Measures to Improve Transparency in the Gas Market

COAG Regulation Impact Statement for consultation

August 2019

COAG Energy Council
Disclaimer

This consultation Regulation Impact Statement (Consultation RIS) has been prepared for consultation only and should not be read as a settled or final view of participating jurisdictions, the Senior Committee of Officials (SCO) or the Council of Australian Governments (COAG) Energy Council on gas market transparency measures. This Consultation RIS has been prepared solely to assist with the determination of an appropriate course of action and to facilitate stakeholder feedback. Stakeholder consultations are being used to inform the policy decision on the preferred approach. The content of submissions will be considered, and where appropriate, incorporated into the regulatory impact assessment (also known as an impact analysis) for the Decision RIS.
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## Abbreviations

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<th>Term</th>
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<tr>
<td>2015 Inquiry</td>
<td>ACCC’s <em>Inquiry into the eastern and northern Australian gas markets</em> (released April 2016)</td>
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<td>ACCC</td>
<td>Australian Competition and Consumer Commission</td>
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<td>AEMC</td>
<td>Australian Energy Market Commission</td>
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<td>AEMO</td>
<td>Australian Energy Market Operator</td>
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<td>AER</td>
<td>Australian Energy Regulator</td>
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<td>BB</td>
<td>Natural Gas Services Bulletin Board</td>
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<td>COAG</td>
<td>Council of Australian Governments</td>
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<tr>
<td>East Coast Review</td>
<td>AEMC’s Eastern Australian Wholesale Gas Market and Pipelines Framework Review (May 2016)</td>
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<td>Energy Council</td>
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<td>GMRG</td>
<td>Gas Market Reform Group</td>
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<td>GSA</td>
<td>Gas Supply Agreement</td>
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<td>GSH</td>
<td>Gas Supply Hub</td>
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<td>GSOO</td>
<td>Gas Statement of Opportunities</td>
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<td>GTA</td>
<td>Gas Transportation Agreement</td>
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<tr>
<td>LNG netback price</td>
<td>A measure of an export parity price that a gas supplier can expect to receive for exporting its gas. It is calculated by taking the price that could be received for LNG and subtracting or ‘netting back’ the costs incurred by the supplier to convert the gas to LNG and ship it to the destination port</td>
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<tr>
<td>NGL</td>
<td>National Gas Law</td>
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<tr>
<td>NGO</td>
<td>National Gas Objective</td>
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<tr>
<td>NGR or Rules</td>
<td>National Gas Rules</td>
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<tr>
<td>Non-scheme pipeline</td>
<td>A pipeline which is not subject to economic regulation under Part 8 – 12 of the National Gas Rules but is subject to the information disclosure and arbitration framework in Part 23 of the NGR. Exemptions from some, or all, of the information disclosure obligations are available to pipelines not providing third party access, single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day.</td>
</tr>
<tr>
<td>Regulations</td>
<td>Regulations made under the National Gas Law</td>
</tr>
<tr>
<td>SCO</td>
<td>COAG Energy Council - Senior Committee of Officials</td>
</tr>
<tr>
<td>SPE-PRMS</td>
<td>“Petroleum Resources Management Systems” revised June 2018 and sponsored by the Society of Petroleum Engineers, the American Association of Petroleum Geologists, the World Petroleum Council, the Society of Petroleum Evaluation Engineers and others.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Stand-alone compression service facility</td>
<td>A compression service facility that is or may be used to facilitate the flow of natural gas between transmission pipelines and in respect of which compression services are or may be provided. Note that, for the purposes of the Consultation RIS, this term also includes designated compression service facilities.</td>
</tr>
<tr>
<td>STTM</td>
<td>Short Term Trading Market</td>
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Executive Summary

This consultation Regulation Impact Statement (RIS) presents options to improve transparency in the eastern and northern Australian gas markets.

What is the problem?

Recent reviews carried out by the Australian Competition and Consumer Commission (ACCC), Gas Market Reform Group (GMRG) and the Australian Energy Market Commission (AEMC) have identified a range of information gaps and asymmetries across the eastern and northern Australian gas markets that they consider are:

- hindering the ability of the market to respond efficiently to changing market conditions;
- impeding effective competition and the efficient trade of gas and infrastructure services; and
- resulting in inefficient decisions about consumption, production and the use of infrastructure services and longer-term investment decisions.

The information deficiencies that have been identified are set out below. They primarily relate to gas and infrastructure prices, the supply and availability of gas, infrastructure services and demand.

<table>
<thead>
<tr>
<th>Gas market segments</th>
<th>Information deficiencies</th>
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</thead>
<tbody>
<tr>
<td>Gas and infrastructure prices</td>
<td>Information on production costs, wholesale and retail gas prices, export and LNG netback prices and the prices payable for transportation, transmission, stand-alone compression and storage.</td>
</tr>
<tr>
<td>Supply and availability of gas</td>
<td>Information on reserves and resources, contracted reserves, drilling activities and LNG imports.</td>
</tr>
<tr>
<td>Infrastructure used to supply gas to end-markets</td>
<td>Information on available capacity, infrastructure developments, compression service availability, and in relation to LNG import facilities (if import terminals establish).</td>
</tr>
<tr>
<td>Demand</td>
<td>Gas use by LNG export facilities and large gas users.</td>
</tr>
</tbody>
</table>
The expected impacts of information deficiencies on gas market segments are set out below.

<table>
<thead>
<tr>
<th>Gas market segments</th>
<th>Impact on the market</th>
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</table>
| Gas, LNG and infrastructure prices  | The opaqueness surrounding wholesale gas, retail gas prices, LNG export and infrastructure prices can be expected to:  
  • impede the efficient allocation of gas and infrastructure services by hindering the price discovery process, impose additional search and transaction costs on market participants and contribute to the imbalance in bargaining power that gas users can face in negotiations; and  
  • result in inefficient consumption, production, infrastructure use, investment and policy decisions.                                                                                                                                                                                                                                                                                                      |
| Supply and availability of gas       | The lack of a consistent set of publicly available information on the supply and availability of gas can be expected to:  
  • limit the ability of the market to signal supply problems in a timely and accurate manner and, in so doing, hinder the ability of the market to respond efficiently to the changes underway; and  
  • place smaller gas users at a disadvantage when negotiating with producers, who have a greater knowledge of the future supply outlook.                                                                                                                                                                                                                                                                       |
| Demand for gas                       | The lack of transparency surrounding:  
  • the use of gas by large users and LNG export facilities can be expected to result in inefficient consumption, production, infrastructure use, investment and policy decisions (i.e. because market participants do not have a good understanding of the nature of demand or the operational activities of large users that can have a bearing on the market); and  
  • the operation of LNG facilities and LNG shipments can be expected to impede the efficient allocation of gas between the domestic and international markets and limit the ability of market participants to respond efficiently to market disruptions caused by the LNG facilities.                                                                                                                                                        |
| Infrastructure used to supply gas to end-markets | Inconsistencies in the current reporting requirements for:  
  • available capacity and the identity of users with capacity on key infrastructure can be expected to raise search and transaction costs and impede the efficient use of, and investment in these assets;  
  • the operational activities of key infrastructure (e.g. compressors and LNG import facilities) can be expected to limit the ability of the market to respond efficiently to market disruptions affecting this infrastructure; and  
  • proposed infrastructure developments across key infrastructure can be expected to impede efficient planning and investment decisions across the supply chain.                                                                                                                                                                                                 |
The information gaps and asymmetries prevailing in the gas industry could be viewed as a market failure that may, depending on the significance of the failure, warrant government intervention.

**Why is Energy Council action needed?**

As the ACCC-GMRG have observed, it is not in the commercial interests of most market participants to address these information deficiencies on a voluntary basis, or to disclose information in a timely and accurate manner.\(^1\) Gas suppliers, retailers and infrastructure service providers who have benefitted from the opaqueness of the market over the years are likely to resist more timely and complete information disclosure.

Energy Council action may therefore be required to improve the transparency of the gas market. Improved market transparency is expected to deliver a number of benefits, including to:

- enable more informed decisions to be made about gas consumption, gas production, exploration activities and infrastructure services, facilitating more efficient planning and investment across the market;

- provide 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; and

- promote 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.

Realising these benefits would support the efficient operation of the gas market and the efficiency with which gas, infrastructure services and other resources are allocated amongst market participants.

As highlighted in the 2019 Gas Statement of Opportunities (GSOO), Energy Council action may also be required to facilitate a more holistic approach to planning and investment across the eastern and northern Australian gas markets, to ensure that future gas demand can be met in the most efficient manner.

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\(^1\) ibid, p. 5.
What are the policy options?

The policy options examined through this Consultation RIS are based on measures which were recommended by the ACCC, GMRG and AEMC, as well as other measures identified while preparing this Consultation RIS.

This Consultation RIS examines four options:

1. Maintaining the status quo: This option assumes no additional action over and above what is currently in place. All existing temporary measures to increase transparency will discontinue once the measures cease.

2. Implementing a sub-set of the measures recommended by the AEMC and jointly by the ACCC and GMRG: This option provides for the implementation of all the AEMC’s recommendations and the partial implementation of the ACCC-GMRG’s recommendations which cover gas and infrastructure prices, the supply and availability of gas and infrastructure services.

3. Implementing all the AEMC and ACCC-GMRG’s recommendations: This option builds on Option 2 by providing for the implementation of all the ACCC-GMRG’s recommendations.

4. Implementing a superset of the AEMC and ACCC-GMRG recommendations: This option includes all recommendations from Option 3 plus a number of other transparency measures identified while preparing this Consultation RIS.

Table 9.1 in Chapter 9 provides more information on each of these options, the AEMC and/or ACCC-GMRG recommendations they are intended to address, and what segments of the gas market they cover.

This Consultation RIS seeks stakeholder comments on these options.

How will regulatory impact be assessed?

The purpose of a RIS is to identify whether there is a need for regulation or government action, and if so, what form this should take. To support the RIS a number of assessments are required.

A preliminary internal risk analysis has already been conducted to identify the relevant risks and to estimate the probability of an adverse outcome to gas market participants arising from each policy option, and where Energy Council action would reduce the risks.

The risk analysis covers both the risks of status quo and associated treatments, and the risks of implementing each policy option described in Chapters 4-8 (as summarised in Table 9.1).

The impact of the information deficiencies on different segments of the gas market were analysed and the following risks were identified as relevant to implementing the policy options considered in this paper:

- higher compliance costs;
- duplication of reporting;
- competition concerns;
- confidentiality concerns;
- ambiguity in the calculation of production cost estimates;
Independent experts, Frontier Economics, have been engaged to undertake a Cost-Benefit Analysis (CBA), a Commonwealth Regulatory Burden Measure (CBRM) and a Competition Effects Analysis (CEA) for each of the options. **Figure 1** provides an overview of these different analyses and how they fit together to assist in identifying a preferred policy option. Further detail on these analyses is provided below (see also section 9.2).

**Figure 1: Overview of analyses and broader fit with Regulatory Impact Statement**

The **CBA** will compare the costs associated with a potential intervention with the net benefits of policy options from the point of view of society, in order to identify a preferred option. The analysis will be incremental in that it will look at the additional costs and benefits over and the status quo (i.e. if there was no intervention).

The **CBRM** is a tool that is used to estimate the magnitude of compliance costs associated with a change in regulation and can be used to compare policy options. The tool allows for both capital and labour resources to be input by activity and then costed. These costs can be separated into the business, community and government segments.

The **CEA** will involve a qualitative assessment of the impact of each policy option on competition by broad stakeholder group. The key stakeholder groups that will be considered in this analysis include:

- holders of upstream gas reserves and resources;
- production facility operators;
- operators of gas pipelines;
- operators of storage and/or compression facilities;
- LNG importers;
- LNG exporters;
- retailers, and relatedly, consumers, considering differentiated effects across industrial, commercial and residential gas users; and
- potential market entrants.

In particular, the CEA will consider the potential effects of each policy option on:
• the search and transaction costs associated with trading gas, pipeline, compression and storage services;
• market liquidity and price spreads;
• the relative bargaining power of contracting counterparties (e.g. gas users, producers, pipeline, compression and storage service providers);
• the potential for collusive behaviour in the competitive segments of the market; and
• barriers to entry, for example the potential for information to promote market entry or deter entry due to the additional information disclosure obligations.

This Consultation RIS seeks stakeholder views and information that will inform the CBA, CRBM and CEA.

The Decision RIS will seek to qualify and where possible quantify the impact of the regulatory options in more detail. This includes exploring the administrative and compliance costs imposed and the likely benefits for competition by virtue of the options, impact on search and transaction costs, market liquidity, relative bargaining power and potential disbenefits through an impact on the potential for collusive behaviour.

Consultation

Stakeholders are encouraged to make submissions in response to this Consultation RIS by 5pm (AEST) Thursday 12 September 2019 using the template set out in Attachment B. In addition to providing a written submission, stakeholders will have an opportunity to attend public forums. Further detail on the consultation process is provided in Section 1.3.
1 Introduction

In December 2018, the Council of Australian Governments Energy Council tasked officials with developing a package of transparency measures for the gas market in response to two independent reviews:

- the AEMC’s 2016 *East coast wholesale markets and pipelines framework review* (AEMC’s East Coast Review); and
- a joint review in 2018 by the ACCC and the GMRG entitled *Measures to improve transparency in the gas market* (ACCC-GMRG joint report).

Both reviews:
- identified a range of information gaps and asymmetries that the reviewing bodies suggested are adversely affecting the efficient operation of the eastern and northern Australian gas markets; and
- recommended a number of measures to address these information deficiencies.

Energy Council further requested officials to consult on the recommendations in the ACCC-GMRG joint report, the AEMC’s “stage 2 bulletin board recommendations” as well as draft amendments to the National Gas Law, Regulations, and Rules that would be required to give effect to the recommendations.

This Consultation RIS is being undertaken to enable the Energy Council to make an informed decision on this issue. It will provide a basis for testing whether there is a case for implementing measures to address information deficiencies across the gas market and, if so, what measures would deliver the greatest benefit.

1.1 RIS process and assessment of any regulatory changes

Regulatory impact statements are carried out by governments when considering whether action is required to address a specified problem. The manner in which a RIS is to be conducted for the purposes of Energy Council decision making and the principles that must be employed are set out in COAG’s *Best Practice Regulation Guide*.

In keeping with this guide, when conducting a RIS, consideration must first be given to whether there is a problem that warrants action. If the case for action is established, consideration must then be given to the objectives of this action and the set of feasible options that could be implemented to address the identified problem. The costs and benefits of each option must then be assessed having regard to stakeholder feedback on a Consultation RIS.

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The purpose of a Decision RIS, is to identify the option that yields the greatest net benefit for the community (having regard to the results of the regulatory impact assessment and the consultation process) and to set out how it will be implemented, monitored and reviewed.

Further detail on the requirements for this RIS can be found in the *Best Practice Regulation Guide* (see also Chapter 3), which will act as guide for this RIS process.

### 1.2 Scope of RIS

This Consultation RIS covers the package of gas transparency measures identified in recommendations 1-10 and 14-17 of the ACCC-GMRG joint report and the AEMC’s Stage 2 Bulletin Board improvements. In particular, the Consultation RIS focuses on information asymmetries existing within the following segments of the eastern and northern Australia gas market.

- gas and infrastructure prices;
- supply and availability of gas;
- demand;
- infrastructure used to supply gas to end-markets; and
- the GSOO.

The reasons the Consultation RIS focuses only on the eastern and northern Australian gas markets are two-fold:

- a separate legal and regulatory framework has been established for the GSOO and Bulletin Board in Western Australia which can only be amended by the Western Australian Government; and
- the reviews conducted by the AEMC and ACCC-GMRG did not cover the Western Australian gas market.

That said, it would be open to the Western Australian Government to implement similar measures in Western Australia if it considered it appropriate to do so. Consistent reporting Australia-wide could provide additional benefits to the gas market, particularly to monitor and report on the LNG export industry (particularly with LNG import terminals being contemplated in eastern Australia) and reserves and resources.

The Consultation RIS does **not** cover some recommendations from the ACCC-GMRG joint report which will already be considered through other existing policy processes, namely:

- Recommendations 11-13 in the ACCC-GMRG joint report, which relates to transportation prices – these recommendations will be considered through the Pipeline Regulation Impact Statement and Part 23 Review.

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7 This legal and regulatory framework is set out in the *Gas Services Information Act* (Western Australia) and the Gas Service Information Rules and Regulations.
• Recommendation 18 of the ACCC-GMRG joint report, which relates to strengthening Bulletin Board penalties – this recommendation will be considered through the review of the Australian Energy Regulator Powers and Civil Penalty Regime.8

This Consultation RIS also does not cover other transparency-related reviews,9 such as the AEMC’s review of the scope of economic regulation applied to covered pipelines (Parts 8-12 Review)10 or the subsequent rule amendments made in relation to information provision, or AEMO’s Gas Bulletin Board Scoping study.11

1.3 Consultation process

Stakeholder feedback is sought on the policy options presented in this Consultation RIS and the costs and benefits associated with each option. Questions that stakeholders may wish to consider are set out in each chapter.

Stakeholder feedback is also sought on draft amendments to the NGL, Regulations and NGR that would be required if the case is made to implement all of the AEMC and ACCC-GMRG’s recommendations (Option 3). These draft amendments are set out in Attachment A1 to A3.

These draft amendments should not be viewed as the Energy Council or its Senior Committee of Officials (SCO) having formed a view to proceed with the proposed transparency measures, or to adopt a regulatory solution. Rather they have been developed to facilitate consultation and to provide stakeholders with a better understanding of the nature of the obligations that could flow from the implementation of these measures through the NGL, NGR and Regulations.

A guide to the package of draft changes to the legal and regulatory framework (Attachment A4) summaries the key changes to the NGL, Regulations and NGR and maps them to the recommendations covered by “Option 3” in the Consultation RIS. It seeks to inform stakeholders about how the measures outlined in the Consultation RIS could be implemented if Option 3 was selected.

The closing date for submissions is 5pm (AEST) on Thursday 12 September 2019.

Submissions should be sent via email to gas@environment.gov.au. Alternatively, stakeholders can send through a hard copy submission to GPO Box 787, Canberra ACT 2601. Submissions should include the subject; “Consultation RIS – Gas Transparency”.

To assist stakeholders, a response template has been prepared (Attachment B) that stakeholders can use to provide their feedback. Stakeholders are strongly encouraged to use the response template. Stakeholders should not feel obliged to answer each question or comment on each provision, but rather address those issues of particular interest or concern.

Should stakeholders choose to provide feedback outside the template, they should reference the relevant questions or Chapters they are responding to.

Stakeholders will have an opportunity to attend public forums, which will be held in August/September 2019. Details on location and time of public forums will be published on the

COAG Energy Council website. Stakeholders are encouraged to register their interest in attending the public forums by emailing gas@environment.gov.au

Submissions will be published on the COAG Energy Council website, as will the names of stakeholders who made submissions. If you do not want your submission to be published, please advise in the covering email or letter (for hard copy submissions) that the submission is to be treated as confidential.

1.4 Next steps

Feedback received in response to this Consultation RIS will inform a Decision RIS and SCO’s recommendations to the Energy Council on a preferred course of action.

Feedback received will also inform the drafting of any amendments to the NGL, Regulations and NGR that may be required if the case is made for additional transparency and a regulatory solution is found to yield the greatest net benefit.

1.5 Structure of this Consultation RIS

The remainder of this Consultation RIS is structured as follows:

- Chapter 2 provides an overview of the problem, information on existing the legal and regulatory gas market framework and the objectives of Energy Council action. It also documents the steps the Energy Council has previously taken to improve the transparency of the gas market and an overview of the information deficiencies identified by the AEMC and the ACCC-GMRG.

- Chapter 3 outlines the AEMC and ACCC-GMRG’s recommendations, the policy options that will be considered as part of this RIS and how the regulatory impact assessment will be conducted.

- Chapters 4-8 provide further detail on the problems that have been identified with the level of transparency currently surrounding gas and infrastructure prices, the supply outlook, the infrastructure used to supply gas to end-users, the demand for gas and the GSOO and the options for improving transparency in these areas, with:
  - Chapter 4 focusing on gas and infrastructure prices;
  - Chapter 5 focusing on the supply and availability of gas;
  - Chapter 6 focusing on demand;
  - Chapter 7 focusing on the infrastructure used to supply gas to end-markets; and
  - Chapter 8 focusing on the GSOO.

- Chapter 9 provides a summary policy options being considered.

- Chapter 10 outlines how the evaluation of the policy options will be conducted and the next steps in the development of the Decision RIS.

- Chapter 11 provides an overview of how the preferred option will be implemented, monitored and reviewed.

- Appendix 1 sets out the results of the risk analysis that has been carried out for each option.

- Appendix 2 provides further information on COAG Energy Council and gas market reform work.
• **Attachments A1 to A3** (refer to separate document) sets out the changes to the NGL, Regulations and NGR that would be required if all of the ACCC-GMRG and AEMC recommendations were to be implemented.

• **Attachment A4** (refer to separate document) summaries the key changes to the NGL, Regulations and NGR and maps them to the recommendations covered by "Option 3" in the Consultation RIS. It seeks to inform stakeholders about how the measures outlined in the Consultation RIS could be implemented if Option 3 was selected.

• **Attachment B** (refer to separate document) contains the template that SCO encourages stakeholders to use when providing their feedback on the questions contained in this Consultation RIS. Feedback is also sought on the proposed changes to the NGL, Regulations and NGR set out in **Attachments A1 to A3**.
2 Overview of the problem

Although steps have been taken to improve the transparency of the gas market (see section 2.3), there remains significant information deficiencies in the eastern and northern Australian gas markets (see section 2.4). The adverse effects associated with a lack of transparency have become more pronounced following the development of three LNG export facilities in Queensland, which has contributed to a tightening supply-demand balance. These adverse effects are also being exacerbated by the limited competition in the supply, retail and infrastructure segments of the supply chain.

As the ACCC-GMRG have previously noted, while it is difficult to quantify the effects of these information deficiencies, they can be expected to adversely affect 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 doing so, hinder the ability of the market to plan efficiently to meet future gas demand and to respond to changing conditions; and
- result in inefficient decisions about consumption, production, and the use of infrastructure services and longer-term investment decisions as these decisions must be made based on incomplete, inaccurate, or asymmetric information.

The lack of transparency surrounding the price of gas and infrastructure services can also 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; and
- increasing the degree of information asymmetry and imbalance in bargaining power that users can face when negotiating with producers, retailers, and infrastructure service providers.

Chapters 4-8 provide further detail on the problems that have been identified with the lack of transparency currently surrounding gas and infrastructure prices, the supply outlook, the infrastructure used to supply gas to end-users, the demand for gas and the GSOO. The chapters also explore options for improving transparency in different segments of the gas industry.

2.1 How is the gas market regulated currently?

The gas markets in eastern and northern Australia are regulated through the operation of the NGL, the NGR and the Regulations. However, the existing regulation of the gas market does not sufficiently resolve the information deficiencies summarised in Chapter 2.4.

The NGL is hosted by South Australia and has force of law for participating jurisdictions. All States and Territories, including Western Australia on a limited and modified basis, and the Commonwealth are participating jurisdictions. The Law is modified by the South Australian parliament at the unanimous direction of the Council of Australian Governments Energy Council.

12 The ACCC’s 2015 East Coast Gas Inquiry described a range of factors which are still contributing to a tight gas supply-demand balance in eastern Australia, these include the introduction of LNG exports and exposure to international gas pricing, a fall in oil prices leading to a downturn in exploration and new development, and regulatory uncertainty and exploration moratoria.
The NGR primarily govern the wholesale and retail gas markets in northern and eastern Australia, provide an access, information, and arbitration framework for pipelines, and govern the operation of the Short Term Trading Market, Declared Wholesale Gas Market, the Gas Supply Hubs, and the Natural Gas Bulletin Board.

The Rules are made by the AEMC under the NGL. They are amended regularly by the AEMC (ensuring the NGO is achieved), or in limited circumstances by the South Australian Minister for Mineral Resources & Energy at the unanimous direction of the Energy Council. The AER monitors markets and enforces compliance with the NGR and the NGL.

Further detail on these legal and regulatory instruments and the governance arrangements can be found in Box 2.1 below.

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**Box 2.1 Gas legal and regulatory instruments and governance arrangements**

**NGL**
The NGL is set out in the schedule to the *National Gas (South Australia) Act 2008* (SA). Amongst other things, the NGL sets out the functions and powers of the AEMC, AER and AEMO and establishes the legal framework for subordinate instruments (e.g. the Regulations, NGR and Procedures). The NGL also sets out the duties of industry participants, including as they relate to the Bulletin Board, GSOO and other reporting obligations.

**Regulations**
The Regulations, which are made under Part 3 of the NGL, are set out in the *National Gas (South Australia) Regulations*. Amongst other things, the Regulations set out the provisions in the NGL and NGR that have been classified as civil penalty and conduct provisions and the maximum civil monetary liabilities applying under some provisions of the NGL. The Regulations can also be used to specify parties that will be subject to Bulletin Board reporting obligations.

**NGR**
The NGR are made under Chapter 9, Parts 2 and 3 of the NGL and have the force of law. Amongst other things, the NGR sets out the rules applying to the Bulletin Board, the GSOO, the Short Term Trading Market (STTM), the Declared Wholesale Gas Market (DWGM), the Gas Supply Hub (GSH), capacity trading, the Capacity Auction and scheme and non-scheme pipelines. The NGR also contains a number of transitional rules.

**Procedures**
The NGL provides for a range of procedures to be made, including the Bulletin Board Procedures. Procedures are typically made and amended by AEMO, although provision has been made in the NGL for the South Australian Minister to make initial Procedures on the unanimous direction of the Energy Council. When making or amending Procedures, AEMO must have regard to the provisions in Part 15B of the NGR.

**Guidelines**
The NGR provides for the AER to make and publish a number of guidelines, including financial reporting guidelines for scheme and non-scheme pipelines.

**Compliance monitoring**
Under the NGL, the AER is responsible for monitoring and enforcing compliance with provisions in the NGL, Regulations, NGR, Procedures and Guidelines.
2.2 What are the objectives of Energy Council action?

Any action by the Energy Council to address the information deficiencies and asymmetries outlined above will be guided by:

- the National Gas Objective (NGO), which 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 …’
- the Energy Council’s Vision for the Australian Gas Market, which is to ‘establish a liquid gas market that provides market signals for investments and supply, where responses to those signals are facilitated by a supportive investment and regulatory environment…’.

See Box 2.2 for more information.

In keeping with the NGO and the Vision, the objectives of this RIS are to:

- support the efficient operation of the gas market and the efficiency with which gas, infrastructure and other resources are allocated by:
  - ensuring that market participants have ready access to the information they require to make informed decisions about consumption, production, exploration activities and infrastructure services to facilitate more efficient planning and investment across the market;
  - providing more timely and accurate signals about how well the market is functioning and whether there are any potential problems with the demand-supply balance, to enable the market to respond more efficiently to changing market conditions; and
  - 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.

- ensure that any transparency measures that are implemented are targeted, fit for purpose and proportionate to the problem they are intended to address.

Box 2.2 National Gas Objective and the Energy Council’s Vision

National Gas Objective

The NGO is set out in section 23 of the NGL and states the following:

*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.*

Energy Council’s Vision for the Australian Gas Market

The Energy Council’s Vision is for:

---

Box 2.2 National Gas Objective and the Energy Council’s Vision

...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.

