



LNG netback review

Final decision paper

September 2021

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Acronym List

C&I	commercial and industrial
DES	delivered ex-ship
DFDE	dual-fuel diesel electric
FOB	free on board
GSA	gas supply agreement
JCC	Japanese Crude Cocktail
JKM	Japan Korea Marker
LNG	liquefied natural gas
LRMC	long run marginal cost
NBP	National Balancing Point
SPA	sale and purchase agreement
TTF	Title Transfer Facility
Organisations	
ACCC	Australian Competition and Consumer Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ICE	Intercontinental Exchange
Platts	S&P Global Platts
Units	
MMBtu	Million British thermal units
mtpa	million tonnes per annum
GJ	Gigajoule
PJ	Petajoule

Glossary

Delivered ex-ship (DES): The seller of a shipment bears all associated risks and costs until the shipment arrives at the agreed destination port.

East coast gas market: The interconnected gas market covering Queensland, South Australia, New South Wales, the Australian Capital Territory, Victoria and Tasmania.

Free on board (FOB) price: The price of gas delivered by ship to a destination port. LNG prices can be specified on a FOB basis.

Gas supply agreement: A contract between the buyer and seller for the supply of gas.

Gas Inquiry: The ACCC's current Gas Inquiry 2017-2025 into the supply of and demand for natural gas in Australia

Henry Hub: Is a major gas hub for spot and futures trading in the United States and acts as the notional point of delivery for gas futures contracts. Henry Hub is based on the physical interconnection of nine interstate and four intrastate pipelines in Louisiana.

Japan Korea Marker (JKM): Is an international benchmark price for LNG spot cargoes. It reflects the spot market value of cargoes delivered ex-ship (DES) into Japan, South Korea, China and Taiwan.¹

Liquefaction: The process of liquefying natural gas.

Liquefied natural gas (LNG): Natural gas that has been converted to liquid form for ease of storage or transport.

LNG netback price: An LNG netback price is a measure of an export parity price for gas. It represents the effective price an LNG producer would expect to receive for gas, at a specific reference location, if that gas were converted to LNG and exported. This is done by taking the price receivable for LNG and subtracting or 'netting back' costs incurred between the reference location and the location where the LNG is delivered.

LNG train: A liquefied natural gas plant's liquefaction and purification facility.

LNG producer: LNG producers process and prepare natural gas, using liquefaction, into LNG for transmission and sale to overseas markets.

Million British Thermal Units (MMBtu): One Thousand Thousand British thermal units.

National Balancing Point (NBP): Is a major virtual market place for gas located in the United Kingdom that allows market participants to transfer gas to other participants.

Oil index: An average of regional oil prices calculated over a given day. Examples include Brent and the Japanese Crude Cocktail (JCC).

Sale and purchase agreement: An agreement between the buyer and seller for LNG.

¹ S&P Global Platts, *Platts JKM™ (Japan Korea Marker) LNG Price Assessment*, n.d., <https://www.spglobal.com/platts/en/our-methodology/price-assessments/lng/jkm-japan-korea-marker-gas-price-assessments>, viewed 6 September 2021.

Title Transfer Facility (TTF): Is a major virtual market place for gas located in the Netherlands that allows market participants to transfer gas to other participants.²

Wellhead: The location at which gas is injected into the pipeline system.

² Gasunie Transport Services, *TTF*, n.d., <https://www.gasunietransportservices.nl/en/shippers/products-and-services/ttf>, viewed 15 March 2021.

Executive summary

The Australian Competition and Consumer Commission (ACCC) has concluded its review of the liquefied natural gas (LNG) netback price series. The Australian Government requested the ACCC review its LNG netback price series as part of a broader range of government announced measures that seek to increase gas supply, increase efficiencies in gas transportation and improve the negotiating power of gas consumers in the east coast gas market.

Gas produced in the east coast of Australia traditionally supplied domestic residential, commercial and industrial users. The development of the Queensland LNG plants significantly changed the east coast gas market. Now there is an alternative to selling gas produced in the east coast of Australia to domestic buyers; selling to LNG buyers mainly in Asia. Given this alternative, domestic gas prices have become linked with Asian LNG prices. The development of the Queensland LNG plants has significantly increased both the demand and supply of east coast gas. In 2021, domestic demand accounted for approximately 27% of total east coast gas demand.³ The rest was exported as LNG.

The alternative, or opportunity cost, to LNG producers of supplying the domestic market significantly influences domestic gas prices. As long as there is excess capacity in the Gladstone LNG export facilities, LNG producers are unlikely to be willing to supply uncontracted gas to domestic buyers at prices below LNG netback prices. Given that LNG producers supply significant quantities of gas to the domestic market, prices below LNG netback prices are likely to result in shortages and pressures for domestic prices to increase.

Our examination of data from the Gladstone Ports Corporation shows that at present the export facilities are not operating at their full capacity, and they appear unlikely to operate at full capacity for any significant length of time in the near future such that it would alter the opportunity cost faced by LNG producers.

The ACCC conducted extensive consultation with key stakeholders as part of this review. Key issues raised by stakeholders in submissions, meetings with the ACCC and in a public roundtable included:

- publication of forward netback prices using Henry Hub, in addition to JKM and oil-linked price markers
- publication of long run netback prices (which would involve deducting capital costs) as well as short run prices
- developing a non-LNG domestic gas producers netback price series
- reviewing the LNG netback price series prior to the expiry of the current Heads of Agreement LNG producers have with the Australian Government.

After considering stakeholder views and the expert advice of our consultant Wood Mackenzie, we remain of the view that publishing the LNG netback price series will continue to help inform negotiations between commercial and industrial (C&I) gas users and gas producers in the east coast gas market. Further, we are of the view that publishing additional longer-term forward LNG netback prices will also help inform negotiations over longer-term domestic gas supply agreements (GSAs).

Our final decision is based on current market circumstances. We will undertake another review of the LNG netback price series by no later than 2024 to ensure it remains fit for

³ ACCC, Gas Inquiry 2017-2025, *July 2021 interim report*, 17 August 2021, p.17.

purpose. We will also monitor market developments and will commence our review earlier if there are significant changes in global LNG markets or the east coast gas market that justify an earlier examination.

ACCC's final decision

Our final decision is to:

- continue to publish historical and short-term forward LNG netback prices extending to 2 years based on Japan Korea Marker (JKM) spot prices
- publish longer-term forward LNG netback prices extending to 5 years based on an oil index
- maintain our current approach to estimating export costs in calculating LNG netback prices.

The ACCC will source from a consultant an estimate of the appropriate percentage, or slope, to apply to an oil index no less frequently than on an annual basis, to calculate longer-term forward LNG netback prices.

Longer-term LNG freight cost estimates will be sourced from a consultant no less frequently than on an annual basis.

Our decision reflects the current market context. As such, we will review the netback series if circumstances change, including the LNG plants reaching capacity. Further, if there are no material changes in circumstances (or 'significant market developments') we will review the netback series in 2024.

The role of the LNG netback price series

The ACCC developed and began publishing the LNG netback price series to assist C&I users in negotiations for gas supply. The LNG netback price series improves transparency around current and future pricing trends in the domestic gas market, recognising the relevance of LNG netback prices to domestic gas prices.

By publishing the LNG netback series, the ACCC is helping to reduce the imbalance in the relative bargaining positions of gas suppliers and C&I users. It provides C&I users with the same LNG price information that gas suppliers already have and which they use in their decision-making around prices offered for and agreed in domestic supply agreements.

The ACCC LNG netback price represents the opportunity cost to LNG producers of supplying uncontracted gas to the domestic market in the current context rather than exporting into international LNG markets. It is the price for uncontracted gas an LNG producer could expect to receive from domestic buyers to be indifferent to supplying that gas to the domestic market or overseas markets. It reflects the current market context, with LNG producers having the capacity to supply uncontracted gas to either the domestic or international market. If the context changes, we will review our approach.

In publishing the LNG netback price series, the ACCC is not providing a view on what level of gas pricing is 'fair' to either sellers or buyers, or trying to provide a 'bottom-up' reference price that applies a margin to gas production costs. Importantly, LNG netback prices are not the sole factor influencing domestic gas prices.

The LNG netback price series is one measure implemented by the ACCC to improve transparency. Over the course of the current Gas Inquiry, we have published a range of information to improve gas market transparency, including information on:

- the short and long-term supply outlook
- reserves and resources

- cost of production estimates
- prices in gas supply contracts and offers
- gas transmission and storage pricing
- the pricing strategies of key gas suppliers
- retailer margins.

The ACCC has also made a series of recommendations to government to improve gas market transparency.⁴

How the LNG netback price series assists C&I users

The ACCC's LNG netback price series improves information symmetry and helps to reduce imbalances in bargaining power between gas producers and C&I users in the domestic gas market. It does this by:

- reflecting the commercial realities and options available to market participants
- being evidence-based and consistent with observable market data and information.

The current commercial reality is that domestic gas prices are linked with Asian LNG prices. Australia's closest LNG markets are those in Asia, and since 2015 the majority of gas exported from the east coast gas market has been exported to LNG buyers in northeast Asia. This reflects Australia's proximity to northeast Asia, which is a major LNG importing region. In 2020, northeast Asian countries accounted for 55% of total global LNG demand. This proximity means that Asian LNG prices are most relevant for the east coast gas market.

Queensland LNG producers continue to be able to sell uncontracted gas into export markets. Data from the Gladstone Ports Corporation shows the Gladstone LNG plants remain below their nameplate capacity and are unlikely to operate at full capacity for a sustained period in the near future. This means LNG producers will continue to have an alternative to supplying the domestic market and the LNG netback price remains a relevant consideration in domestic pricing.

Our approach is also consistent with observable market data. The ACCC has commented extensively in recent years on the influence of LNG netback prices on broader market pricing on the east coast.

Our review of offers made by all producers in the east coast gas market indicates domestic gas price offers are in line with or above LNG netback prices, and prices offered by non-LNG producers to LNG producers are broadly in line with those offered to other domestic buyers. The ACCC's review of pricing strategy documents of key LNG and gas producers confirms that LNG netback prices are relevant for both LNG and non-LNG producers alike.

The transparency objective of the LNG netback price series is best achieved by publishing prices that are directly relevant to the market. By publishing the LNG netback price series, the ACCC is making available to C&I users information that a range of east coast gas suppliers already have access to and consider when making offers and entering into domestic GSAs. Publishing an additional netback price series for non-LNG producers is

⁴ ACCC, Gas Inquiry 2017–2025, *Transparency recommendations*, December 2018, <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/transparency-recommendations>, viewed 6 September 2021; ACCC, Gas Inquiry 2017–2025, *Further transparency recommendations*, June 2019, <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/further-transparency-recommendations>, viewed 6 September 2021.

unlikely to help improve market transparency for C&I users as domestic gas suppliers are unlikely to consider this information themselves.

ACCC final decision

The ACCC's final decision is to:

- continue to publish historical and short-term forward LNG netback prices extending to 2 years based on JKM spot prices
- publish longer-term forward LNG netback prices extending to 5 years based on an oil index
- deduct only avoidable (marginal) export costs in calculating the LNG netback price series
- undertake another review of the LNG netback price series when market developments warrant doing so, or by no later than 2024.

Publish historical and short-term 2-year forward LNG netback prices based on JKM

Our final decision is to continue publishing historical and short-term forward LNG netback prices extending to 2 years using JKM spot prices.

Under the current circumstances of spare LNG export capacity, short-term forward LNG netback prices continue to represent the opportunity costs to LNG producers of supplying uncontracted gas to the domestic market. Further, as LNG producers are the marginal suppliers to the domestic market, short-term LNG netback prices continue to be a relevant benchmark for gas suppliers and gas buyers negotiating shorter-term domestic GSAs out to 2 years.

Publishing historical LNG netback prices is also important to provide information to market participants on historical and seasonal pricing trends.

JKM spot prices represent the Queensland LNG producers' opportunity cost of supplying uncontracted gas to the domestic market in the short-term. JKM is currently the most commonly used measure of Asian LNG spot prices and accepted by LNG market participants as the benchmark for Asian LNG spot prices.

At this time, using prices in other gas markets, such as Henry Hub prices, to calculate short-term forward LNG netback prices is unlikely, in our view, to add further transparency to the market. Asia is the key export market for east coast LNG and the influence of prices in other gas markets (for example Henry Hub or the Dutch Title Transfer Facility gas hub) will already be accounted for in JKM, to the extent that they influence demand and supply dynamics in Asian LNG markets. We would expect to see the influence of Henry Hub on JKM to increase if US LNG export capacity increases.

JKM has sufficient liquidity to be a reliable reference in the short term (2 year forward period).

Publish longer-term forward LNG netback prices based on an oil index

Our final decision is to publish longer-term forward LNG netback prices extending to 5 years using an oil index.

Short-term forward LNG netback prices have limited relevance to C&I users that routinely consider and enter into GSAs longer than the 2-year forward period. Extending the LNG

netback price series will help inform negotiations between gas suppliers and C&I users for longer-term domestic GSAs.

Based on our review of gas suppliers' pricing strategies and expert advice provided to the ACCC, oil-linked LNG contract prices are currently the most relevant measure of the opportunity cost to LNG producers of supplying uncontracted gas into the domestic market on terms greater than 2 years and up to 5 years.

Current liquidity for JKM, which is a gas on gas marker, falls after 2 years and it is not suitable to be used to calculate longer-term forward LNG netback prices.

Some stakeholders recommend we use Henry Hub prices for calculating longer-term LNG prices as it is a liquid gas on gas marker, and future growth in US liquefaction capacity will increase the influence of Henry Hub prices on international LNG prices.

Ideally, with a well-functioning, liquid and transparent market, a gas price marker would be more suitable to extend the forward LNG netback price series in the future. We have decided to not use Henry Hub prices for calculating longer-term forward LNG netback prices at present. This is because Henry Hub prices currently have limited influence on Asian LNG prices. Although they are slated to expand in the future, the US LNG export plants are currently close to their maximum liquefaction capacity. This limits the ability of US LNG to act as a cap on Asian prices during periods of high Asian demand and limits the influence of Henry Hub prices on Asian LNG prices. At present, medium-term LNG strips sold into Asia are predominantly priced on an oil-index basis.

We accept that Henry Hub may become more relevant to LNG pricing globally in the future, but there is uncertainty over the timing and other developments may also affect Asian LNG markets during that same time period.

Wood Mackenzie's advice to the ACCC is that the vast majority of medium-term (3-5 year) LNG strips sold into Asia are linked to oil prices. While oil-linked LNG contract prices and JKM have not shown a strong correlation over time, oil-linked medium-term LNG strips into Asia are a good estimate, at a point in time, of the opportunity cost to LNG producers of supplying uncontracted gas into the domestic market on terms greater than 2 years and up to 5 years.

The ACCC's examination of gas suppliers' pricing strategies confirms that LNG producers consider oil-linked medium-term LNG strips as the opportunity cost to supplying the domestic market.⁵

By publishing a longer-term LNG netback price using an oil index, we are providing transparency around pricing for 5 year GSAs being entered into presently. The ACCC will consult extensively with stakeholders to implement this decision.

