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# Making Sense of Global Energy Markets

Stuart Broadley FEI  
CEO at EIC  
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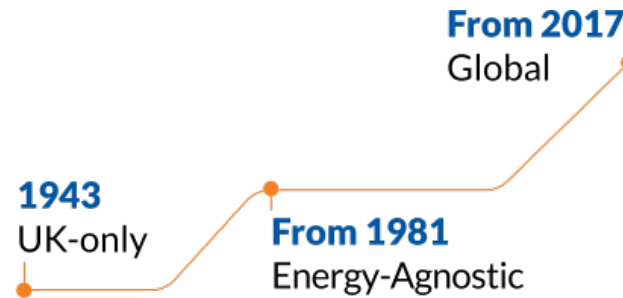


THE VOICE OF THE ENERGY  
SUPPLY CHAIN, **GLOBALLY**  
EXPORT | DIVERSIFY | GROW



### Top 5 membership globally

950 members → Energy Supply Chain  
The Voice



### Energy supply chain focus

UK → Global → 5 hubs since 1995  
→ 6<sup>th</sup> Europe hub in 2025



Capital expenditure tracking of over 16,000  
(worth \$16 trillion) projects in development -  
Global



Operational asset mapping over 50,000  
existing energy facilities - Global



Capability map of over 10,000 energy supply chain  
companies - in UK, Germany, Italy, Brazil, Texas &  
Louisiana (USA), Malaysia, Singapore, KSA, Oman  
& UAE

### Pavilions & Business Lounges



160 events p.a.  
Energy Exports Conference (EEC)  
Bankable Energies  
World Energy Supply Chain Awards (WESCA's)



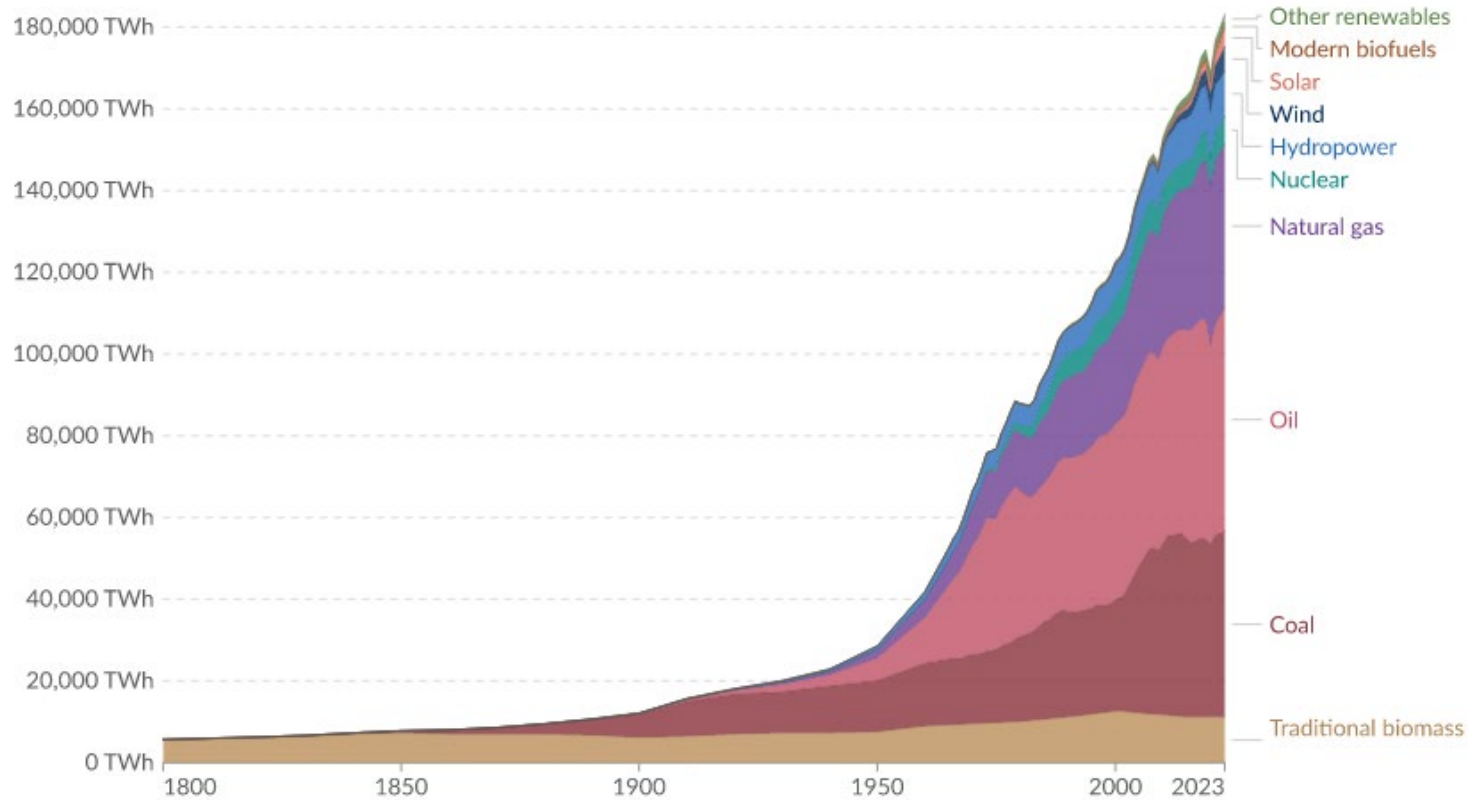
# WORLD ENERGY CONSUMPTION: TRANSITION OR ADDITION?



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## Global primary energy consumption by source

Primary energy is based on the substitution method and measured in terawatt-hours.



Data source: Energy Institute - Statistical Review of World Energy (2024); Smil (2017)

OurWorldinData.org/energy | CC BY

Note: In the absence of more recent data, traditional biomass is assumed constant since 2015.

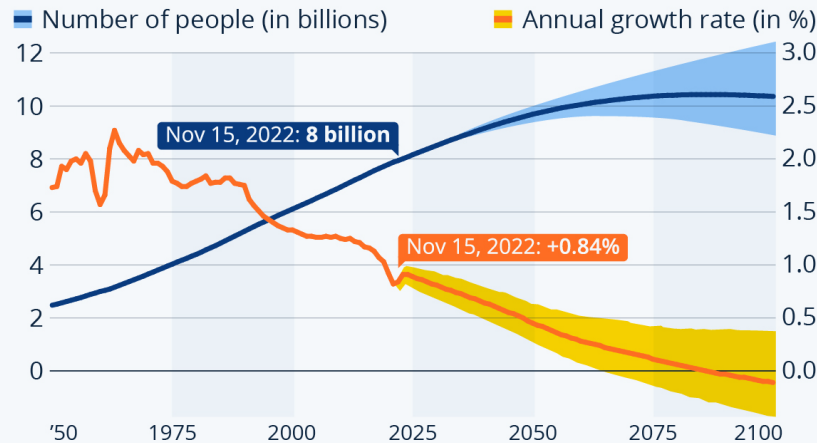
# UNSTOPPABLE DEMAND GROWTH



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## World Population Reaches 8 Billion

(Forecast) number of people on Earth and annual growth rate of the world population

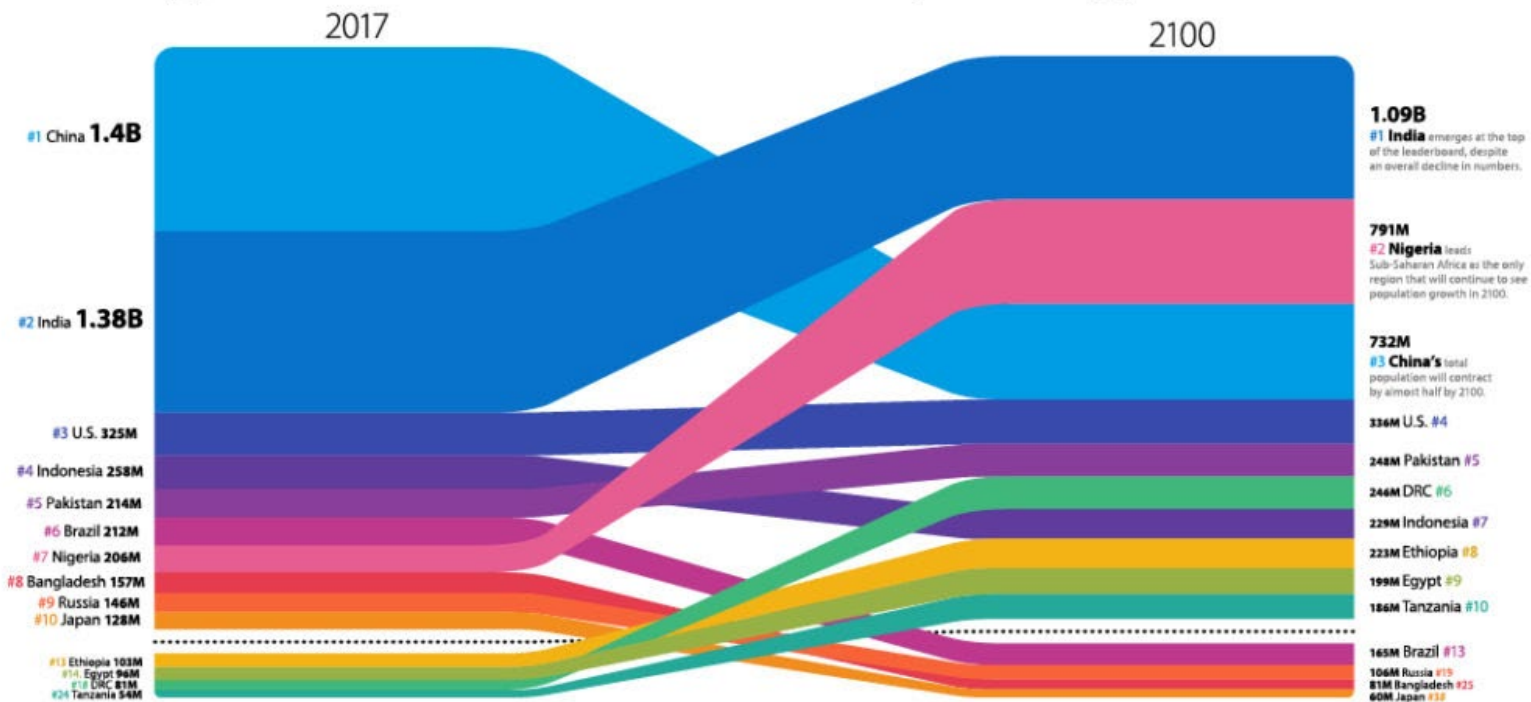


Forecast from 2022 according to the medium scenario with moderate fertility  
Source: UN Population Division



