“A new lens”

Timera webinar

Oct 2023

How shifting pricing dynamics are driving LNG portfolio value

TIMERA ENERGY

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‘A new lens’ webinar scope

Agenda

1. **Framework for mapping markets onto value**
2. **Market state of play**
3. **Evolution of pricing dynamics**
4. **Impact on LNG portfolio value**
5. **Q&A (via GoTo messaging)**

Speakers

- David Stokes (Managing Director)

- Olly Spinks (Managing Director)

- David Duncan (Director LNG & Gas)

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Timera introduction

Timera Energy

- Specialist energy consultancy focused on gas, LNG & power markets and asset value
- Leading team of gas & LNG experts with extensive practical commercial experience
- Unique (i) global gas market model & (ii) asset valuation models, widely used to support investment decisions
- We advise many leading global gas & LNG companies

Timera's clients include

Timera LNG & gas services

1. Quarterly Global Gas service

- Dataset & chart book (S&D, price projections, asset value analysis)
- Global Gas Report (data driven analysis & commercial conclusions)
- Talk to the experts ('one on one' workshops)

2. Bespoke LNG & gas consulting services

- Portfolio & asset valuation
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3. LNG Bridge portfolio model

- Licensed stochastic portfolio valuation & optimisation model
- Model implementation & support services
- In-house capability development & interface support

5 key takeaways

Takeaway	Driver	Value impact
1. Crisis not over	• Tight market 2023-25; inelastic S&D at the margin	• Watch asymmetric upside… but prepare for regime shift
2. Regime shift coming	• Regime shift post 2025.. HH influence to strengthen	• Understand HH exposure in portfolio… & interaction with regas strategy
3. Higher volatility	• Higher volatility 2023-25, not to revert to pre-crisis levels after.. Asian demand response key	• Portfolio flex = key value driver & risk mitigant
4. Crude vs gas shift	• Strong oil fundamentals as gas regime shifts	• Large LNG portfolio value at stake from relative oil vs gas move
5. Map market onto value	• Framework required to map market balance → pricing dynamics → portfolio value	• Robust fundamental & portfolio modelling drives value capture & risk management

Framework for mapping markets onto portfolio value

Market drivers

1A. Market state of play

Our analysis of current state of global gas market vs history

1B. Market projection

Our modelling of the evolution of global market supply & demand balance

Pricing drivers

2A. Market flexibility

Our modelling of evolution of global supply & demand flexibility & market regimes

2B. Pricing dynamics

Our analysis of marginal pricing dynamics (e.g. spreads, volatility & correlation)

