ACCC and GMRG joint recommendations

Measures to improve the transparency of the gas market

1. Executive Summary

In March 2017, the Prime Minister announced a number of measures to help deliver "cheaper, more reliable gas" in the east coast, one of which was a direction to the Australian Competition and Consumer Commission (ACCC) and the Gas Market Reform Group (GMRG) to work together to:[1]

> *"…advise on options to quickly improve transparency in the gas market, to facilitate competition between producers and information for purchasers. The scope will include the full supply chain – producers, transporters, retailers."*

On 19 April 2017, the Commonwealth Treasurer also directed the ACCC to conduct an inquiry into the gas market (the Inquiry), the objectives of which are to: monitor the supply of and demand for natural gas and transportation services, improve the transparency of gas supply arrangements, and support the efficient operation of the market.[2]

In keeping with these directions, the ACCC and GMRG have worked together to identify the information gaps and asymmetries that currently exist in the east coast gas market and how these could be addressed. In carrying out this work, we have been cognisant of the steps that have recently been taken to reduce the opaqueness of the market. While the transparency of the market is improving, it is clear from our work in this area that:

- there are still a number of significant information gaps and asymmetries that are adversely affecting the efficient operation of the market and the efficiency with which gas, infrastructure services and other resources are allocated
- the effects of these information deficiencies on the market are even more acute at present, given the relatively tight supply and demand balance and limited competition in the supply, retail and infrastructure segments of the supply chain
- the level of transparency in the east coast gas market is poor compared to other developed countries, with market participants in the east coast having access to less information on key supply and demand fundamentals than is available to their counterparts in New Zealand, the United States and the European Union.

The information deficiencies we have identified are discussed in further detail below, along with our recommendations on how these deficiencies could be addressed and how the recommendations could be implemented. Note that the recommendations contained in this paper have been informed by the work carried out to date by both the ACCC and GMRG and through discussions held with staff from:

- the Australian Energy Market Commission (AEMC)
- the Australian Energy Market Operator (AEMO)
- the Australian Energy Regulator (AER)
- Energy Consumers Australia (ECA)
- the Office of the Chief Economist in the Department of Industry, Innovation and Science.

1.1. Information deficiencies

Over the last two years, the AEMC, ACCC, GMRG, AEMO and Australian Bureau of Statistics (ABS) have taken a number of steps to reduce the opaqueness of the east coast gas market (see appendix A for further information). Figure 1.1 provides a snapshot of the transparency measures that have been implemented over this period and those that are expected to be implemented over the next 18 months. This figure also sets out the information currently available through the Natural Gas Services Bulletin Board (Bulletin

1 Hon. M Turnbull MP, Measures agreed for Cheaper, More Reliable Gas, 15 March 2017.
2 Hon. S Morrison MP, Inquiry for Improving the Transparency of Gas Supply in Australia, 19 April 2017.

Board) and the Gas Statement of Opportunities (GSOO), both of which were implemented to improve the transparency of the east coast gas market and to facilitate more informed decision making (see box 1.1 for more detail).

Box 1.1: Bulletin Board and GSOO[3]

Bulletin Board

The Bulletin Board was implemented in mid-2008 to provide market participants and other interested parties with ready access to information on the capacity and utilisation of key production, transportation and storage facilities in the east coast.[4]

The Bulletin Board, which is operated by AEMO, is underpinned by the legal framework set out in Chapter 7 of the National Gas Law (NGL) and Part 18 of the National Gas Rules (NGR). This framework provides for reporting obligations to be imposed on the categories of market participants listed in the NGL (or the Regulations) and for the AER to monitor and enforce compliance with the reporting obligations. The types of market participants currently listed in the NGL include producers, pipeline service providers, pipeline users and storage providers.

In 2015–16 the AEMC conducted a comprehensive review of the Bulletin Board and recommended a number of changes to the legal framework to:

- clarify that the purpose of the Bulletin Board is to facilitate trade and informed and efficient decision making in relation to the provision and use of gas and natural gas services
- make the Bulletin Board more of a ‘one-stop shop’ for information on the gas market and improve the timeliness and accuracy of information reported on the Bulletin Board
- expand the coverage of the Bulletin Board by requiring a number of additional participants to report demand and supply information and by including the Northern Territory (NT).

These recommendations were endorsed by the Council of Australian Governments (COAG) Energy Council (‘Energy Council’) in August 2016 and are being implemented by the AEMC in two stages, with the first stage coming into effect on 30 September 2018. Before the second stage can be implemented, the NGL must be amended to extend the list of market participants that can be subject to reporting obligations.

GSOO

The GSOO was first published by AEMO in 2009 and is now published on an annual basis.[5] The GSOO is underpinned by the legal framework set out in Chapter 2, Part 6, Division 4 of the NGL and Part 15D of the NGR, which currently only applies to the east coast.[6] Amongst other things, these provisions in the NGL and NGR set out:

- the objective of the GSOO, which is to “provide information to assist market participants and other persons in making informed decisions about investment in pipeline capacity and other aspects of the natural gas industry”
- the scope of the GSOO, which must include an assessment of: medium- to long-term demand (including export) for gas and pipeline services, supply and pipeline capacity to meet existing and foreseeable demand; the outlook for the industry over a 20 year horizon; any likely long-term shortfalls in reserves and production or transmission constraints
- AEMO’s information gathering powers, which, in short, allow AEMO to require the market participants that can be subject to Bulletin Board reporting obligations to provide information if AEMO considers it reasonably necessary for the exercise of its functions.

3 Note that while the legislative framework underpinning the Bulletin Board and GSOO do not currently apply in Western Australia, the *Gas Services Information Act 2012 (Western Australia)* provides for the establishment and operation of the Western Australian Gas Bulletin Board and the preparation of a GSOO by AEMO.

4 The Bulletin Board website is: http://gasbb.com.au/.

5 A supplement may also be published if ‘significant and verifiable new information’ is brought to AEMO’s attention.

6 Before the GSOO legal framework can be extended to the Northern Territory, the Northern Territory Government would need to fix the date of application through legislation (see rule 135KA of the NGR).

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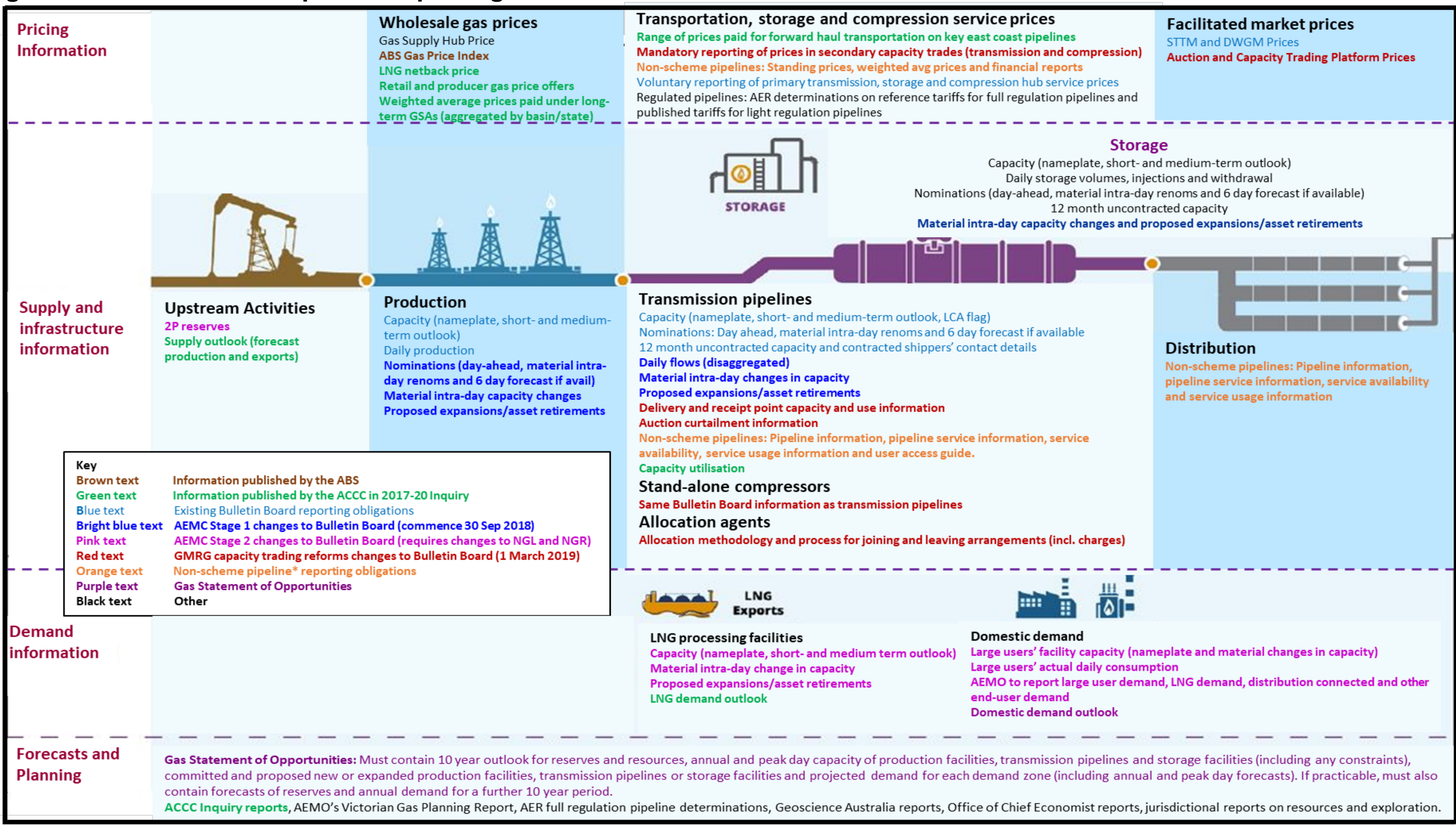
GMRG Gas Market Reform Group

Figure 1.1: Current and expected reporting in the east coast



Source: AEMC, Stage 2 Final Report: Information Provision – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 23 May 2016, p. 10, amended to reflect subsequent changes.

Notes: The nameplate capacity is the maximum daily capacity of the facility under normal operating conditions.
The term 'short-term capacity outlook' is defined in the NGR as the 7-gas day outlook of the daily capacity of each facility.
The term 'medium-term capacity outlook' is defined in the NGR as matters that are expected to affect the daily capacity of the facility for an outlook period beyond 7 gas days.
The term 'material' is defined as the greater of 10 per cent of the nameplate capacity rating or 30 TJ.
A non-scheme pipeline is a pipeline that is not subject to either full or light regulation, but is subject to the information disclosure and arbitration framework in Part 23 of the NGR.

Although steps have been taken to improve the transparency of the market, it is clear from the work that we have carried out and the discussions we have held with a number of agencies that there are still a number of significant information gaps and asymmetries in the market. It would also appear from our review of the information available in other jurisdictions, that market participants in the east coast have access to less information than is available in New Zealand, the United States and the European Union (see Appendix B).

The information deficiencies that we have identified in the east coast gas market are summarised in figure 1.2. Additionally, we have identified a key information gap in the coverage of the GSOO. As noted in box 1.1, the coverage of the GSOO is currently limited to the east coast and cannot be expanded to include the Northern Territory (NT) until a date is fixed by the NT Government under legislation. Given the impending connection of the east coast and NT gas markets through the construction of the Northern Gas Pipeline (NGP), this will constitute a significant gap in the GSOO until such time as the coverage is expanded to include the NT.

Figure 1.2: Information deficiencies

Upstream activities	• **Reserves and resources:** Public information on reserves and resources is fragmented and reported inconsistently which makes it of limited use. • **Contracted reserves**: There is no public information on the reserves committed under existing contracts. • **Drilling:** Information on drilling activities and expenditure is fragmented and reported inconsistently. • **Production cost estimates:** There is limited public information on production costs.
Infrastructure availability and developments	• **Availability of capacity:** The current requirement for stand-alone compressors and storage facilities to report a 12-month outlook for uncontracted capacity is too short and should be extended to 36 months. • **Users with contracted capacity:** There is no publicly available information on the users that have contracted compression and storage capacity, which may limit secondary trading of this capacity. • **Developments:** There is limited public information on proposed developments of production facilities, transmission pipelines, stand-alone compressors and storage facilities.
Gas and infrastructure prices	• **Wholesale gas prices:** Beyond the reporting in the ACCC Inquiry and ABS price index, there is no public information on the prices paid under short- and long-term gas supply agreements and limited understanding of LNG netback pricing. • **Retail gas prices:** Beyond the reporting in the ACCC Inquiry, there is no publicly available information on the prices paid by large gas users to retailers and the drivers of these prices. • **Transmission prices:** There are inconsistencies in the requirements for pipelines to report standing prices* and information on the prices actually paid by users for transportation services and the costs of providing those services. Questions have also been raised about the requirement for service providers to report the actual prices paid by users on a weighted average basis rather than on an individualised basis. • **Stand-alone compression prices:** There is limited information on the standing prices* for stand-alone compressors and no information on the prices actually paid by users of these facilities. • **Storage prices:** There is no publicly available information on the standing prices* for storage or on the prices actually paid by users of these facilities.
LNG exports and imports	• **Exports**: There is limited public information on LNG exports and export prices. • **Imports:** If any LNG import terminals are developed they will fall outside the scope of the Bulletin Board reporting obligations and so would not be required to report key operational information or information on LNG imports or import prices.

* The term 'standing price' is used to refer to the price offered by a service provider for a standard service.

While it is difficult to quantify the effect of these information deficiencies, they are adversely affecting the efficient operation of the market and the efficiency with which gas, infrastructure services and other resources are allocated because they:

- limit the ability of the market to provide timely and accurate indications about how well it is functioning (including signalling any potential problems with the supply-demand balance for gas, transportation, compression and storage services) and, in so doing, hinder the ability of the market to respond efficiently to changing market conditions
- impede effective competition and the efficient trade of gas and infrastructure services by:
  - hindering the price discovery process
  - imposing relatively high search and transaction costs on parties
  - increasing the degree of information asymmetry and imbalance in bargaining power that users can face when negotiating with producers, retailers and infrastructure service providers
- result in inefficient decisions about consumption, production and the use of infrastructure services and longer-term investment decisions because these decisions must be made on the basis of incomplete, inaccurate or asymmetric information.

