

Operation and Administration of the Transportation Capacity Trading Platform(s) and Day-Ahead Auction

Final Recommendations

June 2017





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Abbreviations

| Term | Definition |
|-------------------|---|
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| APGA | Australian Pipelines and Gas Association |
| APPEA | Australian Petroleum Production and Exploration Association |
| ECA | Energy Consumers Australia |
| EMMS | Electricity Market Management System |
| COAG | Council of Australian Governments |
| Council | COAG Energy Council |
| East Coast Review | AEMC's <i>Eastern Australian Wholesale Gas Market and Pipelines Framework Review</i> (May 2016) |
| GMRG | Gas Market Reform Group |
| GTA | Gas Transportation Agreement |
| NGL | National Gas Law |
| NGO | National Gas Objective |
| NGR | National Gas Rules |
| SCO | Standing Committee of Officials |
| SRA | Inter-regional settlements residue auctions |
| STTM | Short Term Trading Market |
| Vision | COAG Energy Council's <i>Australian Gas Market Vision</i> (December 2014) |



1. Introduction and Summary

The Gas Market Reform Group (GMRG) was established by the COAG Energy Council (Council) in the latter half of 2016 to lead the design, development and implementation of a range of reforms set out in the Gas Market Reform Package, including a number of capacity (pipeline and hub service) trading reforms.¹

The capacity trading reforms were recommended by the Australian Energy Market Commission (AEMC) as part of its *Eastern Australian Wholesale Gas Market and Pipelines Framework Review (East Coast Review)* and were endorsed by the Council at its August 2016 meeting. The reforms include the development of:

- a day-ahead auction of contracted but un-nominated pipeline and hub service capacity, which would be conducted shortly after nomination cut-off and subject to a reserve price of zero (with compressor fuel provided in-kind by shippers);
- a capacity trading platform(s) that shippers can use to trade secondary pipeline and hub service capacity ahead of the nomination cut-off time and provides for exchange based trading of commonly traded products and a listing service for other more bespoke products;
- standards for key contract terms in primary, secondary, operational transfer and trading exchange agreements to make capacity products more fungible and, in so doing, facilitate a greater level of secondary capacity trading; and
- a reporting framework for secondary capacity trades that provides for the publication of the price and other related information on secondary trades.

Together the AEMC expects these reforms to improve the efficiency with which transportation capacity (pipeline and hub services) is allocated and utilised in the east coast and foster the development of a more liquid secondary capacity market by:²

- using market based processes to allocate capacity on a non-discriminatory basis to those that value it most;
- reducing the search and transaction costs associated with secondary trades;
- reducing information asymmetries to aid the price discovery process and enable more informed decision making; and
- improving the incentive shippers have to trade capacity.

Greater liquidity in the secondary capacity market is expected to facilitate more trade in the wholesale gas market and support the development of a more robust reference price for gas and, in so doing, enable market participants to make more informed decisions about gas use and investments in exploration, production, pipelines and storage facilities.³ The reforms are therefore expected to promote the National Gas Objective (NGO) and the Council's Vision for the Australian Gas Market (*Vision*) (see Box 1.1).

¹ COAG Energy Council, Bulletin Two: Gas Market Reform Package, August 2016.

² AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, p. 67.

³ *ibid*, p. viii.



Box 1.1: National Gas Objective and Council's Vision for the Australian Gas Market

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."

Council's Vision for the Australian Gas Market⁴

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 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 relating to resources projects, and rigorous science to ensure that 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, in order 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.

The outcomes that are most relevant to the capacity trading related reforms are Stream 2(b), Stream 3(b) and (c).

⁴ COAG Energy Council, Australian Gas Market Vision, December 2014.



1.1 Progression of the capacity trading reforms

To progress the capacity trading reforms outlined above, the GMRG has established a number of project teams to carry out the detailed design and development work, with the teams consisting of a mix of members drawn from industry, consumer groups, market bodies and other industries. Importantly, the project teams do not have any decision-making power. Their role is to inform the GMRG's consideration of the design options, which will be consulted upon more broadly with other stakeholders before Dr Michael Vertigan AC, as Chair of the GMRG, makes his final recommendations to the Council.

Work on the capacity trading reforms commenced in early 2017 and was initially specified to be completed during 2018, allowing the recommendations to be considered by the Council at the end of 2018 and for the reforms to be implemented by 2021. However, in response to a request from the Hon. Josh Frydenberg MP, Minister for the Environment and Energy, the GMRG has examined the opportunities to accelerate this work and expects to make its recommendations on:

- the organisation(s) designated to operate and administer the capacity trading platform(s) and the day-ahead auction by mid-2017;
- the form that the standardised capacity trading contracts and the capacity trading platform should take by September 2017; and
- the design of the day-ahead auction and the reporting framework for secondary capacity trades by December 2017.

This accelerated timetable is expected to enable the capacity trading platform(s) and day-ahead auction to become operational prior to the 2018-19 summer.

In keeping with the accelerated timeline, the GMRG has consulted with the project teams and carried out a public consultation process on the organisation(s) that should run the capacity trading platform(s) and day-ahead auction and prepared the following report, which sets out the GMRG's final recommendations to the Council. The remainder of this section provides an overview of the options that have been considered, the feedback that stakeholders have provided and the GMRG's final recommendations.