Portfolio value drivers

3. Value drivers

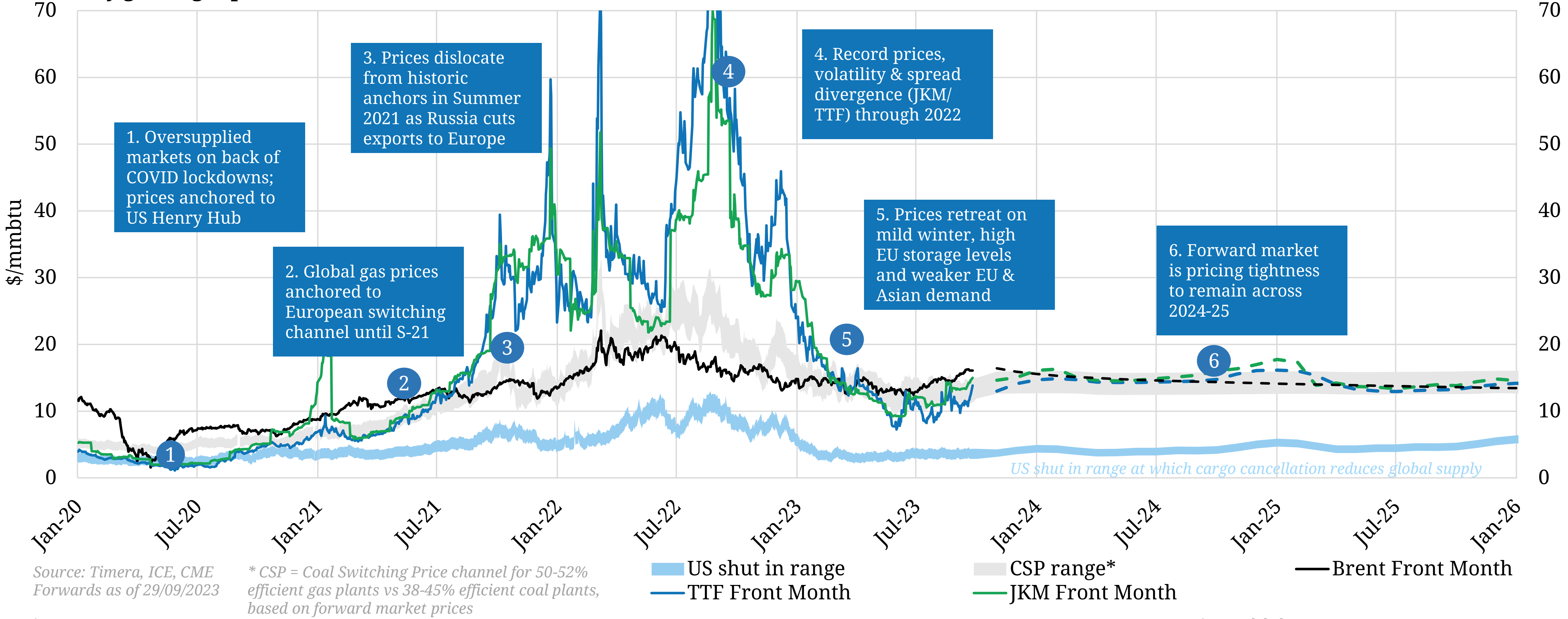
Our analysis of how market drivers act on portfolio exposures to drive value & risk across portfolio components:

- Production
- Liquefaction
- Supply contracts
- Shipping & logistics
- Regas & storage
- Customer sales contracts

The gas crisis is not over

2021-22 represents the most extreme shock in gas market history. The crisis has eased in 2023 but the market remains tight across 2024-25.

Key global gas price benchmarks

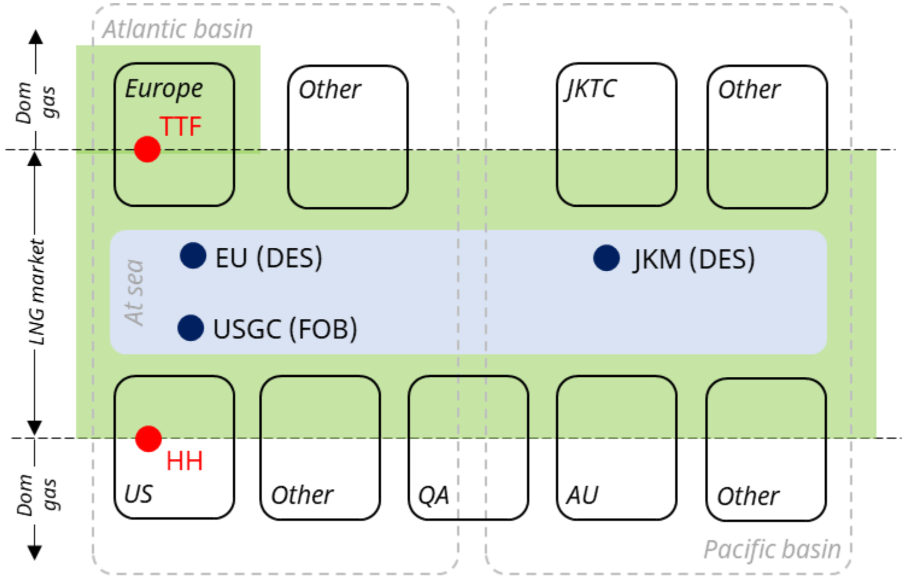


Source: Timera, ICE, CME
Forwards as of 29/09/2023

** CSP = Coal Switching Price channel for 50-52% efficient gas plants vs 38-45% efficient coal plants, based on forward market prices*

Our model is built to analyse uncertainty

What is our model focus?