We have therefore considered how these information deficiencies could be addressed.

1.2. Recommendations on how to address the information deficiencies

Our recommendations on how to address the information deficiencies identified above are summarised in table 1.1. The final column of this table also sets out how each recommendation could be progressed. Before examining this table, it is worth noting that it is not in the commercial interests of most market participants to disclose this information on a voluntary basis, or to disclose information in a timely and accurate manner. Those gas suppliers, incumbent retailers and infrastructure service providers that have benefitted from the opaqueness of the market over the years are also likely to resist the measures. We are therefore recommending that most of the measures be mandated through the inclusion of new reporting obligations in the NGL and NGR, such as the:

- Bulletin Board reporting obligations set out in Part 18 of the NGR
- reporting obligations applying to scheme[7] and non-scheme[8] pipelines in Parts 8-12 and 23 of the NGR.

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7 A scheme pipeline is a 'covered' pipeline that is subject to either full or light regulation under Parts 8–12 of the NGR. The main differences between these two forms of regulation are:

- Under full regulation, the service provider is required to obtain the AER's approval for the price and terms and conditions of access to the reference service(s) set out in the proposed access arrangement. Although AER approval is required, the service provider and users (or prospective users) are free to enter into an agreement that differs from the access arrangement. If a dispute about access arises, however, the arbitrator is required to give effect to the approved access arrangement.
- Under light regulation greater emphasis is placed on commercial negotiation and information disclosure, but provision has been made for parties to have recourse to the dispute resolution mechanism if negotiations fail. The service provider is also prohibited under this form of regulation from engaging in conduct that may adversely affect access and/or competition in upstream or downstream markets.

8 A non-scheme pipeline is a pipeline that is not subject to either full or light regulation (scheme pipelines). These pipelines are subject to the information disclosure and arbitration framework in Part 23 of the NGR. A non-scheme pipeline that is not providing third party access may obtain a full exemption from Part 23. Exemptions from the obligation to publish some information are also available to single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day.

Table 1.1: Summary of Recommendations

Area			Recommendation	How to progress recommendation
Upstream activities	**Reserves and resources**		Holders of gas reserves and resources should be required to provide information on their reserves and resources (using the reporting framework being developed by the ACCC) to AEMO for publication on the Bulletin Board.	Bulletin Board law and rule change process.
Upstream activities	**Contracted reserves**		Holders of gas reserves should be required to provide AEMO with information on the volume of 2P reserves that have been contracted for publication on the Bulletin Board. To mitigate the risk of such information disclosure reducing competitive rivalry among producers, this information should be published on an aggregated basis.	Bulletin Board law and rule change process.
Upstream activities	**Drilling activities**		AEMO should publish information on both onshore and offshore drilling activities and expenditure annually as part of the GSOO.	Implement using existing GSOO powers.
Upstream activities	**Production cost estimates**		AEMO should publish production cost estimates annually as part of the GSOO.	Implement using existing GSOO powers.
Infrastructure availability and developments	**Infrastructure Developments**		Entities developing new transmission pipelines, production, stand-alone compression, storage or LNG facilities, with a nameplate capacity of 10TJ or more, should be required to provide AEMO with information on the developments for publication on the Bulletin Board as soon as practicable after they are assessed as falling within the meaning of a 'proposed' or 'committed' development. These entities should also update the information when the development status changes.	Bulletin Board law and rule change process.
Infrastructure availability and developments	**Uncontracted capacity outlook**		Operators of transmission pipelines, storage facilities and stand-alone compression facilities that are subject to the Bulletin Board reporting obligations should be required to publish a 36-month outlook for uncontracted capacity on the Bulletin Board. As part of the Bulletin Board rule change process consideration should be given to whether production facilities providing third party access should be required to publish an uncontracted capacity outlook.	Bulletin Board rule change process.
Infrastructure availability and developments	**Users with contracted capacity**		Operators of storage facilities and stand-alone compression facilities should be required to provide AEMO with a list of users with contracted capacity for publication on the Bulletin Board.	Bulletin Board rule change process.
Gas and infrastructure prices	**Wholesale gas prices**	**Long-term GSAs (term of 1 year or more)**	The ACCC will continue to publish the following price series for the duration of the Inquiry to improve the transparency surrounding the prices payable under long-term gas supply agreements (GSAs) and understanding of LNG netback prices: the historic invoice-based weighted average producer price series; the forecast prices payable under recently negotiated GSAs; information on producers' offers; and an LNG netback price series. In the first half of 2019, the ACCC will consider whether the producer price series and LNG netback price series should continue to be published once the Inquiry has ended and, if so, who should be responsible for doing so and how the risk of coordinated conduct should be addressed.	Continue to progress through the ACCC Inquiry, with further recommendations to potentially be made in mid-2019.
Gas and infrastructure prices	**Wholesale gas prices**	**Short-term GSAs (term of less than 1 year)**	Parties entering into short-term GSAs outside the facilitated markets should be required to report this information to AEMO shortly after they are entered into, for publication on the Bulletin Board. To mitigate the risk of coordinated conduct, this information should be published on an aggregated basis. The reporting framework to apply to such trades should be consulted on through the Bulletin Board rule change process, including any appropriate exemptions.	Bulletin Board law and rule change process.

Area		Recommendation	How to progress recommendation
	Retail gas prices	The ACCC will continue to publish the retail gas price series and retailer offers for the duration of the Inquiry and to progress its work on retailer costs and margins. In the first half of 2019, the ACCC will consider whether the retail gas price series should continue to be published once the Inquiry has ended and, if so, who should be responsible for doing so and the mechanisms that should be put in place to mitigate the risk of coordinated conduct. The ACCC will also consider whether any other transparency measures are required.	Continue to progress through the ACCC Inquiry, with further recommendations to potentially be made in mid-2019.
	Transportation prices	Scheme (full and light regulation) pipelines should be required to comply with the same price and financial reporting obligations as non-scheme pipelines.	Rule change processes following reviews of the economic regulatory framework applying to scheme and non-scheme pipelines (expected 2019).
		In the first half of 2019, the ACCC will examine the adequacy of the weighted average prices published by non-scheme pipelines and advise on whether this standard should be retained in the NGR or if individual prices should be reported by scheme and non-scheme pipelines.	
		When conducting the review of Part 23 of the NGR in 2019, the Energy Council's Senior Committee of Officials (SCO) should consider whether all non-scheme pipelines providing third party access should be required to publish standing prices.	
	Stand-alone compression and storage facility prices	Operators of stand-alone compression facilities and storage facilities that are providing third party access should be required by the NGR to publish the standing prices for each service offered by the facility and information on the prices actually paid by users of these facilities. In the first half of 2019, the ACCC will consider the form the prices paid by users should take, as part of its review of the adequacy of weighted average prices reported by non-scheme pipelines.	New provisions in the NGL and NGR will be required to extend price reporting obligations to these facilities.
LNG exports and imports	**LNG exports**	LNG exporters should be required to provide AEMO with LNG export information and export prices for publication on the Bulletin Board. The scope of these reporting obligations should be consulted upon through the Bulletin Board rule change process.	Bulletin Board law and rule change process.
	LNG imports	The list of market participants that can be subject to Bulletin Board reporting obligations in the NGL should be extended to include LNG import terminals. If any LNG import terminals are developed, the operators should be required to provide similar operational information as producers and storage facilities as well as information on LNG imports to AEMO for publication on the Bulletin Board. The scope of these reporting obligations should be consulted upon through the Bulletin Board rule change process. If a decision is made to proceed with the development of any LNG import terminals, the ACCC will examine the potential development of an LNG import parity price estimate.	Bulletin Board law and rule change process (rule change progressed if decision made to proceed with the development of any facilities).
GSOO Coverage		The scope of the GSOO should be expanded to include the NT once it becomes connected to the east coast market, which is expected to occur in late 2018.	NT Government to fix day by which the GSOO will apply under legislation.
Bulletin Board Penalties		To strengthen the Bulletin Board compliance framework, the maximum civil penalties for failing to provide information to AEMO, for providing false or misleading information and for failing to comply with the Bulletin Board information standard, should be increased to $1 million for body corporates ($200,000 for individuals).	SCO's review of the AER's powers and the civil penalty regime (currently underway).

Consistent with the AEMC's objective of making the Bulletin Board a 'one-stop shop' for information and the purpose of the Bulletin Board,[9] the recommendations in table 1.1 provide for information on the following to be published on the Bulletin Board:

- reserves and resources (which are to be calculated using the reporting framework that the ACCC is currently developing) and the level of contracted reserves
- infrastructure availability and developments
- short-term gas prices
- LNG shipments and prices.

One of the main benefits of requiring this information to be published on the Bulletin Board is that the Bulletin Board is underpinned by a relatively robust compliance and enforcement framework that is overseen by the AER. To further strengthen this framework and provide market participants and policymakers with greater confidence in the information reported on the Bulletin Board, we recommend that the maximum civil penalties be increased.

The current maximum civil penalty for failing to provide information to AEMO for publication on the Bulletin Board,[10] for providing information that is false or misleading information,[11] or for failing to comply with the Bulletin Board information standard,[12] is $100,000 for body corporates ($20,000 for individuals) plus $10,000 ($2,000) for every day it continues.[13] Consistent with the increased penalties that are currently being considered by SCO as part of its review of the civil penalty regime,[14] we recommend that the penalties for each breach of the Bulletin Board reporting obligations be increased to:

- $1 million for body corporates
- $200,000 for individuals.

The recommendations in table 1.1 also provide for more information on upstream activities relating to the future supply outlook (e.g. drilling activities and production cost estimates) to be published as part of the GSOO[15] and for the scope of the GSOO to include the NT once it becomes connected to the east coast market.

In addition to these measures, the recommendations in table 1.1 provide for:

- more information on transportation, stand-alone compression and storage prices to be published by the operators of these facilities, and
- the ACCC to continue publishing information on wholesale prices, retail prices and LNG netback prices for the duration of its current Inquiry and to consider in the first half of 2019 whether these price series should continue to be published once the Inquiry is complete and, if so:
    - who should be responsible for collating and publishing the information
    - any mechanism that may be required to mitigate the risks of coordinated conduct.

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9 The purpose of the Bulletin Board, as specified in Part 18 of the NGR, is to make information available to facilitate trade and informed and efficient decision making.

10 This obligation is set out in section 223 of the NGL.

11 This obligation is set out in section 225 of the NGL.

12 This obligation is set out in rule 165 of the NGR.

13 See sections 3, 223 and 225 of NGL.

14 See SCO, AER Powers and Civil Penalty Regime: Consultation Paper, June 2018.

15 In our view the GSOO is the more appropriate forum to publish this information because the information is likely to require more contextualisation than can be provided through the Bulletin Board.

It is important to note that we have not sought to quantify the costs and benefits associated with each of these recommendations. We would expect, however, that the costs associated with the reporting obligations would be relatively low in most cases, because the information relates to market participants' core business activities and should therefore be readily available.[16] The benefits, on the other hand, are likely to be significant and include, amongst others:

- providing more timely and accurate signals about how well the market is functioning and whether there are any potential problems with the supply-demand balance, which will enable the market to respond more efficiently to changing market conditions
- promoting effective competition (where competition is possible) and the efficient trade of gas and infrastructure services by aiding the price discovery process, lowering search and transaction costs and reducing the information asymmetry and imbalance in bargaining power that users can face in each stage of the supply chain
- enabling more informed decisions to be made about consumption, production, exploration activities and infrastructure services in the short- and long-run and facilitating more efficient planning and investment across the market.

The recommendations can therefore be expected to support the efficient operation of the market and, in so doing, facilitate the efficient allocation of gas, infrastructure services and other resources in both the short- and long-run. Such an outcome is consistent with the National Gas Objective, which is defined in the NGL as follows:

> *"The objective of this law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas."*

It is also consistent with the Energy Council's Vision for the Australian gas market and the outcomes it agreed to pursue in the next phase of gas market reform and development, which included enhancing transparency and price discovery in the market through the: [17]

> *"Provision of accurate and transparent market making information on pipeline and large storage facilities operations and capacity, upstream resources, and the actions of producers, export facilities, large consumers and traders."*

Finally, it is worth noting that those recommendations that require amendments to the NGL and/or NGR will be subject to a public consultation process. This will provide a further opportunity to examine the costs and benefits associated with these recommendations and consider any refinements to the reporting frameworks.

1.3. How to progress the recommendations

Of the 18 recommendations listed in table 1.1:

- two will continue to be progressed by the ACCC through the current Inquiry and may result in further recommendations in 2019
- two can be implemented by AEMO using its existing GSOO powers

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16 Producers, for example, would already have reserve and resource estimates.

17 The Energy Council's Vision is for:

"..the establishment of a liquid wholesale gas market that provides market signals for investment and supply, where responses to those signals are facilitated by a supportive investment and regulatory environment, where trade is focused at a point that best serves the needs of participants, where an efficient reference price is established, and producers, consumers and trading markets are connected to infrastructure that enables participants the opportunity to readily trade between locations and arbitrage trading opportunities."

See Energy Council, Australian Gas Market Vision, December 2014.

- one will require the NT Government to amend its legislation
- thirteen will require amendments to be made to the NGL and/or the NGR.

If these recommendations are implemented, we would suggest that an assessment be carried out two years after their implementation on the effectiveness of these measures and whether any further transparency measures are required. Such an assessment could be carried out as part of another review process, such as the AEMC's biennial review into the liquidity of gas and pipeline capacity trading markets, and/or AEMO's biennial review of the operation of the Bulletin Board.

1.4. Structure of paper

The remainder of this paper is structured as follows:

- Chapter 2 outlines the role information plays in a well-functioning market and the circumstances in which its disclosure may undermine the market's efficient operation
- Chapters 3–6 provide further detail on the information deficiencies we have identified across the supply chain and how these deficiencies could be addressed
- Appendix A sets out the steps taken by the AEMC, ACCC, GMRG and other agencies to improve the transparency of the market over the last two years
- Appendix B provides an overview of the information available to gas market participants in other jurisdictions.

2. Role of information in a well-functioning market

A well-functioning gas market is characterised by efficient production, transportation, storage and use of gas. Efficiency at each stage of the supply chain requires timely and accurate signals about:

- the availability and use of gas in the short- and long-term
- the availability and use of infrastructure services in the short- and long- term
- any potential problems with the supply-demand balance in the short- and long- term.

