

“Regime Change”

Timera webinar

Nov 2022

*Impact of a new market regime on
LNG portfolio value*



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'Regime Change' webinar scope

Agenda

1. **Market implications**
 - i. Structural shift for Europe
 - ii. Market impact 2022-25
 - iii. Market impact 2025+
2. **Portfolio implications**
 - i. Portfolio construction
 - ii. Value monetisation
 - iii. Portfolio optimisation
 - iv. Risk management
3. **Q&A (via GoTo messaging)**

Speakers

- David Stokes (Managing Director)



- Olly Spinks (Managing Director)



- David Duncan (Director LNG & Gas)



Disclaimer

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About Timera Energy

Specialist energy consultancy

Focus on LNG, gas & power markets

Extensive industry expertise

Practical knowledge from senior industry roles

Pragmatic commercial focus

Covering investment, value monetisation & market analysis

Strong client base

Leading energy companies (e.g. producers, utilities, traders, funds)

Leading industry blog

30,000+ regular readers, publications, conferences

Timera clients include



What does Timera do?

Consulting advice

- Portfolio construction & asset investment analysis
- Valuation of LNG assets/contracts
- M&A and transaction support
- Price modelling & fundamental market analysis
- LNG risk management analysis

Analytical solutions

- Deliver & implement LNG Bridge portfolio valuation model solution
- Support for development of in-house LNG portfolio analytical solutions

Examples of client work

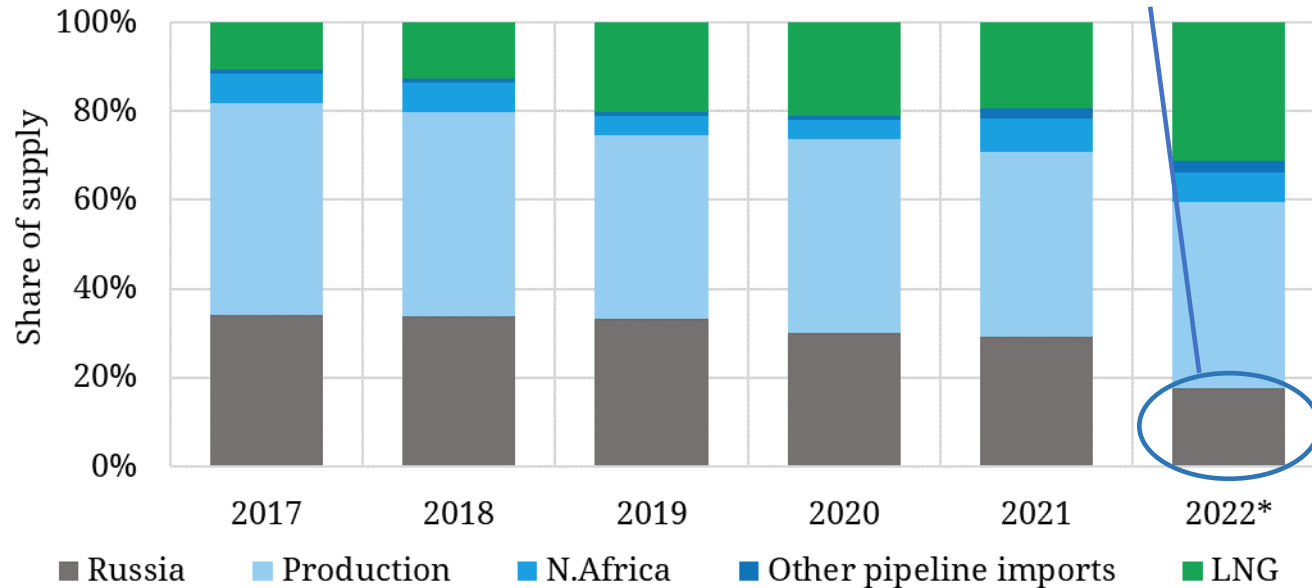
| Project | Client | Project |
|-----------------------------|------------------|--|
| 1. LNG Bridge model | Multiple clients | Implementation of LNG Bridge as in-house portfolio modelling solution for multiple large LNG portfolios |
| 2. Portfolio growth options | Oil major | Analysis of portfolio value/risk impact of new production, sales & regas capacity to support transactions |
| 3. Regas valuation | LNG player | Valuation of regas capacity & send-out optimisation value at key NWE terminal |
| 4. Contract renegotiation | LNG trader | Advice/analysis on restructuring of pricing & volume flex in LT LNG supply contract |
| 5. Centrica transaction | LNG player | Using LNG Bridge model to value individual assets & total portfolio value to support bid for Centrica LNG assets |
| 6. Orsted transaction | LNG trader | Valuation of European supply contracts & regas capacity with LNG Bridge to support bid for Orsted portfolio |
| 7. LNG optimisation | Producer | Developed an ADP horizon portfolio optimisation model for major LNG portfolio player |
| 8. Portfolio strategy | Utility | Developed LNG portfolio construction, risk management & growth strategy with European utility |

Market implications

Europe has pivoted to LNG

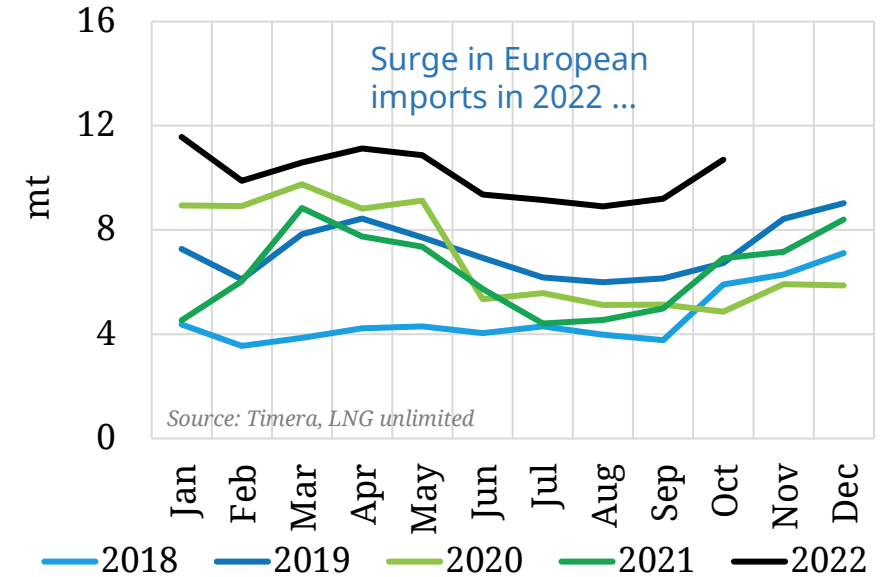
- Pivot from Russia = pivot to LNG
- Demand shock to an already tight LNG market (50 mtpa)
- Transition in Europe's role
 - From a passive and flexible LNG sink
 - To a direct and aggressive competitor