1.2 Options for the operator(s) of the capacity trading platform(s) and day-ahead auction

In the Stage 2 Final Report of the *East Coast Review*, the AEMC identified a number of organisations that could operate and administer the capacity trading platform(s) and day-ahead auction, but did not reach a concluded position on this issue. It instead recommended that the GMRG consider the options in further detail. The options that the AEMC identified were as follows:

- **Capacity trading platform(s) options:**
 - each pipeline operator develops and operates their own trading platform; or
 - a single capacity trading platform is developed and operated by:



- AEMO and form part of the Gas Supply Hub (GSH) trading exchange, which is currently used by market participants to trade gas and hub services; or
 - a joint venture between pipelines, or another party with relevant capabilities.
- **Day-ahead auction options:**
 - each pipeline operator develops and operates their own auction platform; or
 - a centralised auction platform is developed and operated by:
 - AEMO; or
 - a joint venture between pipelines, or another party with relevant capabilities.

The AEMC also noted in its recommendations that:⁵

- the preferred⁶ outcome was that a single capacity trading platform be developed; and
- the suggested outcome was that the auction be run by the same organisation that operates the capacity trading platform and auction.

To help inform its consideration of the options identified by the AEMC, the GMRG invited:

- AEMO to explain how it would operate the capacity trading platform(s) and day-ahead auction if it was accorded responsibility for doing so; and
- the Australian Pipeline and Gas Association (APGA) to explain how pipeline operators would operate the capacity trading platform(s) and day-ahead auction if they were accorded responsibility for doing so.

The table below provides a summary of the options that AEMO and APGA presented.

⁵ AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, pp. 16-17.

⁶ The AEMC categorised its recommendations as follows:

- required outcomes – these recommendations were described by the AEMC as outcomes that must be progressed by the GMRG and are necessary to the implementation of the reforms;
- preferred outcomes – these recommendations were described by the AEMC as outcomes that should be pursued by the GMRG unless it is clear there are greater benefits in alternative approaches; and
- suggested outcomes – these recommendations were described by the AEMC as outcomes that have in-principle benefits but need to be considered further by the GMRG.



Table 1.1: Options presented by APGA and AEMO

| Mechanism | Pipeline Operated | | AEMO Operated | |
|-------------------------------------|--|----------------------------|--|---------------------------------|
| Capacity Trading Platform(s) | No proposal put forward. | | AEMO proposed the development of a single capacity trading platform that formed part of the GSH trading exchange. AEMO also proposed to utilise the same settlement, billing, prudential and other arrangements established for the GSH. | |
| | n.a. | | AEMO implementation cost estimate: | \$90,000-\$140,000 ⁷ |
| | n.a. | | Pipeline implementation cost estimate: | Not provided |
| Day-ahead Auction | <p>APGA proposed that each pipeline operator that is subject to the auction develop and operate their own auction platform. APGA also proposed that:</p> <ul style="list-style-type: none"> ▪ the auction would form part of the pipeline operator’s nominations systems and utilise existing billing and prudential arrangements ▪ standardised settlement arrangements and other protocols would be developed to ensure consistent implementation ▪ information on the auction capacity and results of the auction would be published on the Bulletin Board | | <p>AEMO proposed the development of a centralised auction platform. AEMO also proposed that:</p> <ul style="list-style-type: none"> ▪ the auction would leverage a number of existing AEMO systems (including the EMMS web portal and the inter-regional settlements residue auction algorithm) ▪ the auction would utilise the settlement, billing, prudential and other arrangements that have been established for the GSH. | |
| | AEMO implementation cost estimate for Bulletin Board: | Not provided | AEMO implementation cost estimate: | \$0.35-\$0.45 m ⁸ |
| | Pipeline implementation cost estimate: | \$2.2 million ⁹ | Pipeline implementation cost estimate: | \$3.2 m ¹⁰ |
| | Total implementation cost estimate: | \$2.2 million + | Total implementation cost estimate: | \$3.55-\$3.65 m |

⁷ AEMO has advised that these estimates are predicated on the following assumptions: the capacity products are listed on Trayport under the GSH Exchange Agreement governance framework; no law or rule changes are required to implement the platform; capacity products developed as part of GMRG process; and the trading platform and day ahead auction are implemented concurrently to capture synergies. AEMO has also advised that the estimate excludes: the costs of integration with the STTM and DWGM; the cost of training and guide development; and the cost of making changes to the Exchange Agreement.

See AEMO, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 11 June 2017, p. 2.

⁸ AEMO has advised that these estimates are predicated on the following assumptions: a single auction is conducted between key points/zones on the east coast; the auction utilises the settlements, invoicing, prudential and registration framework from the GSH; the auction interface is adapted from the existing SRA; the auction algorithm is based on the existing SRA solver without substantial modification; backhaul is not incorporated into the auction algorithm; the auction is not integrated with the pipeline operators’ nominations systems; the trading platform and day ahead auction are implemented concurrently to capture synergies. AEMO has also advised that the estimate excludes: the costs of integration with the STTM and DWGM; the cost of carrying out training, developing guidelines; the cost of any changes that may need to be made to the NGL, NGR or Procedures.

