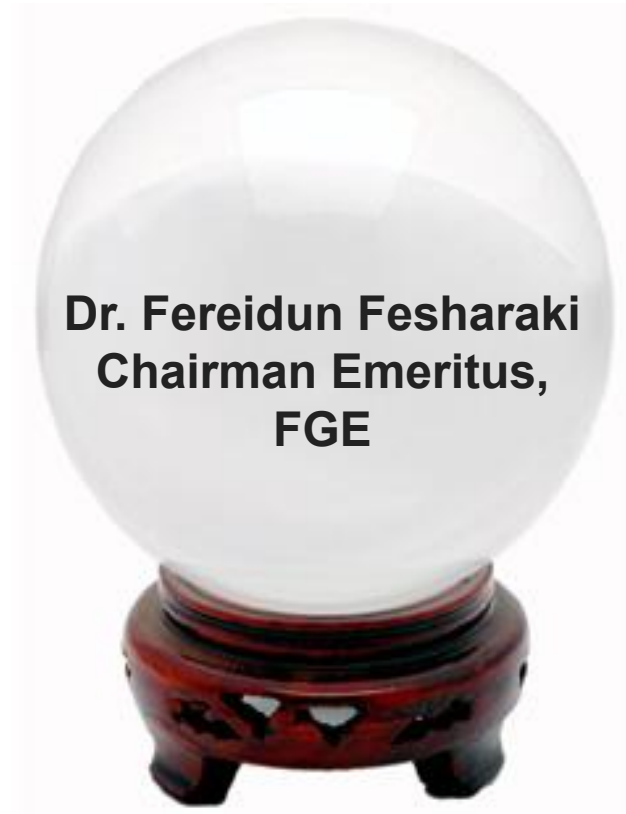


A Crystal Ball for the Global Energy Markets

Prepared for the 2025 PNG Petroleum & Energy Conference

8 October 2025



The Crystal Ball knows the oil market is in stormy seas: How do we navigate it?



The Crystal Ball remembers: 38 years ago, Trump told us his negotiation strategy

“The Art of the Deal” was dismissed as lightweight fluff, but its insights are highly relevant today:

1. The Anchor

- Start with an extreme position and make it seem non-negotiable. Let others react to your numbers, not theirs.
- Example: 125% tariffs, when real target is much lower.

2. Information Overload

- Create multiple discussion points and change topics frequently, making it impossible to focus on one issue.

3. The Actual Deal

- Start the “real” negotiation.
- The original expectations are forgotten, and Trump’s “compromise” now seems reasonable.

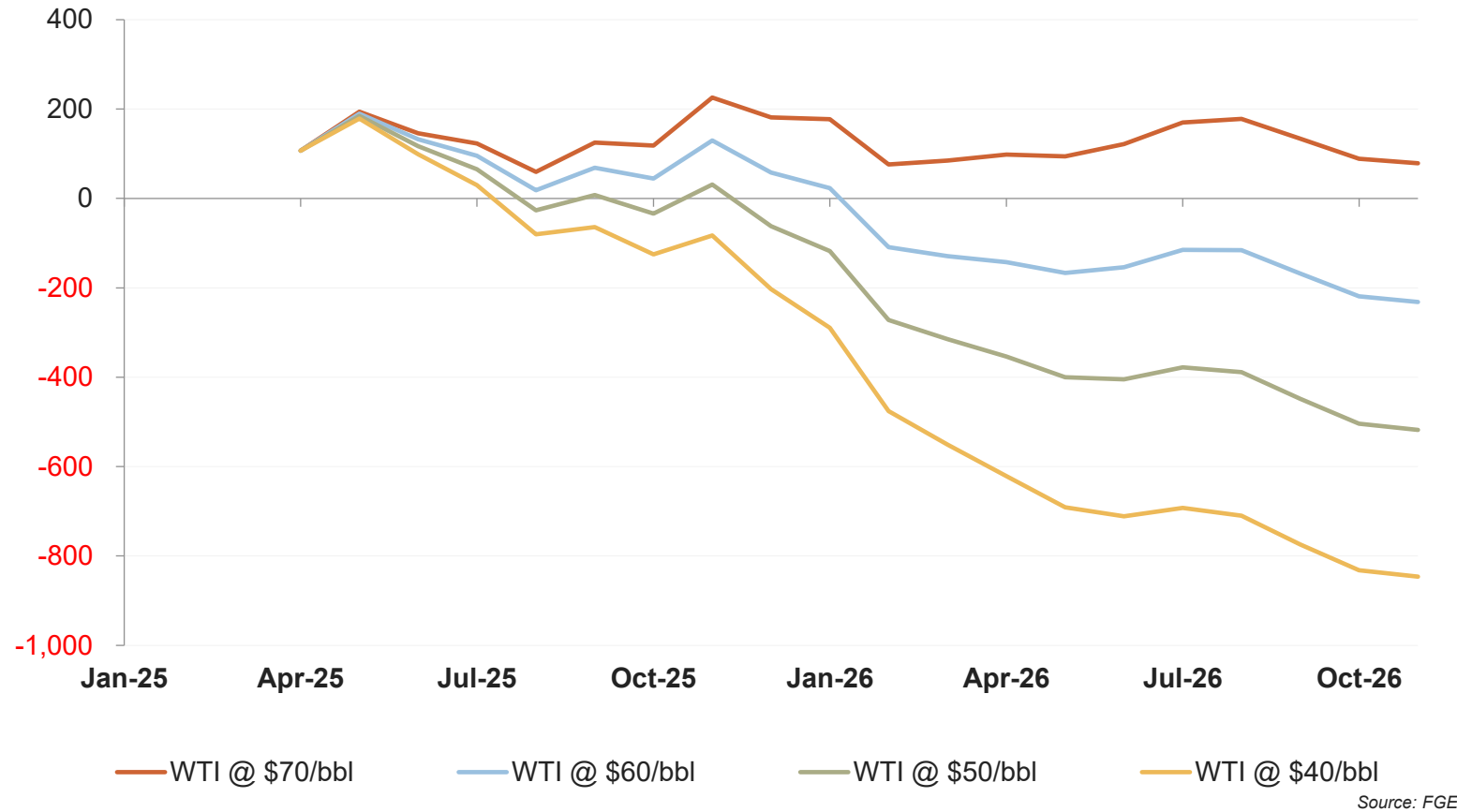
4. The Narrative

- Control how the outcome is perceived, with the story mattering more than the details. Concessions are framed as wins.
- **We are now in Stage 3, with Trump talking about “reasonable” compromises.**
- **Will Trump get what he wants? Yes, probably a lot of it, but he needs to move quickly, or it will cause a recession.**
- **Is approaching trade negotiations like a real estate deal good for the economy? No, economies hate uncertainty.**
- **In the short-term, we see impacts on trade. In the mid-term, we will see the impacts on investment.**



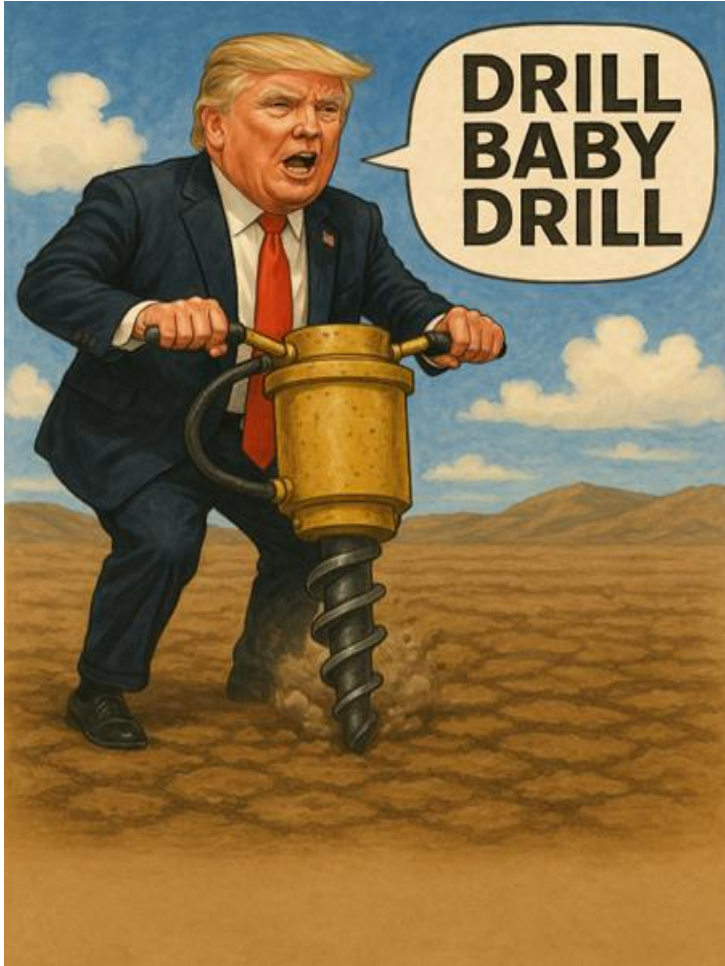
How would US oil production respond to various WTI price levels?