statista

## Top 10 Countries by Population



Check out <https://www.worldometers.info/world-population/>

2025 global population has net growth rate : >200,000 per day

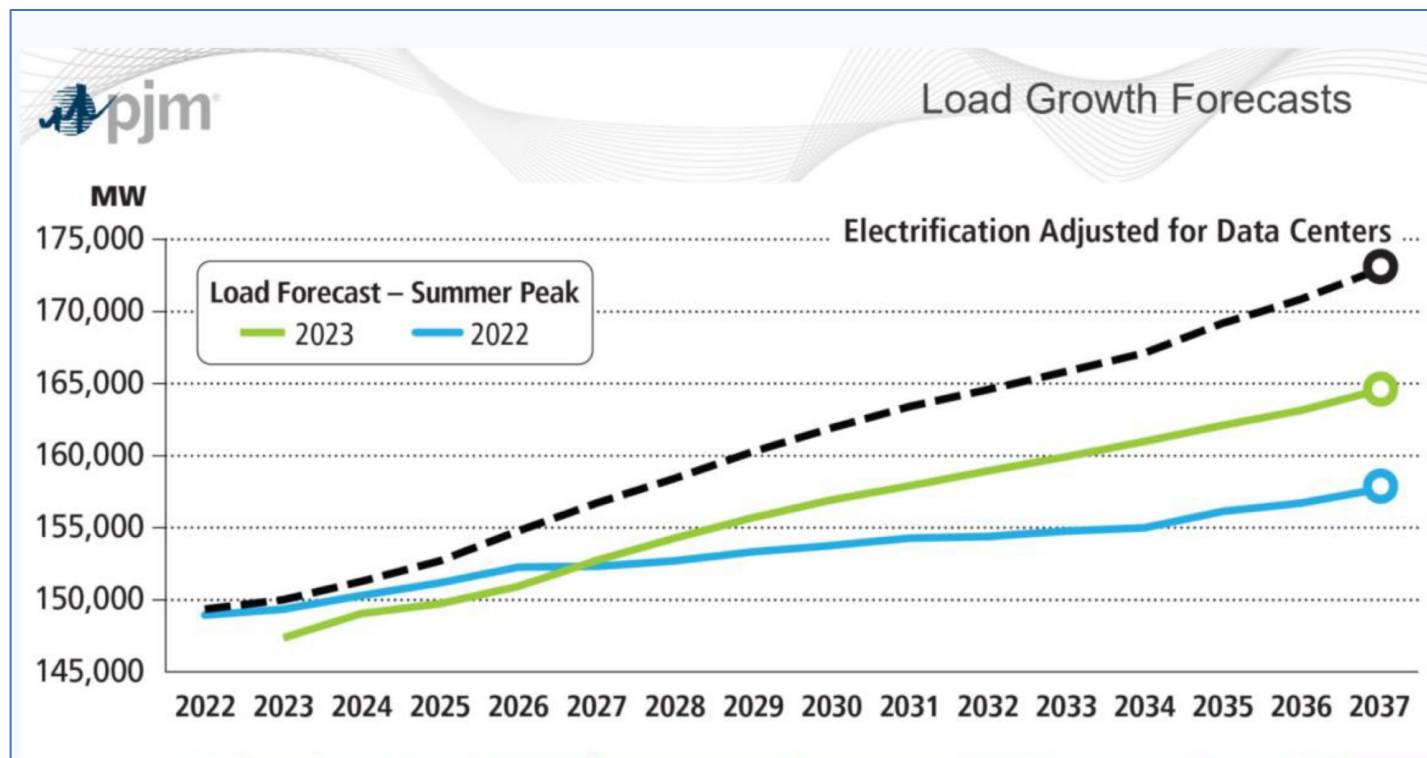
2050 forecast 9.7bn (source UN)



# UNSTOPPABLE DEMAND GROWTH



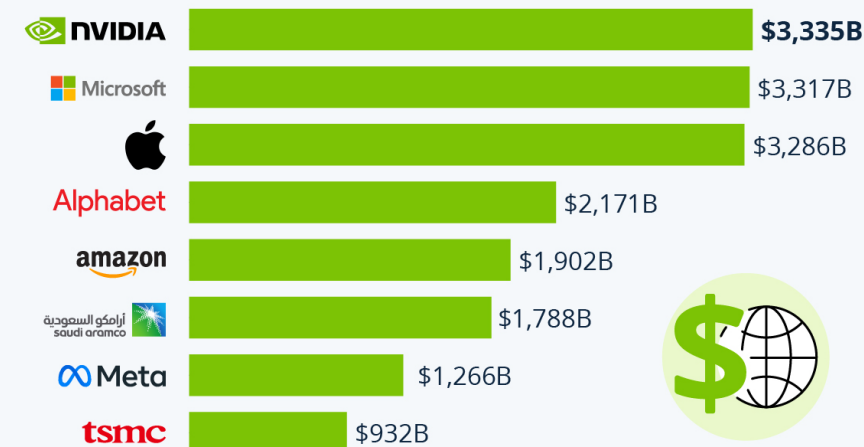
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Source: USA Grid Strategies

## AI Boom: Nvidia Becomes Most Valuable Company in the World

Market capitalization of the highest-valued public companies in the world\*



\* As of market close on June 19, 2024

Source: Companiesmarketcap.com



statista

# 2023 - ENERGY TRILEMMA PRIORITISED 'ENERGY SECURITY'

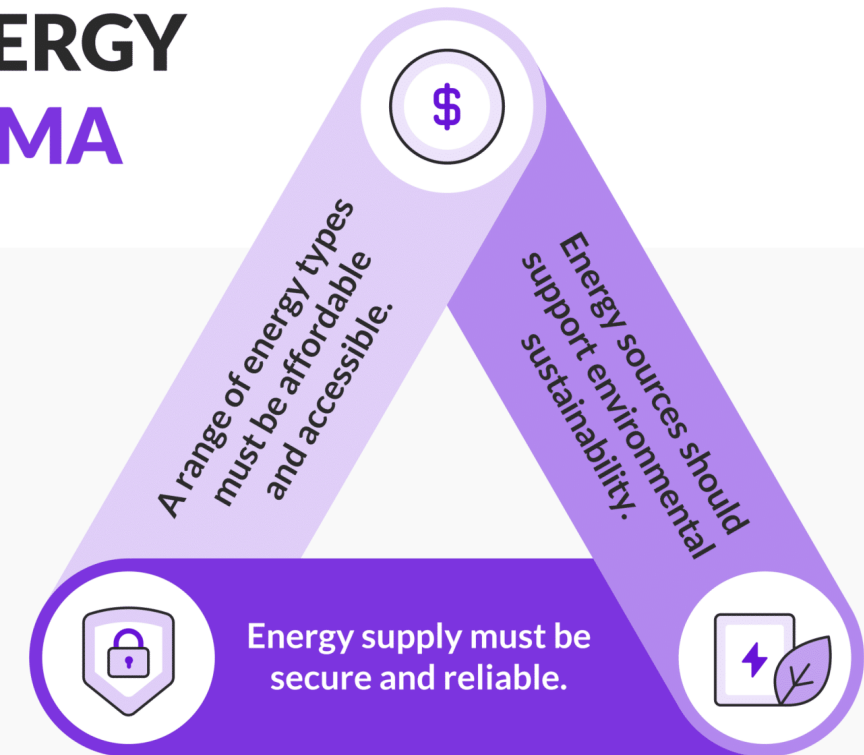


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## Russia's invasion of Ukraine



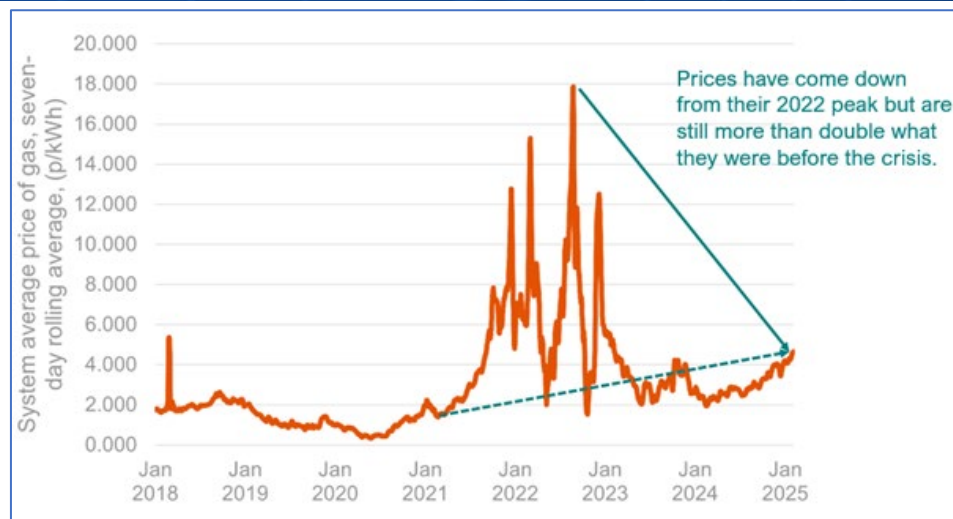
## THE ENERGY TRILEMMA



# 2025 - ENERGY TRILEMMA PRIORITISES 'ENERGY AFFORDABILITY'

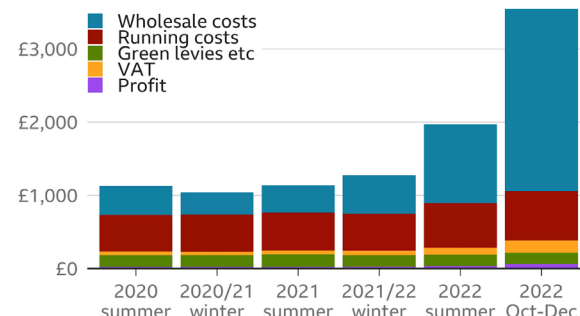


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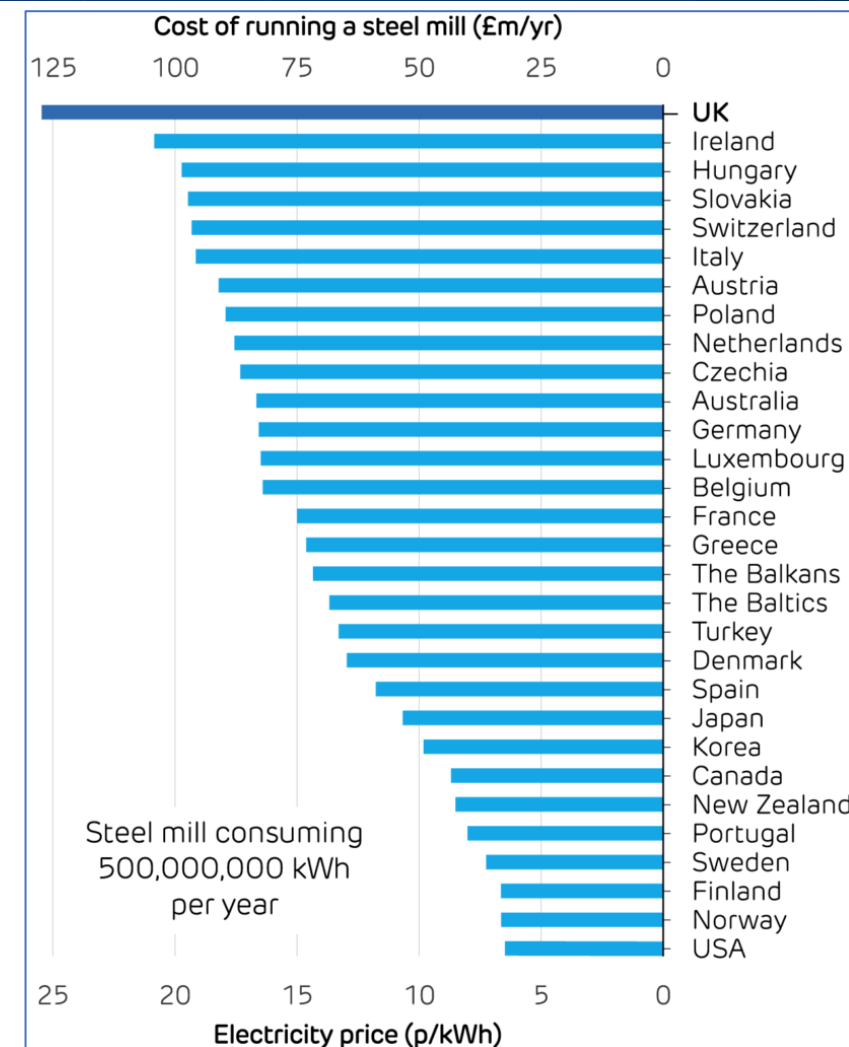
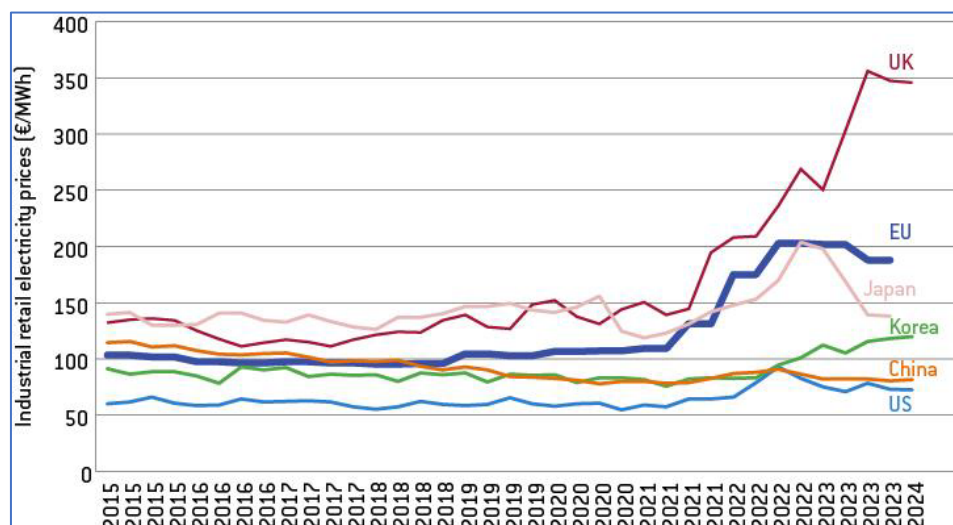
## Wholesale costs driving the change