LNG vs Russian gas in European supply mix

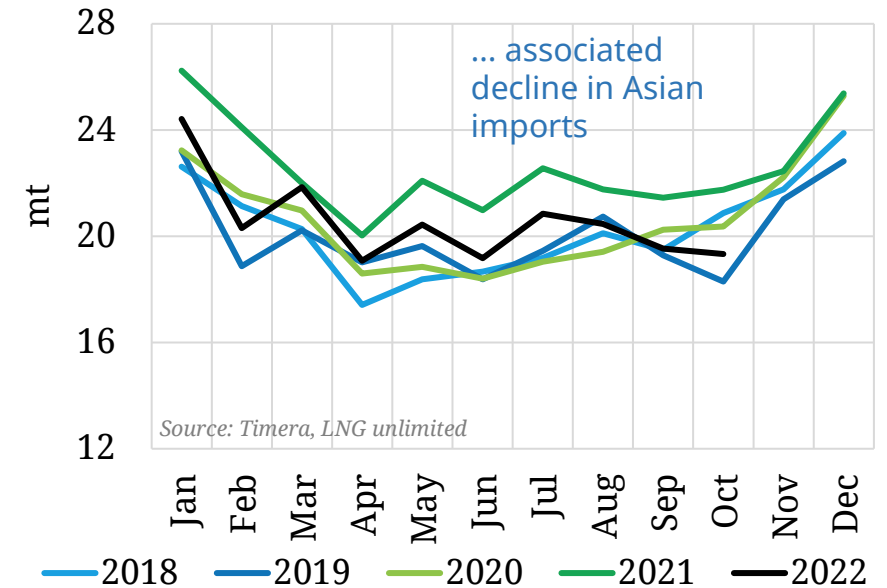


Russian imports down ~40% Jan-Aug 2022, another 50 bcm at risk in 2023

European LNG imports



Asian LNG imports



European flex is inhibited

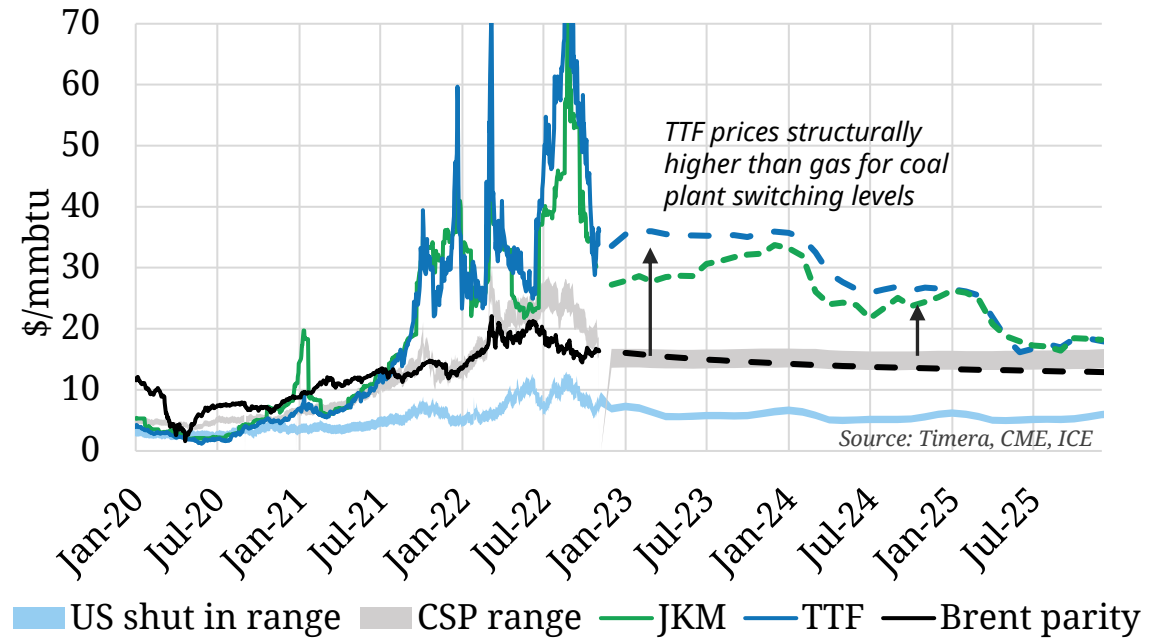
Flex constraints

- Europe historically key provider of LNG mkt balancing flex
- Flex enabled by:
 1. Power sector switching -> switched out
 2. Storage -> mandate constrained
 3. Pipeline flex -> diminished (Russia)

