



LNG pricing – all change!

Changes in LNG pricing - with sellers under pressure, and buyers gaining power and what it could mean for Asia is assessed in this contributed feature from **Nicholas Fulford and Ryan Pereira of GCA.**

MANY ASIAN GAS and LNG buyers are going through – or at least contemplating – market reforms that, from a pricing and contractual perspective, will start to erode the old way of doing things.

Japan’s energy market reform is well under way. There has been a shift in gas purchases by major utility companies recently because they have successfully captured power customers from their competitors.

In Thailand, detailed market reforms are being evaluated by the country’s Energy Regulatory Committee, although it has yet to decide on how they will be implemented.

Vietnam has published a policy goal to enable gas market prices to be set through competition.

In Indonesia and Malaysia, the reform process is well under way.

China has established a competitive mechanism for setting gas prices and has put arrangements in place for third-party access to LNG terminals – although many market players prefer to build their own facilities. These steps will begin to establish market-based prices that will respond to wholesale supply and demand. In terms of China’s contracted supply, there is the potential for take-or-pay contracts to come under pressure as supply runs the risk of exceeding demand.

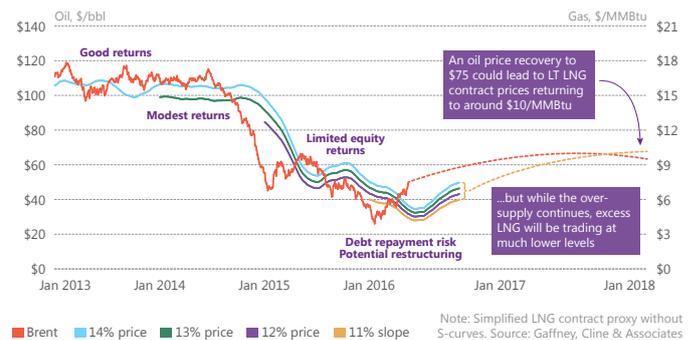
GAS PRICING

LNG prices are responding to a variety of pressures. Currently, most Asian LNG prices more or less follow oil with a lag of about five months and a price slope that, in recent years, has usually been something close to 14%. However, this slope has been easing over the past few years, with some contracts now being signed with a slope coefficient closer to 11%. Setting aside S-curves and other more complex pricing mechanisms, the fall in the global oil price has led to a similar significant drop in

the global LNG price.

Given the recent uptick in oil prices, there will be some improvement for oil-indexed contracts by the autumn, although we do not yet know if this trend will be maintained.

CRUDE OIL AND LNG PRICE CURVES



Taking an optimistic view from a producer’s perspective, if oil prices recover to around \$75 per barrel over the next few years, gas and LNG prices will recover to somewhere in the region of \$10/MMBtu. This would still be well short of the highs of a few years ago, but potentially just enough to stimulate some of the lowest-cost new supplies. However, even this price range is beyond many of today’s proposed greenfield LNG projects without substantial restructuring/re-engineering and cost savings in the order of 30-40%.

Beyond oil-indexed contracts, short-term pricing could fall nearer to the short-run marginal cost of LNG production and freight, which could be in the \$3-4/MMBtu range for many projects.

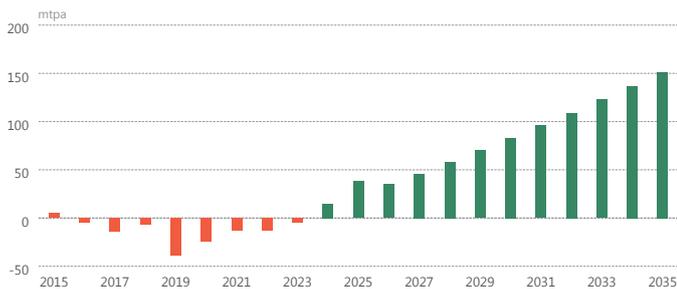
The question, therefore, is with oil-indexed pricing potentially on the increase, short-term spot pricing moving downwards,

and buyers increasingly making substantial savings by turning back take-or-pay volumes in favour of spot purchases, how long will this kind of two-tier market be sustained?