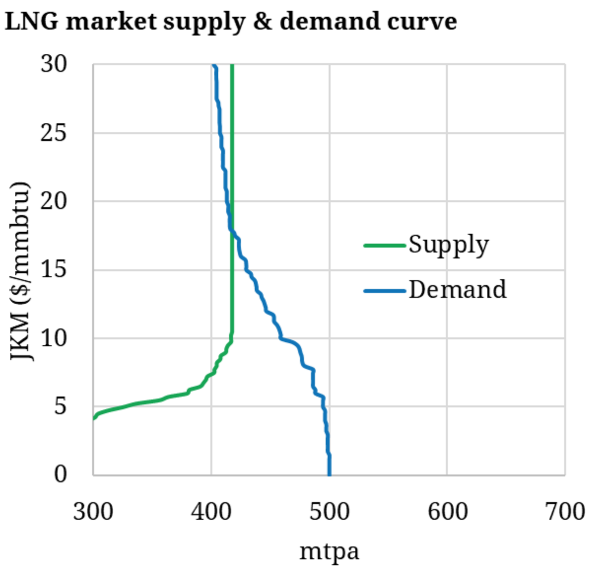
- Focus (i) LNG market & (ii) European gas market
- European gas market key as:
    - i. a provider of flex to the LNG market
    - ii. a driver of pricing dynamics

How do we model market evolution?

1. Global LNG supply
Detailed build up of global liquefaction capacity including price induced cancellation flex

2. Non-European LNG demand (Asia dominant)
Individual country level LNG demand projections & price responsive tranches

3. European gas market supply & demand balance
Domestic, pipeline gas & demand projections & price responsive tranches (power sector focus*)

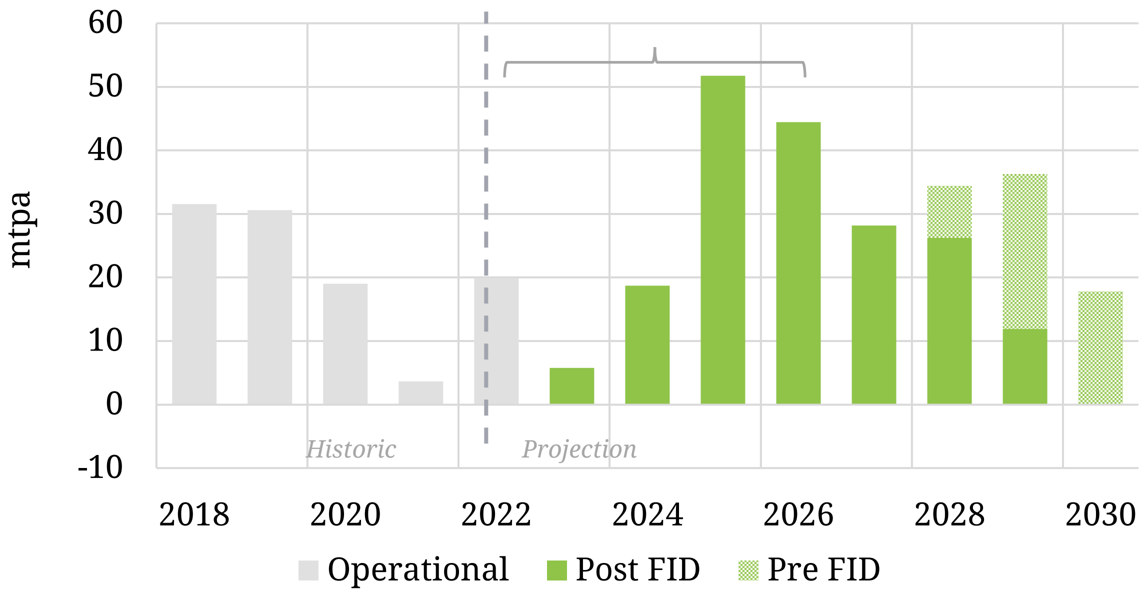


Key output metrics

1. Regional prices projections (hub & illiquid physical points)
2. Regional LNG & European gas balances (including flex optimisation)
3. Marginal cargo flows (between key supply & demand nodes)