The quality of these signals is particularly important in ensuring that gas, infrastructure services and other resources are allocated in the most efficient manner and that the market can respond efficiently to changes in market conditions. It is also important in ensuring that there is efficient investment in exploration, infrastructure services (e.g. transportation, stand-alone compression and storage) and gas consuming facilities over time, because such investments are typically long-lived and largely irreversible. A well-functioning market provides valuable information on the likely future demand and supply of gas that underpin these investment decisions.

2.1. Ways in which greater transparency can facilitate the efficient operation of the gas market

Markets that operate efficiently enable participants to more fully exploit gains from trade. In these markets buyers who value a product at more than the (incremental) cost of supply acquire the product. Sellers who can supply the product at a low cost gain sales from sellers who cannot. Buyers and sellers can make commitments to trade the product in the future, which can underpin long-term investments.

In general, markets work better and generate more efficient outcomes, the more information that is available to buyers and sellers. A number of types of market information are important in this regard.

Prices

The most important information in the market is price. The price at which a product is traded provides signals to sellers about how much to produce and to buyers about how much to use. Predictions of prices in the future guide investment decisions by both sellers and buyers.

In some markets, prices are not fully transparent to participants (or potential participants). This is particularly the case in gas markets where trades are largely carried out via bilateral contracts. Measures that capture prices and how they are changing over time can aid the price discovery process, minimise search and transaction costs, reduce imbalances in bargaining power and improve decision-making over the short- and long-term.

Availability of products

Information about the products that are available is also important for the efficient operation of markets. If buyers (or potential buyers) have limited information on the products sellers have to offer and sellers have limited information on the products valued by buyers, then mutually beneficial trades may not occur.

This includes the availability of products today and in the future. For instance, the more information buyers have about the likely availability of gas in the future (e.g. reserves and resources information), the more efficient their decisions about investments in plants that use gas are likely to be.

Identity of (potential) buyers and sellers

As noted above, in some gas markets trades are primarily carried out via bilateral contracts. In order for these markets to operate efficiently, buyers and sellers need to know who to do business with. The more information buyers have about the identity of potential sellers and the more information sellers have about the identity of potential buyers, the more likely it is that mutually beneficial trades will occur and the transaction costs associated with trading will be minimised.

Asymmetry of information

In general, the benefits of transparency are likely to be greater if buyers and sellers have similar information. Asymmetric information can create uncertainty and undermine the scope for mutually beneficial trades. When negotiating supply contracts, gas buyers are necessarily trying to assess whether the terms and conditions on offer are reasonable. This in turn depends on their assessment of current and future market conditions.

If the gas seller has an informational advantage over the gas buyer, it is more likely that their assessments of current and future market conditions will differ. This can cause two problems. First, the gas buyer may have a degree of 'distrust' over the reasonableness of the offer. Second, the gas seller may have difficulty in 'winning over' the gas buyer even if the offer is reasonable. If buyers and sellers have similar information on the future availability of gas supplies, it is more likely that both sides will be willing to enter long-term supply contracts.

The effect asymmetric information can have on the efficient operation of markets is likely to be greater where there are limited sellers, which is currently the case in the east coast gas market. In markets with a limited number of sellers, buyers have less opportunity to assess the reasonableness of offers by shopping around.

2.2. Ways in which greater transparency may undermine the efficient operation of markets

While markets generally work better the more information that is available to buyers and sellers, this is not always the case. Information disclosure can, in some circumstances, undermine the efficient operation of markets.

Information disclosure and competition

While greater transparency will ordinarily promote competition, it can also have the opposite effect because in certain circumstances, disclosure of information can facilitate coordinated conduct. Coordinated conduct refers to situations when firms recognise their mutual interdependence and individually 'decide' not to compete as aggressively as they otherwise would. Such conduct is profitable if all or most firms behave in this way.

Successful coordination requires firms to:

- reach a common 'understanding' on how each firm will behave
- effectively monitor each firm's compliance with the common 'understanding'
- effectively punish firms for deviating from the common 'understanding'.

Disclosure of information about the behaviour of individual firms (such as production costs or gas prices) can make coordinated conduct more likely to occur and more stable. This is particularly the case if the conditions conducive to coordinated conduct already exist in the market (e.g. small number of firms, homogenous product, absence of long-term contracts, etc).

The risk that the disclosure of information may facilitate coordinated conduct is likely to be greater if:

- the information is firm-specific (rather than an aggregation of information of a number of firms)
- the information is likely to reveal future production, investment or pricing intentions of individual firms
- firms can access and act on the information more readily than buyers.

It is less likely that the disclosure of information will facilitate coordinated conduct where the information concerns the prices or costs of monopoly infrastructure, or where competition occurs on a number of dimensions (e.g. price, quality, reliability, etc.)

Disclosure of proprietary knowledge

Firms invest in, and develop, products and processes to gain an advantage over their competitors and, in turn, increase their profits.

Disclosure of the proprietary knowledge of a firm may enable its rivals to quickly replicate the firm's unique product and processes. This may reduce the incentives for the firm to invest in differentiating their products and processes in the first instance.

Care must therefore be taken to guard against the disclosure of proprietary knowledge or information that can be used to infer this knowledge.

3. Upstream activities

There is currently limited publicly available information on reserves, resources, drilling activities and production costs, or where this information is available, it is often scattered and fragmented. As recognised by the Energy Council in its vision for the gas market:[18]

> *"…an important contributor to informed decision making about the future value of gas is transparent information on reserves, resources production, forecasts and well drilling rates."*

Improved upstream information would provide market participants and policymakers with a better understanding of the supply outlook. It would also enable more informed decisions to be made about the use of gas, exploration activities, investment in infrastructure and policy development.

The information deficiencies we have identified in this area and our recommendations on how they should be addressed is provided below.

3.1. Reserves and resources information

Information deficiency: The reporting of reserves and resources across the east coast is fragmented and suppliers do not employ a consistent reporting framework.

Recommendation: Holders of gas reserves and resources should be required to provide information on their reserves and resources (using the reporting framework being developed by the ACCC) to AEMO for publication on the Bulletin Board.

The ACCC's 2016 Inquiry found that the east coast gas market was not signalling expected supply problems effectively and noted a lack of transparency in the level of reserves and resources.[19] Specifically, the Inquiry found that:

- companies are required to report at different times and at different levels of geographical aggregation and some companies are not required to report at all (for example, unlisted companies and those listed overseas)
- there is no consistent reporting framework for reserves and resources
- State, Territory and Commonwealth governments have access to different data sets and there are significant differences in the public release of that information between jurisdictions.

The ACCC also found that gas users were at a disadvantage when negotiating new GSAs with large incumbents who had greater knowledge of the market and reserve positions.[20]

The ACCC therefore recommended that all explorers and producers be required to publish on the Bulletin Board consistent reserves and resources information using common price assumptions. The ACCC also recommended that the Energy Council ensure geological and reserve/resources information collected by the states and territories and the Commonwealth is consistent, non-duplicative and shared.

In its *East coast wholesale markets and pipelines framework review* (East Coast Review), the AEMC largely agreed with these recommendations,[21] although it noted that the reporting of 2P reserves should be bedded down before requiring resources to be reported. The

18 http://www.coagenergycouncil.gov.au/publications/coag-energy-council-australian-gas-market-vision.

19 ACCC, Inquiry into the east coast gas market, April 2016, p. 82.

20 ibid, pp. 82 and 85.

21 AEMC, East Coast Review: Stage 2 Final Report: Information Provision, 23 May 2016, p. 120.

AEMC also noted that it did not have sufficient time to consider the use of common price assumptions as suggested by the ACCC.

The Energy Council agreed with the ACCC and AEMC's recommendations that consistent reserves and resources information should be published on the Bulletin Board by all suppliers.[22] The Energy Council also noted that in progressing the changes to the Bulletin Board through the Stage 2 Bulletin Board rule change process, the AEMC should consider the ACCC's recommendation regarding the use of common price assumptions.

As part of its current Inquiry, the ACCC is progressing the recommendations it made in the 2016 inquiry.[23] To this end, the ACCC is currently developing a reporting framework that provides for the consistent reporting of reserves and resources and is also considering the adoption of common price assumptions. The ACCC expects to publish the first set of reserves and resources information in December 2018, at which time it will also commence formal stakeholder consultation.

To ensure this information remains available to market participants and policymakers once the Inquiry ends, we recommend that the reserves and resources information is published on an ongoing basis on the Bulletin Board using the reporting framework that is currently being developed by the ACCC. The ACCC expects to finalise its reporting framework in early 2019. The results of this work, including any stakeholder feedback, could then be considered as part of the Bulletin Board rule change process.

While requiring this information to be published on the Bulletin Board would impose some costs on producers, the costs are expected to be relatively low (i.e. because this information is already held by producers) and outweighed by the benefits. The main benefit of requiring this information to be published is that it would provide market participants and policymakers with a better understanding of the supply outlook. This would, in turn, enable:

- gas users to make more informed decisions about their future use and consumption of gas, including more informed investment decisions regarding the efficient use of their gas consuming infrastructure
- producers to make more informed decisions about their exploration activities and investment in the development of gas fields
- pipeline and storage facility operators to respond more efficiently to the investment and planning signals arising from this information
- State, territory and Commonwealth governments to make more informed regulatory decisions regarding the development of reserves and resources.

The publication of this information would also provide more timely and accurate information on potential supply problems and enable the market to respond more efficiently to changing market conditions.

The publication of this information would reduce the information asymmetry that currently exists between gas suppliers and users. Having a better understanding of reserves would therefore allow users to negotiate more effectively with suppliers when entering into GSAs. In addition, it would enable industry analysts to develop more robust production cost estimates, which can be an important input into users' longer-term decisions and their negotiations with suppliers (see section 4.1.4).

22 Energy Council, Gas Market Reform Package Appendix A – Energy Council Response to ACCC and AEMC's reports, 19 August 2016, pp. 5–6.

23 See also ACCC, Gas inquiry 2017–2020: July 2018 interim report, p. 70.

3.2. Contracted reserves

Information deficiency: There is currently no publicly available information on the level of contracted reserves held by producers.

Recommendation: Holders of gas reserves should be required to provide AEMO with information on the volume of 2P reserves that have been contracted, which should be published on the Bulletin Board on an aggregated basis (e.g. by basin, region or other aggregation level that encompasses at least three producers).

At present, there is no publicly available information on the level of contracted reserves held by producers. This can result in market participants having different perceptions of the gas supply outlook and their ability to readily secure gas in the future. This, in turn, may result in inefficient consumption, supply, investment and policy decisions.

The need for greater transparency in this area was considered by the AEMC as part of its East Coast Review. However, the AEMC focused on the reverse metric of uncontracted reserves.[24] While some stakeholders saw value in requiring this information to be published, many of the large producers did not agree, noting the complexities associated with measuring and interpreting uncontracted reserves information. The AEMC therefore recommended that the reporting of 2P reserves be bedded down before considering whether to require uncontracted reserves to be reported.[25]

In the period following the AEMC's East Coast Review, the supply-demand balance in the east coast has continued to tighten and it has become clearer that the market would benefit from having greater transparency of the availability of reserves. Rather than requiring producers to publish information on uncontracted reserves, we recommend that producers be required to report to AEMO for publication on the Bulletin Board the volume of 2P reserves[26] that have been contracted under existing GSAs. The publication of this alternative metric should be easier for producers to report and subject to fewer changes due to fluctuations in reserve levels. It should also address the concerns that producers raised in the AEMC's East Coast Review.

One potential issue with requiring this information to be published given the tight supply-demand balance is that it may give those producers with uncontracted reserves a greater degree of bargaining power, which could act to the detriment of gas users. To overcome this competition concern, we recommend that AEMO aggregate the data (i.e. by basin, region or some other level that provides for the aggregation across at least three producers[27]) before publishing it on the Bulletin Board.

Read in conjunction with the reserves information proposed in section 3.1, information on the volume of contracted 2P reserves would provide market participants and policymakers with a better understanding of remaining uncontracted reserve levels. This would, in turn, enable more informed and efficient decisions to be made about consumption, exploration, supply and policy decisions. It would also allow market participants to respond more efficiently to investment and planning signals over the longer run.

To implement this recommendation, changes will need to be made to Part 18 of the NGR through a Bulletin Board rule change process. In the intervening period, the ACCC intends to

24 AEMC, East Coast Review: Stage 2 Final Report: Information Provision, 23 May 2016, p. 74.

25 ibid, p. 66.

26 In our view, contracted reserves based on a 2P reserve estimate is the most appropriate metric to use in this context because 2P reserves are well-accepted by industry as the most likely assessment of recoverable quantities.

27 If the information is aggregated across at least three suppliers, it will be impossible for one party to work out the actual quantity of the contracted reserves of another party without access to the private market information of the other party.

publish contracted reserves information as part of its current Inquiry (through its reserves and resources work program).

3.3. Drilling activities

Information deficiency: Publicly available information on drilling activities is currently fragmented and is not reported in a consistent manner.

Recommendation: AEMO should publish information on both onshore and offshore drilling activities and expenditure annually as part of the GSOO.

Publicly available information on drilling rates is currently fragmented and is not reported in a consistent manner. For example:

- The National Offshore Petroleum Titles Administrator (NOPTA) publishes the National Electronic Approvals Tracking System (NEATS), which provides an indication of the timing of offshore well developments through its publicly available information on work programs.[28] It also maintains the National Offshore Petroleum Information Management System (NOPIMS), which provides access to offshore petroleum well and survey data. However, much of the other detailed information reported to NOPTA is provided on a permanently confidential basis.
- The Queensland Government publishes extensive six-monthly reports that include drilling information; however, we understand that extracting the data can be cumbersome.[29]
- The South Australian Energy Resources Division maintains the Petroleum Exploration and Production System (PEPS),[30] however, we understand that this is a platform for communicating technical data on a per well basis and data entry may lag by up to 24 months.
- Geoscience maintains the National Database of Petroleum Wells; however, it is unclear how current this data is.[31]
- The ASX requires reporting on material exploration and drilling results, however, this only applies to listed companies.[32]

As shown in table B.1 in Appendix B, a number of international jurisdictions require information on drilling activities and expenditure to be reported to the market:

- New Zealand's Ministry of Business, Innovation and Employment (MBIE) requires all producers to report annually on the number of wells drilled, broken down by well type (exploration, appraisal and development wells).[33] This breakdown by well type is useful because the relevance of drilling rate information is likely to differ depending on the type of gas production. For example, drilling information on development wells is likely to be more useful in the context of unconventional gas production, where a large number of wells are often required to ensure consistent production. In the context of conventional gas production, this type of information is unlikely to add additional value to the reserves and resources information proposed above, because only a few wells may be required to produce gas over the life of the gas field. For conventional gas production, drilling rate

28 See http://www.nopta.gov.au/maps-and-public-data/neats-reporting.html.

29 See https://data.qld.gov.au/dataset/petroleum-and-gas-production-and-reserve-statistics-historical-data.

30 See http://www.petroleum.statedevelopment.sa.gov.au/data_and_publications/peps-sa.

31 See http://dbforms.ga.gov.au/www/npm.well.search

32 ASX Listing Rule 5.30.

33 See https://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/publications/energy-in-new-zealand.

information on exploration and appraisal wells is likely to be more relevant, and can be used as an indicator of the development of resources.