At the time it released the Vision, the Council also noted that it would pursue the following outcomes in the next phase of gas market reform and development:

**Stream 1: Encouraging competitive gas supply:**
   a) Improvements to the regulatory and investment environment so that gas supply is able to respond flexibly to changes in market conditions.
   b) A “social licence” for onshore natural gas development achieved through inclusion, consultation, improving the availability and accessibility of factual information to resources projects, and rigorous science to ensure communities concerns are addressed.

**Stream 2: Enhancing transparency and price discovery:**
   a) 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.
   b) Increased flexibility and opportunity for trade in pipeline capacity.
   c) A competitive retail market that will provide customers with greater choice and large users with enhanced options for self-supply and shipment.

**Stream 3: Improving risk management:**
   a) Liquid and competitive wholesale spot and forward markets for gas that provide tools for participants to price and hedge risk.
   b) Access to regional demand markets through more harmonised pipeline capacity contracting arrangements which are flexible, comparable, transparent on price, and non-discriminatory in terms of shippers’ rights, to accommodate evolving market structures.
   c) Harmonised market interfaces that enable participants to readily trade between locations and find opportunities for arbitrage and trade.
   d) Identified development pathways to improve interconnectivity between supply and demand centres, and existing facilitated gas markets, which enable the enhanced trading of gas.

**Stream 4: Removing unnecessary regulatory barriers:**
   a) Regulation of gas supply and infrastructure is appropriate and enables participants to pursue investment opportunities, in response to market signals, in an efficient and timely manner.
   b) The outcomes most relevant to the transparency related reforms are Streams 2(a)- 2(c).

When considering whether any action should be taken, consideration will be given to whether any additional measures are required to protect the anonymity of parties. However, as the AEMC and the GMRG have previously noted, the objective is not to protect anonymity at all costs, because doing so
could mean that some of the transparency benefits would not be realised.\textsuperscript{14,15} The trade-off between the benefits of greater transparency and the direct and indirect cost of providing information (which includes any adverse effects that the revelation of commercial-in-confidence information may have on market participants), will also need to be considered.

2.3 Steps previously taken by the Energy Council to improve transparency

Over the past 13 years, the Energy Council has agreed to implement a number of measures to improve the transparency of the gas market. For example, in 2006 the Energy Council agreed to implement the Bulletin Board and the GSOO, with an objective to provide readily accessible information on the state of the market and to facilitate more informed decision making (see Box 2.3 and Box 2.4 for more detail).

Box 2.3 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.\textsuperscript{16,17} The Bulletin Board, which is operated by AEMO, is underpinned by the legal framework set out in Chapter 7 of the NGL and Part 18 of the 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.

The stated purpose of the Bulletin Board is to make information available to facilitate:\textsuperscript{18}

- trade in natural gas and natural gas services;
- informed and efficient decisions in relation to the provision and use of natural gas and natural gas services; and
- negotiations for access to BB pipelines.

Box 2.4 Gas Statement of Opportunities

The GSOO was first published by AEMO in 2009 and is now published on an annual basis. The GSOO is underpinned by the legal framework set out in Chapter 2, Part 6, Division 4 of the NGL.

\textsuperscript{14} GMRG, Final Recommendations: Capacity Trading Reform Package (Standardisation, capacity trading platform and reporting framework for secondary trades), November 2017, pp. 130 and 139.
\textsuperscript{16} The Bulletin Board website is: http://gasbb.com.au/
\textsuperscript{17} 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.
\textsuperscript{18} See rule 145 of the NGR.
Box 2.4 Gas Statement of Opportunities

and Part 15D of the NGR, which currently only applies to the east coast. 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 demand) 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 market participants to provide information if AEMO considers it reasonably necessary for the exercise of its functions; and
- the publication requirements for the GSOO.

In 2014, the Energy Council also agreed, as part of the development of its Vision, that future gas market reform efforts should focus on increasing market transparency and assisting the price discovery process. In doing so, the Energy Council agreed to pursue the following outcome:¹⁹

“The 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.”

In keeping with this commitment, the Energy Council agreed in 2016 to a number of improvements to the Bulletin Board. It also agreed that the Australian Bureau of Statistics (ABS) should develop a survey-based gas price index. This agreement was reflected in Energy Councils 2016 Gas Market Reform Package, which was developed in response to the recommendations contained in the AEMC’s East Coast Review and the ACCC’s 2015 East Coast Gas Inquiry. Elaborating further on its decision to implement these measures, the Energy Council noted the following:²⁰

“The Energy Council acknowledges the findings of the ACCC that the gas market is opaque and inflexible. Lack of transparency and information about the level of reserves, and commodity and transport prices are hindering efficient market responses to the changing conditions and are not signalling expected supply problems effectively.

The Energy Council agrees there are a number of significant information gaps and asymmetries across the gas sector that adversely affects the price discovery process and the way in which gas and other resources are allocated. Additional and more consistent information should be made available to gas market participants to make price discovery easier, promote liquidity and inform efficient decision making. Accordingly, the Energy Council has agreed to pursue better information to ensure the market is as transparent as

possible and provides open pricing and reserve information for all customers. The Energy Council is taking a holistic approach to improving market transparency – an approach which improves the broader understanding in the market about the underlying drivers influencing gas pricing and availability. With greater confidence in market information, trading markets are likely to see increased participation and the development of liquidity which can be used as a reference in future supply contract negotiations.”

More recently, the Energy Council has agreed to implement:

- measures to reduce the imbalance in bargaining power that shippers can face when negotiating with pipeline operators by expanding the scope of the information disclosure requirements applying to scheme and non-scheme pipelines\(^{21,22}\) and

- a reporting framework for the trading of secondary capacity on transportation facilities (i.e. pipelines and compression facilities) and a number of other transparency measures to facilitate capacity trades and the day-ahead auction of contracted but un-nominated capacity, which was implemented as part of the capacity trading reforms.\(^{23}\)

With the exception of the ABS gas price index, the transparency measures outlined above have been implemented through amendments to the NGL, Regulations, NGR and a number of other subordinate instruments (e.g. AEMO made procedures and AER guidelines). Figure 2.1 illustrates the key elements of these legal and regulatory instruments that are directed at improving the transparency of the gas market. Further detail on these legal and regulatory instruments and the governance arrangements can be found in Box 2.1.

\(^{21}\) A non-scheme pipeline is a pipeline which is not subject to economic regulation under Part 8 – 12 of the National Gas Rules, but is subject to the information disclosure and arbitration framework in Part 23 of the NGR. Exemptions from some or all of the information disclosure obligations are available to pipelines not providing third party access, single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day.

\(^{22}\) These measures were introduced for non-scheme pipelines in August 2017 following the introduction of the new information disclosure and arbitration framework, while for scheme pipelines the measures were implemented in March 2019 following of the AEMC’s review into the scope of economic regulation applied to scheme pipelines.

\(^{23}\) These transparency measures were implemented as part of the transportation capacity trading reforms, which came into effect on 1 March 2019.
Figure 2.1 Transparency related legal and regulatory instruments

- **National Gas Law**
  Sets out the powers, functions and duties of market bodies and market participants (including as they relate to the Bulletin Board, GSOO and other reporting obligations) and sets out the legal framework for subordinate instruments.

- **National Gas Rules**
  - Parts 7, 11 and 23 (Scheme and Non-Scheme Pipelines)
    Provides for disclosure of a range of access related information (including prices) by scheme and non-scheme pipelines
  - Part 15D (GSOO)
    Sets out the geographic scope, contents and publication requirements for the GSOO
  - Part 18 (GBB)
    Provides for the disclosure of a range of operational, trading and access related information by BB facilities to AEMO for publication on the BB.
  - Schedule 5 (Transitional Rules)
    Sets out a number of transitional rules, including those providing for the disclosure of operational information by compression service facilities

- **Financial Reporting Guidelines**
  Made by the AER

- **Bulletin Board Procedures**
  Made by AEMO

- **Regulations**
  Civil penalty and conduct provisions, liability caps and parties that may be subject to BB
2.4 Information deficiencies identified by the AEMC and ACCC-GMRG

In 2015–16 the AEMC conducted a detailed review of the information available to market participants when making consumption, production, transportation, storage and investment decisions in the eastern and northern Australian gas markets. The AEMC review\(^{24}\) concluded that while steps had been taken to improve the transparency of the market, there were still a number of significant information deficiencies on the supply and demand sides of the market.\(^ {25}\) The AEMC suggested this 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.\(^ {26}\)

On the supply side, the AEMC observed that there was either limited or no publicly available information on:

- gas reserves and producers’ upstream activities;
- key operational information for production, transportation and storage facilities; and
- wholesale gas prices and the prices payable for transportation and storage services.

On the demand side, the AEMC observed that there was limited information on:

- the demand for gas by large gas users; and
- the LNG facilities’ interaction with the domestic market and operating activities that can affect the domestic market.

Elaborating further on the effect that these information deficiencies could have on the market, the AEMC noted that:\(^ {27}\)

> “The effect of these information gaps and asymmetries can be difficult to quantify. However, in broad terms they can be expected to adversely affect the price discovery process and the way in which gas and other resources are allocated. This is because decisions have to be made on the basis of incomplete, inaccurate, dated and/or asymmetric information. As the demand-supply balance in the market continues to tighten and the trade and flow of gas becomes more dynamic, these effects are likely to become more acute and have longer lasting consequences for market participants. They may also affect related markets, such as the NEM, and the broader economy.”

The ACCC-GMRG joint report\(^ {28}\) from 2018 on measures to improve the transparency of the gas market reached a similar conclusion on the nature of the information deficiencies and the adverse effects they could have on the market. In particular, the ACCC-GMRG found that:

- The level of transparency in the east coast market was 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.

- While steps have been taken to improve transparency there are still some significant information deficiencies that are adversely affecting the efficient operation of the market and the efficiency with which gas, infrastructure services and other resources are allocated.
- The adverse effects of these information deficiencies on the market are even more acute at present, given the tight supply and demand balance and limited competition in the supply, retail and infrastructure segments of the supply chain.

The information deficiencies identified by the ACCC-GMRG, primarily related to:

- wholesale gas prices and the prices payable for transportation, compression and storage services;
- gas reserves and resources and producers’ upstream activities;
- infrastructure availability and developments; and
- LNG shipments.

The ACCC-GMRG also noted the potential for the current Bulletin Board reporting framework to fail to capture key operational information on any LNG import terminals that may be developed.

In addition to these information deficiencies, the ACCC-GMRG identified a number of potential limitations with the GSOO, namely that:

- the limitation of the geographic coverage of the GSOO to the east coast could give rise to a significant information gap once the Northern Territory becomes connected to the eastern and northern Australian gas market, which occurred in early January 2019; and
- questions had been raised by some stakeholders about the quality of information obtained by AEMO for the GSOO through voluntary surveys and suggested that consideration be given to mandating the provision of information in the NGR.

Like the AEMC, the ACCC-GMRG noted that while it was 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 being allocated.

Figure 2.2 provides a summary of the information deficiencies that were identified by the AEMC and/or the ACCC-GMRG.

29 ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, p. 4.
30 ibid, pp. 4 and 18.
31 ibid.
**Figure 2.2 Summary of information deficiencies identified by the AEMC and/or the ACCC-GMRG**

<table>
<thead>
<tr>
<th>Gas and infrastructure prices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production cost estimates:</strong> There is limited public information on production costs.</td>
</tr>
<tr>
<td><strong>Wholesale gas prices:</strong> Beyond the ACCC Inquiry and ABS price index, there is no public information on the prices paid under short- and long-term gas supply agreements.</td>
</tr>
<tr>
<td><strong>LNG netback pricing:</strong> There is limited understanding of LNG netback pricing.</td>
</tr>
<tr>
<td><strong>Retail gas prices:</strong> 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.</td>
</tr>
<tr>
<td><strong>Transmission prices:</strong> 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.</td>
</tr>
<tr>
<td><strong>Stand-alone compression prices:</strong> 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.</td>
</tr>
<tr>
<td><strong>Storage prices:</strong> There is no publicly available information on the standing prices* for storage or on the prices actually paid by users of these facilities.</td>
</tr>
<tr>
<td><strong>Export prices:</strong> There is no public information on LNG export prices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reserves and resources:</strong> Public information on reserves and resources is fragmented and reported inconsistently, which makes it of limited use.</td>
</tr>
<tr>
<td><strong>Contracted reserves:</strong> There is no public information on the reserves committed under existing contracts.</td>
</tr>
<tr>
<td><strong>Drilling:</strong> There is limited public information on exploration activities and the information that is available on drilling activities and expenditure is fragmented and reported inconsistently.</td>
</tr>
<tr>
<td><strong>LNG imports:</strong> 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 on LNG import volumes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability of capacity:</strong> 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.</td>
</tr>
<tr>
<td><strong>Users with contracted capacity:</strong> There is no publicly available information on the users that have contracted compression and storage capacity, which may limit secondary trading of this capacity.</td>
</tr>
<tr>
<td><strong>Developments:</strong> There is limited public information on proposed developments of production facilities, transmission pipelines, stand-alone compressors and storage facilities.</td>
</tr>
<tr>
<td><strong>Compression:</strong> There is limited public information on the operation of stand-alone compression facilities.</td>
</tr>
<tr>
<td><strong>LNG import facilities:</strong> 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 on LNG import volumes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LNG export facilities:</strong> There is limited information on LNG exporters’ gas demand and activities that can affect the domestic market (including in relation to LNG shipments).</td>
</tr>
<tr>
<td><strong>Large gas users:</strong> There is limited information on large users’ gas demand and operating activities that can affect the market.</td>
</tr>
</tbody>
</table>

* The term ‘standing price’ is used to refer to the price offered by a service provider for a standard service.
Table 2.1 provides a summary of the expected impact of information deficiencies (provided in Figure 2.2) on different segments of the gas market.

**Table 2.1: Impact of information deficiencies on gas market segments**

<table>
<thead>
<tr>
<th>Information deficiencies</th>
<th>Impact on the market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas, LNG and infrastructure prices</td>
<td>The opaqueness surrounding wholesale gas, retail gas prices, LNG export and infrastructure prices can be expected to:</td>
</tr>
<tr>
<td></td>
<td>• impede the efficient allocation of gas and infrastructure services by hindering the price discovery process, impose additional search and transaction costs on market participants and contribute to the imbalance in bargaining power that gas users can face in negotiations; and</td>
</tr>
<tr>
<td></td>
<td>• result in inefficient consumption, production, infrastructure use, investment and policy decisions.</td>
</tr>
<tr>
<td>Supply and availability of gas</td>
<td>The lack of a consistent set of publicly available information on the supply and availability of gas can be expected to:</td>
</tr>
<tr>
<td></td>
<td>• limit the ability of the market to signal supply problems in a timely and accurate manner and, in so doing, hinder the ability of the market to respond efficiently to the changes underway; and</td>
</tr>
<tr>
<td></td>
<td>• place smaller gas users at a disadvantage when negotiating with producers, who have a greater knowledge of the future supply outlook.</td>
</tr>
<tr>
<td>Demand for gas</td>
<td>The lack of transparency surrounding:</td>
</tr>
<tr>
<td></td>
<td>• the use of gas by large users and LNG export facilities can be expected to result in inefficient consumption, production, infrastructure use, investment and policy decisions (i.e. because market participants do not have a good understanding of the nature of demand or the operational activities of large users that can have a bearing on the market); and</td>
</tr>
<tr>
<td></td>
<td>• the operation of LNG facilities and LNG shipments can be expected to impede the efficient allocation of gas between the domestic and international markets and limit the ability of market participants to respond efficiently to market disruptions caused by the LNG facilities.</td>
</tr>
</tbody>
</table>
Infrastructure used to supply gas to end-markets

Inconsistencies in the current reporting requirements for:
- available capacity and the identity of users with capacity on key infrastructure can be expected to raise search and transaction costs and impede the efficient use of, and investment in these assets;
- the operational activities of key infrastructure (e.g. compressors and LNG import facilities) can be expected to limit the ability of the market to respond efficiently to market disruptions affecting this infrastructure; and
- proposed infrastructure developments across key infrastructure can be expected to impede efficient planning and investment decisions across the supply chain.

GSOO

The restriction of the GSOO to the east coast can be expected to result in inefficient consumption, supply, investment and policy decisions, because it will fail to take into account the demand-supply dynamics prevailing in the Northern Territory that may affect supply in the east coast.

Addressing the information deficiencies in the eastern and northern Australian gas markets will 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 by:

- 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;
- benefiting the price discovery process and the way in which gas and other resources are allocated because trading and other decisions are currently made based on incomplete, inaccurate and/or asymmetric information;
- building greater confidence for market participants in the gas market;
- assisting commercial and industrial gas users when negotiating with suppliers;
- informing the general public, market participants and policymakers where gas is being supplied to; and
- bringing Australia’s gas demand reporting requirement into line with other developed economies where domestic and LNG export markets are integrated.

2.5 Consultation questions

1. Box 2.3 describes the purpose of the Bulletin Board. If the transparency measures outlined in this Consultation RIS are implemented, do you think that the purpose of
the Bulletin Board should be further clarified (e.g. to capture both domestic and export oriented activities)? Please explain your thinking.
3 Proposed transparency measures and policy options

This chapter summarises the range of measures which have been recommended by the AEMC, ACCC and GMRG to improve transparency in the eastern and northern Australian gas markets.

3.1 AEMC recommendations

To address the information deficiencies set out in section 2.5, the AEMC recommended a range of improvements to the Bulletin Board to:

- clarify the purpose is to facilitate trade and inform efficient decision making in relation to the provision and use of gas and natural gas services;
- make it a ‘one-stop-shop’ for information on the market and improve the timeliness and accuracy of information reported on the Bulletin Board; and
- expand its coverage by:
  - extending the reporting obligations to the Northern Territory; and
  - requiring several participants, not currently subject to reporting obligations, to report key demand and supply information (i.e. holders of gas reserves, compression service facility operators, LNG export facilities and large gas users).

These recommendations were endorsed by the Energy Council in August 2016. Because a number of these recommendations required changes to the NGL, the AEMC suggested that the Bulletin Board improvements be implemented in two stages as follows:

- **Stage 1 Bulletin Board improvements**: The proposed improvements that the AEMC suggested could be implemented in this stage were those that only required amendments to the NGR, which included the:
  - introduction of a Bulletin Board reporting standard;
  - lowering of the Bulletin Board reporting threshold to 10 TJ/day; and
  - imposition of several new reporting requirements on transmission pipelines, production and storage facilities.

The changes to the NGR required to give effect to the Stage 1 Bulletin Board improvements were considered by the AEMC as an expedited rule change in 2017, with the new reporting obligations coming into effect on 30 September 2018.

- **Stage 2 Bulletin Board improvements**: The improvements that the AEMC suggested could be implemented in this stage were those extending the list of participants subject to Bulletin Board reporting obligations under the NGL. This set of proposed improvements (referred to as Recommendation D) include requiring:
  - holders of gas reserves to report their proved and probable (2P) reserves;

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32 ibid, pp. ii-v.
- operators of compression facilities, used in the provision of gas supply hub services (GSH compression facilities), to report similar operational information to transmission pipelines;
- LNG facilities to report a range of operational and consumption information; and
- large gas users (that meet the minimum reporting threshold i.e. 10 TJ/day nameplate capacity) to report a limited set of capacity and consumption information.

- AEMC also proposed AEMO be required to publish a summary of consumption, by customer type and location, on the Bulletin Board and links to government and industry reports on upstream activities (Recommendation H).

The changes to the NGL and NGR that are required to give effect to the Stage 2 Bulletin Board improvements are yet to be made and are being considered as part of this Consultation RIS.

Further detail on the AEMC’s recommended reporting obligations, to be imposed through the Stage 2 Bulletin Board improvements, is provided in Table 3.1 below.
Table 3.1: Reporting obligations proposed as part of the AEMC’s Stage 2 Bulletin Board improvements

<table>
<thead>
<tr>
<th>Reporting entity</th>
<th>Information to be reported</th>
<th>Frequency with which information is to be reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas field operator</td>
<td>The tenements in each field and the identify of each party with an ownership interest in the tenement and the percentage ownership interest of each. The 2P reserves of natural gas in each field.</td>
<td>Annually (or more frequently if a revised estimate is subsequently reported to the ASX or a government agency).</td>
</tr>
</tbody>
</table>
| GSH compression facility operator | Facility nameplate capacity and detailed facility information. Short and medium-term capacity outlooks and a capacity adequacy indicator, similar to the Linepack Capacity Adequacy (LCA) flag reported by pipelines.  
Material intra-day changes in capacity.  
The actual volume of gas compressed on prior gas day.  
Nominations for gas day D and forecast nominations for gas day D+1 to D+6.  
A list of shippers with contracted primary capacity and a 12-month outlook of uncontracted primary capacity. | At registration and then annually (or more frequently if the information is no longer accurate).               |
| LNG facility operator        | Nameplate capacity* and information on delivery points through which gas is supplied. Short- and medium-term capacity outlook. Material intra-day changes in capacity.  
Actual gas consumption**.  | At registration and then annually (or more frequently if the information is no longer accurate).               |
| Large gas users              | Nameplate capacity* and information on delivery points through which gas is supplied. Actual gas consumption**.  | At registration and then annually (or more frequently if nameplate capacity changes by more than 10% for a period greater than 3 months). |

The AEMC proposed that an annual exemption from reporting (but not registration) be available if the minimum reporting threshold (i.e. 10 TJ/day nameplate capacity) is met but the large user can demonstrate to AEMO that the facility has not, on any single gas day during the last 12 months, been delivered 10 TJ or more of gas and the facility will not be delivered this amount of gas in the coming 12 months.


Notes:
* When referring to the capacity of a LNG facility or large gas user, the term ‘nameplate capacity’ is used to refer to the maximum quantity of gas that can be delivered to the facility on a gas day under normal operating conditions, rather than the capacity of the facility itself.
** The AEMC has suggested that LNG facility operators and large gas users be relieved of their obligation to report actual consumption information if they are the only shipper taking gas at a transmission pipeline delivery point, and the information will also be reported to AEMO by the pipeline operator.
3.2 **GMRG changes to compression facility reporting obligations**

As a result of the GMRG’s work on capacity trading reforms, several reporting obligations were imposed on those compression facility operators subject to the reforms. The reporting obligations are set out in the transitional rules in Schedule 5 of the NGR and are similar to those proposed by the AEMC in Table 3.1 above, with the following exceptions:

- The set of compressors required to report information is broader than was envisaged by the AEMC, because it captures compression facilities that are designated in the Regulations (i.e. the Ballera, Iona, Wallumbilla and Moomba compression facilities) and stand-alone compressors that are subject to the capacity trading reforms, rather than being limited to compressors operating in a Gas Supply Hub (GSH). For ease of reference in this Consultation RIS, the term ‘stand-alone compression facility’ is assumed to also refer to designated compression facilities.

- The information to be reported under the transitional rules excludes the requirement to report a medium-term capacity outlook for the compression facility and to publish a list of shippers with contracted primary capacity, because these reporting obligations were not considered necessary for the implementation of the capacity trading reforms.

At the time, the GMRG noted that these reporting obligations should be moved into Part 18 of the NGR when the Stage 2 Bulletin Board rule changes were considered.

3.3 **ACCC-GMRG recommendations**

In December 2018, the ACCC and the GMRG jointly reported to the Energy Council on measures to improve the transparency of the gas market. The report and recommendations were prepared in response to a direction, issued in March 2017 by the Prime Minister at the time, that the ACCC and GMRG work together to advise on options to quickly improve transparency across the gas supply chain.

These recommendations, which build on from the AEMC’s recommendations, proposed:

- a greater level of information be provided on upstream activities, infrastructure availability and developments, short-term gas prices and LNG shipments to be published on the Bulletin Board;

- an expansion of the geographic coverage and scope of information to be published as part of the GSOO;

- information publication on the standing prices, for compression and storage facilities, and the prices actually paid by users of these facilities; and

- all pipelines be subject to the same price and financial reporting obligations as non-scheme pipelines and a range of other proposed improvements to the obligations to publish standing prices and information on the prices actually paid by shippers.

The ACCC-GMRG’s recommendations are reproduced in Table 3.2 below.

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34 Energy Council, Meeting Communique and Gas Market Reform Package, 19 August 2016
36 ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, pp. 16-19.
## Table 3.2 Summary of ACCC-GMRG Recommendations

<table>
<thead>
<tr>
<th>Area</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upstream activities</strong></td>
<td></td>
</tr>
<tr>
<td>Reserves and resources</td>
<td>1. 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.</td>
</tr>
<tr>
<td>Contracted reserves</td>
<td>2. 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.</td>
</tr>
<tr>
<td>Drilling activities</td>
<td>3. AEMO should publish information on both onshore and offshore drilling activities and expenditure annually as part of the GSOO.</td>
</tr>
<tr>
<td>Production cost estimates</td>
<td>4. AEMO should publish production cost estimates annually as part of the GSOO.</td>
</tr>
<tr>
<td><strong>Infrastructure availability and developments</strong></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Developments</td>
<td>5. 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.</td>
</tr>
<tr>
<td>Uncontracted capacity outlook</td>
<td>6. 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.</td>
</tr>
<tr>
<td>Users with contracted capacity</td>
<td>7. 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.</td>
</tr>
<tr>
<td><strong>Wholesale gas prices</strong></td>
<td></td>
</tr>
<tr>
<td>Long-term GSAs (term of 1 year or more)</td>
<td>8. 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 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 will be addressed.</td>
</tr>
<tr>
<td>Short-term GSAs (term of less than 1 year)</td>
<td>9. 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.</td>
</tr>
<tr>
<td><strong>Retail gas prices</strong></td>
<td></td>
</tr>
<tr>
<td>10. 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 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.</td>
<td></td>
</tr>
<tr>
<td><strong>Transportation prices</strong></td>
<td></td>
</tr>
<tr>
<td>Scheme (full and light regulation) pipelines should be required to comply with the same price and financial reporting obligations as non-scheme pipelines.</td>
<td></td>
</tr>
<tr>
<td>11. 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.</td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>Recommendation</td>
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<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>13. 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.</td>
</tr>
<tr>
<td>Stand-alone compression and storage facility prices</td>
<td>14. 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.</td>
</tr>
<tr>
<td>LNG exports and imports</td>
<td>15. 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.</td>
</tr>
<tr>
<td>LNG exports and imports</td>
<td>16. 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 on in 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.</td>
</tr>
<tr>
<td>GSOO Coverage</td>
<td>17. 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.</td>
</tr>
<tr>
<td>Bulletin Board Penalties</td>
<td>18. 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).</td>
</tr>
</tbody>
</table>

Source: ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, pp. 6-7.
Of the 18 recommendations listed in this table, four will be considered through other policy processes, namely:

- Recommendations 11-13, which relate to gas transportation prices and financial reporting will be considered through the Energy Council’s Pipeline Regulation Impact Statement and Part 23 review processes; and

- Recommendation 18, which is to strengthen the Bulletin Board penalties, will be considered through the work that is being carried out by SCO on the AER’s powers and reforms to the civil penalty regime.

The remaining recommendations are considered as part of this Consultation RIS.

As noted in Table 3.2 the ACCC agreed to provide further advice on a number of the recommendations, including in relation to:

- the reporting framework to be used for reserves and resources;

- the requirement for several longer-term wholesale and retail gas price series to continue to be published at the completion of the ACCC’s 2017-20 Gas Inquiry; and

- the form in which stand-alone compression facilities and storage facilities should report the prices actually paid by users (e.g. weighted average or individual prices).

This advice was provided to SCO on 30 May 2019 and is summarised below.