US Crude/Condensate Output Growth Scenarios, kb/d



- Around \$60/bbl WTI the impact is relatively small, accelerates around \$50/bbl
- Hedging can limit losses to production in the short term
- Large producers can maintain output, even grow slightly at \$50-\$60/bbl
- Limited response in 2025 due to low prices, most of the impact would be in 2026

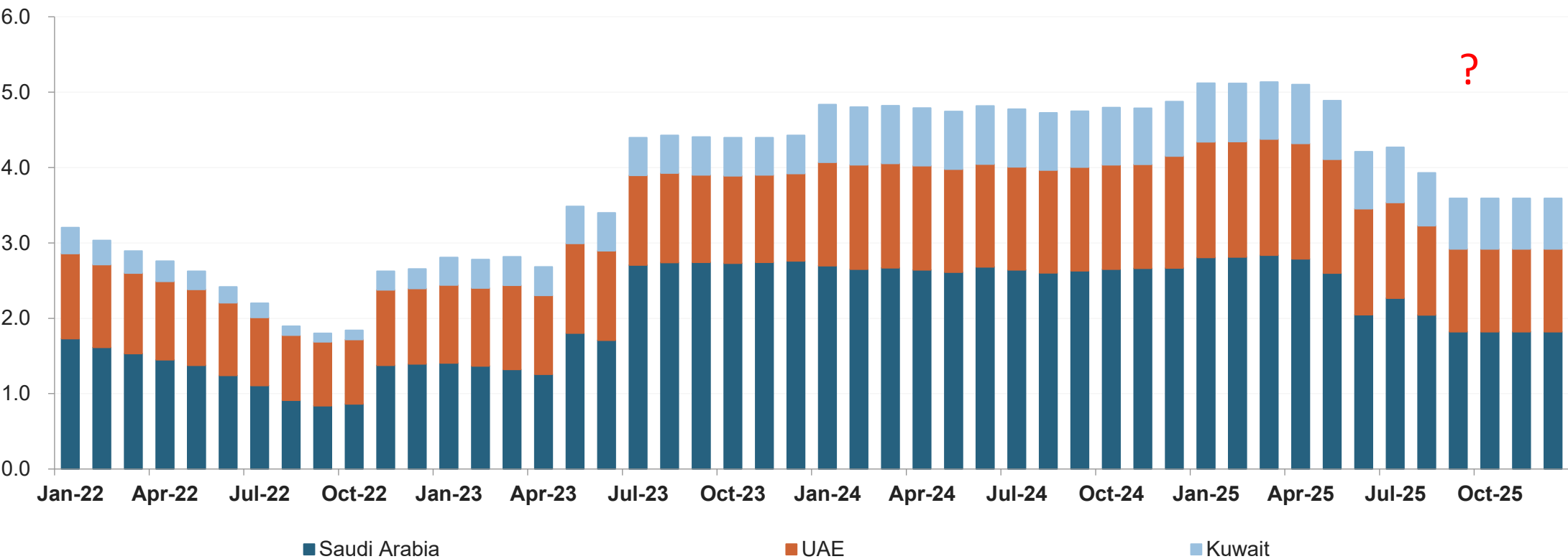
Trump 2.0: What is the impact on US oil/natgas supplies?



- “Drill, baby, drill!” Can Trump impact US oil/gas supplies?
- Answer is he can impact supplies a bit, but not a lot...
 - Trump says he will open new areas to drilling, but most shale areas are not on federal land.
 - He can reduce the regulatory burden in areas like methane emissions, but that is a mixed blessing, as it can damage the US oil/LNG “brand”.
 - There is a push to work with congress to speed up the regulatory process for new pipelines and infrastructure. This can help in MT/LT.
- Price is more important than who is President
 - Oil above \$70s sees growth... Oil below \$60s sees flattening/declines. Overall, the US crude growth story is slowing.
 - There is a huge amount of natgas in the US in the \$3-\$4/MMBtu range. As associated gas growth slows, the focus will shift back to developing dry shale gas.
 - US Henry Hub will spend less time in the \$2s/MMBtu, but \$3-4s/MMBtu (real) yields plenty of gas for both domestic use and exports.

OPEC's Continuing Challenge: Managing its spare capacity

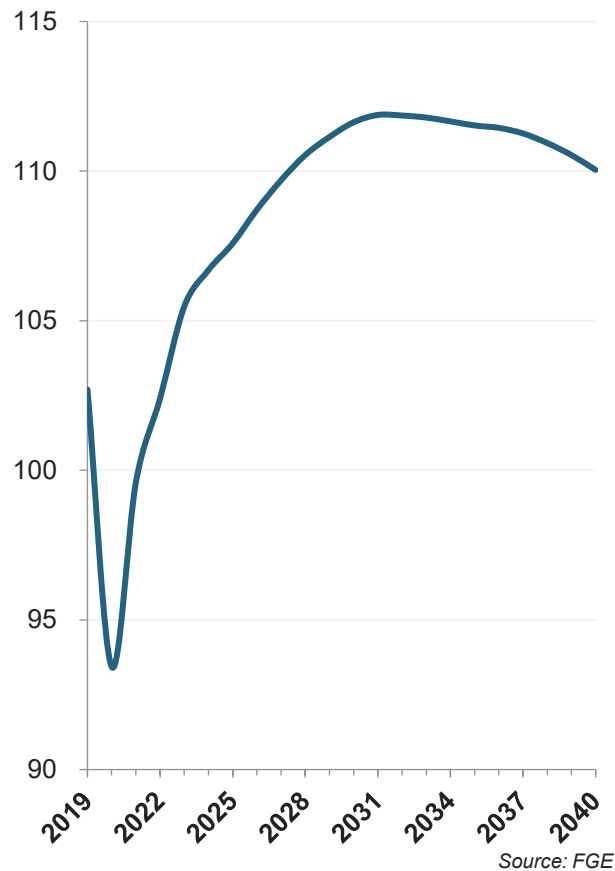
OPEC+ Core 3 Spare Capacity, mmb/d



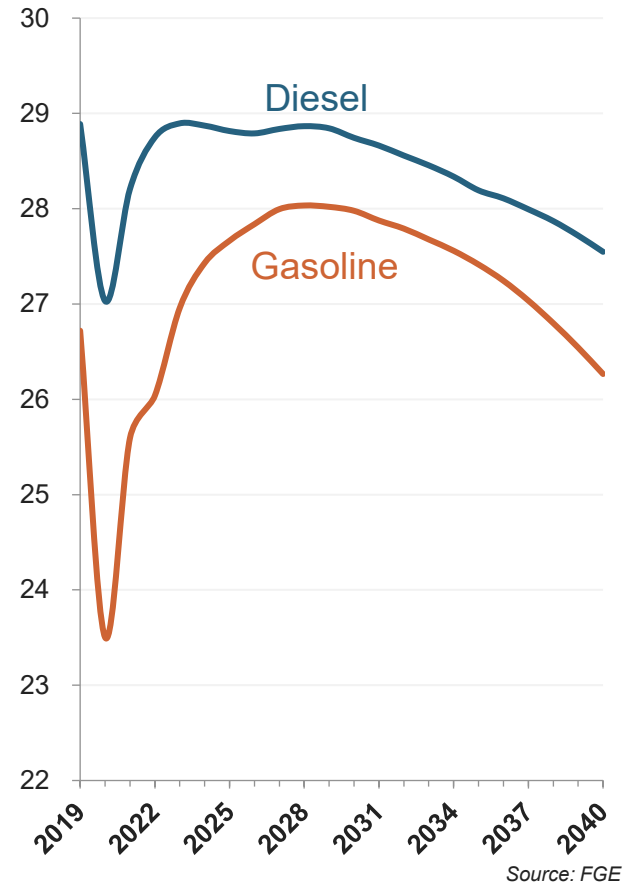
Source: FGE

Oil demand collapse ahead?

Global Total Oil Demand, mmb/d



Global Gasoline and Diesel Demand, mmb/d



- **Long-Term Oil Demand Growth**

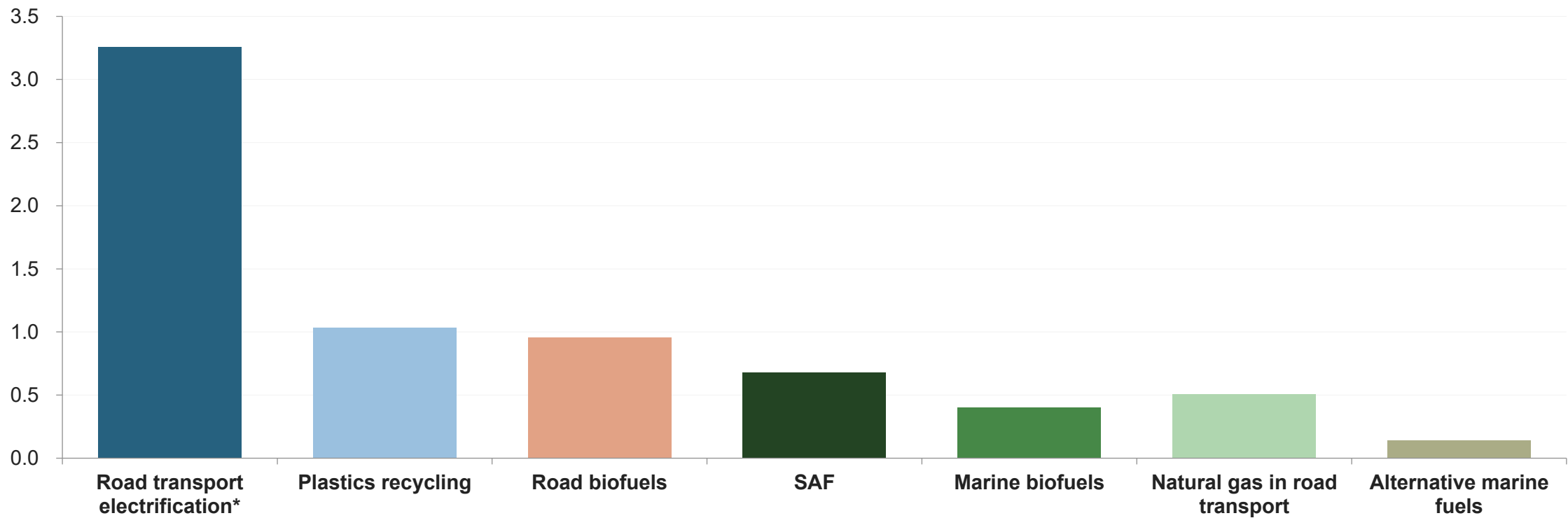
- Does oil demand peak? OPEC says no/never. IEA says yes/soon.

