

US propane exporters handicapped by domestic price in seaborne trading

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The North American markets for LPG have changed. Once dumping ground in an over-supplied world, the US Gulf coast is now a dominant propane supplier. The shift is forcing seaborne markets for North American supply to look further afield for market pricing, incorporating world supply and demand fundamentals. Whether Mont Belvieu or Conway, North

American propane fundamentals are not in Kansas anymore.

North America's suppliers are turning to world benchmark prices over domestic prices, and exporters are increasingly using delivered prices in supply agreements. The dominant North American LPG price at Mont Belvieu and smaller markets at Conway, Sarnia and Edmonton are tightly integrated with the North American domestic markets and frequently uncouple from the wider seaborne markets. Mont Belvieu's strength as a domestic pricing hub betrays it in international trading.

That decoupling of Mont Belvieu from world prices reflects just how poor an alternative it is for a USGC fob price. Mont Belvieu is the pipeline, fractionation and storage hub for North America, dominated by a few physical players with storage and fractionation capacity. As such, it can be a fine domestic marker for North American supply and demand, but that can divorce it completely from seaborne fundamentals.

www. **US Net Exports** 1,500 1.300 1,100 900 700 500 300 -100 100 2010 2011 2012 2013 2014 2015 2016 2017 -300 Source: EIA Data

For the North American exporter – and for consumers markets in Europe and Asia – it makes Mont Belvieu-basis supply a perilous choice. Suppliers with fractionation and storage capacity at Mont Belvieu benefit from a US-laid floor under international prices; such agreements impoverish consumer of seaborne LPG. This has already happened: Japanese, Chinese and western companies have lost billions of dollars when they bought on Mont Belvieu prices rather than delivered prices into either Asia or Europe. Those losses reflect storage and transportation dynamics of the domestic North American markets, where LPG prices are much more volatile than crude prices. When the US shudders under Artic weather, or when the drying season is consuming LPG in huge volumes, US domestic demand pulls up the price of Mont Belvieu. But such a price rise does not reflect the global supply and demand situation outside of the US.

The stop-gap answer has been flexibility in terminal fees, which allow a form of fob pricing for USGC exports. While it is true that US terminal fees in Mont Belvieu are starting to be set in a more market responsive manner and that a secondary market has opened up on the Gulf coast, the discontinuity of pricing remains. International consumers are understandably concerned about being caught on the wrong side of North American fundamentals.

Going forward, a world oversupplied in LPG means that having a rising net length of LPG in the US does not give them a sustained price advantage. One could argue that more cancellations on cargoes priced against the Mont Belvieu are likely to be seen in the US – even if the terminal fees are dropped further. Key executives from top US producers were quoted saying that while they believe supply contracts will continue to be signed with Asian buyers, these contracts will no longer be signed at previous term premiums of 8-10 ct/USG.

LPG illuminating the markets

Market Reporting Consulting Events

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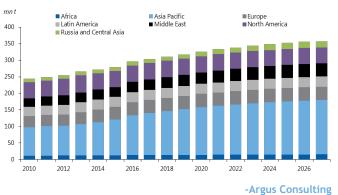
LPG Import Requirement in Selected Asian Countries 2010-2027

In fact, the closed and unworkable arbitrage between US and Asia prices over most of last two years have resulted in a spate of term cargo cancellations, with Asian buyers losing out on many Mont Belvieu-quoted cargoes and opting for take-or-pay penalties over lifting. US delivered propane prices on a spot freight basis to Asia Pacific averaging \$9.80/t premium to delivered prices on the Argus Far East Index last August.

However, the prolonged period of unworkable arbitrage from the US to Asia has spurred Asian buyers to seek cheaper sources of LPG supply like the Middle East. As recently as last year, US LPG costs as much on a fob basis priced on Mont Belvieu, once terminal fees are included, as delivered tonnage to Asia Pacific on an Argus Far East Index pricing. With barely functional arbitrage from the US to Asia Pacific, estimates suggest that for each US Gulf cargo lifted, a buyer risks an immediate loss.

As a result, a few Chinese buyers issued letters to their creditors last year, saying they could not fulfil their side of the deal without a renegotiation of contracts. Others have worked with their suppliers to defer delivery or renegotiate pricing.

Global LPG consumption by region, 2010-27



Demand generally drives prices in oversupplied markets – a fact these consumers found to their detriment. Asian fundamentals balance seaborne LPG and benchmarks like the Argus Far East Index help the market manage supply, demand and risk throughout the logistics chain. The Argus cif ARA European prices offer the same functionality there. And US-supplied propane cargoes must price to clear into these consumer markets at destination prices, or lay stranded in Texas salt domes under Mont Belvieu.

This is already happening, with North American suppliers in the Northeastern US and at Canada's emerging west coast export terminals choosing these destination benchmarks. The USGC will increasingly join them, competing with Middle East producers for market share and using the seaborne market's price benchmarks in Asia and Europe for trading and supply agreements.

Without doubt, Asia requires North American LPG. And North America needs Asian consumers for the surge of frackingderived US supply. Asia Pacific has become the dominant destination of US LPG exports, with almost half of US cargoes heading to the region, up from 12pc in 2013.

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Those shipments continue, but their economics have been wrenched by the distortion Mont Belvieu-basis trading introduces. Asia's and Europe's consumers press for sales agreements incorporating delivered prices, offering the best reflection of supply AND demand. They argue these fully informed prices, the Argus Far East Index and the Argus cif ARA price benchmarks, offer a truer picture of seaborne LPG prices around the world, not just a North American price.

Elsewhere outside of the US:

Mideast production is also on the rise and must be priced competitively with the US. Almost all Mideast producers are shifting away from the Contract Price (CP) and are already adopting the Argus FEI as part of their export pricing – all in a bid to regain market share. In this respect, the Argus FEI is also adopted by companies outside northeast Asia, such as Algeria, Australia and Canada.

Argus FEI leads Mont Belvieu

The Argus FEI consistently leads Mont Belvieu pricing - MB pricing is aligning itself with Asian demand outlets now that infrastructure is no longer constrained. US fob spot cargoes at Mont Belvieu typically trade near cancellation price levels when US delivered prices to Asia exceed the FEI.

What is the Argus Far East Index:

- An independent, forward-looking daily spot cfr assess ment for refrigerated LPG trade in Asia-Pacific.
- Used in term contracts and spot deals.
- An assessment based on deals, open and private bids and offers.
- Considers inputs from all market participants.
- Argus FEI is a hedgeable benchmark with liquid financial products on world exchanges.

Rationale for the Argus FEI:

- Argus FEI is the most-liquid LPG index in the world, with over 18 mil t/yr of physical LPG priced on it, and over 55 mil t/yr of LPG swaps trades.
- China's LPG imports will rise to 18 mil t/yr in 2017, half of which are priced on Argus FEI.
- Argus FEI captures daily market transactions and as sesses LPG values based on robust and transparent methodology
- Argus FEI is the global benchmark, used in term and spot, physical and swaps contracts by all Mideast pro ducers, major oil companies, Asian importers and international trading firms



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