While there are some challenges with developing an LNG netback price based on oil-linked LNG strip prices we will address these by:

- undertaking consultation with key stakeholders on the development of longer-term forward LNG netback prices
- using expert LNG market consultants to provide informed estimates of the slope to apply to oil prices

⁵ ACCC, Gas Inquiry 2017–2025 interim report, July 2021.

- publishing information on the methodology used to calculate longer-term forward LNG netback prices to allow stakeholders to form their own views on the ACCC's LNG netback price series.

In publishing longer-term forward LNG netback prices, the ACCC is not forecasting or projecting future gas prices on the east coast gas market. Publishing longer-term forward LNG netback prices provides an indication or reference price on what market participants can currently expect to pay for longer-term domestic GSAs.

Deduct only avoidable (marginal) export costs

Our final decision is to maintain our current approach of deducting only avoidable export costs to calculate LNG netback prices.

The ACCC applies an opportunity cost framework to determine which export costs to deduct in calculating the LNG netback price series. This ensures our LNG netback price series reflects the commercial realities facing market participants.

The opportunity cost reflects the current market context. At this point in time, LNG producers have excess capacity and can choose to supply uncontracted gas to the domestic or international market. Consistent with the opportunity cost approach to calculating LNG netback prices, we will deduct only the costs that are avoided by supplying uncontracted gas to the domestic market.

These costs include:

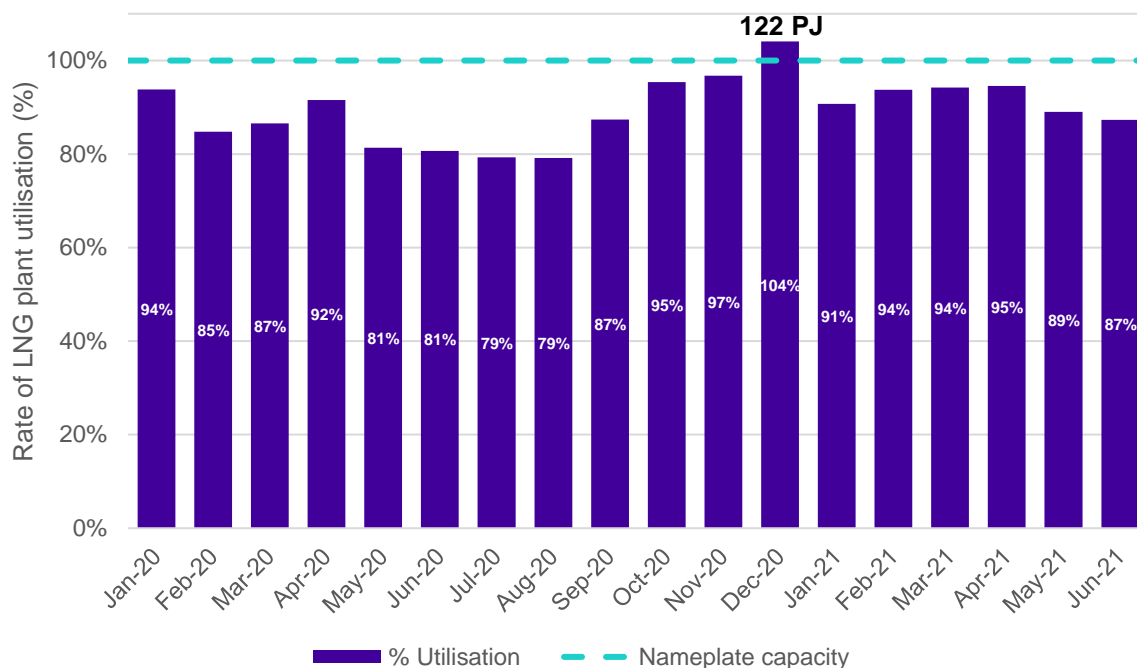
- the LNG freight costs of transporting LNG from Gladstone to the destination port in Asia
- liquefaction costs associated with converting gas to LNG
- pipeline transportation costs to transport gas from the wellhead to the LNG facility in Gladstone.

This currently does not include fixed capital costs such as costs incurred to build the Queensland LNG plants.

If we deduct fixed export costs, our LNG netback price series will no longer reflect the opportunity cost for LNG producers in supplying the domestic market in the current circumstances where they have excess capacity in their LNG plants. LNG producers are unlikely to consider these costs when deciding whether to supply gas to the domestic market or export markets, since these costs do not affect the net value of either option.

In the future it may be appropriate to deduct other costs, including capital costs in determining the LNG netback price. This will likely be the case if the Queensland LNG producers need to build additional LNG plant capacity to sell excess gas in LNG markets. However, data from Gladstone Ports Corporation indicates that LNG exports from the Queensland LNG plants remain below their nameplate capacity, and that in aggregate the LNG plants have spare liquefaction capacity (figure 1). This data shows Queensland LNG exports have not exceeded the collective nameplate liquefaction capacity of the Queensland LNG plants on a monthly basis in 2021.

Figure 1: Queensland LNG plant utilisation, January 2020–June 2021



Source: ACCC analysis; Gladstone Ports Corporation, *Trade Statistics – Latest Statistics*, <https://www.gpcl.com.au/trade-statistics>, viewed 23 Aug 2021.

Note: The Queensland LNG plants collectively have an annual liquefaction capacity of approximately 25.3 mtpa. This chart does not account for ongoing LNG plant maintenance or LNG plants operating above nameplate capacity levels, meaning liquefaction capacity levels may have differed in practice. We have used a conversion ratio of 1 mt: 55.43 PJ.

Information collected by the ACCC over the course of the current Gas Inquiry also indicates that the Queensland LNG plants are likely to continue to have spare capacity into the near future.

We will continue to monitor the spare liquefaction capacity of the Queensland LNG plants through our ongoing reporting on the east coast gas market to ensure this approach remains appropriate. If we consider the LNG plants no longer have excess capacity and are unable to export uncontracted gas we will review our approach to estimating export costs.

Review the LNG netback price series by no later than 2024

The decisions made in this review reflect the realities of the east coast gas market and global LNG markets now, and in particular, the basis on which LNG sold into Asia is priced. However, as noted by stakeholders, there is a high level of uncertainty around future developments in LNG markets, including the relationship between different international price markers, such as JKM and Henry Hub.

We note that the east coast gas market and international LNG markets are dynamic, and that there is a high degree of uncertainty about future developments in these markets. This was reflected by some C&I users in their submissions to this review. For this reason, our final decision is to undertake another review of the LNG netback price series by no later than 2024 to ensure that it remains appropriate and relevant to the east coast gas market.

The ACCC will monitor developments in the east coast gas market and LNG markets and will review the LNG netback series earlier if these developments warrant doing so.

Developments that would be likely to necessitate a review before 2024 could include (but are not limited to):

- the Queensland LNG plants reaching capacity such that they are no longer able to export uncontracted gas as LNG
- major structural changes in global LNG markets, such as changes in US liquefaction capacity due to new projects being developed
- a shift away from oil-linked pricing for medium-term LNG strips, noting that coming years will likely see an increase in the execution of medium-term LNG strips as large existing long-term LNG contracts expire (as advised by Wood Mackenzie)
- market views on JKM liquidity growth, and whether gas suppliers and LNG producers begin to view JKM as the relevant price marker for longer-term forward LNG netback prices.

Undertaking another review by no later than 2024 will be an opportunity to reassess supply and demand factors in both the east coast gas market and LNG export markets that influence the calculation of LNG netback prices. This will include the influence of Henry Hub prices on JKM and global LNG prices more generally.

We will also monitor the development of a number of proposed import terminals for the east coast gas market, which may also require the development of an import parity price.

Next steps to implementing changes to the LNG netback price series

There are a number of steps the ACCC will undertake to implement the outcomes from this review.

Following the conclusion of this review, we will update the cost assumptions that underpin our liquefaction and pipeline cost estimates using the most recent data.

Over the remainder of 2021, we will commence our consultation with stakeholders on the methodology used to develop a longer-term forward LNG netback price extending to 5 years using an oil index. This will including consultation on:

- the choice of oil index
- the approach to determining the appropriate percentage (slope) to apply to oil prices
- frequency of updating the slope
- how to ensure there is adequate transparency in how the oil slope is determined and the factors that influence the determination.

We will undertake a procurement process to engage an expert LNG freight consultant or market analyst to obtain longer-term LNG freight cost estimates in the beginning of 2022.

We will begin publishing longer-term forward LNG netback prices based on an oil index in 2022.

1. Introduction

The Australian Competition and Consumer Commission (ACCC) has conducted a review of the LNG netback price series, which we publish regularly on the ACCC website, as part of the ongoing Gas Inquiry into the east coast gas market.⁶

1.1. Background

The Australian Government requested the ACCC review its LNG netback price series as part of a broader range of government announced measures that seek to increase gas supply, increase efficiencies in gas transportation and improve the negotiating power of gas consumers in the east coast gas market.⁷ The Government requested that the ACCC complete the review by no later than September 2021.

The timing of the review was appropriate, as there have been significant changes in LNG markets due to growing supply and increased trade in LNG spot markets. Findings from the July 2021 interim report of the ACCC's Gas Inquiry indicate that, along with LNG spot netback prices, longer-term LNG contract prices also influence domestic gas market prices.⁸

The review considered a range of matters related to calculating the LNG netback price series, including:

- The most appropriate time period, or periods, over which to publish forward LNG netback prices. The ACCC currently publishes forward LNG netback prices over a 2-year period
- The choice of LNG price used as a reference to calculate the LNG netback price series. The review is considering the merits of different LNG and gas price markers, based on their relevance to the east coast gas market
- How LNG liquefaction cost and pipeline transportation costs are considered in calculating the LNG netback price series.

1.2. Timeline and consultation

On 18 March 2021, the ACCC published an issues paper seeking stakeholder feedback on a range of issues, such as the length of the forward LNG netback price series and the LNG netback price methodology. Submissions made to the issues paper are available on the [ACCC website](#).

In April 2021, we met with a number of stakeholders to discuss their submissions and feedback on the issues paper. In addition, the ACCC engaged Wood Mackenzie consultancy to provide expert advice on a range of matters to inform our draft decision on the LNG netback price series methodology. Wood Mackenzie's final report is available on the [ACCC website](#).

On 1 July 2021, we published our draft decision of the review. Our draft decision was to:

- continue to publish historical and short-term forward LNG netback prices extending to 2 years based on JKM spot prices

⁶ ACCC, *Gas Inquiry 2017-2025 webpage*, March 2021, <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025>, viewed 13 August 2021.

⁷ Prime Minister of Australia, Media Release, *Gas-fired Recovery*, 15 September 2020.

⁸ ACCC, *Gas Inquiry 2017–2025 interim report*, July 2021, pp. 44, 51–53.

- publish longer-term forward LNG netback prices extending to 5 years based on an oil index
- source from a consultant an estimate of the appropriate percentage, or slope, to apply to oil indexes no less frequently than on an annual basis, to calculate longer-term forward LNG netback prices
- maintain our current approach to estimating export costs in calculating LNG netback prices, with longer-term LNG freight cost estimates to be sourced from a consultant no less frequently than on an annual basis
- deduct only avoidable (marginal) export costs in calculating the LNG netback price series.

We sought stakeholder views on our draft decision and the findings made in the draft decision paper, and on the preliminary report provided by Wood Mackenzie. Submissions made to the draft decision paper are available on the [ACCC website](#).

We also conducted another round of stakeholder consultation.

- On 20 July 2021, we convened an industry stakeholder forum. The forum provided an opportunity for industry stakeholders to discuss the views published in the draft decision paper and in submissions to our review.
- In August 2021, we held an additional seven meetings with stakeholders to discuss their submissions and feedback on the draft decision paper.

This paper presents our final decision and concludes this review. The feedback we have received in submissions made to the draft decision paper and in our stakeholder consultation have informed our final decision.

The ACCC will now implement changes to the LNG netback price series resulting out of this final decision.

2. Role of the netback

The development of the Queensland LNG plants significantly changed the east coast gas market. Gas produced in the east coast of Australia that supplies domestic residential, commercial and industrial users now also supplies LNG users in international markets. As a result, international LNG prices influence domestic gas prices. In 2021, domestic demand accounted for approximately 27% of total east coast gas demand.⁹

The opportunity cost to LNG producers of supplying the domestic market is an important consideration for market participants in the east coast gas market. Queensland LNG producers influence domestic prices as the marginal suppliers into the domestic market. As long as there is excess capacity in the Gladstone LNG export facilities, they are not likely to be willing to supply uncontracted gas to domestic buyers at prices below LNG netback prices.

The ACCC developed and began publishing the LNG netback price series to improve transparency around current and future pricing trends in the domestic gas market, recognising the relevance of LNG netback prices to domestic gas prices. The LNG netback price series was developed to help reduce the imbalance in relative bargaining positions of gas suppliers and gas users. It provides gas users with the same LNG price information that gas suppliers already have and which they use in their decision-making around prices offered for and agreed in domestic supply contracts.

In publishing the LNG netback price series, the ACCC is not providing a view on what level of gas pricing is 'fair' to either sellers or buyers, or trying to provide a 'bottom up' reference price that applies a margin to gas production costs. Importantly, LNG netback prices are not the sole factor influencing domestic gas prices.

The LNG netback price series is one measure implemented by the ACCC to improve transparency. Over the course of the Gas Inquiry, we have published a range of information to improve gas market transparency, including information on:

- the short and long-term supply outlook
- reserves and resources
- cost of production estimates
- prices in gas supply contracts and offers
- gas transmission and storage pricing
- the pricing strategies of key gas suppliers
- retail margins.

The ACCC has also made a series of recommendations to government to improve gas market transparency.¹⁰

This chapter provides an overview of the role LNG netback prices in the domestic market.

⁹ ACCC, Gas Inquiry 2017-2025, *July 2021 interim report*, 17 August 2021, p.52.

¹⁰ ACCC, Gas Inquiry 2017-2025, *Transparency recommendations*, December 2018, <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/transparency-recommendations>, viewed 6 September 2021; ACCC, Gas Inquiry 2017-2025, *Further transparency recommendations*, June 2019, <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/further-transparency-recommendations>, viewed 6 September 2021.

2.1. Stakeholder views on the role of the LNG netback price series

In submissions provided to the ACCC, stakeholders provided a range of views on the role of the LNG netback price series.

Senex suggest that because the LNG netback price series represents the 'point of indifference' for LNG spot sales, it has 'little bearing' on the prices negotiated for longer-term domestic GSAs (under which at least 80% of gas sold on the east coast is sold).¹¹ Senex consider that other factors, such as contract flexibility and production costs, play a larger role in influencing prices offered in the domestic market.

