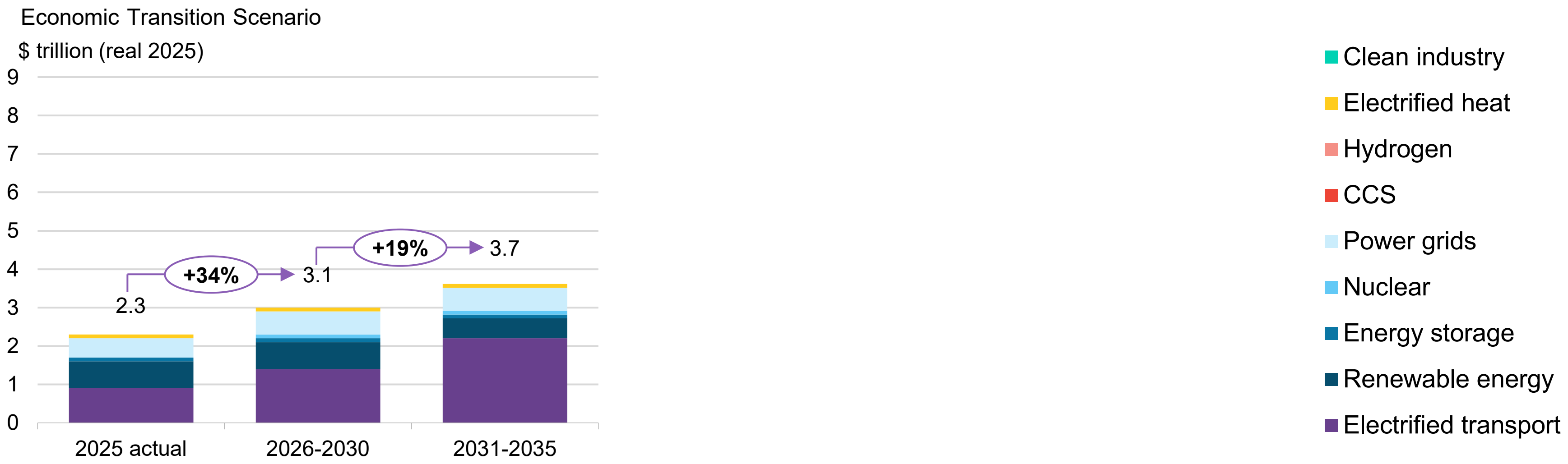
燃料別発電量（経済移行シナリオ）



Source: BloombergNEF. Note: “Other renewables” includes hydro, bioenergy, geothermal, and marine technologies.

経済移行シナリオでは、世界のエネルギー転換投資は引き続き拡大する…

エネルギー転換投資：2025年実績とNEO各シナリオで必要となる年平均投資額の比較



Source: BloombergNEF. Note: 2025 actuals are from Energy Transition Investment Trends 2026 (web | terminal). "CCS" is carbon capture and storage.