The New Zealand MBIE also requires producers to report on their expenditure on seismic surveys and permits. This information and the number of wells drilled is published by MBIE, in aggregate form, on an annual basis.

- The United States' Energy Information Administration (EIA) publishes monthly drilling productivity reports. These include, amongst other things, information about new well production by region and drilled but uncompleted wells by region. The EIA's weekly natural gas report also includes information on the number of active gas rigs.

Improved information on domestic well drilling activities would help market participants and policymakers to understand how reserves and resources are developing or likely to develop. Requiring reporting across the east coast on, for example, the number of wells drilled, the wells expected to be drilled and associated expenditure, as currently occurs in Queensland and is required by NOPTA,[34] would also:

- provide market participants and policymakers with a better indication of current and expected future exploration and production activity
- provide insight into the level of exploration and investment occurring in the sector, which could assist policymakers in their decision-making, and
- enable the market to respond more efficiently to investment and planning signals, such as the need for increased reserves development and exploration.

In light of these likely benefits, we recommend that producers and explorers be required to provide AEMO with information on their drilling activities (including the number of wells drilled broken down by type) and expenditure for publication in the GSOO. We consider the GSOO more appropriate than the Bulletin Board for this information, given the likely usefulness to market participants and policymakers in contextualising this information within AEMO's assessment of the future gas supply outlook and in providing appropriate commentary. Inclusion of this information in the GSOO would also enable AEMO to aggregate the data and choose how to present it in the most meaningful way.

The publication of this information appears to fall within the scope of AEMO's existing GSOO functions and powers, so no changes to the NGL or NGR are likely to be required to implement this recommendation. Having said that, we are aware that AEMO has in the past relied upon voluntary surveys of market participants to collect information for its GSOO. We are also aware that questions have been raised by some stakeholders about the quality of information obtained through this type of process. There may therefore be value in including provisions in Part 15D of the NGR to compel producers to provide this information to AEMO on an annual basis for use in the preparation of the GSOO. Such a reporting obligation could be extended to other information that AEMO requires for the GSOO.

The next GSOO is not due to be released until March 2019. In the intervening period, the ACCC intends to collect and publish drilling information as part of its current Inquiry.

34 See https://data.qld.gov.au/dataset/petroleum-and-gas-production-and-reserve-statistics-historical-data/resource/3f70f964-94d2-4cf0-a2dc-695eed6ad093 and http://www.nopta.gov.au/maps-and-public-data/neats-reporting.html.

3.4. Production costs

Information deficiency: There is currently no publicly available information on producers' actual production costs, and where production cost estimates have been prepared by an industry analyst, they may not be accessible to the market more generally.

Recommendation: AEMO should publish production cost estimates annually as part of the GSOO.

For users considering their use of gas and gas related investments over the longer term, the level of reserves and resources information, together with the likely price at which they will be able to obtain that gas, is critical information. Production cost estimates can be an important input into this consideration (i.e. because production costs represent the floor price for producers), as are other alternatives for producers, such as the LNG netback price (see section 5.1.1). There is, however, currently no publicly available information on producers' actual production costs.

While there may be value in requiring producers to report their actual production costs (broken down by operator and field), publishing this type of disaggregated information could have a deleterious effect on competition between producers and facilitate coordinated conduct. Disclosure of this commercially sensitive information may also discourage innovation and efficiency efforts by producers.

That said, the price of gas is an important piece of market information and market participants would likely benefit from information on the cost of production. While actual production costs should remain confidential, there are a number of industry analysts that prepare production cost estimates, which can provide a useful reference point for market participants and in particular, for gas users in their negotiations for supply. Given that analysts often use 2P reserve levels as the basis for developing their production cost estimates, improving the quality and availability of this information (as discussed in section 3.1.1) would enable industry analysts to develop more representative production cost estimates. The production cost estimates developed by these industry analysts, however, are typically sold as a commercial product and are seldom made publicly available.

We therefore recommend that AEMO publish production cost estimates annually as part of its GSOO. For the last three years, AEMO has included information on its GSOO price assumptions, including production cost estimates, in supplementary documents accompanying the GSOO. Including this information on an ongoing basis in the GSOO would ensure it is readily available to all market participants and that, where relevant, appropriate commentary can be made. Given AEMO is already publishing this type of information as part of the GSOO, it does not appear that any changes to the NGL or NGR are required to give effect to this recommendation.

Finally, it is worth noting that as part of its current Inquiry, the ACCC has engaged a consultant to prepare production cost estimates, and intends to publish this information in a future report.

4. Infrastructure availability and developments

Operators of infrastructure facilities are currently required to publish a range of information on the capacity and use of infrastructure facilities through the Bulletin Board reporting obligations. The operators of non-exempt non-scheme pipelines[35] are also required by Part 23 of the NGR to publish on their website information on the capacity and use of their pipelines. In addition to these reporting requirements, a limited amount of information on proposed infrastructure developments is reported by AEMO through the GSOO process and by ASX listed entities.

While a reasonable amount of information on infrastructure facilities is publicly available, there are a number of inconsistencies in the reporting requirements regarding the availability of capacity and the identity of users, which could impede the efficient use of, and investment in, these facilities. There is also limited public information on proposed infrastructure developments, which could impede efficient planning and investment decisions across the supply chain.

Further detail on the information deficiencies we have identified in this area and our recommendations on how they could be addressed is provided below.

4.1. Availability of capacity

Information deficiency: There are inconsistencies in the current requirement for infrastructure facilities to report on the availability of capacity, with non-exempt non-scheme pipelines required to report a 36-month uncontracted capacity outlook while:

- other transmission pipelines, stand-alone compressors and storage facilities are only required report a 12-month outlook
- production facilities that are providing third party access are not required to publish any information on their uncontracted capacity.

Recommendation: Operators of transmission pipelines, storage and stand-alone compression facilities that are subject to the Bulletin Board reporting obligations should be required to provide AEMO with a 36-month uncontracted capacity outlook for publication on the Bulletin Board.

As part of the Bulletin Board rule change process, consideration should also be given to whether production facilities that are providing third party access should be required to publish an uncontracted capacity outlook.

Transmission pipelines and storage facilities that are subject to Bulletin Board reporting obligations are currently required to report a 12-month uncontracted capacity outlook and from 1 February 2019, stand-alone compression facilities (e.g. Wallumbilla, Moomba, Ballera and Iona facilities) will also be required to report this information. In contrast to these facilities, the operators of non-exempt non-scheme pipelines are required to publish a 36-month uncontracted capacity outlook under the new information disclosure and arbitration framework in Part 23 of the NGR.

The decision to adopt a 36-month outlook under Part 23 of the NGR was made in response to stakeholder feedback that a 12-month outlook period was too short for users to make an informed decision about whether to seek access to a non-scheme pipeline, because the term of most transportation agreements usually exceeds 12 months.[36]

35 Exemptions from the obligation to report this information are available to single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day. Exemptions from the whole framework are also available to pipelines that are not providing third party access.

36 Stakeholders also noted that shippers usually seek information on the availability of primary capacity more than 12 months prior to the commencement of an agreement.

For similar reasons to those expressed by stakeholders in the Part 23 consultation process, we are of the view that the uncontracted capacity outlook period currently used on the Bulletin Board should be extended. Accordingly, we recommend that the operators of all transmission pipelines,[37] storage and stand-alone compression facilities that are subject to the Bulletin Board reporting obligations be required to publish on the Bulletin Board a 36-month outlook (instead of a 12-month outlook) for uncontracted capacity.

The publication of this information is expected to promote:

- the efficient use of these facilities, because it would enable users to make a more informed decision about whether to seek access to a facility
- efficient investments in these facilities, because it would provide the market with more effective signals about the need for further investment in these or other facilities, particularly if facilities are fully contracted for a prolonged period.

These benefits are expected to outweigh the costs of publishing the information, which should be relatively low, given the information would be drawn from the same contracts that facility operators use to generate the 12-month outlook.

To implement this change, the existing reporting obligations in Part 18 of the NGR will need to be amended through a Bulletin Board rule change process.

As part of the rule change process, we also recommend that consideration be given to whether this reporting obligation should be extended to production facility operators that are providing gas processing services to third parties. While most production facilities do not provide third party access, there are a small number that are operating on this basis, including the Orbost, Kogan North and Tipton West facilities that are operated by APA. In these cases, the publication of information on uncontracted capacity could promote more efficient use of the facilities and more informed investment decisions by the facility operators and producers located in close proximity to the facilities.

4.2. Identity of parties with contracted capacity

Information deficiency: There is currently no publicly available information on the identity of users that have contracted stand-alone compression capacity or storage capacity, which may limit the potential for secondary trading on these facilities.

Recommendation: Operators of storage and stand-alone compression facilities should be required to provide AEMO with a list of users with contracted capacity for publication on the Bulletin Board.

In 2015, a number of changes were made to the Bulletin Board to facilitate more secondary capacity trading. The changes included a requirement for the operators of transmission pipelines to publish a list of users with contracted capacity, to enable prospective users to readily identify who they should approach if they want to acquire secondary capacity on those pipelines.

While secondary capacity trading is possible on storage and stand-alone compression facilities, the operators of these facilities are not currently required to publish any information about the identity of users that have contracted capacity and there is no other publicly available source for this information. To address this information gap, we recommend that the operators of storage and stand-alone compressors be subject to the same reporting

37 This is consistent with the recommendation the AEMC made in its Parts 8–12 review, which was that scheme transmission pipelines should also be required to report a 36-month uncontracted capacity outlook.
See AEMC, Final Report: Review into the scope of economic regulation applied to covered pipelines, 3 July 2018, p. 179.

obligation as transmission pipelines and provide AEMO with a list of users with contracted capacity for publication on the Bulletin Board.

The publication of this information is likely to facilitate increased secondary trading on these facilities by reducing trading parties' search and transaction costs. This, in turn, is likely to encourage the efficient use of, and investment in, storage and stand-alone compression facilities. These benefits are expected to outweigh the costs that facility operators would incur reporting this information, as they are expected to be relatively low, given the identity of users with contracted capacity is unlikely to change very often.

To implement this change, the reporting obligations in Part 18 of the NGR will need to be amended through a Bulletin Board rule change process.

4.3. Infrastructure developments

Information deficiency: There is limited public information on proposed and committed developments of production facilities, transmission pipelines, stand-alone compressors and storage facilities.

Recommendation: Entities developing new transmission pipelines, production, stand-alone compression, storage or LNG facilities with a nameplate capacity of 10TJ or more, should be required to provide AEMO with information on those developments for publication on the Bulletin Board as soon as practicable after they are assessed as falling within the meaning of a 'proposed' or 'committed' development. These entities should also be required to update the information when the development status changes.

As noted in the introduction to this chapter, a limited amount of information on proposed infrastructure developments is reported by AEMO through the annual GSOO, with the information based on data provided voluntarily by market participants through an annual survey. Some information on these developments is also available through ASX disclosures, although it is worth noting that a large number of market participants are not listed entities and those that are listed only have to disclose information if the development would have a material effect on the price or value of the entity's securities.[38,39]

Although some information on infrastructure developments can be obtained from the GSOO and ASX, these information sources do not provide a timely or accurate picture of infrastructure developments across the market. They cannot therefore be relied upon by market participants to make informed and efficient planning and investment decisions.

To address this information deficiency, we recommend that all entities undertaking infrastructure developments with a nameplate capacity of 10TJ[40] or more, be required to provide AEMO with the following information on "proposed" or "committed" developments for publication on the Bulletin Board:

- the project proponent's name
- the type of facility to be developed (i.e. production facility, transmission pipeline, stand-alone compressor, storage or LNG facility)

38 ASX listed entities are subject to the continuous disclosure regime, which requires 'market sensitive' information, such as proposed infrastructure developments, to be reported to the ASX if they would have a material effect on the price or value of the entity's securities. Whether or not an infrastructure development would be reported by an entity will depend on the significance of the development relative to its market capitalisation.

39 A good example of this type of disclosure can be found in APA's disclosure on 12 June 2018 when it announced that it had entered into a Development Agreement and an associated 20 year Gas Transportation Agreement with AGL Energy for the development and construction of the Crib Point Pakenham Pipeline for AGL's LNG import facility.

40 The adoption of this size threshold is intended to distinguish between infrastructure developments that are likely to be material to the market and those that are not. The threshold in this case, is based on the minimum reporting threshold that has been adopted for Bulletin Board reporting purposes.

- the location of the facility
- the proposed nameplate capacity of the facility
- the status of the development (i.e. proposed or committed)
- the scheduled commercial operation date.

This information should be reported as soon as practicable after the developments are assessed as falling within the meaning of a “proposed” or “committed” development (see box 4.1), so that the market can respond in a timely manner to the signals provided by this information. Entities should also be required to update the information if the development status changes.

To avoid any overlap with the current Bulletin Board reporting obligation relating to expansions of existing facilities and asset retirements,[41] the term ‘infrastructure development’ could be defined to limit its application to new transmission pipelines (including extensions to existing pipelines) and new production, storage, stand-alone compression and LNG facilities.

This proposed reporting obligation is akin in many ways to the obligation that ASX listed entities have to report on ‘market sensitive’ information in a timely manner. It is also similar to the reporting obligation that currently applies to proposed and committed generation projects in the NEM, which are required to be reported to AEMO for publication on AEMO’s website. The definitions that AEMO uses for ‘proposed’ and ‘committed’ generation projects are set out in box 4.1. The definitions employed by AEMO in this context, which are also used for the purposes of the GSOO, would, in our view, provide a sound basis for this information to be reported.