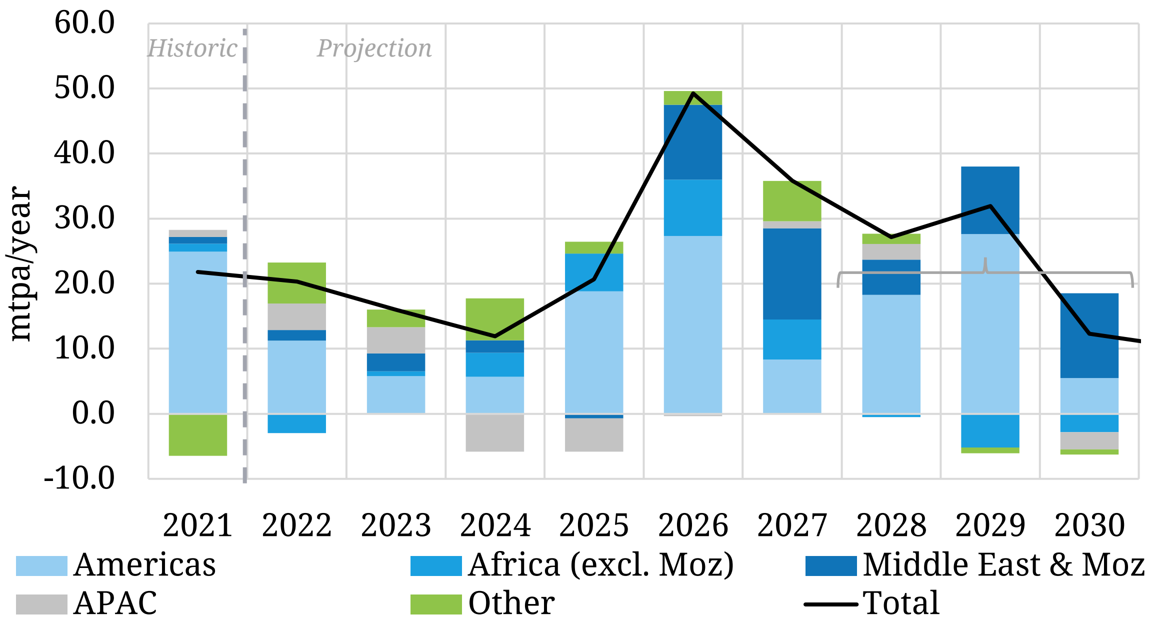
Next wave supply surge to define regime shifts post 2025

Projected global liquefaction capacity growth



Source: Timera Global Gas model

Projected global LNG supply change year on year



Source: Timera Global Gas model, LNG Unlimited

2024-2026: 'Supply constrained'

- Inelastic supply & demand at margin
- Elevated global LNG prices
- High volatility & risk of price spikes

2026-2031: 'Next wave'

