
2025
UNVEILING THE MAGIC OF MIDSTREAM INNOVATION
GPA MIDSTREAM CONVENTION
Welcome!

US and Global LNG Outlook

AGENDA

1. LNG and Trade Deals
2. LNG Projects
3. Seasonality
4. Where Will The LNG Go?
5. Gas and South Korean Energy Policy
6. Why US LNG?

1 – LNG and Trade Deals

Energy exports and the Trade Deficit

- The US trade deficit was about $918 billion in 2024
- Energy is the #1 export:
  - $150 billion in crude oil
  - $170 billion in oil products
  - $71 billion in LNG
  - $14 billion in coal
  - Total $405 billion
- Hence, any discussions about the trade deficit must include oil & gas

U.S. Bureau of Economic Analysis
U.S. Census Bureau

U.S. International Trade in Goods and Services
February 5, 2025

Huge promises

Who	What	Recent Sales
Japan	• $7 billion per year in energy purchases • $550 billion in investments, including energy infrastructure and production	• $2-3 billion/yr of LNG
South Korea	• $100 billion in LNG and other energy products	• $2-4 billion/yr of LNG
Europe	• $750 billion by 2028, including LNG, oil, nuclear	• $70 billion to EU in the last 3 years • US total LNG exports worth $168 billion in the last 10 years • US total oil, NGL and LNG sales to Europe were $74.3 billion in 2024
Malaysia	• $3.4 billion/yr in LNG	• $110 million in 2024

It is impossible to meet all the pledges via LNG

Likely Outcomes?

- Lookback to US-China deal in 2020:
  - China promised to buy oil and LNG worth $18.5 billion in 2020 and $33.9 billion in 2021
  - Ultimately, **China never did**, and COVID happened
  - Unlikely for countries to be held to their pledges

- Although the targets are **unlikely to be met**, there are some likely outcomes:
  - European, South Korean and Japanese companies are likely to secure more LNG capacity
  - Japan's Ministry for Economy, Trade and Industry is reportedly assessing the $44 billion Alaska gas pipeline and LNG project
  - Continued investment by these companies in new LNG projects is likely to continue, including involvement by international EPC contractors
  - However, the volumes sold will likely be portfolio volumes with no fixed destinations
  - Few new LNG projects are led by supermajors or large IOCs – opportunities and risks for foreign companies to be involved in project development

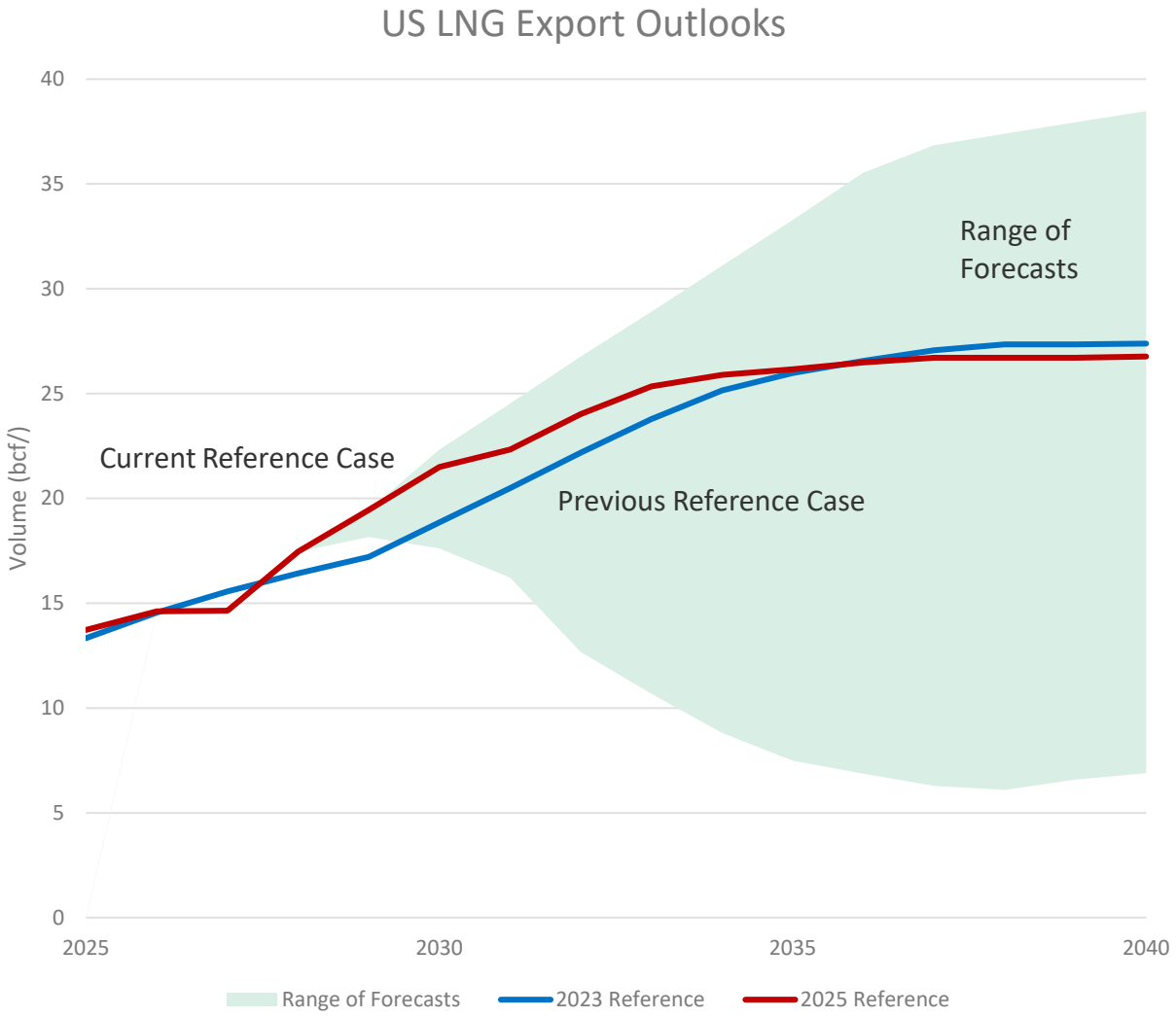
Although uncertain, it is likely that European and Asian companies will continue buying more US LNG and invest in more LNG projects

2 – LNG Projects

Will There Be More LNG Plants?

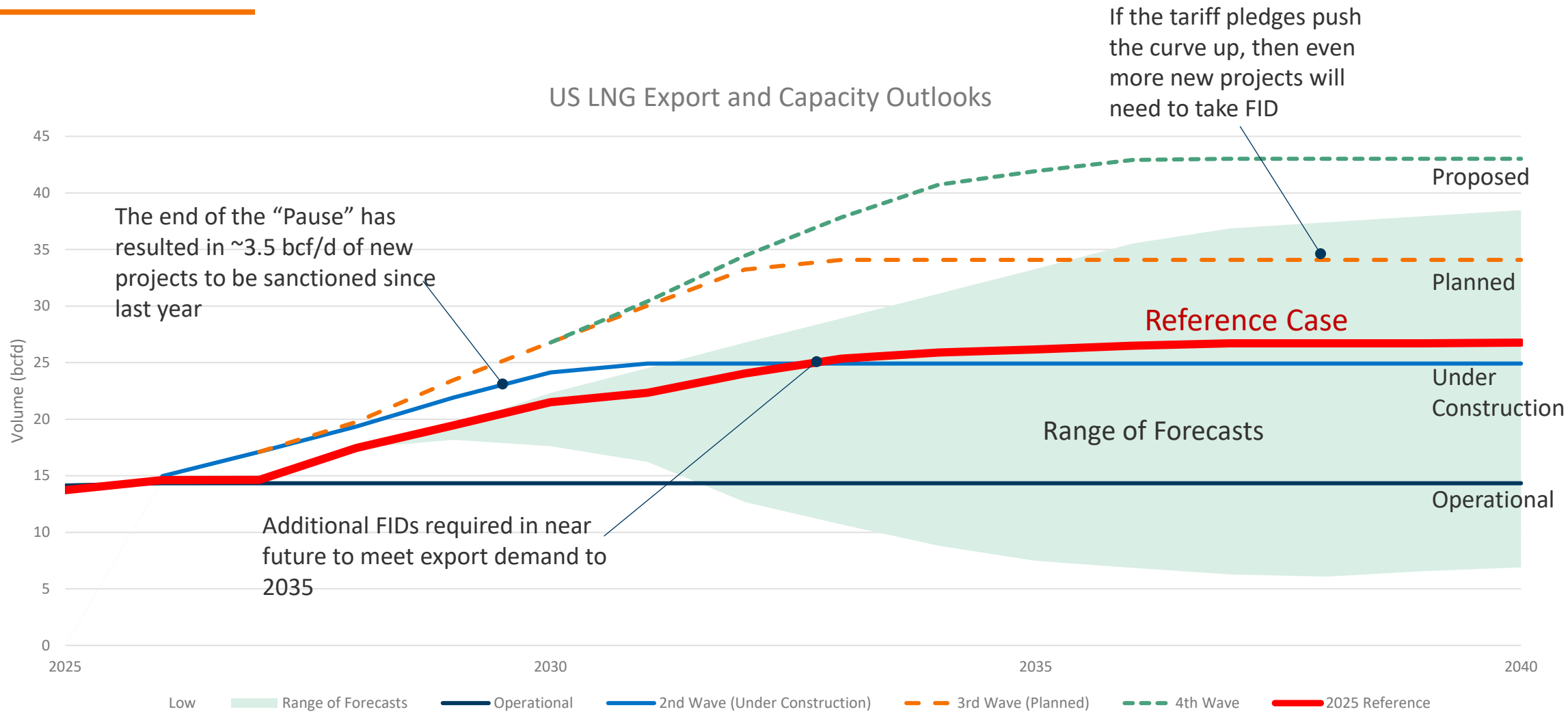
The EIA's Expectations of USLNG Growth Stay Strong