41 Part 18 of the NGR has recently been amended to require facilities that have to report on their medium-term capacity outlook (e.g. transmission pipelines, production facilities and storage facilities) to also report on planned expansions of those facilities and asset retirements to AEMO for publication on the Bulletin Board.

Box 4.1: Definition of proposed or committed developments used by AEMO

The status of a project is defined by AEMO using the five commitment criteria, which cover site acquisition, contracts for major components, planning and other approvals, financing, and date (see table below). Using these criteria, projects are then categorised as follows:

- **Committed projects**, representing projects that will proceed with known timing and satisfy the five commitment criteria.
- **Proposed projects**, which are further identified as:
  - Advanced proposals, representing projects that are highly likely to proceed, satisfying the site and finance criteria plus either planning or major components criteria, and have notified AEMO of a scheduled commercial operation date.
  - Maturing proposals, representing projects that have progressed with site, planning applications and finance arrangements, but not to the point they can be classified as advanced.
  - Emerging proposals, representing projects with financing arrangements, but site, planning approvals or construction are uncertain and development may be subject to changes in policy or the commercial environment.
  - Publicly Announced proposals, representing projects that have been announced publicly but do not yet have financing arrangements in place.

Commitment criteria

Category	Criteria
Site	The project proponent has purchased/settled/acquired (or commenced legal proceedings to purchase/settle/acquire) land for the construction of the project.
Major components	Contracts for the supply and construction of major plant or equipment components have been finalised and executed, including any provisions for cancellation payments.
Planning consents, construction and connection approvals, EIS	The proponent has obtained all required planning consents, construction approvals, connection contracts, and licences, including completion and acceptance of any necessary environmental impact statements.
Finance	The financing arrangements for the proposal, including any debt plans, must have been concluded and contracts executed.
Final construction and commercial use dates set	Construction of the proposal must either have commenced or a firm commencement date must have been set. Commercial use date for full operation must have been set.

Source: AEMO, Market Modelling Methodologies for Forecasting and Planning the NEM and Eastern and South-Eastern Gas Systems, July 2018.

The cost to project proponents of reporting this information is expected to be relatively low, given the information would only have to be reported if a development meets the committed or proposed criteria and the information would be readily available to the project proponent. The benefits of publishing this information, on the other hand, are expected to be material and include:

- facilitating greater coordination between infrastructure providers and potential users of these facilities during the planning stage (i.e. by signalling when new infrastructure developments are being considered), which would enable more informed and efficient investment decisions to be made by project proponents
- enabling AEMO to develop more robust forecasts of infrastructure capacity and constraints for the purposes of the GSOO

- providing market participants and policymakers with a clearer outlook for infrastructure, which would enable more informed and efficient decisions to be made by gas users, producers and infrastructure providers over the longer term based on the likely availability of these facilities.

To implement this recommendation, the reporting obligations in Part 18 of the NGR will need to be amended through a Bulletin Board rule change process. Changes to the list of market participants that can be subject to Bulletin Board reporting obligations in the NGL (or Regulations) are also likely to be required to capture entities that “intend to own, control or operate” a production facility, a stand-alone compression facility, a storage facility or an LNG facility.[42]

42 Note that the definition of ‘service provider’ in the NGL already captures a person that currently owns, controls or operates a pipeline and a person that intends to own, control or operate a pipeline. The definition of other facility operators, however, only captures those persons that own, control or operate the facility. For example, the definition of a ‘storage provider’ in the NGL means a “person who owns, operates or controls a facility for storing natural gas or processable gas for injection into a pipeline”.

5. Gas, retail and infrastructure prices

Beyond the reporting in the current ACCC Inquiry and the ABS price index, there is limited publicly available information on wholesale gas prices, retail gas prices and the prices payable for infrastructure services and the drivers of these prices. As highlighted by a number of stakeholders, greater transparency in this area would, subject to appropriate steps being taken to address the risk of coordinated conduct, support the efficient operation of the market and the efficient allocation of gas and other resources by:

- promoting effective competition (where competition is possible) and the efficient trade of gas and infrastructure services by:
    - aiding the price discovery process
    - lowering search and transaction costs
    - reducing the information asymmetry and imbalance in bargaining power that users can face in each stage of the supply chain
- providing a more timely and accurate signal of how well the market is functioning and whether there are any problems with the supply-demand balance
- providing a better indication of the outlook for prices, which could assist users, producers and infrastructure service providers when making longer-term consumption, production and investment decisions.

As noted in section 2.2, there is a risk in those parts of the supply chain that are subject to competition, that the disclosure of individual prices could facilitate coordinated conduct amongst suppliers. Where this risk is likely to be present, we have recommended that prices be reported on an anonymised and aggregated basis, with information reported on a basin, regional or some other basis that provides for the aggregation of information reported by at least three suppliers.

Further detail on the information deficiencies we have identified in this area and our recommendations on how they could be addressed is provided below.

5.1. Wholesale gas prices

Gas has historically been sold under bilateral contracts that have been invariably treated as confidential by the parties. There is therefore limited publicly available information on the following prices, outside of what is being published through the ACCC's current Inquiry and the ABS price index:

- the prices paid for gas under long-term bilateral gas supply agreements (GSAs) (i.e. contracts with a term of one year or more)
- the prices paid for gas under short-term bilateral GSAs (i.e. contracts with a term of less than one year) that are conducted outside the facilitated gas markets (i.e. the Gas Supply Hub (GSH), the short-term trading markets (STTM) and Victorian Declared Wholesale Gas Market (DWGM)).

These information deficiencies are discussed, in turn, below.

5.1.1. Long-term GSAs

Information deficiency: Beyond the reporting in the current ACCC Inquiry and the ABS price index, there is no publicly available information on the prices paid under long-term GSAs and limited understanding of LNG netback prices.

Recommendation: The ACCC will continue to publish the various producer price series and LNG netback price series for the duration of the Inquiry.

In the first half of 2019, the ACCC will also consider whether the producer price series and LNG netback price series should continue to be published once the Inquiry has ended and, if so, who should be responsible for doing so and how the risk of coordinated conduct should be addressed. Further recommendations may therefore be made in mid-2019.

In the 2016 Inquiry, the ACCC found that it was "very difficult" for market participants to determine what a 'fair gas price' meant in the east coast gas market, because there was no publicly available information on the prices payable to producers under GSAs.[43] Elaborating on this further, the ACCC noted that:[44]

> *"A lack of pricing information complicates and slows bargaining. Much pricing information is private and particular to specific contracts and negotiations. Because of this there is a large disparity between the level and accuracy of information available to players such as producers and retailers that participate in more trades, are larger, or are more vertically integrated versus players such as industrial gas users who typically are less frequently parties to negotiations and agreements. While some disparity of this sort has always existed, the disparity is worsened during times when the number of offers made by suppliers is reduced. In the situation where few offers are being made, industrial users are less able to use the information that would be embodied in a variety of offers as a substitute for knowledge of recent agreed contracts."*

The ACCC also found that there was little understanding of LNG netback pricing and how it should be reflected in the prices payable in the domestic market.[45]

To address these information deficiencies, the ACCC recommended that:[46]

- AEMO publish a monthly LNG netback price to Wallumbilla along with a clear explanation of the pricing framework and relevant inputs
- the AEMC consult with gas users about the potential benefits of requiring AEMO or the AER to publish a periodic series on the prices actually paid to producers under long-term GSAs (measured on a $/GJ basis), for the east coast generally or for Victoria and Queensland.[47]

The ACCC is progressing these recommendations in the current Inquiry by publishing:

- A producer gas price series that is based on the weighted average prices paid to producers under GSAs that provide for the supply of at least 0.5 PJ per annum for a term of one year or more.[48] To mitigate the risk of coordinated conduct by producers, prices are aggregated by region, with separate price series published for producers located in Queensland and producers in the remainder of the east coast.

43 ACCC, Inquiry into the east coast gas market, April 2016, p. 88.

44 ibid.

45 ibid, p. 89.

46 ibid, p. 21.

47 The restriction of this series to either an east coast price series, or separate price series for Victoria and Queensland, was intended to limit the opportunity for coordinated conduct amongst suppliers.

48 The ACCC is also publishing a retailer gas price series – see section 5.2.

- An LNG netback price series based on measures of recent and historic Asian LNG spot prices and a forward LNG netback price indicator extending to the following year. These price series will be published on a fortnightly basis from the end of September 2018 and will be accompanied by a guidance note that explains how these price series have been calculated and how they should be interpreted.

In the current Inquiry, the ACCC has also been publishing information on:

- the weighted average prices expected to be paid under long-term GSAs for supply in 2018 and 2019
- producers' offers to customers that are seeking the supply of at least 0.5 PJ of gas per annum for a term of one year or more.[49]

The ACCC intends to continue to publish this information over the course of the Inquiry. In 2019 the ACCC also intends to consider:

- whether the producer price series and LNG netback price series should continue to be published once the Inquiry is complete, or
- whether reliance could instead be placed on the ABS gas extraction producer price index, which measures movements in prices received by producers in the domestic market.[50]

This consideration will occur in the first half of 2019, to allow a smooth transition in any reporting once the Inquiry concludes in April 2020. To help inform its consideration of this issue, the ACCC intends to consult with stakeholders on the benefits (or otherwise) of continuing to publish these price series and who should be responsible for collating and publishing the information.[51]

It is worth noting in this context that there are a number of complexities associated with calculating these price series. Careful consideration would therefore need to be given to these issues when deciding whether the publication of these price series should continue post Inquiry. If a decision is made to continue with their publication, then consideration would also need to be given to how the risks of coordinated conduct will be addressed. These risks have been mitigated in the current Inquiry by publishing prices on a regional basis (with at least three producers located in each region), but if another agency takes on this role more formal arrangements would need to be implemented.

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49 The ACCC has also been publishing retailer offer information – see section 5.2.

50 The ABS started publishing this survey-based producer price index in 2017, but the series extends back to September 2015. The index is published on a quarterly basis, with separate price indices published for the east coast market and Western Australia. See ABS 6427.0 Producer Price Indexes, Australia.

At the time the Energy Council agreed that this price index should be published by the ABS, it noted that the adequacy of the index should be considered as a part of the AEMC's biennial review into the liquidity of wholesale gas and pipeline markets. The ACCC's work in this area could be used to inform this review, which is expected to be carried out in 2020.

See http://www.coagenergycouncil.gov.au/publications/coag-energy-council-gas-market-reform-package and https://www.aemc.gov.au/sites/default/files/2018-02/Terms%20of%20reference.pdf.

51 As part of this process, the ACCC also intends to consider whether the prices struck in any other types of contracts should be reported, including delivered gas supply contracts and swaps.

5.1.2. Short-term GSAs

Information deficiency: Like long-term GSAs, there is no publicly available information on the prices paid under short-term GSAs. While prices in the facilitated markets are published, these trades reportedly account for a relatively small proportion of gas traded and may not therefore provide the best indicator of the market price for gas.

Recommendation: Parties entering into short-term GSAs outside the facilitated markets should be required to report this information to AEMO shortly after they are entered into, for publication on the Bulletin Board. To mitigate the risk of coordinated conduct, this information should be published on an anonymised and aggregated basis.

The reporting framework to apply to such trades should be developed through a Bulletin Board rule change process along with any appropriate exemptions from the reporting framework (e.g. to exclude trades that were not entered into on an arm's length basis).

There are a number of facilitated markets in the east coast, including:

- the Sydney, Adelaide and Brisbane STTM and the Victorian DWGM (which are compulsory markets)
- the Moomba and Wallumbilla GSH (which are voluntary markets).

While the prices struck in these markets are published, there is no transparency of the prices paid under short-term bilateral GSAs entered into outside these markets ('off market trades').

In its inaugural biennial review into liquidity in wholesale gas and pipeline trading markets, the AEMC conducted a survey of market participants to get a better understanding of the proportion of trades conducted through the facilitated markets. A wide range of estimates were provided in response to this question, with some participants stating that they only trade gas through the facilitated markets, while others stated they trade up to 95 per cent of volumes bilaterally.[52] One participant also noted that while it conducts a greater number of trades through the facilitated markets, the majority of its traded volume is still conducted off-market.

The large number of trades that are being conducted off-market brings into question the robustness of the price signals emerging from the facilitated markets and the level of reliance that market participants can place on these signals when making decisions. To address this deficiency, we recommend that the prices struck in all off-market trades with a term of less than 12 months be reported to AEMO for publication on the Bulletin Board shortly after the trades are entered into. To address the risk of coordinated conduct, we also recommend that this information be published on an anonymised and aggregated basis (e.g. by basin, trading point, region or other aggregation level encompassing at least three sellers).

While the publication of this information may impose some reporting costs on trading parties, these costs are likely to be outweighed by improvements in the efficiency with which gas is allocated in the short-term. This is because the publication of this information would:

- provide a more timely and accurate signal of the value of gas sold under short-term contracts
- facilitate competition amongst sellers and the efficient trade and use of gas by aiding the price discovery process, reducing search and transaction costs and reducing the degree of information asymmetry faced by gas users when procuring gas.

52 AEMC, Final Report: Biennial review into liquidity in wholesale gas and pipeline trading markets, 26 June 2018, p. 43.

Another benefit of publishing this information is that it would enable policymakers to make more informed decisions about whether further steps are required to increase the liquidity of the facilitated gas markets.

The publication of this information on the Bulletin Board is consistent with the approach taken with the capacity trading reforms, where all market and off-market trades of transportation capacity will need to be reported on the Bulletin Board shortly after they are entered into (see box A.1 in Appendix A for more detail). It is also consistent with the recommendation made by the ACCC in the Retail Electricity Pricing Inquiry, that all over the counter trades be reported to the AER before being published on an anonymised basis.[53]

To implement this recommendation, the Bulletin Board provisions in the NGL and Part 18 of the NGR will need to be amended. The reporting framework should be developed as part of the Bulletin Board rule change process and as part of this process consideration should be given to:

- the information to be reported by trading parties[54]
- any exemptions that would be available from the reporting framework (e.g. to exclude trades that were not entered into on an arm's length basis), and
- the level at which prices should be aggregated to address the risk of coordinated conduct.