### 3.3.1 Reserves and resources reporting framework

In February 2019, the ACCC published a consultation paper, which set out the objectives of the reserves and resources reporting framework and its initial views on the following elements of the reporting framework:

- the reserves and resources information that producers would be required to report;

- the basis on which reserves and resources information should be reported; and

- the manner in which producers would be required to estimate reserves.

In total 17 submissions were received in response to this consultation paper, from a range of participants across the gas supply chain.

The ACCC’s final recommendations on the reporting framework that should apply to reserves and resources information published on the Bulletin Board, which reflects the feedback provided by stakeholders, is summarised in **Table 3.3**.
### Table 3.3 ACCC recommendations on reserves and resources reporting framework

<table>
<thead>
<tr>
<th>Information to be reported</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reserves (reported by field)</strong></td>
</tr>
<tr>
<td>Broken down (at a field level) into developed and undeveloped reserves</td>
</tr>
<tr>
<td><strong>Resources (reported by field)</strong></td>
</tr>
<tr>
<td><strong>Gas field information</strong></td>
</tr>
<tr>
<td><strong>Movements in 2P Reserves (reported by field)</strong></td>
</tr>
<tr>
<td><strong>Bases upon which information is to be reported</strong></td>
</tr>
<tr>
<td><strong>Reporting standard</strong></td>
</tr>
<tr>
<td><strong>Quantities to be reported and estimation methods</strong></td>
</tr>
<tr>
<td><strong>Reporting level</strong></td>
</tr>
<tr>
<td><strong>Reporting frequency</strong></td>
</tr>
<tr>
<td>Evaluation requirements</td>
</tr>
</tbody>
</table>

| Reserves estimation requirements | Reserves and resources to be estimated on the basis of forecast economic conditions, and producers to disclose the key economic assumptions underpinning their reserves and resources estimates and the source of these assumptions. |

| Manner in which reserves and resources are to be estimated | Gas price assumptions | Contracted reserves | Producers to use the prices specified in the relevant gas supply agreements (GSA) for contracted reserves, including taking account of the operation of: the price escalation mechanisms specified in the relevant GSAs over the forecast period; and the contract extension provisions specified in the relevant GSAs over the forecast period, if there is a reasonable expectation that the GSAs will be extended and the prices (or pricing mechanisms) to apply in the extension period have already been determined. |

| Uncontracted reserves | Producers to determine the forecast gas prices used in the estimation of uncontracted reserves, and to: have the price assumptions verified, by a suitably qualified independent petroleum reserves and resources evaluator, as falling within the range of gas price forecasts used or adopted by such evaluators, or published by reputable independent Australian sources of gas industry forecast information for Australia; report their actual gas price assumptions to the AER (along with a description of how the assumptions were derived) so that the AER can oversee compliance with this requirement and publish anonymised and aggregated information on the gas prices assumed by producers; and report on the sensitivity of their 2P reserve estimates to a +/-10 per cent change in their gas price assumption to AEMO for publication on the Bulletin Board in an anonymised and aggregated manner. |

While not shown in Table 3.3, the ACCC also recommended that information on contracted reserves (Recommendation 2) be reported by AEMO through the GSOO rather than through the Bulletin Board. Specifically, the ACCC recommended that AEMO:37

- collect the following information from producers when developing the GSOO:
  - the volume of gas producers are required to supply under their GSAs in each year of the GSOO forecast horizon; and
  - the volume of gas producers expect to produce in each year of the GSOO forecast horizon.

- use the collected information, to report on the availability of uncontracted gas in each year of the GSOO forecast horizon in a way that is of most use to market participants and policymakers.

To mitigate the risk that producers with uncontracted gas will have a greater degree of bargaining power in negotiations with users, the ACCC also recommended that AEMO publish the information on an aggregated basis (e.g. by basin, region or other aggregation level that encompasses at least three producers).38 The ACCC also recommended that AEMO be given the powers it requires to obtain this information from producers.

### 3.3.2 Long-term wholesale, retail and LNG netback gas price series

In relation to the longer-term wholesale, retail and LNG gas price series, the ACCC has recommended that the AER’s functions and powers be expanded to require it to:

- Publish a monthly LNG netback price series39 to relevant locations in Australia (such as Wallumbilla) and a clear description of the framework and inputs used.

- Report on the wholesale and retail gas prices payable by domestic gas users in future supply periods under GSAs with a term of at least 12 months. To mitigate the risk of coordinated conduct between gas suppliers, the ACCC recommended that the AER report these prices on an anonymised and aggregated basis (e.g. by basin, region or other aggregation level that encompasses at least three gas suppliers).

These recommendations were informed by discussions with a number of gas users on the value of each of the price series currently published by the ACCC. In short, gas users indicated that forward-looking information on agreed prices and LNG netback prices provided the most utility in terms of assisting users when forming price expectations and when negotiating new GSAs.

### 3.3.3 Form of price reporting for compression and storage facilities

The ACCC has identified a number of limitations with the weighted average prices recently reported by non-scheme pipelines. The key limitation being that this measure

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38 As noted in the joint ACCC-GMRG recommendations, when the supply-demand balance is tight, as it currently is in the east coast, there is a risk that the publication of individual producers’ positions could accord those producers that have uncontracted reserves a greater degree of bargaining power in negotiations with gas user.

ACCC and GMRG, Joint recommendations: Measures to improve the transparency of the gas market, December 2018, p. 16.

39 A measure of an export parity price that a gas supplier can expect to receive for exporting its gas. It is calculated by taking the price that could be received for LNG and subtracting or ‘netting back’ the costs incurred by the supplier to convert the gas to LNG and ship it to the destination port.
does not provide a good representation of the prices shippers are actually paying. The ACCC has therefore recommended that SCO consult on the following options when considering the form of any reporting of the actual prices paid by users of compression and storage facility services:

- Minimum and maximum prices paid by users to be reported, in addition to the weighted average prices.
- Individual prices paid by users (including key terms and conditions) to be reported, rather than reporting the weighted average prices.

3.4 Overview of the policy options

Four policy options have been identified for this RIS:

Option 1: Maintaining the status quo: This option assumes no additional Energy Council action over and above what is currently in place. All existing temporary measures to increase transparency will discontinue once the measures cease.

Option 2: Implementing a sub-set of the recommendations provided by the AEMC and ACCC-GMRG: This option provides for the implementation of all the AEMC’s recommendations and the partial implementation of the ACCC-GMRG’s recommendations on gas and infrastructure prices, the supply and availability of gas and infrastructure services.

Option 3: Implementing all the AEMC and ACCC-GMRG’s recommendations: This option builds on from Option 2 by providing for the implementation of all the ACCC-GMRG’s recommendations (i.e. recommendations 1-10 and 14-16).

Option 4: Implementing a superset of the AEMC and ACCC-GMRG recommendations: This option builds on from Option 3 by providing for the implementation of a number of other transparency measures identified while preparing this Consultation RIS.

Details of what is included in each of these options is set out in Chapters 4-8 and is also summarised in Chapter 9.

It is worth noting that the options listed above do not provide an exhaustive list of potential solutions to improving the transparency of the eastern and northern Australian gas markets. Stakeholders who wish to propose potential alternatives are encouraged to do so in their feedback to this Consultation RIS.

3.5 Expected market benefits from increased gas market transparency

Increased gas market transparency is expected to support the efficient operation of the gas market and the efficient use of, and investment in, natural gas services by:

- ensuring that market participants have ready access to the information they require to make informed decisions about consumption, production, exploration activities and

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infrastructure services in the short- and long-run, which will facilitate more efficient planning and investment across the market;

- 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; and

- 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.

### 3.6 Consultation questions

2. As noted in Table 3.3, the ACCC has recommended that annual movements in 2P reserves be reported. Do you think:
   a. an additional category of ‘pricing’ should be included to capture reserve adjustments due to changes in gas price assumptions?
   b. reserves upgrades and downgrades should be combined into a single category?

3. As noted in Table 3.3, the ACCC has recommended that reserves and resources be reported on a field level. How do you think the term ‘field’ should be defined for this purpose? For example, do you think it should be defined by reference to a permit, or is greater guidance on how tenures are to be grouped into a field assist? Alternatively, do you think there should be a standard or requirement for naming fields? Please explain your response to this question.
4 Gas, LNG export and infrastructure prices

The gas markets in eastern and northern Australia have historically operated in a relatively opaque manner, with the prices in gas supply agreements (GSAs) and infrastructure service agreements invariably treated as confidential. While some steps have been taken over the last two years to reduce this opaqueness, there is still limited publicly available information on the prices payable for gas, LNG and infrastructure services, beyond what is being published through the ACCC’s 2017-2020 Gas Inquiry and what has recently been required through COAG Energy Council’s gas transportation (i.e. pipeline) reforms.

Information on the prices payable for gas, LNG export and infrastructure services could help:

- promote effective competition between gas suppliers and infrastructure service providers, where competition is possible;
- aid the price discovery process and facilitate the efficient trade of gas and infrastructure services; and
- enable users, suppliers and infrastructure service providers to respond in a more timely and informed manner to changing market conditions and the demand, supply and investment signals embodied in prices.

This chapter considers what further steps could be taken to improve the transparency of prices, while also mitigating the risk of coordinated conduct in those segments of the market that are subject to competition (for example, the production and retail segments41). The term ‘coordinated conduct’ is used in this context to refer to situations when firms recognise their mutual interdependence and individually ‘decide’ not to compete as aggressively as they otherwise would.

4.1 What information is currently available?

Gas and infrastructure services have traditionally been sold under bilateral contracts and while some shorter-term trades are now occurring on a more transparent basis through the AEMO-operated facilitated markets, bilateral contracts still account for the majority of the volume of sales of gas and infrastructure services in Australia.

<table>
<thead>
<tr>
<th></th>
<th>Gas Supply Hub</th>
<th>Bilateral Trades</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCC analysis - QLD short term trades by number of trades</td>
<td>96% (1912 trades)</td>
<td>4% (70 trades)</td>
</tr>
<tr>
<td>ACCC analysis - QLD short term trades by volume</td>
<td>30% (16.23 PJ)</td>
<td>70% (37.23 PJ)</td>
</tr>
<tr>
<td>AEMC liquidity review - Short term trades by volume</td>
<td>5%</td>
<td>95%</td>
</tr>
</tbody>
</table>

41 The concept is less relevant in the infrastructure segment of the market (e.g. transmission, compression and storage) which is typically provided by monopoly providers (source: ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, p. 31).
The prices and other key terms struck in bilateral contracts are, as noted above, invariably treated as confidential. There has historically been a significant degree of opaqueness surrounding the prices payable for gas and infrastructure services in eastern and northern Australia.

The ACCC has sought to reduce this opaqueness through its Gas Inquiry, by publishing regular information on:

- the prices paid for gas in eastern Australia and the outlook for these prices;
- the key drivers of gas prices in eastern Australia, which include:
  - production costs, which represent the floor price for producers; and
  - the LNG netback price, which represents the price a supplier would expect to receive to be indifferent between selling gas to a domestic buyer and exporting it (otherwise referred to as the ‘opportunity cost for suppliers’); and
- the prices paid for transportation and storage services on key facilities in eastern and northern Australia.
- The ACCC has also published some ad-hoc information on the prices paid for LNG exports and locational swaps.

Recent reforms in the transportation segment of the supply chain have reduced the opaqueness that has historically surrounded the prices payable for primary and secondary capacity. For example:

- operators of non-exempt non-scheme pipelines are now required to publish the standing price and terms of access for each service they offer, and the weighted average prices paid by the users of each service in the last financial year;
- operators of light regulation pipelines will be required to publish the weighted average prices paid by the users of each service in the last financial year starting in 2020;

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42 The churn rate represents the proportion of gas traded at the gas supply hub relative to the total gas supply in the region. More information available here: https://www.aer.gov.au/wholesale-markets/wholesale-statistics/gas-supply-hub-churn-rate
43 See for example, ACCC, Gas Inquiry 2017-2020 Interim Report, December 2018.
44 The LNG netback price is calculated by taking the price a supplier could receive for LNG (based on Asian LNG prices) and subtracting (netting back) the costs incurred to convert the gas to LNG and ship it to the destination port.
45 ACCC, Gas Inquiry 2017-2020 Interim Report, December 2017 and May 2019
46 A locational gas swap is an arrangement between two or more gas market participants to exchange gas at different locations. Swaps may be entered into for a variety of reasons, including to overcome pipeline constraints, production constraints, geographic demand-supply imbalances and/or to reduce or avoid transportation costs.
47 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. Exemptions from some or all of the information disclosure obligations are available to pipelines not providing third party access, single shipper pipelines and pipelines with average annual flows of less than 10 TJ/day.
48 Rule 552 of the NGR.
• parties entering into secondary capacity trades on transmission pipelines and stand-alone compressors are now required to report the prices and other key terms to AEMO for publication on the Bulletin Board.\textsuperscript{50}

Table 4.2 provides further detail on the information that is currently available on the prices payable for gas, LNG exports, transportation, stand-alone compression\textsuperscript{51} and storage services. Where relevant, this table also sets out the information deficiencies that the ACCC-GMRG identified.

\textsuperscript{50} Rule 190C of the NGR.

\textsuperscript{51} The term ‘stand-alone compression’ is used in this context to refer to a compression facility that is or may be used to facilitate the flow of gas \textit{between} transmission pipelines. This differs from a mid-line compressor, which is used to facilitate the flow of gas \textit{along} a transmission pipeline.
Table 4.2 Publicly available information on gas and infrastructure prices

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term GSAs (term of less than 1 year)</td>
<td>Information on the prices paid for gas in the Gas Supply Hub (GSH) is published by AEMO on a daily basis. There is, however, no publicly available information on the prices agreed in short-term bilateral GSAs conducted outside the GSH, which accounts for a greater volume of short-term gas trades. AEMO also publishes information on the prices established through the Adelaide, Sydney and Brisbane Short Term Trading Market (STTM) and Victorian Declared Wholesale Gas Market.</td>
<td>The ACCC-GMRG noted that while the prices struck in trades conducted through the GSH are published, these prices may not provide the best indicator of the short-term value of gas, because these trades account for a relatively small proportion of the gas traded. The ACCC-GMRG therefore questioned how much reliance market participants could place on these price signals when making decisions.</td>
</tr>
</tbody>
</table>


53 ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, p. 29.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
</table>
| Long-term GSAs (term of 1 year or more) | The following information on the prices payable to producers is currently in the public domain:  
- The ABS publishes a survey-based domestic gas extraction price index, which measures movements in the prices paid to producers for supply into the domestic market. Separate price indices are available for eastern and Western Australia.  
- Through the Gas Inquiry, the ACCC has published:  
  - An historic invoiced-based producer price series, which reflects the weighted average prices paid to producers under GSAs involving the supply of at least 0.5 PJ p.a. of gas and a contract term of at least 1 year.  
  - Forward looking estimates of the minimum, maximum and weighted average prices payable to producers under recently executed GSAs, involving the supply of at least 0.5 PJ p.a. of gas and a contract term of at least 1 year.  
  - Information on the prices offered by producers to customers seeking the supply of at least 0.5 PJ p.a. of gas for a term of at least 1 year.  
- To mitigate the risk of coordinated conduct by producers, the ACCC reports the prices in (a)-(c) on a regional basis. | The ACCC-GMRG noted that beyond the reporting in the current Gas Inquiry and the ABS price index, there is no public information on the prices paid under long-term GSAs. Echoing the views expressed by the ACCC in the 2015-16 Gas Inquiry, the ACCC-GMRG noted that if there is no publicly available information on the prices payable under long-term GSAs, then it would:  
- be 'very difficult' for market participants to determine what ‘a ‘fair gas price’ is';  
- impede the bargaining process, by complicating and slowing the negotiation process; and  
- give rise to information asymmetries and an imbalance in bargaining power, with producers and retailers that participate in more trades having access to better information than commercial and industrial (C&I) users. |
<p>| Retailer prices | In the Gas Inquiry, the ACCC has published equivalent historic, forecast and offer information to that set out in (a)-(c) for retailer sales to commercial and industrial (C&amp;I) users. | |</p>
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors influencing the price of gas</td>
<td><strong>Production costs (floor price)</strong>&lt;br&gt;In December 2018, the ACCC published a consultant’s estimates of production costs in eastern Australia.58 AEMO has also previously published estimates of production costs as part of the GSOO supplementary material.59</td>
<td>The ACCC-GMRG noted that information on production costs and the LNG netback price can be important inputs to a GSA negotiation process and investment decisions, because they represent the range within which prices can ordinarily be expected to fall.61 In a similar manner to long-term GSAs, if this information is not available in the public domain then it could complicate and slow the bargaining process and give rise to information asymmetries.</td>
</tr>
<tr>
<td>Locational gas swaps</td>
<td>In December 2017, the ACCC published some information on locational gas swaps.62 Apart from this information, there is no public information on the prices paid in locational gas swaps.</td>
<td>While not identified by the ACCC-GMRG, the lack of transparency surrounding locational gas swaps could impede the bargaining process and give rise to information asymmetries between those parties that enter into swaps frequently and those that don’t. It is also possible that if swaps are not reported, but other trades are, then parties may be encouraged to enter into swaps to avoid the reporting requirement.</td>
</tr>
<tr>
<td>LNG prices</td>
<td><strong>LNG netback price (opportunity cost of domestic supply)</strong>&lt;br&gt;The ACCC is currently publishing an historic and forward looking monthly LNG netback price series on a fortnightly basis as part of the Gas Inquiry.60</td>
<td>The ACCC-GMRG noted that the lack of transparency surrounding export prices could, given the interrelationship between domestic and export markets, impede domestic negotiations and result in an inefficient allocation of gas between the domestic and export markets.64</td>
</tr>
<tr>
<td>Export prices</td>
<td>In May 2019, the ACCC published aggregated information on the export prices paid to LNG exporters in eastern Australia.63 No other information on the prices LNG producers receive for their exports is currently available in the public domain.</td>
<td>The ACCC-GMRG noted that if any LNG import facilities are developed they would not be covered by the Bulletin Board reporting obligations, which could constitute a gap in the reporting framework.</td>
</tr>
<tr>
<td>Import prices</td>
<td>There are currently no LNG import facilities operating in eastern or northern Australia, so no import prices are being reported.</td>
<td></td>
</tr>
</tbody>
</table>

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61 ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, pp. 19 and 27-29.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
</table>
| Transmission pipeline prices | **Primary capacity**<br>• Pipelines subject to full regulation are required to publish their reference tariffs and the terms of access to the reference service on their website.<br>• Pipelines subject to light regulation and non-exempt non-scheme pipelines are required to publish the following on their website:<br>  o standing prices for the services offered by the pipeline and the terms of access to those services; and<br>  o the weighted average prices paid by users for each the service provided in the last financial year.<br><br>**Secondary capacity**<br>• Information on prices and other key terms agreed in secondary trades (bilateral or exchange trades) must be reported on the Bulletin Board on an anonymised basis.<br>• Information on the prices paid for transmission services procured through the day-ahead auction must also reported on the Bulletin Board on an anonymised basis. | The ACCC-GMRG noted that there are a number of inconsistencies in the information pipelines are required to publish, which could limit the ability of users to negotiate effectively with pipeline operators and to readily identify any exercise of market power. The ACCC-GMRG also noted that questions had been raised about whether information on the prices actually paid for services should be published on a weighted average basis, or if the prices under each agreement should be published separately.  

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ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, pp. 32-34.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stand-alone compression prices</strong></td>
<td><strong>Primary capacity</strong>&lt;br&gt;Operators of stand-alone compression facilities are not currently required to publish standing prices or information on the prices actually paid by users, unless the facilities form part of a transmission pipeline that is subject to full regulation, light regulation or Part 23 of the NGR.&lt;sup&gt;66&lt;/sup&gt;&lt;br&gt;<strong>Secondary capacity</strong>&lt;br&gt;  - Information on the prices and other key terms agreed in secondary capacity trades (bilateral or exchange trades) on stand-alone compression facilities must be reported on the Bulletin Board on an anonymised basis.&lt;br&gt;  - The prices paid for stand-alone compression services procured through the day-ahead auction must also be reported on the Bulletin Board on an anonymised basis.</td>
<td><strong>Primary capacity</strong>&lt;br&gt;The ACCC-GMRG noted that the absence of information on standing prices and the prices actually paid by users of stand-alone compression and storage services made it difficult for prospective users to determine whether to seek access and, if so, to assess the reasonableness of the prices offered by service providers.&lt;sup&gt;67&lt;/sup&gt;&lt;br&gt;<strong>Secondary capacity</strong>&lt;br&gt;While not identified by the ACCC-GMRG, the lack of transparency surrounding the prices paid for secondary trades of storage capacity could impede the bargaining process (i.e. because there is no readily observable indicator of the value of this capacity).</td>
</tr>
<tr>
<td><strong>Storage prices</strong></td>
<td><strong>Primary capacity</strong>&lt;br&gt;Through the Gas Inquiry, the ACCC has published the minimum and maximum prices paid by users of storage facilities.&lt;sup&gt;68&lt;/sup&gt;&lt;br&gt;<strong>Secondary capacity</strong>&lt;br&gt;Information on secondary trades of storage capacity is not currently required to be reported.</td>
<td></td>
</tr>
</tbody>
</table>

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<sup>66</sup> APA, for example, publishes standing prices for the Wallumbilla and Moomba compression facilities and the weighted average prices paid by users of these facilities on its website, because for the purposes of Part 23 of the NGR, it treats these facilities as forming part of the South West Queensland Pipeline. https://www.apa.com.au/our-services/gas-transmission/east-coast-grid/south-west-queensland-pipeline/

<sup>67</sup> ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, p. 35.

As Table 4.2 reveals, most of the pricing information that is currently in the public domain is being published by the ACCC as part of its Gas Inquiry. There is a significant risk, therefore, that once the Gas Inquiry ceases most of the published pricing information will not continue to be available in the public domain.

The other point to note from this table is that there are a number of inconsistencies in the information that different market participants are required to report. For example:

- market participants that enter into a bilateral capacity trade on a transmission pipeline or stand-alone compressor must report this information on the Bulletin Board, but participants that enter into a capacity trade on a storage facility or a location swap, are not required to report this information;
- the operators of non-exempt non-scheme pipelines are required to publish standing prices and terms of access for each of the services they offer, but the operators of stand-alone compression and storage facilities are not required to do so; and
- the prices struck in gas sales conducted by market participants through the GSH is published by AEMO, but the prices struck in off-market gas trades are not.

These inconsistencies have emerged because the focus of recent reforms has been on addressing particular issues in the market, rather than on price transparency more generally. For example, the secondary capacity reporting framework was implemented as part of the capacity trading reforms, which applies to transmission pipelines and stand-alone compression facilities, but not to storage facilities or locational swaps. Similarly, the requirement for non-exempt non-scheme pipelines to publish standing prices was implemented as part of the new information disclosure and arbitration framework, which does not apply to stand-alone compression or storage facilities.

While understandable, these inconsistencies could encourage sub optimal outcomes i.e. parties may choose to trade in a particular manner to avoid having to report the trade. It is important therefore that a more holistic assessment be carried out as part of this process.

4.2 What is the problem?

There is limited publicly available information on the prices payable for gas, LNG and infrastructure services, beyond what is being published by the ACCC until April 2020 and what has recently been required through the transportation reforms.

The opaqueness that has historically surrounded the prices payable for gas, LNG, compression and storage services is therefore likely to return once the ACCC’s Inquiry ceases, unless steps are taken to require greater transparency.

While it is difficult to quantify the effect that a reversion back to a more opaque market would have, it can be expected to adversely affect the efficient operation of the market and the efficiency with which gas, LNG, infrastructure services and other resources are allocated because it would:

- impede competition between gas suppliers and infrastructure service providers (where competition is possible);
- hinder the price discovery process and the efficient trade of gas and infrastructure services (e.g. by imposing relatively high search and transaction costs on parties, increasing the degree of information asymmetry and imbalance in bargaining power that users can face in negotiations and providing sellers with more of an opportunity to engage in inefficient price discrimination); and
• limit the ability of market participants to respond in a timely and efficient manner to changing market conditions and to the demand, supply and investment signals that would otherwise be embodied prices.

It could also hinder the ability of governments to make informed decisions about policies that affect supply (including the operation of the Australian Domestic Gas Security Mechanism 69(ADGSM)) and other aspects of the market.

The consequences of such a reversion are, as the ACCC-GMRG noted, likely to be 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.70

As the ACCC-GMRG observed, it is not in the commercial interests of most market participants to publish information on prices on a voluntary basis.71 The information gaps and asymmetries that will be left once the ACCC’s Gas Inquiry ceases may therefore be viewed as a market failure that could, depending on the significance of the failure, warrant government intervention.

4.3 What are the options?

Option 1: Maintaining the status quo

Under this option, gas market participants would not be required to publish any additional information over and above what they are currently required to.

Under this option gas producers, retailers, LNG exporters, storage operators and stand-alone compression facility operators would not be subject to additional reporting and compliance requirements beyond those currently applied. All existing temporary measures to increase transparency will discontinue once the measures cease.

This option will not address any of the existing information deficiencies and reporting inconsistencies set out in sections 4.1 and 4.2, and hence there will be no benefit associated with reducing the costs currently borne by gas users and the economy as a result of these informational deficiencies.

Under this option, the information deficiencies described earlier in Table 4.2 are expected to be ‘highly likely’ to occur, and have a ‘major’ negative impact on the efficient allocation of gas and infrastructure services, and contributes to inefficient consumption, production, infrastructure use, investment and policy decisions. This results in a ‘severe’ risk rating which requires treatment. Refer to Appendix 1 for detailed risk analysis.

Option 2: Subset of the ACCC-GMRG proposed transparency measures

This option includes ACCC-GMRG recommendations 4 and 8, and part of recommendation 14.

This option provides for the following information to be published.

69 The ADGSM has been in place since 1 July 2017 to ensure there is a sufficient supply of natural gas to meet the forecast needs of domestic energy users. The Minister for Resources and Northern Australia is responsible for making the decision as to whether a shortfall market exists.

70 ibid, p. 1.

71 ibid, p. 5.
**Production cost estimates**

AEMO would continue to publish production cost estimates as part of the GSOO. These estimates, which have to date been developed by Core Energy Group, have been reported by AEMO in supplementary documents accompanying the GSOO over the last three years.

The main benefit of publishing these estimates is that it will provide gas users with an indication of the floor price required by producers. It will therefore reduce some of the information asymmetry that users can face when procuring gas.

The incremental costs associated with this reporting requirement, on the other hand, are expected to be zero given that AEMO is already publishing these estimates.

**LNG netback price series**

The AER would be required to publish an LNG netback price series to relevant locations in Australia (e.g. Wallumbilla) on a regular basis, and a clear description of the framework and inputs used. In their advice to SCO on the netback price series (see section 3.3.2 and Appendix A.2.8), the ACCC noted there are various ways in which LNG netback prices can be calculated. They further suggested that in implementing the recommendation to publish an LNG netback price series, the AER may wish to consider the frequency of publication and what LNG netback prices should be published.

In keeping with the ACCC’s recommendation the AER would be required, under Option 2, to:

- consult with stakeholders on how best to report the LNG netback prices and to periodically review the approach to ensure it remains fit for purpose and reflective of market developments; and
- publish a guideline that sets out how the LNG netback price is to be calculated.

According to the AER this new function will impose costs on the AER. It will also impose some costs on the LNG producers who will be required to provide the AER with data on liquefaction and transportation costs, although the incremental costs are expected to be relatively low given this information is already being provided to the ACCC.