Major Energy Users (MEU) expressed their concern that gas producers are currently using LNG netback prices as a floor price for domestic sales. The MEU also suggested that the ACCC's LNG netback price series is inflated due to the ACCC not deducting sunk LNG plant capital costs (chapter 3.3), and consider that domestic gas price offers should instead be 'referenced to a cost base that is independent to the netback price calculated by the ACCC'.¹²

The Energy Users Association of Australia (EUAA) questioned the relevance of the ACCC's proposed approach to calculating LNG netback prices, set out in the Draft Decision Paper, to non-LNG producers supplying 60% of gas on the east coast.¹³

The EUAA suggests that non-LNG producers are not able to access LNG export markets, and that for most, their only alternative to domestic supply is to sell to LNG producers (who would then export that gas). The EUAA further suggests that the prices that non-LNG producers would receive when selling gas to LNG producers would represent their 'opportunity cost' to supplying gas to domestic-focused gas buyers.

The EUAA proposes that the ACCC gather information from non-LNG producers on the prices they receive for gas sales to LNG producers, and use this to inform the development of an 'Australian Domestic Netback Price'. The EUAA submits that the ACCC should then use this price to compare against offers made by non-LNG producers. The EUAA suggests that 'commercial reality will drive the price that non-LNG producers receive for the gas they sell to LNG producers to reflect costs greater than just the avoidable/marginal costs and include, at least to some extent, these capital costs.' In other words, the prices that LNG producers will be willing to pay other gas producers will sit below LNG netback prices as LNG producers will seek to recover, at least in part, sunk capital costs.

The EUAA also suggests that LNG netback prices are not relevant at all for those gas producers who produce gas from tenements that have domestic supply requirements. They propose that the ACCC compare offers made by such gas producers with estimates of the costs of production for gas from relevant tenements.

The MEU also suggests the ACCC gather information on the prices at which domestic producers sell uncontracted gas to LNG exporters to better understand the prices at which (non-LNG) gas producers would be indifferent between selling uncontracted gas to the domestic market or to export markets.

¹¹ Senex, Submission to the draft decision paper, July 2021, pp. 1–2.

¹² MEU, Submission to the draft decision paper, July 2021, p. 4.

¹³ EUAA, Submission to the draft decision paper, August 2021.

Incitec Pivot and Qenos also support the ACCC developing an Australian Domestic Netback Price.¹⁴

Chemistry Australia suggests that, in reviewing the LNG netback price series, the ACCC must ensure that the LNG netback price series promotes fairness and distinguishes between producers supplying non-liquefied gas to the domestic market and those incurring significant liquefaction costs to export LNG.¹⁵

2.2. ACCC views on the role of the netback

The ACCC's LNG netback price series is a transparency measure that provides a publicly available reference price to help improve the functioning of the domestic east coast gas market in its current operating environment. It does so by reducing information asymmetry and helping to reduce bargaining power imbalances between parties in the market.

A good reference price improves information symmetry and more evenly balances bargaining position of parties in the market by:

- reflecting the commercial realities and options available to market participants
- being evidence-based and consistent with observable market data and information.

The transparency objective of the LNG netback price series can only be achieved by publishing prices that are directly relevant to the market. By publishing the LNG netback price series, the ACCC is making available to C&I users information that a range of east coast gas suppliers already have access to and consider when making offers and entering into domestic GSAs.

If LNG netback prices do not reflect commercial realities, then we will see a greater divergence between our published netback prices and actual offers made in the market. In these circumstances, our netback price would not improve transparency and would not assist gas users in their negotiations for domestic GSAs. Rather LNG netback prices that do not accurately reflect the commercial realities in the east coast gas market could potentially mislead market participants as to what prevailing market prices are likely to be. Publishing LNG netback prices that have limited or no relevance to the domestic east coast gas market would also not improve information symmetry between gas suppliers and C&I users in the market.

Our LNG netback prices reflect commercial realities and options

Our LNG netback price series reflects the current commercial realities of the east coast gas market. Domestic gas prices are linked with Asian LNG prices as east coast gas producers are able to export gas as LNG and LNG netback prices are a measure of the opportunity cost to LNG producers of supplying the domestic market in the current circumstances.

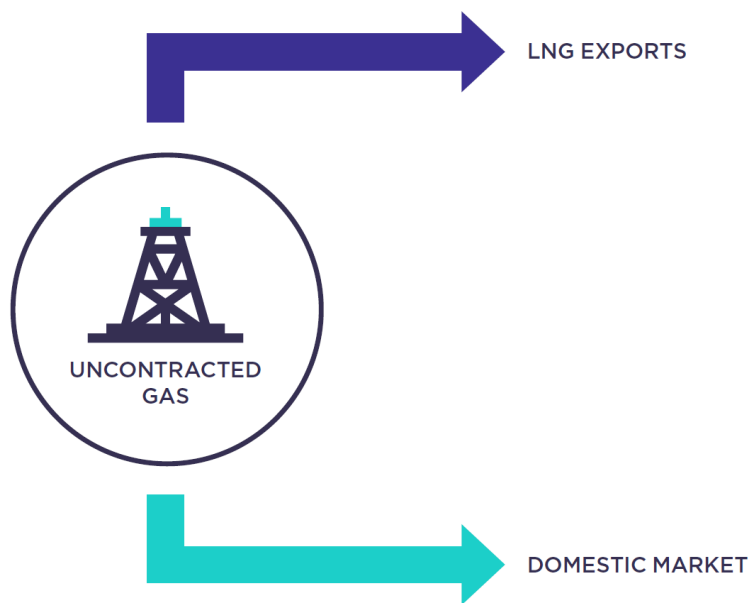
Queensland LNG projects linked the east coast gas market to Asia

The development of the Queensland LNG projects connected the east coast gas market to international LNG markets (figure 2.1), and has since linked domestic gas prices to those in international LNG markets, particularly those in Asia.

¹⁴ Incitec Pivot, Submission to the draft decision paper, August 2021, p. 2; Qenos, Submission to the draft decision paper, August 2021, p. 3.

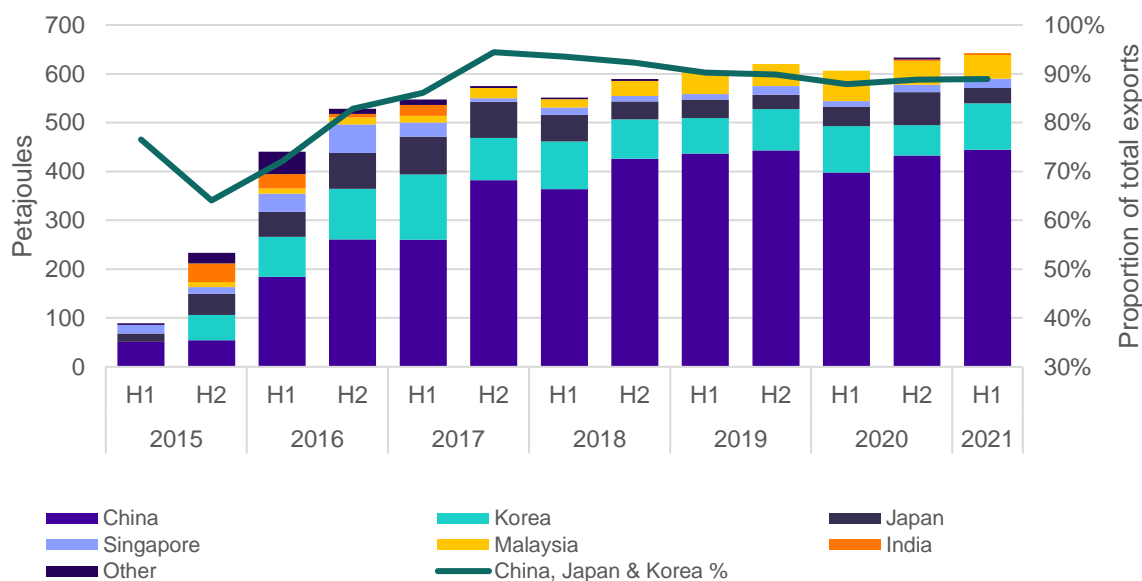
¹⁵ Chemistry Australia, Submission to the draft decision paper, August 2021, pp. 3–4.

Figure 2.1: Domestic producers have access to LNG export markets



Australia’s closest LNG markets are those in Asia, and since 2015, the majority of gas exported from the east coast gas market has been exported to LNG buyers in northeast Asia (figure 2.2).¹⁶

Figure 2.2: Queensland LNG producer exports by destination, 2015 to 2021



Source: Australian Energy Regulator; ACCC analysis of Gladstone Port Corporation data

Notes: We have used conversion ratio of 1 mt: 55.43 PJ.¹⁷

¹⁶ Gladstone Port Corporation, Trade statistics, n.d., <https://www.gpcl.com.au/trade-statistics>, viewed 30 August 2021.

¹⁷ Santos, Conversation calculator, n.d., <https://www.santos.com/conversion-calculator>, viewed 6 September 2021.

This reflects Australia's close proximity to northeast Asia, which is a major LNG importing region. In 2020, northeast Asian countries accounted for 55% of total global LNG demand.¹⁸ This proximity means that Asian LNG prices are most relevant for the east coast gas market.

Most gas producers that supply uncontracted gas into the domestic market forego the opportunity to supply that gas into LNG export markets. This means that there is an opportunity cost associated with supplying the domestic market.

Queensland LNG plants continue to have excess liquefaction capacity

The Queensland LNG producers will continue to be able to sell uncontracted gas into export markets only if the LNG plants continue to have spare liquefaction capacity.

In chapter 3, we note the Queensland LNG plants remain below their nameplate capacity and are unlikely to reach full capacity in the near future (section 3.3.2). This means LNG producers will continue to have an alternative to supplying the domestic market and the LNG netback price remains a relevant consideration in domestic pricing.

If significant new supplies of gas are developed in the east coast gas market and the Queensland LNG plants no longer have spare liquefaction capacity, then either:

- gas produced in excess of the Queensland LNG plants' liquefaction capacity will no longer be able to be sold into international LNG markets and its price will primarily be influenced by local supply and demand factors, or
- if the alternative for LNG producers to entering contracts to sell gas to domestic buyers is to enter contracts to sell LNG in global markets to underpin the construction of additional LNG capacity, then the capital costs of building a new LNG train would need to be considered and the methodology for calculating the LNG netback price series reviewed.

Chapter 3 provides an examination of spare capacity of the Queensland LNG plants.

The ACCC will closely monitor the utilisation of the LNG plants to ensure the LNG netback price series, which reflects current market dynamics, remains appropriate for the east coast gas market.

The ACCC has heard views, however, that the Queensland LNG producers may have an incentive to not fully utilise their plants to ensure that LNG netback prices continue to influence domestic prices and/or to avoid the deduction of capital expenditure costs from the LNG netback price. While this is possible, it does not appear to currently be the case. Given the relatively high prices in international markets and available capacity, LNG producers currently appear to have strong incentive to increase the throughput of their LNG plants. The ACCC will continue to assess whether this is likely to remain the case going forward.

Our LNG netback price represents the current opportunity cost of supplying the domestic market

Our LNG netback price represents the opportunity cost to LNG producers of supplying uncontracted gas to the domestic market rather than exporting into international LNG markets under the current market circumstances. It is the price for uncontracted gas an LNG producer could expect to receive from domestic buyers to be indifferent to supplying that gas to the domestic market or overseas markets.

¹⁸ Shell, LNG Outlook, 2021, <https://www.shell.com/energy-and-innovation/natural-gas/liquefied-natural-gas-lng/lng-outlook-2021.html>, viewed 1 June 2021.

In this sense, the LNG netback price series reflects the current commercial reality facing LNG producers. So long as there is excess capacity in the LNG export facilities, they are not likely to be willing to supply uncontracted gas to domestic buyers at prices below LNG netback prices.

Our LNG netback price also represents the maximum price an LNG producer could be willing to purchase gas from non-LNG producers (unless the LNG producer is short of gas required to meet contractual obligations), as it will not be able to export gas purchased from non-LNG producers above this price for a profit.

Under some circumstances, domestic buyers may have to pay LNG producers prices in excess of the LNG netback price. For example, if the LNG producer incurs transport costs in delivering the gas to the buyer, if the LNG netback price is below the LNG producer's marginal cost of gas production or if the nature of the contract requires the gas producer to take on more risk than if the gas was exported.

The LNG netback price is an important benchmark because if domestic gas prices fall below LNG netback prices, then LNG producers will have incentives to sell uncontracted gas overseas rather than to domestic buyers up to the level of spare capacity in the LNG plants. Given LNG producers supply a significant proportion of domestic gas, this is likely to result in shortages in the domestic market.

In a well-functioning market, we would expect LNG producers to supply uncontracted gas to Wallumbilla at prices broadly similar to LNG netback prices, which in turn would lead to domestic east coast gas market prices around LNG netback price levels.

Our LNG netback prices are supported by evidence and consistent with observable market data

Our LNG netback price series is supported by evidence and consistent with observable market data and information. The ACCC has commented extensively in recent years on the influence of LNG netback prices on broader market pricing on the east coast. Domestic gas offers are in line with or above LNG netback prices and domestic gas price offers are broadly similar for all buyers.

LNG netback prices are a key factor influencing gas prices on the east coast

In our 2015 Inquiry into the east coast gas market, we discussed in detail the influence that LNG netback prices were likely to have on the outcomes of gas supply negotiations in the domestic market.¹⁹ We also recommended, as part of that inquiry, that an LNG netback price be developed and published to improve gas market transparency.

The ACCC's decision to publish LNG netback prices, starting in 2018, was motivated in part by the influence of LNG netback prices on broader market prices, and was supported by major gas users.

The ACCC's review of pricing strategy documents of key LNG and gas producers confirms that LNG netback prices are relevant for both LNG and non-LNG producers alike.²⁰ In particular, east coast gas suppliers generally consider LNG netback prices when forming views about gas prices on the east coast gas market.

¹⁹ ACCC, Report, Inquiry into the east coast gas market, April 2016.

²⁰ ACCC, Gas Inquiry 2017–2025 interim report, July 2021.

The key way in which LNG prices influence domestic prices is by influencing the prices at which LNG producers supply the domestic market. This is because LNG producers consider LNG prices when deciding whether, and at what price, to supply uncontracted gas to the domestic market rather than into export markets. Because uncontracted gas from the LNG producers can be necessary to balance the domestic market (that is, the LNG producers are the marginal suppliers to the domestic market), LNG netback prices can influence marginal gas supply into the east coast gas market, and therefore influence prevailing gas market prices.²¹

Another way that LNG prices can influence domestic market pricing arises from the option for non-LNG producers to access international export markets through the Queensland LNG projects.

In our draft decision paper, we noted that non-LNG producers may be able to access LNG export markets by:

- selling gas to LNG producers on a third-party basis, at prices influenced by prices in export markets, which an LNG producer would then liquefy and export
- entering into a 'tolling' arrangement with an LNG producer to access unutilised LNG plant liquefaction capacity, whereby an LNG producer would charge a toll to liquefy gas on behalf of another gas supplier, with that the non-LNG producer then selling the LNG into export markets.

We also noted that, as part of our examination of pricing strategy documents of east coast gas suppliers, we observed that some non-LNG producers on the east coast view selling to the LNG producers as an alternative to supplying the domestic market.