- **Think Plateau**

- Oil demand growth is not over!—still some 4 mmb/d of growth before global oil demand peaks in the 2030s.
- China's oil demand peaks by 2028/29, Asia peaks by 2040.
- Bottom line is that EVs are by far the largest threat to oil demand. Impact of everything else, like SAF in air travel and methanol/ammonia in shipping, is uncertain and much further off...
- Best described as a plateau...still 110 mmb/d of global demand in 2040—higher than today.

New energy and alternatives impact on oil demand from 2024 onwards

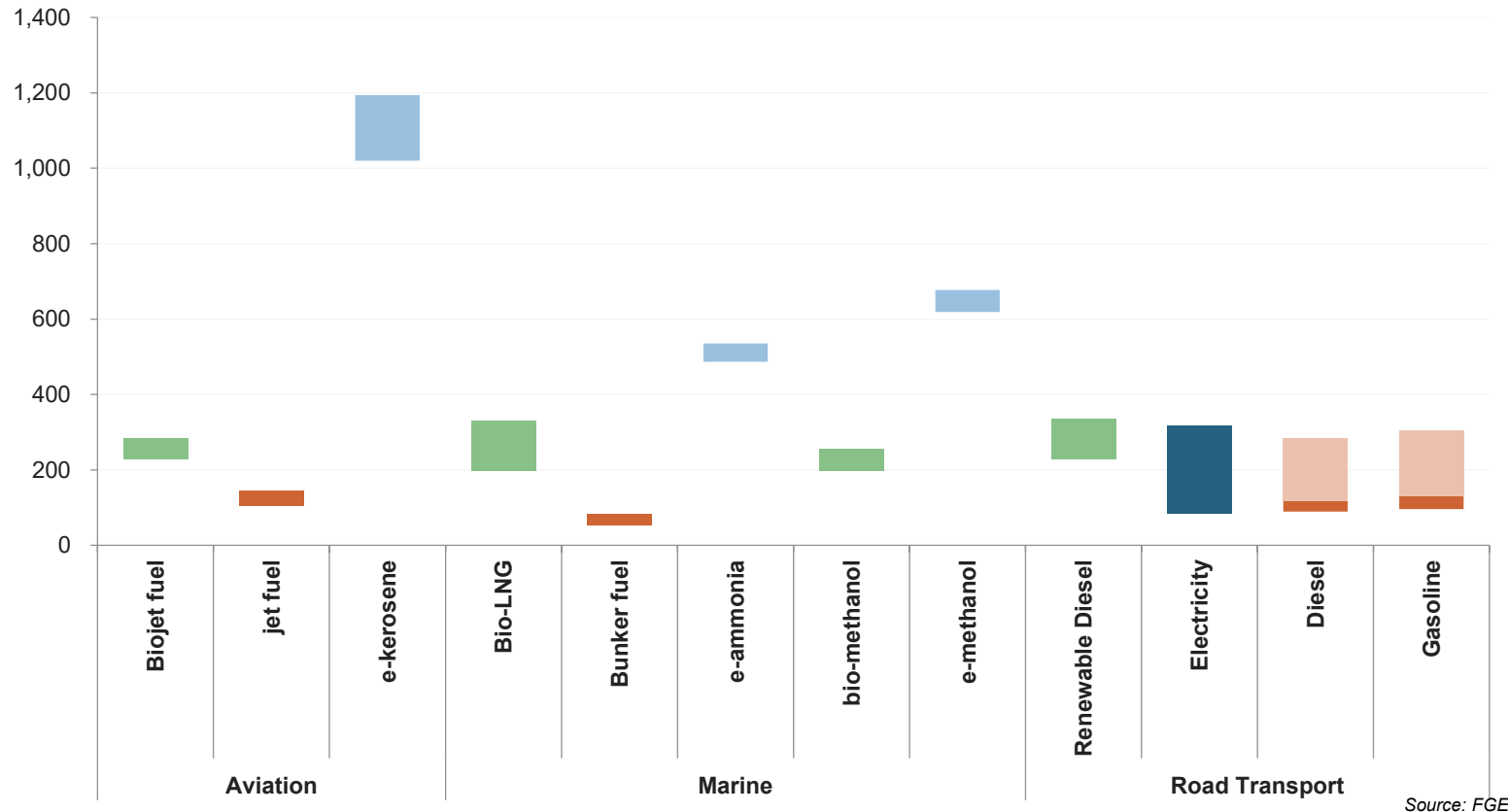
New Energy Impact on Oil Demand 2024-2035, mmb/d



Source: FGE
*: excl. conventional hybrids, includes PHEVs and BEVs only. Includes commercial vehicles.

Most alternatives to oil cost significantly more, **require major sustained govt support...can it be counted on???**

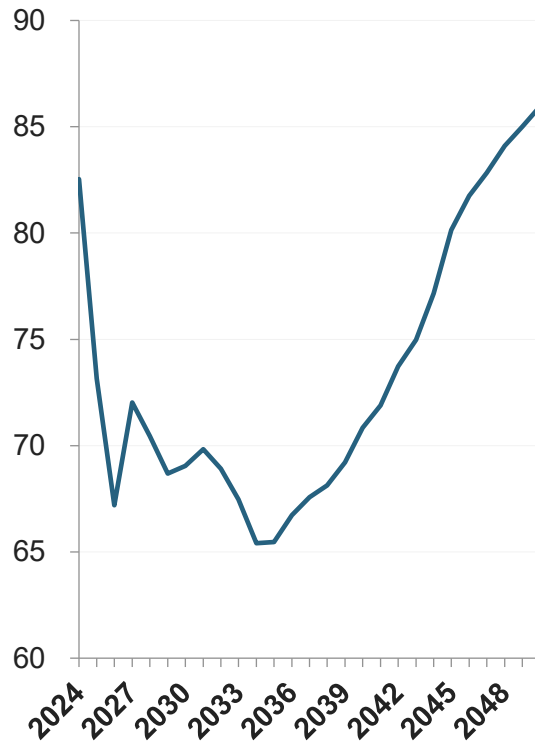
Transportation Fuels Relative Costs, 2024
US\$/barrel of oil equivalent



- Among the different alternatives to oil, **only electricity use in road transport can compete with conventional gasoline and diesel—after considering taxes on oil products.**
- Renewable diesel is expensive but can compete with conventional diesel, esp. if subsidized and diesel taxed.
- SAF is up to three times more expensive than conventional jet fuel.
- Bio-LNG is up to four times more expensive than conventional bunker fuel.
- Hydrogen based synthetic fuels are generally prohibitively expensive.

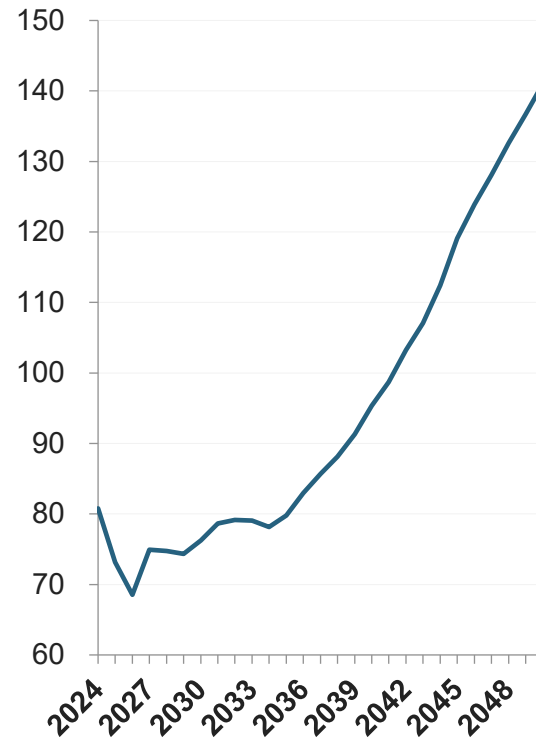
The natural “home” for oil prices is \$65-80/bbl (inflation adjusted)