Breakdown of the price cap



Source: Ofgem

BBC



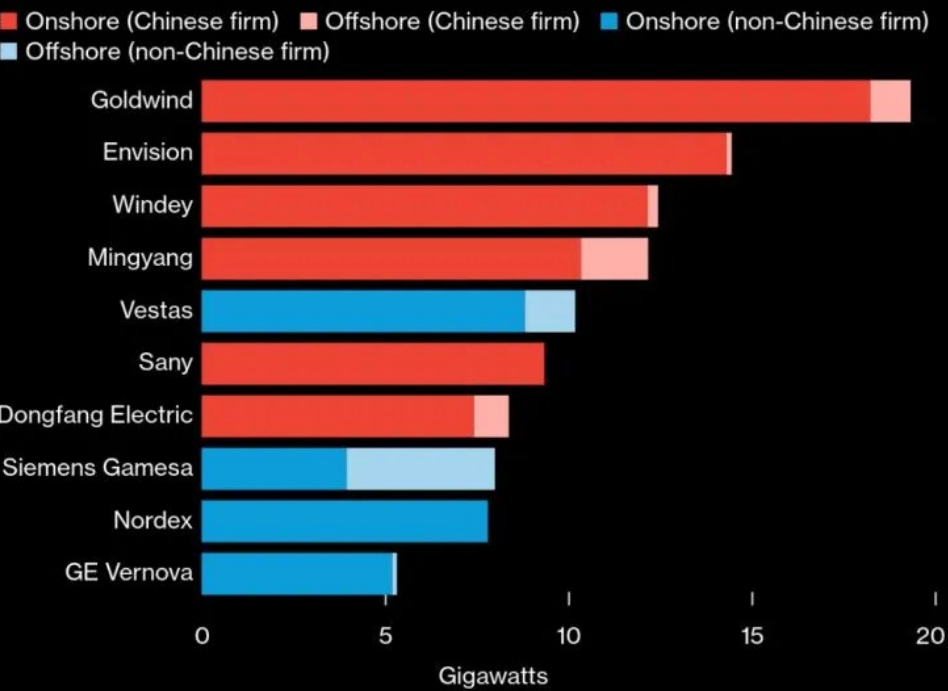


# 2025 – CHINA COMPETITIVENESS



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## Six of the World's 10 Biggest Wind Turbine Suppliers Are Chinese Top wind turbine makers in 2024



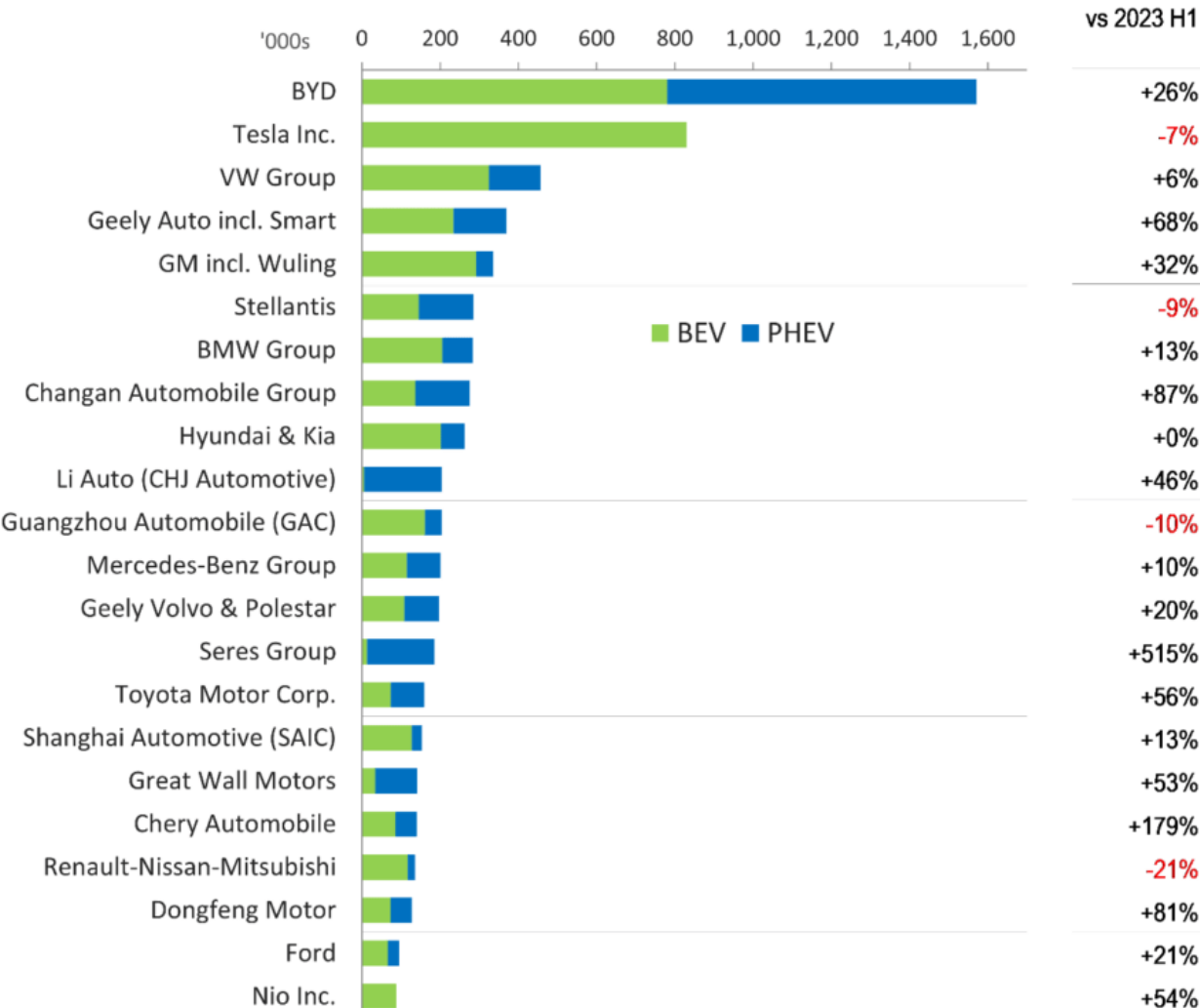
Source: BloombergNEF

BloombergNEF

Source: Windletter

## Global EV sales by OEM groups in first half 2024

EV VOLUMES  
Now Part of J.D. POWER





# 2025 – TRUMP EFFECT



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## Oil Plunges Under Trump

／ Brent crude ■ Trump presidency



Source: Bloomberg

Bloomberg

# 80 MILLION KM NEW GRID NEEDED



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“The world must add or replace **80 million km of electrical grid by 2040** to meet climate targets.”

That’s as much as the world has built in the last 100 years...

*Source - IEA*

# FIRST 100% SAF TRANSATLANTIC FLIGHT APPROVED



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The UK Civil Aviation Authority issues Virgin Atlantic with a permit to fly a world-first transatlantic 100% Sustainable Aviation Fuel (SAF) flight.

Virgin Atlantic flies across the Atlantic from London Heathrow to New York JFK on 28 November 2023 to test and showcase the feasibility of flying on **100% SAF.**

*Nov 2024 - CAA*



# SAF DEMAND 'HUGELY' OUTSTRIPS SUPPLY



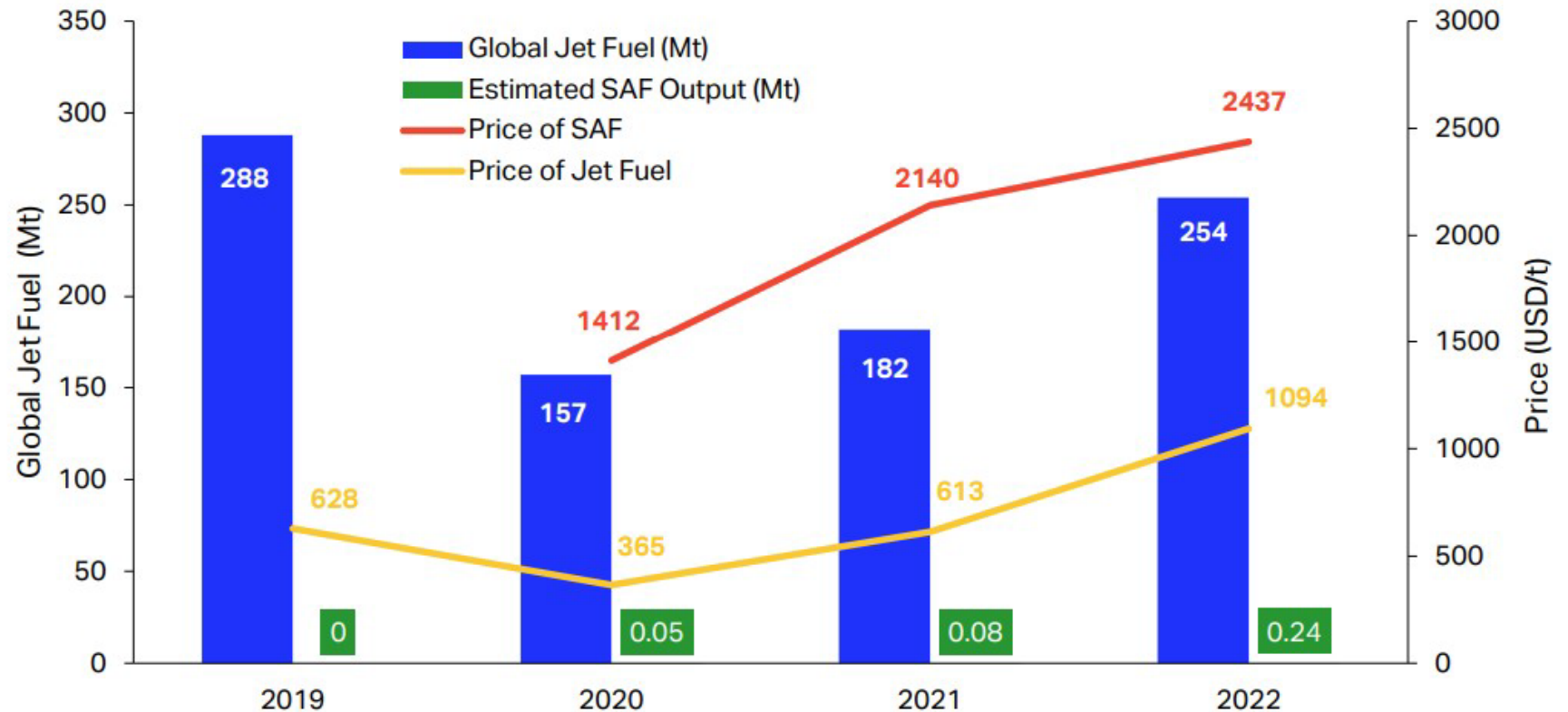
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The UK Civil Aviation Authority issued Virgin Atlantic with a permit to fly a world-first transatlantic 100% Sustainable Aviation Fuel (SAF) flight.