This means that LNG prices can be indirectly relevant to non-LNG producers given they would influence the prices that LNG producers would be willing to pay to purchase gas for export.

By publishing LNG netback prices, the ACCC is improving price discovery in the east coast gas market by providing up-to-date information to all market participants on a key factor that influences domestic gas prices.

Domestic gas price offers are broadly similar for all buyers

In its submission, the EUAA suggests the ACCC publish a second LNG netback price series for non-LNG producers, based on the premise that the opportunity cost of supplying the domestic market is lower for non-LNG producers than it is for LNG producers.²² The EUAA further suggests the ACCC use its information gathering powers to collect data to test whether this premise is correct.

However, the premise does not account for the general influence of LNG netback prices on domestic east coast gas prices. Gas is a fungible commodity and all gas suppliers are ultimately able to supply gas at prevailing market prices (accounting for factors such as delivery). LNG netback prices remain a key factor influencing domestic prices as the LNG producers remain the marginal suppliers to the east coast gas market.

The commercial reality is that non-LNG producers will seek to sell gas to the buyer willing to pay the highest price (all other things equal), and non-LNG producers are not likely to supply

²¹ LNG netback prices would be likely to have less influence on domestic prices if uncontracted gas from the LNG producers was not required to balance the east coast gas market.

²² EUAA, Submission to the draft decision paper, August 2021, p. 6.

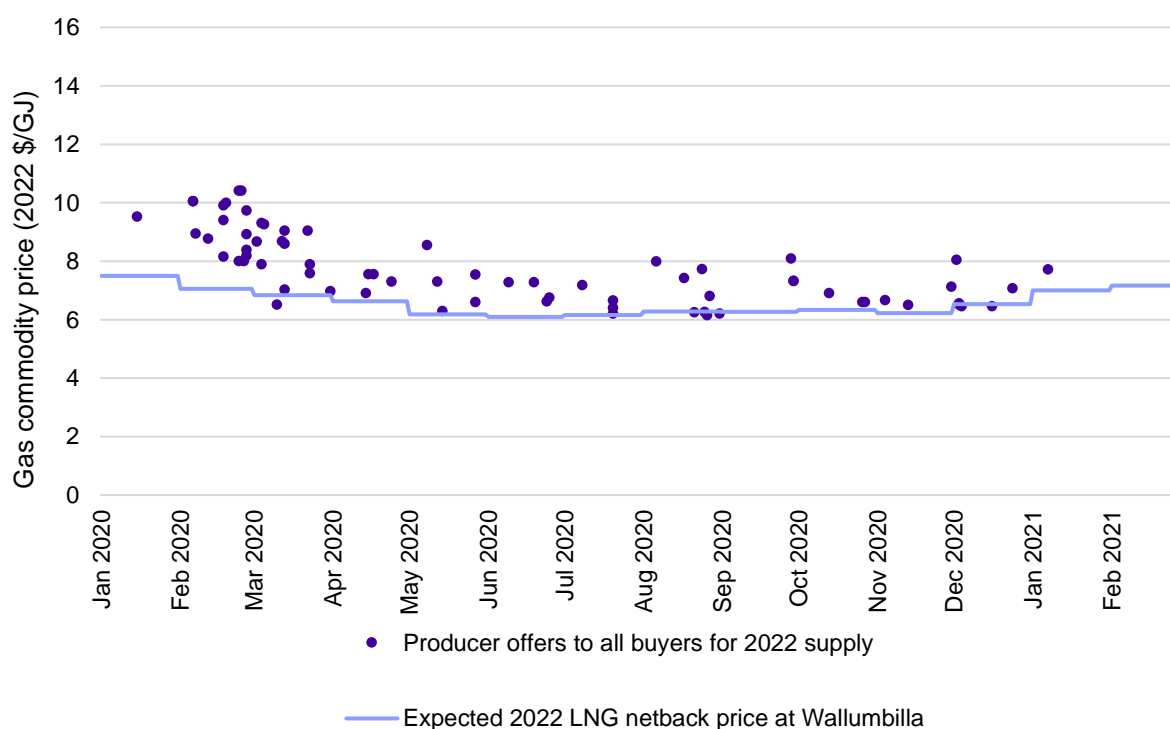
gas to LNG producers at prices below those they would receive when selling to other domestic buyers.²³ In practice, the opportunity cost to a non-LNG producer of supplying a particular buyer, LNG producer or otherwise, will be the price they would receive if selling to another buyer in the domestic market, which would be the prevailing market price.

The ACCC has also examined contemporary data to test the EUAA’s proposition.

The ACCC routinely collects and publishes data on offers made by gas producers on the east coast for GSAs of at least 12 months and more than 0.5 PJ. This includes any relevant offers made by non-LNG producers to LNG producers.

Offers data for 2022 supply in both Queensland and the southern states, as published in the ACCC’s Gas Inquiry July 2021 interim report, shows that almost all offers made by suppliers in the east coast gas market, to any buyer, were in line with or above LNG netback prices (chart 2.1).²⁴ That is, the data collected by the ACCC does not suggest that non-LNG producers make offers to LNG producers at prices below LNG netback prices.

Figure 2.3: Gas commodity prices (2022\$/GJ) offered by producers to all buyers for 2022 supply against expectations of LNG netback (Queensland) at the same time



We undertook some further analysis of this data, and data on offers for 2021 supply, to assess whether non-LNG producers are offering gas to LNG producers at a discount to the prices being offered by those same producers to other domestic gas buyers. This analysis suggests that where domestic producers make offers to LNG producers, the prices in these offers are broadly in line with prices offered by domestic producers to other buyers on the east coast gas market.²⁵

²³ ACCC, Gas Inquiry 2017–2025 interim report, July 2021.

²⁴ ACCC, Gas Inquiry 2017–2025 interim report, July 2021, chart 2.3.

²⁵ Offers data for 2021 was published in the ACCC’s July 2021 Gas Inquiry 2017–2025 interim report, charts A.3 and A.4.

It does not appear that, in practice, non-LNG producers receive different prices for domestic supply than LNG producers. Based on this, we do not consider it meaningful to develop or publish an 'Australian Domestic Netback Price' series given current market dynamics on the east coast.

The EUAA also suggests that the ACCC compare offers made by producers who have domestic only supply tenements against estimated production costs for gas from those tenements. The EUAA suggests that LNG netback prices are not relevant at all to these producers as gas from tenements with domestic supply conditions cannot be exported.

We note that the purpose of the LNG netback price series is to improve price transparency given the influence of LNG netback prices on gas prices in the east coast gas market. Producers with domestic-only tenements ultimately sell that gas into the domestic market at prevailing market prices which, as discussed earlier, are influenced by LNG netback prices.

In publishing the LNG netback price series, the ACCC is not seeking to set a 'market price' for gas or provide a 'cost-plus' benchmark to compare domestic prices against.

That said, we recognise that improving transparency around production costs may be beneficial to the extent that they provide information to market participants on future gas prices (given production costs are likely to act as a floor for market prices). In 2018, the ACCC, in conjunction with the Gas Market Reform Group, recommended that AEMO publish production cost estimates as part of its annual Gas Statement of Opportunities.²⁶ We note that these reforms were endorsed by Energy Council in March 2020, and a bill to implement these reforms was introduced to the South Australian Parliament in September 2021.

Other price markers and costs are currently not directly relevant to the east coast gas market

Some stakeholders suggest that publishing additional LNG netback price series would improve market transparency, and that the ACCC publish:

- Henry Hub linked LNG netback prices
- 'long-term' LNG netback prices that deduct the sunk capital costs of building the LNG plants.

As discussed further in section 3.2, Henry Hub is currently not a direct influence on the east coast gas market, as it has only a marginal influence on Asian LNG prices. The sunk capital costs of building the Queensland LNG plants are also not currently relevant as they do not influence the value of either exporting LNG or supplying gas to the domestic market.

As discussed previously, to achieve its transparency objective the ACCC's view is that it should publish prices and costs that are most relevant to and strongly influence the east coast gas market.

However, we note that the east coast gas market and international LNG and gas markets are dynamic, and that there is a high degree of uncertainty about future developments in these markets. This was reflected by some C&I users in their submissions to this review. For this reason, we propose to undertake another review by no later than 2024 to ensure that our LNG netback price series remains appropriate and relevant to the market environment. The ACCC will, in the meantime, monitor developments in the east coast gas market and LNG markets to ensure our published LNG netback price series continue to be appropriate and relevant to the market.

²⁶ ACCC and GMRG, *Joint recommendations: Measures to improve the transparency of the gas market*, December 2018.

3. ACCC final decision

Our final decision is to:

- continue to publish historical and short-term forward LNG netback prices extending to 2 years based on JKM spot prices
- publish longer-term forward LNG netback prices extending to 5 years, based on an oil-linked index
- maintain our current approach to converting LNG prices and LNG freight costs from USD\$/MMBtu to AUD\$/GJ
- maintain our current approach to deducting LNG freight costs to calculate LNG netback prices
 - Historical LNG freight costs will be estimated using Platts' daily assessments of LNG freight costs between Gladstone and Futtsu in Tokyo Bay.
 - Short-term forward LNG freight costs, for a 24-month forward period, will be estimated using Argus Media's weekly assessments of LNG freight costs between Gladstone and Tokyo.
 - Longer-term forward freight costs, for a forward period of more than 2 years and up to 5 years, will be estimated annually by an expert LNG freight consultant or market analyst.
- maintain our current approach of deducting only marginal liquefaction costs to calculate historical, short-term and longer-term forward LNG netback prices
- maintain our current approach of deducting only marginal pipeline transportation costs to calculate LNG netback prices.

The ACCC will source an estimate of the appropriate percentage, or slope, to apply to oil indexes to calculate longer-term LNG prices from an expert consultant or market analyst, no less frequently than on an annual basis. The ACCC will consult with industry stakeholders in developing a methodology to calculate longer-term forward LNG netback prices.

The ACCC will also undertake another review of the LNG netback in 2024, but remain open to bringing this review forward if market developments warrant it.

3.1. Length of the forward LNG netback price series

Draft decision

Our draft decision was that publishing longer-term forward LNG netback prices would benefit C&I users seeking longer-term domestic GSAs.

The ACCC currently publishes forward LNG netback prices extending to 2 years based on JKM, which reflects:

- relatively low liquidity in the Japan Korea Marker (JKM) futures market beyond a period of 2 years²⁷

²⁷ Market participants are not likely to view JKM as a reliable indicator of future Asian LNG spot prices beyond this period. For example, on 14 June 2021, open interest in JKM futures listed on the Intercontinental Exchange fell to the equivalent of about 15 PJ in July 2023 compared to 105 PJ in August 2021.

- limited available data on forward LNG freight rates from Gladstone to the key export markets in northeast Asia beyond a period of 2 years²⁸
- that when we developed the existing LNG netback price series, we considered that the primary alternative for suppliers, other than domestic gas supply, was to export LNG into the Asian LNG spot markets over the short term.

Longer-term LNG netback prices are relevant to gas pricing in the east coast gas market, particularly for negotiations for longer-term domestic GSAs. A significant portion of offers for gas supply in the east coast gas market are for periods longer than 2 years and submissions provided by most C&I users to this review strongly supported the ACCC developing and publishing longer-term forward LNG netback prices to assist them in their negotiations for longer-term gas supply agreements (GSAs).

The ACCC's review of pricing strategy documents from a range of suppliers also clearly shows that while domestic suppliers continue to view JKM as a relevant benchmark over the short term, many also consider that prices in medium-term LNG strips, which are calculated using oil indexes, are also relevant to the domestic market.²⁹

Given the relevance of longer-term LNG prices for the domestic market, and the need for longer-term forward LNG netback prices to inform negotiations for longer-term domestic GSAs, our draft decision was to publish longer-term forward LNG netback prices using oil indexes. Our view was that this would address an existing information asymmetry between gas suppliers and C&I users.

There are substantial challenges with publishing longer-term forward LNG netback prices and we specifically sought feedback from stakeholders on these challenges (section 3.2).

There are also potentially risks associated with publishing longer-term forward LNG netback prices. Our preliminary view was that, on balance, the benefits of publishing longer-term forward LNG netback prices would outweigh the associated risks.

Stakeholder views on the length of the LNG netback price series

In their submissions to the ACCC's draft decision paper, C&I users support the ACCC developing and publishing longer-term forward LNG netback prices, although some C&I users suggest using Henry Hub prices as a starting point.

Chemistry Australia supports the ACCC's decision to publish longer-term forward LNG netback prices, but has concerns that using oil indexes would link domestic prices to global oil markets.³⁰ Chemistry Australia, Incitec Pivot and Qenos suggest that achieving internationally competitive gas prices is important to domestic manufacturers and subsequently recommend we use Henry Hub prices to calculate longer-term forward LNG netback prices in addition to using oil indexes.³¹

Major Energy Users also supports the ACCC publishing longer-term LNG netback prices as it would provide an advantage to gas buyers.³²

²⁸ LNG freight costs, which are deducted in calculating LNG netback prices, can be material and have a significant impact on calculated LNG netback prices

²⁹ ACCC, Gas Inquiry 2017–2025 interim report, July 2021, pp. 51–53.

³⁰ Chemistry Australia, Submission to the draft decision paper, August 2021, p. 5.

³¹ *ibid*, pp. 4–5; Incitec Pivot, Submission to the draft decision paper, August 2021, p. 1; Qenos, Submission to the draft decision paper, August 2021, p. 2.

³² Major Energy Users, Submission to the draft decision paper, July 2021, p. 4.

Some gas suppliers also support the ACCC's draft decision.

Cooper Energy suggests that longer-term LNG netback prices would provide a more suitable price marker for long-term domestic GSAs, and would help to underpin the necessary investments to explore, develop and bring new gas supplies to market.³³ Publishing forward LNG netback prices over a 5-year period would cover medium-term GSAs and gas supply projects from exploration to commercialisation time frames. Cooper Energy notes that by publishing longer-term forward LNG netback prices, further investment by producers to bring gas to market may be encouraged.

Esso is also broadly supportive of the ACCC publishing both short-term forward LNG netback prices based on JKM spot prices up to 2 years, as well as longer-term forward LNG netback prices based on an oil index (extending to 5 years).³⁴

GLNG supports the ACCC developing and publishing longer-term forward LNG netback prices in addition to the current netback price series, but recommends that the ACCC consult extensively in doing so.³⁵

APPEA, as the key representative body for gas producers, also supports the ACCC's draft decision, but recommends that the ACCC consult extensively on the development of an oil-linked LNG netback price.

Several producers do not support the publication of longer-term forward LNG netback prices using oil indexes.

APLNG suggests that it would be appropriate to publish longer-term forward LNG netback prices using JKM once there is sufficient liquidity in the JKM futures market. APLNG is reluctant to support an LNG netback price based on oil indexes because 'mid-term' LNG market is opaque and information on prices in bilateral mid-term LNG contracts is not publicly available. APLNG further suggests that oil-linked LNG netback prices should be published as a range that reflects historical averages and recent market intelligence.