See AEMO, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 11 June 2017, p. 3.

⁹ APGA Presentation, Pipeline-run capacity auctions, 2 May 2017.

¹⁰ APGA Presentation, Pipeline-run capacity auctions, 2 May 2017.



1.3 Stakeholder consultation

The options outlined above were considered in some detail by the GMRG’s Capacity Trading and Day-Ahead Auction project teams (see Table 1.2 for a list of organisations involved in these two project teams).

Table 1.2: Organisations Involved in Capacity Trading and Day-Ahead Auction Project Teams

| Capacity Trading Team | Day-Ahead Auction Team |
|-----------------------|------------------------|
| AGL | APA |
| EnergyAustralia | APLNG |
| CQ Partners | Central Petroleum |
| Stanwell | Origin |
| Jemena | Santos |
| DBP | SEAGas |
| PIAC | Snowy Hydro |
| Independent Advisor | Shell |

The options were also the subject of a public consultation process, which commenced on 19 May 2017 and ended on 8 June 2017. In total 20 submissions were received through this public consultation process, from

- shippers with interests across the gas supply chain, including producers, retailers, industrial users and LNG proponents (i.e. AGL, APLNG, Central Petroleum, Origin, Orica, Qenos, Santos, Shell and Tas Gas Retail);
- pipeline operators (APA, DBP, Epic and Jemena);
- industry associations (the Major Energy Users (MEU), APGA and Australian Petroleum Production and Exploration Association (APPEA));
- a number of other bodies, including AEMO, the Australian Competition and Consumer Commission (ACCC) and Energy Consumers Australia (ECA); and
- two shippers and one other organisation that asked to remain anonymous.

A list of the stakeholders that provided submissions is provided in Appendix A.

An overview of the feedback these stakeholders provided on the options outlined above is provided below. Further detail on the feedback stakeholders provided can be found in Chapters 3 and 4.

1.3.1 Capacity trading platform(s)

At the project team level, there was broad agreement amongst the majority of team members that a single capacity trading platform should be developed and operated by AEMO and form part of the GSH trading exchange. The responses to the consultation paper were, however, more divided, with:



- AGL, APLNG, Central Petroleum, Origin, Orica, Shell, Tas Gas Retail, Epic, the MEU, Santos, APPEA,¹¹ the ACCC, the ECA and a shipper that asked to remain anonymous supporting the development of a single capacity trading platform by AEMO;
- Jemena supporting the development of trading platform(s) by pipeline operators; and
- APA and APGA supporting the development of a single capacity trading platform, but stating that there was insufficient detail on the design to make an informed decision about who should run the platform.

APA, APGA, DBP, Epic and Jemena also suggested in their submissions that the decision on who should operate the capacity trading platform(s) be deferred until the final design of the platform is determined.

1.3.2 Day-ahead auction

There was a significant division of opinion amongst project team members about who should operate the day-ahead auction:

- On the one side of this debate were pipeline representatives, who believe that each pipeline operator should develop and operate their own auction platform.
- On the other side of this debate were shippers and other team members, who believe that a centralised platform should be developed and operated by AEMO.

This debate was also reflected in the responses to the consultation paper, with:

- AGL, APLNG, Orica, Origin, Santos, Shell, Tas Gas Retail, the MEU, APPEA, the ACCC, the ECA and two shippers that asked to remain anonymous believing that a centralised platform should be developed and operated by AEMO;
- Central Petroleum believing that a centralised auction operated by AEMO would “promote the liquidity and evolution of the day-ahead auction”, but noting that if the firmness of the product could be improved by conducting the auction with the initial pipeline scheduling then an alternative operating arrangement may be appropriate;¹²
- Epic stating that if the product as proposed by the AEMC is implemented then it may support AEMO administering the auction platform, but if the product was developed in a way that AEMO was not able to administer then it may be more suited to pipeline operators developing their own auction platform;¹³ and
- APA, DBP, Jemena and APGA believing that each pipeline operator should operate their own auction platform.

APGA, APA, DBP, Epic and Jemena also repeated their suggestion that a decision on who operates the auction be deferred until the final design of the auction is determined.

¹¹ APPEA also suggested that a post-implementation review be conducted three years after the platform commences to assess the costs and benefits of an option to spin out the platform into an industry led joint venture. APPEA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 13 June 2017, p. 2.

¹² Central Petroleum, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 2.

¹³ Epic, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 3-4



1.4 GMRG's final recommendations

Having regard to the options identified in the AEMC's *East Coast Review*, the proposals presented by AEMO and APGA and the feedback provided by the project teams and other stakeholders, the GMRG has developed its final recommendations on the organisation(s) that should operate the capacity trading platform(s) and day-ahead auction. In developing these recommendations, the GMRG has had regard to:

- The rule making test that the AEMC is required to consider when exercising its rule making functions, which requires consideration to be given to the NGO (see Box 1.1).¹⁴
- The Council's *Vision* (see Box 1.1).¹⁵
- The objectives of the capacity trading reforms, which as the AEMC noted are to improve the efficiency with which capacity is allocated and utilised and foster the development of a more liquid market for secondary capacity.
- The attributes that the project teams thought the capacity trading platform(s) and auction platform would need to emulate if they were to become the 'platforms of choice' for market participants. These attributes, include amongst others, that the capacity trading platform(s) and auction:
 - are operated by independent and experienced operators and underpinned by a robust governance framework;
 - provide for low transaction costs and quick and effective execution of trades;
 - enable shippers to co-ordinate trades across pipelines and other services; and
 - be capable of capturing scale and scope benefits as well as being future proof and adaptable.