5.2. Retail gas prices

Information deficiency: Beyond the reporting in the current ACCC Inquiry there is no public information on the prices paid by commercial and industrial (C&I) gas users to retailers and the drivers of these prices.

Recommendation: The ACCC will continue to publish the retail gas price series and retailer offers for the duration of the Inquiry and progress its work on retailer costs and margins. In the first half of 2019, the ACCC will also consider whether:

- the retail gas price series should continue to be published once the Inquiry has ended and, if so, who should be responsible for doing so and the mechanisms that should be put in place to mitigate the risk of coordinated conduct; and
- any further retail related transparency measures are required.

Similar to wholesale gas prices, there is no publicly available information on the prices paid by C&I users to retailers or on the drivers of these prices. Given there are only a small number of retailers making limited offers to supply these users, this lack of pricing information could result in users paying more for gas than they would in a well-functioning competitive market. It could also impede competition and the efficient trade and use of gas (i.e. by limiting price discovery, imposing search and transaction costs on users and increasing the degree of information asymmetry and imbalance in bargaining power users can face when negotiating with retailers).

The ACCC has sought to address this lack of pricing information in the current Inquiry by publishing:

53 ACCC, Final Report: Retail electricity affordability and Australia's competitive advantage, June 2018, p. ix.

54 In addition to reporting the prices struck in these contracts, the trading parties would ideally report the date the trade was entered into, the duration of the trade, the volume of gas traded, the location at which gas is supplied and other key non-price terms and conditions that may have affected the prices in those trades (e.g. the load factor and take or pay multiplier). This is akin to the information that shippers will be required to report for bilateral trades of secondary capacity when the capacity trading reform package is implemented in March 2019 (see box A.1 for more detail).

- A retail gas price series that is based on the weighted average prices paid by commercial and industrial (C&I) customers for gas under contracts with a term of one year or more that provide for the supply of at least 0.5 PJ per annum. To mitigate the risk of coordinated conduct by retailers, these prices have been aggregated by region, with separate price series published for customers located in Queensland and customers located in NSW/Victoria/South Australia.
- Information on retailers' offers to customers seeking the supply of at least 0.5 PJ of gas per annum for a term of one year or more.

The ACCC intends to continue to publish this information over the course of the Inquiry. In a similar manner to the long-term wholesale gas price series, the ACCC will consider in the first half of 2019 whether this information should continue to be published once the Inquiry is complete and, if so:

- who should be responsible for collating and publishing the information
- how the risk of coordinated conduct could be mitigated (e.g. by requiring retail prices to be published on an anonymised and aggregated basis by region).

Further recommendations may therefore be made on this issue in 2019.

Additional recommendations may also result from the ACCC's work relating to the major gas retailers in the east coast gas market, which includes an examination of:

- the costs incurred by the retailers, including the costs of procuring gas, transmission, distribution, storage and other ancillary services
- the margins earned by the retailers
- the extent to which retailer charges are described to, and understood by, customers, and the accuracy of these descriptions.

The ACCC expects to first report on this work in late 2018. The work is intended to provide market participants and policymakers with a better understanding of the drivers of retail prices and the state of competition. If this work reveals that there would be merit in having greater transparency around the charges levied by retailers, the ACCC will consider the form such requirements should take and how they should be progressed.

5.3. Infrastructure prices

In a similar manner to wholesale and retail gas prices, there has historically been little publicly available information on the prices payable for transportation, storage and stand-alone compression services. While some steps have been taken by the ACCC and GMRG in the last 12 months to improve the transparency of transportation prices, there is still limited publicly available information on:

- the prices actually paid by shippers for transportation services, beyond the ranges published by the ACCC for key pipelines and the weighted average prices that non-scheme pipeline operators will be required to publish from October 2018
- the standing prices (i.e. the price offered by a service provider for a standard service) and actual prices payable by users of stand-alone compression and storage services.

These issues are discussed, in turn, below. Before moving on, it is worth noting that, in contrast to the wholesale and retail segments of the gas supply chain, most of the transportation, stand-alone compression and storage services are provided by monopoly infrastructure. The risk of coordinated conduct amongst these facility operators is therefore relatively low.

5.3.1. Transportation prices

Information deficiencies: While most transmission pipelines are required to publish standing (or reference) prices:

- Scheme (full and light regulation) pipelines are currently required to publish less information on prices and costs than non-exempt non-scheme pipelines are required to publish; and
- a number of non-scheme pipelines are exempt from the obligation to publish standing prices (i.e. because they are servicing a single user or do not meet the 10 TJ/day threshold).

In addition to these information deficiencies, questions have been raised about whether information on the prices actually paid for services should be published on a weighted average basis, or if the prices payable under each agreement should be published separately.

Recommendations:

- Scheme (full and light regulation) pipelines should be required to comply with the same price and financial reporting obligations as non-scheme pipelines.
- In the first half of 2019, the ACCC will examine the adequacy of the weighted average prices published by non-exempt non-scheme pipelines and advise on whether this standard should be retained in the NGR or if individual prices should be reported by scheme and non-scheme pipelines.
- When conducting the review of Part 23 of the NGR in 2019, the Energy Council's Senior Committee of Officials (SCO) should consider whether all non-scheme pipelines providing third party access should be required to publish standing prices.

Differences in information published by scheme and non-scheme pipelines

Pipeline operators are currently required to publish the following information on the prices payable for transportation services:

- **Non-scheme pipelines:**[55] Operators of non-exempt[56] non-scheme pipelines are required by the information disclosure and arbitration framework set out in Part 23 of the NGR to publish:
  - the standing prices for each of the services they offer and the terms and conditions of access to those services
  - the weighted average prices paid by the users of each service over the last financial year.[57]

  The operators of these pipelines are also required to publish financial reports on an annual basis, and disaggregated demand information, which is intended to enable users to conduct a high level assessment of whether standing prices are cost reflective.

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55 A non-scheme pipeline is a pipeline that is not subject to either full or light regulation. These pipelines are subject to the information disclosure and arbitration framework set out in Chapter 6A of the NGL and Part 23 of the NGR, which came into operation in August 2017. The overarching objective of the information disclosure and arbitration framework is to facilitate access on reasonable terms to services provided by non-scheme pipelines, which is taken to mean at prices and on terms and conditions that so far as practical to reflect the outcomes of a workably competitive market. To that end, the framework provides for:

- the publication and exchange of information to facilitate timely and effective commercial negotiations;
- a commercially-oriented process to resolve disputes about proposed terms of access in a cost-effective and efficient manner; and
- principles that the arbitrator must have regard to when determining access disputes, which are consistent with the outcomes of a workably competitive market.

56 Exemptions from the obligation to report this information are available to pipelines that are not providing third party access, single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day.

57 The final design of the information disclosure and arbitration framework provides for non-exempt non-scheme pipeline operators to publish the weighted average prices for each service it provides. To maintain confidentiality, weighted average prices only have to be published if there are more than two shippers using the service.

- **Light regulation pipelines:** Operators of light regulation pipelines are required to publish the standing prices for light regulation services and the terms and conditions of access to those services. In contrast to non-scheme pipelines, the operators of these pipelines are not currently required to report any information on the prices actually paid by users, financial reports, or disaggregated demand information.
- **Full regulation pipelines:** The operators of these pipelines are required to publish their reference tariffs and the terms and conditions of access to the reference service (as set out in an AER approved access arrangement). They are not, however, required to report any information on the prices actually paid by users, financial reports, or disaggregated demand information.

As this list highlights, operators of non-exempt non-scheme pipelines are currently required to report more information on prices and costs than the operators of light and full regulation pipelines. While the AEMC has, as part of its *Review into the scope of economic regulation applied to covered pipelines,* recommended that light regulation pipelines be subject to similar price and financial reporting obligations as non-scheme pipelines,[58] it did not recommend extending these reporting obligations to full regulation pipelines.

As noted in its submission to the AEMC's review, the ACCC is of the view that light regulation should be removed from the economic regulatory framework and replaced by Part 23 of the NGR.[59] The GMRG shares this view.[60] Setting this aside, if light regulation is to be retained, we support extending the financial and price reporting obligations that currently apply under Part 23 of the NGR to these pipelines. We also consider that these obligations should extend to full regulation pipelines, given that users of these pipelines also have to negotiate with pipeline operators. The full regulation framework for information disclosure is set to support the five yearly access arrangement process. This information is useful for shippers seeking reference services.[61] However, where a shipper seeks a non-reference service, the shipper could benefit from the annual disclosure of financial information and weighted average prices.

Consistent information provision across all pipelines will help users to negotiate effectively with pipeline operators and to identify any exercise of market power more readily. Consistent information provision across pipelines will also reduce the risk that differences in reporting requirements could:

- mislead users about the cost of providing services on a particular pipeline, or in other ways, or
- be gamed by pipeline operators (for example, by shifting costs onto light regulation pipelines to artificially lower the internal rate of return on those pipelines that are required to publish financial reports).

We therefore recommend that all pipelines be subject to the same price and financial reporting obligations. To implement this recommendation, changes will need to be made to Parts 8–12 of the NGR through a rule change process.

58 AEMC, Review into the scope of economic regulation applied to covered pipelines, 3 July 2018, pp. 182–183.

59 ACCC, Submission on AEMC Review into the scope of economic regulation, 26 March 2018.

60 The ACCC and GMRG considers that retaining and significantly amending light regulation to align with Part 23 of the NGR would create an unnecessarily complex regulatory framework (with the associated increased regulatory costs) without any clear benefits to justify that complexity.

61 Note that while the AER determines reference tariffs for these services, this is only the starting point for negotiations between users and service providers.

Adequacy of weighted average prices

As noted above, non-exempt non-scheme pipelines will be required from 1 October 2018 to publish the weighted average prices paid by users of each service on an annual basis. While this reporting obligation has only recently been implemented, questions have subsequently been raised by some stakeholders about whether information on the prices actually paid for services should be published on an individual basis (as they are for secondary capacity trades – see Appendix A), rather than on a weighted average basis.

This issue was considered by the GMRG when developing the information disclosure and arbitration framework in Part 23 of the NGR. In short, while the GMRG had some concerns about the potential for weighted average prices to mislead shippers (e.g. if there are significant differences in the underlying terms and prices), this option was advocated by a number of users and service providers who noted that it would overcome the confidentiality concerns associated with the publication of individual prices. The final design of the information disclosure and arbitration framework therefore provided for the publication of weighted average prices on an annual basis.

Given the questions that have subsequently been raised by stakeholders, the ACCC intends to examine the adequacy of the weighted average prices published by non-exempt non-scheme pipelines in the first half of 2019 and consider whether this approach should be retained, or if service providers should be required to report individual prices. As noted in the preceding section, the risk of coordinated conduct amongst pipelines is relatively low because they are typically monopoly infrastructure, so the publication of individual prices is less of a concern than it is for gas prices.

If this work reveals that individual prices should be reported, the NGR will need to be amended. Such a change should be considered through either the rule change process that follows:

- the review of Parts 8–12 of the NGR, which was recently completed by the AEMC, or
- the review of Part 23 of the NGR, which will be undertaken by SCO and is scheduled to commence in August 2019.

Exemptions from the publication of standing prices

Following the implementation of the new information disclosure and arbitration framework in Part 23 of the NGR, some users have raised concerns about the exemptions that are available to some non-scheme pipelines from the obligation to publish standing prices. These exemptions are currently available to single user pipelines and pipelines with annual average gas flows of less than 10 TJ/day.

Although these pipelines are not required to publish standing prices, the information disclosure and arbitration framework does provide for prospective users of these pipelines to request an offer and, through negotiations, access to the same information that non-exempt pipelines are required to publish. While this information can be obtained by prospective users during negotiations, there may also be value in requiring exempt pipelines to publish standing prices and the associated terms and conditions of access on their website, so that prospective users can more readily assess whether to seek access to the services offered by the non-scheme pipeline.

We recommend that this issue be considered in more detail by SCO when it carries out its review of the information disclosure and arbitration framework in 2019. If SCO recommends any changes to the existing framework, then Part 23 of the NGR will need to be amended through a rule change process.

5.3.2. Stand-alone compression services and storage facility prices

Information deficiency: There is limited information on the standing prices (i.e. the price offered by a service provider for a standard service) for stand-alone compressors and storage facilities, and no information on the prices actually paid by users of these facilities.

Recommendation: Operators of stand-alone compression facilities and storage facilities that are providing third party access should be required to publish:

- the standing prices (including the standard terms and conditions) for each service offered by the facility on their website
- information on the prices actually paid by users of these facilities.

In the first half of 2019, the ACCC will consider the form the prices actually paid by users should take, as part of its review of the adequacy of weighted average prices reported by non-exempt non-scheme pipelines.

In contrast to pipelines, stand-alone compression and storage facility service providers are not currently required to publish standing prices for their services,[62] or information on the prices actually paid by users of these services. It can therefore be difficult for prospective users of these services to determine whether to seek access and, if they do, to assess the reasonableness of the prices offered by service providers. This source of information asymmetry can adversely affect the efficient operation of the market and the efficient allocation of infrastructure services in the short- and long-run by impeding the bargaining process and the efficient trade and use of compression and storage services. Over the longer-run, it can also adversely affect investment in these facilities, because the investment signals are less efficient.

To address this information deficiency, we recommend that stand-alone compression and storage facility operators that are providing third party access be required to publish:

- the standing prices for each service they offer and the standard terms applicable to each service on their website, which would enable prospective users to make an informed decision about whether to seek access to services
- information on the actual prices paid by users of these facilities, which would enable prospective users to assess the reasonableness of the prices they are offered.

In relation to the latter of these recommendations, there is a question as to whether information on the prices actually paid by users should be reported on a weighted average basis, or if individual prices should be reported.[63] The ACCC will consider this issue in further detail in the first half of 2019 as part of its review of the adequacy of weighted average price reporting by non-exempt non-scheme pipelines.

While the requirement to publish information on standing prices and the actual prices paid by users would impose some costs on service providers, the costs are expected to be relatively low and outweighed by the benefits, which include:

- enabling users to make a more informed decision about whether to seek access to these services
- aiding the price discovery process, reducing search and transaction costs and reducing the degree of information asymmetry and imbalance in bargaining power faced by users

62 Note that while the operators of these facilities are not required by the NGL or NGR to publish a standing price, APA has recently published its standing prices for the Wallumbilla and Moomba compression facilities.