Dated Brent Outlook (**Real**
2025), US\$/bbl



Source: FGE

Dated Brent Outlook
(**Nominal**), US\$/bbl

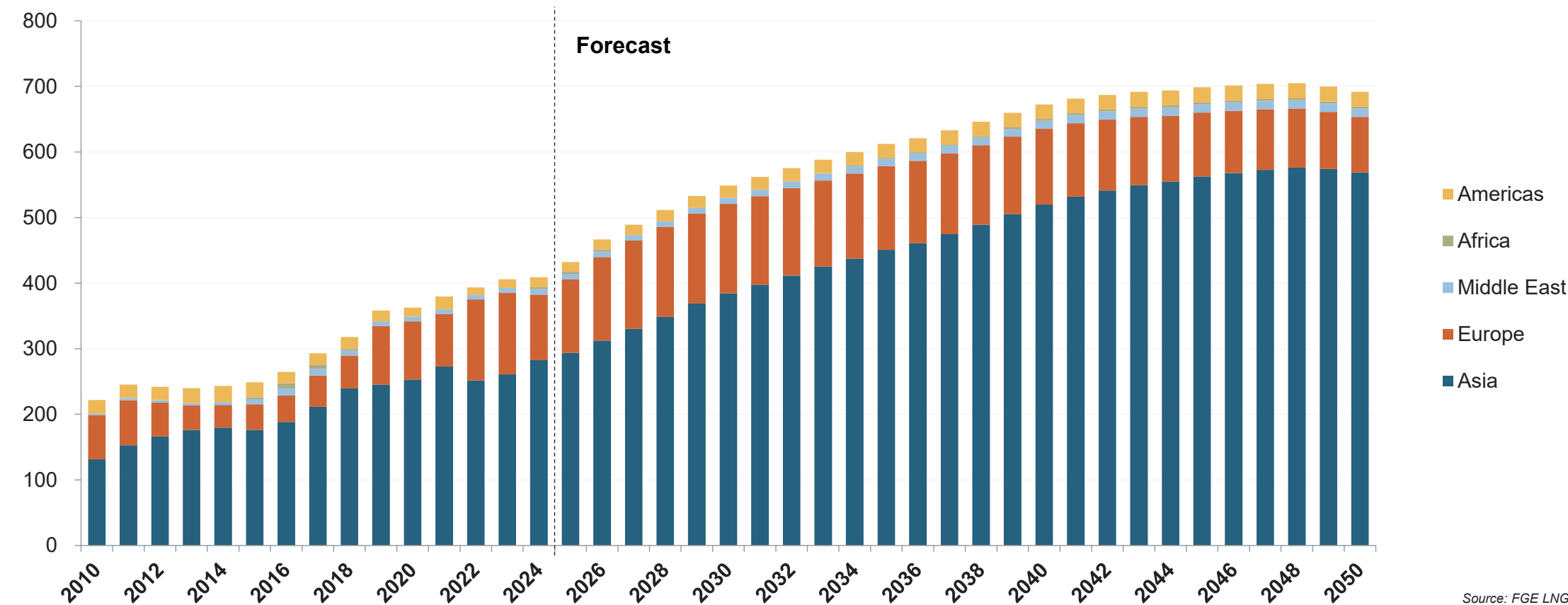


Source: FGE

- Short-term oil prices can fluctuate widely for many reasons...sanctions worries are a recent example.
- But what price should we use for long-term planning?
- We model future supply and demand in detail, and the conclusion is remarkably consistent...
 1. If oil prices drop well below \$65/bbl, supply slows and demand picks up, eventually creating an imbalance which is corrected by higher prices.
 2. If oil prices rise well above \$80/bbl, the economics of upstream projects look compelling, and we eventually get too much investment. Demand also slows, creating an imbalance, and prices eventually fall.
- Oil prices will always be volatile, but the natural home for oil is \$65-80/bbl (inflation adjusted).

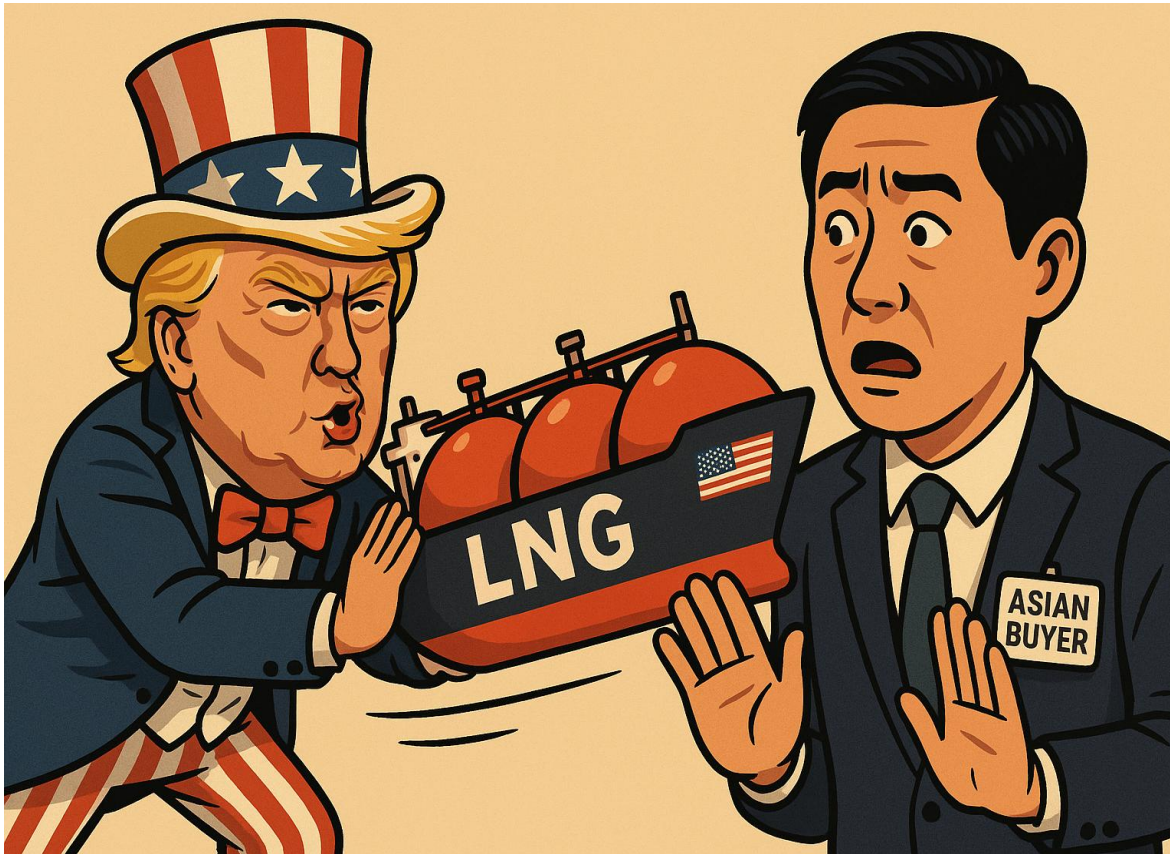
Turning to LNG: The Crystal Ball sees LNG demand peaking much later than oil...not until the mid-2040s, with Asia leading the way

Global LNG Demand by Region, mt



Source: FGE LNG ODS

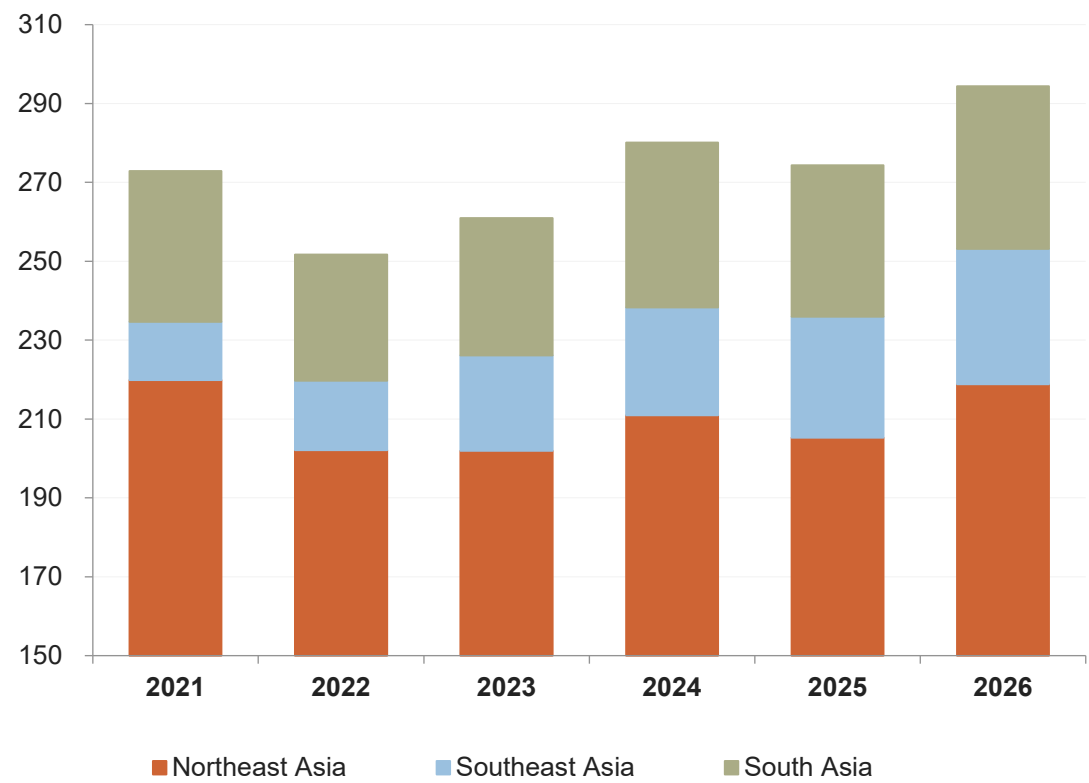
Trump 2.0... What is the **real** impact on the LNG market?