SUPPLY AND DEMAND

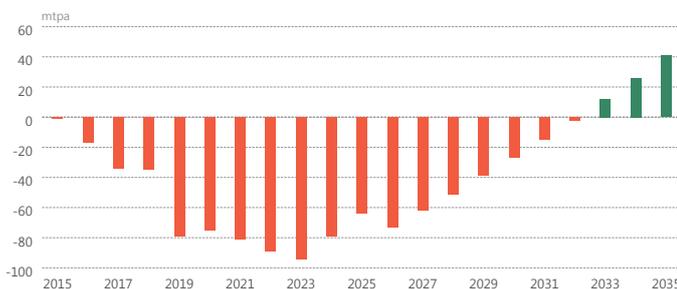
Based on the Gaffney, Cline & Associates database of global LNG projects, it certainly seems likely that some degree of oversupply will continue for the next few years, although one of the biggest variables is the extent to which cheap gas will attract demand away from other fuels.

LNG SUPPLY DEMAND BALANCE: PROMPT MARKET ALIGNMENT



Source: Gaffney, Cline & Associates

LNG SUPPLY DEMAND BALANCE: SLOW MARKET ALIGNMENT



Source: Gaffney, Cline & Associates

In the worst-case scenario – where many of the LNG projects that have received regulatory approval are built on schedule and where there is no material increase in demand – there could be a very long period of oversupply.

HOW MUCH DO YOU WANT TO PAY FOR YOUR LNG CARGO?

All of this talk of price is somewhat theoretical, so let’s put it into context with a real and present example.

Buyers are confronted every day with a situation in which they have to choose between two ships. The ships are both the same size – typical 160,000 cubic metre vessels, a volume that equates to about 113 million cubic metres of gas when vaporized.

Ship 1 carries a cargo with an oil-linked price that the buyer has committed to under a firm take-or-pay arrangement. Meanwhile, Ship 2 is carrying LNG that no one has contracted to purchase, but nevertheless represents much-needed revenue for the liquefaction plant and resource owners to pay their lenders and shareholders. Their plan becomes one of taking the highest price offered by anyone who can take the cargo.

At an oil price of about \$60/bbl, the price of the gas on Ship 1 would be in the region of \$36 million. Using current spot prices as a guide, the price of the gas on Ship 2 would be approximately \$18 million – literally a half-price cargo. Although

most LNG buyers realise that long-term commitments are a necessary feature of the market, these numbers start to create real tension.

THE LNG CARGO DILEMMA FOR BUYERS



LNG Ship 1

- Delivered under LT ToP
- Oil-indexed pricing
- Buyer obliged to purchase

Approx. \$36 million



LNG Ship 2

- Available on spot market for delivery anywhere
- Price negotiable, market

Approx. \$18 million

REVIEW? ACCOMMODATE? DISPUTE?

Financial pressures on sellers and buyers mean that a two tier market is not sustainable in the long run
*Based on a 160,000 mcm carrier at an oil price of about \$60/bbl and June 2016 spot price

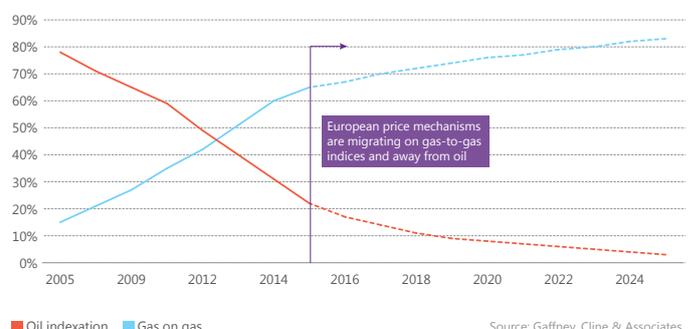
For high-volume buyers – which might be taking a delivery every week – the annual difference between taking LNG from the spot market as opposed to using their take-or-pay portfolio is immense. So what kind of behaviour will these major price dislocations create? History tells us that three routes are available for buyers:

1. **Renegotiation:** if the supply contract has a review clause or similar mechanism, buyers and sellers can renegotiate based on an agreed procedure.
2. **Accommodation:** in circumstances where the buyer’s financial future is under threat, sellers may choose not to exercise their contractual take-or-pay rights in full.
3. **Litigation:** if the strains created by a fixed contract price that has departed too far from market prices become too great, a major breakdown in relationships and litigation may result.