The benefits of publishing this information may include:

- promoting more effective competition between gas suppliers;
- aiding the price discovery process and the efficient trade and allocation of gas;
- helping to reduce the bargaining imbalance between gas suppliers and buyers; and
- enabling gas users to make more informed investment decisions.

**Storage facility and stand-alone compression facility operators**

Operators of stand-alone compression facilities and storage facilities that are providing third party access would be required to publish on their website the standing prices and terms for each service offered by the facility.

The industry cost of reporting standing prices is expected to be relatively low, as the required information is readily available to storage and stand-alone compression facility operators. However, it is expected that the publication of this information will enable
prospective users to make a more informed decision about whether to seek access to these services.

Summary

Implementing this option will ensure that production cost estimates and the LNG netback price series remain available to market participants once the ACCC’s current Inquiry ends. In addition, it will provide more information on the standing prices and terms for storage and stand-alone compression services.

This will address some, but not all, of the information deficiencies identified in sections 4.1-4.2.

Implementing this option is expected to reduce the risk likelihood to ‘likely’, and the consequence to ‘high’, resulting in a ‘high’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.

Option 3: ACCC-GMRG transparency measures

This option includes ACCC-GMRG recommendations 4, 8, 9, 10, 14, and part of recommendation 15.

This option provides for the same information outlined in Option 2 to be reported, as well as information on:

- the prices payable under short-term GSAs;
- the prices payable under longer term GSAs (both producer and retailer agreements);
- LNG export prices; and
- the prices actually paid by users for storage and compression services.

Short term GSAs

Parties entering into GSAs outside the facilitated markets (off-market trades), that have a term of less than one year, would be required to report this information to AEMO shortly after entering into a GSA, for publication on the Bulletin Board. To mitigate the risk of coordinated conduct amongst suppliers, AEMO would be required to publish this information on an anonymised and aggregated basis (e.g. by basin, trading point, region or other aggregation level encompassing at least three sellers).

The proposed reporting framework to apply to such trades is summarised in Table 4.3.

Table 4.3 Proposed reporting framework for short-term GSAs

<table>
<thead>
<tr>
<th>Design issue</th>
<th>Proposed approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who should report?</td>
<td>Consistent with the approach used for secondary capacity transactions, the seller would be required to report the trade to AEMO. As not all sellers will be registered with AEMO to submit information through the Bulletin Board, the parties to the transaction will be able to agree that the buyer should report or the seller may appoint a reporting agent.</td>
</tr>
<tr>
<td>Design issue</td>
<td>Proposed approach</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>What transactions must be</td>
<td>The seller will be required to report all transactions that provide for the physical delivery of gas where:</td>
</tr>
<tr>
<td>be reported?</td>
<td>• the maximum daily quantity (MDQ) under that arrangement (alone or taken together with other similar transactions) is at least 1 TJ/day;</td>
</tr>
<tr>
<td></td>
<td>• the supply period is less than 1 year (where individual transactions are entered into under a master agreement, the supply period is the term of the transaction and not the term of the master agreement); and</td>
</tr>
<tr>
<td></td>
<td>• the delivery and acceptance obligations are ‘firm’ (i.e. non-delivery can only occur as a result of operational constraints).</td>
</tr>
<tr>
<td>What transactions are not</td>
<td>The following transactions will not be subject to the reporting requirement:</td>
</tr>
<tr>
<td>required to be reported?</td>
<td>• location and timing swaps;</td>
</tr>
<tr>
<td></td>
<td>• novations of GSAs;</td>
</tr>
<tr>
<td></td>
<td>• related party transactions;</td>
</tr>
<tr>
<td></td>
<td>• LNG import and export transactions; and</td>
</tr>
<tr>
<td></td>
<td>• agreements relating to the sale of gas to residential customers or business customers that consume less than 10 TJ per annum.</td>
</tr>
<tr>
<td>What must be reported?</td>
<td>The seller will be required to report:</td>
</tr>
<tr>
<td></td>
<td>• the identity of the seller and other parties to the transaction;</td>
</tr>
<tr>
<td></td>
<td>• the trade date;</td>
</tr>
<tr>
<td></td>
<td>• the supply period start and end dates;</td>
</tr>
<tr>
<td></td>
<td>• the location at which gas must be delivered;</td>
</tr>
<tr>
<td></td>
<td>• the total contract quantity;</td>
</tr>
<tr>
<td></td>
<td>• the take or pay quantity;</td>
</tr>
<tr>
<td></td>
<td>• the MDQ;</td>
</tr>
<tr>
<td></td>
<td>• the transaction price (excluding GST); and</td>
</tr>
<tr>
<td></td>
<td>• any price escalation mechanism.</td>
</tr>
<tr>
<td></td>
<td>The Bulletin Board Procedures may also provide for this a reasonable estimate or approximation to be provided, where the provision of this information is not otherwise practicable having regard to the nature or terms of the transaction.</td>
</tr>
<tr>
<td>Changes to information</td>
<td>The gas seller will be required to update the information if it is no longer accurate.</td>
</tr>
<tr>
<td>When must the transaction</td>
<td>Reporting must occur on the earlier of:</td>
</tr>
<tr>
<td>be reported?</td>
<td>• 1 business day after the trade date; and</td>
</tr>
<tr>
<td></td>
<td>• the day prior to the date on which the supply period starts.</td>
</tr>
<tr>
<td></td>
<td>If supply commences on the trade date, the information must be provided to AEMO as soon as reasonably practicable on the trade date.</td>
</tr>
<tr>
<td>What will be published on</td>
<td>Party names will not be published on the BB.</td>
</tr>
<tr>
<td>the BB?</td>
<td>AEMO will aggregate information before publication.</td>
</tr>
</tbody>
</table>

This reporting obligation will impose some reporting and compliance costs on parties that enter into off-market trades. It will also impose costs on AEMO, as the operator of the Bulletin Board, and the AER, as the regulator, who will incur additional costs monitoring and enforcing compliance with the reporting requirements. The costs are not, however, expected to be significant given the number of trades that are likely to be caught by this reporting obligation. As noted in Table 4.1, recent analysis conducted by the ACCC on short-term trades conducted in Queensland indicates that while off-market trades
accounted for around 70% of the volume of short-term gas traded in 2018, they only accounted for 4% of the number of trades (i.e. 70 trades). The benefits of publishing this information are that it will:

- provide a more timely and accurate signal of the value of gas sold under short term GSAs;
- promote more effective competition amongst gas suppliers; and
- facilitate 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.

**Long-term GSAs**

Producers and retailers would be required to provide the AER with copies of any GSAs that they have entered into that have a term of at least 12 months and an annual contract quantity of 0.5 PJ or more. The AER would then be required to use the information contained in these GSAs, along with forecasts of the relevant pricing variables (e.g. CPI, oil prices and exchange rates) to publish forward looking estimates of wholesale and retail gas prices. To mitigate the risk of coordinated conduct between gas suppliers, the AER would be required to report these prices on an anonymised and aggregated basis (e.g. by basin, region or other aggregation level that encompasses at least three gas suppliers). The AER would be expected to publish these prices at least twice a year.

The main benefits of this reporting obligation are that it will:

- promote more effective competition between gas suppliers;
- facilitate 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; and
- enable users and suppliers to respond in a more timely and informed manner to the demand, supply and investment signals embodied in these prices.

While there are likely to be benefits associated with this reporting obligation, according the AER this new reporting function will impose a range of implementation and ongoing reporting costs on the AER. It will also impose some costs on producers and retailers, although these costs are expected to be minimal given only the GSAs are to be provided to the AER.

**LNG export prices**

LNG exporters would be required to report the average free-on-board price received for each shipment to AEMO for publication on the Bulletin Board. This information would have to be provided to AEMO no later than 20 business days after the end of the month in

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72 The ACCC found that 4% of short term trades conducted in Queensland were off-market trades (the remaining 96% were conducted through the GSH), but these trades accounted for around 70% of the total quantity traded. See, ACCC, Gas inquiry 2017-2020 interim report, April 2019, pp. 15 and 45-50.
which the LNG is loaded. This lag is intended address any potential commercial sensitivity issues.\footnote{In this US, a lag of 30 calendar days is applied to mitigate any potential commercial sensitivity issues. https://www.energy.gov/fe/services/natural-gas-regulation/guidelines-filing-monthly-reports}

The main benefits of this reporting obligation are that it will:

- aid the price discovery process, reduce search and transaction costs and the degree of information asymmetry faced by gas users when negotiating with suppliers (i.e. because the prices secured in the LNG markets can affect the prices that suppliers are willing to accept in the domestic market); and

- promote a more efficient allocation of gas between the domestic and export markets (i.e. because there will be greater visibility of the value attributed to gas by the domestic and export markets).

While there are a number of benefits associated with this reporting obligation, it will impose some reporting and compliance costs on LNG exporters. It will also impose costs on AEMO, as the operator of the Bulletin Board, and the AER, as the regulator, who will incur additional costs monitoring and enforcing compliance with the reporting requirements.

**Storage facility and stand-alone compression facility operators**

Operators of stand-alone compression facilities and storage facilities that are providing third party access would be required to publish information on the prices actually paid by users of these facilities. This information would be published on an annual basis and would be reported on a weighted average basis, in accordance with the method set out in a price reporting guideline to be developed by the AER.\footnote{As noted in section 3.3, the ACCC has recommended that further consultation be carried out on whether the prices actually paid by users of infrastructure facilities continue to be reported on a weighted average basis supplemented by the minimum and maximum prices, or if individual prices should be reported. This will be consulted on through the pipeline regulation RIS and any consequential changes will flow through to these reporting obligations.}

The main benefit of publishing this information is that it will enable users to assess the reasonableness of the prices they are offered by reference to the prices other users are paying. It will therefore aid the price discovery process, reduce search and transaction costs and reduce the degree of information asymmetry faced by users when procuring these services. It will also enable users and operators to respond in a more timely and informed manner to the demand, supply and investment signals embodied in these prices.

This reporting obligation would, however, impose some reporting and compliance costs on storage and stand-alone compression facility operators. The AER would also incur some costs developing the price reporting guideline and monitoring and enforcing compliance with the new reporting obligation.

**Summary**

Implementing this option would result in a range of pricing related information being made available to market participants, including production cost estimates, short-term GSA prices, forward looking long-term GSA prices, LNG netback prices and LNG export prices, the prices payable for storage and stand-alone compression services. This option would therefore address most of the information deficiencies identified in sections 4.1-4.2.
Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and the consequence to ‘moderate’, resulting in a ‘low’ residual risk rating. Refer to Appendix 1 for more detail on the risk analysis.

**Option 4: ACCC-GMRG measures plus additional measures (superset)**

This option includes the ACCC-GMRG’s recommendations 4, 8, 9, 10, 14, 15 and a number of other pricing related transparency measures that could be implemented on their own or in conjunction with the other measures.

This option provides for the same information reporting requirements as outlined in Option 3 plus one or more of the following additional measures:

(a) publication of producers’ actual cost of production and LNG import prices

(b) publication of information on gas swaps

(c) publication of an historic producer and retailer gas price series

(d) publication of the prices offered by producers and retailers

(e) mandatory listing of gas supply requests and offers on Bulletin Board or GSH

(f) publication of information on secondary trades of storage capacity.

Further detail on these additional measures in Option 4 are provided below.

**Producers’ actual cost of production and LNG import prices**

Producers would be required to report their actual cost of production (by field) and LNG importers would be required to report the landed price for LNG imports to AEMO for publication on the Bulletin Board.

The main benefit of this information is that it would provide gas users with a better indication of the price floor in their negotiations with producers and LNG importers. The publication of this disaggregated information could, however as the ACCC-GMRG noted, have a deleterious effect on competition between producers and LNG importers by facilitating co-ordinated conduct. The benefit of greater transparency in this case must therefore be weighed against this potential effect on competition.

Implementing this reporting requirement would impose a range of implementation and ongoing reporting and compliance costs on producers, LNG importers and AEMO (as operator of the Bulletin Board). The AER, as the regulator, would also incur additional costs monitoring and enforcing compliance with this reporting requirement.

**Gas swap prices**

Parties entering into gas swaps that provide for the physical delivery of gas on a firm[^75] basis and have an MDQ of at least 1 TJ/day would be required to report the price and other key terms to AEMO for publication on the Bulletin Board. This information would then be reported on an anonymised basis on the Bulletin Board. Further detail on the

[^75]: Firm in this case means that non-delivery can only occur as a result of operational constraints.
information that would have to be reported under this sub-option and by when is set out in Table 4.4.

**Table 4.4 Proposed reporting framework for gas swaps**

<table>
<thead>
<tr>
<th>Design issue</th>
<th>Proposed approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>What must be reported?</td>
<td>The following information would be reported:</td>
</tr>
<tr>
<td></td>
<td>• the identity of the swap counterparties (this information would not be disclosed on the Bulletin Board);</td>
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<tr>
<td></td>
<td>• the trade date;</td>
</tr>
<tr>
<td></td>
<td>• the supply period start and end dates;</td>
</tr>
<tr>
<td></td>
<td>• the type of swap (e.g. timing swap or locational swap)</td>
</tr>
<tr>
<td></td>
<td>• the locations at which gas must be delivered;</td>
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<tr>
<td></td>
<td>• the total contract quantity;</td>
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<td></td>
<td>• the take or pay quantity;</td>
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<td>• the MDQ;</td>
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<td></td>
<td>• the transaction price (excluding GST); and</td>
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<tr>
<td></td>
<td>• any price escalation mechanism.</td>
</tr>
<tr>
<td></td>
<td>The Bulletin Board Procedures may also provide for this a reasonable estimate or approximation to be provided, where the provision of this information is not otherwise practicable having regard to the nature or terms of the transaction.</td>
</tr>
<tr>
<td></td>
<td>Parties would be required to update this information if it is no longer accurate.</td>
</tr>
<tr>
<td>When must the transaction be reported?</td>
<td>Reporting must occur on the earlier of:</td>
</tr>
<tr>
<td></td>
<td>• 1 business day after the trade date; and</td>
</tr>
<tr>
<td></td>
<td>• the day prior to the date on which the supply period starts.</td>
</tr>
<tr>
<td></td>
<td>If supply commences on the trade date, the information must be provided to AEMO as soon as reasonably practicable on the trade date.</td>
</tr>
</tbody>
</table>

The main benefit of this reporting requirement is that it would facilitate the efficient trade and use of gas and other infrastructure used to supply gas to end-markets by aiding the price discovery process and reducing the search and transaction costs associated with gas swaps.

This reporting requirement would, however, impose some reporting and compliance costs on parties entering into gas swaps. It would also impose costs on AEMO, as the operator of the Bulletin Board, and the AER, as the regulator, who would incur additional costs monitoring and enforcing compliance with the reporting requirements.

**Historic invoiced-based producer and retailer gas price series**

The invoice-based producer and retailer gas price series would continue to be published by the AER once the ACCC’s current Inquiry ceases.

To implement this measure, gas suppliers (e.g. producers, retailers and aggregators) would be required to provide the AER with invoices pertaining to the supply gas under GSAs with a term of at least 12 months and an annual contract quantity of at least 0.5 PJ. The AER would then be required to publish anonymised and aggregated information on the average prices invoiced by producers and the prices invoiced by retailers on a semi-
annual basis. To mitigate the risk of coordinated conduct, the AER would be required to aggregate this pricing information to a basin, regional or other level that ensures there are at least three suppliers.

The main benefit of this measure is that it would provide an indication of the prices actually paid for gas since 2015. It would not, however, provide an indication of the prices that are expected to be paid in the future. The utility of this information is therefore expected to be lower than the forward looking long-term GSA reporting outlined in Option 3, as noted in the feedback gas users provided to the ACCC when it was developing its advice on measures to improve price transparency. In short, gas users told the ACCC that forward-looking information on agreed prices and LNG netback prices would provide the most utility in terms of assisting them to form price expectations and to negotiate.

In a similar manner to the long-term GSA price reporting, according the AER this new reporting function would impose a range of implementation and ongoing reporting costs on the AER. It would also impose some costs on gas suppliers, although these costs are expected to be relatively low given all they will have to do is provide invoices to the AER on a regular basis.

**Prices offered by gas suppliers**

The gas price offer time series would continue to be published by the AER once the ACCC’s current Inquiry ceases.

To implement this measure gas suppliers (e.g. producers, retailers and aggregators) would be required to report to the AER, any offers they make to supply gas, where the contract term is at least 12 months and annual contract quantity is at least 0.5 PJ. The AER would then publish anonymised information on the prices offered by gas suppliers over the relevant forecast horizon (e.g. over the next 12 months). In those cases where the prices offered by suppliers are linked to oil prices, LNG netback prices, foreign exchange rates and/or the CPI, the AER would have to estimate the prices based on the expectations of those variables at the time the offer was made.

The main benefit of this measure is that it would provide an indication of the prices gas suppliers are offering to gas users. It would not, however, provide an indication of the prices actually agreed to by the buyer. This information would instead be reflected in the long-term GSA price reporting referred to in Option 3. The utility of this information was considered somewhat marginal by gas users consulted by the ACCC when developing its advice on measures to improve price transparency.

In a similar manner to the long-term GSA price reporting, according to the AER, this new reporting function would impose a range of implementation and ongoing reporting costs on the AER. It would also impose some costs on gas suppliers, although these costs are expected to be relatively low given all they would have to do is provide offers to the AER on a regular basis.

**Mandatory listing of all gas supply requests and offers**

Market participants would be required to list all requests for gas and offers to supply gas that meet a specified reporting threshold on the Bulletin Board or the GSH. The reporting threshold in this case would be set to exclude requests and offers relating to the sale of gas to residential customers or business customers that consume less than 10 TJ per annum.
The main benefit of this sub-option is that it would reduce the search and transaction costs associated with gas supply. There is, however, a risk that this reporting obligation would be used by gas suppliers as a vehicle for price signalling and, in so doing, facilitate coordinated conduct amongst suppliers.

This reporting obligation would also impose reporting and compliance costs on market participants and on AEMO, as the operator of the Bulletin Board. The AER, as the regulator, would also incur additional costs monitoring and enforcing compliance with this requirement.

**Secondary trades of storage capacity**

This measure would extend the reporting framework for secondary trades of transportation capacity to include secondary trades of storage capacity. Under this approach, sellers of secondary storage capacity would need to report trades to AEMO for publication on the Bulletin Board. This information would then be reported on an anonymised basis on the Bulletin Board. Further detail on the information that would have to be reported under this sub-option and the timing associated with this is set out in Table 4.5.

**Table 4.5 Proposed reporting framework for secondary trades of storage capacity**

<table>
<thead>
<tr>
<th>Design issue</th>
<th>Proposed approach</th>
</tr>
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</table>
| What must be reported? | The seller would be required to report:  
  - the identity of the seller and other parties to the transaction (this information would not be disclosed on the Bulletin Board);  
  - the trade date;  
  - the supply period start and end dates;  
  - the storage facility;  
  - the total contract quantity;  
  - the storage MDQ, the injection MDQ and the withdrawal MDQ;  
  - the transaction price (excluding GST); and  
  - any price escalation mechanism.  
  The Bulletin Board Procedures may also provide for this a reasonable estimate or approximation to be provided, where the provision of this information is not otherwise practicable having regard to the nature or terms of the transaction.  
  The seller would be required to update the information if it is no longer accurate. |
| When must the transaction be reported? | Reporting must occur on the earlier of:  
  - 1 business day after the trade date; and  
  - the day prior to the date on which the supply period starts.  
  If supply commences on the trade date, the information must be provided to AEMO as soon as reasonably practicable on the trade date. |

The main benefit of this reporting obligation is that it would facilitate the efficient trade and use of secondary storage capacity by aiding the price discovery process and reducing the search and transaction costs associated with secondary trades of storage capacity.
This reporting requirement would, however, impose some reporting and compliance costs on parties that enter into secondary trades of storage capacity. It would also impose costs on AEMO, as the operator of the Bulletin Board, and the AER, as the regulator, who would incur additional costs monitoring and enforcing compliance with the reporting requirements.

**Summary**

Implementing one or more of the measures listed above would result in more pricing related information being made available to market participants and would result in a further reduction in information deficiencies relative to Option 3. The risk likelihood under this option has therefore been rated as ‘rare’, and the consequence ‘minor’, resulting in a ‘low’ residual risk rating. Refer to Appendix 1 for more detail on the risk analysis.

4.4 **Consultation questions**

**Gas, LNG export and infrastructure prices**

4. Do you agree with the information deficiencies that have been identified in Table 4.2? If you don’t agree please explain why. Are there other pricing related information deficiencies that you think are adversely affecting the gas markets in eastern and northern Australia?

5. How significant an effect, do you think the information deficiencies identified in Table 4.2, are having on the gas markets in eastern and northern Australia and the broader economy?

6. Do you agree that the information deficiencies for gas, LNG export and infrastructure prices could be viewed as a market failure that will warrant government intervention? If not, please explain why.

7. To what extent have you been using the existing information on the Bulletin Board and information published in the ACCC Gas Inquiry?

8. Do you agree with the ACCC-GMRG’s recommendations on how to address these information deficiencies, which would require the publication of the following (see section 3.3 for more detail)?

   - production cost estimates;
   - short-term GSA prices;
   - long-term GSA prices;
   - LNG netback prices;
   - LNG export prices; and
   - the standing prices and actual prices paid for compression and storage facilities.

   a. If so, please explain how you would use this information and the net benefit it would provide.

   b. If not, please explain why.

9. Do you agree with the options that have been identified in section 4.3, or are there other options that could be considered? If you think there are other options that
could be considered, please explain what they are, what they would involve and what the advantages, disadvantages, costs, benefits and risks are with these additional options.

10. In relation to the options set out in section 4.3:
   a. What do you think the advantages, disadvantages, costs, benefits and risks are with each option?
   b. What incremental benefits do you think are associated with options 2-4?
   c. What incremental costs do market participants expect to incur under options 2-4?
   d. Are there any refinements that could be made to these options to reduce compliance and reporting costs, whilst also ensuring any obligations are fit for purpose and achieve the NGO and the Energy Council’s Vision as set out in Box 1.1?
   e. Do you agree with the proposed reporting frameworks for short-term GSAs, swaps and/or secondary trades of storage capacity? If not, please explain what you think should change and why.

11. If you think the transparency measures set out in section 4.3 should be implemented through alternative means, please explain how you envisage this would work.
5 Supply and availability of gas

Timely and accurate information on the supply and availability of gas over the short and longer term can help support the efficient operation of the market and ensure that gas, infrastructure services and other resources are allocated in the most efficient manner over time.

While some information on the supply and availability of gas in eastern and northern Australia can be found in the public domain, this information is, as the AEMC and the ACCC-GMRG have observed, fragmented, incomplete and reported in an inconsistent and untimely manner. Market participants and governments are not able to make informed and efficient decisions about the use of gas, upstream developments and infrastructure investment. Nor are they able to respond efficiently to changing market conditions.

5.1 What information is currently available?

The supply of gas to the eastern and northern Australian domestic markets over the short and longer term, will depend on a range of factors, including amongst others:

- the volume of reserves and resources located in eastern and northern Australia, their associated confidence level (e.g. proved, probable, possible) and development status;
- the exploration activities carried out by producers in eastern and northern Australia (e.g. well drilling activities); and
- if any of the proposed LNG import facilities are developed, the volume of gas to be imported.

The amount of gas actually available for sale in these domestic markets will depend on the volume of reserves in eastern and northern Australia that have been contracted under existing GSAs (for supply into either the domestic or export markets). It will also depend on the decisions of LNG exporters to:

- procure reserves from other third party suppliers to meet their export commitments; and
- either export any excess gas or supply it into the domestic market.

Table 5.1 provides an overview of the information that is publicly available on indicators of gas supply and availability. The table also sets out the information deficiencies that the AEMC and the ACCC-GMRG have previously identified.

As this table shows, there is currently no publicly available information on producers’ contracted reserves and while there is some publicly available information on their reserves, resources and exploration activities, it is fragmented, incomplete and reported in an inconsistent and untimely manner. In addition, there is a gap in the Bulletin Board reporting framework, which means that, should any of the proposed LNG import facilities...

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77 It will also depend on production capacity. Information on the capacity of production facilities in eastern and northern Australia is already available through the Bulletin Board.
78 While there are third party providers that publish reserve estimates, they face similar obstacles to collating this information (i.e. incomplete and imperfect information) and must also make a number of assumptions when developing their estimates.
be developed, they would not be required to report on the volume of gas imported into the domestic market. In respect to LNG exporters, while some information is being published as part of the ACCC’s 2017-2020 Gas Inquiry, it will cease to be available once the Inquiry ends.

While not shown in Table 5.1, producers and LNG exporters are required to report a range of supply related information to State, Territory and Commonwealth government departments and agencies that is not published. For example:

- producers with offshore interests are required to report on their reserves, resources, production forecasts and exploration activities to NOPTA on at least an annual basis;\(^79\)
- producers with onshore interests in Queensland are required to report on their drilling activities and a range of other information to the Department of Natural Resources Mines and Energy on a bi-annual basis;\(^80\)
- producers with onshore interests in South Australia are required to report on the activities undertaken in their licence area (e.g. drilling and seismic activities) on an annual basis to the Department for Energy and Mining;\(^81\)
- producers with onshore interests in the Northern Territory are required to report on their reserves, resources, production and exploration activities on an annual basis to the Department of Primary Industry and Resources;\(^82\) and
- under the Australian Domestic Gas Security Mechanism (ADGSM), if the Minister for Resources and Northern Australia issues a notification for a particular calendar year, LNG exporters are required to report a range of information to the Department of Industry, Innovation and Science. This is to enable the Department to determine whether the exporter is a net contributor to the domestic market or net taker.\(^83\)

This information is not, however, collected in a consistent manner across jurisdictions and is not publicly available.

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Some of this information has to be reported within a specified time after they have occurred (e.g. discoveries).