- Trump is clearly better than Biden for US LNG exporters. The Biden slowdown/pause fostered uncertainty and damaged the reputation of the US as a growing supplier.
- Trump is pushing countries to buy US oil and LNG to rebalance trade surpluses... **when he shakes a foreign leader's hand he says, "buy US LNG!"**
 - Aside from China, countries in Asia are actively engaging...they can't buy enough Boeing jets to take a bite out of the trade surplus!
 - They are open to USGC supplies, but wary of costly Alaska LNG
- **As US LNG shifts back into growth mode, it can impact prospects for Mideast LNG sales...** especially if US hub-linked supplies appear competitive with oil-linked.

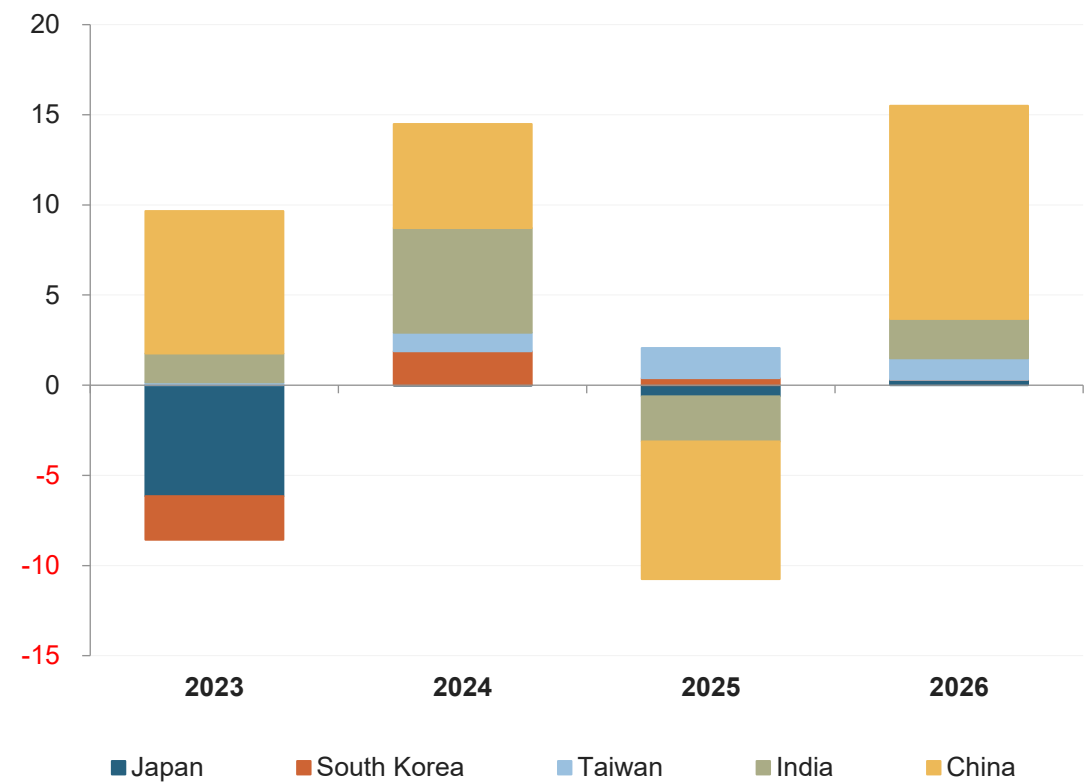
Overview of Asia's LNG demand growth in the short-term

Asia LNG Demand, mt



Source: FGE

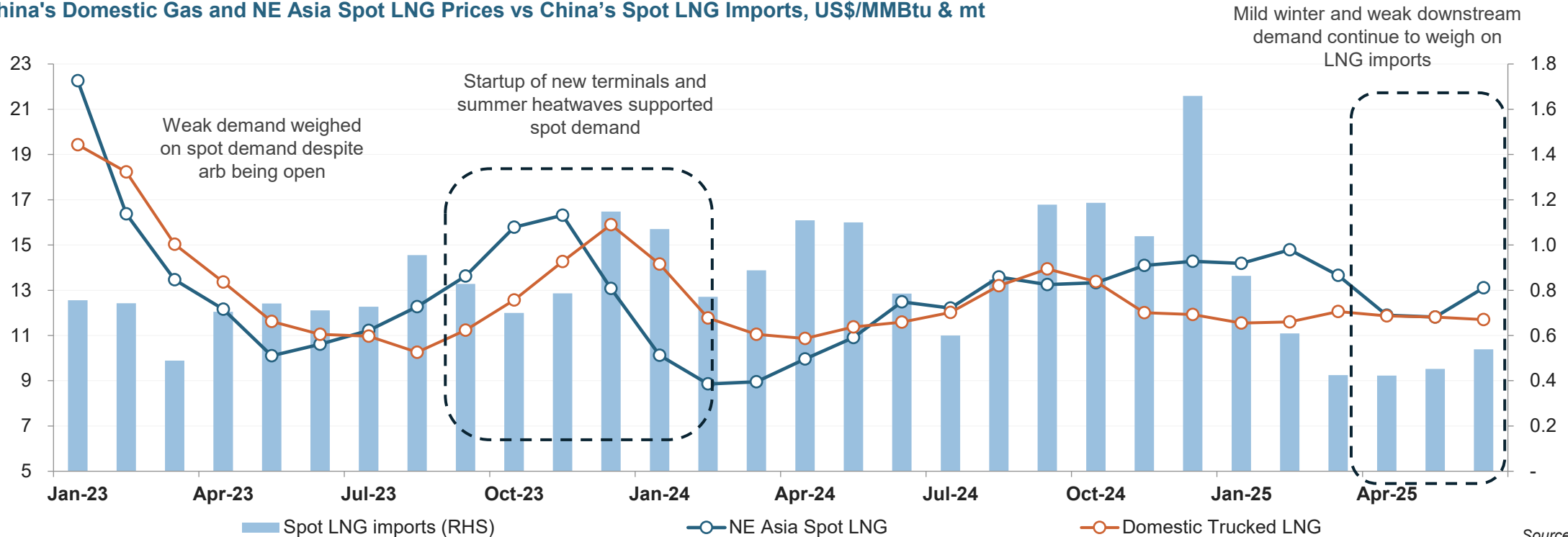
Y-o-Y Change in JKTIC LNG Demand, mt



Source: FGE

China's closed arbitrage window between trucked LNG and spot prices continue to weigh on spot LNG demand

China's Domestic Gas and NE Asia Spot LNG Prices vs China's Spot LNG Imports, US\$/MMBtu & mt

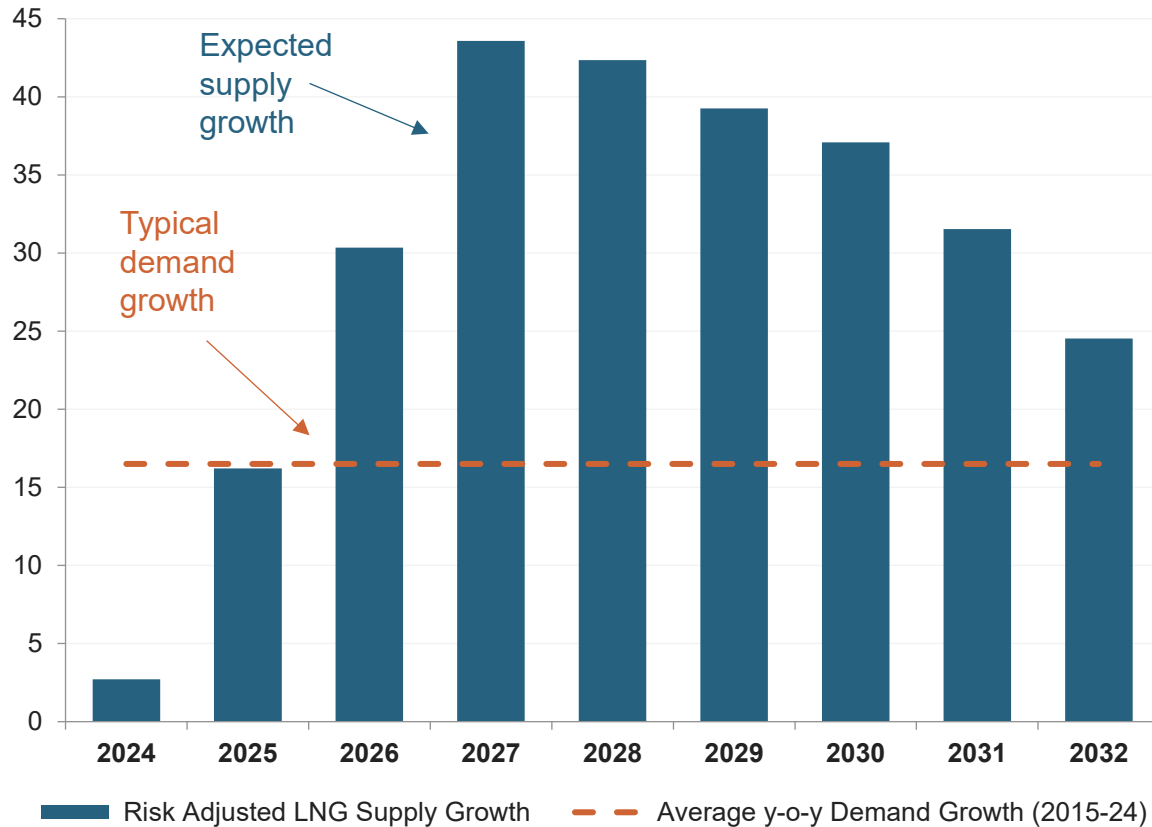


Source: FGE

- Arbitrage window between domestic trucked LNG prices and NE Asia spot prices remains mostly closed, with trucked prices trending below US\$12/MMBtu.
- China's industrial sector has remained resilient in 1H 2025, supported by high-tech manufacturing and strong domestic demand, which is expected to sustain growth and industrial gas demand through the rest of the year. Heading into October 2025, we expect a slight uptick in spot procurement activity, though still below last year's levels, as Chinese buyers start preparing for winter heating demand.
- Any spot LNG purchases would be mainly driven by NOCs looking to maintain adequate gas inventories to meet their downstream obligations.