Virgin Atlantic flew across the Atlantic from London Heathrow to New York JFK on 28 November 2023 to test and showcase the feasibility of flying on **100% SAF**.

## Sustainable aviation fuel output increases, but volumes still low



Source: S&P Global Commodity Insights (Platts), IATA Sustainability & Economics

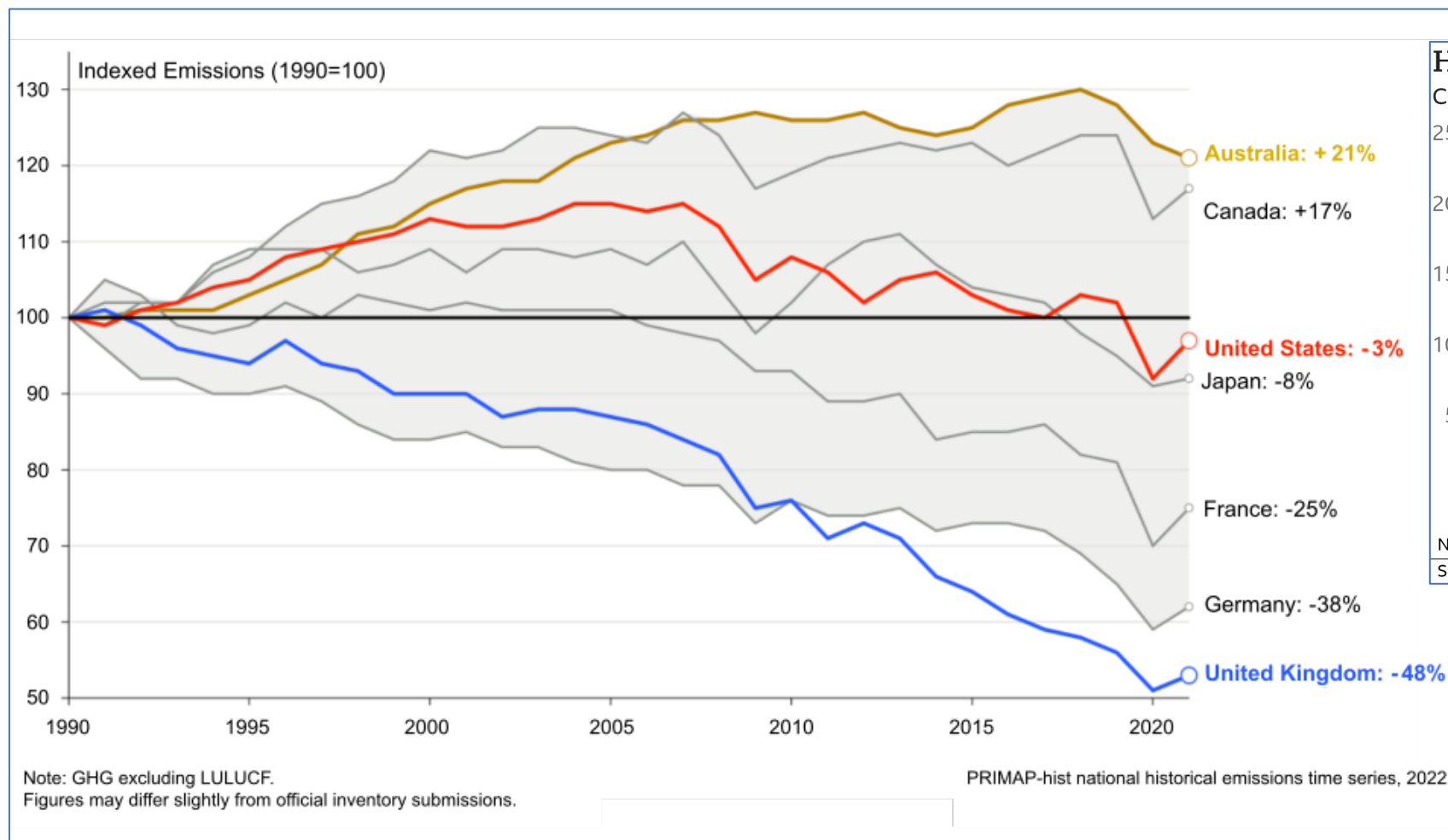
Note: Price estimates are published by Platts and are based on cost-plus methodology. These estimations are subject to fluctuations, and substantial price discrepancies exist among different geographical areas. The SAF market remains comparatively limited, resulting in a deficiency of universally acknowledged valuation figures.

# COUNTRY TRANSITION TRACKER

## 'UK' IS DOING WELL

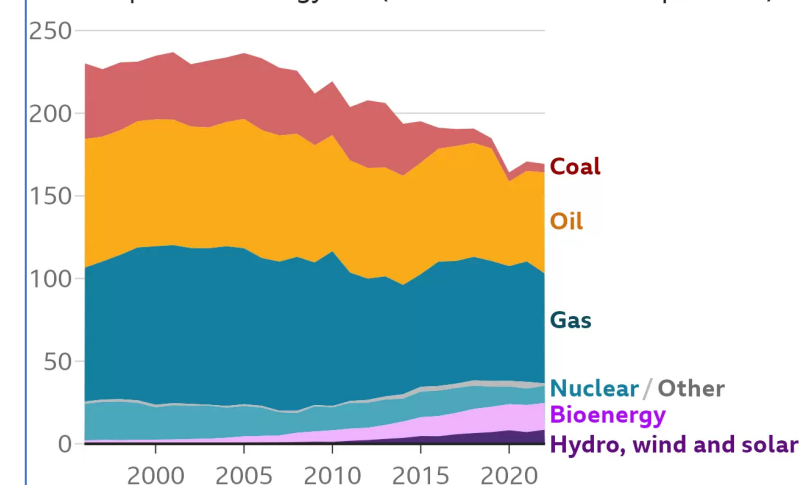


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### How energy use has changed within the UK

Consumption for energy use (million tonnes of oil equivalent)



Note: Primary fuel input basis.

Source: Department for Energy Security and Net Zero

BBC



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# The ambition and the reality of the energy transition

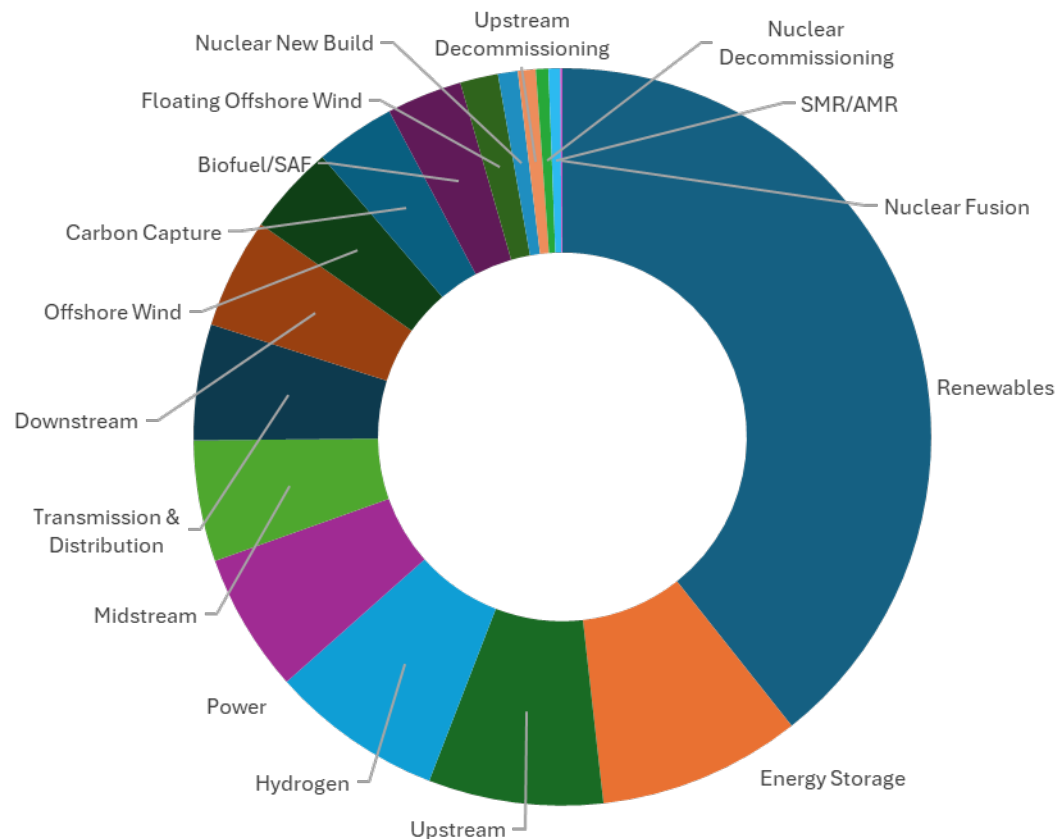
## What does the data tell us?

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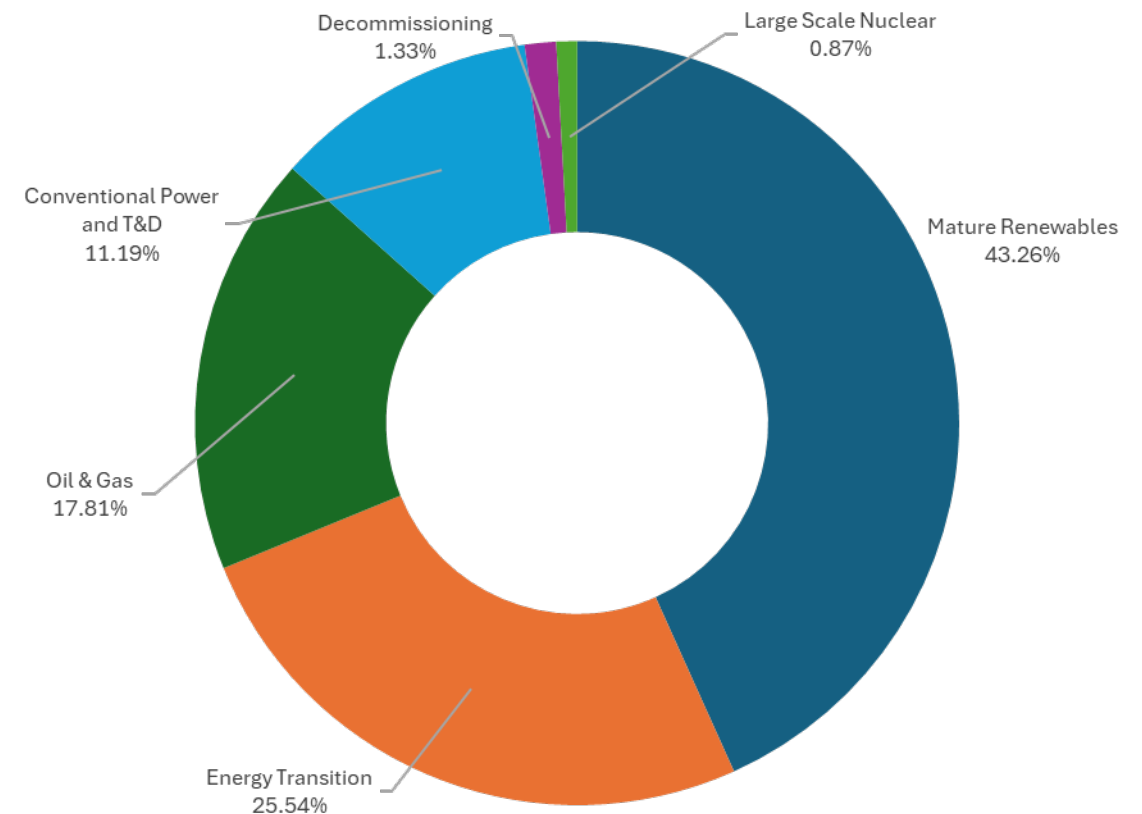