- EIA kept the long-term volumes the same
  - Accelerated the increase in volumes to 2035
- By 2035 the annual export volumes are 26 bcf/d, a rise from 12 bcf/d in 2024
- Will the tariff pledges push the curve up?
- The range of forecasts is extremely wide, driven by oil prices and LNG buildout
  - Highlights importance of associated gas in providing the growth in the gas supply
  - Assumes that LNG demand increases with increased adoption of zero carbon technology



Source: EIA

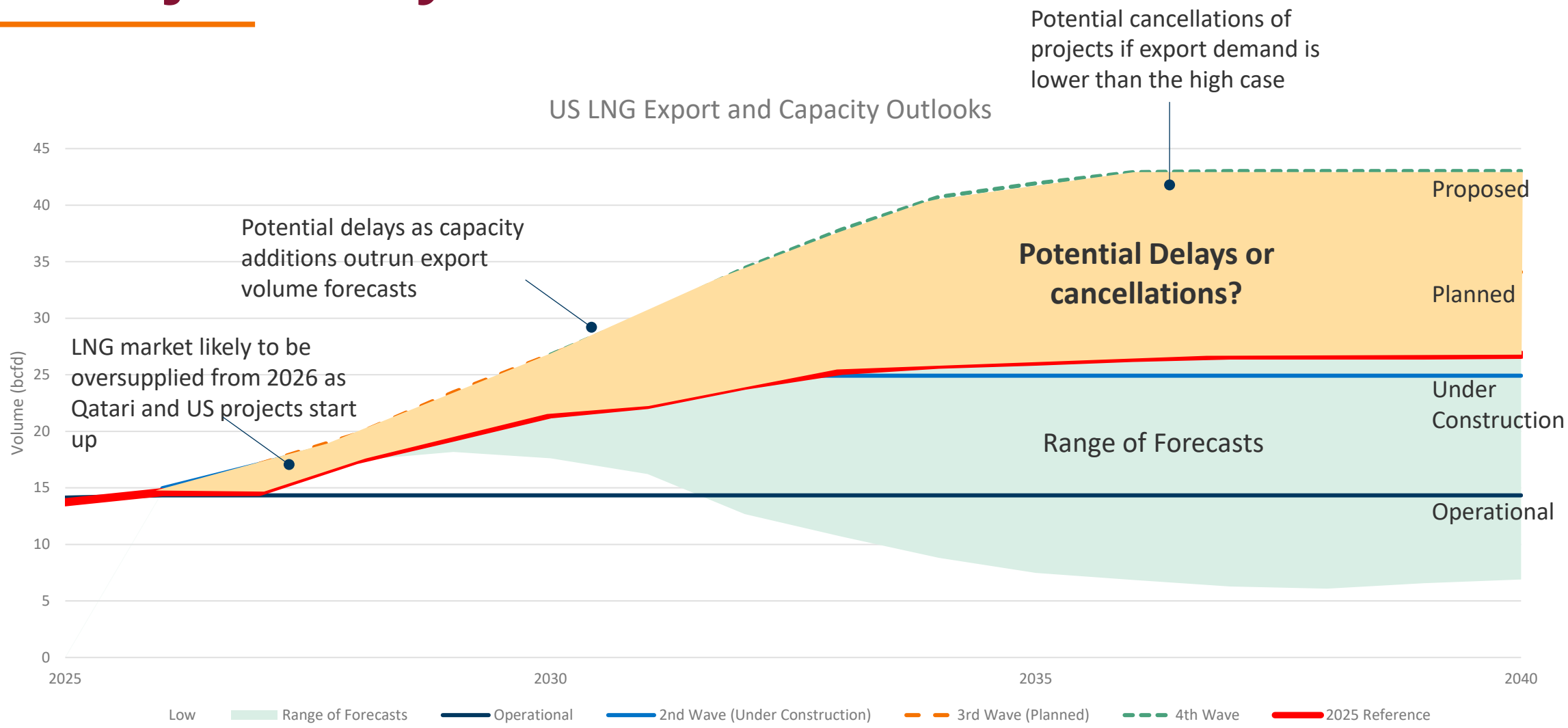
US Projects Supporting Continued Growth



2 significant FIDs since last year have narrowed the gap but more FIDs are expected

Source: B&OB Analysis of EIA data

US Project Delays or Faster Demand Growth?



Will trade deal pledges increase exports?

Source: B&OB Analysis of EIA data

~13 bcf/d of LNG Projects Under Construction in North America

US Projects are mostly in the Gulf Coast

Region	Plant	Operational (bcf/d)	Under Construction (bcf/d)	Total
TX-LA Border	Sabine Pass	3.56		3.56
	Cameron	1.78		1.78
	Calcasieu Pass	1.32		1.32
	Golden Pass		2.03	2.03
	Port Arthur		1.58	1.58
	Woodside LA		0.73	0.73
	Total	**6.65**	**4.34**	**10.99**
Eastern LA	Plaquemines	2.63		2.63
	Total	**2.63**	**0.00**	**2.63**
Central TX	Freeport	1.98		1.98
	Total	**1.98**	**0.00**	**1.98**
South TX	Corpus Christi	3.11		3.11
	Rio Grande		2.16	2.16
	Total	**3.11**	**2.16**	**5.27**
Total TX & LA		**14.37**	**6.50**	**20.86**
East Coast	Cove Point	0.69		0.69
	Elba Island	0.33		0.33
Total Other		**1.02**		**1.02**

Canada and Mexico Projects

Region	Plant	Operational	Under Construction	Total
Canada	LNG Canada	1.86		1.86
	Cedar		0.40	0.40
	Woodfibre		0.28	0.28
Total Canada		**1.86**	**0.68**	**2.54**
Mexico	Fast LNG Altamira 1	0.20		0.20
	Fast LNG Altamira 2		0.20	0.20
	Energia Costa Azul 1		0.43	0.43
Total Mexico		**0.20**	**0.63**	**0.80**
Total Mexico and Canada		**2.06**	**1.31**	**3.37**