Critical to position strategy for the supply wave ahead

LNG Supply Growth Adjusted for Risk of Delay, mtpa

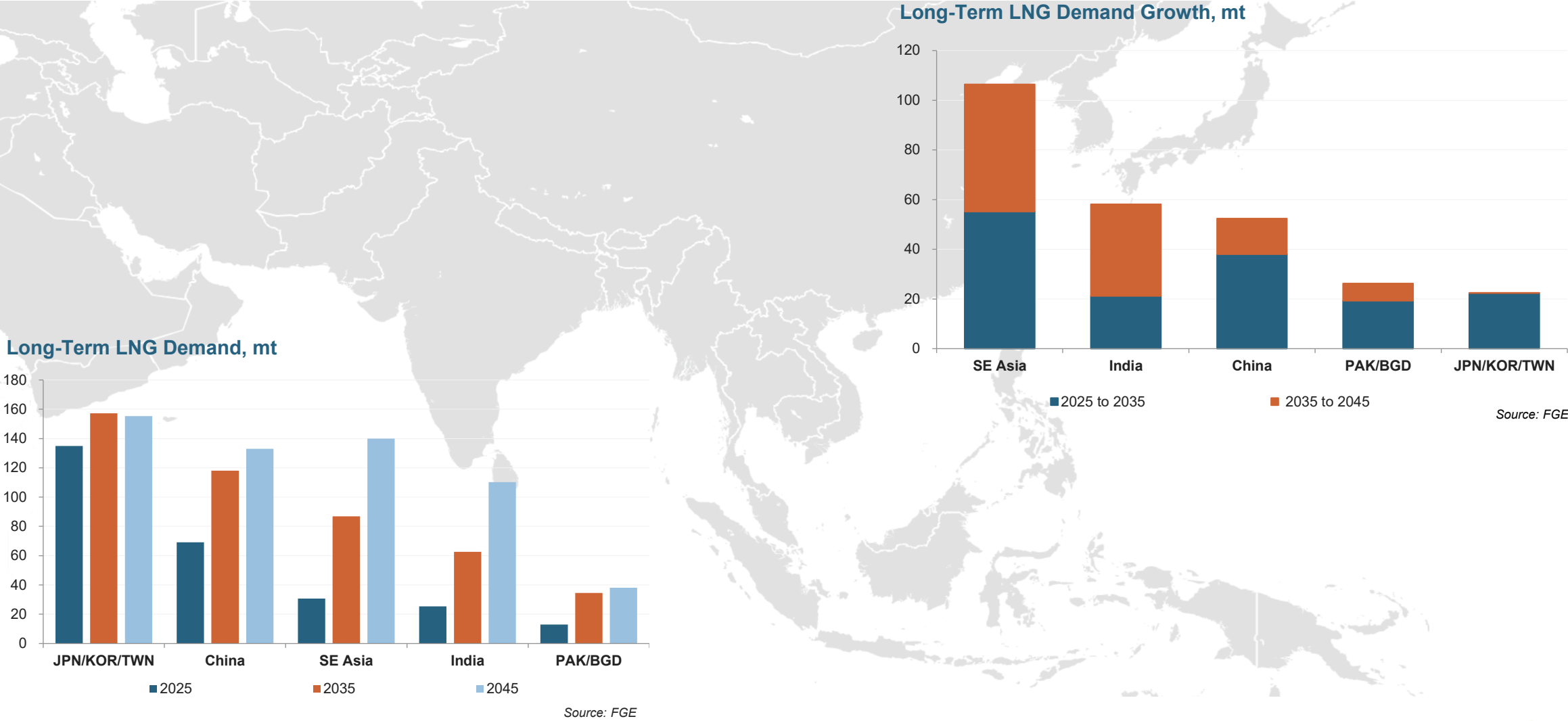


Source: FGE

Supply includes output from operating (Op), under-construction (UC), and likely (L) projects and takes into account possible outages and delays to project start-ups

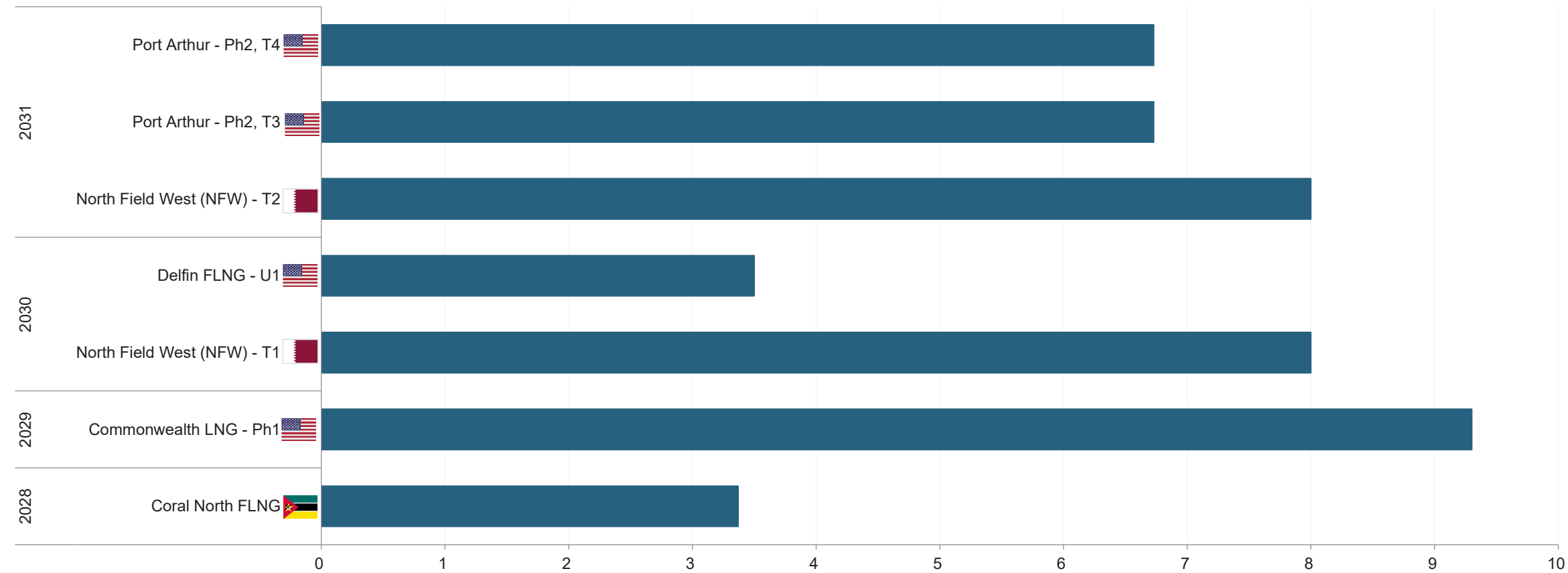
- The LNG market is notoriously cyclical, but we've never seen anything like this before.
- Currently, the market is a little over 400 mtpa and nearly 200 mtpa is under construction. That's around 50% increase in only a few years!
- The market will absorb the supply surplus, but the process can be volatile and painful.
- China's increasing dependence on US LNG can create chaos in the LNG market if there is political conflict.
- Opportunities ahead:
 - Buyers should be mindful of market cycles and consider LNG requirements beyond 2031 to secure term volumes at attractive slopes.
 - Interest from emerging buyers in pre-FID supply will be limited.
 - IOCs, traders, and established buyers are presented with an opportunity to support pre-FID projects in a bid to take advantage of a potential market tightness from 2032.

Asia's engines of long-term LNG growth



Nearly 45 mtpa of LNG capacity is close to FID, with potential to bring new supply online by the early 2030s