# Number of projects currently under development

Number of projects currently proposed/under development

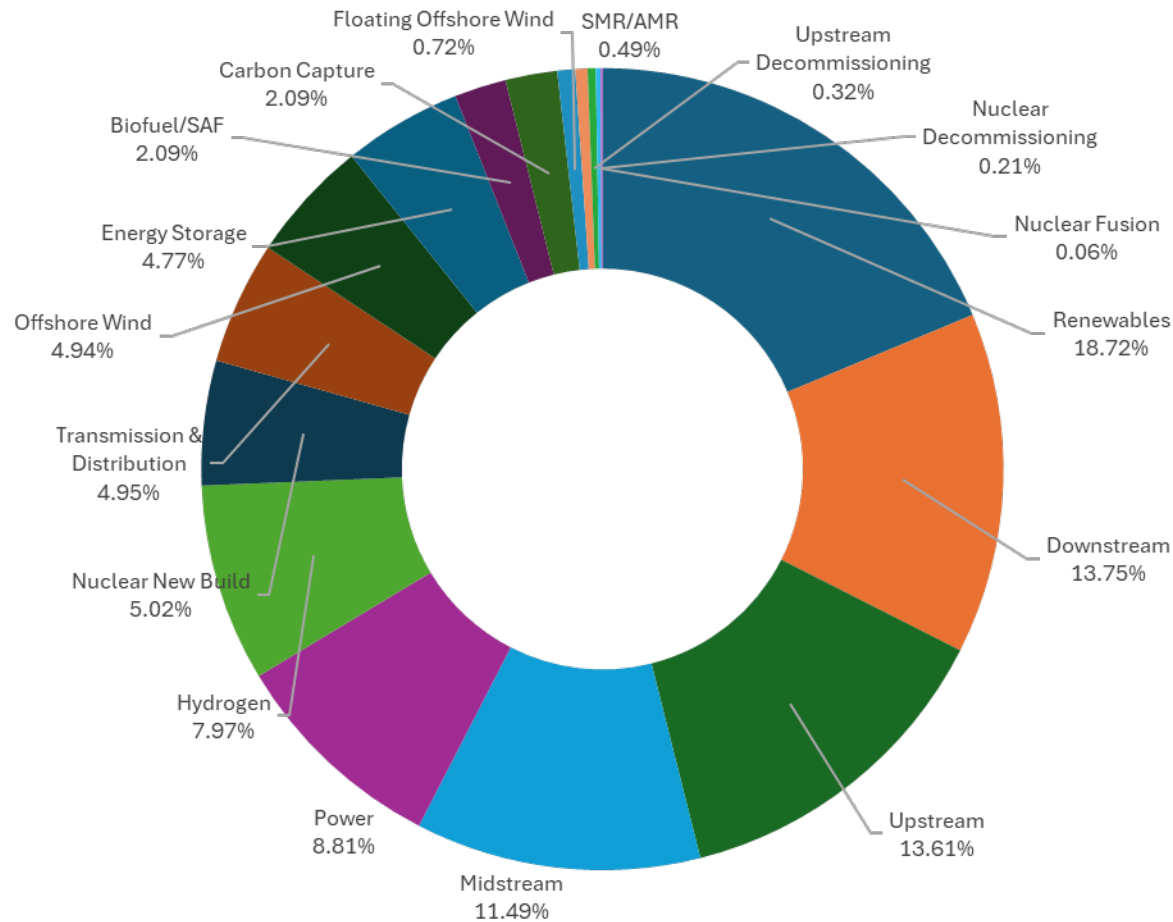


Number of project currently proposed/under development

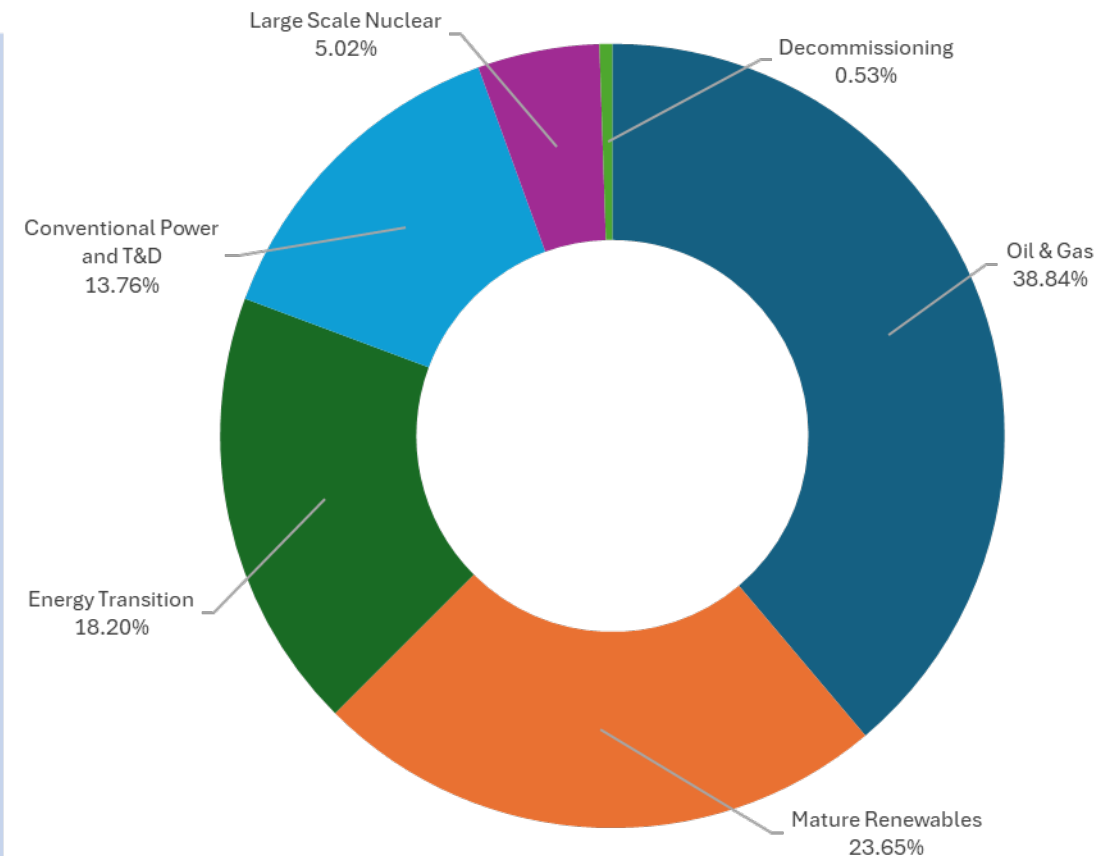


# Project CAPEX (\$million) globally

CAPEX based on commissioning date up to 2031

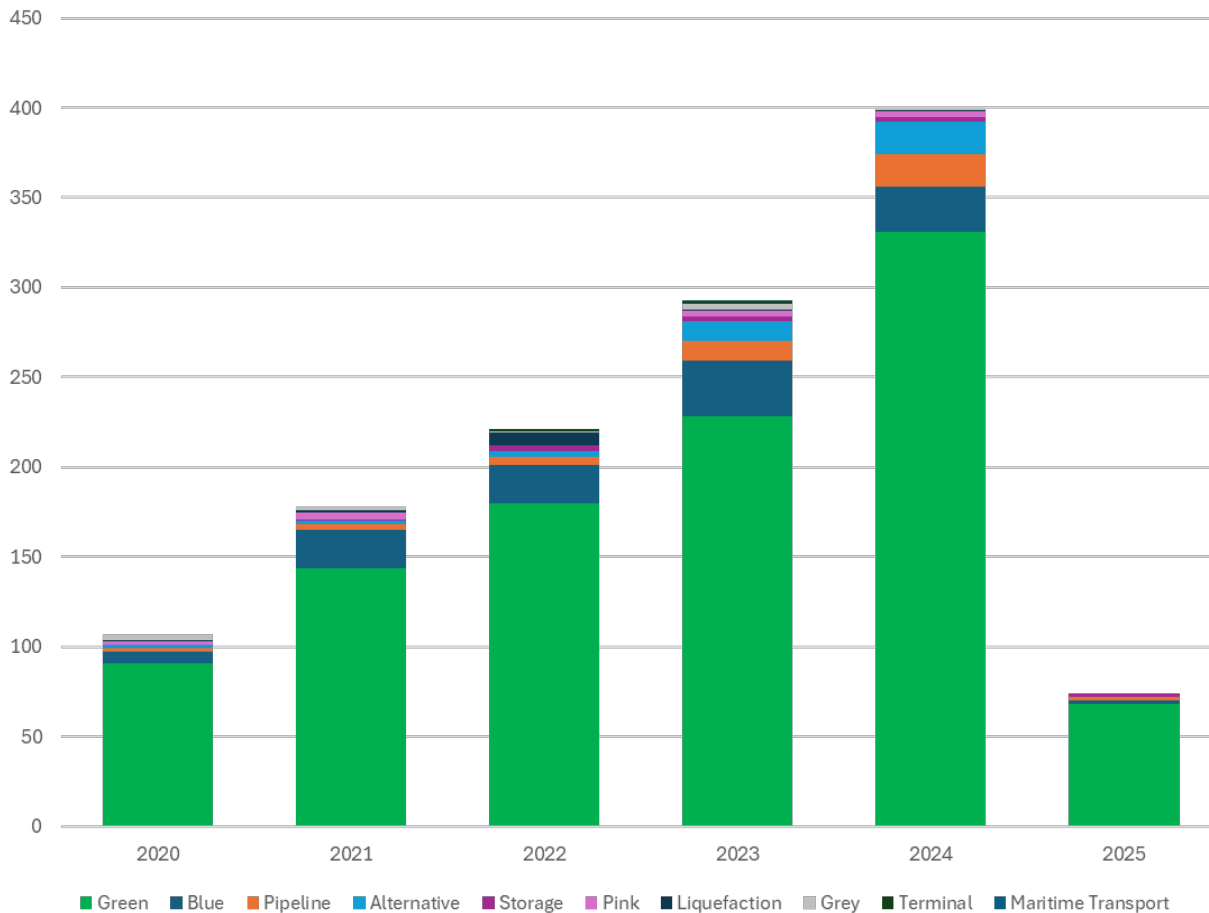


CAPEX based on commissioning date up to 2031