As some project team members noted, the capacity trading platform(s) and auction will not be successful unless traders choose to use it. The importance of these attributes cannot therefore be understated.

In arriving at its conclusions, the GMRG has benefited from, and greatly appreciates, the effort APGA and AEMO put into developing their respective proposals and the time the project teams and other stakeholders have put into evaluating the options.

Having regard to the matters outlined above, the GMRG, like most stakeholders, is of the view that AEMO should be accorded responsibility for the operation and administration of:

- a single capacity trading platform that will form part of the GSH trading exchange and provide for exchange based trading of commonly traded pipeline capacity and hub service products and a listing service for more bespoke products; and
- a centralised day-ahead auction of contracted but un-nominated pipeline and hub service capacity.

¹⁴ The NGO is set out in section 23 of the NGL.

¹⁵ COAG Energy Council, Australian Gas Market Vision, December 2014.



The main benefits that the GMRG believes an AEMO operated capacity trading platform and day-ahead auction offers relative to the pipeline operator alternatives can be summarised as follows:

- **Operation and governance of the new market mechanisms:** The capacity trading platform and day-ahead auction would be:
 - operated by an independent operator that has no commercial interest in the trading or auction outcomes and has extensive experience operating auctions and a trading exchange; and
 - underpinned by robust governance frameworks that have already been largely established in the NGL and NGR.

The systems that AEMO has proposed to use for the trading platform and day-ahead auction have also been demonstrated to be predictable, reliable and transparent and to provide for fast and effective executions of trades with relatively low transaction costs. As stakeholders noted, these factors are likely to provide market participants with more confidence to participate in the market and, in so doing, enhance liquidity.

- **Harmonisation of the trading arrangements and market interfaces:** The development of both a single capacity trading platform and centralised auction platform will provide for a more harmonised approach to secondary trading and release of auctioned contracted but un-nominated capacity across the market, which will reduce the barriers to trade and provide shippers with better access to end-markets.
- **Centralisation of the new market mechanisms:** The operation of a single capacity trading platform and a centralised auction by AEMO will:
 - increase the flexibility and opportunities that market participants have to trade capacity and acquire contracted but un-nominated capacity;
 - enable market participants to more readily identify any arbitrage or trading opportunities;
 - reduce the search and transaction costs faced by market participants;
 - aid the price discovery process by reducing information asymmetries and, in so doing, enable more informed decisions to be made; and
 - facilitate a greater level of competition between shippers with capacity on alternative pipeline routes.

In the case of the day-ahead auction, the GMRG understands that according AEMO responsibility for carrying out the auction may mean that some of the timing and other allocative efficiencies associated with conducting an auction on a receipt/delivery point basis as proposed by APGA, may not be realised. However, in the GMRG's view these efficiencies are not significant enough to warrant the loss of the other allocative, productive and dynamic efficiencies associated with a centralised auction.

- **Synergies offered by the new market mechanisms:** The inclusion of the capacity trading platform on the GSH and the operation of the day-ahead auction by AEMO will provide market participants with greater co-ordination benefits, by allowing them to:
 - trade secondary capacity or procure capacity in the day-ahead auction across pipelines and locations, regardless of pipeline ownership;



- procure gas, secondary transportation and hub services through one portal; and
- readily access other markets and systems operated by AEMO.

It will also allow market participants to aggregate their prudential requirements.

The operation of both the capacity trading platform and day-ahead auction by AEMO can also be expected to foster greater co-ordination and synergies across the secondary capacity market and the market for day-ahead contracted but un-nominated capacity.

- **Adaptability of the new market mechanisms:** The single capacity trading platform and centralised auction developed by AEMO could capture more scale and scope benefits than the alternatives. They can also adapt to changes over time in a harmonised manner through a transparent public consultation process overseen by an independent market operator that has no commercial interests in the outcome and is subject to a robust governance framework in the NGL and the NGR.
- **Implementation costs:**
 - **Capacity trading platform:** The implementation costs for an AEMO operated capacity trading platform are expected to be considerably lower than the alternative of developing a new trading platform (or multiple platforms), because it will utilise the existing GSH platform, settlement, prudential and other arrangements and will require few, if any, changes to the regulatory framework. The use of the existing GSH infrastructure and prudential arrangements is also expected to result in lower administrative and transaction costs for market participants and allow the platform to be implemented in a more timely and efficient manner.
 - **Day-ahead auction:** The cost of implementing an AEMO operated centralised day-ahead auction has been estimated by APGA to cost \$1.3-\$1.45 million more than APGA's proposal. However, it is worth noting that APGA's estimate of the costs associated with its proposal does not appear to include:
 - the cost of developing the new regulatory, governance and monitoring framework that would be required if pipeline operators are to conduct the auction;
 - the cost of developing industry standards for the auction that each pipeline operator would be required to comply with; and
 - the cost that new pipeline operators would incur if they were to be subject to the auction and had to set up their own auction platform.