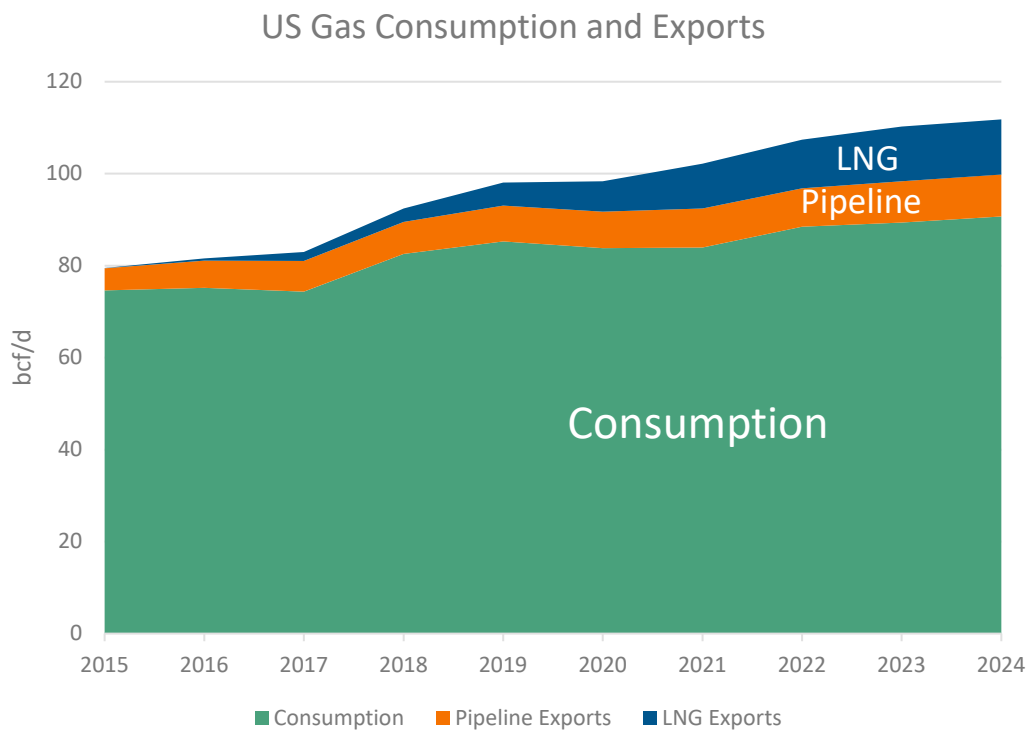
Additional ~4.5 bcf/d of Mexican export capacity is in the planning stage

Additional potential 2.55 bcf/d Alaska LNG as a result of tariff pledges?

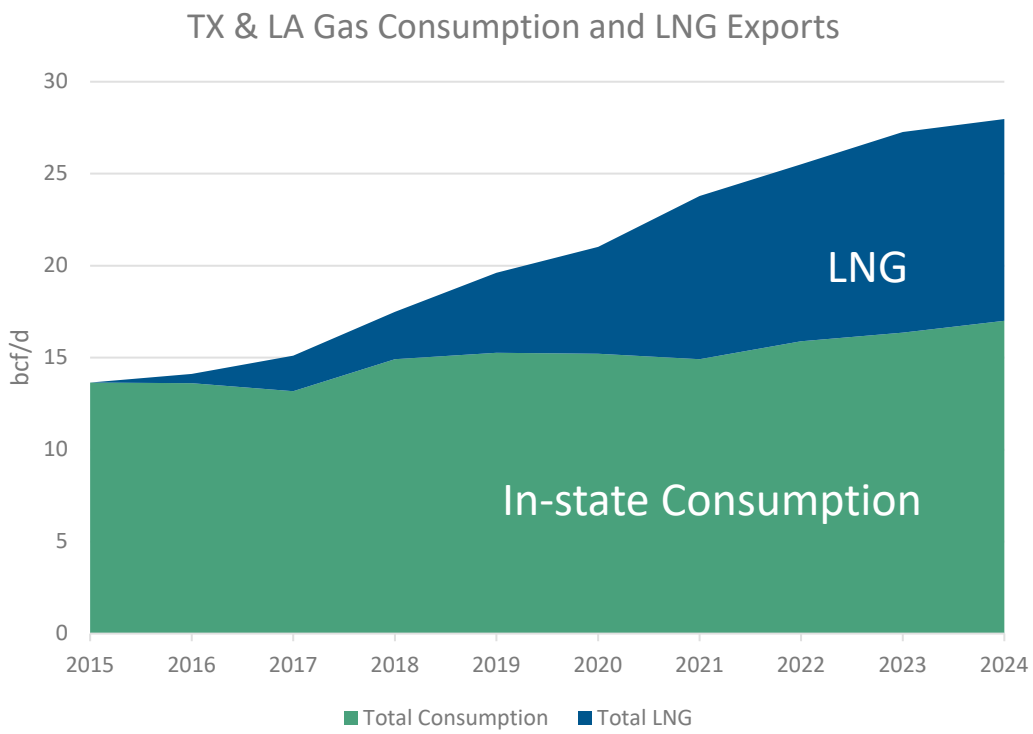
3 – Seasonality

LNG is a significant proportion of US and state demand

LNG exports are >13% of US Gas Consumption



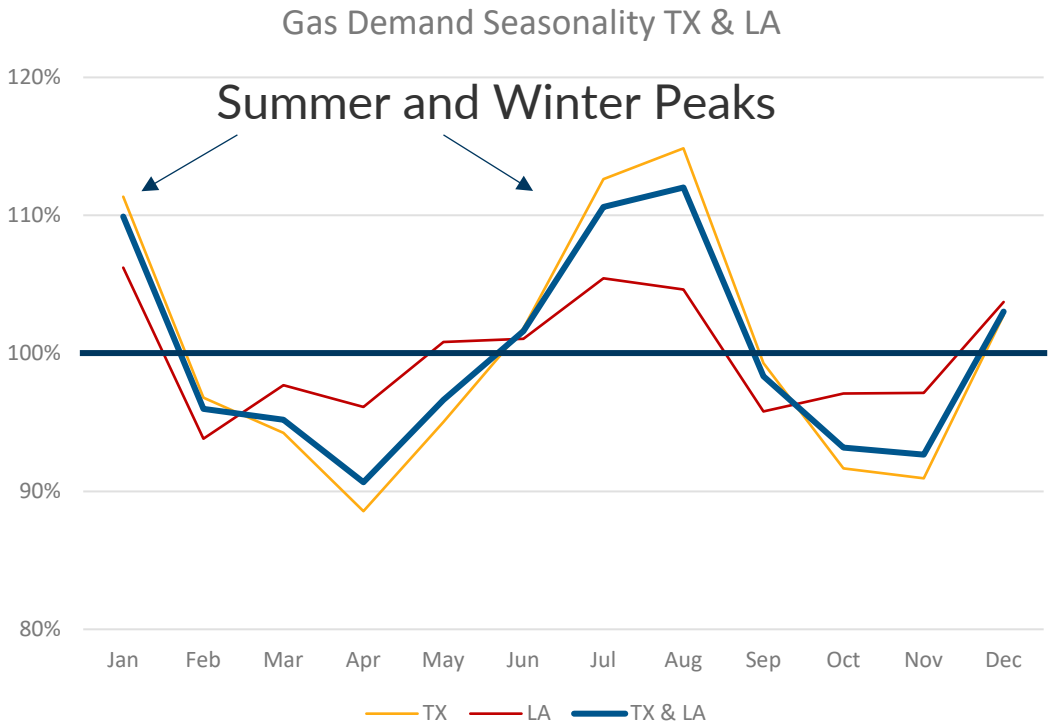
LNG is ~65% of TX and LA Gas Consumption



Henry Hub, in southern Louisiana, is going to be more strongly affected by growing LNG exports