ConocoPhillips Australia, who is a partner in the APLNG joint venture, suggests that the ACCC's current LNG netback price series, which is published over a 2-year forward period using JKM, is appropriate as JKM represents the opportunity cost to domestic supply. ConocoPhillips Australia suggests that the ACCC extend the length of the forward price series only when liquidity in the JKM futures market grows. It suggests that extending the LNG netback price series using oil indexes is not appropriate because JKM and oil prices are not correlated and there is a lack of transparency around oil-linked LNG prices.

Origin Energy, which is also a partner in APLNG, similarly supports the ACCC continuing to publish the current LNG netback price series, but noted its reservations around the merits of publishing longer-term LNG netback prices out to 5 years. Origin further notes the issues that need to be overcome in developing longer-term LNG netback prices, including how a consultant will estimate an appropriate slope to apply to oil indexes and how forecasting uncertainty over a 5-year period will be addressed.

Origin Energy further suggests that the ACCC should only make a final decision to extend the LNG netback price series if and when we are confident that these issues can be overcome. Finally, Origin Energy has concerns that the ACCC extending the LNG netback price series could create an expectation that the ACCC is forecasting future domestic prices.

³³ CooperEnergy, Submission to the draft decision paper, July 2021, p. 2.

³⁴ Esso Australia, Submission to the draft decision paper, July 2021.

³⁵ GLNG, Submission to the draft decision paper, July 2021, pp. 1–6.

The LNG netback price series reflects market expectations, at a point in time, for the various inputs used to calculate LNG netback prices (chapter 2 provides an overview of the role of LNG netback prices). The ACCC is not providing a forecast of future domestic gas prices by publishing LNG netback prices.

Final decision

In undertaking this review, the ACCC invited feedback from stakeholders on all and any matters relevant to the LNG netback price series.

This included whether the ACCC should continue to publish the current historical and short-term forward LNG netback price series.

The ACCC's final decision is to continue to publish historical and short-term LNG netback prices out to 2 years. The ACCC's final decision is to also develop and publish longer-term forward LNG netback prices over a 5-year forward period and consult extensively with stakeholders to implement this decision.

Our LNG netback prices continue to represent the opportunity costs of supplying the domestic market to LNG producers. As LNG producers are the marginal suppliers to the domestic market, short-term LNG netback prices continue to be a relevant benchmark for gas suppliers and gas buyers negotiating shorter-term domestic GSAs out to 2 years.

Short-term forward LNG netback prices have limited relevance to domestic gas buyers that routinely consider and enter into GSAs longer than the 2-year forward period. Extending the LNG netback price series will help inform negotiations between gas suppliers and gas buyers for longer-term domestic GSAs.

Publishing historical LNG netback prices is also important to provide information to market participants on historical and seasonal pricing trends.

The ACCC's review of pricing strategy documents from key gas suppliers confirms this finding.

Stakeholders also generally supported the ACCC's final decision, including our decision to develop and publish longer-term forward LNG netback prices extending to 5 years. Cooper Energy, for example, noted that longer-term oil-linked forward LNG netback prices would better support gas exploration and development in the east coast gas market. C&I users also support the ACCC's decision to publish longer-term forward LNG netback prices.

However, some stakeholders have concerns about how the ACCC will implement longer-term forward LNG netback prices, particularly given the associated challenges and our choice of reference marker (these challenges are discussed in section 3.2).

Finally, we note that by publishing longer-term forward LNG netback prices, the ACCC is not forecasting or projecting future gas prices on the east coast gas market. Publishing longer-term forward LNG netback prices provides an indicative contemporary reference price for longer-term domestic GSAs at current LNG market prices.

3.2. LNG price markers to calculate the LNG netback price series

We use LNG reference price markers as the starting point for calculating an LNG netback prices. Our approach to calculating LNG netback prices is not to create an indicative benchmark price for the east coast gas market, but rather to accurately reflect an LNG

producer's commercial realities and current opportunity cost to supply users in the domestic east coast gas market (chapter 2).

Draft decision

Our draft decision was that Asian LNG prices should be used to calculate LNG netback prices in the east coast gas market, as they currently represent the best measure of the opportunity costs to LNG producers of supplying the domestic market.

The ACCC's examination of pricing strategy documents obtained from east coast gas suppliers under compulsory information notices confirmed that LNG producers, and other gas producers, view:

- JKM as the relevant benchmark for shorter-term GSAs (up to 2 years)
- Oil-linked LNG strip prices as the relevant benchmark for longer-term GSAs (beyond 2 years).

Our draft decision was to continue to publish historical and short-term forward LNG netback prices extending to 2 years using JKM spot prices (consistent with our current approach), and to use an oil index to calculate longer-term forward LNG netback prices extending to 5-years.

We consider the JKM to be an appropriate price marker for calculating shorter term netback prices as Asian LNG spot sales is the key alternative to supplying the domestic market and JKM is a commonly used price marker for Asian LNG spot prices. JKM also has sufficient liquidity for calculating short-term forward LNG netback prices extending to 2 years. Its liquidity, however, drops off beyond a 2-year forward period. This key limitation in JKM means that it is currently unsuitable for calculating longer-term forward LNG netback prices.

The key alternative for LNG producers to supplying the domestic market over the longer-term is to enter into oil-linked LNG contracts. Wood Mackenzie's expert advice to the ACCC also suggests that the majority of short to medium-term LNG contracts sold into northeast Asia are priced using some form of oil linkage.³⁶

There are challenges with using an oil index to calculate longer-term LNG netback prices extending to 5-years. The key challenge is determining an appropriate percentage (slope) to apply to oil prices, particularly as there is not a publicly available comprehensive list of LNG contract prices or price formulae.

A key risk is that publishing longer-term forward LNG netback prices could result in these prices becoming a de facto market price floor, particularly in periods where oil-linked LNG netback prices are higher than those based on JKM. Importantly, oil-linked netback prices need to accurately reflect the current opportunity cost to LNG producers of entering medium-term gas supply contract with domestic buyers, and require periodic monitoring to ensure this approach remains current.

On balance, our preliminary view was that publishing longer-term forward LNG netback prices, using an oil index, is likely to have a net benefit for the east coast gas market by improving transparency and addressing an existing information asymmetry.

Our draft decision was also to source an estimate of the appropriate slope from an expert consultant or market analyst no less frequently than on an annual basis, noting that some

³⁶ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p. 25.

stakeholders currently rely on market assessments, performed by analysts and research companies, to determine appropriate slopes.

We sought feedback on our draft decision, in particular on the use of an oil index to calculate longer-term forward LNG netback prices and the potential materiality of the risks involved.

Our draft decision was to also maintain our current approach to converting LNG prices and LNG freight costs from USD\$/MMBtu to AUD\$/GJ. This is because stakeholder feedback suggested that the current approach remained appropriate.

Stakeholder views on reference prices for calculating LNG netback prices

Submissions on the use of JKM

The majority of stakeholders support the use of JKM for calculating historical and short-term forward LNG netback prices.

APLNG, APPEA, Esso Australia, GLNG and Origin Energy consider that JKM is the most relevant price marker for Asian LNG spot prices.³⁷ Further, ConocoPhillips Australia suggests JKM is the best measure to use in the absence of a domestic Australian benchmark.³⁸

APLNG and Origin Energy consider that JKM price assessments would account for any influence from other price markers, such as TTF or Henry Hub, given it captures offers made by international LNG producers into northeast Asia.³⁹

Cooper Energy supports the use of JKM for short-term forward LNG netback prices as Queensland LNG spot sales into Asia reflect the marginal export transaction in the east coast gas market.⁴⁰

Chemistry Australia and Qenos support the development of historical and short-term forward LNG netback prices based on a range of price markers, including JKM and Henry Hub.⁴¹ Chemistry Australia notes that this is because short-term LNG netback prices based on JKM only resolves part of the inherent information asymmetry that exists between gas suppliers and C&I users.⁴²

Incitec Pivot does not support the use of JKM and recommends the ACCC use the costs of Henry Hub-linked LNG landed into Asia as a proxy for Asian LNG prices.⁴³

Some submissions also commented on the use of JKM for extending the current short-term 2 year LNG netback to 3 years or greater.

ConocoPhillips Australia and GLNG suggest issues related to the churn rate, traded volumes, and open interest be evaluated to assess the level of liquidity needed to extend

³⁷ APLNG, Submission to the draft decision paper, July 2021, p. 2; APPEA, Submission to the draft decision paper, July 2021, pp.11-12; Esso Australia, Submission to the draft decision paper, July 2021, p. 1; GLNG, Submission to the draft decision paper, July 2021, p.5; Origin, Submission to the draft decision paper, July 2021, p. 1.

³⁸ ConocoPhillips Australia, Submission to the draft decision paper, July 2021, p.2.

³⁹ APLNG, Submission to the draft decision paper, July 2021, p.2; Origin, Submission to the draft decision paper, July 2021, p. 1.

⁴⁰ Cooper Energy, Submission to the draft decision paper, July 2021, p. 2.

⁴¹ Chemistry Australia, Submission to the draft decision paper, August 2021, pp. 5, 7-8; Qenos, Submission to the draft decision paper, August 2021, pp. 2-4.

⁴² Chemistry Australia, Submission to the draft decision paper, August 2021, p. 1.

⁴³ Incitec Pivot, Submission to the draft decision paper, August 2021, p. 3.

beyond 3 years, noting that these criteria can be used to build confidence in JKM for longer-term forward LNG netback prices.⁴⁴ APLNG suggests extending the short-term netback using JKM should be accurately caveated where JKM liquidity is not sufficient.⁴⁵

Submissions on the use of an oil index

Stakeholders had mixed views on our draft decision to use oil indexes to calculate longer-term forward LNG netback prices extending to 5 years.

Cooper Energy and Esso Australia both support the draft decision to use an oil index to calculate longer-term forward LNG netback prices.⁴⁶ Cooper Energy considers that oil-linked medium-term LNG contracts provide a relevant marker for domestic suppliers entering into medium-term (5-year) GSAs, and note that medium-term GSAs help producers develop and bring new gas to market.⁴⁷

GLNG suggests that if the ACCC publishes longer-term forward LNG netback prices, then it should be based on an oil index.⁴⁸ GLNG suggests that a significant majority of LNG sales contracts into Asia continue to be priced using oil indexes.⁴⁹

APLNG, APPEA, Origin, GLNG, and ConocoPhillips Australia are reluctant to support the use of an oil index due to the challenges with estimating an appropriate slope to apply to oil prices.⁵⁰ This is primarily because:

- there is no standardised approach to determining a slope of an oil index, or publicly available pricing formula
- there is the potential that longer-term LNG netback prices will not accurately represent the opportunity cost of supplying the domestic market if the chosen oil slope is not reflective of prevailing market LNG contract prices
- there is limited benefit in using an oil index given the low correlation between LNG and oil prices.

APLNG, APPEA and GLNG recommend the ACCC consult with industry to resolve these issues prior to a final decision on extending the LNG netback price series using an oil index.

While some gas and LNG producers have these concerns, they still consider an oil index is the only price marker that should be used for calculating medium-term LNG netback prices.⁵¹

The Energy Users' Association of Australia (EUAA) supports the ACCC publishing a 5-year forward LNG netback prices based on an oil index for years 3 to 5, but notes there are challenges with determining the oil slope and the risk that oil-linked LNG netback prices may become a price floor for the domestic market.⁵²

⁴⁴ ConocoPhillips Australia, Submission to the draft decision paper, July 2021, p. 3; GLNG, Submission to the draft decision paper, July 2021, p. 5.

⁴⁵ APLNG, Submission to the draft decision paper, July 2021, p. 2.

⁴⁶ Cooper Energy, Submission to the draft decision paper, July 2021, p.1; Esso Australia, Submission to the draft decision paper, July 2021, p. 1.

⁴⁷ Cooper Energy, Submission to the draft decision paper, July 2021, p. 3.

⁴⁸ GLNG, Submission to the draft decision paper, July 2021, p .6.

⁴⁹ Ibid, p .3.

⁵⁰ APLNG, Submission to the draft decision paper, July 2021, p. 2; APPEA, Submission to the draft decision paper, July 2021, p. 3; Origin, Submission to the draft decision paper, July 2021, pp. 1-2; GLNG, Submission to the draft decision paper, July 2021, p. 6; ConocoPhillips Australia, Submission to the draft decision paper, July 2021, pp. 2-3.

⁵¹ GLNG, Submission to the draft decision paper, July 2021, p. 6.

⁵² EUAA, Submission to the draft decision paper, August 2021, pp. 2, 10.

Chemistry Australia, Incitec Pivot and Qenos support the ACCC using a delivered Henry Hub price into Asia in a longer-term 5-year netback price.⁵³ They consider that Henry Hub is an important global gas marker with a deep and liquid trading market which will become increasingly relevant in the years to come. Further, they note that US LNG currently competes with Australian LNG in global LNG markets. Chemistry Australia is concerned that an oil-linked netback price will tie the domestic gas market to global oil markets.⁵⁴

Submissions on determining an appropriate oil-linked slope

Our draft decision also sought feedback on the use of an expert consultant or market analyst to provide advice on an appropriate oil slope, no less frequently than on an annual basis.

AGL recommends that oil slope assumptions will need to be updated every six months to ensure the slope remains relevant.⁵⁵ Similarly, APLNG considers that a range of prices/slopes referencing historical LNG strip prices and market intelligence about recent LNG prices should be used instead of a single oil slope.⁵⁶

ConocoPhillips Australia considers that the ACCC sourcing estimates of a slope to apply to oil prices from a consultant is appropriate but notes using an oil index to calculate LNG netback prices is not transparent.⁵⁷ Cooper Energy suggests the ACCC publish any consultant reports and assumptions to reduce information asymmetry.⁵⁸

Chemistry Australia, Incitec Pivot, Qenos and the EUAA suggest that a consultant could be used to develop longer-term forward LNG netback prices based on Henry Hub prices for comparative purposes.⁵⁹ Additionally, they suggest that the ACCC should use:

- its information gathering powers to obtain and review existing LNG exporters' long-term contracts and factor in the range of oil-linked slopes in those contracts to develop a weighted average 'slope'.⁶⁰
- an independent consultant to ensure the oil slope reflects current trends of falling prices in LNG contracts.⁶¹

The EUAA suggests the ACCC examine over time the forecasting performance of the chosen slope against the actual results.⁶² A similar view was shared by the Major Energy Users that propose the ACCC compare movements in oil index netbacks to other gas indices (such as, Henry Hub, TTF, NBP).⁶³

⁵³ Chemistry Australia, Submission to the draft decision paper, August 2021, pp.4-5; Incitec Pivot, Submission to the draft decision paper, August 2021, p.1; Qenos, Submission to the draft decision paper, August 2021, p.2.

⁵⁴ Chemistry Australia, Submission to the draft decision paper, August 2021, p.5.

⁵⁵ AGL, Submission to the draft decision paper, July 2021, p.1.

⁵⁶ APLNG, Submission to the draft decision paper, July 2021, p.2.

⁵⁷ ConocoPhillips Australia, Submission to the draft decision paper, July 2021, p.3.