The cost of these activities is likely to be significant and could conceivably exceed the \$1.3-\$1.45 million cost differential estimated by APGA. The GMRG is therefore of the view that little weight should be placed on this cost differential when deciding who should operate the auction, particularly given the other benefits associated with the centralised auction, which as a number of stakeholders noted are likely to outweigh the cost differential.

It follows from the preceding discussion, that in the GMRG's view according AEMO responsibility for the operation of the capacity trading platform and day-ahead auction is more consistent with the platform of choice criteria and will better promote the NGO than



the alternatives. It can also be expected to result in greater improvements in the efficiency with which gas is allocated and utilised in the market and foster the development of a more liquid secondary capacity market. It can therefore be expected to make a greater contribution to the Council's *Vision* for a liquid wholesale gas market and the next phase of gas market reforms. The GMRG therefore recommends that the Council accord AEMO responsibility for operating both the capacity trading platform and the day-ahead auction in the east coast.

The scope of this recommendation has been limited to the east coast at this stage because it is unclear whether the Council intended these reforms, which were identified in the context of a review of the east coast gas market, should also extend to the Northern Territory (which is expected to become connected to the east coast market in 2018) and Western Australia. While the GMRG thinks there would be merit in extending the reforms to these jurisdictions, a formal decision will need to be made by the responsible government and likely the Council. The GMRG's recommendations therefore assume that the reforms will only apply to transmission pipelines in the east coast at this stage.

Finally, it is worth noting that the GMRG does not share the view expressed by APGA and a number of pipeline operators that the decision on who should operate the capacity trading platform and the day-ahead auction should be deferred, because in the GMRG's view:

- the recommendations contained in the AEMC's *East Coast Review* provide sufficient information on the design of the capacity trading platform and day-ahead auction to make an informed decision on who should operate the platform and auction now;
- stakeholders have had ample opportunity to consider the merits of the AEMO and pipeline operator options, with the AEMC having carried out a significant amount of consultation on this issue during the *East Coast Review* and stakeholders having had another nine months to reflect on this issue since the Council agreed to implement the reforms; and
- making a decision on organisation(s) that should operate the capacity trading platform and auction now will enable the reforms to be implemented in a more timely and efficient manner, because it will enable the GMRG and project teams to:
 - focus their attention on other important features of the design of the capacity trading platform and auction that are not material to the determination of who should operate the platform; and
 - avoid the work and the costs that would be associated with scoping different operators where there is no clear benefit from doing so.

Further detail on the matters that the GMRG considered when evaluating the options is provided in Chapter 2, while the final sections of Chapters 3 and 4 provide more detail on the GMRG's final recommendations.

1.5 Forward process

In keeping with the accelerated timetable outlined in section 1.1, the GMRG is progressing other elements of the capacity trading reforms and expects to make its final recommendations to Council on:



- the coverage of the auction (i.e. the pipelines and hub service assets that are to be subject to the auction), the design of the capacity trading exchange and the form that the standardised capacity trading contracts should take in September 2017; and
- the design of the day-ahead auction and the reporting framework for secondary capacity trades in December 2017.

Work on these elements of the reforms will continue to be progressed through the project teams, and will also be subject to public consultation before the GMRG makes its final recommendations on these issues.

The terms of reference for the project teams and the minutes from each meeting can be viewed on the GMRG's website (<http://gmrq.coagenergycouncil.gov.au/publications>).

1.6 Structure of this paper

The remainder of this consultation paper is structured as follows:

- Chapter 2 describes the assessment framework that the GMRG has used when developing its final recommendations;
- Chapter 3 outlines the options for the organisation(s) that could operate and administer the capacity trading platform(s), stakeholder feedback on these options and the GMRG's final recommendation on this issue; and
- Chapter 4 sets out the options for the organisation(s) that could operate and administer the day-ahead auction, the stakeholder feedback on these options and the GMRG's final recommendation on this issue.



2. Assessment Framework

There are, as noted in Chapter 1, a number of different organisations that could operate the capacity trading platform(s) and day-ahead auction. When evaluating these options, the GMRG has used the rule making test that the AEMC is required to consider when exercising its rule making functions. This test states that:¹⁶

- the AEMC may only make a rule if it is satisfied it will, or is likely to, contribute to the achievement of the NGO; and
- the AEMC may give such weight to any aspect of the NGO as it considers appropriate, having regard to any relevant Council statement of policy principles.

In keeping with this test, the GMRG has had regard to the NGO (see Box 1.1). The GMRG has also had regard to:

- the Council's *Vision* (see Box 1.1), which is a high-level policy statement on the direction gas market development should take to meet the NGO and sets out the outcomes that the Council will pursue in the next phase of gas market reform and development, the most relevant of which are as follows:
 - Harmonised market interfaces that enable market participants to readily trade between locations and find opportunities for arbitrage and trade.
 - Increased flexibility and opportunity for trade in pipeline capacity.
 - 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; and
- the objectives of the capacity trading reforms, which were described in the AEMC's *East Coast Review* as being to improve the efficiency with which transportation capacity (pipeline and hub services) is allocated and utilised and foster the development of a more liquid market for secondary capacity, by:¹⁷
 - enabling capacity to be allocated on a non-discriminatory basis to those that value it most highly through market based processes and, in so doing, improve the efficiency with which capacity is used on pipelines;
 - reducing search and transaction costs;
 - aiding the price discovery process by reducing information asymmetries and, in so doing further reduce search and transaction costs, enable more informed decisions to be made, and provide shippers with the confidence that access to capacity is being provided on a non-discriminatory basis; and
 - providing capacity holders with a greater incentive to trade capacity.