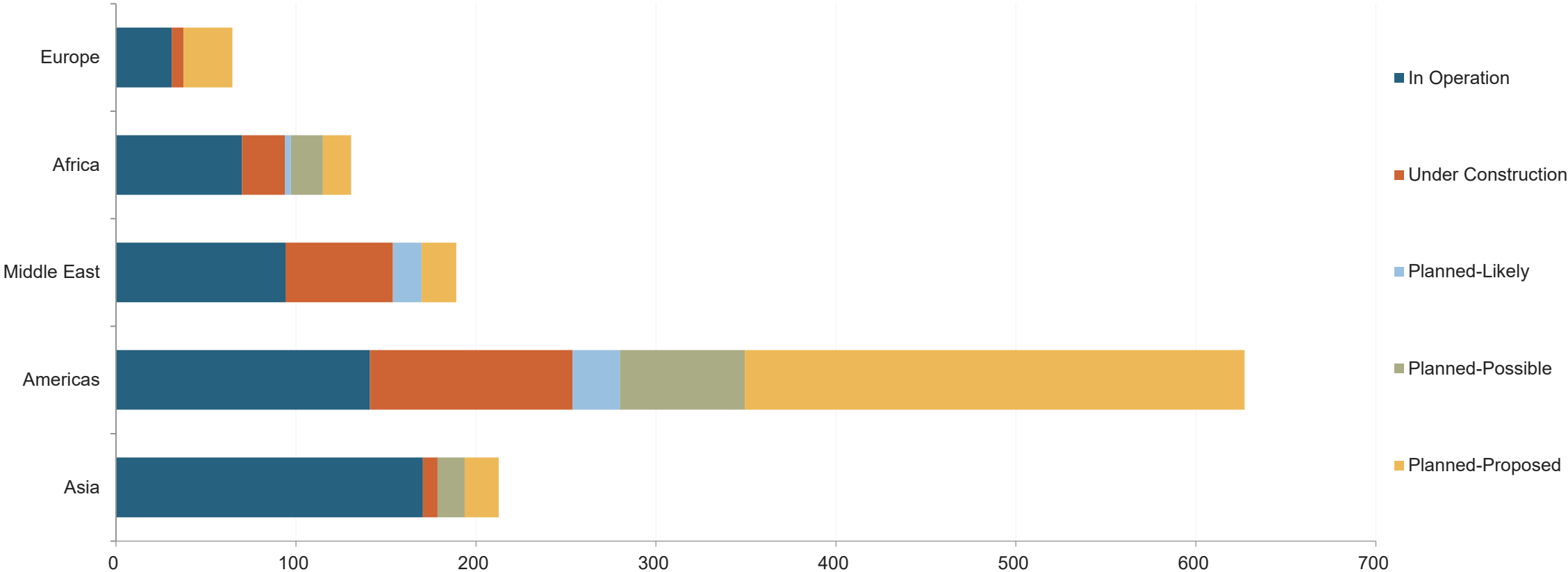
Potential Start-Up of Projects with Likely Near-Term FID, mtpa



Source: FGE

Over 100 mtpa of planned-possible capacity still has the chance to come online by the mid-2030s

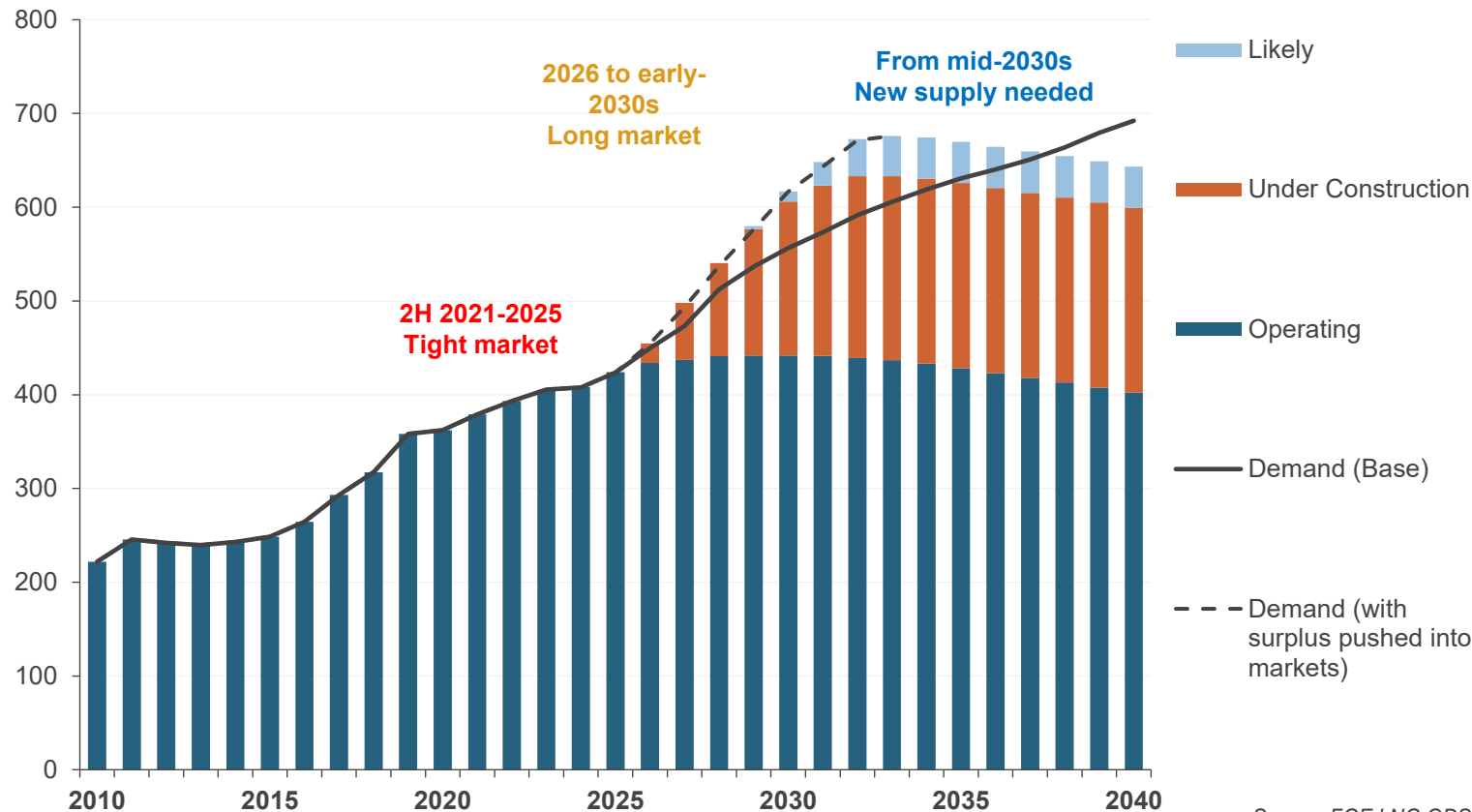
LNG Supply Capacity, mtpa



Source: FGE LNG ODS
Note: Mozambique LNG construction is currently paused but expected to resume in 2025
Tables only include new liquefaction capacity, excludes backfill projects
Arctic 2 LNG- T2 is under construction but undergoing redesign

LNG market sees boom and bust cycles, with the tight market rebalancing in 2026

Global LNG Supply vs Demand, mt

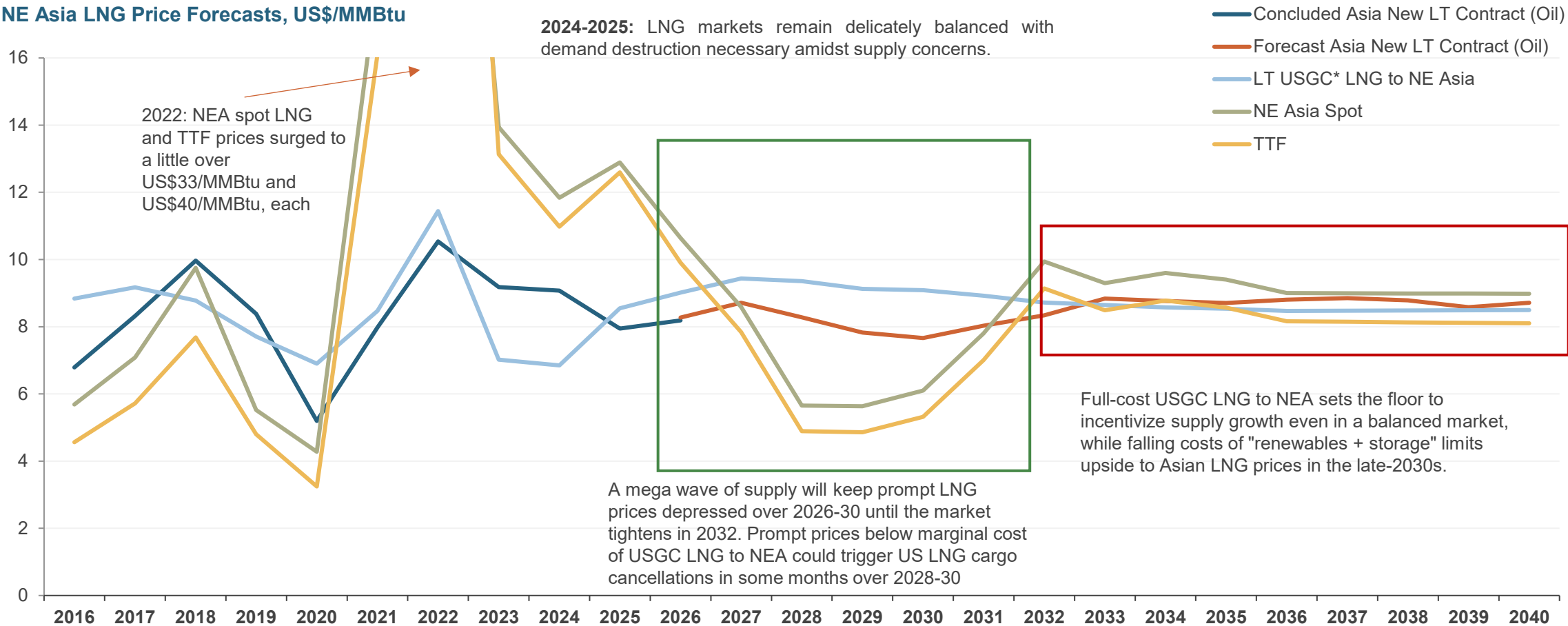


Source: FGE LNG ODS

- **Tight 2H 2021-2025:** A tight European gas market pulls LNG from global markets. Supply growth dried up due to an earlier slowdown in FIDs, while Asian demand continues to grow.
- **Long from 2026 to 2031:** A wave of supply hits the market. Europe continues to soak up LNG to phase out coal, while lower prices attract Asian players back into the market. Some US LNG cargo cancellations will also help balance the market. Some time will be needed to absorb the new LNG supply. Despite low prompt prices, established LNG buyers and IOCs should look to support some pre-FID projects.
- **Tight from 2032:** In the absence of meaningful FIDs over 2027-29, tightness could emerge from 2032.