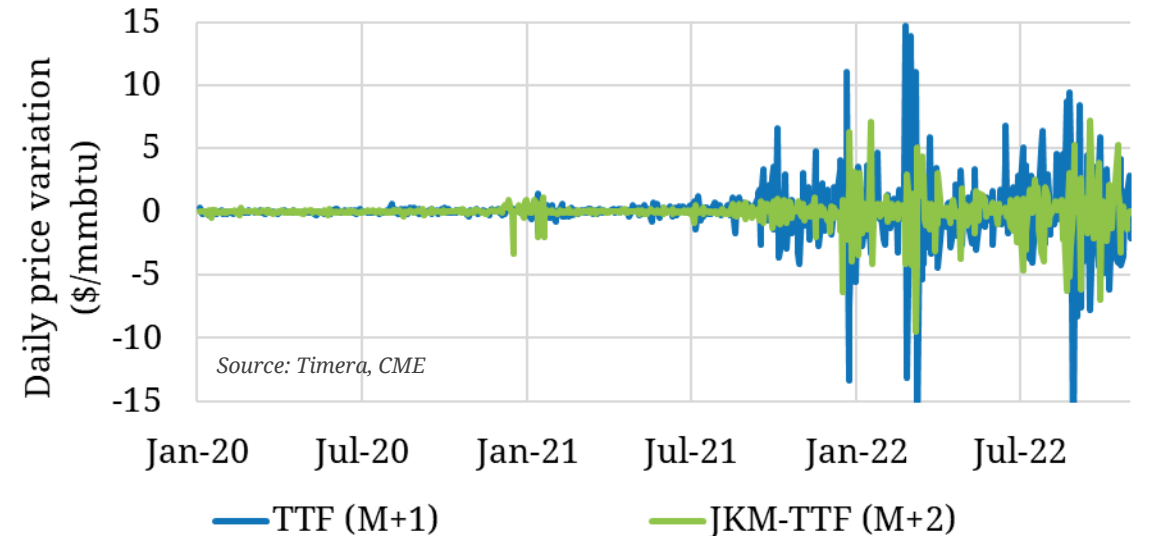
Major pricing impact

- European flex has driven pricing at TTF & JKM
- Now replaced by price insensitive demand response in Europe & Asia ...
 - ... driving up TTF & JKM price volatility (reinforced by collateral issues)
- Changing TTF vs JKM vs Brent price correlations

European power sector switching chart



Daily price changes



LNG market impact 2022 - 2025

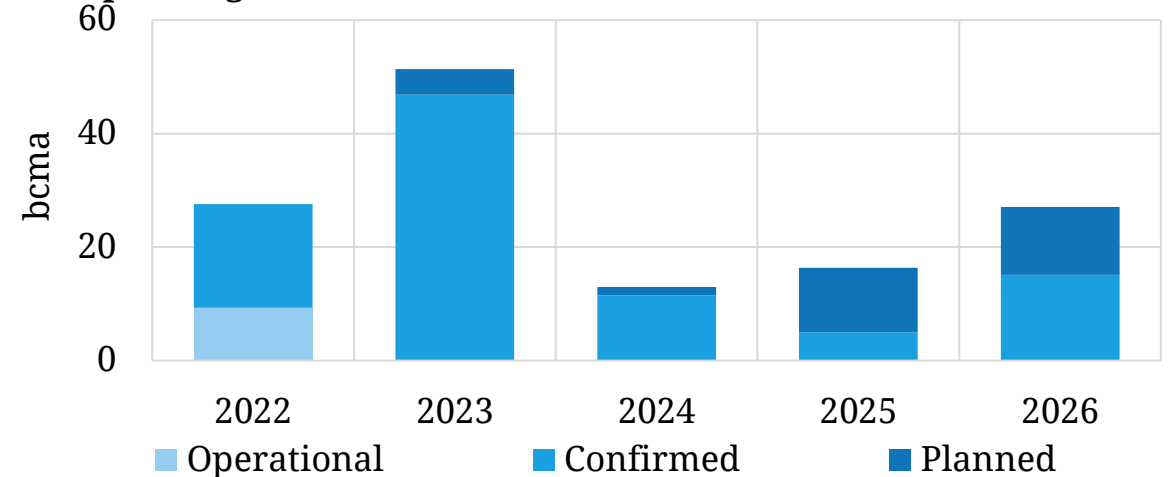
Supply constraints to 2025

- Global LNG supply 'locked in' until at least 2025 (lead times)
- New European regas capacity, but limited new supply 2022-25
- Surging European LNG demand is pushing up an inelastic supply curve
- Supports higher prices & higher volatility

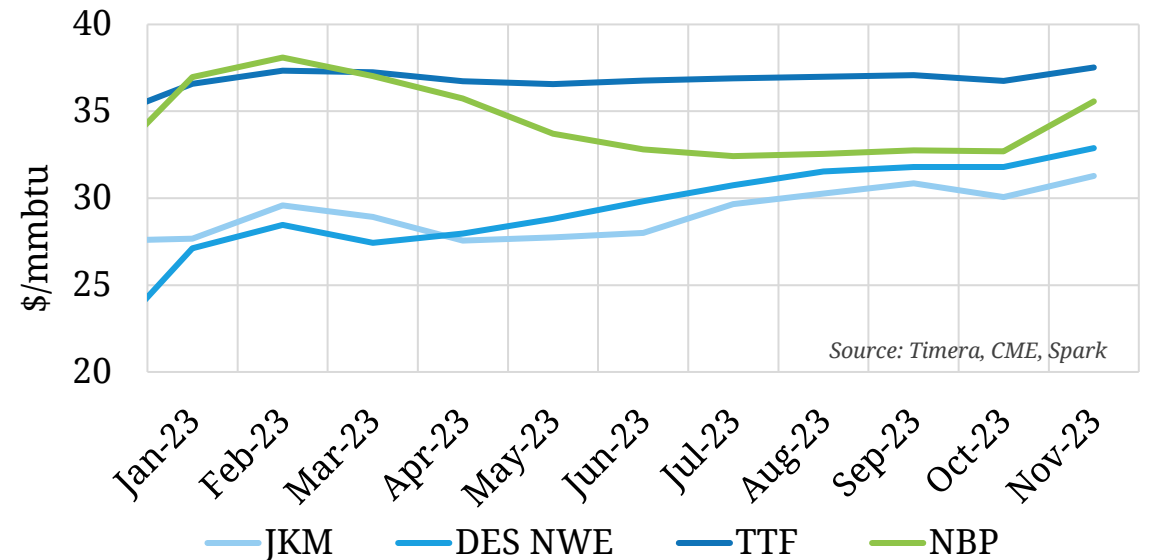
Structural shift in pricing dynamics

- Death of the structural premium of JKM over TTF
- Replaced by more dynamic JKM vs TTF pricing to balance the two basins
- Rising basis risk e.g. DES NWE vs TTF (regas constraints) & intra-European hub price spreads (flow shift West to East)
- These factors create challenges but also substantial value creation opportunities