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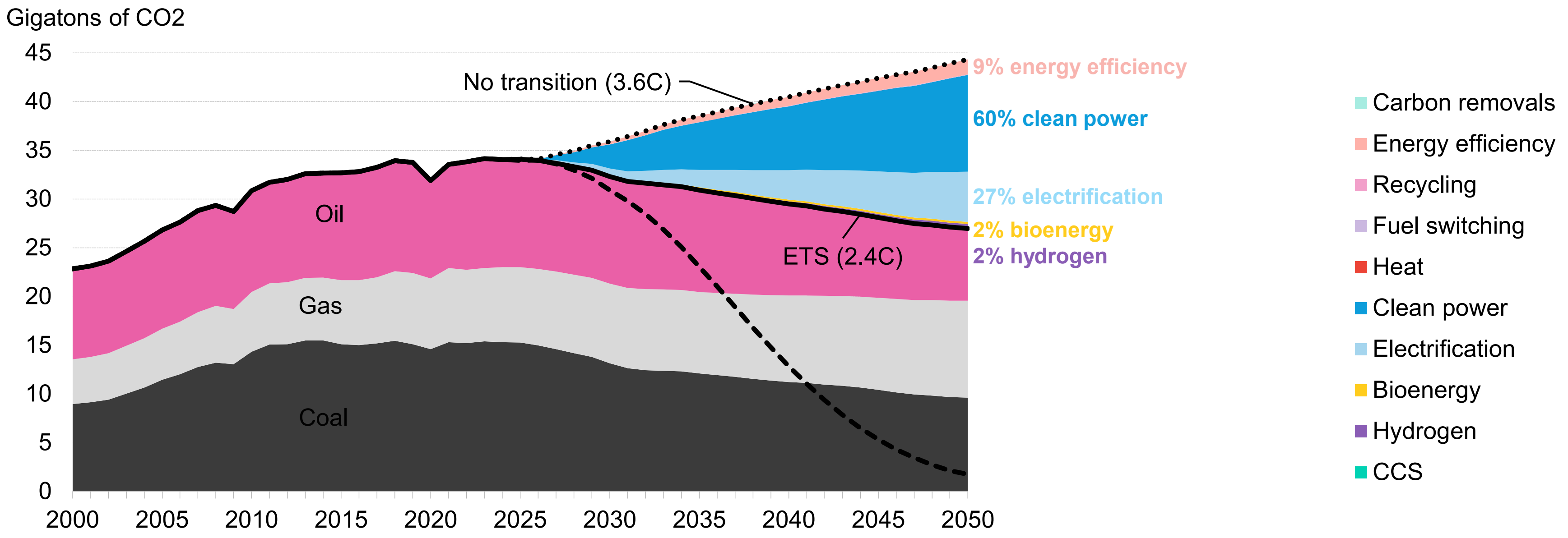
…それでもパリ協定の目標達成には不十分

燃料燃焼由来CO₂排出削減量の内訳（対策別、経済移行シナリオ［ETS］と無移行シナリオの比較）



Source: BloombergNEF. Note: The ‘no transition’ scenario is a hypothetical counterfactual that models no further improvement in decarbonization and energy efficiency. ‘Clean power’ includes renewables and nuclear. ‘Energy efficiency’ includes demand-side efficiency gains and more recycling in industry.

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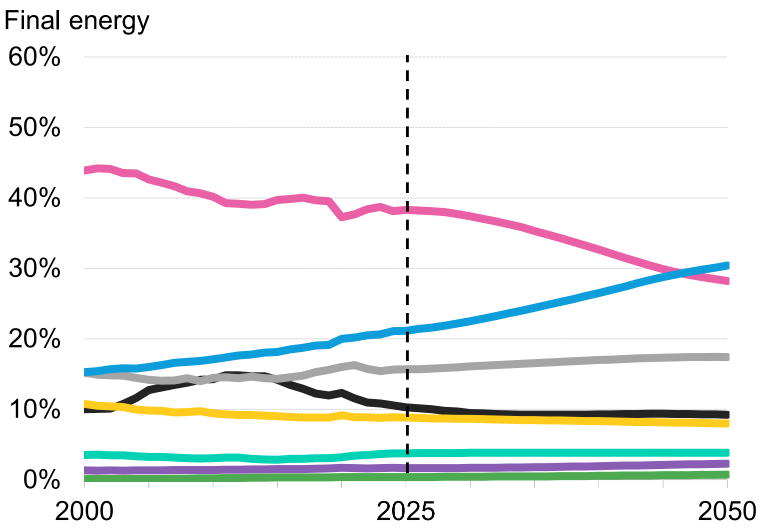
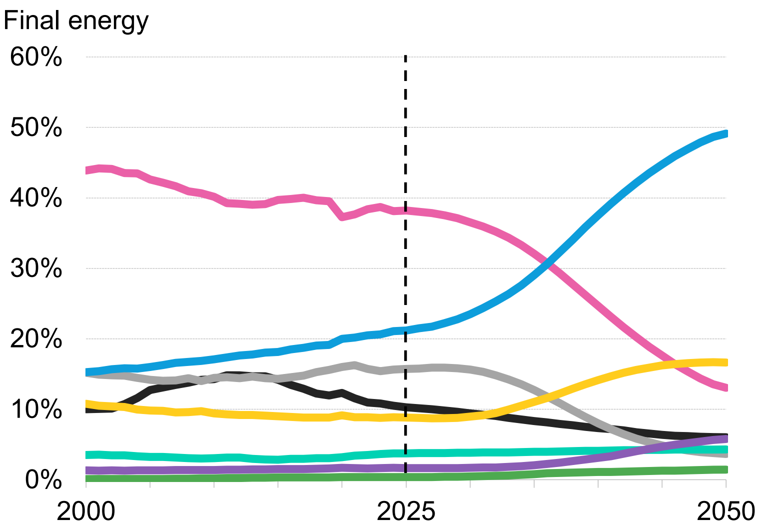
パリ協定との整合にはクリーン電化の加速が求められる