When evaluating the options, the GMRG has also had regard to the attributes that the Capacity Trading and Day-Ahead Auction project teams thought the capacity trading

¹⁶ See section 291 of the NGL.

¹⁷ AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, pp. 67-69.



platform and auction platform would need to emulate if they were to become the ‘platforms of choice’ for market participants. These attributes are set out in the table below. As project team members noted, the capacity trading platform(s) and auction will not be successful unless traders choose to use it. The importance of these attributes cannot therefore be understated.

Table 2.1: ‘Platform of Choice’ evaluation criteria

| Evaluation criteria | |
|---|---|
| Operation of the platforms: | Operated by independent (i.e. a party that has no commercial interests in the outcome of the trades) and experienced operator |
| | Operated in a predictable and reliable manner |
| | Operation of platform underpinned by a robust governance framework |
| | Transparency in costs and operation of platform |
| Trading Platform- Auction Platform features: | Provides for low transaction costs and quick and effective execution of trades |
| | Readily integrated with pipeline operators’ nominations and scheduling processes |
| Co-ordination benefits: | Shippers can readily co-ordinate trades across pipelines |
| | Shippers can readily co-ordinate trades through the capacity trading platform and the day-ahead auction |
| | Shippers can readily co-ordinate trades with other gas services on the GSH |
| Scale and scope benefits and adaptability: | Capable of capturing scale and scope benefits |
| | Future proof, scalable and adaptable |



3. Capacity Trading Platform(s)

GMRG's final recommendation on the capacity trading platform(s)

Having considered the options identified by the AEMC in the *East Coast Review*, the feedback provided by stakeholders and the assessment framework set out in Chapter 2, the GMRG recommends that AEMO be accorded responsibility for developing and operating a single capacity trading platform that will form part of the existing GSH trading exchange and provide for:

- exchange based trading of commonly traded pipeline and hub service products; and
- a listing service for more bespoke products.

In the GMRG's view, according AEMO responsibility for the operation of a single capacity trading platform that forms part of the GSH trading exchange and allows market participants to trade capacity across pipelines (regardless of ownership), and to co-ordinate their gas and transportation requirements, is more consistent with the platform of choice criteria and will better promote the NGO than the alternatives. It can also be expected to result in greater improvements in the efficiency with which gas is allocated and utilised in the market and foster the development of a more liquid secondary capacity market and, in so doing, make a greater contribution to the Council's *Vision* and the next phase of gas market reforms.

3.1 Introduction

One of the key recommendations in the AEMC's *East Coast Review* was that a capacity trading platform(s) should be developed to enable shippers to trade secondary pipeline and hub service capacity ahead of nomination cut-off times and should comprise both:¹⁸

- an anonymous exchange trading mechanism for commonly traded products; and
- a listing service for more bespoke products.

Elaborating further on this recommendation, the AEMC noted the potential for:¹⁹

- each pipeline operator to develop and operate their own platform; or
- a single capacity trading platform to be developed and operated by:
 - AEMO as part of the GSH exchange; or
 - a joint venture between pipelines or another party with relevant capabilities.

Of the two options, the AEMC noted that a single trading platform that formed part of the GSH was more consistent with its objective of harmonising trading arrangements and would offer a range of benefits over a stand-alone platform, including:²⁰

- enabling the co-ordination of gas, hub and transportation services via one platform;
- subjecting shippers to one set of prudential arrangements;
- lower implementation costs for the exchange function because the IT, prudential, settlement and billing arrangements have already been established; and

¹⁸ AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, p. 95.

¹⁹ *ibid*, p. 101.

²⁰ *ibid*, pp. 101-102.



- facilitating more effective competition between shippers that are offering to sell capacity on either the same transportation route or on competing routes.

The AEMC stopped short, however, of recommending this option and instead recommended that the GMRG consider the options in further detail.²¹

In keeping with this recommendation, the GMRG's Capacity Trading Platform and Day-Ahead Auction project teams have jointly considered who should operate and administer the capacity trading platform(s). To help inform their consideration of this issue, AEMO and APGA were given the opportunity respectively to provide the project teams with an overview of what an AEMO operated platform and a pipeline operated platform(s) would involve.

Further detail on the options that were presented by AEMO and APGA and the feedback that the project teams and other stakeholders provided on these options is provided below, along with the GMRG's final recommendation.