HOW LONG CAN OIL INDEXATION SURVIVE?

Lessons for the emerging global gas business can be taken from history – for example, by taking a look at how pricing indexation has changed in Europe over the past decade.

EUROPEAN MIGRATION TOWARDS “GAS ON GAS” PRICING



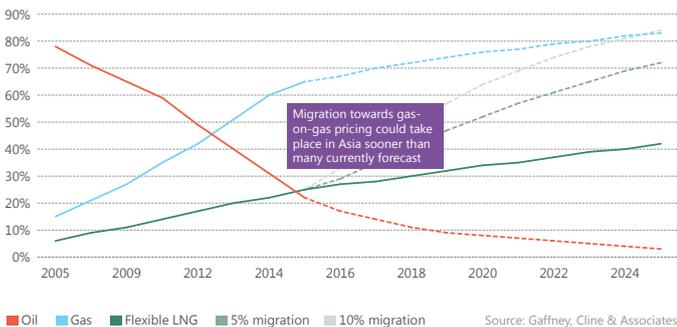
Source: Gaffney, Cline & Associates

As a result of similar pressures between a gas market that responds to oil and one where prices are set by the normal rules of supply and demand – the latter case being one that applies to the vast majority of gas transactions in Europe – oil pricing has gradually but quite decisively been replaced by gas-on-gas competition (for which you can read the NBP and

the TTF). Although this process is still in transition, it is possible to extrapolate how it might continue, with a dominant – but perhaps not exclusive – move to gas-on-gas indexation.

How might gas indexation proliferate in Asia? Using the portion of flexible LNG – that is, LNG not committed to a particular trade, especially as a result of new or rolled-over contracts – as a kind of proxy, the shift will be quite gradual unless the situation changes. By 2025, over of half the LNG in the region will still be sold on a legacy basis.

MIGRATION TOWARDS “GAS ON GAS” PRICING



If these same factors provide an impetus for price renegotiation, we can speculate that, in each year between now and 2025 – in addition to the flexible LNG – a portion of oil-indexed gas will face pressure to switch. *Result: Migration towards “gas on gas” pricing* shows what would happen if 10%, or even 5%, of the remaining oil-indexed LNG moves to gas-based indexation each year. With this additional migration, the outlook looks very different, and by 2025 Asia would be starting to track towards Europe in terms of gas-on-gas pricing.

If Europe is to be our guide, much of this change would be as a result of buyers and sellers accepting that it is in everyone’s interest to abandon oil and move towards a mechanism that is more representative of the gas market – whether by means of renegotiations, price review discussions or arbitration.

CONCLUSIONS

- An oversupply of LNG is already affecting Asian gas markets, especially with regards to short-term pricing.
- Some of the largest and most significant gas markets are contemplating some kind of reform or unbundling, which

could accelerate the price discovery process.

- Oil price volatility continues to create havoc with gas pricing and market stability.

Based on UK and Continental European history, we can expect four things to feature in the next few years.

1. A process of price discovery will gather momentum. Prices will be bound by a short- and long-term marginal cost, trending towards the cash cost of production in the shorter term.
2. Led by flexible LNG supplies, there is likely to be a migration towards pricing terms based on gas-on-gas competition, and oil indexation will decline as a result.
3. As this process gets under way, hubs will emerge and will have to be supported with exchange-traded contracts to help build momentum and enough dependability for lenders and others to have the confidence to finance projects based on hub pricing.
4. With a broadening range of competing supplies, customer pressure to access lower-cost energy, and government policy support, change will come much more quickly than many market participants might expect. And history tells us even large companies can get into serious financial difficulties.

Gaffney, Cline & Associates (GCA) provides both broad-based and detailed technical, commercial and strategic advice to clients across the upstream, midstream and downstream sectors of the oil and gas industry, using a project team approach: <https://www.gaffney-cline.com>.

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