⁵⁸ Cooper Energy, Submission to the draft decision paper, July 2021, p.3.

⁵⁹ Chemistry Australia, Submission to the draft decision paper, August 2021, p.5; Incitec Pivot, Submission to the draft decision paper, August 2021, p.1; Qenos, Submission to the draft decision paper, August 2021, p.2.

⁶⁰ Chemistry Australia, Submission to the draft decision paper, August 2021, p.8; Qenos, Submission to the draft decision paper, August 2021, p.4; EUAA, Submission to the draft decision paper, August 2021, p.10.

⁶¹ Incitec Pivot, Submission to the draft decision paper, August 2021, p.3.

⁶² EUAA, Submission to the draft decision paper, August 2021, p.10.

⁶³ Major Energy Users, Submission to the draft decision paper, July 2021, p.4.

Final decision

Our final decision is to use JKM spot prices to calculate historical and short-term forward LNG netback prices, and to use an oil index to calculate longer-term forward LNG netback prices.

The ACCC will source an estimate of the appropriate percentage, or slope, to apply to oil indexes to calculate LNG prices from an expert consultant or market analyst, no less frequently than on an annual basis.

Calculate historical and short-term forward LNG netback prices using JKM

Our final decision is to continue using JKM to publish:

- monthly historical LNG netback prices
- short-term forward LNG netback prices, presented on a monthly basis, over a period of 2 years into the future.

Wood Mackenzie's expert advice is that JKM is the most commonly used measure of Asian LNG spot prices, which in part reflects that JKM futures are tradable by market participants.⁶⁴ The JKM price will continue to be relevant to the east coast gas market as long as Queensland LNG producers continue to sell uncontracted gas as spot LNG cargoes into Asia (and northeast Asia in particular) as an alternative to (or opportunity cost of) supplying uncontracted gas to the domestic market (chapter 2).

Our final decision is that the JKM is the most appropriate marker and it is not currently appropriate to use prices in other markets, such as Henry Hub prices, to calculate LNG netback prices for the east coast gas market. In practice, the influence of prices in other markets is accounted for in JKM, to the extent that they influence demand and supply dynamics in Asian LNG markets

We note that the US LNG plants are currently close to their maximum liquefaction capacity, which limits the ability of US LNG to act as a cap on Asian prices during periods of high Asian demand (figure 3.1). We observed this dynamic over much of 2021, during which LNG prices in Asia (and Europe) were well above Henry Hub prices, with US LNG having a limited capacity to put downward pressure on prices in Europe and Asia (figure 3.2).

US LNG is also limited in its ability to influence Asian LNG spot prices during periods of low Asian demand. In 2020, low Asian demand resulted in Asian LNG spot prices being in line with Henry Hub prices, which led to the cancellations of many US LNG cargoes (as LNG producers were unable to cover even their marginal liquefaction and shipping costs).⁶⁵

⁶⁴ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p.29.

⁶⁵ S&P Global Platts, *US LNG cargo cancellations mount for July as weakened global demand persists*, 21 May 2020, accessed 31 August 2020, <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/052120-us-lng-cargo-cancellations-mount-for-july-as-weakened-global-demand-persists>

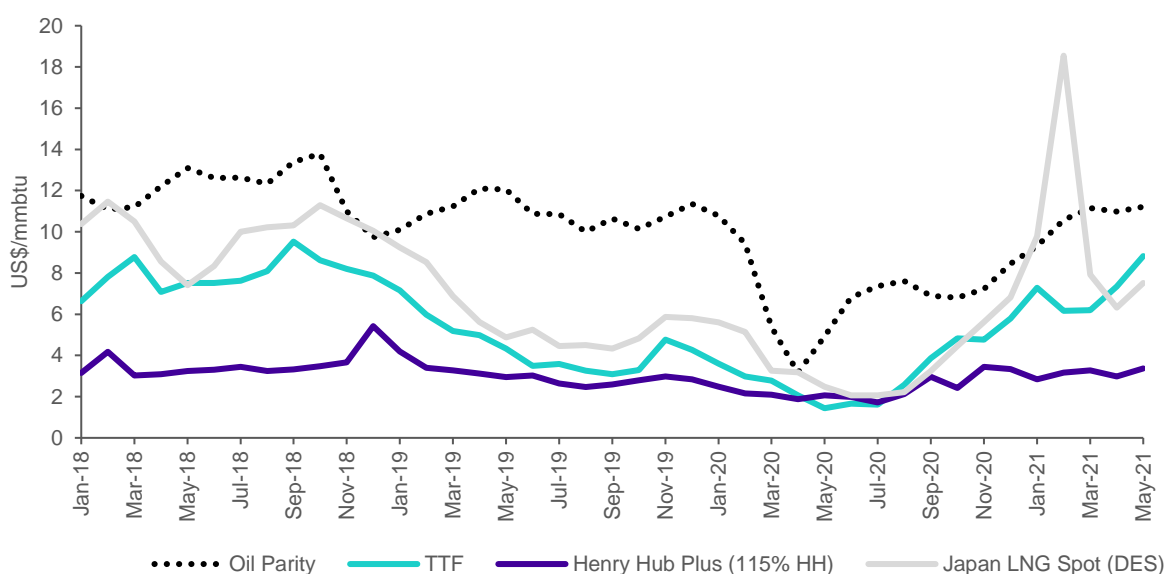
Figure 3.1: Monthly US LNG plant utilisation rates and export volumes, 2020-21



Source: ACCC analysis of EIA data⁶⁶

Notes: We have used a conversion ratio of 1 mt: 55.43 PJ.

Figure 3.2: LNG price markers: Historical Oil Parity, Henry Hub “Plus”, TTF, and Asian LNG Spot Prices, January 2018 to May 2021.



Source: Wood Mackenzie, Final report to the ACCC – LNG netback price series review, September 2021

Notes: Wood Mackenzie sourced Argus Media. HH+ solely reflects 115% of HH. Other LNG costs (e.g. .LNG capacity charge and freight) are not reflected in this visualization.

The Japan LNG Spot/JKM prices used in the analysis are based on historical estimates of Asian LNG spot prices from Argus Media, reported on a delivered basis (as opposed to traded). As such, these reported prices may differ from historical spot JKM prices reported by S&P Global Platts.

⁶⁶ The US Energy Information Administration, Natural gas data, viewed August 2021, <https://www.eia.gov/naturalgas/data.php#imports>.

Wood Mackenzie's expert advice to the ACCC also suggests that prices at either the TTF or Henry Hub currently have a limited influence on Asian LNG spot prices, and that this influence is reflected in JKM price assessments.

The ACCC will continue to monitor developments in overseas LNG markets to identify if and when this situation changes.

Calculate longer-term forward LNG netback prices using an oil index

Our final decision is to use an oil index to calculate longer-term forward LNG netback prices extending to 5 years.

Wood Mackenzie's expert advice confirms that while the oil-linked LNG contract prices and JKM have not shown a strong correlation, an oil index is currently the appropriate measure for calculating longer-term LNG netback prices. This is because the vast majority of medium-term LNG strips sold into Asia are linked to oil prices.⁶⁷

The ACCC's work on pricing strategies also confirmed that:

- Some LNG producers have actively considered entering into oil-linked medium-term multi-cargo LNG contracts (which are typically referred to as LNG strips). Their domestic pricing strategies appear to have been influenced by the prices in such LNG contracts (with these prices representing the opportunity cost of medium-term contracts with domestic buyers).⁶⁸
- Some non-LNG producers also appear to have been influenced by prices in LNG strip contracts. For example, one domestic gas producer appears to have routinely based its pricing assumptions for uncontracted gas supply on oil-linked prices for LNG strips. Another said that while JKM netback was more relevant for domestic spot prices and 1–2 year GSAs, longer-term LNG contract prices (beyond 2 years) were more relevant for multi-year domestic GSAs.⁶⁹

We note that a range of C&I users recommend we use Henry Hub prices for calculating longer-term LNG prices. These C&I users suggest that Henry Hub is preferable to oil indexes as it is a liquid gas on gas marker, and future growth in US liquefaction capacity will increase the influence of Henry Hub prices on international LNG prices.

Ideally, with a well-functioning, liquid and transparent market, a gas price marker would be more suitable to extend the forward LNG netback price series in the future. We decided at this time to not use Henry Hub prices for calculating longer-term forward LNG netback prices as at present medium-term LNG strips sold into Asia are predominantly priced on an oil-index basis. Henry Hub prices ultimately reflect US gas supply and demand dynamics and currently have limited relevance for Asian LNG price formation due to limited export capacity.

We agree with some stakeholders that Henry Hub may become more relevant to LNG pricing globally in the future, but it is not yet clear when this will occur, and it will depend on increased US liquefaction capacity being available to allow additional (marginal) US exports into the Asian markets.

⁶⁷ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p.32.

⁶⁸ ACCC, *Gas Inquiry 2017-2025, July 2021 interim report*, 17 August 2021, p.52.

⁶⁹ *Ibid*, p.53.

Many domestic gas and LNG producers already have access to information on oil-linked LNG netback prices, which they consider when forming views about domestic gas prices.⁷⁰ The ACCC's decision to publish oil-linked LNG netback prices will improve market transparency and address an existing information asymmetry between these producers and C&I users.

Some stakeholders suggest that longer-term netback prices will not account for other factors that influence prices in the domestic market, such as contract duration, end user flexibility, retailer margins and transport costs. However, our review of pricing strategy documents of key east coast gas suppliers suggests that these factors, other than gas transportation in some instances, do not have a material impact on the prices offered by gas suppliers.⁷¹

We recognise the difficulty of developing LNG netback prices based on oil-linked LNG strip prices. Our view is that these challenges can be addressed through:

- undertaking consultation with key stakeholders on the development of longer-term forward LNG netback prices
- using expert LNG market consultants to provide informed estimates of the slope to apply to oil prices, no less frequently than on an annual basis
- publishing information on the methodology used to calculate longer-term forward LNG netback prices to allow stakeholders to form their own views on the ACCC's LNG netback price series.

Additionally, while oil is currently the predominant basis for which 5-year LNG strips are sold into Asia, this could change in the future. For example, an increase in US liquefaction could increase the relevance of Henry Hub pricing in Asian LNG price formation, or JKM liquidity could continue to grow and be useable for calculating LNG netback prices extending to 5 years. As such, we will continue to monitor developments in the LNG markets, both globally and in the east coast gas market (section 3.4 outlines developments that would justify the ACCC undertaking a review before 2024).

3.3. Export costs deducted to calculate LNG netback price series

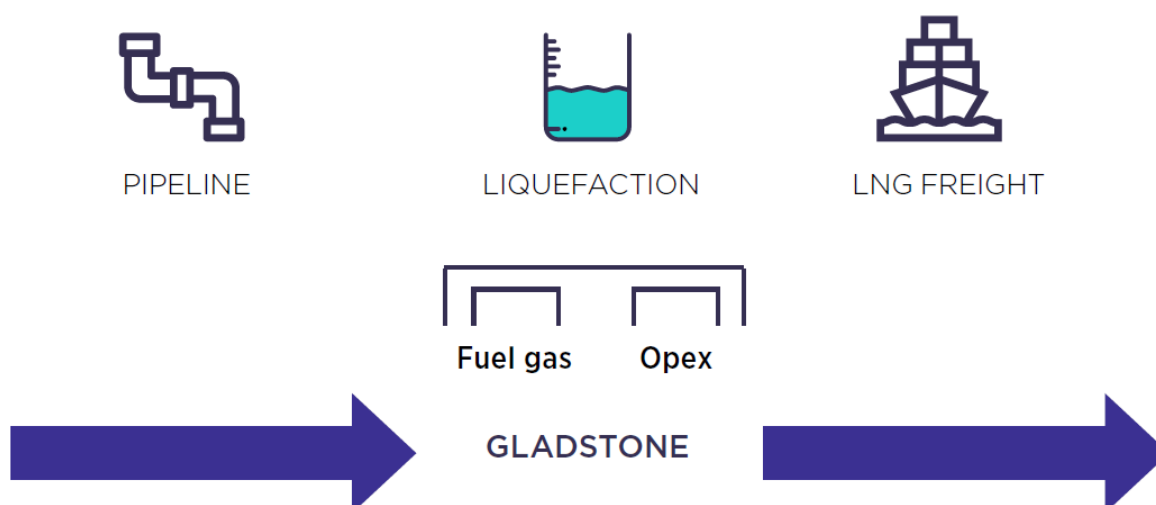
We calculate LNG netback prices by taking the price LNG producers can expect to receive for uncontracted gas overseas and deducting any costs incurred to export gas. These costs include (figure 3.3):

- LNG freight costs
- Liquefaction costs to convert gas to LNG
- Pipeline transportation costs.

⁷⁰ Ibid p.51-52.

⁷¹ Ibid, p.56-59.

Figure 3.3: LNG export costs



3.3.1. LNG Freight costs

LNG freight costs represent the costs of shipping an LNG cargo from the loading port to the destination port.

Draft decision

Our draft decision was that the current approach to estimating historical LNG freight costs and forward LNG freight costs for a 24-month period remains appropriate, and that longer-term LNG freight cost estimates should be sourced from an expert consultant or market analyst no less frequently than on an annual basis.

We currently use Platts' daily assessments of LNG freight costs between Gladstone and Futtsu in Tokyo Bay to estimate historical LNG freight costs, and Argus Media's weekly assessments of LNG freight costs between Gladstone and Tokyo to estimate forward LNG freight costs up to a 24 month period.

We consider LNG freight costs an avoidable cost in our LNG netback price series based on JKM, as LNG producers will generally need to charter an LNG vessel for a single voyage (spot) to supply uncontracted gas into Asian LNG spot markets.

Spot charter costs are an appropriate measure of short-term forward LNG freight costs as spot LNG freight capacity is growing and LNG producers are able to quickly access spot LNG charter markets to supply uncontracted gas as LNG to Asia.

However, spot LNG charter rates can fluctuate significantly in response to various market specific LNG vessel supply and demand factors. Fluctuating demand and supply dynamics means it is especially challenging to forecast LNG charter rates beyond the 1-12 month prompt or short-term period. This has implications for our approach to estimating LNG freight costs for extended LNG netback prices.

We currently source price assessments to estimate historical and short-term forward LNG freight costs. However, we require an additional source to estimate freight costs for forward period beyond 2 years.

We noted in our draft decision paper there are several potential approaches that the ACCC could use to source or forecast LNG freight costs, including:

- price assessments
- index-listed futures
- long-run marginal costs of a new build LNG freight vessel
- consultant reports.

Estimates produced by a consultant or market analyst are likely to account for a range of factors, including forecast demand and the long-run marginal costs of new LNG freight vessels.

Stakeholder views on LNG freight costs

Stakeholders that provided comments on the approach to estimating LNG freight costs are generally supportive of our draft decision.

ConocoPhillips Australia, Cooper Energy and GLNG support our current approach to estimating historic and short-term forward LNG freight costs,⁷² and no submissions included views against this approach.