3.2 Options for the operation of the capacity trading platform

3.2.1 AEMO proposal

Consistent with the options presented in the AEMC's *East Coast Review*, AEMO has proposed developing a single capacity trading platform that would form part of the GSH trading exchange and utilise the trading rules, settlement, billing, prudential and other arrangements that have been established for the GSH.²²

The GSH, which was established by AEMO in March 2014 at the request of the Council, is a centralised trading, settlement and clearing facility that is currently used by participants in the east coast to trade gas and hub services. The legislative and governance arrangements underpinning the GSH are set out in Part 6 Division 2B of the NGL and Part 22 of the NGR. Section 91BRK of the NGL provides for AEMO to establish, operate and administer gas trading exchanges. The term 'gas trading exchange' is defined in the NGL as a facility through which persons may elect to buy and sell natural gas or related goods or services, including pipeline capacity. No changes to the NGL are therefore expected to be required if AEMO takes on the operator role.

The GSH is operated using the Trayport exchange trading platform, which provides for both anonymous exchange based trading on a continuous basis (see Figure 3.1 for a screenshot of the GSH trading screen) and a listing service. AEMO has advised that exchange traded capacity products could be added to Trayport relatively quickly and at a reasonably low cost and that additional products could be added over time in response to market needs. AEMO has also advised that participants would be able to pool prudential requirements across all products traded in the GSH.

²¹ *ibid*, p. 102.

²² The material in this section is based on information contained in a presentation provided by AEMO to the Day-Ahead Auction and Capacity Trading Platform project teams on 4 April 2017, entitled *Pipeline Capacity Trading Reforms – Scoping Presentation to GMRG Technical Working Group*.



Figure 3.1: GSH exchange platform screenshot

| | WAL Min Price -\$100/GJ | | | | SEQ->WAL Min Price -\$100/GJ | | | | SEQ Min Price -\$100/GJ | | | |
|------------------------------|----------------------------|------|-------|-------|---------------------------------|-------|-------|-------|----------------------------|------|-------|--------|
| | Qty | Bid | Offer | Qty | Qty | Bid | Offer | Qty | Qty | Bid | Offer | Qty |
| ⊕ Tue 28/03/17 Non-Netted | 2,000 | 4.00 | 12.00 | 2,000 | | | | | 1,000 | 7.00 | 10.00 | 5,000 |
| | 2,000 | | | | 2,000 | -2.00 | 2.00 | 2,000 | 5,000 | 4.00 | 12.00 | 2,000 |
| ⊕ DA Wed 29/03/17 Non-Netted | 2,000 | 7.50 | 10.50 | 5,000 | | | | | | | | |
| | 2,000 | 4.00 | 12.00 | 4,000 | | | | | | | | |
| ⊖ DA Wed 29/03/17 | 3,000 | 7.50 | 11.75 | 1,000 | 3,000 | -2.25 | 2.00 | 1,000 | 1,000 | 7.00 | 9.75 | 4,000 |
| | 2,000 | 4.00 | 13.00 | 1,000 | 2,000 | -2.00 | 6.00 | 1,000 | 1,000 | 5.50 | 10.00 | 1,000 |
| | | | 15.01 | 1,000 | | | 2.00 | 2,000 | 5,000 | 4.50 | 12.00 | 2,000 |
| | | | 12.00 | 4,000 | | | | | | | | |
| ⊕ Thu 30/03/17 | 2,000 | 4.00 | | | | | | | 1,000 | 7.00 | 9.65 | 10,000 |
| | | | | | | | | | 5,000 | 4.50 | 10.00 | 1,000 |
| ⊕ Fri 31/03/17 | 2,000 | 4.00 | | | | | | | | | | |
| ⊕ Sat 01/04/17 | 2,000 | 4.00 | 12.00 | 2,000 | | | | | | | | |
| ⊕ Wk 02/04 - 08/04 | 2,000 | 2.00 | 14.00 | 2,000 | | | | | | | | |
| ⊕ Wk 09/04 - 15/04 | | | | | | | | | | | | |
| ⊕ Mth 01/04/17 - 30/04/17 | | | | | | | | | | | | |
| ⊕ Mth 01/05/17 - 31/05/17 | | | | | | | | | | | | |
| ⊕ Mth 01/06/17 - 30/06/17 | | | | | | | | | | | | |

From a governance perspective, AEMO has proposed that the capacity trading platform be implemented through the GSH Exchange Agreement. The Exchange Agreement is a multi-lateral contract between AEMO and GSH participants that sets out the terms and conditions that govern participation in the GSH. AEMO has advised that the inclusion of capacity products on Trayport will require some amendments to be made to the Exchange Agreement, but this is not expected to be a significant issue because the rules allow amendments to be made to the Exchange Agreement over time. Specifically, rule 540 allows any person to propose an amendment to the exchange agreement and states that AEMO can approve the amendment if it is satisfied: (a) the amendment is consistent with the NGL and the NGR; and (b) the amendment is appropriate having regard to the NGO and the compliance costs likely to be incurred by AEMO and participants.

Further detail on some of the other features of AEMO’s proposal is provided in Table 3.1.