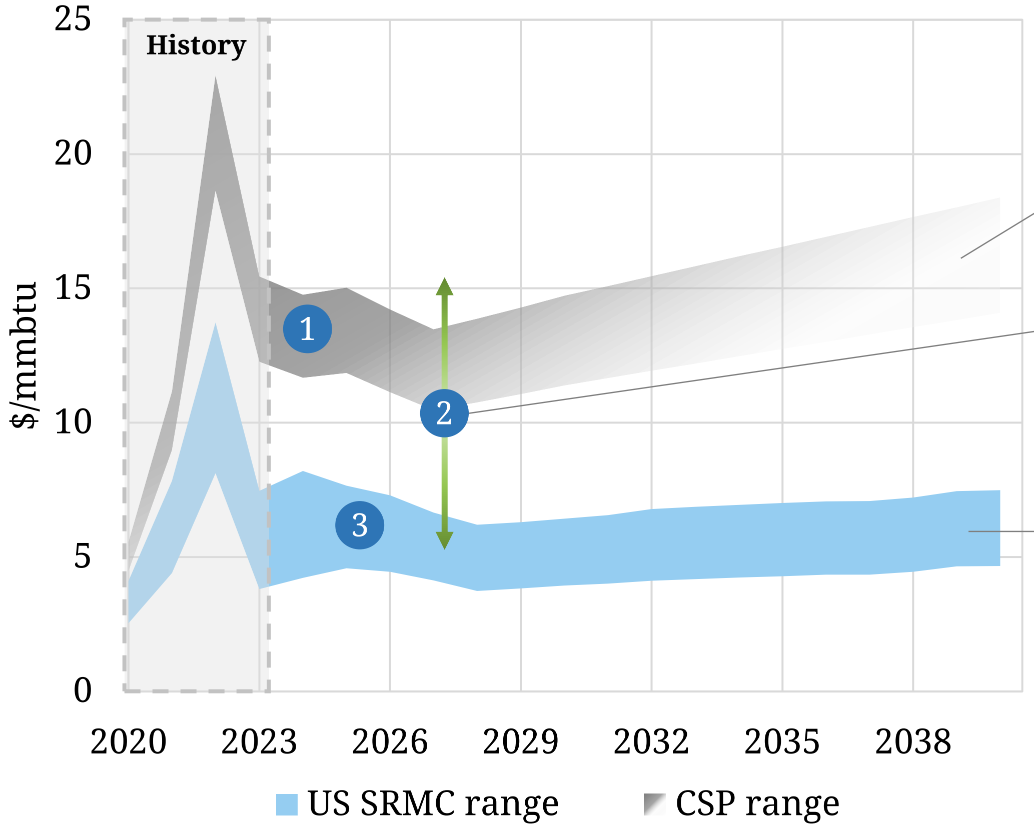
- US SRMC anchors prices & provides floor (JKM / TTF coupled with HH)
- Elasticity at margin dampens volatility

2031+: 'Rebalancing'

- Demand response setting prices
- Proximity to inelastic supply creates asymmetric upside & volatility risk

3 key sources of flex drive pricing dynamics

Key sources of flex that anchor global gas prices



Source: Timera global gas model - prices in real 2023 $

1. European power switching (~20 mtpa)

links gas to coal & CO2 prices; impact diminishes into 2030s as coal closes

2. Asian LNG demand response (50+ mtpa)

key source of flex across all price levels (key post 2030 as 1. declines)

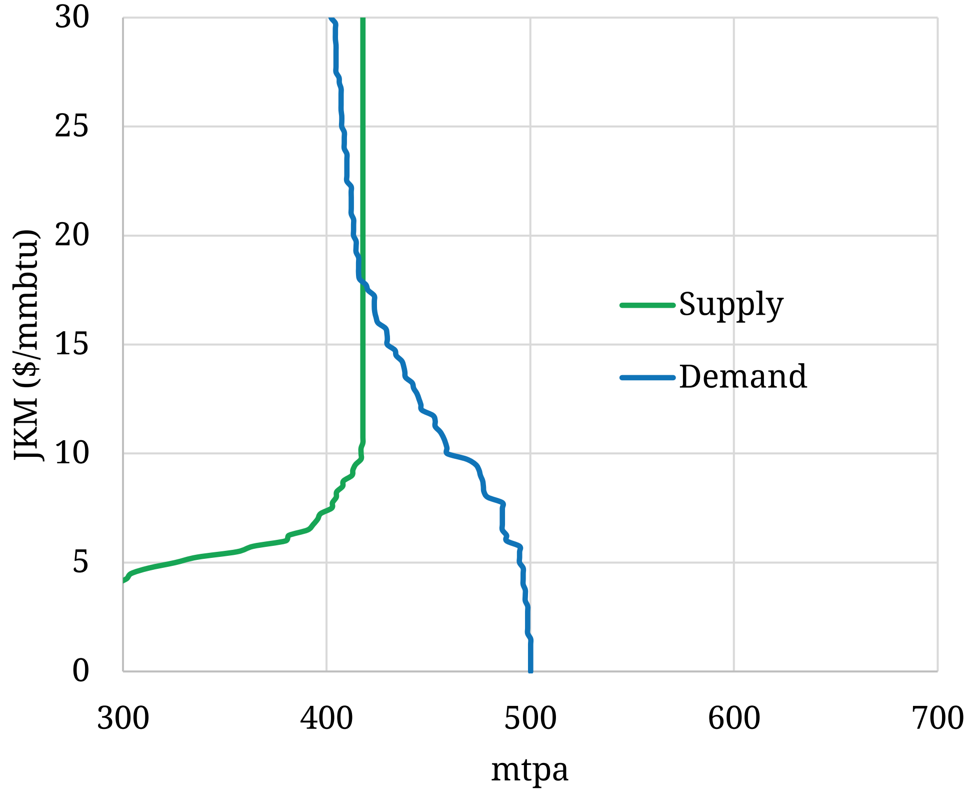
3. US export flexibility (100+ mtpa)