Spark Commodities Pte Ltd (Spark) provided information on its Gladstone to Tokyo LNG freight rate assessment product, which is an alternative to the assessments provided by Platts and Argus.⁷³ Spark notes its LNG freight rates incorporate the ballast bonus and positioning fees being charged in the market on top of the headline \$/day rate that vessels are being chartered at.⁷⁴ Spark notes these costs are not immaterial and can increase LNG freight costs significantly.⁷⁵ Spark also has two LNG freight futures products listed on the ICE.⁷⁶

Submissions on approaches to estimating longer-term LNG freight costs are generally supportive of our draft decision to source longer-term LNG freight cost estimates from an expert consultant or market analyst no less frequently than on an annual basis. However, some submissions note that there is a higher degree of uncertainty in estimating longer-term forward LNG freight costs than short-term forward LNG freight costs.

GLNG and Cooper Energy both support using consultant estimates for longer-term forward LNG freight costs, with GLNG supporting the use of a recognised leading global LNG industry consultant. GLNG also notes that LNG contract pricing generally includes a constant fixed fee (in addition to the slope) which is commonly reflective of shipping costs. They consider an alternative is to assume that the fixed fee in LNG contracts is equivalent to estimates of longer-term LNG freight costs, and suggest that not including a fixed fee in the LNG price used to calculate longer-term LNG netback prices would eliminate the need to explicitly deduct a measure of longer-term LNG freight costs.

⁷² ConocoPhillips Australia, Submission to the draft decision paper; Cooper Energy, Submission to the draft decision paper; GLNG, Submission to the draft decision paper.

⁷³ Spark publish daily forward curve price assessments for each month up until December the following calendar year, with a single calendar year price for the following calendar year. E.g. In August 2021, monthly future price assessments were available until December 2022, with a single price for calendar year 2023.

⁷⁴ Ballast bonus = a fee that compensates for the LNG freight ship's trip from the discharge port to its home port or next port destination. Positioning fee = a fee that compensates for the LNG freight ship's journey from its station to the loading port.

⁷⁵ Spark, Submission to the draft decision paper.

⁷⁶ Spark25 Pacific: North West Shelf (WA, Australia) to Tianjin (China). Spark30 Atlantic.

Origin considers it reasonable to use an expert market consultant to form views on longer-term LNG freight costs, however considers the ACCC should run an additional public consultation to determine the appropriate approach to extending the LNG netback price series forward curve before we finalise our decision to extend the forward netback price series.

Origin notes there is no standardised approach to sourcing longer-term LNG freight cost estimates, and significant fluctuations in supply and demand factors make forecasting LNG freight costs difficult. AGL also notes freight futures are very difficult to predict and consider LNG freight costs may increase as shipping companies seek to reduce carbon emissions.

Final decision

Our final decision is to maintain our current approach to estimating historical LNG freight costs and forward LNG freight costs for a 24-month period, and to obtain longer-term LNG freight cost estimates from an expert consultant or market analyst no less frequently than on an annual basis.

Historical and short-term forward LNG freight costs

Submissions on the historical and short-term forward LNG freight costs are supportive of the current approach using price assessments obtained from Argus Media and Platts. This indicates that stakeholders consider these assessments are representative of the LNG freight costs LNG producers incur when exporting uncontracted gas to Asian spot markets.

Platts' assessments of LNG freight costs include a ballast rate assessment to account for any payment needed to position and re-position a ship.⁷⁷ Argus Media provide price assessments for a standard full-cost round trip as an alternative to including assessments of the ballast bonus paid to the shipowner.⁷⁸

The tradeable Spark25 forward LNG freight rate may offer greater price transparency than the Argus Media and Platts' price assessments as its liquidity grows. We will monitor trade developments in forward LNG freight rate markets and review the approach to estimating LNG freight costs in our 2024 LNG netback price series review.

Longer-term forward LNG freight costs

Stakeholders are generally supportive of our decision to source longer-term LNG freight cost estimates from an expert consultant or market analyst no less frequently on an annual basis.

As noted in our draft decision paper, expert LNG freight consultants or market analysts already provide assessments of longer-term LNG freight rates and on the future costs of LNG vessels and technology to industry participants, as there are no publicly available quotes for long term LNG freight rates. Using a similar approach to estimating longer-term LNG freight costs as the LNG producers is consistent with how we estimate other costs in the LNG netback price series.

There is a high degree of uncertainty in estimating longer-term forward LNG freight costs. Market specific supply and demand factors can result in significant fluctuations in charter rates that are difficult to predict, and it is harder to anticipate these demand and supply

⁷⁷ S&P Global Platts, *Specifications guide, Liquefied natural gas assessments and netbacks*, April 2020, p. 19, <https://www.spglobal.com/platts/plattscontent/assets/files/en/our-methodology/methodology-specifications/lngmethodology.pdf>, viewed 12 August 2021.

⁷⁸ Argus Media, *Argus LNG Daily Methodology and Specifications Guide*, June 2021, p. 9, <https://www.argusmedia.com/-/media/Files/methodology/argus-lng-daily.ashx>, viewed 12 August 2021.

factors over longer periods. As a result, longer-term LNG freight forecasts invariably have greater error margins than short-term forecasts.

Obtaining updated longer-term LNG freight costs estimates no less frequently than on an annual basis will ensure longer-term LNG freight rate estimates remain appropriate as supply and demand factors change.

We will undertake a procurement for an expert LNG freight consultant or market analyst as part of the next-steps of the review.

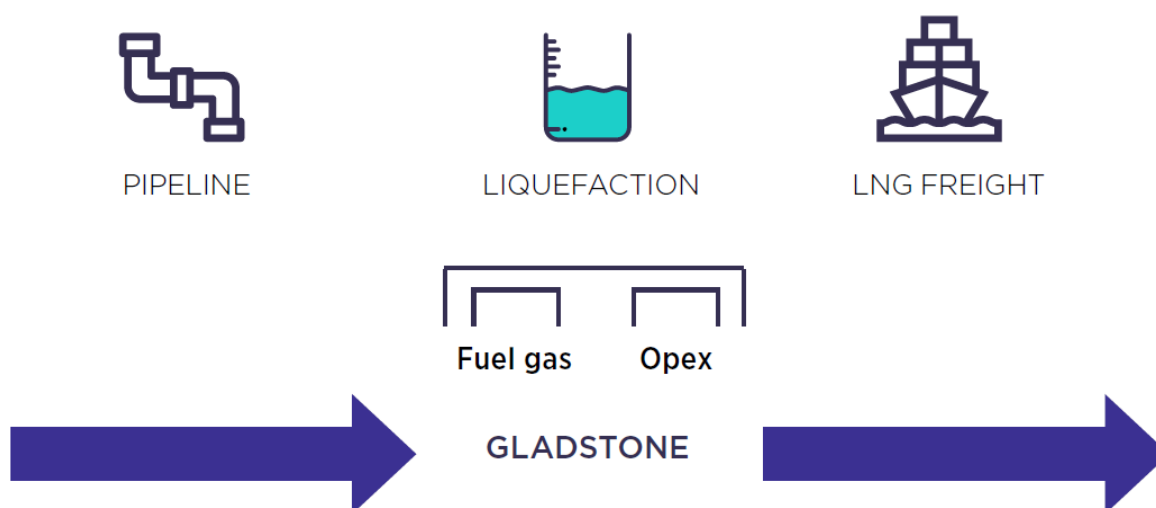
3.3.2. Liquefaction costs

Liquefaction costs are the costs of converting gas to LNG at the Queensland LNG plants.

Currently, we deduct two types of marginal liquefaction costs:

- feedgas that is used as fuel for refrigeration and compression during the liquefaction process
- other operating costs such as labour and electricity (figure 3.4).

Figure 3.4: Breakdown of liquefaction costs



Draft decision

Our draft decision was to maintain the current approach of deducting only marginal liquefaction costs.

We deduct only marginal fuel and operating costs as LNG producers can avoid these costs by supplying uncontracted gas to the domestic market instead of supplying to export markets.

In submissions to the issues paper, several C&I users recommended we deduct the sunk capital costs incurred to build the Queensland LNG plants.⁷⁹

⁷⁹ Major Energy Users, Submission to the issues paper, April 2021, p. 3; EUAA, Submission to the issues paper, April 2021, p. 10; Chemistry Australia, Submission to the issues paper, April 2021, p. 2; Incitec Pivot, Submission to the issues paper, April 2021, p. 2; Qenos, Submission to the issues paper, April 2021, pp. 6–7.

In our draft decision paper, we determined that deducting sunk or fixed costs, such as the capital costs of building the Queensland LNG plants, would mean the LNG netback price does not reflect the opportunity costs LNG producers in supplying the domestic market in the current circumstances where they have excess capacity in their LNG plants.

As capital costs cannot currently be avoided if LNG producers supply uncontracted gas to the domestic market or export markets, they do not affect the relative value of either option. LNG producers are therefore unlikely to consider these costs when deciding to supply uncontracted gas to either the domestic market or export markets.

Our draft decision was to deduct only marginal liquefaction costs in calculating longer-term forward LNG netback prices, extending to 5 years. The marginal costs of liquefying gas are unlikely to change over a 5-year period.

This is consistent with Wood Mackenzie's expert advice that while the amount of gas consumed as fuel during the liquefaction process may differ over time, this would be unlikely to materially impact liquefaction costs.⁸⁰

Stakeholder views on LNG liquefaction costs

Gas suppliers support our draft decision to maintain our current approach of only deducting marginal liquefaction costs to calculate LNG netback prices, while various C&I users suggest we should publish additional LNG netback prices that deduct LNG plant capital costs.

The Australian Petroleum Production and Exploration Association (APPEA), APLNG, ConocoPhillips Australia, Cooper Energy, Esso, GLNG, Origin and Senex support our current approach, suggesting that only marginal liquefaction costs should be deducted to calculate LNG netback prices.⁸¹

Chemistry Australia, Qenos and Incitec Pivot propose the ACCC also publish long-run LNG netback prices that deduct the capital costs of building new LNG plants.⁸² These C&I users suggest the Queensland LNG plants do not have spare liquefaction capacity and that the LNG producers would need to build new LNG facilities to export more gas.

The Energy Users' Association of Australia (EUAA) proposes the ACCC publish a separate LNG netback price series for non-LNG producers, suggesting non-LNG producers have a lower opportunity cost of supplying gas to the domestic market than LNG producers.⁸³ EUAA considers it a commercial reality that any sale of gas from a non-LNG producer to an LNG producer would be at a discount to the effective price the LNG producer would receive from selling that gas into LNG markets (the LNG netback price). EUAA expects that this discount takes into account the capital and operating costs associated with the delivery and processing of that gas.

The Major Energy Users (MEU) supports EUAA's proposal, suggesting the Queensland LNG producers may charge tolling fees for non-LNG producers to access their liquefaction facilities that reflect sunk LNG plant capital costs, like some LNG projects in other

⁸⁰ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p. 51.

⁸¹ APPEA, Submission to the draft decision paper, July 2021, p. 3; APLNG, Submission to the draft decision paper, July 2021, p. 3; ConocoPhillips Australia, Submission to the draft decision paper, July 2021, p. 3; Cooper Energy, Submission to the draft decision paper, July 2021, p. 4; ESSO, Submission to the draft decision paper, July 2021; GLNG, Submission to the draft decision paper, July 2021, p. 8; Origin, Submission to the draft decision paper, July 2021, p. 1; Senex, Submission to the draft decision paper, July 2021, p. 3.

⁸² Chemistry Australia, Submission to the draft decision paper, August 2021, pp. 5–6; Qenos, Submission to the draft decision paper, August 2021, pp. 2–3; Incitec Pivot, Submission to the draft decision paper, August 2021, p. 2.

⁸³ EUAA, Submission to the draft decision paper, August 2021, pp. 1, 6.

markets.^{84,85} MEU suggests the opportunity cost of supplying gas to the domestic market would therefore be lower than LNG netback prices calculated using marginal liquefaction costs for non-LNG producers.

MEU also suggests the ACCC compare the variable costs for processing LNG that the Queensland LNG producers provide to us with to independent valuations of these costs for third-parties. MEU considers this will clarify whether long-term sale and purchase agreements (SPAs) are being used to recover sunk LNG plant capital costs, rather than uncontracted gas sales to the domestic market or export markets.

Stakeholders did not specifically comment on our draft decision to apply the current approach to estimate marginal liquefaction costs for longer-term forward LNG netback prices, extending to 5 years.

Final decision

Our final decision is to deduct only marginal liquefaction costs when calculating LNG netback prices. This is consistent with the current approach, our draft decision and current market conditions.

We have applied an opportunity cost framework to determine which liquefaction costs to deduct (section 2.2).

To convert uncontracted gas to LNG for export, LNG producers must incur additional operating costs and use some of this gas to fuel the liquefaction process. We deduct these costs when calculating LNG netback prices as they reduce the net value of an LNG producers' option to export uncontracted gas.

We do not deduct fixed costs, as the LNG producers do not need to incur any fixed costs to continue to export uncontracted gas due to the excess capacity currently in the LNG facilities.

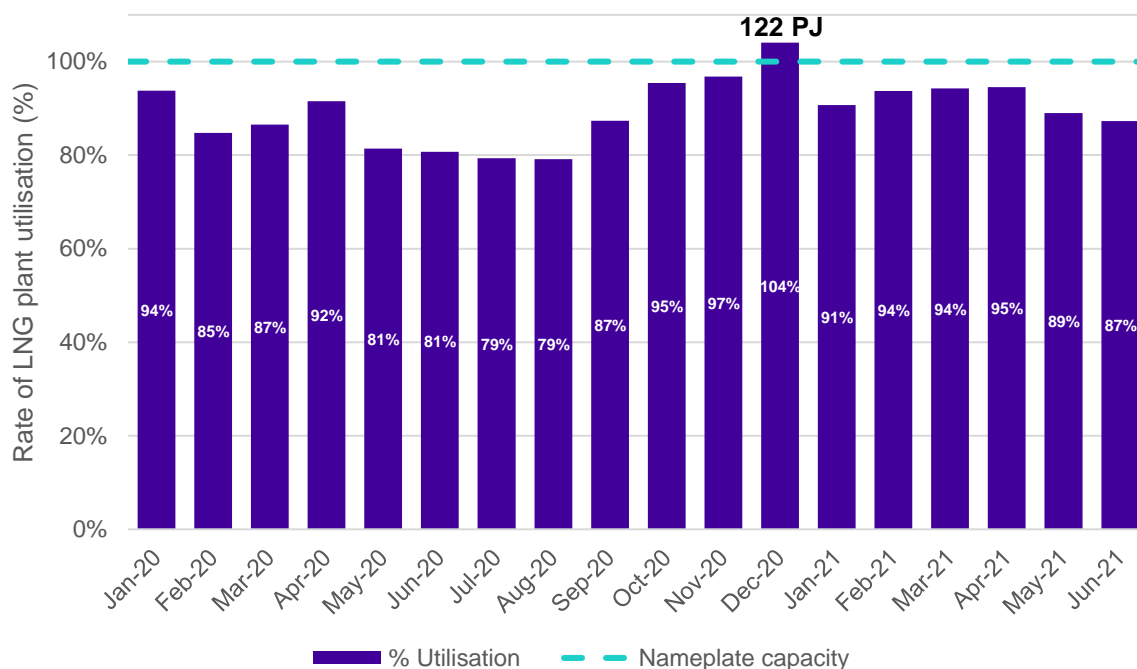
Deducting sunk or fixed costs would not accurately reflect the opportunity costs for LNG producers in supplying the domestic market in the current circumstances where they have excess capacity in their LNG plants. Under current market conditions, LNG producers are unlikely to consider these costs when deciding whether to supply gas to the domestic market or export markets, since these costs do not affect the net value of either option.