European regas additions (FSRU and fixed)



Forward LNG & gas hub prices



Source: Timera, CME, Spark

LNG market impact 2025+

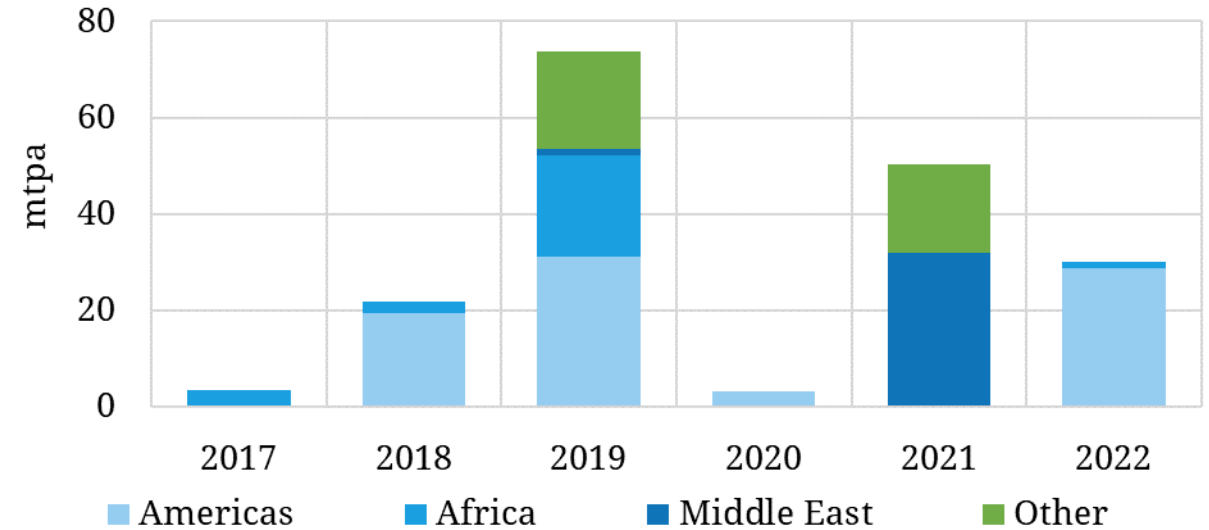
Rebalancing from 2025

- New supply wave kicks in from 2025
- 81 mtpa of new supply FID'd across 2021-22 (crisis response)
- Focus on US & Qatari volumes
- Triggering a wave of new LNG contracting

Risk of overshoot in later 2020s?

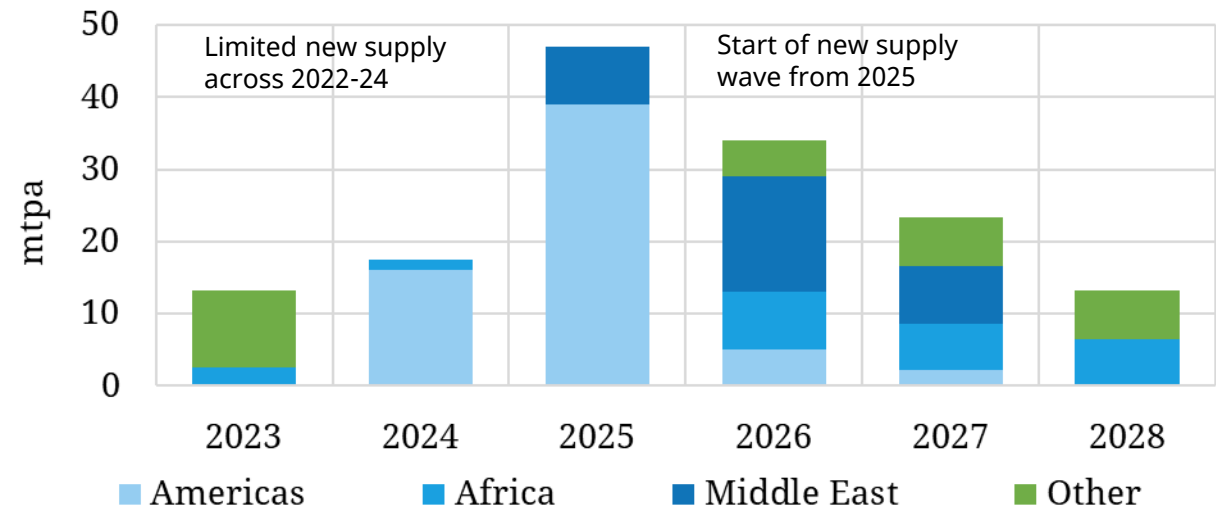
- Russian volumes may 'leak' into market e.g. via LNG or regime change
- Crisis is (i) destroying demand in Asia (ii) accelerating decarbonisation in Europe
- Risk of further regime change(s) this decade
- Market uncertainty a key consideration in portfolio construction & contracting strategy

New LNG supply volumes taking FID



Source: Timera

Post-FID supply



Source: Timera

Regime shift: 5 key takeaways

| Takeaway | Driver | Impact |
|--------------------------|--|---|
| 1. Europe driving market | Europe aggressively competing with Asia for constrained supply until at least 2025 | Global prices set to remain elevated 2022-25 |
| 2. Flex inhibited | High prices & policy mandates acting to materially inhibit European flex provision | Demand response replaces European flex as key driver of marginal prices |
| 3. Price volatility | Reduced market flexibility & major collateral/liquidity constraints | Structurally higher price volatility & shifting correlations |
| 4. Tight market 2022-25 | New regas capacity but limited new supply | New regime market conditions drive value & risk; liquidity & collateral challenges remain |
| 5. Risks increase 2025+ | Demand uncertainty & supply response increase uncertainty 2025+ (further regime change?) | Portfolio construction & contracting strategies key for value creation & risk management |