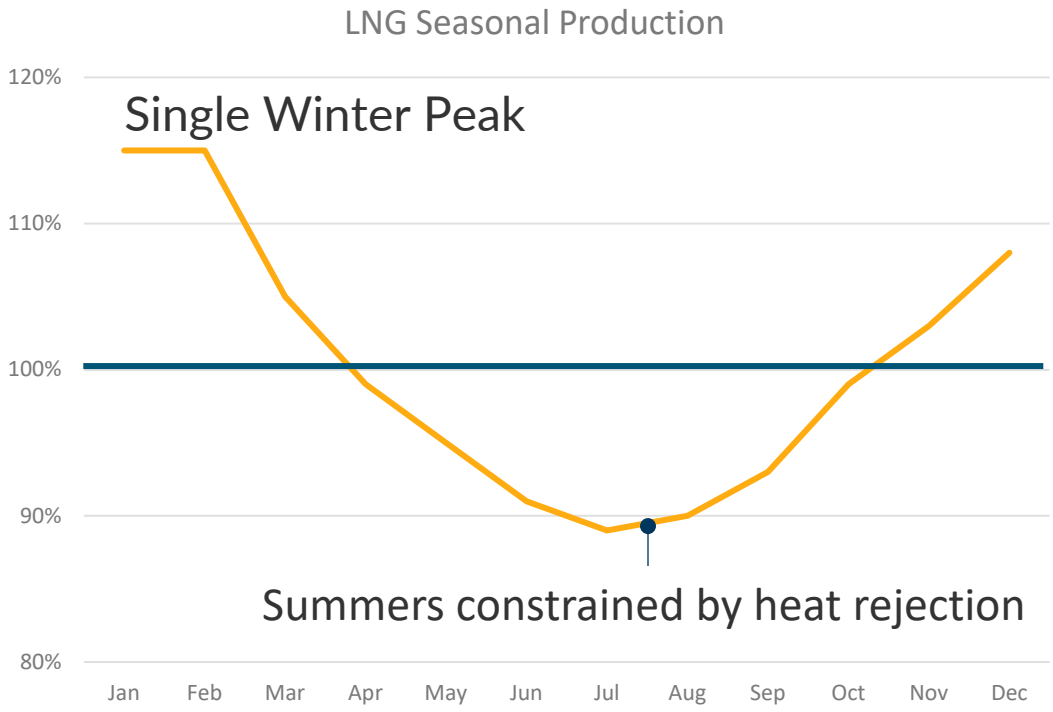
LNG intensifies winter gas demand

LA/TX Gas In-State Seasonal Demand 2010-2024



Both TX and LA have a double demand peak for heating/cooling requirements

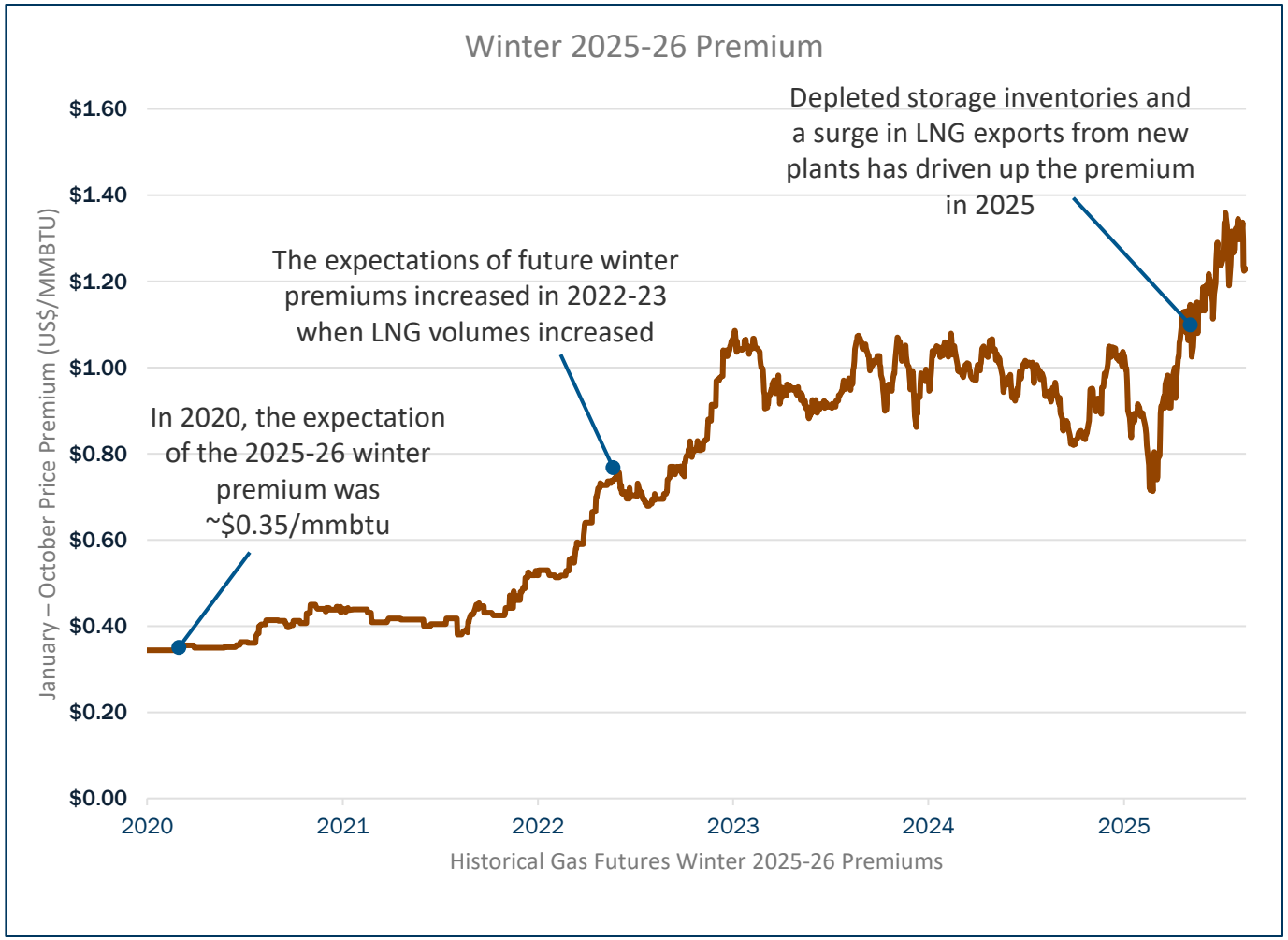
LNG Seasonal Production (Theoretical)



LNG plants will schedule maintenance for summer to minimize production impact

As LNG volumes increased, the winter premiums widened

- When demand is higher in winter (January), the prices tend to be higher than in the fall (October) – the winter premium
- The futures prices reflect this expectation
- The winter price premiums are increasing with increasing LNG
- ~4bcf/d of additional capacity came online in 2025
- The increasing premiums are renewing interest in new storage projects



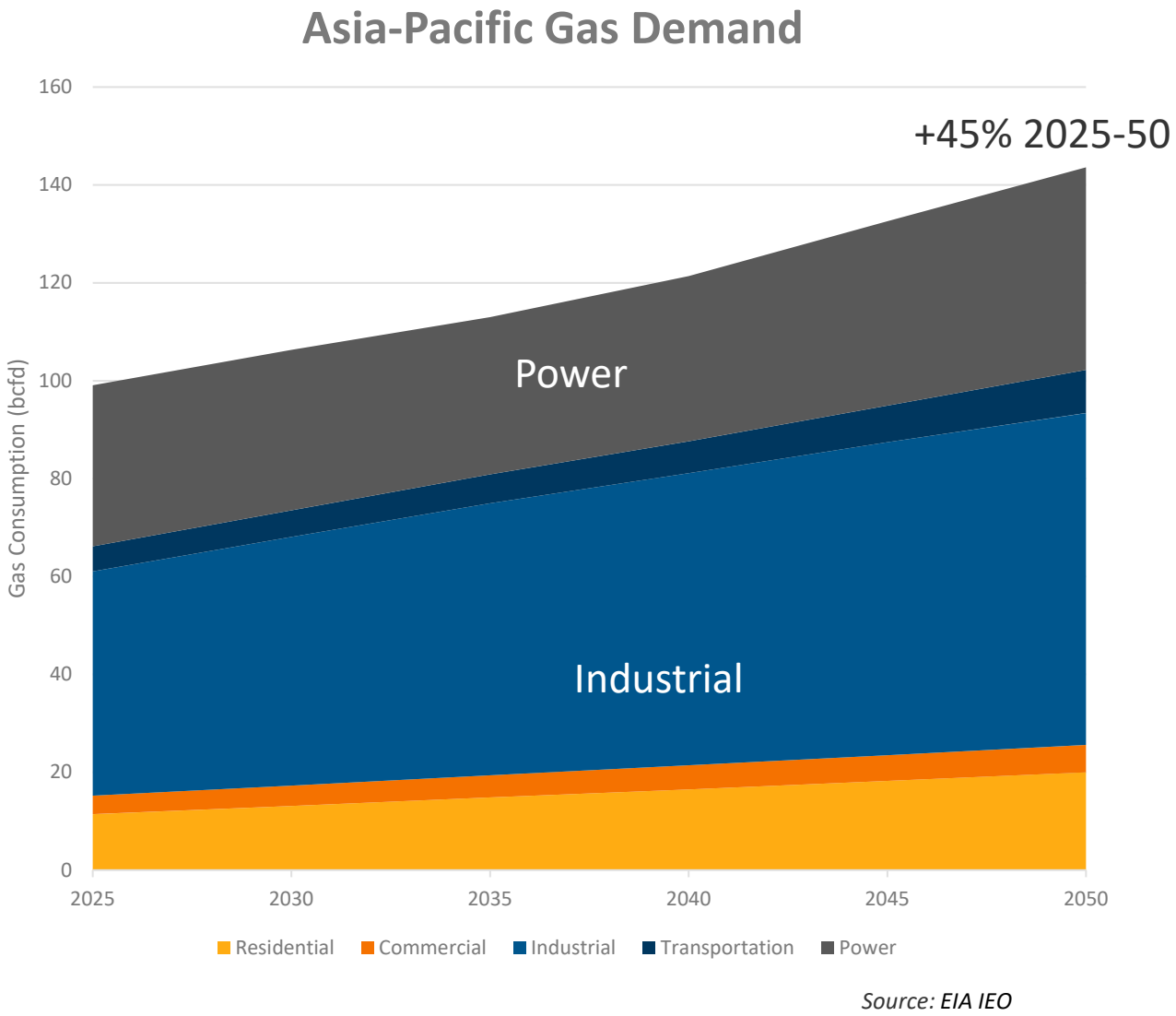
LNG Exports help during Energy Emergencies

- During the 2021 Winter Storm Uri, Texas LNG producers shut down and freed up ≈ 3.5 Bcf/day of gas
- Post Uri, ERCOT added “demand response” - firms that volunteer to have their power cut during emergencies
- No “demand response” equivalent for natural gas, but LNG production is high on the list to be curtailed during emergencies
- The growth of LNG exports from Texas increases gas that can be made available during sustained emergencies
- LNG in Texas has a winter production of ~7 Bcf/day, and will reach ~9 bcf/d once all the plants under construction are in service

4 – Where will the LNG Go?

