



14 February 2018

Our Reference: APLNG - COR - 0011727

Dear Mr Houghton,

Re: ACCC Consultation on LNG Netback Series

Thank you for the invitation, in your email of 30 January, to provide a response regarding the possible development by the ACCC of an LNG netback price series at Wallumbilla. Australia Pacific LNG Pty Limited (**APLNG**) is pleased to provide the ACCC with our comments.

While APLNG acknowledges the ACCC's motivation to address "gas users expressed interest in a regular published LNG netback price to enhance transparency" APLNG does not support an ACCC LNG netback series publication as described below:

- APLNG's understanding is that a key goal of posting this netback series is to facilitate end-user customers securing long-term supply. However, publishing a 24 month netback series does not address these customers' desire for supply of 5 years or longer, so this is unlikely to be helpful. The reference price is not forecast that far into the future. Further, the reference price forward curve is thinly traded beyond the near-term, with high volatility and a wide range of uncertainty. Thus, any concerns the ACCC may have in relation to long-term supply uncertainty will not be addressed by publishing an LNG netback price, even if the forecast is for up to 24 months.
- The LNG netback series may be misused by gas buyers.
 - As the ACCC rightly states on page 110 of the December 2017 Gas Inquiry 2017-2020 interim report ("Interim Report") that "domestic buyers would have to be prepared to pay a price that is **at least** equivalent to the LNG spot netback price to compensate suppliers", it may be difficult to explain to the casual gas buyer all of the reasons that support the price uplift that would likely be required, including when "circumstances may arise in which an LNG netback price based on prices under long-term contract becomes more relevant."
 - Given the role of the ACCC, the published data may be perceived as more than a benchmark, potentially impacting the market. For example: we have observed problematic market behaviour since the ACCC published the original benchmark price of \$5.87. The publishing by the ACCC of a single benchmark price without appropriate consideration of all factors that lead to price has caused significant confusion within the market.
- APLNG's current domestic buyers who might use a LNG netback series up to 24 months are generally retail or similar businesses who manage portfolios. These entities, however, typically already have their own internal forecasts of LNG netback and domestic pricing.

If the ACCC is nonetheless of the view that a netback series should be published, APLNG provides the following summary comments and the attached response to the ACCC queries.

Providing forecasts is challenging – APLNG notes that any forecast is subject to market variations such as volatility in the Asian LNG reference price, LNG shipping costs and variable liquefaction and transport costs and exchange rate movement. In addition, prices change rapidly due to seasonality and supply/demand such that annual averages can be misleading. All these factors contribute to any forecast being subject to large fluctuations. A forecast LNG netback price therefore can have a limited life and limited relevance. In the Interim Report, the ACCC itself recognised that, since the September 2017 report, there were higher market expectations around Asian LNG spot prices in 2018. While we do not endorse the estimates the ACCC suggested (\$A5.87/GJ and \$A7.85/GJ in September and December, respectively), this change demonstrates the difficulties in generating an accurate and enduring forecast when it is simply a matter of what point in time one examines the data. Ensuring that any series published is routinely updated (weekly) will be essential.

LNG spot and domestic gas sales buyers and terms are different – there are significant differences between these two markets, their contract terms, risks and pricing. Summarizing and accounting for all these differences in a single number is challenging and specific to each actual situation. If the ACCC were to provide an LNG netback forecast, there is the potential that users of the forecasts may not fully understand the forecasts' assumptions and limitations. These would need to be clearly explained and updated as needed with each publishing.

The LNG exporters have different cost structures and long-term contracts – the variability between the three proponents introduces additional variability into the calculation of any LNG netback price. This variability would need to be reflected in the netback price forecast. If the proposal to publish an LNG netback price series were to be implemented, the ACCC should consider providing a "netback range" so that users will understand the uncertainty in this forecast.

Domestic prices are impacted by more than netback prices – in the ACCC's recent reports, it has correctly noted that many of the domestic buyers are located outside Queensland and that there is a significant price to transport gas to these markets. APLNG is a wholesaler without transport outside Queensland. Retailers will also be involved in the supply of gas and require a margin to operate their businesses. These facts further contribute to variability in any netback price and should be noted by the ACCC within any forecast it provides.

Finally, the domestic gas market is a central part of APLNG's business - APLNG has supported the domestic gas market as a net contributor from APLNG's inception and affirmed that commitment with over 42 PJs of incremental sales into the domestic market in 2017-18. APLNG has been an active member of the Gas Market Reform Group in its efforts to streamline the gas market, increase transparency and competition. APLNG acknowledges the request of the ACCC to seek industry views on its proposal to develop an LNG netback price series for the east coast gas market. However, APLNG cautions that the development of such a price series may lead to confusion and therefore potentially not be beneficial to the East Coast gas market.