Portfolio implications

Deconstructing portfolio impact

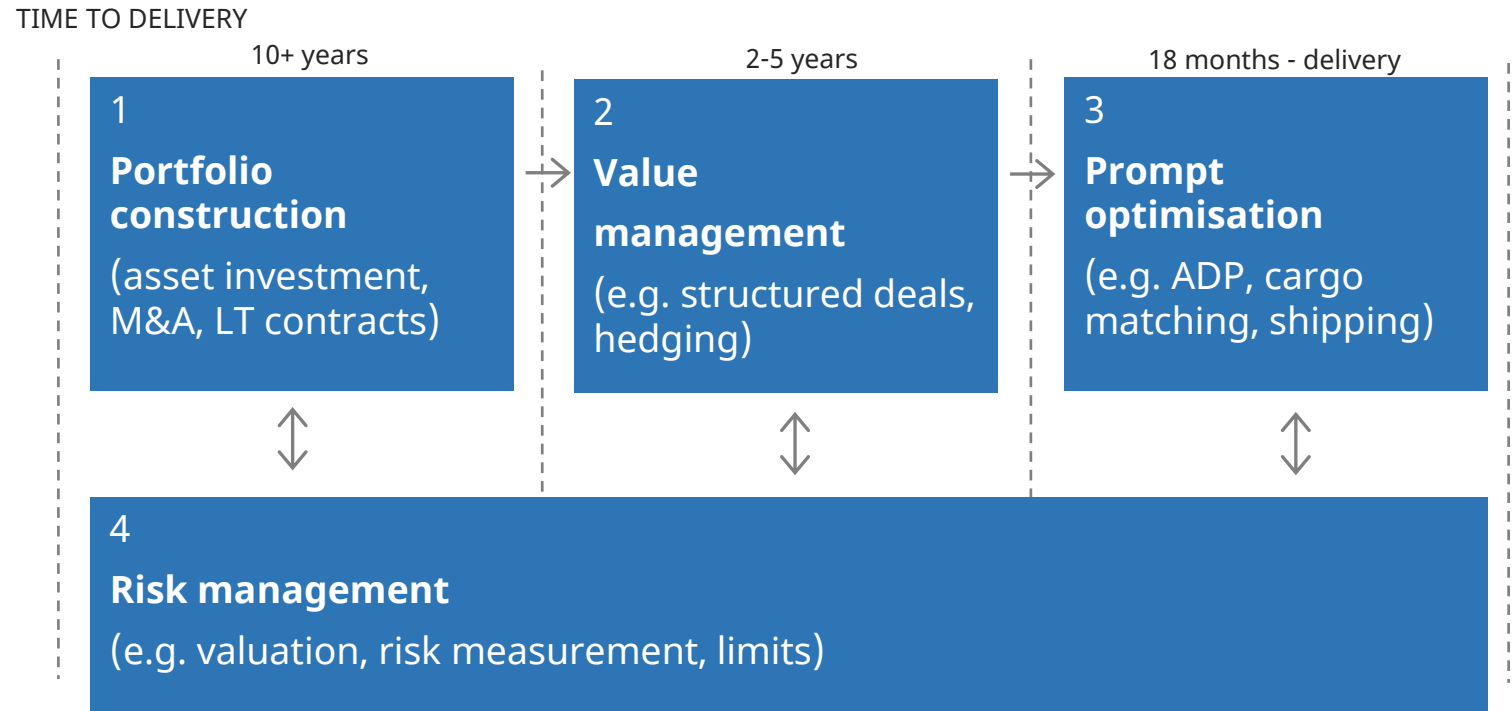
Mapping down the impact

- Impact of new regime to be felt across both commercial and risk teams.

Illustration via case study

- Impact on 4 activities illustrated via a practical portfolio case studies.
- Case study analysis is conducted in our [LNG Bridge](#) stochastic portfolio valuation analysis model.

Four key LNG portfolio management activities



Case study portfolio

Portfolio summary

- Base portfolio defined and set-up in LNG Bridge

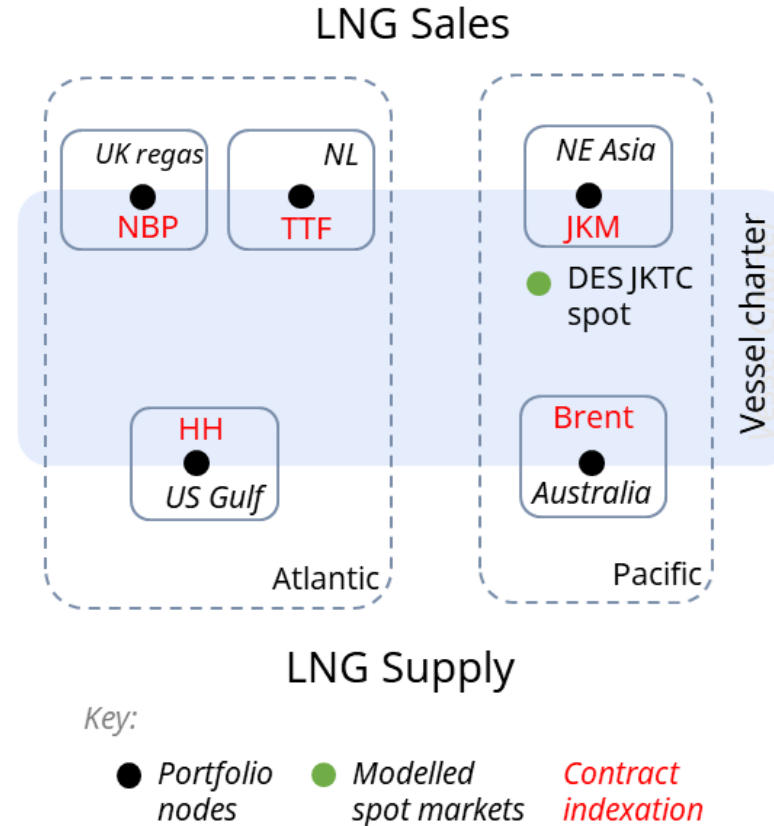
Four case studies

1. Portfolio construction: New regime value / risk impact
2. Value Management: Portfolio value of new regas
3. Prompt Opt: Price driven physical (re)optimisation
4. Risk Management: Managing risk via hedging