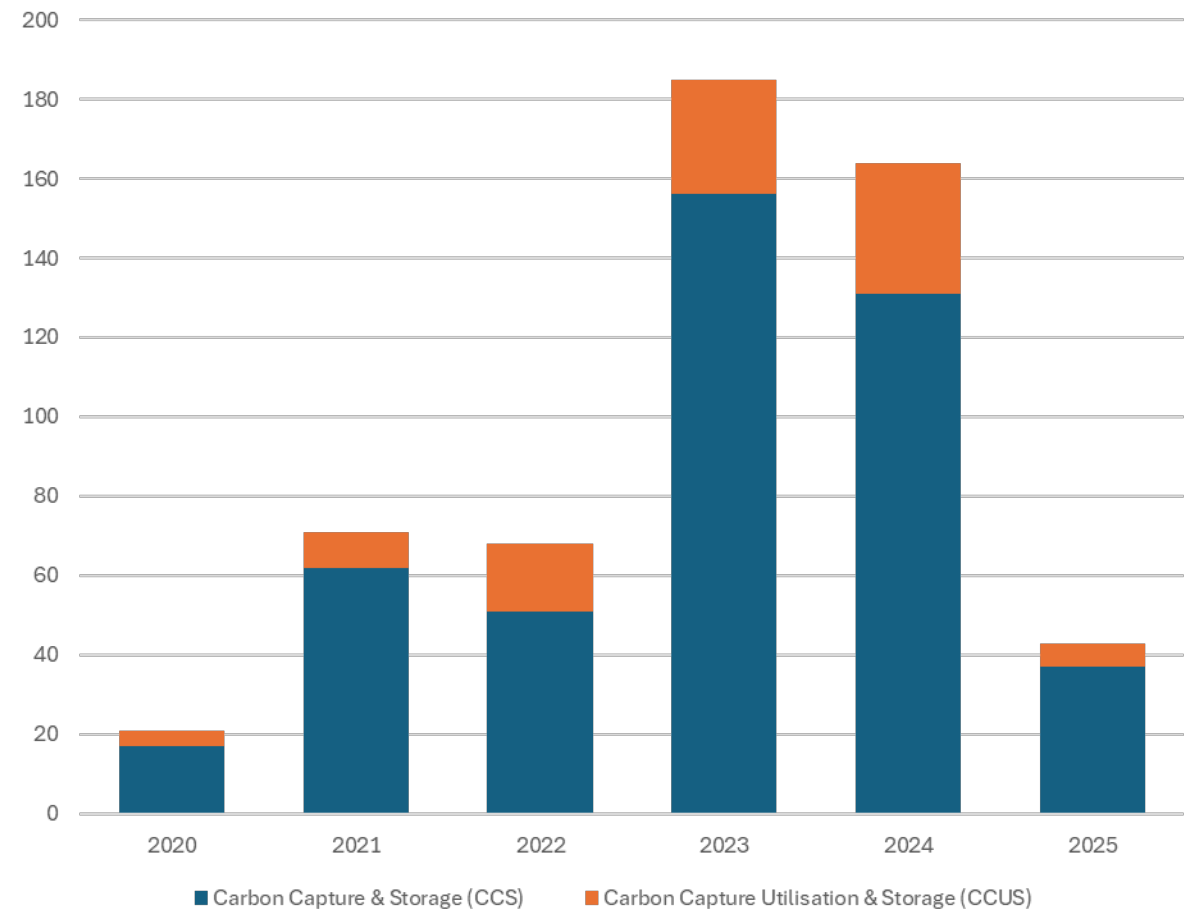


# HYDROGEN & CARBON CAPTURE

Project announcements since 2020



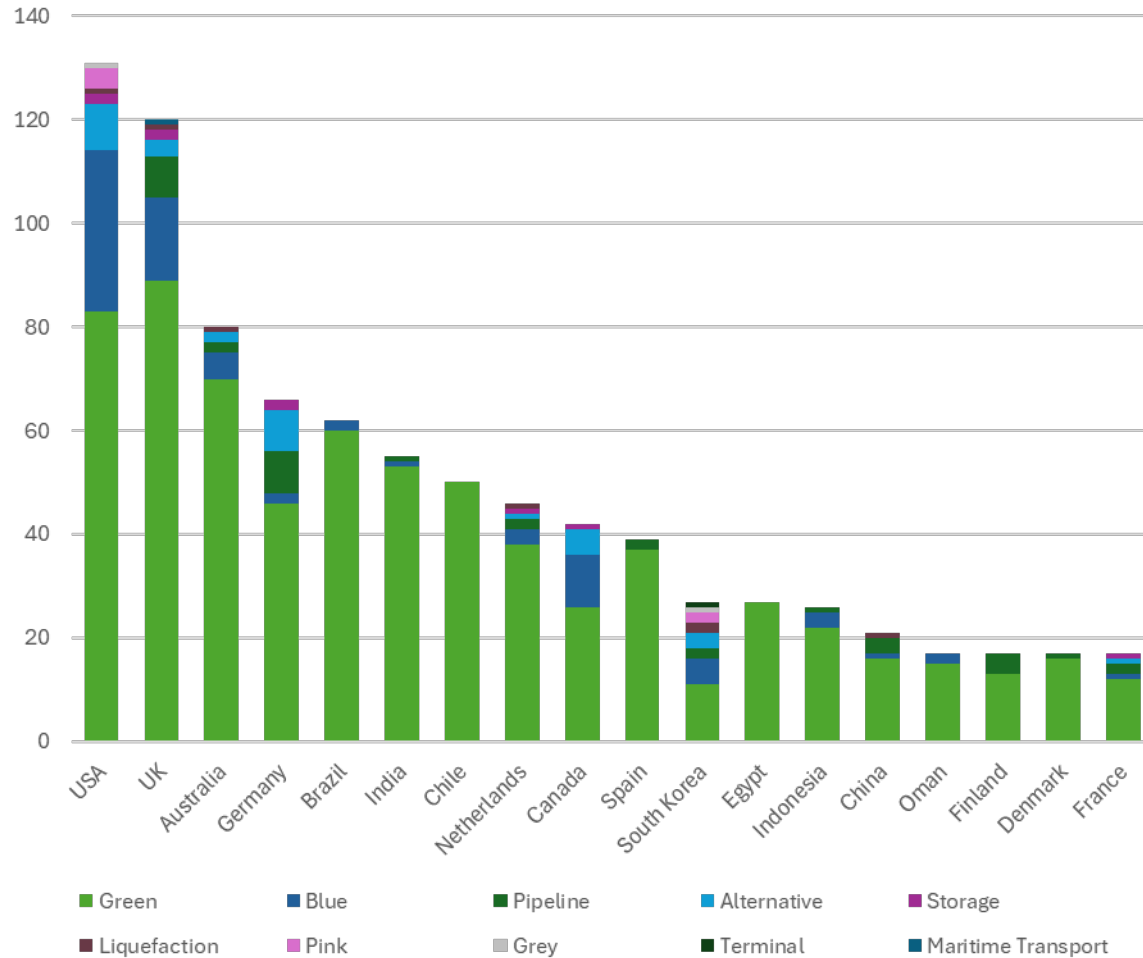
Project announcements since 2020



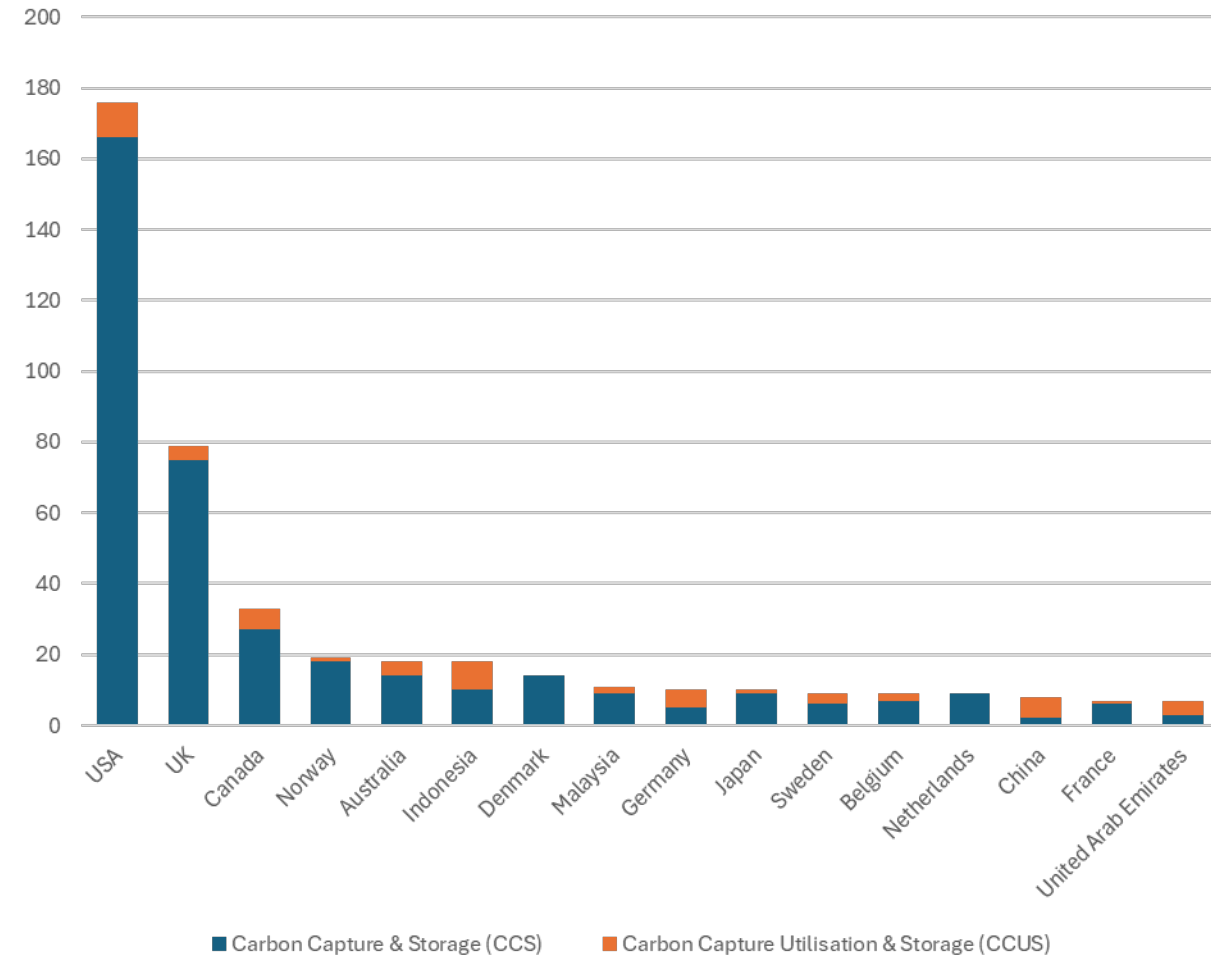


# HYDROGEN AND CARBON CAPTURE

Top 15 countries by number of projects (Hydrogen)

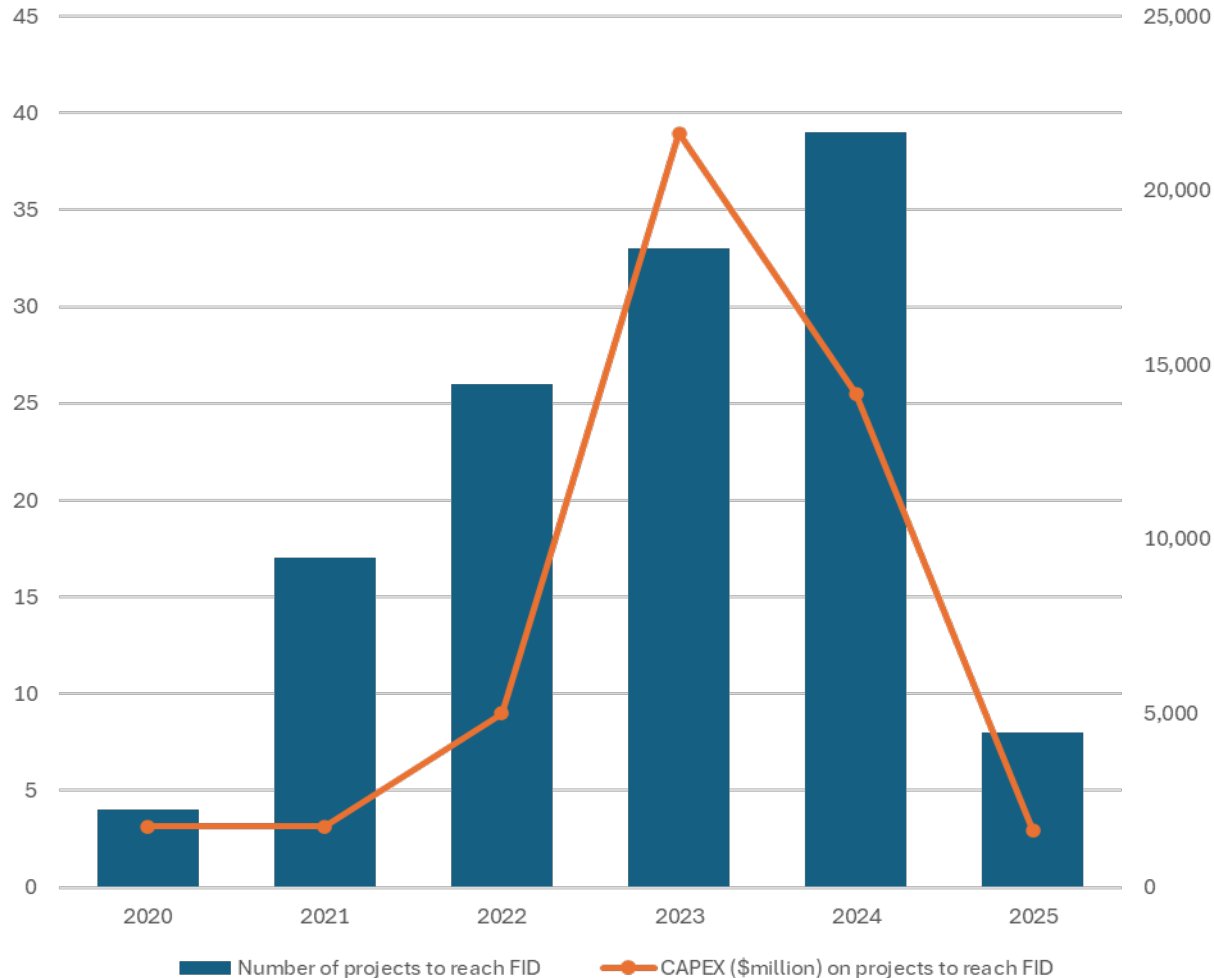


Top 15 countries by number of projects (Carbon Capture)