63 As noted in the preceding section, the risk of coordinated conduct amongst stand-alone compression facilities and storage facilities is relatively low because they are typically monopoly infrastructure, so the publication of individual prices is less of a concern than it is for gas prices.

- providing for more efficient decisions to be made about the use of and investments in these facilities.

To implement these reporting obligations, new provisions will need to be included in the NGL and NGR to extend price reporting obligations to stand-alone compression and storage facilities.

6. LNG exports and imports

LNG facilities are not currently required to report on the Bulletin Board and publicly available information on these facilities is currently limited. As swing suppliers and the largest gas consumers in the east coast, the decisions of LNG facility operators can have a significant impact on the domestic market and the pricing outcomes realised by domestic gas users.

Greater transparency of LNG shipment, operational and price information could benefit the market by:

- indicating whether the market is functioning properly and whether there are any issues with the supply-demand balance
- enabling market participants to better manage potential market disruptions
- improving the bargaining process (i.e. by reducing the information asymmetry faced by users) and providing a better indication of the outlook for prices in the domestic market.

The information deficiencies we have identified in this area and our recommendations on how they could be addressed are discussed in more detail below.

6.1. LNG exports

Information deficiency: There is currently limited publicly available information on LNG shipments and export prices.

Recommendation: LNG exporters should be required to provide AEMO with LNG export information and export prices for publication on the Bulletin Board. The scope of these reporting obligations should be consulted upon through a Bulletin Board rule change process.

LNG export facilities are playing an increasingly important role in the east coast gas market, but the operators of these facilities are currently subject to limited reporting requirements. LNG export facilities are not currently required to report on the Bulletin Board and the extent of publicly available information on these facilities is limited to:

- information on the volumes of gas transported on the pipelines connected to the LNG facilities[64]
- information on scheduled maintenance activities required by the ACCC's April 2016 authorisation[65]
- information that is required indirectly through ASX reporting obligations, noting that not all companies are listed on the ASX and there is no specific listing rule requiring the reporting of export information
- information published by AEMO through its GSOO, which may vary from year to year.[66]

64 Note that while this information is available on the Bulletin Board, it does not provide a clear indication of the volume of LNG exported and requires a range of assumptions to be made about the volume of gas used to produce the LNG and how long it takes to produce and then export the LNG.

65 In April 2016, the ACCC authorised the LNG projects in Queensland to discuss and coordinate their maintenance schedules. A condition of this authorisation was that the projects would be required to publish certain information (the dates of the planned outage and the volume of the planned outage) to avoid information asymmetries the authorised conduct would otherwise give rise to.

See ACCC, Final Determination: Australia Pacific LNG Pty Ltd & Ors – Authorisations – A91516 & A91517, 14 April 2016, Attachment A.

66 For example, with its June 2018 GSOO, AEMO published a consultancy report by Lewis Grey Advisory on 'Projections of Gas and Electricity Used in LNG', which provides summary information on the three LNG projects in Queensland and estimates of Coal Seam Gas and LNG production in eastern and south-eastern Australia.

The need for increased transparency of the operation of LNG facilities was considered by the AEMC in its East Coast Review, which recommended that LNG facility operators be required to report:[67]

- the nameplate rating of the facility
- the facility's short- and medium-term capacity outlook (including material intra-day changes in capacity)
- the amount of gas supplied to the facility on a daily basis.

This recommendation will be considered further by the AEMC through its Stage 2 Bulletin Board rule change process.

At the time the East Coast Review was undertaken, the AEMC did not consider it necessary to require LNG facility operators to report other information, such as shipping and pricing information. However, as the AEMC pointed out,[68] and as reflected in Appendix B, many other countries with developed economies and domestic markets with integrated LNG facilities, do require this kind of reporting. For example, in the US, LNG facilities are required to report LNG shipment and export price information to the US Department of Energy (DoE) for each shipment 30 days after the end of each month, which is then published by the DoE. The information LNG facilities are required to report, includes, amongst other things, information on:[69]

- the departure date for each shipment
- the country of destination for each shipment
- the volumes exported in each shipment
- the average price at the point of export for each shipment[70]
- the volume of LNG sold on a spot basis or under a longer-term contract.

The DoE's rationale for collecting this information is reflected in the following statement: [71]

> *"That information is used to monitor North American natural gas trade, which in turn enables the Federal government to perform market and regulatory analysis, to improve the capability of industry and government to respond to any future energy-related supply problems, and to inform the general public regarding the international gas trade."*

For similar reasons to the US, there are likely to be benefits associated with requiring LNG export prices and shipping information to be reported in Australia. Other than informing the general public, market participants and policymakers of where gas produced in Australia is being supplied to, the publication of this type of information is likely to assist gas users when negotiating with suppliers. Given the prices that can be secured in the LNG markets affect the prices that LNG export facilities are willing to accept in the domestic market, access to this information could improve the bargaining process. It could also inform policymakers of the extent to which LNG is being sold and the price at which this is occurring. This information is also likely to be an important input into future policy decisions. Further, this type of information would provide an overall picture of market dynamics and the interaction

67 AEMC, Stage 2 Final Report: Information Provision, East Coast Wholesale Gas Market and Pipeline Frameworks Review, 23 May 2016, pp. 79–82.

68 ibid.

69 See for example, US Department of Energy, Office of Oil & Natural Gas, LNG Monthly, June 2018.

70 In the US, this information is published with a lag of 30 business days to ameliorate any concern about the commercial sensitivity of this information.

71 US Department of Energy, FE Docket No. 08–01–PO – DOE/FE Order No. 2464, 1 February 2008.

between the domestic market and overseas gas markets, which should promote a more efficient allocation of gas between the two markets.

We therefore recommend that LNG export facilities be required to report the following information to AEMO for publication on the Bulletin Board:

- the departure date for each shipment
- the volume of LNG exported in each shipment
- whether the shipment was sold on a spot basis or under a longer-term contract
- the free on-board price[72] of each shipment.[73]

Consistent with the US, applying a 30-day lag before this pricing information is published is also likely to overcome any potential commercial sensitivity issues.

To implement this recommendation, changes will need to be made to the Bulletin Board reporting obligations in the NGL and Part 18 of the NGR. As part of the rule change process, consideration should be given to the form these reporting obligations should take and the appropriate level of aggregation that should apply. Consideration should also be given to:

- any potential limitations or constraints on the ability of LNG operators to report information (e.g. because of the business structures some facilities operate under)
- the publication of explanatory material regarding what the relevant LNG netback comparator is.

6.2. LNG imports

Information deficiency: If any of the LNG import terminals are developed then they will not be covered by the Bulletin Board reporting obligations.

Recommendation: The list of market participants that can be subject to Bulletin Board reporting obligations in the NGL should be extended to include LNG import terminals. If any LNG import terminals are developed, the operators should be required to provide the following information to AEMO for publication on the Bulletin Board:

- similar operational information as producers and storage facilities are currently required to report to AEMO for publication on the Bulletin Board
- information on LNG imports (i.e. equivalent to the LNG export shipment information).

If a decision is made to proceed with the development of any LNG import terminals, the ACCC will examine the potential development of an LNG import parity price estimate.

Another information gap that we have identified is that the Bulletin Board reporting obligations do not currently require LNG import terminals to report information. If such a terminal was to be developed there would be value, from a security of supply and market perspective, in requiring it to report similar operational information to AEMO for publication on the Bulletin Board that production and storage facilities are required to report, including:

- the nameplate rating of the facility
- the amount of gas supplied into the market on a daily basis
- nominations, intra-day renominations and forecast nominations
- the facility's short- and medium-term capacity outlook

72 The price of gas loaded on a ship at a port connected to an LNG plant.

73 Requiring the free on-board price from all LNG exporters will ensure pricing information is comparable.

- the uncontracted capacity outlook.

There are also likely to be benefits to the market in requiring the operators of any LNG import terminal to report operational and shipment information to AEMO for publication on the Bulletin Board, similar to that required to be reported in the US. In the US, LNG importers are required to report, amongst other things, information on:[74]

- the delivery date for each shipment
- the country of origin for each shipment
- the volume of LNG imported in each shipment
- the landed price of LNG for each shipment.

It is worth noting that, in a similar manner to production costs, the publication of the landed price of LNG for each shipment could have a detrimental effect on competition. As an alternative, we recommend that an LNG import parity price estimate be published, in a similar way to the LNG netback series (see section 5.1.1). The ACCC will consider further the form such a series may take, if a decision is made to proceed with the development of any of the LNG import terminals.

Publication of similar information in Australia is likely to:

- provide a more timely and accurate indication of whether there are any potential demand-supply issues, both in the short- and long-run
- assist gas users when negotiating with suppliers, noting that in current market conditions, the prices charged by LNG import facilities could act as a ceiling or cap for domestic gas prices.

While the requirement to report operational and shipment information would impose some costs on LNG import terminal operators, these costs are not expected to be any higher than those incurred by other facility operators that are required to report information to AEMO for publication on the Bulletin Board. In addition, they are likely to be outweighed by the benefits listed above.

To implement this recommendation, the list of market participants that can be subject to Bulletin Board reporting obligations in the NGL will need to be extended to include LNG import terminals. Changes will also need to be made to the Bulletin Board reporting obligations in Part 18 of the NGR. If, for some reason, changes to these reporting obligations cannot be made before the import facilities are developed, then, as an interim measure, it may be possible for the jurisdictions in which the terminals are to be installed to impose reporting obligations on the facility operator through a licencing condition.

74 US Department of Energy, FE Docket No. 08–01–PO – DOE/FE Order No. 2464, 1 February 2008.

Appendix A Recent steps to improve the transparency of the gas market

Over the last two years, the AEMC, ACCC, GMRG and AEMO have taken a number of steps to improve the transparency of the gas market and recommended the implementation of a number of additional transparency measures. Further detail on the steps that have recently been carried out in this area is provided below.

A.1 AEMC East Coast Wholesale Gas Markets and Pipeline Frameworks Review

In 2015–16 the AEMC conducted a detailed review of the information market participants can have recourse to when making consumption, production, transportation, storage and investment decisions. In short, the AEMC concluded that the opaqueness of the market may be adversely affecting the ability of market participants to make informed and efficient decisions and the overall efficiency with which gas and other resources are allocated. The AEMC therefore recommended a range of improvements to the Bulletin Board to:

- clarify that the purpose of the Bulletin Board is to facilitate trade and informed and efficient decision making in relation to the provision and use of gas and natural gas services
- make the Bulletin Board more of a 'one-stop-shop' for information on the market and improve the timeliness and accuracy of information reported on the Bulletin Board
- expand the coverage of the Bulletin Board by:
    - requiring a number of participants not currently specified in the NGL to report key demand and supply information (e.g. gas field operators, LNG export facilities and large gas users)
    - extending the reporting obligations to the Northern Territory once it is connected to the east coast.

These recommendations were endorsed by the Energy Council in August 2016.

Because a number of the AEMC's recommendations required changes to the NGL, which can only be made by the South Australian Parliament, the AEMC recommended that the changes to the Bulletin Board be implemented in the following stages.

- **Stage 1 improvements**: These improvements, which only require amendments to the NGR, provide for: the introduction of a new reporting standard; a reduction in the reporting threshold to 10 TJ/day; and require transmission pipelines, production and storage facilities to report a range of additional operational information (e.g. planned asset retirements and expansions and material intra-day changes in capacity). These amendments will come into effect on 30 September 2018.
- **Stage 2 improvements**: These improvements, which require amendments to be made to the NGL before changes can be made to the NGR, provide for a number of new market participants to be subject to reporting obligations, including:
    - gas field operators, who will be required to report 2P reserves on an annual basis
    - compression facilities, who will be required to report similar information to pipelines
    - large users, who will be required to report nameplate capacity and consumption

- LNG facility operators, who will be required to report the nameplate capacity, daily consumption, capacity outlooks and material intra-day changes in capacity.

These reporting obligations are expected to be implemented in the latter half of 2019.

The figure below provides a summary of the information that will be reported on the Bulletin Board once the Stage 1 and Stage 2 improvements are implemented.

Figure A.1: Information to be reported on the Bulletin Board post improvements

	Pipeline	Hub compression	Production	Storage	Integrated storage	Large users	LNG	Reserves
General information								
Nameplate rating	Existing	Proposed	Existing	Existing	Existing	Proposed	Proposed	N/A
Planned asset retirements and expansions	Proposed	Proposed	Proposed	Proposed	Proposed	Not required	Proposed	N/A
Detailed facility data (location)	Existing	Proposed	Existing	Existing	Existing	Proposed	Proposed	N/A
Details of contracted shippers	Existing	Proposed	Not required	Not required	Not required	N/A	N/A	N/A
Previous day data								
Daily disaggregated receipt/delivery point[1]	Proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daily production/consumption	N/A	N/A	Existing	N/A	N/A	Proposed	Proposed	N/A
Daily storage volume	N/A	N/A	N/A	Existing	Existing	N/A	N/A	N/A
Daily injections and withdrawals	N/A	N/A	N/A	Existing	Existing	N/A	N/A	N/A
Daily compression volume	N/A	Proposed	N/A	N/A	N/A	N/A	N/A	N/A
Forecast and nominations								
Nominations (D)	Existing ★	Proposed	Proposed	Existing	Not required	Not required	Not required	N/A
Intra-day renominations (D)	Existing ★	Proposed	Proposed	Existing	Not required	Not required	Not required	N/A
Forecast nominations (D+1 to D+6)	Existing ★	Proposed	Proposed	Existing	Not required	Not required	Not required	N/A
Capacity outlooks								
Short term capacity outlook (daily)	Existing	Proposed	Existing	Existing	Existing	Not required	Proposed	N/A
Medium term capacity outlook	Existing	Proposed	Existing	Existing	Existing	Not required	Proposed	N/A
12 month outlook for uncontracted capacity[2]	Existing	Proposed	Not required	Existing	Existing	N/A	N/A	N/A
Material intra-day changes to capacity	Proposed	Proposed	Proposed	Proposed	Not required	Not required	Proposed	N/A
LCA flag (D to D+2)	Existing	Proposed	N/A	N/A	N/A	N/A	N/A	N/A
Other								
Secondary platform capacity data[3]	Existing	Proposed	N/A	N/A	N/A	N/A	N/A	N/A
2P reserves (annual)[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Proposed

1 Currently pipeline operators must provide daily aggregated receipt and delivery point data and monthly disaggregated receipt and delivery point data.
2 Provided monthly for the next 12 months.
3 Reported weekly for the previous week.
4 2P reserves must be updated if an update is reported to the ASX or a government within the year.
★ Currently these are reported by delivery point only. It is recommended that these be expanded to include receipt points. Also, pipeline nominations and forecasts are to be aggregated before publication.