We trust this information is helpful, should you have any questions or would like to discuss this submission further, please contact Von Hutchins, Senior Commercial Negotiator, at [REDACTED] or [REDACTED]

Yours sincerely,

[REDACTED]
Darren Meznarich
General Manager, Commercial
Australia Pacific LNG Pty Ltd

ACCC consultation on LNG netback series

Issues for comment

1) LNG prices

The ACCC's December 2017 report discussed the various types of LNG price measure that would be the starting point in any LNG netback price (see p. 110). The ACCC expressed its preliminary view that an LNG netback price based on a measure of Asian LNG spot prices would be most relevant and of most use to domestic gas market participants in the current environment.

To inform its further consideration, the ACCC is seeking your views on the following issues:

In this section APLNG has assumed that the ACCC is referring to historical prices and not future prices, which are separately dealt with in Section 3.

(a) whether the ACCC should also publish an LNG netback price based on prices under long-term LNG contracts

APLNG does not support the ACCC publishing LNG netback prices on any basis including using long-term LNG contract pricing. The rationale is:

- Existing long-term committed domestic and LNG contracts do not influence APLNG marketing of short term flexible production volumes; and
- The LNG long-term contracts are confidential agreements negotiated on a competitive basis and disclosure of APLNG's long-term pricing would impair APLNG's commercial position.

(b) whether an LNG spot netback price based on prices in Asian LNG spot markets is appropriate

APLNG does not support the ACCC publishing LNG netback prices. If the ACCC chooses to publish an LNG spot netback price based on prices in Asian LNG spot markets, it should be noted:

- Asian Spot LNG pricing is highly volatile and reporting historical prices on a monthly or quarterly average can be misleading and needs to recognise that such data is often gleaned from interviews with market participants which is not entirely transparent or auditable.
- The terms for Spot LNG sales are significantly different to the terms for domestic gas sales. For example a typical cargo of LNG would have a quantity of ~3.5 to ~4PJ to be delivered over 2 day period, with 100% take or pay, and with volume flexibility for APLNG whereas gas sales to domestic buyers are typically for smaller quantities to be delivered over a longer period of time, with a number of additional conditions and risks to APLNG (further discussed in Section 4). Therefore, direct comparison against the sale and purchase of domestic gas compared to spot LNG, is a headline indicator only.

(c) what would be the most appropriate source of information on Asian LNG spot prices – taking into consideration the representativeness and reliability of the price measure and the methodology used by the reporting entity

If the ACCC chooses to publish historical LNG netbacks based on actual/historical Asian Spot LNG pricing, the closing prices of the JKM contract would be recommended. Services like Platts, Argus, ICE, already publish LNG spot prices and could be better to

advise on the complexities of information sources to determine actual/historical Asian LNG spot prices

Please provide reasons for your responses.

2) Shipping and liquefaction costs

The ACCC's December report also discussed the types of costs that should be taken into account when deriving an LNG netback price for the east coast gas market, including shipping and liquefaction costs. For the purposes of an LNG netback price at Wallumbilla, a delivered ex-ship (DES) LNG price would be netted back to the LNG exporters' facilities at Gladstone by subtracting shipping costs and losses:

- Shipping costs reflect the cost of shipping LNG from Gladstone to the destination port, including ship charter costs, fuel, and port fees.

- Shipping losses reflect the cost of the quantity of gas lost during transit as a result of LNG boil-off.

The free on board (FOB) price at Gladstone would then be netted back to Wallumbilla by subtracting the variable cost of liquefaction, which consists of the cost of fuel gas and operating expenditure:

- The cost of fuel gas reflects the cost of the quantity of gas consumed during the liquefaction process.

- Operating expenditure reflects the variable costs of the liquefaction process.

The ACCC expressed the view that the calculation of an LNG netback price at Wallumbilla would not, however, account for any fixed costs of LNG production, transportation or the recovery of the capital invested in LNG facilities. The ACCC noted that it would be periodically collecting information from the east coast LNG exporters on shipping and liquefaction costs which could be used in the calculation of a netback price.

At this stage, we consider that these types of costs should be taken into account in determining an LNG netback price at Wallumbilla using the following formula:

$$\begin{aligned} \text{LNG netback price} &= \left[\frac{(\text{DES price} - \text{Shipping cost}) * (1 - \text{Boil off \%}) - \text{Variable opex}}{(1 + \text{Fuel gas \%})} \right] \\ &\quad - \text{Variable transport cost} \end{aligned}$$

where: LNG Netback price is the LNG netback price at Wallumbilla

DES price is the delivered ex-ship LNG price

Shipping cost is the sum of charter costs, fuel costs and port fees

Boil off % is the percentage of LNG loaded onto the ship that is lost in transit as a result of LNG boil off

Variable opex is the variable operating costs of the liquefaction process

Fuel gas % is the quantity of gas required as fuel in the operation of the LNG facility expressed as a proportion of the quantity of LNG produced

Variable transport cost is the variable costs of transporting gas from the source of production to the LNG facility

(Note: all dollar values would be expressed in AUD\$/GJ)

The ACCC is seeking your views on the approach described above, including:

(a) whether all relevant costs would be captured for the purposes of an LNG netback price at Wallumbilla

APLNG's view is that all relevant netback costs are captured.