\(^80\) https://www.dnrm.qld.gov.au/mining-resources/initiatives/pandg-reporting-guideline-2018

\(^81\) http://www.energymining.sa.gov.au/legislation_and_compliance/annual_reports


Table 5.1 Publicly available information on supply and availability of supply indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
</table>
| Reserves and resources                    | • Aggregated information on reserves and resources in eastern Australia is published by AEMO on an annual basis as part of the GSOO.84  
• The Queensland Department of Natural Resources, Mines and Energy (DNRME) publishes detailed information on the 2P reserves held in reservoirs in Queensland on a six-monthly basis (this information is published with a six month lag).85  
• ASX listed entities publish information on their 1P and 2P reserves (broken down by developed and undeveloped reserves) as part of their annual report and may also publish information on their resources.86  
The geographic areas over which the reserves are reported (e.g. field, basin, region or country) are up to the listed entities.                                                                                                                   | Both the AEMC and ACCC-GMRG noted that while there is some reserves and resources information in the public domain, it is fragmented, incomplete and reported on an inconsistent basis.87,88  
Elaborating on this further, the ACCC-GMRG noted that:  
• those producers required to publicly report, report different information and at different times and levels of geographic aggregation;  
• a number of producers are not required to publicly report on their reserves and resources (e.g. unlisted entities and those listed overseas); and  
• there is no consistent reporting framework for reserves and resources.  
The ACCC-GMRG noted that the persistence of these information deficiencies could adversely affect the efficient operation of the market and allocation of gas and other resources, because market participants do not have a good understanding of the supply outlook or changes to the outlook.89  
The ACCC has also noted that the information asymmetries arising from the opaqueness surrounding this segment of the supply chain may place gas users at a disadvantage when negotiating GSAs with incumbent suppliers.                                                                                       |
| Exploration and development activities    | • The National Offshore Petroleum Titles Administrator (NOPTA) publishes information on the timing of offshore well developments and some limited well and survey data (in some cases published with a lag), but most of the detailed information collected by NOPTA is provided on a permanently confidential basis.90  
• ASX listed entities are also required to publicly report on material exploration and drilling results.91  
• Non-ASX listed entities may also release media statements on their exploration activities, but they are not obliged to.                                                                                                                                                                                                                 | In a similar manner to reserves and resources, the AEMC and ACCC-GRMG noted that publicly available information on exploration activities is fragmented, incomplete and reported on an inconsistent basis.92 93  
The ACCC-GMRG noted that improved information on well drilling activities would provide market participants and policymakers a better understanding of how reserves and resources are likely to develop and enable the market to respond more efficiently to the planning and investment signals provided by this information (including the need for reserves increased development and exploration).94                                                                                                                                 |

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86 See ASX, Chapter 5 Listing Rules, 1 July 2014.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG imports</td>
<td>n.a. (note that no LNG import facilities are currently operating).</td>
<td>The ACCC-GMRG noted that if any LNG import facilities are developed, they would not be covered by the Bulletin Board reporting obligations and would not therefore be required to report on the amount of gas being supplied into the domestic market. They also noted that the absence of this information could adversely affect the efficient operation of the market and allocation of gas and other resources, because participants do not have a good understanding of the supply outlook.</td>
</tr>
<tr>
<td>Contracted reserves</td>
<td>There is no publicly available information on the volume of contracted (or uncontracted) reserves. Nor is there any publicly available information on the reserves that have been contracted for the domestic market versus export markets.</td>
<td>The AEMC noted that the absence of information on uncontracted reserves could act as an impediment to trade because users are unable to readily identify producers with gas for sale. The AEMC did, however, acknowledge the concerns raised by a number of producers regarding the complexities associated with measuring uncontracted reserves. The ACCC-GMRG added that the lack of publicly available information on contracted reserves could result in market participants having different perceptions of the gas supply outlook and the ability to secure gas in the future, which could result in inefficient consumption, supply, investment and policy decisions.</td>
</tr>
</tbody>
</table>
| LNG exporters demand-supply balance | The ACCC publishes the following information on LNG exporters' demand-supply balance for the forthcoming year as part of its 2017-2020 Inquiry:  
  - the volume of gas LNG exporters expect to produce from either their own reserves (or storage) or from third party purchases;  
  - the volume of gas LNG exporters are required to supply under their long-term LNG contracts and domestic contracts; and  
  - the volume of 'excess' gas (i.e. over and above what is required to meet existing commitments) LNG projects expect to have. | While information is currently available on LNG exporters demand-supply balance, this information will cease to be available once the ACCC’s current Inquiry ends. There will be therefore be an information gap post Inquiry. This could adversely affect the efficient operation of the market and allocation of gas and other resources (i.e. because market participants and governments will not have a good understanding of the supply outlook or the impact of the LNG export projects on the domestic market). |

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89 The ACCC-GMRG noted that the absence of this information could adversely affect the efficient operation of the market and allocation of gas and other resources, because market participants would not have a good understanding of the supply outlook or any potential supply problems. See https://www.nopta.gov.au/maps-and-public-data/neats-reporting.html and http://www.ga.gov.au/nopims.
90 See ASX Listing Rule 5.30.
93 ibid.
94 ibid, pp. 39-40.
96 ACCC-GMRG, Measures to improve transparency in the gas market, December 2018, p. 16.
5.2 What is the problem?

There remains a significant degree of opaqueness surrounding the supply and availability of gas in the eastern and northern Australian gas markets. Market participants such as gas users, gas producers, and infrastructure service providers do not have a good understanding of the supply outlook, which can hinder their ability to make informed and efficient decisions about the use of gas, upstream developments and infrastructure investment and to respond efficiently to changing conditions. It also hinders the ability of governments to make informed policy decisions.

The information asymmetries caused by the opaqueness in this segment of the supply chain can also place gas users at a disadvantage when negotiating GSAs with incumbents. Further insight into the effect that these information gaps and asymmetries can have on the market can be found in an article that appeared in the Australian Financial Review in mid-2018 entitled ‘How AGL Energy got caught on gas’. The key excerpts from this article are reproduced in Box 5.1.

Box 5.1 Australian Financial Review article

‘With AGL now mulling a $250 million investment in a terminal in Victoria that would import gas from as far afield as the United States, the implications of the decision [to sell gas to GLNG] have been thrown into the public spotlight…

Back in December 2015 when announcing the 254 petajoule sales contract with GLNG, AGL said that the deal fitted its aim of “selling gas from existing favourable Queensland wholesale contracts into the high value Queensland market”. The deal was, it revealed then, the third sale of gas from its portfolio into Queensland LNG projects.

…

After that, however, several drivers in the market took an unexpected turn.

The closure of the giant Hazelwood coal generator in Victoria in March 2017, with just five months’ warning, boosted demand for gas for power generation…

Then to the shock of several gas market players, a 2017 report from the Australian Energy Market Operator revealed some disturbing news of an expected slump in output over coming years from the south-east's biggest producer, the Esso/BHP Gippsland venture.

For AGL, that news was “extremely unexpected,” [Richard] Wrightson [head of AGL wholesale markets] says. “We had no line of sight about Bass Strait and its production capabilities.”

Strategically within AGL, things had also changed, with the company in February 2016 reversing a strategy of building up its own gas output…

…

While east coast supply has since loosened up, AGL was by this time working hard on its LNG import plan for Crib Point in Victoria’s Western Port…

As Wrightson points out, the GLNG contract is only a small part of the picture: The 34 petajoules of gas to be sold to GLNG by AGL this year compares with annual gas demand from the Queensland projects of 1303 PJ.'
We didn’t build the export terminals, we’re not exporting gas, the contract that we did do was marketed in Australia, it is not a major contract and when we did it we were very acutely aware of the winter tightness. We weren’t acutely aware of the decline in the Bass Strait."

That position is supported by Josh Stabler at energy advisory firm EnergyEdge, who points out "It can be easy to judge the market after the fact with more information."

"Both AGL and Santos anticipated that they would be able to manage their southern gas market requirements from additional NSW supply, for example, sites like Santos’s Narrabri."

"The management of concerns around these project have been more complex than anyone in the industry expected. Longford/Gippsland has also declined more rapidly than was expected."

Wrightson says AGL is "just trying to solve the problem going forward", but points out that the producers hold more of the cards.

"The larger gas producers – of which we are not one – have the ability to solve this problem," he says. "We don't have all the information up our sleeve."

It is difficult to quantify the effect that these information gaps and asymmetries are having on the market. However, as the article in Box 5.1 and the work carried out by the AEMC and the ACCC-GMRG highlight, they can adversely affect the efficient operation of the market. They can also adversely affect the efficiency with which gas and other resources are allocated; the consequences of which have been more acute given the relatively tight demand-supply balance in eastern Australia.

As the ACCC-GMRG have observed, it is not in the perceived commercial interests of most market participants to address these information deficiencies on a voluntary basis, or to disclose information in a timely and accurate manner. The information gaps and asymmetries currently prevailing in this segment of the supply chain could be viewed as a market failure that may, depending on the significance of the failure, warrant government intervention.

It is worth noting in this context that in its East Coast Review the AEMC stated that greater transparency of upstream information would provide market participants with a better understanding of the supply outlook and facilitate more informed consumption, exploration, investment and policy decisions. This view was echoed by the ACCC-GMRG, who noted that:

"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."

A similar observation was also made in the Energy Council’s Australian Gas Market Vision, which noted that:

100 Australian Financial Review article

101 ibid, p. 5.


“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. The COAG Energy Council expects that timely and improved reporting of this type of information to the market will help inform the market.”

It is worth noting that while there are some existing jurisdictional regulations in place that require producers and/or LNG exporters to report on their activities, this information is not collected in a consistent or transparent manner. For the most part, this information is also not published or shared with other jurisdictions. It is not possible to rely on these existing regulations to address the identified information gaps and asymmetries.

5.3 What are the options?

Option 1: Maintaining the status quo

Under this option, producers, LNG importers and exporters would not be required to publish any additional information (i.e. over and above what they are required to do publish by jurisdictional regulations and/or ASX listing rules) on their reserves and resources, exploration activities, contracted reserves, LNG imports and/or LNG exports. The information deficiencies and asymmetries identified by the AEMC and the ACCC-GMRG would therefore continue to exist under this option. Furthermore, the information currently available because of the ACCC’s Gas Inquiry would no longer be updated.

Under this option producers, LNG importers and exporters would not be subject to any additional reporting and compliance costs. While this is a positive, it must be weighed up against the costs and risks associated with the information deficiencies and asymmetries that have been identified.

The key risk with maintaining the status quo is that the lack of a consistent set of publicly available information on the supply and availability of gas in the domestic market could impede the efficient operation of the market and the allocation of gas and other resources by:

- limiting the ability of the market to signal supply problems in a timely and accurate manner and, in so doing, hindering the ability of the market and governments to respond efficiently to changes; and

- placing gas users at a disadvantage when negotiating with incumbent producers, who have a greater knowledge of the supply and availability of gas due to the existing information asymmetries.

The costs of any such inefficiencies will ultimately be borne by gas users and could have broader consequences for the gas market and the economy.

Under this option, the information deficiencies described in Table 5.1 are expected to have a ‘highly likely’ chance of occurrence and a ‘moderate’ negative impact on the efficient operation of the market and the allocation of gas and other resources. This results in a ‘high’ risk rating, which requires treatment. Refer to Appendix 1 for more detail on this risk analysis.

Option 2: AEMC proposed transparency measures (sub-set)

This option includes part of the AEMC’s recommendations D and H.
Under this option, holders of gas reserves would be required to report their 2P reserves on the Bulletin Board and AEMO would be required to:

- consider whether additional information on reserves and resources (including contracted reserves) should be reported on the Bulletin Board as part of its biennial review; and
- add links to public information on exploration activities on the Bulletin Board.

This would address part of AEMC’s recommendations D and H. This option would not address all of the information deficiencies identified by the ACCC-GMRG. Market participants and governments would still need to make decisions on the basis of some imperfect and inconsistent information.

The main benefit of this option is that it will provide market participants and governments with a better indication of the supply outlook than they currently have, while also minimising the initial\(^{105}\) implementation costs. The implementation costs in this case, would include the incremental costs that would be incurred by:

- the holders of gas reserves, who would incur reporting and compliance costs;
- AEMO, as the operator of the Bulletin Board, who would incur some upfront costs (e.g. to upgrade its systems, to register new participants and to amend the Bulletin Board Procedures) and ongoing reporting and quality assurance related costs; and
- the AER, as the regulator, who would incur additional costs monitoring and enforcing compliance with the reporting requirements.

Implementing this option is expected to reduce the risk likelihood to ‘likely’ resulting in a ‘medium’ risk rating. Refer to Appendix 1 for detailed risk analysis.

**Option 3: ACCC-GMRG proposed transparency measures**

This option includes ACCC-GMRG recommendations 1, 2, 3 and 16.

Under this option, holders of gas reserves and resources would be required to report:

- the following reserves and resources related information on the Bulletin Board, in accordance with the reporting framework set out in Table 3.3:
  - 1P, 2P and 3P reserves by field, broken down into developed and undeveloped reserves;
  - 2C contingent resources by field;
  - gas field information (i.e. the development status and likely timing of production in fields that meet the materiality threshold and a list of barriers to commercial recovery, the location of the field and type of gas and nature of field); and
  - movements in 2P reserves over last 12 months by field.
- information on their drilling activities (including their expenditure on these activities) to AEMO for publication in the GSOO; and

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\(^{105}\) The term ‘initial’ has been italicised because it is possible under this option that at the completion of its next biennial review, AEMO will recommend that further detail on reserves and resources (including contracted reserves) be published on the Bulletin Board. If this occurs then a separate rule change process will be required to consider this recommendation, which will give rise to additional costs for AEMO, the AEMC and stakeholders.
• the volume of gas they have contracted under existing GSAs in each year and the volume of gas they expect to produce in each year to AEMO for publication in the GSOO.

• LNG export facilities would also be required to report information about the supply and demand of gas in Option 3. Information on this has been included in Chapter 6 (Demand for gas) rather than duplicating this here.

• If any LNG import facilities are developed they would also be required to report the following on the Bulletin Board:
  • the volume of LNG imported in each shipment; and
  • equivalent operational information to that reported by gas producers, which includes information on:
    (a) the import facility’s nameplate rating and other detailed facility information;
    (b) the import facility’s short- and medium-term capacity outlook;
    (c) nominations (including any material intra-day changes in nominations) and the forecast use of the import facility; and
    (d) the amount of gas supplied by the import facility into the market.
  If the import facility includes a storage facility, then the information set out in (a)-(c) would also have to be reported for the storage facility, along with information on the amount of gas injected and withdrawn from storage and the volume of gas held in storage.

The main benefit of this option is that it would address the information deficiencies that have been identified in relation to reserves and resources, exploration activities, contracted reserves and LNG imports, which would:

• enable market participants and governments to make more informed and efficient decisions than they could under options 1 and 2; and

• ameliorate some of the information asymmetry that gas users can face when negotiating with incumbent suppliers.

While there are a number of benefits associated with this option, it would also impose costs on a range of parties. It would, for example, impose costs on:

• the holders of gas reserves and resources and LNG import facilities, who would incur reporting and compliance costs;

• AEMO, as the operator of the Bulletin Board, who would incur some upfront costs (e.g. to upgrade its systems, to register new participants and to amend the Bulletin Board procedures) and ongoing reporting and quality assurance related costs; and

• the AER, as the regulator, who would incur additional costs monitoring and enforcing compliance with the reporting requirements.

There is also a risk with this option that if the LNG export related information deficiencies identified in Table 5.1 are not addressed, then market participants and government decisions may not be as informed and efficient as they could be.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and the consequence will remain ‘moderate’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.
**Option 4: ACCC-GMRG proposed transparency measures plus additional measures**

This option includes ACCC-GMRG recommendations 1, 2, 3 and 16 and an additional measure to address the LNG export related information deficiencies.

Under this option, the transparency measures outlined in Option 3 would be implemented and LNG exporters would also be required to publish information on their short, medium and longer-term demand-supply balance. This is similar to the information currently being reported by the ACCC (see Table 5.1). However, rather than just reporting on the demand-supply balance for the forthcoming year, LNG exporters would be required to report on their expected demand-supply balance for each of the next two years and over the life of their respective projects. The specific information that LNG exporters would be required to report under this option, is set out in the table below.

**Table 5.2 Demand-supply balance information to be reported by LNG exporters**

<table>
<thead>
<tr>
<th>Supply</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG exporters to report on the volume of gas they expect to produce over the outlook period, broken down by:</td>
<td>LNG exporters to report on the volume of gas they are committed to supply over the outlook period, broken down by:</td>
</tr>
<tr>
<td>- the volume of gas they expect to produce from their own reserves; and</td>
<td>- the volume of gas they are required to supply under LNG export contracts; and</td>
</tr>
<tr>
<td>- the volume of gas they expect to procure from third parties.</td>
<td>- the volume of gas they are required to supply under domestic GSAs.</td>
</tr>
<tr>
<td></td>
<td>LNG exporters to also report on any excess gas they may have access to in the outlook period.</td>
</tr>
</tbody>
</table>

Note – LNG exporters would be required to provide this supply and demand information for the short term (outlook for the next calendar year), medium term (outlook for the second calendar year) and long terms (outlook for the life of the LNG project)

This option would address all the information deficiencies identified in Table 5.1, which could:

- enable market participants and governments to more informed and efficient decisions than they could under options 1-3; and
- ameliorate some of the information asymmetry that gas users can face when negotiating with incumbent suppliers.

In a similar manner to option 3, implementing this option would impose costs on the holders of gas reserves and resources, LNG import facilities, AEMO and the AER. It would also impose reporting and compliance costs on LNG exporters.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and the consequence will remain ‘moderate’, resulting in a ‘low’ risk rating. Refer to **Appendix 1** for more detail on the risk analysis.

### 5.4 Consultation questions

**Supply and availability of gas**

12. Do you agree with the information deficiencies that have been identified in Table 5.1? If you don’t agree with the information deficiencies that have been identified,
please explain why. Are there other gas supply and availability related information deficiencies that you think are adversely affecting the gas markets in eastern and northern Australia?

13. How significant an effect do you think the information deficiencies identified in Table 5.1 are having on the gas markets in eastern and northern Australia and the broader economy?

14. Do you agree that the information deficiencies regarding the supply and availability of gas could be viewed as a market failure that will warrant government intervention? If not, please explain why.

15. To what extent have you been using the existing information on the Bulletin Board and information published in the ACCC Gas Inquiry?

16. Do you agree with the AEMC’s and ACCC-GMRG’s recommendations on how to address these information deficiencies, which would require the publication of the following (see sections 3.1 and 3.3 for more detail)?
   o 1P, 2P, 3P reserves, 1C and 2C contingent resources;
   o Links to public information on exploration activities;
   o Drilling activities;
   o Volume of gas contracted under existing GSAs; and
   o LNG import volume and operational information.
   a. If so, please explain how you would use this information and the net benefit it would provide.
   b. If not, please explain why.

17. Do you agree with the options that have been identified in section 5.3, or are there other options that could be considered? If you think there are other options that could be considered, please explain what the options are, what they would involve and what the advantages, disadvantages, costs, benefits and risks are with these additional options.

18. In relation to the options set out in section 715.3:
   a. What do you think the advantages, disadvantages, costs, benefits and risks are with each option?
   b. What incremental benefits do you think are associated with options 2-4?
   c. What incremental costs do holders of gas reserves and resources, LNG import and LNG export facilities expect to incur under options 2-4?
   d. Are there any refinements that could be made to these options to reduce compliance and reporting costs, whilst also ensuring any obligations are fit for purpose and achieve the NGO and the Energy Council’s Vision as set out in Box 2.1 Gas legal and regulatory instruments and governance arrangements?

19. If you think the transparency measures set out in section 5.3 should be implemented through alternative means, please explain how you envisage this would work.
6 Demand for gas

Timely and accurate information on the demand for gas by domestic users and exporters can help support the efficient operation of the market and to ensure that gas, infrastructure services and other resources are allocated in the most efficient manner over time.

While some information on large user facility demand can be pieced together from information on the Bulletin Board (for example through pipeline flows or production data for dedicated facilities) and other public sources, most large users are not required to make this information publicly available. This is, as the AEMC and ACCC-GMRG have observed, a significant limitation that could be affecting the efficiency with which trade occurs, market disruptions are managed and a range of other decisions that are made across the supply chain and related markets.

6.1 What information is currently available?

Currently, large users and LNG export facilities are not required to report on the Bulletin Board and publicly available information on gas use by these facilities is limited. A number of Commonwealth and state government agencies do collect LNG export related information for royalty and trade statistics purposes (see Table 6.1), however, there is no consistency in collection nor is the majority of the information publicly available.

Table 6.1 Information collected on LNG exports

<table>
<thead>
<tr>
<th>Agency</th>
<th>Information Collected &amp; Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Taxation Office</td>
<td>LNG exports for taxes and royalties.</td>
</tr>
<tr>
<td>Home Affairs</td>
<td>Requires detailed information to be reported for calculating tariffs and excise duty.</td>
</tr>
<tr>
<td>Qld Office of State Revenue (OSR)</td>
<td>Volume and value of CSG that is sold as CSG for conversion into LNG or that is sold for other purposes for royalty purposes.</td>
</tr>
<tr>
<td>Gladstone Ports Corporation</td>
<td>Reports trade throughput including LNG, in SCIs, Annual and Quarterly reports as required by the Government Owned Corporations Act 1993. LNG is reported in export trade statistics. These export volumes are validated through commercial arrangements between GPC and the LNG companies. GPC also publishes monthly information including tonnage, number of shipments and destination country.</td>
</tr>
<tr>
<td>QLD Department of Transport and Main Roads (DTMR)</td>
<td>Requests confirmation of annual trade throughput which it then published in the annual Trade Statistics for Queensland Ports report. This report primarily covers commodity movements from ports under the management and control of port corporations established within the legislative framework of the Transport Infrastructure Act 1994 (Queensland).</td>
</tr>
</tbody>
</table>

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WA Department of Jobs, Tourism, Science and Innovation | Requires LNG production and contracting information from LNG exporters as part of domestic gas obligation commitments. Reporting specifics vary between the contractual arrangements with each of the LNG facilities.

WA Department of Mines, Industry Regulation | Publishes total WA LNG volumes and value (value is estimate of international market prices, not necessarily information from the companies).

Australian Bureau of Statistics | Collect LNG export information for trade statistics but do not publish info on volumes and revenue for confidentiality reasons. Series include Petroleum Exploration, Energy Account.

6.2 **What is the problem?**

The operations of LNG exporters and large gas users (i.e. those who use more than 10 TJ of gas per day) can have a significant impact on the domestic market and on the pricing outcomes realised by domestic gas users. This is particularly the case for LNG exporters in Queensland, who are swing suppliers and the largest gas users in the east coast, currently accounting for around 67% of the demand for gas in eastern Australia.

Availability of export information is not consistent. For example Gladstone Ports Corporation publishes monthly aggregated export volumes by destination country but does not publish individual shipment volumes. This type of information is not currently available for exports from the Darwin Port.

The lack of publicly available information on gas use by these facilities and the operation of the LNG export facilities and LNG shipments could be:

- hindering market participants from making efficient consumption, production, infrastructure use and investment decisions and hindering governments from making informed policy decisions (i.e. because they do not have a good understanding of the demand for gas or operational activities that can have a bearing on the market);

- impeding the efficient allocation of gas between the domestic and international markets; and

- limiting the ability of the market to respond in a timely and efficient manner to changes in the supply-demand balance and market disruptions caused by LNG exporters and large users.

It could also, as the AEMC noted, be affecting competition in the gas market and other related markets, such as the NEM, because of the information asymmetries that these informational gaps may be giving rise to.\(^\text{107}\)

The lack of information on the Bulletin Board also limits the ability of the Bulletin Board to support gas use, allocation and investment decisions in the short and long-term.

The potential costs to LNG facility operators arising from publication of the proposed LNG facility data will need to be balanced against the benefits to market participants and governments. More operational and shipment information from LNG facilities will provide a more accurate indication of the domestic and export demand outlook, more accurate signals about how well the market is functioning and whether there are any potential

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\(^{107}\) ibid.
problems on the demand side. It would also enable the market to respond more efficiently to changing market conditions and support gas use, allocation (including allocation between domestic and export markets) and investment decisions across the supply chain.

In its East Coast Wholesale Gas Market and Pipeline Frameworks Review, the AEMC found that the LNG export facilities in Queensland are highly integrated with the domestic market and it is appropriate that certain information is made available because their activities can impact the domestic market.\textsuperscript{108} However, LNG export facilities in the Northern Territory are not highly integrated with the domestic market but provide critical emergency backup gas supplies which underpin electricity and gas supply security in the Northern Territory. The AEMC is currently considering a rule change request by the Northern Territory Government to exempt the Northern Territory LNG facilities upstream of their connections to the domestic gas market from Bulletin Board requirements. This is to preserve the commercial incentives for the Northern Territory LNG facilities to continue with the emergency backup supply arrangements.

Provisions in the NGL and NGR currently state that the AEMO’s GSOO scope 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; and
- any likely long-term shortfalls in reserves and production or transmission constraints.

The collection of information, for the GSOO, is an annual routine process and AEMO is of the view that in order for it to exercise these powers, the National Gas Rules should clearly lay out the information required to be provided by industry. Therefore, options that improve the current status of demand reporting are in line with existing policy intent.

### 6.3 What are the options?

**Option 1: Maintaining the status quo**

Under this option, LNG exporters, LNG facility operators and large users would not be required to publish any additional information on their demand for gas or the operation of their facilities. Therefore, they would not be subject to any additional reporting or compliance costs.

However, the information deficiencies and asymmetries identified in section 6.2 would continue to exist under this option possibly leading to market inefficiencies as described in section 6.2.

The costs of any such inefficiencies will ultimately be borne by gas users and could have broader consequences for the gas market and the economy.

Under this option, the information deficiencies described in section 6.2 are expected to have a ‘likely’ chance of occurrence and a ‘high’ negative impact on the efficient operation of the market and the allocation of gas and other resources. This results in a ‘high’ risk rating which requires treatment. Refer to Appendix 1 for more detail on the risk analysis.

Option 2: AEMC proposed transparency measures (sub-set)

This option includes part of the AEMC’s recommendation D.

Under this option reporting will be required as follows:

- Large users would be required to report information on nameplate capacity and daily actual gas consumption to AEMO for publication on the Bulletin Board (with information on actual gas consumption to be published on a day after basis).
- LNG export facilities operators would be required to report information on nameplate capacity, the facilities' short- and medium-term capacity outlook, material intra-day changes in capacity, the amount of gas consumed by the facility on a daily basis and any gas held in a storage facility that forms part of the export facility.
- AEMO would also be required to aggregate large users’ gas use data to provide an overview of different types of demand.
- Under this option, LNG facility operators and large gas users would be relieved of their obligation to report actual consumption information if they are the only shipper taking gas at a transmission pipeline delivery point, and the information will also be reported to AEMO by the pipeline operators. Large users would also be able to obtain an exemption from reporting (but not registration) if the minimum reporting threshold (i.e. 10 TJ/day nameplate capacity) is met but the large user can demonstrate to AEMO that the facility has not, on any single gas day during the last 12 months, been delivered 10 TJ or more of gas and the facility will not be delivered this amount of gas in the coming 12 months.

The main benefit of this option is that it would provide market participants and governments with a better indication of the demand outlook than they currently have, providing better signals about how well the market is functioning and whether there are any potential problems on the demand side of the market. It would also enable the market to respond more efficiently to changing market conditions and support gas use, allocation and investment decisions across the supply chain.

Key costs would include reporting and compliance costs for LNG facility operators and large gas users, as well as implementation costs for AEMO and compliance monitoring costs for the AER.

Implementing this option is expected to reduce the risk likelihood to ‘possible’, and the consequence will remain ‘high’, resulting in a ‘medium’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.

Option 3: ACCC-GMRG and AEMC proposed transparency measures

This option includes part of the AEMC’s recommendation D and part of the ACCC-GMRG’s recommendation 15.

Under this option, the transparency measures outlined in Option 2 would be implemented and LNG exporters would also be required to report the following shipment information to AEMO for publication on the Bulletin Board:

- the facility at which the shipment will be loaded;
- the departure date;
- the total shipment volume; and
• the trade date and supply dates.

This information would have to be provided to AEMO no later than 20 business days after
the end of the month in which the LNG is loaded.

This option would benefit market participants and governments by providing a more
accurate indication of the domestic and export demand outlook, more accurate signals
about how well the market is functioning and whether there are any potential problems on
the demand side. It would also enable the market to respond more efficiently to changing
market conditions and support gas use, allocation (including allocation between domestic
and export markets) and investment decisions across the supply chain.

Key costs would include additional reporting and compliance costs for LNG exporters,
LNG export facility operators and large users, as well as implementation costs for AEMO
and compliance monitoring costs for the AER.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and reduce
the consequence to ‘moderate’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for
further detail on the risk analysis.

**Option 4: ACCC-GMRG and AEMC measures plus additional measures (superset)**

This option includes part of the AEMC’s recommendation D, part of the ACCC-
GMRG’s recommendation 15 and other measures to improve the transparency of
forecast gas use.