Asian Gas Demand Expected to Grow

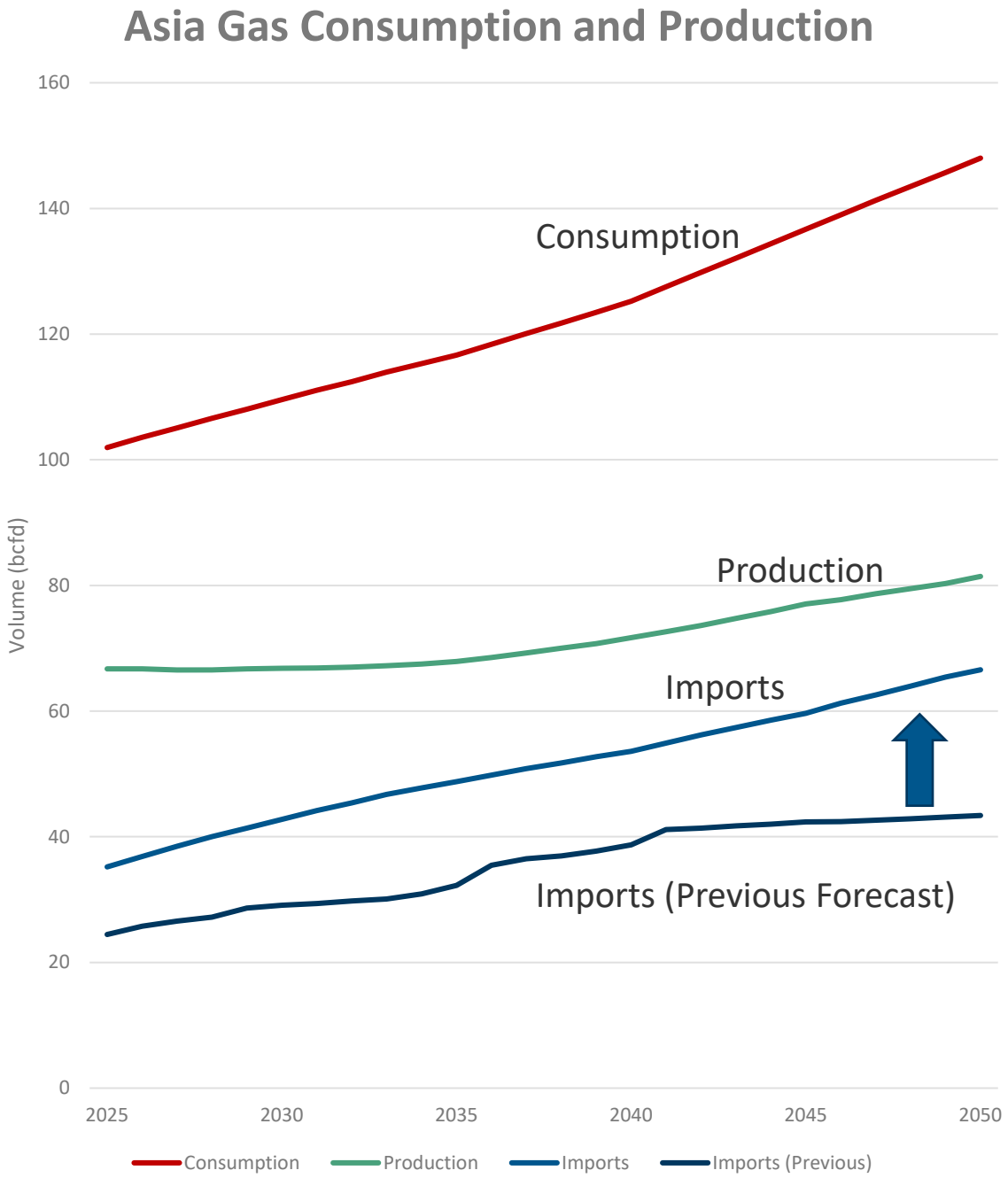
- Asian demand in 2025 is estimated at 93 bcfd, slightly higher than US gas demand (91 bcfd)
- The EIA expects Asian demand to grow by 45% over the next 25 years
- **Growth driven by non-residential demand**
- Industrial demand sees the largest growth
- “Asia” here refers to the Asia-Pacific region and does not include the Middle East



Source: EIA IEO

Asian Gas Imports Will Grow As Consumption Grows Faster Than Production

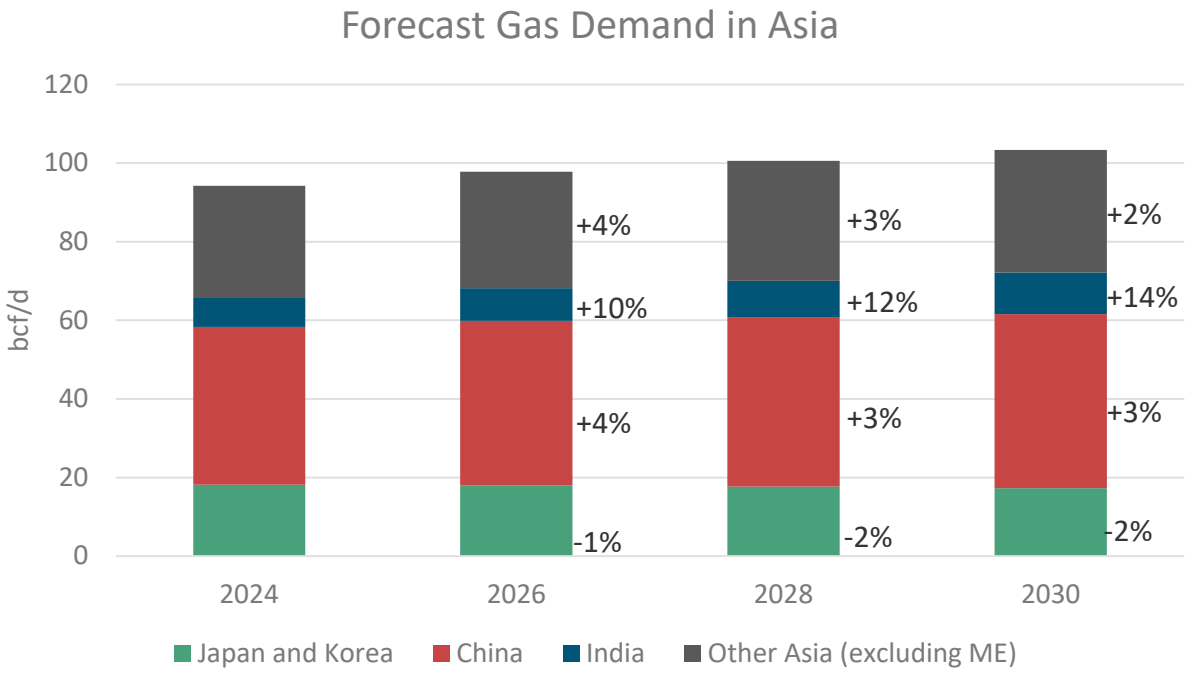
- The 2023 EIA outlook forecasted Asian natural gas consumption to grow faster than local production
- Most of the **supply/demand gap will be filled by LNG imports**
- Total imports are expected to nearly double from 35 bcfd in 2020 to 67 bcfd in 2040
- The Asia Pacific region import dependency will increase from 35% to 45% in that period
- Import forecasts have increased since the last IEO outlook in 2021