LNG producers currently do not need to build additional LNG plant capacity to continue to access LNG markets. Data from Gladstone Ports Corporation indicates that LNG exports from the Queensland LNG plants remain below their nameplate capacity, and that in aggregate the LNG plants have spare liquefaction capacity (figure 3.5). This data shows Queensland LNG exports have not exceeded the nameplate liquefaction capacity of the Queensland LNG plants on a monthly basis in 2021.

⁸⁴ The ACCC has heard some views that obtaining access to the Queensland LNG facilities by third parties through tolling arrangements may be limited or difficult. We have not had substantive complaints of this raised during our Gas Inquiry and the issue is better examined as a structural competition issue rather than through this review of our LNG netback series methodology. We continue to monitor broader competition concerns in the east coast gas market as part of our Gas Inquiry and have recently released an issues paper on Upstream Competition and Timeliness of Supply Review.

⁸⁵ MEU, Submission to the draft decision paper, July 2021, pp. 1–4.

Figure 3.5: Queensland LNG plant utilisation, January 2020–June 2021



Source: ACCC analysis; Gladstone Ports Corporation, *Trade Statistics – Latest Statistics*, <https://www.gpcl.com.au/trade-statistics>, viewed 23 Aug 2021.

Note: The Queensland LNG plants collectively have an annual liquefaction capacity of approximately 25.3 mtpa. This chart does not account for ongoing LNG plant maintenance or LNG plants operating above nameplate capacity levels, meaning liquefaction capacity levels may have differed in practice. We have used a conversion ratio of 1 mt: 55.43 PJ.

The Queensland LNG plants are likely to have further unutilised liquefaction capacity as each LNG plant has previously operated above nameplate capacity levels, and LNG plants are typically built to be able to operate above nameplate capacity.⁸⁶ Information collected by the ACCC over the course of the current Gas Inquiry suggests that the Queensland LNG plants are likely to continue to have spare capacity into the near future under current market conditions, enabling them to continue to sell uncontracted gas into LNG export markets.

Expert advice from Wood Mackenzie is also that the Queensland LNG plants are not currently at full capacity.⁸⁷

Deducting the capital costs of building new LNG plants would provide an LNG netback price that does not reflect the opportunity costs of LNG producers in supplying the domestic market in the current circumstances where they have excess capacity in their LNG plants. Doing so would understate the value of an LNG producer’s option to export, meaning LNG producers would no longer be indifferent between supplying the domestic market or export markets at these LNG netback prices. In addition to causing or exacerbating gas shortages, publishing such LNG netback prices risks providing the east coast gas market with inaccurate information that would not improve market efficiency or transparency.

⁸⁶ Lewis Grey, Public Report prepared for AEMO, *Projects of Gas and Electricity Used in LNG*, December 2017, pp. 36–37, https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GSOO/2018/Projections-of-Gas-and-Electricity-Used-in-LNG-2017-Final-Report-19--12-17.pdf, viewed 25 August 2021; Natural Gas Intelligence, *LNG 101: The Fine Lines Between Baseload, Peak and Nameplate Liquefaction Capacity*, December 2020, <https://www.naturalgasintel.com/lng-101-the-fine-lines-between-baseload-peak-and-nameplate-liquefaction-capacity>, viewed 24 August 2021.

⁸⁷ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p.55.

However, our final decision may no longer be appropriate if the Queensland LNG plants reach capacity, such that the LNG projects no longer have the ability to decide whether to export or supply uncontracted gas to the domestic market.

We will continue to monitor the spare liquefaction capacity of the Queensland LNG plants through our ongoing reporting on the east coast gas market to ensure this approach remains appropriate.

Similarly, we do not currently consider it appropriate to publish a separate LNG netback price for non-LNG producers that involves deducting sunk LNG plant capital costs. LNG netback prices influence the prevailing market prices on the east coast, as the LNG producers are the marginal suppliers to the market (chapter 2). Gas is a fungible commodity and non-LNG producers are ultimately able to sell at prevailing market prices.

Our final decision is that our current approach is also appropriate for calculating longer-term forward LNG netback prices, as marginal liquefaction costs are unlikely to materially change over a 5-year period.⁸⁸

We will also update our assumptions on marginal liquefaction costs using recent data provided by the Queensland LNG producers following the completion of the review.

3.3.3. Pipeline transportation costs

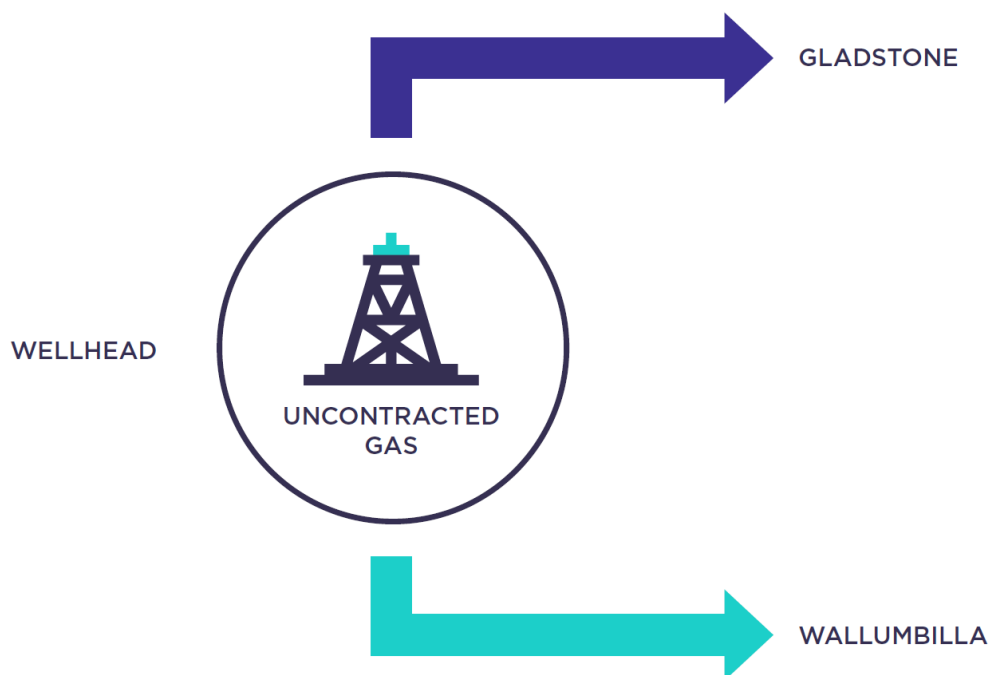
Pipeline transportation costs are the costs of transporting gas from the wellhead to the LNG facilities in Gladstone or to Wallumbilla.

We calculate pipeline transportation costs:

- between the wellhead and the LNG projects in Gladstone. Suppliers inject export gas into the pipeline system at the wellhead before transporting it to Gladstone. As suppliers can avoid the costs of transporting gas to the LNG facility by supplying the domestic market, we deduct these costs.
- between the wellhead and Wallumbilla. Since we calculate the LNG netback price series at Wallumbilla, rather than at the wellhead, we add the costs of transporting gas from the wellhead to Wallumbilla. In practice, data from the LNG producers suggests these costs are negligible, and we currently do not add them when calculating LNG netback prices (figure 3.6).

⁸⁸ Wood Mackenzie, *Final report to the ACCC – LNG netback price series review*, September 2021, p.51.

Figure 3.6: Pipeline transportation costs



Draft decision

Our draft decision was to maintain the current approach of deducting only marginal pipeline transportation costs.

Similar to liquefaction costs, our draft decision was that deducting sunk or fixed costs like pipeline capital costs would not accurately reflect the opportunity costs to LNG producers of supplying the domestic market under current circumstances. LNG producers either incurred these costs in building their own pipelines to their LNG facilities in Gladstone, or they pay fixed transport tariffs to the pipeline owner that are effectively sunk.

Since these costs cannot be avoided at the time LNG producers decide whether to supply uncontracted gas to the domestic market or export markets, they do not affect the relative value of either option. Consequently, LNG producers are unlikely to consider these costs when selling uncontracted gas.

Our draft decision was also to apply our current approach of only deducting marginal pipeline transportation costs to publish longer-term forward LNG netback prices, extending to 5 years. This reflects that marginal pipeline costs are likely to be the same over a 5-year period as they are over a shorter period.

Stakeholder views on pipeline transportation costs

Most gas suppliers either support or did not comment on our draft decision to maintain the current approach to deducting pipeline transportation costs, while some C&I users suggest we deduct sunk pipeline capital costs.

APPEA, APLNG, ConocoPhillips Australia, Cooper Energy, Esso, Origin and Senex support the current approach of only deducting marginal pipeline transportation costs.⁸⁹

GLNG reiterated its submission to the issues paper which suggests additional compression is required to sell gas into the domestic market compared to the compression required to transport gas to the Queensland LNG plants. GLNG suggest the ACCC add these costs to LNG netback prices.⁹⁰

Incitec Pivot suggests the ACCC should publish long-run LNG netback prices in addition to short-run LNG netback prices, suggesting pipeline capital charges should be deducted when calculating long-run LNG netback prices.⁹¹

EUAA proposes the ACCC publish a separate LNG netback price series for non-LNG producers, suggesting non-LNG producers have a lower opportunity cost of supplying gas to the domestic market than LNG producers.⁹² As with liquefaction costs, EUAA consider it a commercial reality that any sale of gas from a non-LNG producer to an LNG producer would be at a discount to the effective price the LNG producer would receive from selling that gas into LNG markets (the LNG netback price). EUAA expects that this discount takes into account the pipeline capital costs associated with the delivery of that gas.

Stakeholders did not comment on our draft decision to apply the current approach to estimate marginal pipeline transportation costs when calculating longer-term LNG netback prices, extending to 5 years.

Final decision

Our final decision is to deduct only marginal pipeline transportation costs when calculating LNG netback prices. This is consistent with our current approach and our draft decision.

We have applied an opportunity cost framework based on current market conditions to determine which pipeline transportation costs to deduct (section 2.2).

To send uncontracted gas to the Queensland LNG facilities for export, LNG producers must incur additional pipeline transportation costs. We deduct these costs when calculating LNG netback prices as they reduce the net value of an LNG producers' option to export uncontracted gas.

Similar to our final decision to deduct only marginal liquefaction costs, it is inconsistent with the current opportunity cost to LNG producers that underpins the LNG netback price series to deduct sunk pipeline capital costs or publish separate LNG netback prices for non-LNG producers.

Our final decision is to also use our current approach for longer-term forward LNG netback prices, as marginal pipeline transportation costs are unlikely to change over a 5-year period.

We will also update our assumptions on marginal pipeline transportation costs using recent data provided by the Queensland LNG producers following the completion of the review.

⁸⁹ APPEA, Submission to the draft decision paper, July 2021, p. 7; APLNG, Submission to the draft decision paper, July 2021, p. 3; ConocoPhillips Australia, Submission to the draft decision paper, July 2021, p. 3; Cooper Energy, Submission to the draft decision paper, July 2021, p. 4; ESSO, Submission to the draft decision paper, July 2021, p. 1; Origin, Submission to the draft decision paper, July 2021, p. 1; Senex, Submission to the draft decision paper, July 2021, p. 3.

⁹⁰ GLNG, Submission to the draft decision paper, July 2021, pp. 8–9.

⁹¹ Incitec Pivot, Submission to the draft decision paper, August 2021, p. 4.

⁹² EUAA, Submission to the draft decision paper, August 2021, pp. 1, 6.

3.4. A further review of the LNG netback price series in 2024

Draft decision

Our draft decision reflects the realities of the east coast gas market and global LNG markets as they are now, and in particular, the basis on which LNG sold into Asia is priced. It also reflects that the Queensland LNG producers remain the marginal suppliers to the east coast gas market, and that they continue to have excess liquefaction capacity in their LNG plants. However, we recognised that LNG markets are dynamic, and that future developments in both the domestic and export markets may require us to review the LNG netback price series methodology to ensure it remains fit for purpose.

For this reason, our draft decision was that the ACCC would conduct another public review of the LNG netback price series in 2024.

Stakeholder views on a follow-up review of the LNG netback price series

Submissions provided by stakeholders generally support the ACCC's draft decision to conduct a further public review in 2024.

However, some stakeholders suggest that the ACCC should undertake a review sooner than 2024 if there are major structural changes to either the domestic or LNG markets. For example, the development of an LNG import terminal might warrant the ACCC undertaking a review sooner than 2024.

Some C&I users consider that the LNG netback price series is important to the Australian Government's Gas-Fired Recovery initiatives, commitments made under the current Heads of Agreement, and the Gas industry voluntary Code of Conduct currently being developed. As such, C&I users suggest the ACCC seek feedback on the ACCC's LNG netback price series methodology on a 6-monthly basis, aligned with the timing of the ACCC's Gas Inquiry interim reports. They also suggest the ACCC conduct another public review of the LNG netback price series in September 2022, prior to any decisions around a possible new Heads of Agreement with LNG producers.

Final decision

Our final decision is to review the LNG netback price series by no later than 2024. However, we may commence the review earlier if developments in the domestic market or in LNG markets warrant doing so.

There is a high level of uncertainty around future developments in LNG markets, as noted by some stakeholders to the review, including the relationship between different international price markers, such as JKM and Henry Hub. The ACCC will continue to monitor the east coast gas market and LNG markets and, should there be significant market developments that warrant it, undertake a review sooner than 2024. While it is not possible to be definitive about what types of development that would be likely to necessitate a review before 2024, could include (but are not limited to):

- the Queensland LNG plants reaching capacity such that they no longer have spare capacity (on a sustained basis)
- major structural changes in global LNG market, such as changes in expected US liquefaction capacity due to new projects being developed
- a shift away from oil-linked pricing for medium-term LNG strips, noting that coming years will likely see an increase in the execution of medium-term LNG strips as large existing

long-term LNG contracts expire (with 2024 seeing a relatively large share of long-term LNG SPAs expiring according to advice from Wood Mackenzie)

- market views on JKM liquidity growth, and whether gas suppliers and LNG producers begin to view JKM as the relevant price marker for longer-term forward LNG netback prices.

Undertaking another review by no later than 2024 will be an opportunity to reassess supply and demand factors in both the east coast gas market and LNG export markets that influence the calculation of LNG netback prices. This will include the influence of Henry Hub prices on JKM and global LNG prices more generally.

We will also monitor the development of a number of proposed import terminals for the east coast gas market, which may require the development of an import parity price.