Under this option, the transparency measures outlined in Option 3 would be implemented
and large users would also be required to provide a forecast of their daily gas
consumption for the next 12 months to AEMO for publication on the Bulletin Board.

This option would provide further information on the medium-term demand outlook, which
would enable more informed planning and investment decisions to be made.

Key costs would include additional reporting and compliance costs for LNG exporters,
LNG facility operators and large users, as well as implementation costs for AEMO and
compliance monitoring costs for the AER.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and reduce
the consequence to ‘moderate’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for
more detail on this risk analysis.

**6.4 Consultation questions**

**Demand for gas**

20. Do you agree with the reporting information inconsistencies that have been
identified in section 6.1? If you do not agree, please explain why. Are there other
demand related information deficiencies that are adversely affecting the gas markets in eastern and northern Australia?

21. How significant an effect are demand related information deficiencies having on the gas markets in eastern and northern Australia and the broader economy?

22. Do you agree that the information deficiencies identified in the demand for gas could be viewed as a market failure that will warrant government intervention? If not, please explain why.

23. To what extent have you been using the existing information regarding LNG exporters’ demand-supply balance as published in the ACCC Gas Inquiry?

24. Do you agree with the AEMC’s and ACCC-GMRG’s recommendations on how to address these information deficiencies, which would require the publication of the following (see sections 3.1 and 3.3 for more detail)?
   o Large users’ information on nameplate capacity and daily actual gas consumption;
   o LNG export facility operational information; and
   o LNG export facility shipment information.
   a. If so, please explain how you would use this information and the net benefit it would provide.
   b. If not, please explain why.

25. Do you agree that requiring large users, LNG facility operators and LNG export facilities to report the information set out in section 6.3 will benefit market participants?
   a. If so, please explain how you would use this information and the benefit it would provide.
   b. If not, please explain why.

26. Do you agree with the list of information that large users, LNG facility operators and LNG export facilities would be required to report (e.g. do you agree that LNG facility operators should be required to report on the volume of LNG in storage facilities)?
   a. If so, please explain how you would use this information and the net benefit it would provide.
   b. If not, please explain why.

27. Do you think that Northern Territory LNG facilities should be included or exempt from reporting the proposed operational and shipment information? Please explain your view.

28. Do you have any suggestions for alternative/additional information that would improve demand side information on the Bulletin Board? If so, please explain your suggestions.

29. In relation to the LNG export information:
   a. Are there any reasons why LNG exporters should not be required to report on exports to AEMO for publication on the Bulletin Board? If so, please explain why.
   b. Are there any constraints on the ability of LNG exporters to report this information to AEMO? If so, please explain what the constraints are.
c. Do you agree the 20 business day lag is required to address potential concerns about the publication of LNG export information and if so, is this measure effective? If not, what would address those concerns?

30. Do you agree with the options that have been identified in section 6.3, or are there other options that could be considered? If you think there are other options that could be considered, please explain what the options are, what they would involve and what the advantages, disadvantages, costs, benefits and risks are with these additional options.

31. In relation to the options set out in section 6.3:
   a. What do you think the advantages, disadvantages, costs, benefits and risks are with each option?
   b. What incremental benefits do you think are associated with options 2-4?
   c. What incremental costs do LNG exporters, LNG facility operators and large users expect to incur under options 2-4 in section 6.3?
   d. Are there any refinements that could be made to these options to reduce compliance and reporting costs, whilst also ensuring any obligations are fit for purpose and achieve the NGO and the Energy Council’s Vision as set out in Box 2.2?

32. If you think the transparency measures set out in section 6.3 should be implemented through alternative means, please explain how you envisage this would work and how this would contribute to the NGO and the Energy Council’s Vision as set out in Box 2.2.
7 Infrastructure used to supply gas to end-markets

Information on the operation and use of infrastructure used to supply gas to end-markets and proposed investments in infrastructure may increase transparency of the costs associated with supplying gas.

While a reasonable amount of information on infrastructure facilities (i.e. production, storage, stand-alone compression, transportation and other facilities) is publicly available, there are a number of inconsistencies in the reporting requirements across facilities, 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.

7.1 What information is currently available?

The Bulletin Board currently contains a range of information on the infrastructure used to supply gas to end-markets. The AEMC and ACCC-GMRG have, however, identified a number of gaps and inconsistencies in the information that is reported on:

- gas infrastructure developments;
- the availability of capacity;
- users that have contracted capacity; and
- the operation of compression facilities.

Table 7.1 sets out the information that is currently available on each of these matters and the information deficiencies that have been identified by the AEMC and ACCC-GMRG.

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109 For ease of reference in this Consultation RIS, the term ‘stand-alone compression facility’ is assumed to also refer to designated compression facilities.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas infrastructure developments</td>
<td>Limited information on proposed infrastructure developments is currently reported to AEMO and published in the GSOO, with information based on data provided voluntarily by market participants through the annual GSOO survey. ASX listed entities may also report on those developments through ASX disclosures (note: many market participants are not listed). Disclosure of information on the ASX is only limited to market sensitive information that would have a material effect on the price or value of the entity’s securities.</td>
<td>The ACCC-GMRG noted that there is limited public information on proposed and committed infrastructure developments of production facilities, transmission pipelines, stand-alone compressors and storage facilities, which could impede efficient planning and investment decisions across the supply chain.</td>
</tr>
</tbody>
</table>
| Availability of capacity         | The current requirement for gas infrastructure facilities to report on uncontracted capacity is inconsistent, with non-exempt non-scheme pipelines and other transmission pipelines required to report a 36-month uncontracted capacity outlook while:  
  - Stand-alone compressors and storage facilities are required to report a 12-month uncontracted capacity outlook;  
  - Production facilities that are providing third party access are not required to publish any information on their uncontracted capacity outlook. | The ACCC-GMRG noted that 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 transmissions pipelines, stand-alone compressors and storage facilities are only required to report a 12-month outlook; and  
  - Production facilities that are providing third party access are not required to publish any information on their contracted capacity.  
Note: Operators of transmission pipelines are now required to provide AEMO with a 36-month uncontracted capacity outlook for publication on the Bulletin Board, following the recent AEMC rule change in March 2019[^110]. This information deficiency hinders the efficient planning, use of, and investments in gas infrastructure facilities. |
<p>| Users of contracted capacity     | There is currently no publicly available information on the identity of users that have contracted stand-alone compression and storage capacity, which may limit secondary trading on these facilities.                                                                 | The ACCC-GMRG noted the lack of public information on the identity of users that have contracted stand-alone compressions and storage capacity may limit the potential for secondary trading on those facilities. This could hinder the efficient use of, and investment in, storage and stand-alone compression facilities.                                                                 |</p>
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Publicly available Information</th>
<th>Identified information deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on compression facilities</td>
<td>Compression facility operators that are subject to the capacity trading reforms are currently required by transitional rules to report a limited set of information to AEMO for publication on the Bulletin Board. The information from these compression facilities excludes the requirement to report a medium-term capacity outlook for the compression facility and to publish a list of shippers with contracted primary capacity, because these reporting obligations were not considered necessary for the implementation of the capacity trading reforms.</td>
<td>The AEMC noted that the limited information on compression facilities could adversely affect the price discovery process and the efficient use of and investment in compression facilities, as trading and other decisions must be made on the basis of incomplete, inaccurate and/or asymmetric information.</td>
</tr>
</tbody>
</table>
**Materiality threshold**

Another issue that has been identified when preparing the Consultation RIS is that the current definition of ‘material’ in rule 141(1) of the NGR is ‘a change that exceeds the greater of 10% of the nameplate rating and 30TJ’. As currently framed, facilities with a capacity of 10-30TJ/day would never have to report a change in their short term capacity outlook or nominations, even when the capacity outlook or nominations fall by 100%. This is a gap in the current Bulletin Board reporting framework that could be addressed by changing the definition of material to ‘a change that exceeds the lesser of 10% of the nameplate rating and 30 TJ’.

### 7.2 What is the problem?

While a range of information on infrastructure facilities is available on the Bulletin Board, there are, as noted in section 7.1, a number of inconsistencies in the reporting requirements across facilities. These inconsistencies reduce the efficiency of usage and investment decisions in gas infrastructure facilities, as investors are forced to make decisions based on inconsistent and/or fragmented information.

The information deficiencies and/or inconsistency in reporting requirements in:

- the available capacity and the identity of users with capacity on gas infrastructure can raise search and transaction costs and impede the efficient use of, and investment in these facilities;
- the operational activities of key gas infrastructure facilities such as compressors can limit the ability of the market to respond efficiently to market disruptions affecting the facilities; and
- the proposed infrastructure developments across key gas infrastructure can impede the efficient planning and investment decisions across the gas supply chain.

There is also limited public information on proposed infrastructure developments, which could hinder the ability of market participants to make informed and efficient long term planning and investment decisions in key gas infrastructure.

The materiality threshold as currently drafted could also hinder the ability to respond efficiently to market disruptions affecting key gas infrastructure.

### 7.3 What are the options?

**Option 1: Maintaining the status quo**

Under this option, no changes would be made to the existing requirements for infrastructure operators and developers and the materiality threshold would remain as defined.

The main benefit of this option is that infrastructure operators and developers would not be subject to additional reporting and compliance costs. While this is positive, it must be weighed up against the costs and risks associated with the information deficiencies and reporting inconsistencies outlined in section 7.2.

The costs of any such inefficiencies will ultimately be borne by gas users and could have broader negative impacts on the gas market and the economy.
Under this option, the information deficiencies described in section 7.2 are expected to have a ‘highly likely’ chance of occurrence and a ‘high’ negative impact on the ability of market participants in making informed and efficient decisions about the use of and investment in these facilities. This results in a ‘high’ risk rating which requires treatment. Refer to Appendix 1 for more detail on the risk analysis.

**Option 2: AEMC recommendations and sub-set of ACCC-GMRG recommendations**

This option includes part of the AEMC’s recommendation D and part of the ACCC-GMRG’s recommendations 5 and 6.

Under this option the following reporting would be required.

**Gas infrastructure developments**

Entities developing new transmission pipelines, production, stand-alone compression, storage or LNG facilities, with a nameplate capacity of 10TJ or more and assessed as falling within the meaning of a ‘committed’ development, would be required to provide AEMO with the following information 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);
- the location of the facility and its proposed name if known;
- the proposed nameplate rating of the facility;
- the status of the development; and
- the scheduled commissioning date, or range of dates.

This information would need to be reported as soon as practicable (within a set period of time) after the developments are assessed as ‘committed’, so the market can respond promptly to the signals provided by this information. Entities would also be required to update the information if the development status changes.

To avoid duplication with current Bulletin Board reporting obligations, the term ‘infrastructure development’ would be defined to limit its application to new transmission pipelines (including extension to existing pipelines), new production, storage, stand-alone compressions and LNG facilities.\(^\text{111}\)

The definition of what constitutes a committed development would be specified in AEMO’s Bulletin Board Procedures. The definition will likely to be similar to the one used by AEMO in the National Electricity Market, which is set out in Box 7.1 below.

\(^\text{111}\) Proposed expansions of these facilities are already captured by rule 168(1)(b), which requires information about any planned permanent capacity reduction or expansion to be reported to AEMO along with the time at which the modification is expected to take effect.
Box 7.1 Definition of 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.

Committed projects, represent projects that will proceed with known timing and satisfy the five commitment criteria.

<table>
<thead>
<tr>
<th>Commitment criteria</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>The project proponent has purchased/settled/acquired (or commenced legal proceedings to purchase/settle/acquire) land for the construction of the project.</td>
</tr>
<tr>
<td>Major components</td>
<td>Contracts for the supply and construction of major plant or equipment components have been finalised and executed, including any provisions for cancellation payments.</td>
</tr>
<tr>
<td>Planning consents, construction and connection approvals, EIS</td>
<td>The proponent has obtained all required planning consents, construction approvals, connection contracts, and licences, including completion and acceptance of any necessary environmental impact statements.</td>
</tr>
<tr>
<td>Finance</td>
<td>The financing arrangements for the proposal, including any debt plans, must have been concluded and contracts executed.</td>
</tr>
<tr>
<td>Final construction and commercial use dates set</td>
<td>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.</td>
</tr>
</tbody>
</table>


The cost of reporting this information is expected to be relatively low, because the required information on infrastructure development is readily available to the project proponents.

The benefits, on the other hand, are likely to be material because the publication of this information would:

- encourage better coordination between infrastructure providers and prospective facility users during the planning stage, which enables project proponents to make more informed and efficient investment decisions;
- enable AEMO to develop more robust forecasts of infrastructure capacity and constraints for the purpose of the GSOO; and
- provide market participants and governments with a clearer outlook for long term infrastructure availability, which enables gas users, producers and infrastructure providers to make more informed and efficient decisions.

Availability of capacity

Storage and stand-alone compression facilities that are subject to the Bulletin Board reporting obligations would be required to provide AEMO with a 36-month uncontracted capacity outlook for publication on the Bulletin Board.112

112 Operators of transmission pipelines are now required to provide AEMO with a 36-month uncontracted capacity outlook for publication on the Bulletin Board, following the recent AEMC rule change in March 2019. See AEMC National Gas Amendment (Regulation of covered pipelines) Rule 2019 No.1.
This represents an extension of the scope and duration of the uncontracted capacity outlook currently published on the Bulletin Board. This is expected to address stakeholder views (received during consultation on the Part 23 Information Disclosure and Arbitration Framework) that a 12-month outlook period was too short for users to make informed decisions regarding their engagement in the gas market, as most gas supply agreements usually exceed 12 months. This also addresses the practice where shippers usually seek information on the availability of primary capacity over 12 months before commencement of an agreement. It is also consistent with the recommendation the AEMC made in its Part 8-12 review—that scheme transmissions pipelines should be required to report a 36-month uncontracted capacity outlook.\(^1\)

The cost of information provision in this case is expected to be relatively low for storage and stand-alone compression facility operators, as the required information will be drawn from the same contracts that facility operators are using to generate 12-month uncontracted capacity outlook.

The benefits, on the other hand, include:

- promoting the efficient use of storage, compressions and production facilities;
- enabling market participants to make a more informed decision about whether to seek access to these facilities; and
- facilitating efficient investment in these facilities by providing the market with more effective signals on the need for further investments in these or other facilities.

**Information on compression facilities**

The reporting requirements for stand-alone compression facilities that were included in the transitional rules through the GMRG’s capacity trading reforms (see section 3.2) would be moved to Part 18 of the NGR and supplemented by the additional information that the AEMC recommended be reported by these facilities.

In effect this would mean that compression facilities that are designated in the Regulations\(^2\) and stand-alone compression facilities (jointly referred to as ‘stand-alone compression facilities’) that meet the reporting threshold (i.e. nameplate rating of 10 TJ/day or more) would be required to report the following information to AEMO for publication on the Bulletin Board:

- nameplate capacity and detailed facility information;
- short term capacity outlook and a capacity adequacy indicator, similar to the Linepack Capacity Adequacy (LCA) flag reported by pipelines;
- material intra-day renominations of capacity;
- the medium term-capacity outlook (which includes the provision of information on planned asset retirements and expansions);
- the 36-month outlook of uncontracted primary compression capacity;
- nominations for gas day D and forecast nominations for gas day D+1 to D+6; and

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\(^1\) Operators of transmission pipelines are now required to provide AEMO with a 36-month uncontracted capacity outlook for publication on the Bulletin Board, following the recent AEMC rule change in March 2019.

\(^2\) The designated facilities include Santos’ Ballera compression facility, Lochard’s Iona compression facility and APA’s Wallumbilla and Moomba compression facilities.
• the actual volume of gas compressed each day.

The cost of reporting this information is expected to relatively low, as most of the information is already being reported under the transitional rules. Information on the 36-month uncontracted capacity outlook can also be drawn from the same contracts that are currently used to generate 12-month uncontracted capacity outlook.

The expected benefits of this option are that it would:
• promote the efficient use of, and investment in, stand-alone compression facilities;
• enable market participants to make a more informed decision about whether to seek access to these facilities; and
• reduce trading parties’ search and transaction costs, hence encourage more secondary trading on these facilities.

Summary

Implementing this option would provide more information to gas market participants on committed gas infrastructure developments, the availability of capacity on storage and compression facilities and the operation of stand-alone compression facilities. This would reduce the cost of information deficiencies identified in Option 1. However, implementing this option would not fully mitigate the identified information deficiencies and inefficiencies outlined in section 7.2, meaning some inefficiencies would still be borne by gas users and could have broader negative impacts on the gas market and the economy, albeit to a lesser extent than in Option 1.

Implementing this option is expected to reduce the risk likelihood to ‘likely’, and the consequence will remain ‘high’, resulting in a ‘high’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.

Option 3: Implement all of the AEMC and ACCC-GMRG recommendations

This option includes part of the AEMC’s recommendation D and all of the ACCC-GMRG’s recommendations 5, 6, and 7.

This option includes the transparency measures outlined in Option 2 and the following additional measures:
• requiring proposed infrastructure developments to be reported;
• requiring production facilities providing third party access to report on the availability of capacity; and
• requiring the list of shippers with contracted capacity on storage and compression facilities to be reported.

Gas infrastructure developments

The reporting obligation outlined in Option 2 would be extended to also include ‘proposed’ and infrastructure developments.

This information would need to be reported as soon as practicable (within a set period of time) after the developments are assessed as ‘proposed’, so the market can respond promptly to the signals provided by this information. Entities would also be required to
update the information if the development status changes. The definition of what constitutes a proposed development would be specified in AEMO’s Bulletin Board Procedures. The definition would likely be similar to the one used by AEMO in the National Electricity Market, which is set out in Box 7.2.

**Box 7.2 Definition of proposed 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.

**Proposed projects** 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.

<table>
<thead>
<tr>
<th>Commitment criteria</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site</strong></td>
<td>The project proponent has purchased/settled/acquired (or commenced legal proceedings to purchase/settle/acquire) land for the construction of the project.</td>
</tr>
<tr>
<td><strong>Major components</strong></td>
<td>Contracts for the supply and construction of major plant or equipment components have been finalised and executed, including any provisions for cancellation payments.</td>
</tr>
<tr>
<td>Planning consents, construction and connection approvals, EIS</td>
<td>The proponent has obtained all required planning consents, construction approvals, connection contracts, and licences, including completion and acceptance of any necessary environmental impact statements.</td>
</tr>
<tr>
<td><strong>Finance</strong></td>
<td>The financing arrangements for the proposal, including any debt plans, must have been concluded and contracts executed.</td>
</tr>
<tr>
<td><strong>Final construction and commercial use dates set</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>


The cost of reporting this information is expected to be relatively low, because the required information on infrastructure development is readily available to the project proponents.

The benefits are likely to be material as outlined in Option 2, but more substantial under Option 3, as information from more infrastructure project developments will be captured. In particular, the publication of this information would:

- encourage better coordination between infrastructure providers and prospective facility users during the planning stage, which enables project proponents to make more informed and efficient investment decisions;
• enable AEMO to develop more robust forecasts of infrastructure capacity and constraints for the purpose of the GSOO; and

• provide market participants and governments with a clearer outlook for long term infrastructure availability, which enables gas users, producers and infrastructure providers to make more informed and efficient decisions.

**Availability of capacity**

Production facilities providing third party access would be required to publish a 36-month uncontracted capacity outlook.

Extending the reporting obligation to include production facilities providing third party access 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.

The cost of information provision is expected to be relatively low for production facility operators, because very few facilities are providing third party access.

**List of users with contracted capacity**

Storage and stand-alone compression facility operators would be required to provide a list of users with contracted capacity to AEMO for publication on the Bulletin Board.

The cost of providing this information is expected to be relatively low, as the identity of users with contracted capacity is unlikely to change frequently.

The benefits, on the other hand, include reducing trading parties’ search and transaction costs and, in so doing, encouraging more secondary trade on these facilities. This would, in turn, provide for more efficient use of, and investment in, storage and compression facilities.

**Summary**

Option 3 is expected to yield greater benefits than Option 2, because it would provide for further information to be reported on:

- infrastructure developments;
- the availability of uncontracted capacity on key infrastructure; and
- users of storage and compression facilities with contracted capacity.

This would further reduce the information deficiencies identified in Option 1, and represents a full implementation of the AEMC and ACCC-GMRG recommendations to improve transparency in the gas market as outlined in Chapter 1.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and reduce the consequence to ‘moderate’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.

**Option 4: Implement a superset of the AEMC and ACCC-GMRG recommendations**

This option includes part of the AEMC’s recommendation D, all of the ACCC-GMRG’s recommendations 5, 6, and 7 and also amends the materiality threshold.
This option includes the measures set out in Option 3 and also provides for the materiality threshold used for intra-day reporting on the Bulletin Board to be amended. Specifically, this option provides for the definition of ‘material’ to be amended to ‘a change that exceeds the lesser of 10% of the nameplate rating and 30 TJ’.

- The costs associated with amending this definition are expected to be relatively low given the required information is readily available to facility operators. The revised threshold is also high enough to minimise compliance cost when reporting on significant changes to intra-day capacity.

- The benefits, on the other hand, are that market participants will be able to respond more efficiently to intra-day market disruptions affecting key gas infrastructure than they would otherwise be able to do.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and reduce the consequence to ‘moderate’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for more detail on the risk analysis.

### 7.4 Consultation questions

#### Infrastructure used to supply gas to end-markets

33. Do you agree with the information deficiencies that have been identified in section 7.1? If you don’t agree with the information deficiencies that have been identified, please explain why? Are there other infrastructure related information deficiencies that you think are adversely affecting the gas markets in eastern and northern Australia?

34. How significant an effect do you think the infrastructure related information deficiencies are having on the gas markets in eastern and northern Australia and the broader economy?

35. Do you agree that the information deficiencies regarding infrastructure used to supply gas to end-markets could be viewed as a market failure that will warrant government intervention? If not, please explain why.

36. Do you agree with the AEMC’s and ACCC-GMRG’s recommendations on how to address these information deficiencies, which would require the publication of the following (see sections 3.1 and 3.3 for more detail)?
   - Proposed and committed infrastructure developments;
   - 36-month uncontracted capacity outlook for storage and stand-alone compression facilities, and production facilities providing third party access;
   - Stand-alone compression facilities to report operational information; and
o A list of users with contracted capacity under storage and stand-alone compression facilities.

a. If so, please explain how you would use this information and the net benefit it would provide.

b. If not, please explain why.

37. Do you agree that requiring project proponents to provide the information on proposed or committed gas infrastructure developments will deliver an overall net benefit to gas market participants and policymakers?

a. If so, please explain how you would use this information and the net benefit it would provide.

b. If not, please explain why.

38. Do you agree with the list of information required for proposed or committed gas infrastructure developments as set out in section 7.3? If not, please explain why.

39. Do you agree that the requirement for entities to provide information on gas infrastructure developments should cover both ‘proposed’ and ‘committed’ developments set out in section 7.3? If not, please explain why.

40. Do you agree the rules requiring compression service facilities registered under Part 24 to provide operational information should extend to all stand-alone compression facilities that meet the reporting threshold? If not, please explain why.

41. Do you agree with the categories of information to be reported by compression service facilities set out in section 7.3? If not, please explain why.

42. Do you agree the proposed extension of the time-frame for uncontracted capacity outlooks from 12 to 36 months will deliver an overall net benefit to gas market participants?

a. If so, please explain how you would use this information and the net benefit it would provide.

b. If not, please explain why.

43. Do you see value in extending the information requirement for a 36-month uncontracted capacity outlook to production facility operators that are providing third party access?

a. If so, please explain how you would use this information and the net benefit it would provide.

44. Do you agree that requiring Bulletin Board compression facilities and Bulletin Board storage facilities to provide a list of users with contracted capacity for publication on the Bulletin Board will deliver an overall net benefit to gas market participants?

45. Do you agree that the materiality threshold should be changed? If not, please explain why.

46. Do you agree with the options that have been identified in section 7.3, or are there other options that could be considered? If you think there are other options that could be considered, please explain what the options are, what they would involve
and what the advantages, disadvantages, costs, benefits and risks are with these additional options.

47. In relation to the options set out in section 7.3:
   a. What do you think the advantages, disadvantages, costs, benefits and risks are with each option?
   b. What incremental benefits do you think are associated with options 2-4?
   c. What incremental costs do entities developing new gas infrastructure, operators of storage and stand-alone compression facilities, and facilities with a capacity of 10-30TJ/day expect to incur under options 2-4 in section 7.3?
   d. Are there any refinements that could be made to these options to reduce compliance and reporting costs, whilst also ensuring any obligations are fit for purpose and achieve the NGO and the Energy Council’s Vision as set out in Box 2.2?

48. If you think the transparency measures set out in section 7.3 should be implemented through alternative means, please explain how you envisage this would work and how this would contribute to the NGO and the Energy Council’s Vision as set out in Box 2.2.
8 Gas Statement of Opportunities (GSOO)

The objective of the GSOO, as stated in the NGL, is to provide information to assist market participants and other persons in making informed investment decisions in the natural gas industry.\(^\text{115}\) It is intended to do this by providing an assessment of the adequacy or otherwise of the supply side of the market to meet forecast demand over a 20 year outlook period and identifying longer-term development needs in the eastern and northern Australian gas markets. It also analyses a range of potential scenarios that may impact the gas market in the next 20 years.

Further detail on the legal framework and requirements of the GSOO is provided in Box 2.4.

8.1 What information is currently available?

Provisions in the NGL currently state that the GSOO must include an assessment of:

- the 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; and
- any likely long-term shortfalls in reserves and production or transmission constraints.

The NGR also sets out a range of information that the GSOO must contain for each jurisdiction, which includes information on:

- natural gas reserves and resources;
- the annual and peak day capacity of production, storage and transportation facilities and constraints affecting these facilities; and
- committed and proposed developments of production, storage and transportation facilities.

This information is currently collected by AEMO through voluntary surveys of market participants. The collection of information, for the GSOO, is an annual routine process and AEMO is of the view that the National Gas Rules should clearly lay out the information required to be provided by industry.

In keeping with these requirements, AEMO currently collects a wide range of data for the GSOO, including information on pipeline flows, location, expansion, and connection details, storage capacity, withdrawal, and injection data, proved, probable, prospective, and contingent field information, and plant production and forecast volumes. Concerns have been raised by multiple industry players about the quality of this information because it is provided on a voluntary basis.

- The GSOO currently covers\(^\text{116}\) Queensland, New South Wales, Victoria, South Australia, Tasmania, and the ACT. It does not cover the Northern Territory, because the NGR currently state that the GSOO rules will not apply "until a day fixed by or

\(^{115}\) See section 91D of the NGL.

\(^{116}\) AEMO also publish The Western Australian (WA) Gas Statement of Opportunities (GSOO) annually providing gas market participants and other stakeholders with information about the WA gas industry. It presents forecasts of WA domestic gas demand and potential supply over a 10-year period, including an overview of gas infrastructure and emerging issues affecting the WA gas industry.
under legislation of that Territory”. The lack of coverage of the Northern Territory now that it is connected to the eastern and northern Australian gas markets could constitute a significant gap in the coverage of the GSOO. Particularly if the Territory’s onshore gas industry develops further.

8.2 What is the problem?

The objective of the GSOO is, as noted above, to enable gas market participants and governments to make more informed and efficient planning, investment and policy decisions consistent with the National Gas Objective.

There are currently two key problems with the GSOO arrangements.

First, the quality of information obtained through AEMO’s voluntary market participant surveys, conducted for the GSOO, has been questioned by numerous stakeholders.