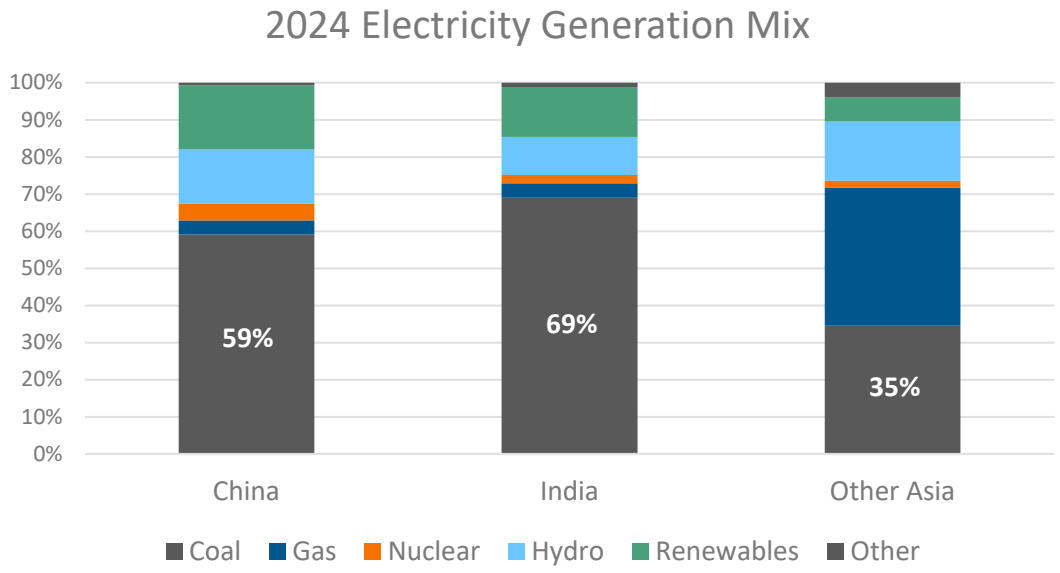


Source: EIA IEO

Asian LNG growth continues but not in traditional markets

- Although Japan and South Korea have been amongst the largest LNG importing countries, future growth will come from the rest of Asia
- Japan and Korea both have significant policy uncertainties
- For most countries, **replacement of coal with gas** is one of the primary reasons for the growth in gas demand
- Total electricity demand is rising rapidly, and **renewables are projected to accommodate most of the growth**
- There is increased uncertainty in the power requirements of data centers





Additional US LNG exports mainly competes with Qatar

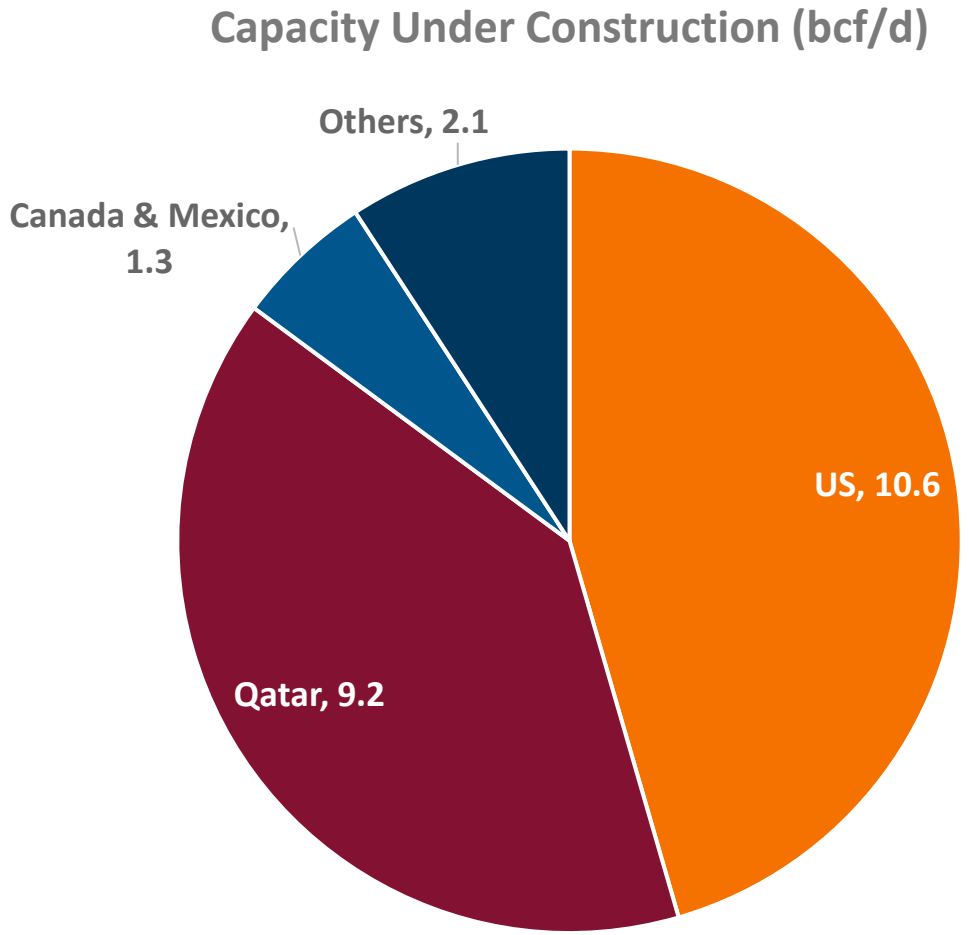
Qatari contracts are much less flexible than most US export contracts:

- Linked to oil price
- No resell options
- Rigid destination clauses
- Take or pay restrictions
- Limited upside volumes

Most of these projects under construction are expected to start up between 2026 and 2029

Thus, there is likely to be an oversupply of global LNG in the coming years

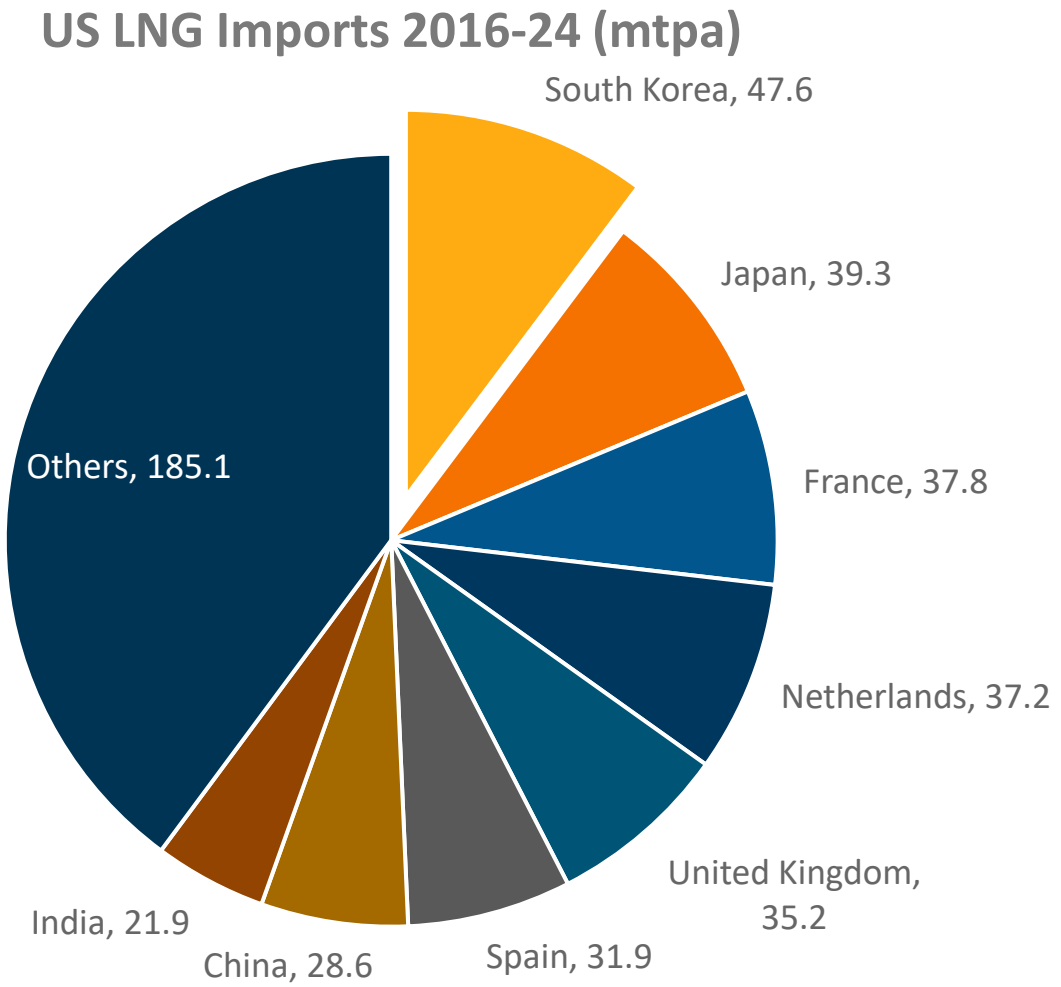
US LNG projects are expected to provide the flexibility to balance the market