(b) whether it is appropriate that only variable costs be taken into account

APLNG's view is that only variable costs should be taken into account. This is because fixed costs are usually considered to be sunk costs when allocating flexible gas volumes between domestic and export markets.

For the same reasoning, APLNG also argues that the Fuel Gas % should be the incremental fuel gas usage and not the average plant fuel gas usage. See further explanation below.

(c) the formula to be used to derive an LNG netback price at Wallumbilla.

If ACCC proceeded, this formula would need an amendment to the definition of "Fuel Gas %":

- "Fuel gas %" is the **incremental** quantity of gas required as fuel in the operation of the LNG facility expressed as a proportion of the quantity of LNG produced

As an example, APLNG may have 1540 TJ of firm LNG demand and have an extra 100TJ that could be supplied to either the domestic or export market. As the table below shows, when processing an additional 100TJ of feedgas as LNG, only an extra 4TJ of fuel is consumed. Thus, in this example, APLNG generated 96TJ of LNG from 100 TJ of incremental plant inlet gas, and this 96% is what APLNG refers to as the "Incremental Thermal Efficiency".

	1540 TJ Case (eg 27 Jan 18)	1640 TJ Case (eg 23 May 17)	Incremental
Feedgas	1540 TJ	1640 TJ	100 TJ
LNG Produced	1426 TJ	1522 TJ	96 TJ
Fuel Gas used	114 TJ	118 TJ	4 TJ
Average / Incremental Thermal Efficiency %	92.6%	92.8%	96%
Average / Incremental Fuel Gas %	7.4%	7.2%	4%

Please provide reasons for your responses.

3) Forward-looking LNG netback price

The ACCC also noted that it is considering extending an LNG netback price series to the end of each subsequent calendar year, based on market expectations of future Asian LNG spot prices. The ACCC would use the same methodology for calculating a forward-looking netback price as would be used for a price series based on current and historic LNG spot prices, and would need to decide on a source of information on market expectations of future LNG spot prices.

Further, the ACCC noted that, given it is not in a position to predict changes in liquefaction and shipping costs, it would likely need to use the most recent estimates of shipping and liquefaction costs available (as derived by information obtained from LNG exporters) in deriving a forward-looking LNG netback price. That is, current estimates of these costs would be held constant in real terms over the forecast period.

The ACCC is seeking your views on the following issues:

(a) what would be the most appropriate source of information on market expectations of Asian LNG spot prices for a forward period of up to 2 years

APLNG does not support the ACCC publishing LNG netback prices. However, if the ACCC chooses to publish netbacks based on Asian Spot LNG pricing, APLNG would recommend the use of the JKM Monthly Futures Contracts as the source of information. The pricing data is published each business day by the Intercontinental Exchange, which is freely available without subscription on the following link:
<https://www.theice.com/marketdata/reports/144>.

It must be noted that spot pricing forecasts are highly volatile and if the ACCC chooses to publish netbacks based on Asian Spot LNG pricing, ACCC must be willing to update the calculation very regularly due to the changes (at least weekly and ideally daily).

Asian Spot LNG pricing is also highly seasonal. As such it is not appropriate to quote a single price or netback. Asian Spot LNG is in most cases quoted by Month, and in some case in Half Month increments (e.g. by Platt's). Therefore if the ACCC chooses to publish netbacks based on Asian Spot LNG pricing, there should be a LNG Netback price for each calendar month at least.

The ACCC would also need to be clear when it references an Asian Spot LNG price for a given month, because the month referenced by the price forecast is the time of LNG delivery. This can be a different month than when the gas was sent into the LNG facility.

Caution should also be taken as published indices do not always fairly represent the market. This is especially true for futures pricing more than six months ahead, where there is almost no LNG spot trading liquidity. However even on a short time horizon the indices are not always representative, and exporters from time to time can transact significantly above or below published pricing levels, due to specific terms and conditions of the LNG sale.

(b) whether it would be appropriate to assume that shipping and liquefaction costs do not change in real terms over the forecast period.

In APLNG's opinion it is reasonable to assume constant liquefaction costs over the forecast period.