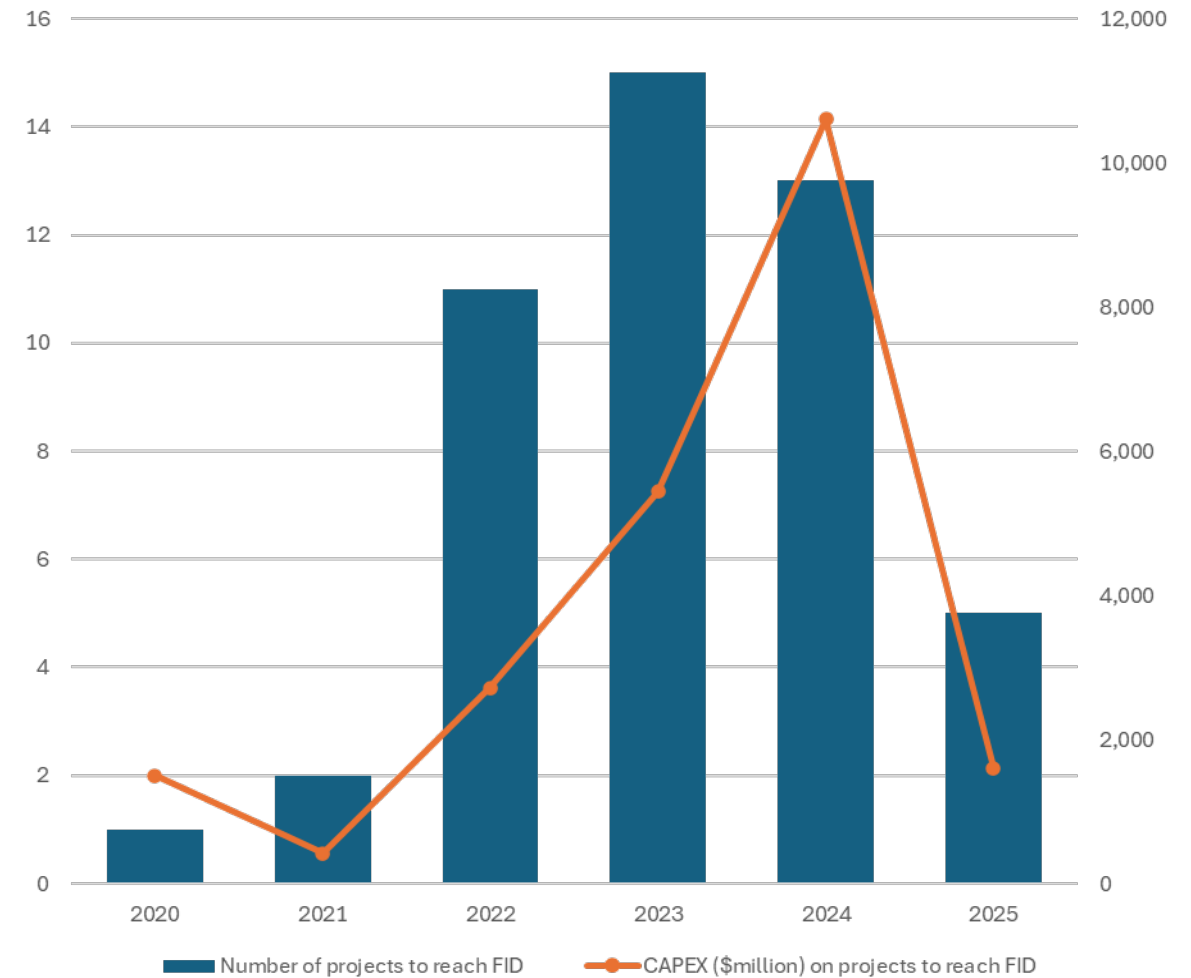


# HYDROGEN AND CARBON CAPTURE

Number of projects to reach FID since 2020 (Hydrogen)

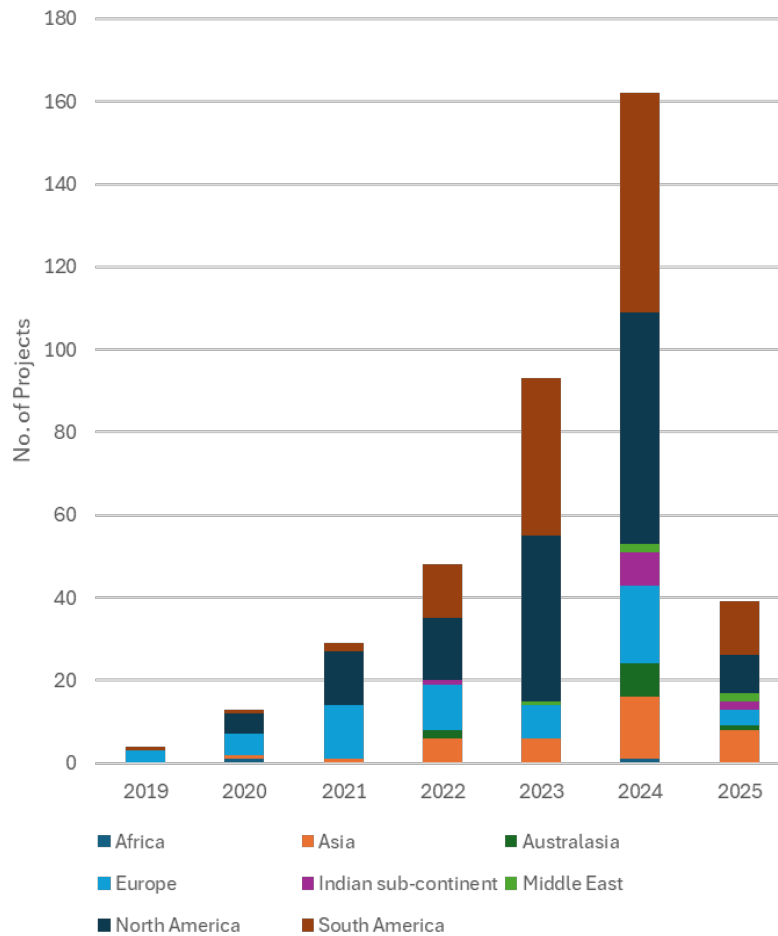


Number of projects to reach FID since 2020 (Carbon Capture)