Portfolio observations

- Portfolio net long both LNG & flexibility
- Structural basis exposures (physical & indexation)

Case study base portfolio



Volume summary

| Node | mtpa |
|---------------|------|
| Supply | |
| US toll | 1.3 |
| Australia | 0.8 |
| Sales | |
| NE Asia SPA | 1.4 |
| NL SPA | 0.6 |
| UK regas | 0.6 |

Shipping: 2 term time charters + access to spot charter market

1. Portfolio construction

Regime shift sharpens focus on portfolio strategy

- Triggering major LNG strategic reviews
- Focus areas: new regime impact on portfolio value... growth opportunities & risks ... European exposures a big focus.

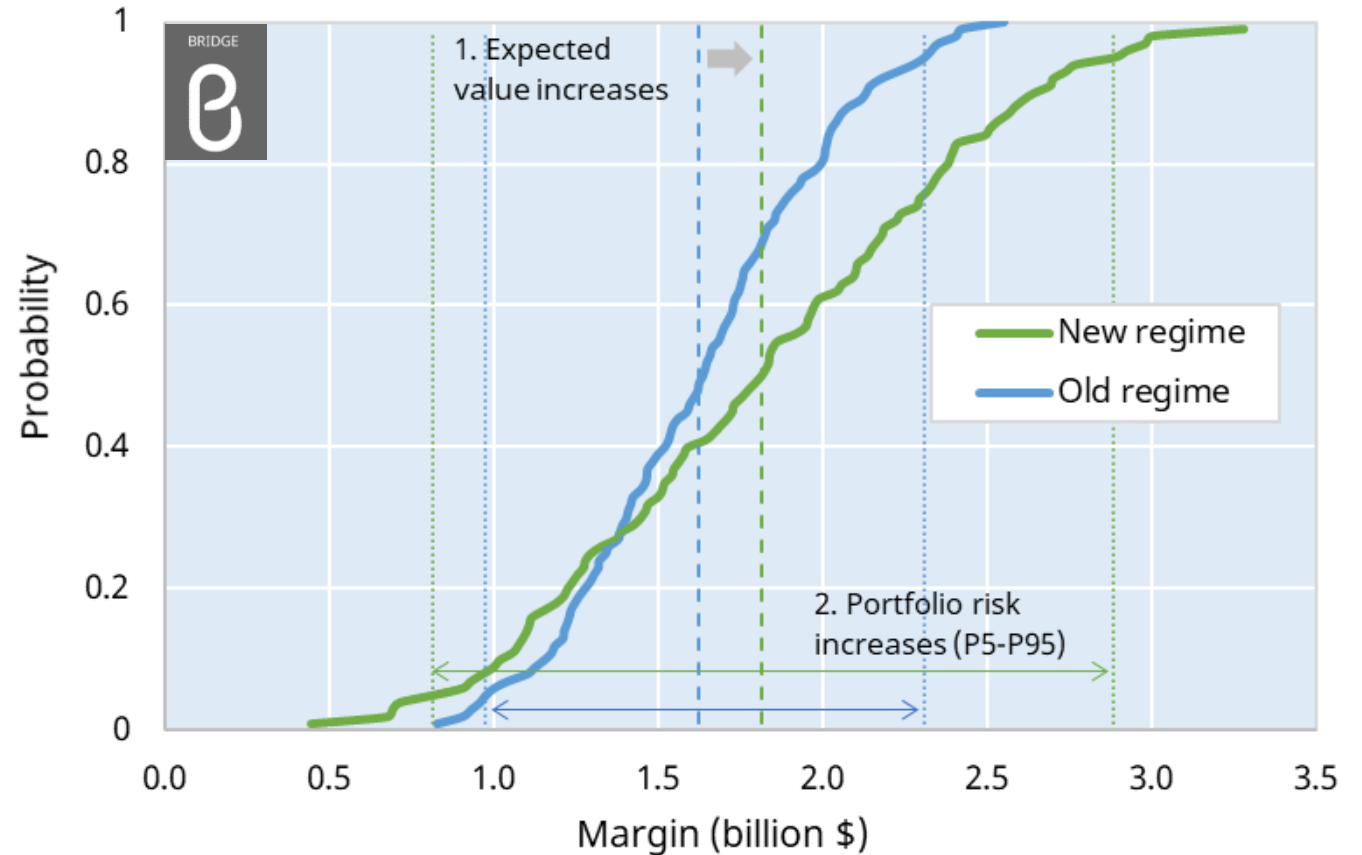
3 key challenges: molecules, capacity & pricing

1. Molecules: investment & sourcing supply, traders “bridging gap”, Chinese buying
2. Capacity: access to Euro regas & shipping
3. Pricing: transition in pricing & products e.g. Brent to Henry Hub

Case study 1: key takeaways

- Portfolio optimisation vital when liquidity dries
- Value accretive if long commodity &/or flex
- Substantial increase in risk for most portfolios ... rise in demand / pricing for flex

Portfolio value distributions (“S-Curves”)



2. Value management

Market driving more active exposure management

- Challenges: high prices & vol ... basis changes ... poor market liquidity ... (collateral & funding constraints)
- Requiring: dynamic management of portfolio exposures
- Impacts: shift in portfolio value ... capability investment