Dynamic export SRMC range driven by HH & shipping costs; provides key global price support

Note: In addition to these 3 key sources of marginal flex, there are other sources that we capture in our model e.g. European industrial & rescom flex & non-US supply flex.

Global S&D curve elasticity drives pricing dynamics

2024 S&D curve



2024-26 'Supply constrained' pricing dynamics

Volatility			Correlation			
JKM	TTF	HH	TTF/ JKM vs HH	JKM vs TTF	TTF/ JKM vs oil	TTF vs Coal / EUA

Inelastic S&D at the margin drives e.g.

- High JKM/TTF volatility
- Low JKM/TTF vs oil correlation as gas price moves dominate crude
- Limited influence of HH

7 key commercial challenges

The next 5 years represent an unprecedented opportunity to build LNG portfolio value as market regimes & pricing dynamics shift.

Business model driven challenges

1. **Cost of capital** – capital costs increasing with rising interest rates & regime shift driven increase in market risk
2. **Business model shift** – growing hub penetration driving increased focus on trading focused business models to capture value & manage risk

Market driven challenges

3. **New supply** - major wave of new supply & innovation in contract structures
4. **Asian demand growth** – key end user growth driving change in sourcing requirements
5. **Regas capacity expansion** – new wave of capacity to shape physical entry into Europe
6. **Henry Hub exposure** – regime shift & US export growth driving strong HH penetration
7. **Gas vs crude exposure** – shift in crude vs gas fundamentals impacting portfolio value & risk