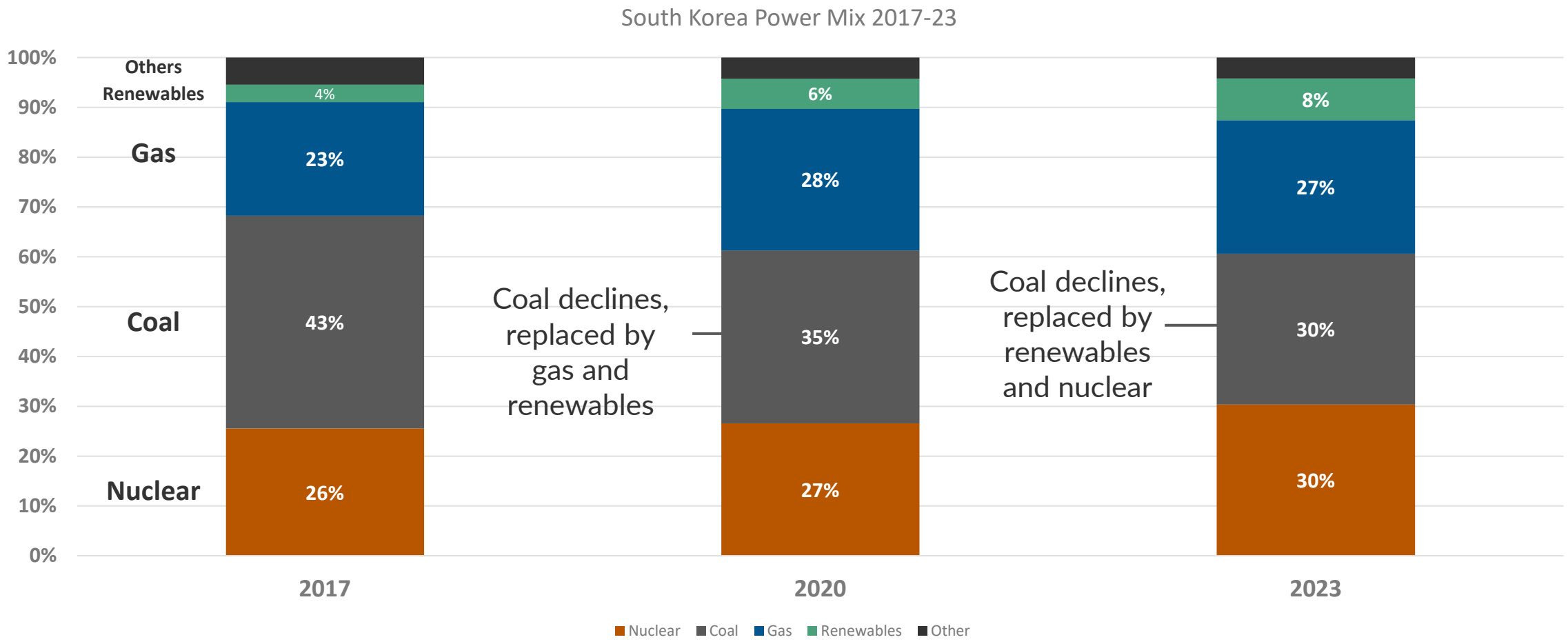
5 – Gas and South Korean Energy Policy

Largest markets for US LNG

- South Korea is still the largest importer of US LNG
- Large changes in energy policy with successive governments