燃料別最終エネルギー消費

経済移行シナリオ



ネットゼロシナリオ

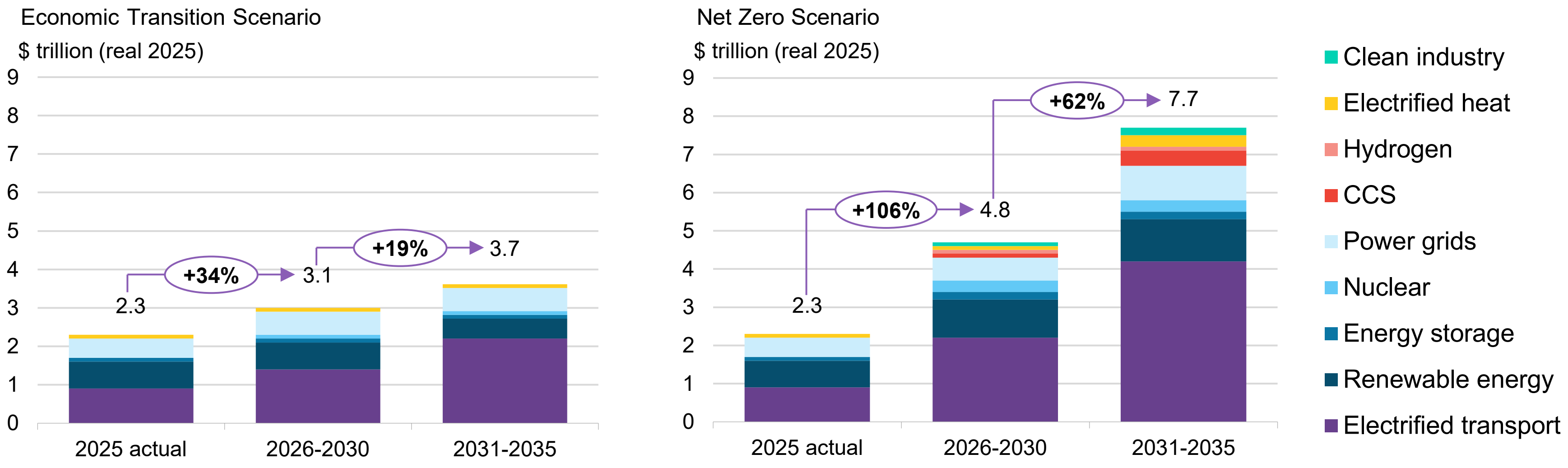


Electricity　Oil　Gas　Coal　Bioenergy　Other renewables　Heat　Hydrogen

Source: BloombergNEF

パリ協定と整合するには、今後10年でエネルギー転換投資を2倍以上に拡大する必要

エネルギー転換投資：2025年実績とNEO各シナリオで必要となる年平均投資額の比較

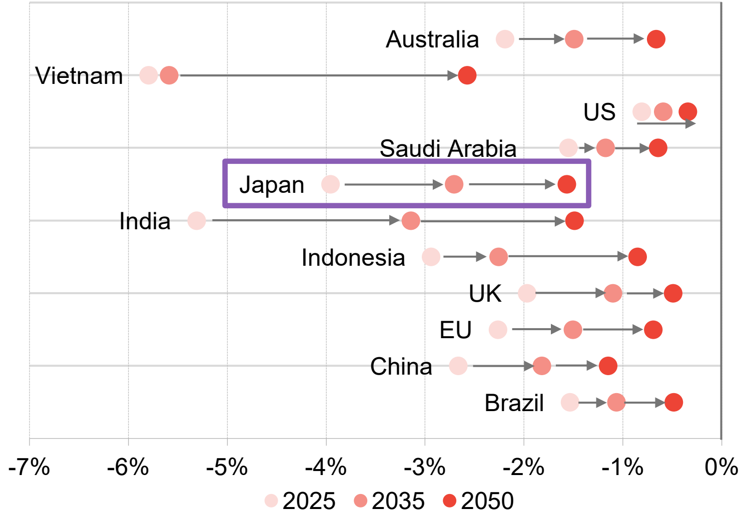


Source: BloombergNEF. Note: 2025 actuals are from Energy Transition Investment Trends 2026 (web | terminal). "CCS" is carbon capture and storage.

ネットゼロシナリオでは、日本のエネルギー輸入依存はほぼ解消される

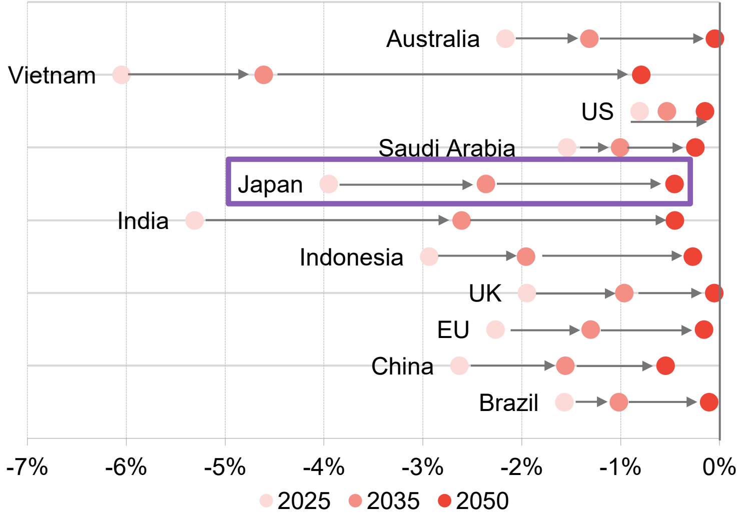
主要市場におけるエネルギー輸入依存度の推移（実績・経済移行シナリオ）

Energy imports as share of GDP ($, real 2025)



主要市場におけるエネルギー輸入依存度の推移（実績・ネットゼロシナリオ）

Energy imports as share of GDP ($, real 2025)



Source: BloombergNEF Trade Transition Scenario Tool, Sinoimex Global Trade Flow (GTF), GCAM. Note: Energy commodity imports based on observed 2024 trade data from relevant custom codes for coal, lignite, crude, petroleum oil and gas products, and renewable fuels. Negative values indicate imports. Future imports scaled forward based on domestic demand for related products and services under different scenarios. This projection assumes relative trade patterns remain static and uses the same GDP projections under both scenarios.

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Our expert coverage assesses pathways for the power, transport, industry, buildings and agriculture sectors to adapt to the energy transition.

We help commodity trading, corporate strategy, finance and policy professionals navigate change and generate opportunities.

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