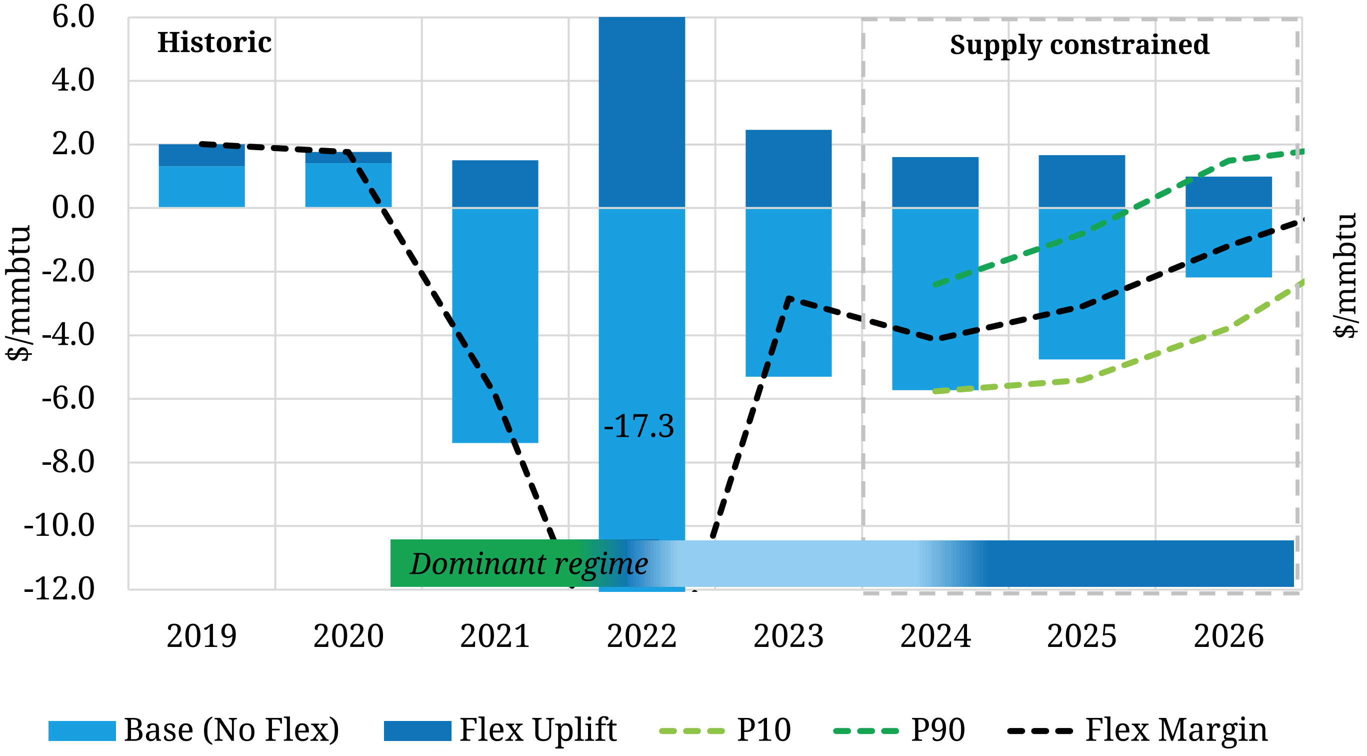
Brent indexed SPA: value evolution

BRIDGE

Case study summary

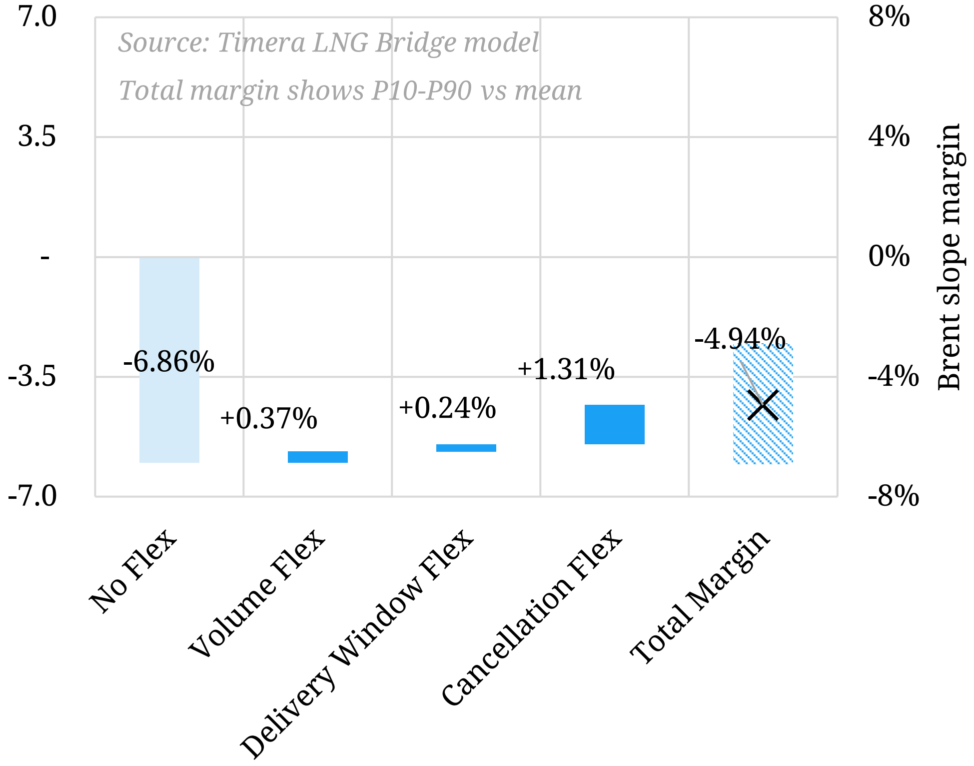
- 12% Brent indexed sale into NE Asia, valued against spot market (JKM indexed). 12 cargoes per year, with 0.4 tbtu volume flex, 1 cargo/yr Sum/Win flex, 2 cargo/yr DQT flex
- Backtest uses outturn Brent & Asian spot prices, projection uses Timera central market scenario
- Analysis uses LNG Bridge portfolio analysis model

Brent SPA value backtest and projection (real)*



Source: Timera LNG Bridge model

2024 mean value breakdown



Q&A

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Contact us to find out more

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