In APLNG's opinion it is not appropriate to assume constant short term shipping charter costs over the forecast period. Shipping costs can vary dramatically as the market for short term LNG shipping is volatile and liquidity can be weak at times. Over the past 12 months APLNG has observed single cargo shipping costs varying from ~US\$0.35/mmbtu to over US\$1.00.mmbtu.

Please provide reasons for your responses.

4) Domestic supply coordination

In its September 2017 report, the ACCC acknowledged that LNG exporters may face costs and coordination issues associated with supplying the domestic market with gas that might otherwise have been sold as LNG on international markets (see p. 18). The ACCC noted that coordination issues could arise from a range of factors including:

- trading capabilities required to monitor short-term domestic and international markets

- *the need for access to pipeline capacity to transport gas to demand centres*
- *differing incentives of parties involved in the LNG projects, which may not align to facilitate domestic supply*
- *timing coordination between production and meeting domestic demand*
- *lower economies of scale for trading at smaller volumes on the domestic market compared with international LNG volumes.*

The ACCC is seeking your views on what, if any, issues arise in the coordination of supply of gas to the domestic market. In responding, please explain how each issue might affect a decision to supply gas to the domestic market as opposed to converting the gas to LNG and selling it on international markets. If applicable, please also provide an indication of the cost per gigajoule (in AUD) of each factor.

Coordinating the supply of gas domestically is more complicated than delivering spot cargos.

LNG spot cargo volumes are very large and are often of short duration and not sold until gas supply is certain or the LNG is nearly all produced. This practice limits the risk to the LNG exporter. If the gas isn't available, then there is no sale.

The domestic market has limited demand for this type of high-volume, short-notice, intermittent supply profile. Domestic buyers typically desire take-or-pay contracts and other unique terms (see details below), which are agreed months in advance, especially for this size of volume. These domestic market terms result in a significant difference in the risk of the two types of sales.

The following contractual terms are typically sought by domestic customers and puts additional risk and cost onto APLNG as discussed as follows:

- **Firm Commitment Performance:** APLNG treats domestic commitments ahead of LNG (i.e. higher priority). Therefore, each additional domestic contract puts additional performance risk onto APLNG's existing long-term LNG customers in the event of a production shortfall.
- **Contract Term:** Given the nature of the CSG resource, APLNG's forecasted supply is not a perfect predictor of actual performance, especially on a longer term basis. Therefore, the longer the duration of a new contract (or the later start date from execution) the higher the risk there is to APLNG of meeting 100% of its gas supply commitments.
- **Fixed AUD\$ Price:** Domestic customers, especially the smaller ones, often seek price certainty with fixed price contracts. Therefore, all of the risks of market index price volatility (ie the actual LNG spot price movements) and foreign exchange fluctuations fall solely onto APLNG.
- **Swing:** Domestic buyers typically seek variability on their daily takes of gas from the Seller as opposed to seeking market based solutions such as Hub trading or storage. This practice therefore shifts the interruptions burden onto APLNG and removes from the marketplace additional liquidity and price discovery at Hub locations which in turn potentially slows the development of new infrastructure (particularly storage infrastructure which may be able to more readily absorb some of APLNG's aforementioned high-volume, short-notice intermittent supply).
- **Delivery Point:** If APLNG is the entity that is required to procure 3rd party pipeline transportation (or swaps), then naturally the price will increase. Given that APLNG currently only has limited firm transport to Moomba and nothing beyond that point, APLNG is limited in which customers it can deal with.

APLNG cannot provide a simple cost per GJ for these terms. Their cost and value vary significantly depending on the overall circumstances and many factors.

5) Publication of LNG netback price series

The ACCC is seeking your views on the following issues:

(a) whether an LNG netback price at Wallumbilla, published regularly on the ACCC's website, would be useful and desirable

APLNG does not support the ACCC publishing LNG netback prices.

Australian LNG spot netback prices are already available by subscription services like Platts, Argus, Energy Edge, and Energy Quest for example. The ACCC separately publishing data would likely not add value to market participants who would mostly already receive these services and largely understand the dynamics.

(b) whether the publication of an LNG netback price would be enhanced by the publication of indicative tariffs for key east coast pipelines

A table with posted transportation costs could be helpful but there would have to be further explanations provided with respect to 1) expected direction of flow for particular periods of time (e.g. SWQP whether it is flowing into or out of QLD) 2) whether there is uncontracted gas transport capacity available and to what extent, and 3) other ancillary costs such as fuel for gas compression.

(c) whether the usefulness of an LNG netback price would change if it were to be published on either a weekly, monthly, or quarterly basis

As noted above, Asian LNG Spot pricing is highly volatile and future prices can move significantly on a day to day basis. As such any LNG Netback (Future) price series would need to be updated at least weekly and potentially daily.

Please provide reasons for your responses.