Long-term LNG prices converge around US\$8-US\$10/MMBtu

NE Asia LNG Price Forecasts, US\$/MMBtu



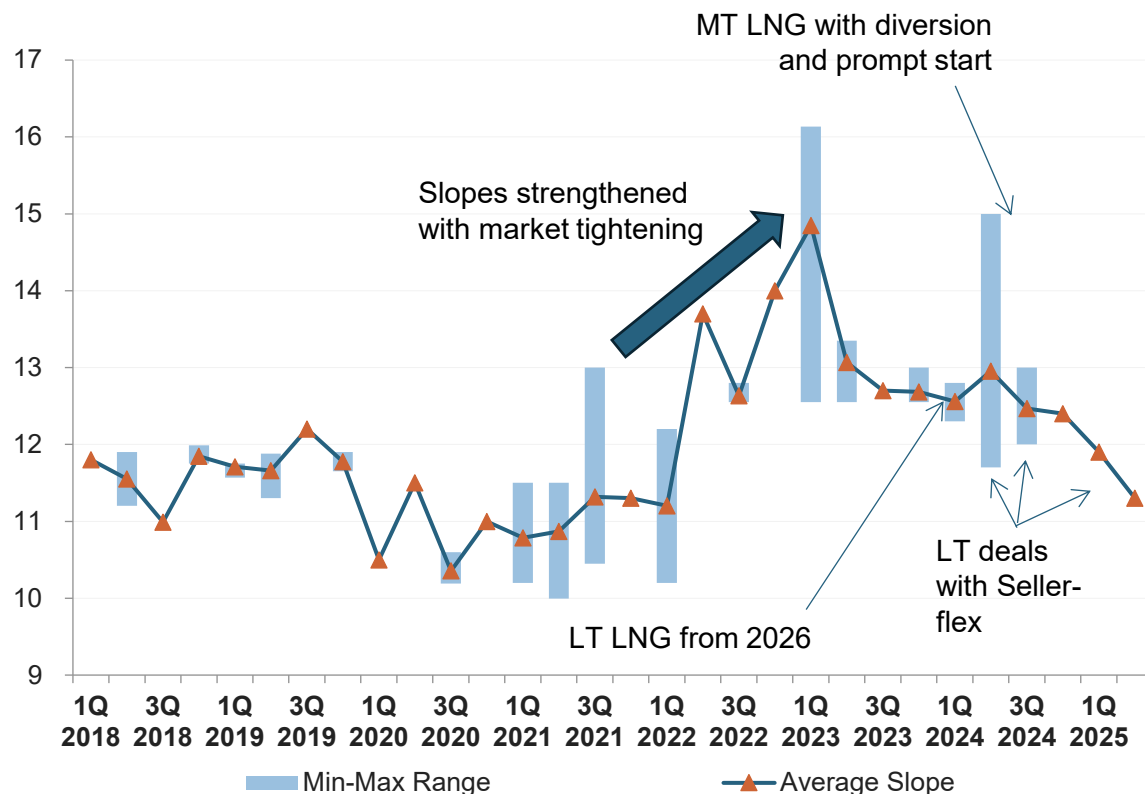
Forecasts from 2025 are in 2025\$ real terms.

Note that defining long-term contract prices is not trivial as price outcomes are driven by current year oil/gas prices, but formulas are negotiated earlier. These formulas vary over time depending on market conditions.

*LT USGC LNG supply is typically secured from pre-FID projects through 15-to-20-year SPAs. LNG as a part of these SPAs is typically expected to start 6 to 8 years after signing.

Seller-friendly terms help buyers secure LT firm DES LNG under 12% Brent, while others conclude HH-linked MT deals for firm volumes

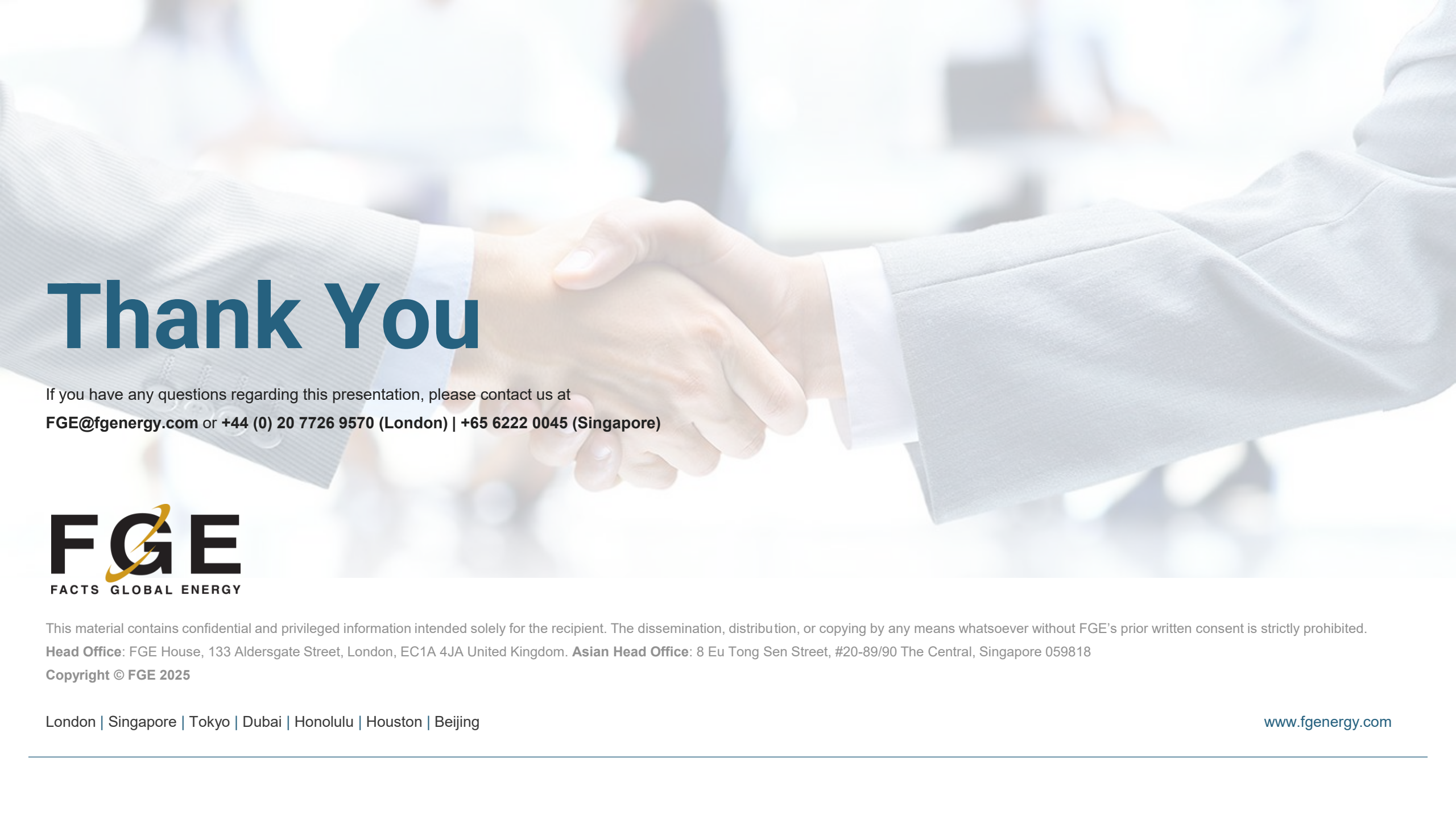
Evolution of DES LNG Contract Slopes for Asia and ME by Price Conclusion Date, %



Source: FGE

Note: The above numbers reflect MT and LT contracts with oil-linked DES LNG supply. The slopes are plotted by the conclusion date of price discussions (where available) as opposed to the date of contract signing. Typically, contracts are signed several months after price conclusions. Prevailing market conditions are seen to affect price conclusions, and this methodology also allows FGE to add relevant data points to illustrate market pressure while the legal terms of the contracts are being aligned.

- The theme of sellers referring to the JKM futures, which remain priced with Brent equivalent percentage slopes in the mid-to-high-teens, despite a broad consensus view that the imminent supply wave will soften prompt prices, continues. Buyers are looking for term DES LNG priced at under 12% Brent, and thus far, this is only achieved in cases where the buyer can, and is willing to, offer seller-friendly terms.
- Torrent Power's SPA with bp, which follows its LT DES LNG buy tender, is understood to be for crude-linked volumes priced in the **low-to-mid-11s% Brent**. This is expected to feature delivery terms strongly in favor of the seller.
- We see multiple discussions led by South Korean buyers that also follow a similar strategy of securing favorable slopes by offering attractive terms to the seller. Both KOGAS and GS Energy's discussions with sellers are understood to be for crude-linked DES supply priced in the **11s% Brent**.
- Through 2Q 2025, we also saw multiple MT deals conclude for HH-linked volumes. Some buyers, finding crude-linked prices offered for MT supply commencing in 2020/5/26 to be unattractive, have opted for HH-linked supply. These concluded deals have DES supply prices that feature a constant in the **mid-US\$4s/MMBtu** when the **HH slope is 121%**, or a constant in the **US\$5s/MMBtu** when the **HH slope is 115%**.



Thank You

If you have any questions regarding this presentation, please contact us at
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