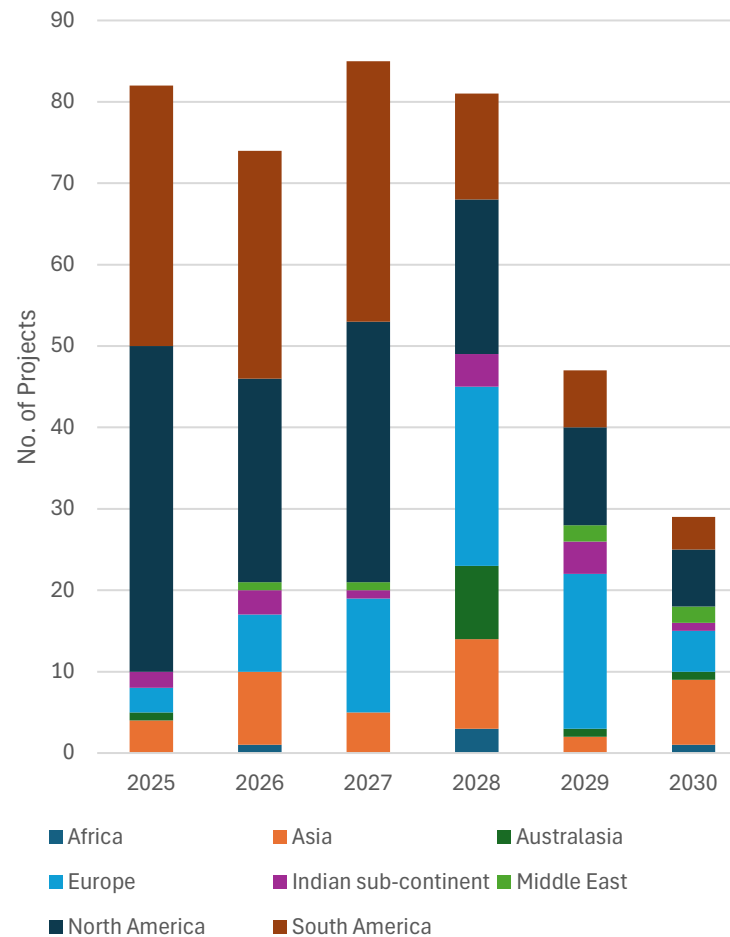


# BIOFUEL/SAF OVERVIEW

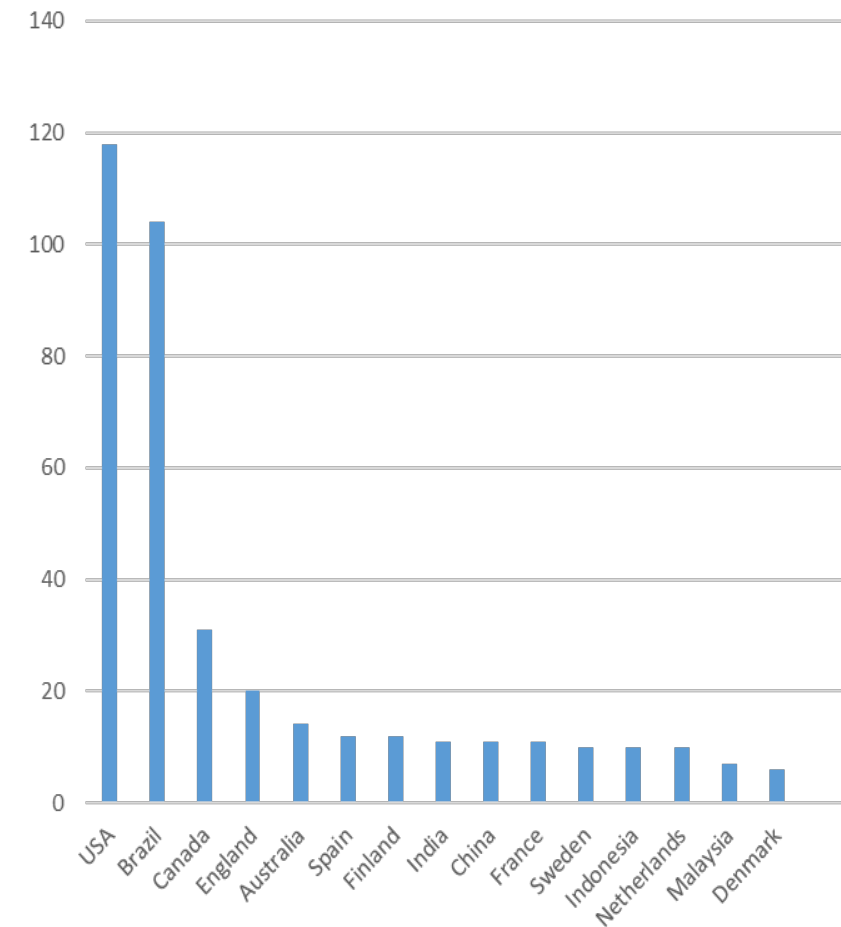
No. of Projects Announced by Region



Pipeline of projects by start-up year and region



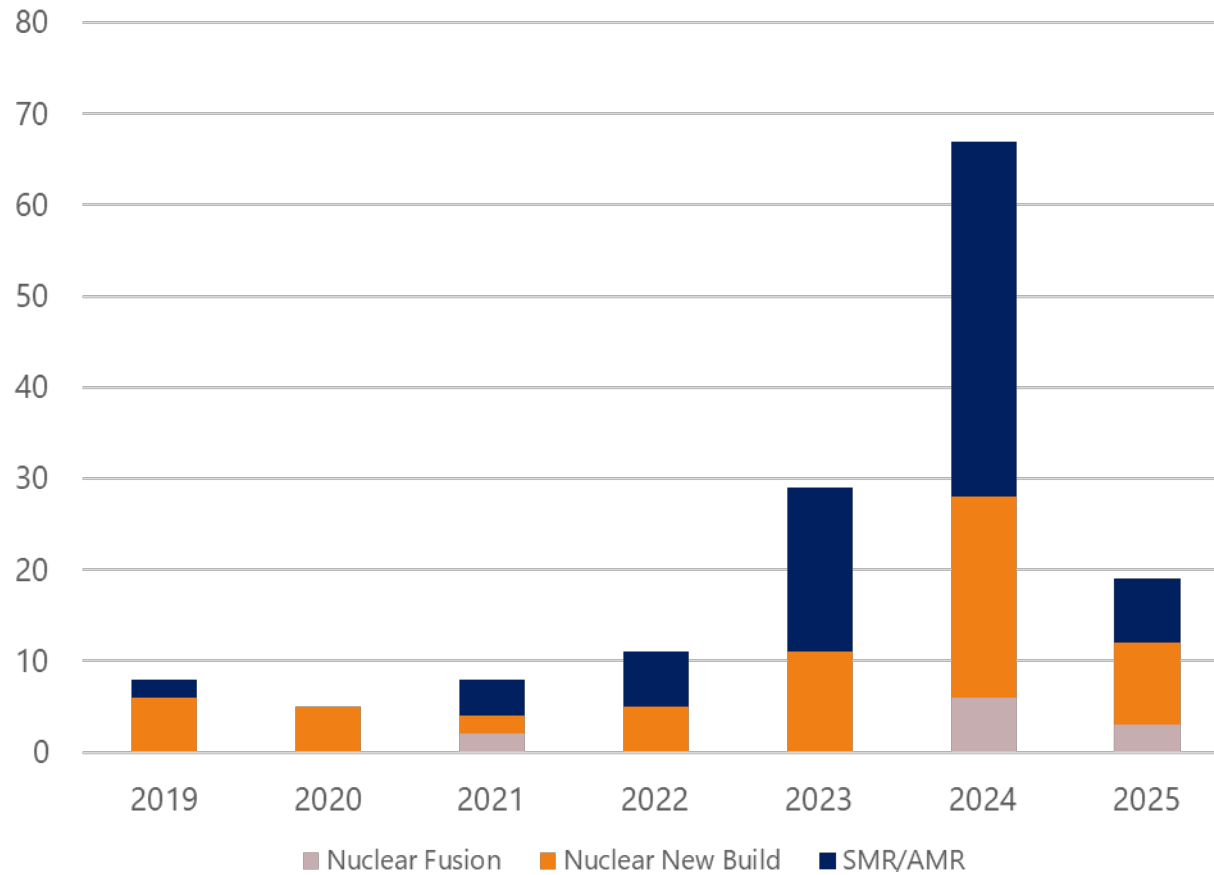
Number of projects under development - Top 15 countries – Clean Fuels



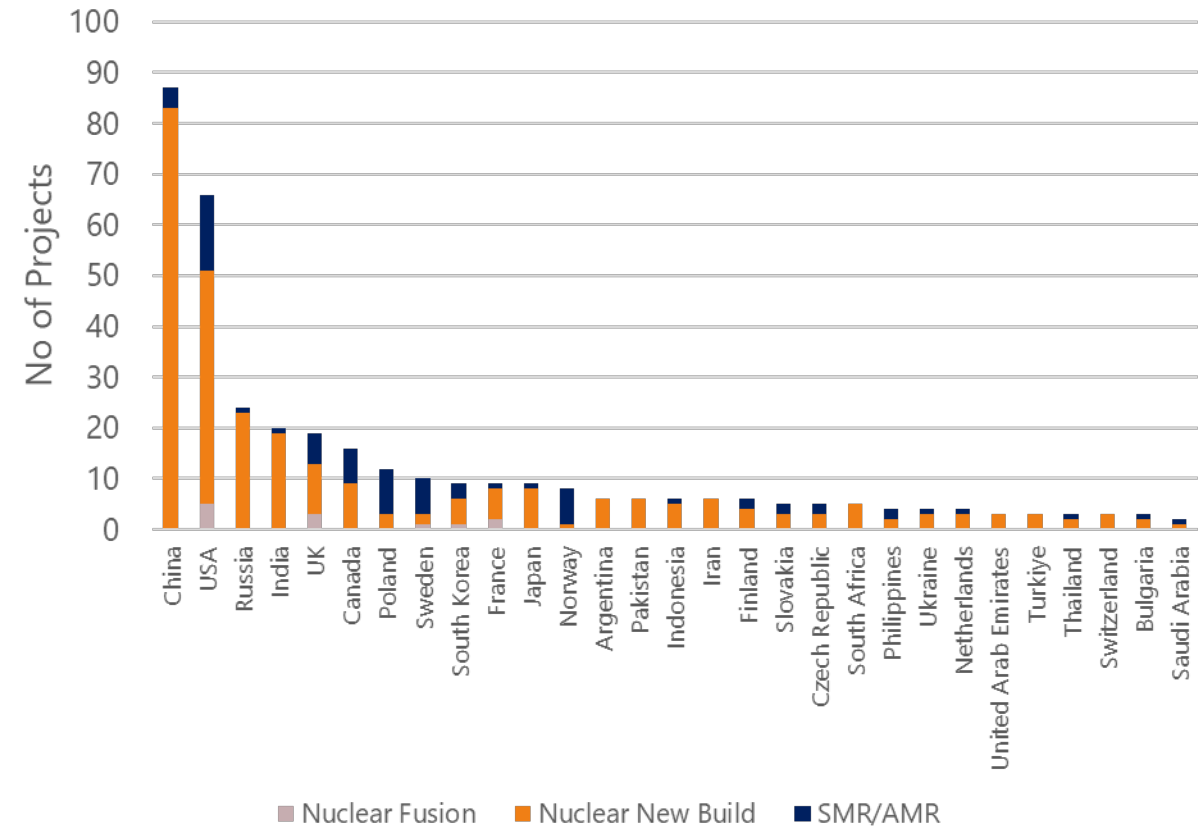


# NUCLEAR OVERVIEW

Number of New Nuclear Build Announced



Top 30 countries with nuclear projects currently under development



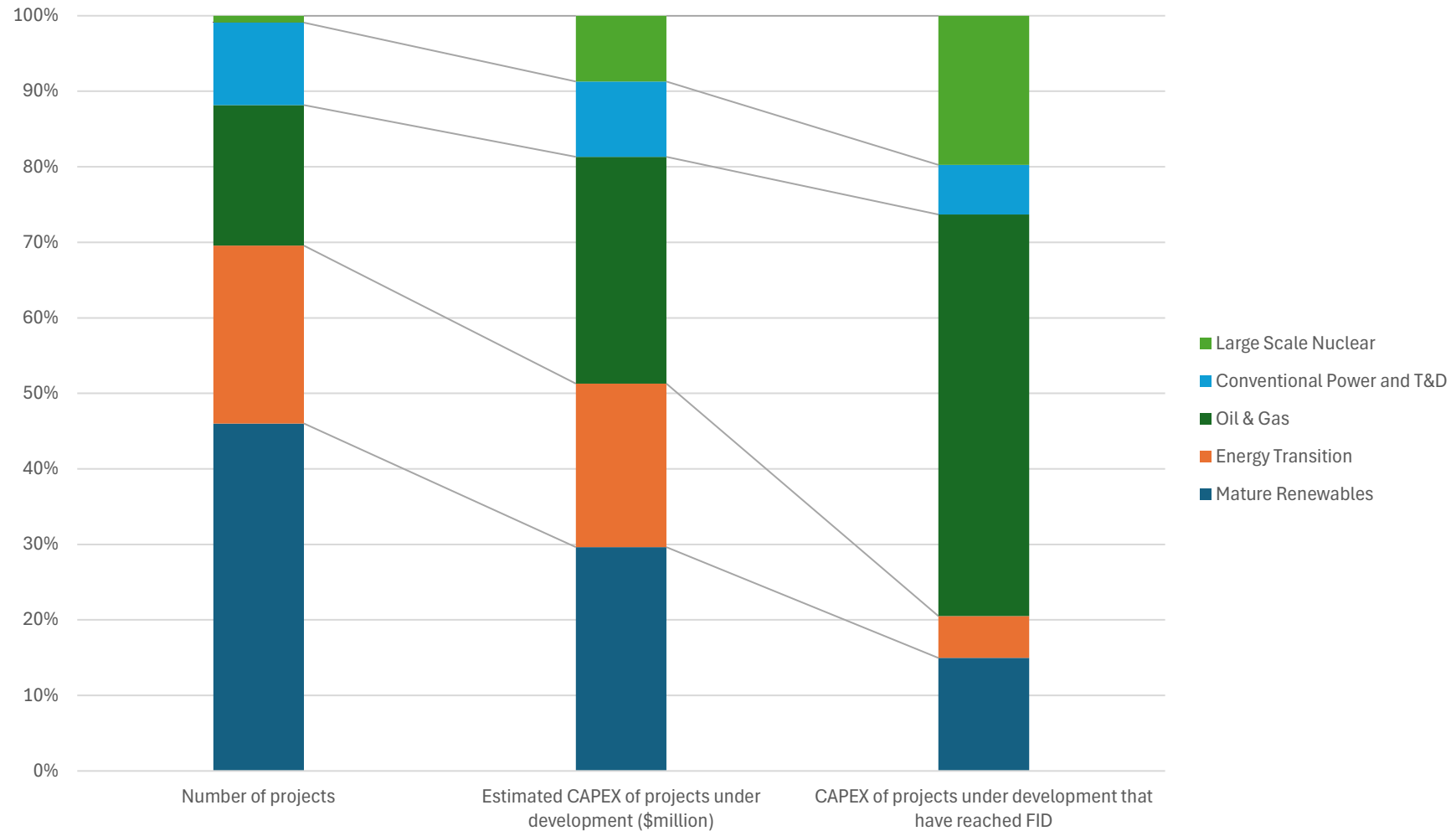


# FID RATES

Sector	Number of projects	Estimated CAPEX (\$million)	Number of projects to reach FID	Estimated CAPEX (\$million) on projects to reach FID	% of projects to have reached FID	% of overall value to reach FID
Upstream	1118	1,356,752	235	484,465	21.02	35.71
Nuclear New Build	127	1,192,391	41	418,328	32.28	35.08
Downstream	707	1,468,564	199	360,426	28.15	24.54
Midstream	775	1,242,511	180	237,492	23.23	19.11
Power	891	907,119	143	129,608	16.05	14.29
Biofuel/SAF	483	199,209	122	27,806	25.26	13.96
Transmission & Distribution	742	588,113	146	73,989	19.68	12.58
Renewables	5740	2,226,114	726	235,983	12.65	10.60
Energy Storage	1299	554,200	217	57,245	16.71	10.33
Carbon Capture	512	243,494	38	21,513	7.42	8.84
Offshore Wind	575	1,814,918	58	134,445	10.09	7.41
Hydrogen	1103	1,423,281	98	45,369	8.88	3.19
SMR/AMR	76	231,659	3	1,090	3.95	0.47
Floating Offshore Wind	243	621,858	5	828	2.06	0.13



# CLOSING REMARKS



“Courage is what it takes  
to stand up and speak;

Courage is also what it takes  
to sit down and listen.”

Winston Churchill







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# THANK YOU

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