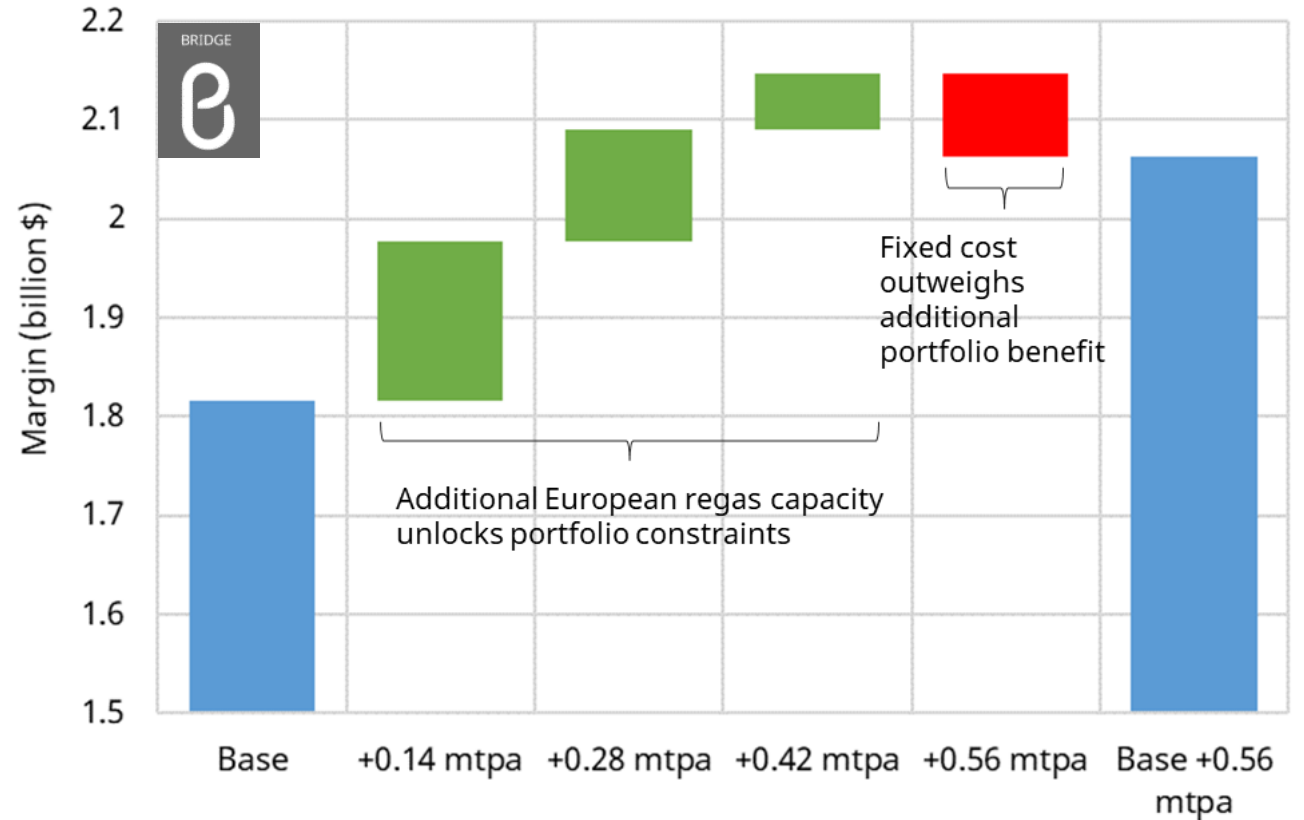
New regime creating opportunities now

- Surge in interest to acquire portfolio flex
- Shifting value of bought & sold contract flex terms e.g. exercising to intrinsic value if not “at the money”, diversion flex crucial
- Market innovation ... response to acute market stress
- Price re-openers, flex negotiation key

Case study 2 key takeaways

- European regas unlocks diversion constraints
- European access needs to be sized to the wider portfolio... given fixed cost recovery requirement

Incremental value of adding regas to portfolio



3. Prompt optimisation

New regime optimisation challenges

- Challenges: more dynamic flow, pricing, liquidity & collateral
- Requiring: focus on within portfolio flex ... dynamic optimisation & exposure management
- Impacts: growth in cargo & TC liquidity & hedging products

Identify, prioritise & implement trades

- Need to define trades that can realistically be actioned
- Execution issues can substantially reduce value
- Investment in capability & market access required

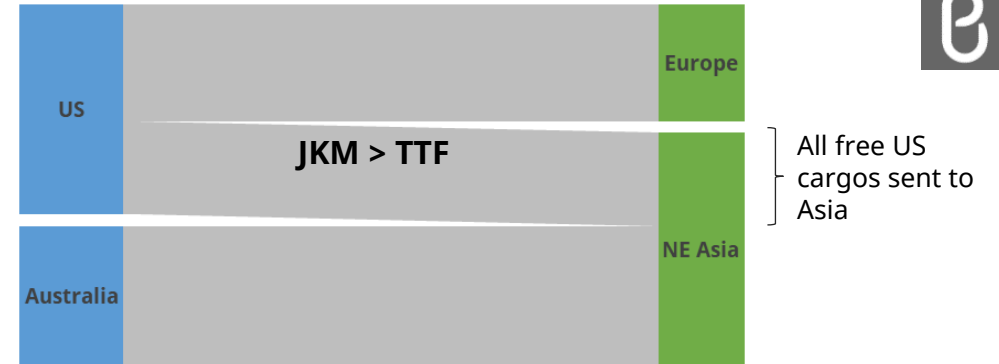
Case study 2 key takeaways

- Small Δ price ... magnified re-optimisation potential
- Impact of market access constraints (e.g. collateral) ... focus on within portfolio flex
- Importance of LNG to replace lost market flex (diversions, floating storage)

Base & reoptimized schedule (from JKM / TTF spread inversion)