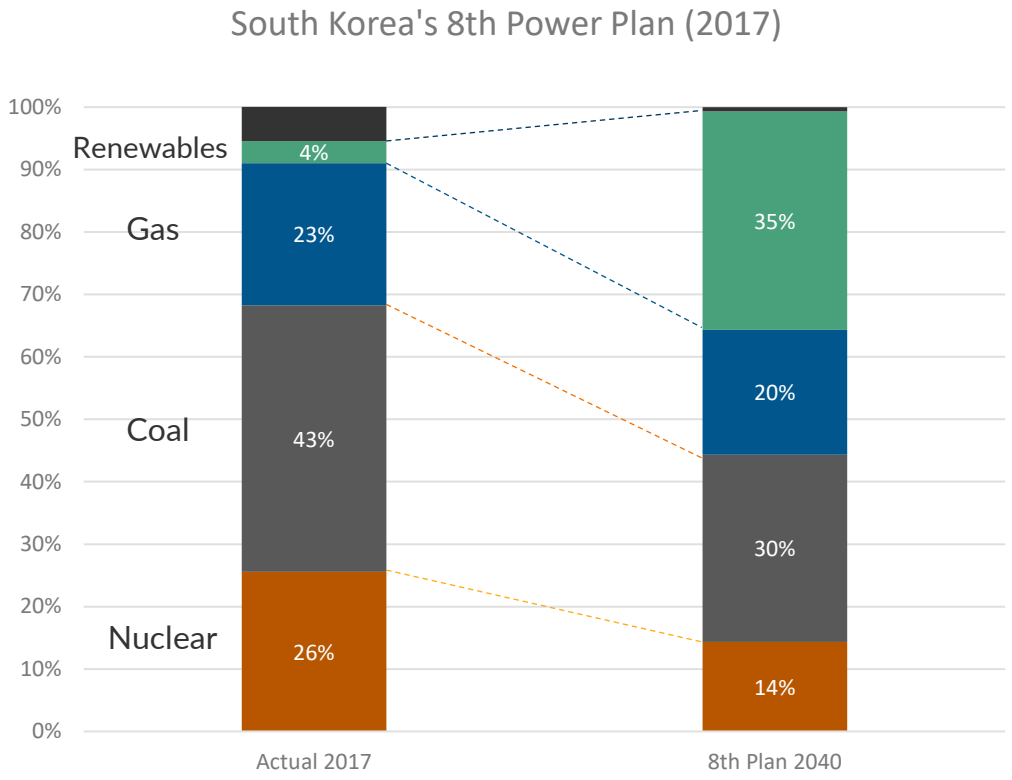


South Korea is Dominated by Nuclear, Gas and Coal



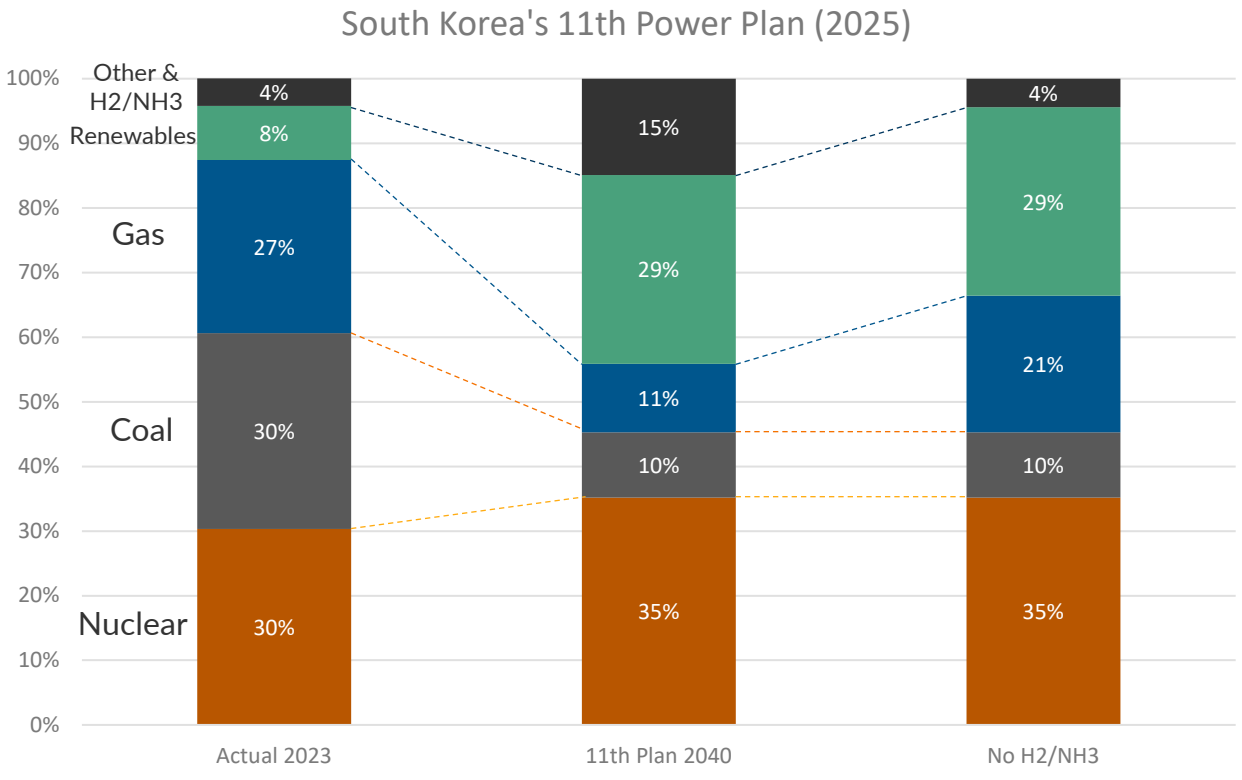
From Nuclear Phaseout to Nuclear Growth

South Korea planned to gradually exit nuclear power in 2017



Replace coal and nuclear with renewables

In 2025, the 11th Plan changed radically



Replace coal and gas with nuclear, H2/NH3 and renewables

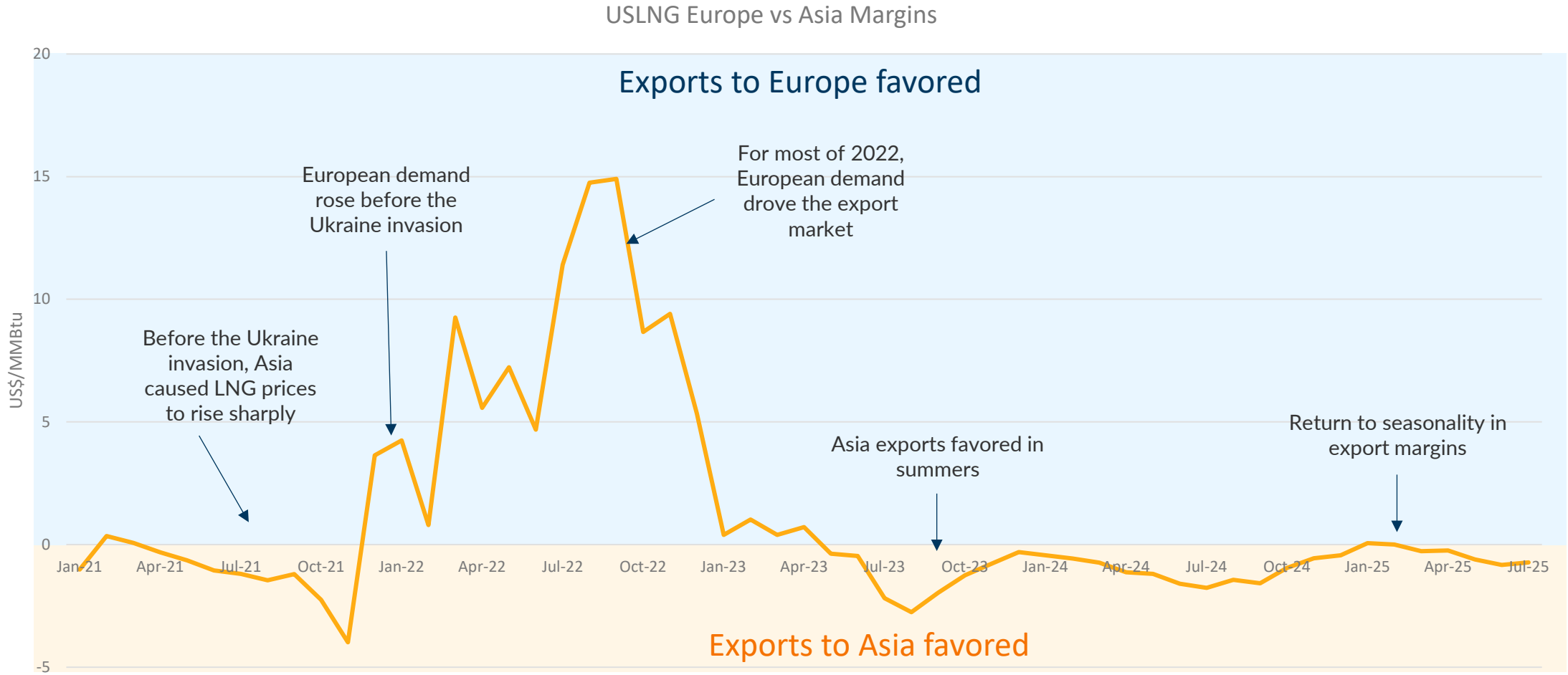
How do you commit to a long-term (20 year) LNG sales contract with energy policy changes?

6 – Why US LNG?

The importance of flexibility

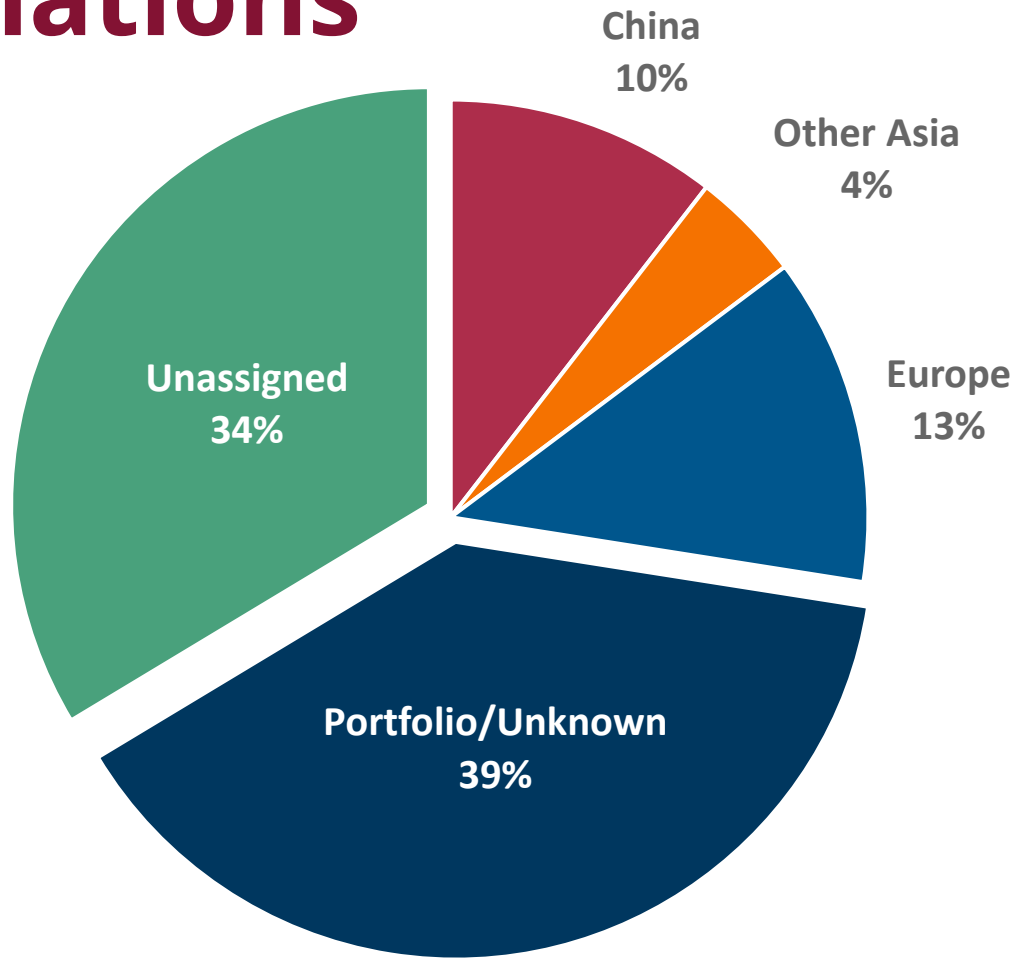
US LNG has benefited as a flexible supply source

US LNG volumes can flow to where they are needed without contractual or delivery constraints



US LNG Contracted Destinations

- US LNG contracts typically are very flexible
- Over 70% of the LNG in new projects is not expected to have a named destination
- Even gas believed to be destined for a certain country has **the flexibility to be diverted** by the buyer if needed
- South Korea would look to US LNG rather than inflexible Qatari supplies to **manage uncertainties in energy policy**



Buyers will choose US LNG to manage uncertain or flexible volumes

7 – Conclusions

In Conclusion

- Pledges to buy US energy as part of trade deals may drive additional projects
- Most of the new projects are expected to supply growing Asian demand
- US LNG has a different seasonality profile to TX and LA demand, and is increasing winter price premiums
- LNG imports give countries the flexibility to adjust for large changes in energy policy
- US LNG is the most flexible source of LNG supply, and thus there is continuing demand for additional US LNG capacity

Questions?

Thank you!