KEY

Existing | Not required
Proposed | N/A

As part of the East Coast Review, the AEMC also recommended that the ABS publish a wholesale gas price index to improve the transparency around the movement of prices in gas supply agreements. This recommendation was also endorsed by the Energy Council and in October 2017 the ABS published the first quarterly producer price index (PPI) for domestic gas extraction in the east coast and Western Australia.

A.2 ACCC 2016 and 2017–20 Inquiries

In a similar manner to the AEMC, the ACCC's 2016 Gas Inquiry found that the opaqueness of the gas market may be hindering the ability of the market to respond efficiently to the changing market conditions and recommended that steps be taken to improve the transparency of:

1. **Reserves and resources:** To address the lack of transparency surrounding reserves and resources, the ACCC recommended that:
   (a) all explorers and producers (including non-ASX listed companies) be required to report consistent reserves and resources information on the Bulletin Board and adopt a common price assumption when doing so
   (b) the Energy Council ensure geological and reserve/resource information collected by the jurisdictions, is consistent, non-duplicative and shared.
2. **Wholesale gas prices:** To promote competitive bargaining in gas supply negotiations and reduce the information asymmetries faced by gas buyers, the ACCC recommended that:
   (a) AEMO develop and publish a monthly LNG netback price to Wallumbilla
   (b) the AEMC consider requiring AEMO or the AER to publish a periodic price series of actual prices paid to producers (rather than a price index), for the east coast generally or for Victoria and Queensland.
3. **Pipeline costs:** To enable shippers to negotiate more effectively with pipeline operators and readily identify any attempted exercise of market power, the ACCC recommended the expansion of the information disclosure requirements in the NGR to require greater transparency of the costs incurred by pipeline operators.

The recommendations set out in 1(a) and 2(a) are being progressed through the 2017–2020 Gas Inquiry, while the third recommendation has been implemented for non-scheme pipelines and will be considered by the AEMC for scheme (covered) pipelines as part of the rule change process that follows the Parts 8–12 review. Through the 2017–2020 Gas Inquiry, the ACCC is also providing greater transparency of:

- the demand and supply outlook in the east coast, including information on reserves and resources and production outlooks
- the prices offered by producers and retailers to buyers and the volume weighted average prices actually paid by buyers in Queensland and the remainder of the east coast under longer-term gas supply agreements
- the transportation charges payable by shippers on transmission pipelines.

A.3 GMRG

Through its work on the new information disclosure and arbitration framework for non-scheme pipelines, the GMRG recommended that non-exempt[75] service providers be

75 An exemption from all the reporting obligations can be obtained if the pipeline is not providing third party access or is servicing a single user. Pipelines that have transported, on average, less than 10 TJ/day over the last 24 months, can also obtain an exemption from publishing all the information except the operational information and service information.

required to publish the following information on their website to reduce the information asymmetry that shippers can face when negotiating with pipeline operators:

- a description of the services offered by the pipeline
- the standard terms and conditions and standing price for each service offered by the pipeline and sufficient information on the pricing methodology to enable prospective users to understand how the price reflects the application of the methodology
- an overview of the pipeline's key operational information (e.g. nameplate rating)
- service usage and service availability information.

This reporting obligation commenced in February 2018. From October 2018, non-exempt service providers will also be required to publish on an annual basis:

- financial reports, which will contain information on the costs incurred and revenue earned by pipeline operators and the value of their assets (including the value derived using the recovered capital method)
- the weighted average prices payable by shippers for each service.

In addition to these measures, the capacity trading reform package that the GMRG is currently implementing provides for, amongst other things:

- the introduction of a new reporting framework for secondary capacity trades, which will require prices and other key terms in all secondary capacity trades (bilateral and exchange based trades) to be reported on the Bulletin Board on an anonymised basis shortly after they are entered into (see box A.1)
- the publication of more detailed information on receipt and delivery point capacity and use of transmission pipelines and compression facilities subject to the reforms
- the extension of Bulletin Board reporting obligations to some pipelines and stand-alone compression facilities that are not currently required to report
- a requirement for allocation agents to provide AEMO with their contact details and other information on allocation arrangements[76] for publication on the Bulletin Board.

76 Allocation arrangements specify the rules that are to be used by the allocation agent to allocate gas that is metered as having been supplied (or deemed to have been delivered) to a multi-user receipt or delivery point between shippers using these points.

Box A.1: Secondary capacity trading reporting framework

In the AEMC's East Coast Review*,* it was noted that shippers currently have no way to determine whether secondary capacity is being provided on a non-discriminatory basis, or if the prices they are offered are reasonable because the prices and other terms on which secondary capacity trades are struck are currently confidential.[77] To address this information gap and aid the price discovery process, the AEMC recommended that information on the prices struck in all secondary trades be published, along with information on the key terms and conditions that may have affected the prices in those trades at the time the trade is entered into, or shortly thereafter.[78]

The GMRG was accorded responsibility for developing the design of this new reporting framework as part of the broader capacity trading reform package. Under the proposed framework all trades conducted through the capacity trading platform and bilateral trades of forward haul, backhaul, park, loan and compression services will need to be reported on the Bulletin Board. Trades conducted through the trading platform will be reported by AEMO shortly after they are entered into, whereas bilateral trades will be reported by the sellers by the earlier of one day after the trade is executed and the day prior to the trade commencing.

The information that is to be reported includes:

- the trade date and service term
- the transportation facility that the trade relates to
- the type of service purchased and the priority of the service (e.g. firm, as available, interruptible)
- the type of trade (e.g. screen traded, pre-matched or bilateral) and for bilateral trades (those not concluded on the exchange), whether the trade is on the same or substantially the same terms as the standard operational agreement for the relevant facility
- where relevant, the direction of the service and the points between which gas is transported
- the amount of capacity procured (MDQ) and for bilateral trades the maximum hourly quantity (MHQ)
- the price paid (including, where relevant, the price structure and price escalation mechanism).

A.4 Other transparency related reviews underway

In addition to the measures outlined above, the AEMC and AEMO are currently undertaking reviews that may result in the implementation of further transparency measures. Further detail on these reviews can be found in the table below.

77 AEMC, Stage 2 Final Report: East Coast Review, 23 May 2016, p.105.

78 ibid, p.106.

Table A.1: Other transparency related reviews underway

<table>
<tr><th>Agency</th><th>Review</th></tr>
<tr><td>AEMC</td><td>Review of the scope of economic regulation applied to covered pipelines (Parts 8–12 Review)

In its final report on the Parts 8-12 Review, the AEMC recommended a number of changes to the NGR to:[79]
bring the information disclosure obligations for light regulation pipelines more into line with those that apply to non-scheme pipelines under Part 23 of the NGR, including requiring these pipelines to publish financial reports and weighted average prices on an annual basis
require all full and light regulation transmission pipelines to be subject to the Bulletin Board reporting obligations
augment the Bulletin Board reporting obligations for transmission pipelines to require the outlook for uncontracted capacity to be extended from 12 months to 36 months.</td></tr>
<tr><td>AEMO</td><td>Gas Bulletin Board Scoping study

In 2017 AEMO was asked by the (then) Commonwealth Minister for the Environment and Energy to conduct a scoping study on the potential adoption of real-time reporting of production and gas flows by producers and transmission pipelines on the Bulletin Board.

As part of this scoping study, AEMO is also considering whether there is any other information that should be published on the Bulletin Board to aid the price discovery process, including information on the prices struck in gas supply agreements and reserves and resources information.

AEMO expects to advise the Minister on these issues in December 2018.</td></tr>
</table>

79 AEMC, Final Report: Review into the scope of economic regulation applied to covered pipelines, 3 July 2018, p. 20.

Appendix B Information available in other jurisdictions

Table B.1 provides a summary of the type of information that is available to market participants in New Zealand (NZ), the European Union (EU) and the United States of America (US).

Table B.1: Information reported in other jurisdictions

Information		NZ	EU	US
Upstream activities	**Reserves and resources**	The NZ Ministry of Business, Innovation and Employment (MBIE) publishes the following information on an annual basis by field:[80] ▪ 1P (proved), 2P (proved plus probable) and 3P (proved plus probable plus possible) reserves[81] ▪ 2C (contingent) resources.	No EU specific reporting obligations for reserves and resources.	▪ The Securities and Exchange Commission (SEC) requires listed producers to publish 2P reserves using the historic 12-month average oil price. Producers may also report 1P and 3P reserves. The disclosure of contingent and prospective resources is only allowed in special circumstances (e.g. mergers). ▪ A number of other government agencies (including the Energy Information Administration (EIA) and Bureau of Ocean Energy Management) also collect and report information on reserves and resources.
	Information on production and other upstream activities	The NZ MBIE publishes the following information on an annual basis (aggregated across oil, gas and LPG):[82] ▪ the number of wells drilled, the number of well metres made and the expenditure on wells (broken down by exploration, appraisal and development wells) ▪ expenditure on seismic surveys and permits ▪ the number of permits granted, surrendered, expired and revoked ▪ minimum and maximum gas deliverability by field ▪ a 50 year forecast gas production profile by field. Producers also report the volume of gas produced (by field) on a quarterly and annual basis [83]	No EU specific reporting obligations for production or other upstream activities.	The EIA publishes: ▪ a monthly drilling productivity report that contains information on total gas production by region, new well production by region and drilled but uncompleted wells by region[84] ▪ a one year outlook for supply (by source), consumption (by sector, e.g. C&I, GPG, residential and LNG export demand), storage and prices[85] ▪ a weekly natural gas report that contains information on supply (by source) demand (by sector) during the week, prices and the number of active gas rigs.[86]

[80] This information is published by the NZ Ministry of Business, Innovation & Employment (MBIE) based on information that permit holders are required to report (see Reserves spreadsheet: http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/publications/energy-in-new-zealand).

[81] This reserves information is reported on an 'ultimate recoverable' and 'remaining recoverable' basis. Ultimate recoverable reserves are the total economically recoverable reserves before any gas is produced, while remaining recoverable represents the difference between the ultimate recoverable measure and actual production to date.

[82] This information is published by the NZ MBIE (see http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/publications/energy-in-new-zealand).

[83] ibid see http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/statistics/gas

[84] https://www.eia.gov/petroleum/drilling/

[85] https://www.eia.gov/outlooks/steo/

[86] https://www.eia.gov/naturalgas/weekly/

Information	NZ	EU	US
Wholesale gas prices	No transparency of bilateral trades but two trading platforms that provide for short-term trading have been set up (only one is active), which is resulting in some price transparency.	The prices agreed to in trades conducted through organised exchanges and OTC platforms in the EU must be reported to the Agency for the Cooperation of Energy Regulators (ACER).[87] All the organised exchanges publish daily price indexes or real time prices. The prices of trades conducted through organised exchanges are published in real time.	The prices agreed to in trades conducted through organised exchanges and OTC platforms in the US are published. A number of private providers also publish price indices for bilateral trades based on surveys of buyers and sellers.[88]
Transmission	Transmission pipelines are subject to information disclosure requirements under the *New Zealand Commerce Act 1986,* which requires operators to publish detailed financial, reliability and integrity related information on an annual basis. Transmission pipelines in NZ also publish daily operational information.	Transmission pipelines are required by European Regulation 715/2009 to publish: (a) information on services offered (including the conditions applicable to the service) (b) sufficiently detailed information on the tariff derivation, methodology and structure (c) the technical information necessary for network users to gain effective network access (d) information on the technical, contracted and available capacities for all relevant points including entry and exit points (published on a rolling basis).	Interstate transmission pipelines are subject to significant information disclosure requirements (through FERC Orders 637, 710 and Code of Federal Regulations 284.13), which amongst other things require service providers to: ▪ submit audited financial and operational information to the Federal Energy Regulatory Commission (FERC) on an annual basis, which is then published ▪ publish information on prices and other key terms and conditions agreed to in each GTA. The EIA publishes information on pipeline capacities, use, proposed developments and expansions.[89]
Storage facilities	No specific reporting obligations.	Storage providers are required by EU Regulation 715/2009 to publish the information listed in (a)-(c) above and information on: ▪ the contracted and available storage capacity (including injection and withdrawal capacity) (published on a rolling basis) ▪ the amount of gas in storage, injections and withdrawals updated daily (including for facilities exempt from third party access). Storage providers also publish information on injection and withdrawals, planned and unplanned outages and the capacity affected by the outages.[90]	The EIA publishes:[91] ▪ information on storage capacity, capacity utilisation and the volume of gas in storage by region ▪ a one year outlook for storage.

87 ACER/CEER, Annual Reporting on the Results of Monitoring the Internal Electricity and Gas Markets in 2016: Gas Wholesale Markets Volume, October 2017, p. 16.
88 For example, the Plats Daily Natural Gas Price Survey, which contains the results of the survey of prices paid by buyers at key market locations.
89 https://www.eia.gov/naturalgas/data.php#pipelines
90 https://agsi.gie.eu/#/
91 http://ir.eia.gov/ngs/ngs.html

Information	NZ	EU	US
LNG exports and LNG imports	N/A	The operators of LNG import and export facilities are required to publish the information listed in (a)-(c) above and information on: ▪ the contracted and available LNG facility capacity (published on a rolling basis) ▪ the amount of gas in the LNG facility and available capacity updated daily (including for facilities exempt from third party access).	FERC publishes information on the capacity of existing, approved and proposed LNG export and import terminals in the US.[92] The US Department of Energy also requires LNG importers and exporters to report the following information for each shipment 30 days after the end of each month, which is published:[93] ▪ **LNG imports**: import delivery date, terminal and LNG vessel name, cargo volume, landed price, estimated duration of the supply contract, country of origin and supplier ▪ **LNG exports**: export departure date, terminal and LNG vessel name, cargo value, export price for cargo, estimated duration of the supply contract, country of destination and purchaser.

92 https://www.ferc.gov/industries/gas/indus-act/lng.asp
93 https://www.energy.gov/fe/services/natural-gas-regulation/guidelines-filing-monthly-reports