Second, the GSOO’s coverage does not extend to the Northern Territory, which connected to the eastern and northern Australian gas markets in January 2019. It does not, therefore, take into account the demand-supply dynamics prevailing in the Northern Territory that may affect supply in the east coast.

If these problems are not addressed, then the GSOO will fail to meet its objectives, because planning, investment and policy decisions will have to be made on the basis of incomplete and inaccurate information. This will, in turn, result in less efficient planning and investment decisions across all segments of the supply chain. For example, if governments and market participants have an inaccurate and incomplete picture of gas exploration and production activities, then this will limit their understanding of the need for further reserves to be developed or explored. This will, in turn, hinder their ability to plan and invest and to respond to any changes in the supply position.

While there are currently no programs aimed at addressing the key issues of information quality and GSOO coverage, AEMO noted in the 2019 GSOO that greater information transparency is required to facilitate more coordinated planning.

8.3 What are the options?

Unlike previous chapters, this chapter considers GSOO coverage and reporting requirements, which can either be implemented or not. Hence only two options are presented in this chapter.

Option 1: Maintaining the status quo

Under this option, AEMO would continue to collect information from market participants on a voluntary basis and the GSOO would continue to be limited to eastern Australia. The information deficiencies outlined above would therefore continue to exist under this option.

The main benefit of this option is that market participants in eastern Australia and the Northern Territory would not be subject to any additional reporting and compliance costs. While this is a positive, it must be weighed up against the costs and risks associated with the information deficiencies identified in section 8.2.

Under this option, the information deficiencies described in section 8.2 are expected to have a ‘highly likely’ chance of occurrence and a ‘high’ negative impact on the ability of market participants in making informed and efficient long term planning and investment
decisions in the gas market. This results in a ‘high’ risk rating which requires treatment. Refer to Appendix 1 for more detail on the risk analysis.

**Option 2: Implement transparency measures to mitigate the GSOO information deficiencies**

This option addresses the ACCC-GMRG recommendation 17.

Under this option:

(a) the voluntary surveys currently used by AEMO would be replaced with mandatory surveys that market participants would be required by the NGL and NGR to complete in accordance with the information standard set out in the NGR and any procedures developed by AEMO; and

(b) the coverage of the GSOO would be expanded to include the Northern Territory.

The measures identified in (a) and (b) could either be implemented together or in isolation.

The main benefit of this option is that it would address the information deficiencies that have been identified with the current GSOO arrangements, which would enable market participants and governments to:

- make more informed and efficient planning and investment decisions than they could under Option 1; and
- respond in a more timely and efficient manner to forecast changes in the demand-supply balance.

Market participants would, for example, have a clearer and more accurate picture of the expected demand-supply balance, enabling participants to respond more efficiently to investment and planning signals. Similarly, policymakers would have a better insight into the market and be able to make more informed policy decisions, with only minimal and more targeted intervention and regulation.

Implementing this option is expected to reduce the risk likelihood to ‘unlikely’, and reduce the consequence to ‘minor’, resulting in a ‘low’ risk rating. Refer to Appendix 1 for detailed risk analysis.

**8.4 Consultation Questions**

49. Do you agree that the GSOO should be expanded to include the Northern Territory now it is connected to the eastern and northern Australian gas markets? If not, please explain why.

50. Do you agree that the current voluntary requirement for market participants to provide information to AEMO results in a poor quality of information in the GSOO? If not, please explain why.

51. Do you agree that compelling market participants to provide information required for GSOO preparation will benefit the quality of information in the GSOO? If not, please explain why.

52. Do you agree with the options that have been identified in section 8.3, or are there other options that could be considered that would result in the GSOO better achieving its objective? If you think there are other options that could be considered, please explain what the options are, what they would involve and what the
advantages, disadvantages, costs, benefits and risks are with these additional options.

53. In relation to the options set out in section 8.3:
   a. What do you think the advantages, disadvantages, costs, benefits and risks are with each option?
   b. What incremental benefits do you think are associated with option 2?
   c. What incremental costs do market participants expect to incur under option 2?
   d. Are there any refinements that could be made to option 2 to reduce compliance and reporting costs, whilst also ensuring any obligations are fit for purpose and achieve the NGO and the Energy Council’s Vision as set out in Box 2.2?

54. If you think the transparency measures set out in section 8.3 should be implemented through alternative means, please explain how you envisage this would work how this would contribute to the NGO and the Energy Council’s Vision as set out in Box 2.2.
9 Policy options under consideration

The following overarching policy options, which implement the gas transparency measures described in more detail in Chapters 4-7, are under consideration:

**Option 1**: Maintaining the status quo — The information deficiencies that the AEMC and ACCC-GMRG have identified would remain in place. All existing temporary measures to increase transparency will discontinue once the measures cease.

**Option 2**: Implementing a sub-set of the recommendations provided by the AEMC and the ACCC-GMRG — This option provides for the implementation of all the AEMC’s recommendations and the partial implementation of the ACCC-GMRG’s recommendations. This option therefore makes improvements to the status quo across the key areas identified. Namely, pricing, supply, demand and infrastructure but does not alleviate all of the identified deficiencies.

**Option 3**: Implementing all the AEMC and ACCC-GMRG’s recommendations — This option builds on from Option 2 by providing for the implementation of all the ACCC-GMRG’s recommendations.

**Option 4**: Implementing a superset of AEMC and ACCC-GMRG’s recommendations — This option builds on from Option 3 by implementing a number of additional transparency measures identified while preparing this Consultation RIS.

Further detail on the specific measures included under these options is provided in Table 9.1.

Note that the recommendations in Chapter 8 Gas Statement of Opportunities (GSOO) have not been included in this table because they are yes/no recommendations rather than having options available. Feedback received on these options separately (through consultation questions) will be used to evaluate these recommendations.
### Table 9.1 Consultation RIS options

<table>
<thead>
<tr>
<th>Option 1: Maintain status quo</th>
<th>Option 2: Subset of ACCC-GMRG and/or AEMC recommendation</th>
<th>Option 3: Implement all of the ACCC-GMRG and/or AEMC recommendations</th>
</tr>
</thead>
</table>
| Under the status quo, gas market participants would not be required to publish any additional information over and above what they are required to currently under the NGL and NGR, jurisdictional regulations and/or ASX listing rules. The current reporting requirements involve a mix of regulatory measures (through the NGL, NGR, jurisdictional regulations and ASX rules) and self-regulatory measures (such as information provided through annual voluntary surveys in preparation of the GSOO, and other voluntary disclosure of company information relevant to the gas market). | • Require information on the key drivers of gas prices to be published (i.e. AEMO to publish production cost estimates (Rec 4) and the AER to publish an LNG netback price series (Rec 8).  
• Require storage facility and stand-alone compression facility operators to publish standing prices (Part of Rec 14).  
Note these just reflect a subset of the ACCC-GMRG recommendations because the AEMC made no recommendations regarding prices. The key difference between this and option 3 is information on actual prices is not reported. | • Require short-term off market GSAs to be reported on an aggregated basis. (Rec 9)  
• Require the AER to publish a forward looking long-term GSA producer and retailer price series. (Recs 8 and 10) |
| • Require holders of reserves to report information on their 2P reserves. (Part of AEMC Recommendation D).  
• Add links to public information on exploration activities on the Bulletin Board (NOPTA NEATS, NOPSEMA Environment reports) (Part of AEMC Recommendation H). | • Require large users to report information on nameplate capacity and daily actual gas consumption to AEMO for publication on the Bulletin Board (with information on actual gas consumption to be published on a day after basis (Part of AEMC Recommendation D).  
• Require LNG export facility operators to report information on nameplate capacity; the facility’s short-and medium-term capacity outlook (including material intra-day changes in capacity); and the amount of gas supplied to the facility on a daily basis (Part of AEMC Recommendation D). | • Require holders of gas reserves and resources to report on:  
• the reserves and resources information set out in Table 3.3 on the Bulletin Board in accordance with the ACCC's reporting framework (Rec 1):  
• Require large users to report information on nameplate capacity and daily actual gas consumption to AEMO for publication on the Bulletin Board (with information on actual gas consumption to be published on a day after basis (Part of AEMC Recommendation D).  
• Require entities developing new infrastructure to provide AEMO with information on the developments for publication on the Bulletin Board if they are assessed as falling within the meaning of a ‘committed’ development (Part of Rec 5).  
• Require storage facility and stand-alone compression facility operators to publish a 36-month outlook for uncontracted capacity on the Bulletin Board (Part of Rec 6).  
• Require stand-alone compression facilities to report information on material intra-day renominations of capacity, the medium term capacity outlook, and extending the outlook of uncontracted primary capacity from 12 months to 36 months (Part of AEMC Recommendation D). |
<table>
<thead>
<tr>
<th>Gas, LNG and infrastructure prices</th>
<th>Supply and availability of gas</th>
<th>Demand for gas</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Require information on the key drivers of gas prices to be published (i.e. AEMO to publish production cost estimates (Rec 4) and the AER to publish an LNG netback price series (Rec 8).)</td>
<td>• their drilling activities (i.e. the number of explorations, appraisal and development wells drilled in the last 12 months) and the amount spent on these activities to AEMO for publication in the GSOO (Rec 3); and</td>
<td>• Require LNG export facility operators to report information on nameplate capacity; the facility’s short- and medium-term capacity outlook (including material intra-day changes in capacity); and the amount of gas supplied to the facility on a daily basis (Part of AEMC Recommendation D).</td>
<td>• Require operators of storage and stand-alone compression facilities to publish a 36-month outlook for uncontracted capacity on the Bulletin Board. Also require production facilities providing third party access to publish a 36-month uncontracted capacity outlook. (Rec 6).</td>
</tr>
<tr>
<td>• Require LNG export prices to be reported (Part of Rec 15).</td>
<td>• the volume of gas they have contracted under existing GSAs (at a basin level) through the GSOO (Rec 2).</td>
<td>• Require LNG export facility operators to report on LNG shipments (i.e. departure date, volume of LNG exported and the contract duration for cargoes) (Part of Rec 15).</td>
<td>• Require storage facility and stand-alone compression facility operators to provide a list of users with contracted capacity to AEMO for publication on the Bulletin Board (Rec 7).</td>
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<tr>
<td>• Require LNG import facility operators (if any facilities are developed) to report on (Rec 16):</td>
<td>• Require LNG import facility operators (if any facilities are developed) to report on (Rec 16):</td>
<td>• Require large users to report information on nameplate capacity and daily actual gas consumption to AEMO for publication on the Bulletin Board on a forward yearly forecast.</td>
<td>• Change the definition of material in the Bulletin Board rules to say a change that is the lower of 10% of the nameplate rating and 30 TJ. (Materiality Threshold).</td>
</tr>
<tr>
<td>o standing prices; and</td>
<td>o the volume of LNG imported in each shipment; and</td>
<td>• Option 4: Superset of ACCC-GMRG and/or AEMC recommendations</td>
<td>• Option 3 plus or a combination of the following measures:</td>
</tr>
<tr>
<td>o information on the prices actually paid for primary capacity.</td>
<td>o the facility’s nameplate rating and other detailed facility information, the short- and medium-term capacity outlook; nominations (including any material intra-day changes in nominations); the forecast use of the import facility; and the amount of gas supplied into the market.</td>
<td>(a) Publication of producers’ actual cost of production and LNG import prices.</td>
<td>(a) Publication of producers’ actual cost of production and LNG import prices.</td>
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<td></td>
<td></td>
<td>(b) Publication of information on gas swaps.</td>
<td>(b) Publication of information on gas swaps.</td>
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<td>(c) Publication of a historic producer and retailer gas price series.</td>
<td>(c) Publication of a historic producer and retailer gas price series.</td>
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<td>• Option 3 plus:</td>
<td>• Option 3 plus:</td>
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<td></td>
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<td>• Require LNG exporters to report on their short-term, medium-term and long-term demand-supply balance to AEMO for publication in the GSOO (and how much the LNG export projects are supplying into the Domestic Market).</td>
<td>• Change the definition of material in the Bulletin Board rules to say a change that is the lower of 10% of the nameplate rating and 30 TJ. (Materiality Threshold).</td>
</tr>
<tr>
<td>Gas, LNG and infrastructure prices</td>
<td>Supply and availability of gas</td>
<td>Demand for gas</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------</td>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>(d) Publication of the prices offered by producers and retailers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Mandatory listing of gas supply requests and offers on the Bulletin Board or Gas Supply Hub.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Publication of information on secondary trades of storage capacity.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.1 Draft NGL, NGR and Regulation Changes

In order to facilitate consultation and to provide stakeholders with a better understanding of the nature of the obligations that could flow from the implementation of the measures set out in Option 3, draft amendments to these instruments have been set out in Attachments A1 to A3.

The development of these draft amendments should not be viewed as SCO or the Energy Council having formed a pre-determined view to proceed with the proposed transparency measures, or to adopt a regulatory solution. Rather, SCO is seeking feedback on these amendments to the NGL, Regulations and NGR that would be required if the case is made to implement Option 3 and a regulatory solution is found to yield the greatest net benefit.

A guide to the package of draft changes to the legal and regulatory framework (Attachment A4) summaries the key changes to the NGL, Regulations and NGR and maps them to the recommendations covered by “Option 3” in the Consultation RIS. It seeks to inform stakeholders about how the measures outlined in the Consultation RIS could be implemented if Option 3 was selected.

In developing the drafting of these amendments, a number of consequential/incidental changes were identified that needed to be addressed, these are detailed in Chapter 1.5 of Attachment A4.

9.2 Regulatory impact assessment

The Department has engaged Frontier Economics to undertake a CBA, a CBRM and a CEA for each of the options. This Consultation RIS seeks stakeholder views and information that will inform the CBA, CRBM and CEA. Refer to the consultation questions in Attachment B for the list of questions in relation to these analyses.

9.2.1 Risk analysis

A preliminary internal risk analysis has already been conducted to identify the relevant risks and to estimate the probability of an adverse outcome to gas market participants arising from each policy option, and where Energy Council action would reduce the risks.

The risk analysis covers both the risks of status quo and associated treatments, and the risks of implementing each policy option described in Chapters 4-8 (as summarised in Table 9.1).

The impact of the information deficiencies on different segments of the gas market were analysed and the following risks identified as relevant to implementing the policy options considered in this paper:

- higher compliance costs;
- duplication of reporting;
- competition concerns;
- confidentiality concerns;
- ambiguity in the calculation of production cost estimates;
- coordinated conduct; and
• incomplete GSOO coverage.

Refer to Appendix 1 for the detailed risk analysis.

9.2.2 Cost-benefit analysis (CBA)

A cost-benefit analysis (CBA) will be prepared prior to the Decision RIS to identify the option that yields the greatest net benefit for the community.

A CBA is an assessment tool that compares the costs associated with a potential intervention with the benefits. It is typically used to compare options in order to identify a preferred option. The analysis is incremental (i.e. it looks at additional costs and benefits over and above a status quo scenario (the absence of an intervention)). As noted in the Office of Best Practice Regulation’s CBA Guidance Note: 117

“a CBA involves a systematic evaluation of the impacts of a regulatory proposal, accounting for all the effects on the community and economy, not just the immediate or direct effects, financial effects or effects on one group.”

That is to say, the scope of the CBA is to assess the impacts of a potential intervention, either direct or indirect, from the point of view of society.

The key steps for undertaking the CBA include:

• Confirming the policy options to be assessed and the status quo scenario.
• Defining the appraisal period (which should be the life of the proposed regulation).
  o The Office of Best Practice Regulation’s CBA Guidance Note suggests that an appraisal period of 20 years is commonly appropriate for an appraisal period. Therefore, it is proposed that the CBA to be conducted for this RIS will be appraised over a 20-year period.
• Logic mapping to identify the costs and benefits associated with each policy option.
• Gathering information on the likely costs and benefits.
• Undertaking the analysis.
• Feeding results into the broader RIS process.

Box 9.1 The status quo scenario

A critical part of a CBA that is often overlooked is the specification of the counterfactual. Which is in this case is the status quo scenario against which an incremental analysis of policy options will be assessed. The status quo scenario is not the same as a ‘do nothing scenario’. For the CBA to identify incremental costs and benefits it is important to be clear on any relevant planned regulatory change which are independent of the policy options within the RIS, for example any planned changes at State level. Equally any forthcoming private sector changes (such as an industry action plan) should also be reflected in the status quo scenario.

In addition, any actions that are being taken by market participants outside the regulatory framework should also be acknowledged, for example, where information is listed on the ASX.

117 Office of Best Practice Regulation (2016), Cost-Benefit Analysis Guidance Note
The types of costs and benefits that are likely to be associated with Options 2-4 are summarised in **Table 9.2**.

**Table 9.2 Costs and benefits from implementing the transparency measures**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Administration (and compliance) costs for regulators associated with compiling, processing and reporting data.</td>
<td>1. 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.</td>
</tr>
<tr>
<td>2. Administrative compliance costs for gas market participants associated with meeting reporting obligations and providing data.</td>
<td>2. Lowering search and transaction costs, that users face during the price discovery process, which in turn could promote more efficient trade of gas and infrastructure services.</td>
</tr>
<tr>
<td>3. Potential for reduced investment or participation as a result of obligations to reveal commercially sensitive information.</td>
<td>3. Reducing the information asymmetry and imbalance in bargaining power that users can face in each stage of the supply chain, thereby promoting more effective competition (where competition is possible).</td>
</tr>
<tr>
<td>4. Potential for coordinated conduct facilitated by increased market transparency.</td>
<td>4. Providing an improved picture of the East Coast Market which promotes a better understanding of the market across all gas users including large retailers, small retailers and potential new entrants. This could reduce barriers to entry, particularly in the retail sector.</td>
</tr>
<tr>
<td>5. (None listed)</td>
<td>5. 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.</td>
</tr>
</tbody>
</table>

A key element of the analysis will be identifying the logic chain of effects which start from a policy measure (or measures), identifying an intermediate implication and then an outcome. In most cases it will be an outcome, rather than an intermediate impact, which is valued in the CBA (see **Figure 9.1** for an example logic chain). **Figure 9.1** includes an example of a policy measure which maps to a single benefit. When thinking about options it is likely that there will be multiple policy measures which all contribute to the same benefit and certain policy measures which contribute to more than one benefit. Given this, logic mapping is an important step in the CBA process to avoid double counting of benefits.
Once potential costs and benefits have been identified, the next step is to undertake a data and evidence gathering task to inform the CBA. The key elements of this step include:

- A literature scan to seek secondary data on the benefits and costs of transparency including seeking international comparators.

- Consultation with Government agencies for any relevant data. This will include the Australian Energy Regulator (AER), the Australian Energy Market Operator (AEMO), the Australian Competition and Consumer Commission (ACCC) and the Gas Market Reform Group (GMRG).

- Consultation with selected gas market participants across the supply chain.

The CBA will then be undertaken using the available data. This analysis will be fully compliant with the Office of Best Practice Regulation’s CBA Guidance Note\(^{118}\) and the Department’s Good Practice Principles for CBA. In addition to an analysis of a central case for each package of policy options, a sensitivity analysis will also be undertaken which focuses on the change in costs and benefits if key areas of uncertainty, or assumptions, are varied.

At a high-level the CBA will:

- Determine the direction of impacts (i.e. initial qualitative assessment).

- Where possible quantify the magnitude of impact\(^{119,120}\) in aggregate (quantitative) via:
  - Information provided (e.g. AER and/or AEMO costs of similar transparency obligations).
  - International benchmark obtained via literature review.
  - Data arising from the consultation with selected gas market participants.

---


\(^{119}\) Where there are data gaps which prevent a monetary value being placed on an impact, then a qualitative analysis will be presented alongside the CBA results. As per Office of Best Practice Regulation’s CBA Guidance Note “The fact that some impacts may be very difficult to quantify in dollar terms does not invalidate the CBA approach. In such cases, a detailed qualitative analysis will often be most appropriate in place of dollar values.

\(^{120}\) This stage is likely to overlap with the CRBM. See the next sub-section for details of methodology for the CRBM.
• Profile costs and benefits of the central case over the appraisal period. This primarily consists of applying a discount rate to the costs and benefits across the appraisal period in order to reach present values which can be directly compared.

• Consider the composition of the costs and benefits\textsuperscript{121} for any key winners and losers which may not be immediately apparent from the summary outputs (which provide a net impact). This will include sensitivity testing which looks at the key uncertainties around the analysis, including varying assumptions and inputs relating to the appraisal period, discount rate, level of costs and level of benefits.
  
  o Following the OBPR’s CBA Guidance Note, an annual real discount rate of 7 per cent will be applied to the central case, with a discount rate of 3 per cent and 10 per cent used as part of the sensitivity analysis.
  
  o The sensitivity analysis will test an appraisal period of 10 years and 15 years against the 20-year period in the central case.
  
  o As per the OBPR’s CBA Guidance Note, sensitivity analysis will also test a worst/best case analysis. The variables which will be varied in these worst/best case scenarios will focus on uncertain levels of costs and benefits (for example the costs of reporting obligations and the benefits of more efficient planning and investment).

The output of the CBA (dependent on sufficient quantitative data to be able to place a monetary value on the key costs and benefits) will potentially be a number of summary metrics including the cost-benefit ratio, net present value and internal rate of return for each package of policy options. Any impacts which have been assessed qualitatively will be presented alongside quantitative CBA results.

9.2.3 Commonwealth Regulatory Burden Measure analysis

The CRBM is a web-based tool that has been developed by the Office of Best Practice Regulation. The tool is intended to estimate the magnitude of compliance costs associated with a change in regulation.\textsuperscript{122} A CRBM analysis will be undertaken for each package of policy options as part of the RIS process.

The CRBM is a bottom-up calculation. That is to say, it is dependent on data (or assumptions) being input on capital costs, labour costs\textsuperscript{123} and quantities of capital/labour required as a result of a policy option. Therefore, the quality of the CRBM outputs is dependent on the input information. Therefore, the key part of the CRBM analysis is the collection of input data. As with the CBA, this data will come from:

• information provided by stakeholders (e.g. AER, AEMO and/or market participant costs of similar transparency obligations);

• international benchmark obtained via literature review; and

• data arising from the consultation with selected gas market participants.

As with the CBA, the CRBM focuses on the incremental impact, rather than the total impact, which is important because there are some costs related to existing reporting

\textsuperscript{121} This stage is likely to overlap with the CEA, which covers the qualitative angle of the distributional analysis. See the subsection on CEA for details of the methodology for this analysis.


\textsuperscript{123} Capital costs and labour costs can be either ‘start-up’ costs and/or ongoing costs.
requirements. This analysis will quantify additional costs over and above any status quo costs.

The key output of the CRBM will be a present value of the regulatory burden for each package of policy options.

9.2.4 Competition effects analysis

A key driver of the proposal to introduce transparency measures in the gas market is to improve competition in those segments where competition is possible. Given that the CBA focuses on net impacts of policy options and the CRBM focuses on regulatory burden costs, the CEA undertaken as part of the RIS process will look to qualitatively assess the impact on competition by policy option for broad stakeholder groups. The key stakeholder groups that will be considered in this analysis are:

- holders of upstream gas reserves;
- production facility operators;
- operators of gas pipelines;
- operators of storage and/or compression facilities;
- LNG importers;
- LNG exporters;
- retailers, and relatedly, consumers, considering differentiated effects across industrial, commercial and residential gas users; and
- potential market entrants.

The CEA will qualitatively assess the competition implications of each policy option using available documentation related to the reforms, literature about the gas market more generally and guidance related to competition analysis such as The Office of Best Practice Regulation’s competition and regulation guidance note. This analysis will consider the potential effects of each policy option on:

- the search and transaction costs associated with trading gas, pipeline, compression and storage services;
- market liquidity and price spreads;
- the relative bargaining power of contracting counterparties (e.g. gas users, producers, pipeline, compression and storage service providers);
- the potential for collusive behaviour in the competitive segments of the market; and
- barriers to entry, for example the potential for information to promote market entry or deter entry due to the additional information disclosure obligations.

The CEA will assess the extent to which each policy impact affects each stakeholder group using the following seven-point scale:

- Major negative.
- Moderate negative.
- Minor negative.
- Neutral.
- Minor positive.
• Moderate positive.
• Major positive.

As part of this assessment, consideration will be given to whether policy options could restrict competition. The Office of Best Practice Regulation’s competition and regulation guidance note includes the following four ways in which regulation can restrict businesses from competing:

• Limit the number or types of businesses.
• Limit the ability of businesses to compete.
• Reduce the incentive for businesses to compete.
• Limit the choices and information available to consumers.

The results of the CEA\textsuperscript{124} will be a matrix summary of the assessment for each option. A discussion of the results will identify whether one policy option is better, from a competition angle, for all key stakeholder groups or if trade-offs are required between stakeholder groups to reach a preferred policy option.

9.3 Consultation questions

Questions on the risk analysis

55. Do you agree with the identified risks and treatments associated with maintaining the status quo, as set out in Tables A.1 and A.2? If not, please explain why. If you think there are other risks and treatments that could be included in Tables A.1 and A.2, please elaborate.

56. Do you agree with the identified risks and treatments associated with implementing recommendations described in options 2, 3, and 4, as set out in Tables A.3 and A.4? If not, please explain why. If you think there are other risks and treatments that could be included in Tables A.3 and A.4, please elaborate.

Questions on the CBA

57. Are you aware of any existing or upcoming changes at a government level or private sector level that the CBA should consider under the status quo scenario? If so, please explain what the changes are and how best to account for those changes in the CBA.

58. Do you agree with the identified costs and benefit categories set out in Table 9.2? If not, please explain why? If you think there are other costs and benefit categories

\textsuperscript{124} A number of the recommendations provided by the ACCC-GMRG have already included measures (such as aggregation of information) to address potential competition issues.
that could be considered in the CBA, please explain those cost categories and how best to capture them in the CBA.

59. Do you have any information on the costs and benefits outlined in Table 9.2? If so, please elaborate on the components and quantum of the costs and benefits.

60. Do you agree with the proposed discount rate and appraisal period input variables to be used for the central case and sensitivity testing? If not, please explain why.

61. Do you think there are other input variables which should be sensitivity tested in the CBA? If so, please explain what other input variables should be tested.

**Questions on CRBM analysis**

62. Do you have any information on the regulatory burden costs related to existing reporting requirements? If so, please elaborate on the components and quantum of the costs.

**Questions on CEA**

63. Do you agree with the proposed approach to qualitatively assess the competition implications of each policy option described in this RIS paper? If not, please explain why.

64. Do you agree with the categories of key stakeholder groups identified for this analysis? If not, please explain why.

65. Do you agree with the proposed seven-point scale to be used for this analysis? If not, please explain why.

66. Do you have any information on potential competition effects arising from each of the policy options summarised in Table 9.1? If so, please elaborate.
10 Evaluation and Conclusion

The Consultation RIS has been prepared to assist with the identification of an appropriate course of action and to facilitate stakeholder feedback. Stakeholder feedback received from consultation will inform the development of a Decision RIS that will be considered by the Energy Council.

The Decision RIS will first consider whether there is a problem that warrants action. If the case for action is established, consideration will then be given to the objectives of this action and the set of feasible options that could be implemented to address the identified problem. The costs and benefits of each option will then be assessed having regard to stakeholder feedback provided through this consultation process, and the results of the regulatory impact assessment.

The option that yields the greatest net benefit for the community, taking into account all impacts analysed in the regulatory impact assessment, will be the preferred option. The benefits of the preferred option to the community outweigh the costs for the option to be implemented.