Base schedule

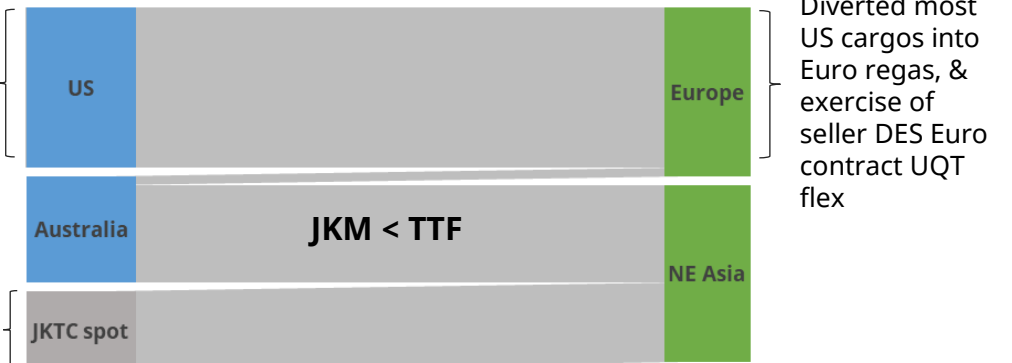
Based on optimal LNG Bridge intrinsic schedule



Reoptimized schedule

Less shipping required due to shorter voyage times (impacts spot charter activity)

Backfilled NE Asia contract via spot market



4. Risk management

Risk management covers measurement and mitigation

- Challenges: increase in portfolio risk ... driving up risk capital & funding requirements
- Requiring: dynamic risk measurement of portfolio ... review of 'at risk' metrics (VaR vs EaR)... assess blindspots
- Impact: risk governance & measurement ... risk capital

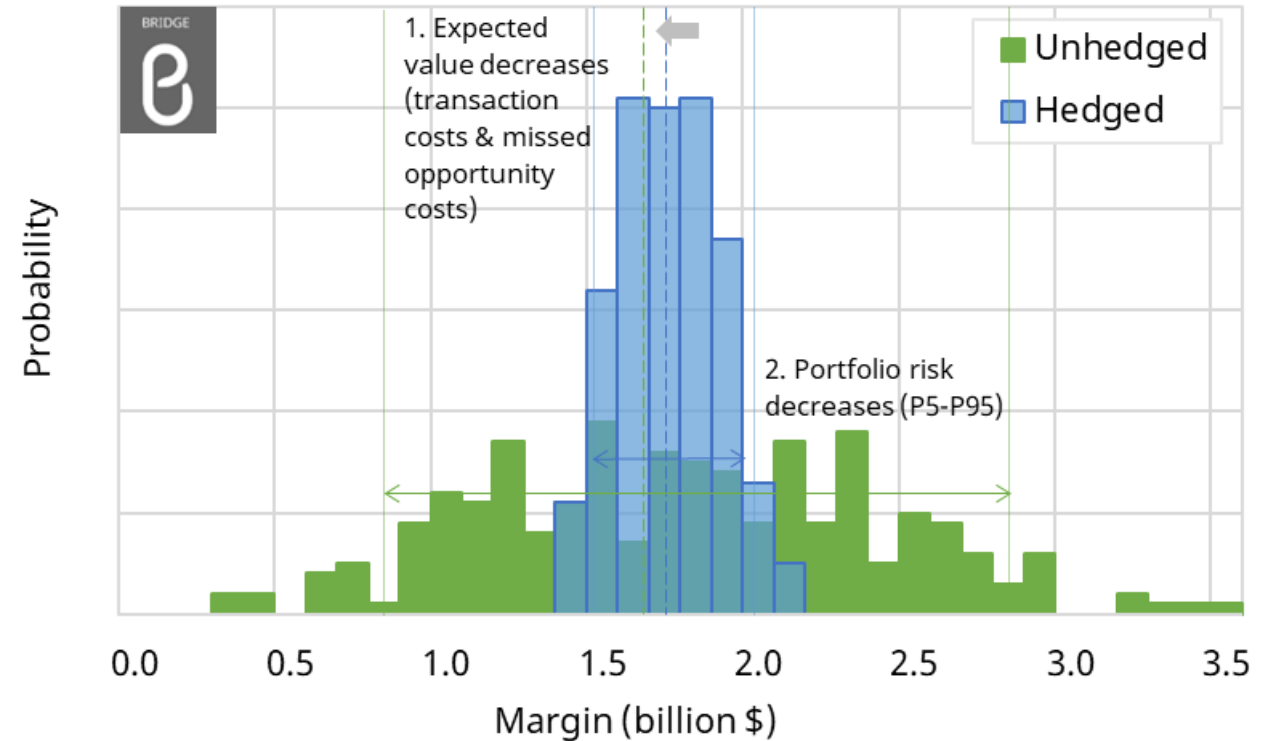
Acute collateral & funding constraints

- Market risk being overtaken (for now) by credit risk
- Credit support constraining ability to hedge exposures ... major implications for balance sheet & capital management

Case study 2 key takeaways

- Significantly reduced portfolio risk vs lower value
- Benefits of hedging constrained by / weighed against collateral requirements

Unhedged vs hedged portfolio value distributions



5 key takeaways

| Takeaway | Description |
|---------------------------|--|
| 1. Game changer | <ul style="list-style-type: none">• New market regime causing seismic shifts in LNG portfolio value... creating opportunities & risks |
| 2. Portfolio construction | <ul style="list-style-type: none">• Market transition in 2022 is triggering major strategic reviews across LNG companies• Conditions rich with opportunities to deploy capital, acquire/invest in assets and aggregate players• As important as capturing value from the current regime is being prepared for the next one (e.g. Chinese SPA activity) |
| 3. Value management | <ul style="list-style-type: none">• High prices & volatility drive importance of dynamic management of interdependent exposures• Within portfolio value capture key (high margins vs poor liquidity), benefits to large incumbants• Price signals driving relative values of flex (e.g. towards diversion flex, away from US cancellations etc) |
| 4. Prompt optimisation | <ul style="list-style-type: none">• Higher proportion of value monetised via optimisation within year (+ liquidity / logistical constraints) |
| 5. Risk management | <ul style="list-style-type: none">• New regime = step change in portfolio risk; credit/collateral issues require active management• Capabilities drive advantage |

Q&A

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