The preferred option and the results of the regulatory impact assessment will be published in a Decision RIS once stakeholder submissions have been received and the regulatory impact assessment has been completed. The Decision RIS is expected to be published following the Energy Council's meeting in early 2020.
11 Implementation and Review

The Decision RIS will identify the option that yields the greatest net benefit for the community (having regard to the results of the regulatory impact assessment and the consultation process). It will also set out how it will be implemented, monitored and reviewed.

The feedback received in response to this Consultation RIS will inform the Decision RIS and SCO’s recommendations to the Energy Council on the drafting of any amendments to the NGL, Regulations and NGR that may be required if the case is made for additional transparency and a regulatory solution is found to yield the greatest net benefit.

As the NGL is contained within the National Gas (South Australia) Act 2008, any changes to the NGL can only be made by the South Australian Parliament.

If, on the basis of the Decision RIS, the Energy Council agrees to implement any additional transparency measures through changes to the NGL, NGR and Regulations, then the following would need to occur:

- changes to the NGL would need to be progressed through the South Australian Parliament by the South Australian Minister for Energy and Mining; and
- once the changes to the NGL are proclaimed, the required amendments to:
  - the Regulations would need to be made by the South Australian Governor; and
  - the NGR would need to be made by the South Australian Minister for Energy and Mining as initial rules.

Table 11.1 sets out the key dates for the RIS and, if required, the amendments to the NGL, NGR and Regulations.

Table 11.1 Key dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2019 - August 2019</td>
<td>Consultation RIS on the AEMC and ACCC-GMRG recommendations and the draft package of changes to the NGL, NGR and Regulations that would be required if a regulatory solution were adopted and these recommendations were implemented</td>
</tr>
<tr>
<td>February 2020</td>
<td>Energy Council considers the Decision RIS and any proposed amendments to the NGL, NGR and Regulations.</td>
</tr>
<tr>
<td>February 2020 – November 2020</td>
<td>If required, amendments to the NGL progressed through SA Parliament and once NGL changes proclaimed, the initial Rules and Regulations will be made.</td>
</tr>
<tr>
<td>November 2020</td>
<td>New transparency measures come into effect.</td>
</tr>
</tbody>
</table>

If any additional transparency measures are implemented, then their effectiveness will be monitored and reviewed through:

- AEMO’s report on the operation of the Bulletin Board, which it is required by the NGR to conduct at least every two years; and
- the AEMC’s biennial review into liquidity in the wholesale gas and transportation trading markets.
It will also be open to market participants and other interested parties to submit a rule change to the AEMC if any of the transparency measures implemented through the NGR are not working as intended.
Appendix 1: Risk analysis of the status quo and implementation options

A1.1 Risk Matrix

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequence</th>
<th>Minor</th>
<th>Moderate</th>
<th>High</th>
<th>Major</th>
<th>Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Likely</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Severe</td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Likely</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Possible</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>
## Description for risk likelihood

<table>
<thead>
<tr>
<th>Likelihood description</th>
<th>Chance of risk occurring</th>
<th>Qualitative description of risk occurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Likely</td>
<td>&gt;80%</td>
<td>The impact of the risk is expected to occur in most circumstances if the proposed option is implemented or is currently occurring.</td>
</tr>
<tr>
<td>Likely</td>
<td>60-79%</td>
<td>The impact of the risk will probably occur if the proposed option is implemented.</td>
</tr>
<tr>
<td>Possible</td>
<td>29-59%</td>
<td>The impact of the risk might occur at some time if the proposed option is implemented.</td>
</tr>
<tr>
<td>Unlikely</td>
<td>10-29%</td>
<td>The impact of the risk could occur but considered unlikely or doubtful if the proposed option is implemented.</td>
</tr>
<tr>
<td>Rare</td>
<td>&lt;10%</td>
<td>The impact of the risk may occur in exceptional circumstances if the proposed option is implemented.</td>
</tr>
</tbody>
</table>

## Description for risk consequence

<table>
<thead>
<tr>
<th>Consequence description</th>
<th>Consequence of risk occurring on gas market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>The eventuation of the risk is expected to critically impede the efficient operation of the gas market. Either by making it very difficult to observe how well the market is functioning and/or by disabling the market's ability to respond to changing market conditions and plan to meet future gas demand. The risk is expected to stifle competition in the gas market, and result in very inefficient decisions about gas consumption, production, trade, and the use of infrastructure services and long-term investments.</td>
</tr>
<tr>
<td>Major</td>
<td>The eventuation of the risk is expected to significantly impede the efficient operation of the gas market. Either by making it difficult to observe, in a timely and accurate fashion, how well the market is functioning and/or by greatly limits the ability of the market to respond efficiently to changing market conditions and plan efficiently to meet future gas demand. The risk is expected to significantly reduce competition in the gas market, and result in inefficient decisions about gas consumption, production, trade, and the use of infrastructure services and long-term investments.</td>
</tr>
<tr>
<td>Level</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>High</td>
<td>The eventuation of the risk is expected to impede the efficient operation of the gas market. Either by making it somewhat difficult to observe, in a timely and accurate fashion, how well the market is functioning and/or by limiting the ability of the market to respond efficiently to changing market conditions or plan efficiently to meet future gas demand. The risk is expected to reduce competition in the gas market, and result in inefficient decisions about gas consumption, production, trade, and the use of infrastructure services and long-term investments.</td>
</tr>
<tr>
<td>Moderate</td>
<td>The eventuation of the risk is expected to have a limited negative impact on the efficient operation of the gas market. Either by somewhat reducing the ability to observe, in a timely and accurate fashion, how well the market is functioning and/or reducing the ability of the market to respond efficiently to changing market conditions or plan efficiently to meet future gas demand. The risk is expected to reduce competition in the gas market, and result in inefficient decisions about gas consumption, production, trade, and the use of infrastructure services and long-term investments.</td>
</tr>
<tr>
<td>Minor</td>
<td>The eventuation of the risk is expected to have a minimal negative impact on the efficient operation of the gas market. Either by mildly reducing the ability to observe, in a timely and accurate fashion, how well the market is functioning and/or by slightly reducing the ability of the market to respond efficiently to changing market conditions or plan efficiently to meet future gas demand. The risk is expected to have minimal impact on competition in the gas market, and result in slightly inefficient decisions about gas consumption, production, trade, and the use of infrastructure services and long-term investments.</td>
</tr>
</tbody>
</table>
### Appendix Table 1: Risk of status quo

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
</table>
| Gas, LNG export and infrastructure prices information deficiencies (Chapter 4) | The opaqueness surrounding wholesale, retail, LNG export and infrastructure prices can be expected to:  
  - impede the efficient allocation of gas and infrastructure services by:  
    - hindering the price discovery process;  
    - imposing additional search and transaction costs on market participants; and  
    - contributing to the imbalance in bargaining power that gas users can face in negotiations; and  
  - result in inefficient consumption, production, infrastructure use, investment and policy decisions. | Energy Council | Short-term GSAs:  
  - Aggregated information on the prices paid for gas in the GSH is published by AEMO on a daily basis. No public information on the prices agreed in short-term GSAs conducted outside the GSH, which accounts for a greater volume of short-term gas traded.  
  Long-term GSAs producer prices:  
  - ABS survey-based domestic gas extraction price index, which measures movements in prices paid to producers for supply into the domestic market.  
  - Through the Gas Inquiry, the ACCC has published:  
    - An historic invoiced-based producer price series, which reflects the weighted average prices paid to producers under GSAs involving the supply of at least 0.5 PJ p.a. of gas and a contract term of at least 1 year.  
    - Forward looking estimates of the minimum, maximum and weighted average prices payable to producers under recently executed GSAs, involving the supply of at least 0.5 PJ p.a. of gas and a contract term of at least 1 year:  
    - Information on the prices offered by producers to customers seeking the | Highly likely | Major       | Severe      | NO. Treatment needed. |
<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>supply of at least 0.5 PJ p.a. of gas for a term of at least 1 year.</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Long-term GSAs retailer prices:</td>
<td></td>
<td></td>
<td>• Through the Gas Inquiry, the ACCC has published equivalent historic, forecast and offer information for retailer sales to commercial and industrial gas users.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factors influencing the price of gas:</td>
<td></td>
<td></td>
<td>• AEMO publishes estimated of production costs as part of the GSOO supplementary material.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The ACCC published a consultant’s estimates of production costs in eastern Australia in December 2018.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNG netback price:</td>
<td></td>
<td></td>
<td>• Through the Gas Inquiry, the ACCC has published an historic and forward-looking monthly LNG netback price series on a fortnightly basis.</td>
<td></td>
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<tr>
<td>Locational gas swaps:</td>
<td></td>
<td></td>
<td>• The ACCC published some information on locational gas swaps in December 2017. No other public information is available on the prices paid in gas swaps.</td>
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<tr>
<td>LNG export prices:</td>
<td></td>
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<td>• In May 2019, the ACCC published aggregated information on the export prices paid to LNG exporters in eastern Australia. No other information is publicly available on the prices LNG producers received for their exports.</td>
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<tr>
<td>Risk Description</td>
<td>Impact</td>
<td>Risk Owner</td>
<td>Existing Controls</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Risk Rating</td>
<td>Is the risk acceptable?</td>
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<tr>
<td>LNG import prices:</td>
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<td></td>
<td>• No LNG import prices are reported as there are no LNG import facilities operating in the eastern or northern Australia.</td>
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<td>Stand-alone compression prices:</td>
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<td></td>
<td>• Primary capacity:</td>
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<td>○ Operators of stand-alone compression facilities are not required to publish standing prices or information on the prices actually paid by users, unless the facilities form part of a transmission pipeline that is subject to full regulation, light regulation, or Part 23 of the NGR.</td>
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<td></td>
<td></td>
<td></td>
<td>○ Secondary capacity:</td>
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<td></td>
<td>○ Information on the prices and other key terms agreed in secondary capacity trades on stand-alone compression facilities must be reported on the Bulletin Board on an anonymised basis.</td>
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<td></td>
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<td></td>
<td>○ The prices paid for stand-alone compression services procured through the day-ahead auction must be reported on the Bulletin Board on an anonymised basis.</td>
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<tr>
<td>Storage prices:</td>
<td></td>
<td></td>
<td>• Primary capacity:</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>○ Through the gas inquiry, the ACCC has published the minimum and</td>
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<tr>
<td>Risk Description</td>
<td>Impact</td>
<td>Risk Owner</td>
<td>Existing Controls</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Risk Rating</td>
<td>Is the risk acceptable?</td>
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</tbody>
</table>
| Supply and availability of gas information deficiencies (Chapter 5)             | The lack of a consistent set of publicly available information on reserves and resources, contracted reserves, drilling activities and production cost estimates can be expected to: | Energy Council | maximum prices paid by users of storage facilities.  
   - Secondary capacity:  
     - Information on secondary trades of storage capacity is not required to be reported.  
   - Aggregated information in eastern Australia published annually by AEMO as part of GSOO (voluntary survey).  
   - Some information published by the Queensland DNRME with a lag and by ASX listed entities.  
   No publicly available information on contracted reserves or on the reserves that have been contracted for the domestic market vs export markets.  
   Drilling:  
     - NOPTA publishes information on the timing of offshore well developments and limited well and survey data, with most of | Highly likely | High | High | NO. Treatment needed. |
<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
</table>
| Demand for gas information deficiencies (Chapter 6)   | The lack of transparency surrounding:                                 | Energy Council    | the data collected on a permanently confidential basis.  
- ASX listed entities are required to publicly report on material exploration and drilling results.  
Through the Gas Inquiry, the ACCC has published:  
- The volume of gas LNG exporters expect to produce from either their own reserves or storages or from third party purchases;  
- The volume of gas LNG exporters are required to supply under their long-term LNG contracts and domestic contracts; and  
- The volume of 'excess' gas (i.e. over and above what is required to meet existing commitments) LNG projects expect to have. | Likely      | High        | High        | NO. Treatment needed.                                                                                                 |
|                                                        | - the use of gas by large users can be expected to result in inefficient consumption, production, infrastructure use, investment and policy decisions (i.e. because market participants do not have a good understanding of the nature of demand or the operational activities of large users that can have a bearing on the market); and  
- the operation of LNG facilities and LNG shipments can be expected to: |                   |                                                                 |             |             |             |                        |
<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
</table>
| Infrastructure used to supply gas to end-markets information deficiencies (Chapter 7) | Inconsistencies in the current reporting requirements for:  
- available capacity and the identity of users with capacity on key infrastructure can be expected to raise search and transaction costs and impede the efficient use of, and investment in these assets;  
- the operational activities of key infrastructure (e.g. compressors) can be expected to limit the ability of the market to respond efficiently to market disruptions affecting this infrastructure; and  
- proposed infrastructure developments across key infrastructure can be expected to impede efficient planning and investment decisions across the supply chain. | Energy Council | Gas infrastructure developments:  
- Limited information on proposed infrastructure developments published annually by AEMO as part of GSOO (voluntary survey).  
- ASX listed entities required to disclose market sensitive information that would have a material effect on the price or value of the entity's securities.  
Availability of capacity:  
- Non-exempt non-scheme pipelines and other transmission pipelines are required to report a 36-month uncontracted capacity outlook.  
- Stand-alone compression and storage facilities are required to report a 12-month uncontracted capacity outlook.  
- Production facilities providing 3rd party access are not required to publish any information on uncontracted capacity outlook.  
Users of contracted capacity: | Highly likely | High | High | NO. Treatment needed. |
<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSOO information deficiencies (Chapter 8)</td>
<td>The reliance of the GSOO on voluntary surveys may be affecting the quality of the information and analysis contained within the GSOO, which may, in turn, • result in inefficient planning and investment decisions across the supply chain; and • hinder the ability of the market to signal any demand-supply imbalances in a timely and accurate manner and, in so doing, hinder the ability of the market and governments to respond efficiently to changes over time.</td>
<td>Energy Council</td>
<td>While AEMO does have information gathering powers in the NGL, those powers have not been used to date because AEMO must consider it reasonably necessary to exercise this power before issuing a market information order or market information notice.</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
<td>NO. Treatment needed.</td>
</tr>
<tr>
<td>The restriction of the GSOO to the east coast can be expected to result in inefficient consumption, supply, investment and policy decisions, because it will fail to consider the demand-supply dynamics prevailing in the Northern Territory that may affect supply in the east coast.</td>
<td>Energy Council</td>
<td>Nil. The scope of the GSOO does not currently extend to the Northern Territory.</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
<td>NO. Treatment needed.</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix Table 2: Risk treatments to address risks of status quo (refer to section 9.2 for detailed information on implementation options)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Treatment owner</th>
<th>Residual Risk Likelihood</th>
<th>Residual Risk Consequence</th>
<th>Residual Risk Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas, LNG export and infrastructure prices (Chapter 4)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement Option 1 – Status quo</td>
<td>Energy Council</td>
<td>Highly likely</td>
<td>Major</td>
<td>Severe</td>
</tr>
<tr>
<td>Implement Option 2 – Subset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Implement Option 3 – All of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Implement Option 4 – Superset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Rare</td>
<td>Minor</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Supply and availability of gas (Chapter 5)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement Option 1 – Status quo</td>
<td>Energy Council</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Implement Option 2 – Subset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Likely</td>
<td>Moderate</td>
<td>Medium</td>
</tr>
<tr>
<td>Implement Option 3 – All of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Implement Option 4 – Superset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Demand (Chapter 6)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement Option 1 – Status quo</td>
<td>Energy Council</td>
<td>Likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Implement Option 2 – Subset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Possible</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Implement Option 3 – All of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Implement Option 4 – Superset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Infrastructure used to supply gas to end-markets (Chapter 7)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement Option 1 – Status quo</td>
<td>Energy Council</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Implement Option 2 – Subset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Implement Option 3 – All of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Implement Option 4 – Superset of ACCC-GMRG and AEMC recommendations</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td><strong>GSOO (Chapter 8)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Continue to conduct voluntary surveys to collect information for GSOO</td>
<td>Energy Council</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Treatment</td>
<td>Treatment owner</td>
<td>Residual Risk Likelihood</td>
<td>Residual Risk Consequence</td>
<td>Residual Risk Rating</td>
</tr>
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</tr>
<tr>
<td>Compel information provision for GSOO</td>
<td>Energy Council/NT Govt</td>
<td>Unlikely</td>
<td>Minor</td>
<td>Low</td>
</tr>
<tr>
<td>GSOO continues to not include the Northern Territory</td>
<td>Energy Council/NT Govt</td>
<td>Highly likely</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>GSOO to be expanded to include the Northern Territory</td>
<td>Energy Council/NT Govt</td>
<td>Unlikely</td>
<td>Minor</td>
<td>Low</td>
</tr>
</tbody>
</table>
Appendix Table 3: Risks of implementing recommendations described in options 2, 3 and 4 (refer to section 9.2 for detailed information on implementation)

<table>
<thead>
<tr>
<th>Id.</th>
<th>Risk Description</th>
<th>Impact</th>
<th>Risk Owner</th>
<th>Existing Controls</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Is the risk acceptable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Higher compliance and reporting costs</td>
<td>Pass-through of reporting and compliance cost to end-users, resulting in higher gas and infrastructure prices.</td>
<td>Energy Council</td>
<td>For the majority of recommendations, the reporting and compliance costs are expected to be low as the information is already held by market participants.</td>
<td>Highly likely</td>
<td>Minor</td>
<td>Medium</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Duplication of reporting</td>
<td>Producers may resist the reserves and resources reporting requirements, citing duplication of reporting requirements.</td>
<td>Energy Council</td>
<td>Nil.</td>
<td>Highly likely</td>
<td>Minor</td>
<td>Medium</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Competition concerns</td>
<td>Storage and compression facility operators may resist the recommendation regarding the publication of prices citing disclosure of confidential information. Publishing actual prices paid by users could have detrimental effects on competition between facility operators and facilitate coordinated conduct.</td>
<td>Energy Council</td>
<td>ACCC noted that in the absence of competition i.e. in respect to monopoly infrastructure, there will be no risk of coordinated conduct. In which case the publication of individual prices for use of stand-alone compression facilities and storage facilities is less of a concern than it is for gas prices.</td>
<td>Likely</td>
<td>Moderate</td>
<td>Medium</td>
<td>NO. Treatment needed.</td>
</tr>
<tr>
<td>4</td>
<td>Confidentiality concerns</td>
<td>Compression and storage facility operators may resist the recommendation regarding the publication of prices, citing disclosure of confidential information.</td>
<td>Energy Council</td>
<td>Nil.</td>
<td>Likely</td>
<td>Moderate</td>
<td>Medium</td>
<td>NO. Treatment needed.</td>
</tr>
<tr>
<td>5</td>
<td>Ambiguity in calculation of production cost estimates</td>
<td>Producers may resist due to the lack of clarity on how the production cost estimates is to be calculated, and how risks borne by upstream developers will be incorporated into production cost estimates.</td>
<td>Energy Council</td>
<td>There are no additional reporting requirements imposed on producers. Refer to the 2018 GSOO Contracts Reserves Costs assumptions document for the assumptions used to</td>
<td>Possible</td>
<td>Moderate</td>
<td>Medium</td>
<td>NO. Treatment needed.</td>
</tr>
<tr>
<td>Id.</td>
<td>Risk Description</td>
<td>Impact</td>
<td>Risk Owner</td>
<td>Existing Controls</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Risk Rating</td>
<td>Is the risk acceptable?</td>
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<td>6</td>
<td>Coordinated conduct</td>
<td>The publication of gas prices could enable suppliers to engage in coordinated conduct, which may keep prices at higher levels.</td>
<td>Energy Council</td>
<td>ACCC’s producer and retail gas price series have been aggregated by region.</td>
<td>Possible</td>
<td>Moderate</td>
<td>Medium</td>
<td>NO. Treatment needed.</td>
</tr>
</tbody>
</table>
### Appendix Table 4: Risk treatments to address risks of implementing recommendations described in options 2, 3 and 4

<table>
<thead>
<tr>
<th>ID</th>
<th>Treatment</th>
<th>Treatment owner</th>
<th>Residual Risk Likelihood</th>
<th>Residual Risk Consequence</th>
<th>Residual Risk Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Department has engaged an independent expert to undertake a CBA to assess the benefits and costs to gas market participants arising from implementing the transparency measures.</td>
<td>Energy Council</td>
<td>Highly likely</td>
<td>Minor</td>
<td>Medium</td>
</tr>
<tr>
<td>2</td>
<td>The Department will encourage relevant areas across all levels of government to utilise the reserves and resources information and drilling activities information published on the Bulletin Board and GSOO for their reporting and publication purposes, rather than seeking separate information from producers.</td>
<td>Energy Council</td>
<td>Likely</td>
<td>Minor</td>
<td>Low</td>
</tr>
<tr>
<td>3</td>
<td>ACCC is considering 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. The government has engaged a service provider to undertake a competition effects analysis, to assess the potential competition impacts of implementing the transparency measures on the gas market.</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>4</td>
<td>The ACCC’s advice on this issue is to consult further on whether individual prices or weighted average prices plus the minimum and maximum prices should be used. Reporting individual prices may have an impact on competition in upstream or downstream markets. This issue will be consulted on further in the pipeline RIS process in 2019.</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>5</td>
<td>Require the publication of information on producers’ actual cost of production.</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Minor</td>
<td>Low</td>
</tr>
<tr>
<td>6</td>
<td>Producer and retail price series will be published on an anonymised and aggregated basis (e.g. by basin, trading point, region or other aggregation level including at least 3 sellers).</td>
<td>Energy Council</td>
<td>Unlikely</td>
<td>Moderate</td>
<td>Low</td>
</tr>
</tbody>
</table>
Appendix 2: Further information on COAG Energy Council and gas market reform work

A2.1 COAG Energy Council

The Council of Australian Governments (COAG) Energy Council is a Ministerial forum for the Commonwealth, states and territories and New Zealand, to work together in the pursuit of national energy reforms. The Council was established by COAG in December 2013 as part of a decision to streamline the COAG council system and refocus it on COAG’s priorities.

The Energy Council is guided by its Terms of Reference and its work covers the following broad themes:

- Overarching responsibility and policy leadership for Australian gas and electricity markets;
- Promotion of energy efficiency and energy productivity in Australia;
- Australian electricity, gas and petroleum product energy security;
- Cooperation between Commonwealth, state and territory governments; and
- Facilitating the economic and competitive development of Australia’s mineral and energy resources.

The Council’s approach is based on the following principles:

- Promoting the interests of electricity and gas consumers by overseeing the development and maintenance of competitive electricity and gas markets and effective regulation of network monopoly infrastructure.
- Greater productivity, energy efficiency and sustainability to be core goals.
- Industry and other stakeholder participation in policy development and implementation.
- Regulatory and governance reform to streamline processes and decision-making and deliver outcomes more efficiently and consistently.

At the 23 July 2015 Energy Council meeting, Ministers discussed progress made in aligning the Council's work program around six strategic themes: generation, networks, retail, energy productivity, natural gas, and resources productivity and development and agreed to a Reform Implementation Plan. The Plan is intended to inform stakeholders of the status of key work streams within these strategic themes.

A2.2 COAG Energy Council Gas Market Vision (December 2014)

The 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

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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.

A2.3 Productivity Commission examination of barriers to more efficient gas markets (March 2015)

The Productivity Commission reported\textsuperscript{126} in March 2015 on its examination of issues relating to different stages of the gas supply chain in the eastern Australian gas market, against the backdrop of integration with the Asia-Pacific market. The report considered the exploration, production, processing and transmission stages of supply. The Commission's analysis also considered the role of government in the market and examined whether there are barriers to efficiency that would be amenable to policy reform.

The report delivered a number of key messages including the following:

- The integration of the eastern Australian gas market with the Asia–Pacific market represents an opportunity for the Australian community to earn a higher return from its substantial non-renewable resources. This will result in a net benefit to the community.
- The opening of the export market is creating significant disruption for market participants and will lead to material costs for some gas users, including through higher prices. There are concerns about short-term gas shortages and some gas users have indicated that they are unable to secure supply contracts.
- Policies that seek to counteract the pressures from structural adjustment arising from the opening of the export market, such as domestic gas reservation, could distort important signals for adjustment and are unlikely to be efficient or effective in the long run.
- Governments should be mindful that policies that interfere with market signals could undermine investment incentives, including incentives to bring on new sources of gas supply.

A2.4 ACCC East Coast Gas Inquiry 2015 (April 2016)

In April 2015, the Australian Government required the ACCC to hold a public inquiry into the competitiveness of wholesale gas prices and structure of the upstream, processing, transportation, storage, and marketing segments of the east coast gas industry. The inquiry\textsuperscript{127} was conducted over one year. Quotes from Rod Simms, ACCC Chair included:

- The introduction of LNG and with it exposure to international gas pricing, a fall in oil prices leading to a downturn in exploration and new development, and regulatory uncertainty and exploration moratoria, had created an increasingly complex environment for many gas market participants.

\textsuperscript{126} Productivity Commission (2015), Examining barriers to more efficient gas markets. Available at: https://www.pc.gov.au/research/completed/gas-markets

Some suppliers have taken advantage of this supply uncertainty and potential shortfalls to increase prices and implement more restrictive non-price terms and conditions.

The inquiry report made a number of recommendations that the COAG Energy Council and state and territory governments can consider to alleviate gas market issues, particularly for industrial users.

A2.5 COAG Energy Council Gas Market Reform Package and establishment of the Gas Market Reform Group (August 2016)

To drive the achievement of its Australian Gas Market Vision for a liquid wholesale gas market, where an efficient reference price provides signals for investment and new gas supply, the Energy Council committed to a comprehensive Gas Market Reform Package in August 2016.

The reform package comprises four priority areas and 15 reform measures. The four priority areas are gas supply, market operation, gas transportation and market transparency. The Energy Council established the Gas Market Reform Group to lead the design, development and implementation of gas market reforms identified in the Package, including:

- a new information disclosure and commercial arbitration framework for non-scheme pipelines;
- the capacity trading reform package, which provides for the development of a capacity trading platform, a day-ahead auction of contracted but un-nominated capacity, a reporting framework for secondary capacity trades and the development of standard terms to facilitate the trade of transmission pipeline and compression services; and
- the development of the terms of reference for the Australian Energy Market Commission’s (AEMC) biennial review on the growth in liquidity in wholesale gas and pipeline capacity trading markets.

A2.6 AEMC East Coast Wholesale Gas Market and Pipeline Frameworks Review (July 2016)

The AEMC was directed by the COAG Energy Council to conduct a detailed review of the information available to market participants when making consumption, production, transportation, storage and investment decisions in the eastern and northern Australian gas markets.

In the Final Report, the AEMC recommended a package of 15 key reforms to improve the efficiency of gas trading and access to pipeline transportation, forming a roadmap for the future development of the gas market.

The AEMC recommended a range of improvements to the Natural Gas Services Bulletin Board, which is detailed in section 2.3.

A2.7 ACCC Gas inquiry 2017-2020 (commenced April 2017)

On 19 April 2017 the Australian Government directed the ACCC to conduct a wide-ranging inquiry into the supply of and demand for wholesale gas in Australia, as well as to publish regular information on the supply and pricing of gas for the next three years.

Matters to be monitored and considered by the inquiry include:

- the pricing and availability of offers to supply gas;
- the volumes of gas supplied or available for current or future supply, including natural gas extracted or produced in Australia, or imported into Australia;
- the pricing, volume and availability of gas for domestic supply compared to the pricing, volume and availability of gas for export; and
- the pricing, volume and availability of other goods or services, such as goods or services for drilling, storing or processing gas, that enable, assist or facilitate the supply of gas or gas transportation services in Australia.

The ACCC Gas inquiry 2017-2020 is due to conclude by April 2020.