Table 3.1: Other features of the AEMO single capacity trading platform proposal

| Key features | Proposal |
|--|--|
| Exchange trading and listing service | AEMO proposes to use Trayport for both the exchange trading and listing service elements of the capacity trading platform. AEMO also proposes to utilise the trading, delivery and settlement rules established through the GSH Exchange Agreement. |
| Settlement, billing and prudential arrangements | AEMO proposes to leverage the existing GSH settlement systems and prudential arrangements, which would involve the following: <ul style="list-style-type: none"> ▪ Settlements and billing: AEMO would calculate settlement amounts daily and issue statements to participants monthly (with capacity trades appearing as a line item on the GSH statement). AEMO would also collect funds from buyers and make payments to sellers. ▪ Prudential arrangements: Participants would post collateral to cover their potential settlement exposure, which would be calculated across gas and capacity transactions. AEMO advised that the aggregation of prudential requirements would mean some participants may have sufficient collateral to cover their aggregate exposure, while others may have offsetting exposures that result in a reduction in collateral requirements. AEMO also advised that the prudential assessment would be carried out in real time. |
| Reports | AEMO proposes to use the existing GSH reporting systems to provide trade confirmations and delivery obligations. |



AEMO has estimated that the implementation of this option could take six months after completion of the final design and cost it between \$90,000-\$140,000²³ depending on the level of integration that is required between its systems and pipeline operators' systems. AEMO has advised that the level of integration between these systems will depend on whether the trades are to be:

- **Partially anonymous:** Under this option the anonymity of the trading parties would be maintained until the trade is executed. Once the trade is executed, AEMO would identify the parties to the trade and it would then be left to the two parties to advise the pipeline operator of the trade and who the counterparty is.
- **Fully anonymous:** Under this option the anonymity of the trading parties would be maintained after the trade is executed. Once the trade is executed, AEMO would electronically send the pipeline operator details of the trade and the counterparties. The pipeline operator would then confirm the trade with each counterparty separately, maintaining the anonymity of the trading parties through this process.

In contrast to the partially anonymous option, the fully anonymous option would require some integration between AEMO's and the pipeline operators' systems and is therefore expected to cost AEMO more to implement (estimated at approximately \$120,000-\$140,000 compared to approximately \$90,000-\$110,000). This estimate does not include the costs that pipeline operators would incur under the partially or fully anonymous options.

3.2.2 Pipeline operated capacity trading platform(s)

During the *East Coast Review*, the AEMC identified the following options for a pipeline operated capacity trading platform(s):

- each pipeline operator develops and operates their own capacity trading platform; or
- pipeline operators form a joint venture and operate a single capacity trading platform.

Both APGA and AEMO were given the same opportunity and length of time (3 months) to prepare and present to the project teams in respect to these two options. APGA, however, advised that in the time available it had chosen to focus on the day-ahead auction and did

²³ AEMO has advised that these estimates are predicated on the following assumptions:

- the capacity products are listed on Trayport under the GSH Exchange Agreement governance framework;
- no law or rule changes are required to implement the platform;
- capacity products developed as part of GMRG process; and
- the trading platform and day ahead auction are implemented concurrently to capture synergies.

AEMO has also advised that the estimate excludes:

- the costs of integration with the STTM and DWGM;
- the cost of training and guide development; and
- the cost of making changes to the Exchange Agreement.

See AEMO, AEMO, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 11 June 2017, p. 2.



not have a proposal on how a pipeline operated capacity trading platform(s) would work in practice.

3.3 Feedback on options from project teams and stakeholders

To help inform the GMRG's consideration of the options contained in the AEMC's *East Coast Review*, the Capacity Trading and Day-Ahead Auction project teams were asked to work together to evaluate the options. Other stakeholders were also given an opportunity to provide their views on who should operate the capacity trading platform through the public consultation process that commenced on 19 May 2017 and ended on 8 June 2017. An overview of the feedback that the project teams and stakeholders provided is set out below.

3.3.1 Feedback from the project teams

While pipeline operators did not put forward a proposal to operate the capacity trading platform(s), the Capacity Trading and Day-Ahead Auction project teams still assessed the relative merits of an AEMO operated platform and a pipeline operated platform(s) using the 'platform of choice' evaluation criteria outlined in Chapter 2. Table 3.2 provides a summary of this evaluation.

As Table 3.2 highlights, the key strengths the project teams identified that an AEMO operated platform offered over a pipeline operated platform(s) were as follows:

- **Operation of the platform:** The platform would be operated by an independent and experienced market operator and underpinned by a robust governance framework.
- **Trading system features:** The Trayport system has been demonstrated to be predictable, reliable and transparent system and provides for fast and effective execution of trades with relatively low transaction costs. The other benefit of this option is that market participants would be subject to one set of prudential arrangements in the GSH and would be able to apply collateral posted for gas purchases to capacity trades and vice versa.
- **Co-ordination benefits:** The co-ordination benefits are expected to be greatest under this option, because market participants would be able to co-ordinate their gas, hub services and transportation requirements through one platform and would also be able to co-ordinate secondary capacity trades across pipelines.
- **Scale and scope benefits and adaptability:** The proposed platform is expected to be capable of capturing scale and scope benefits and was also viewed as being more future proof, scalable and adaptable than the other options.
- **Implementation costs:** The implementation costs are expected to be relatively low because existing systems will be utilised.

At the end of the assessment, the project teams were asked their view on who should operate and administer the capacity trading platform and, apart from two team members that abstained, project team members were of the view that AEMO should operate and administer the platform.



Table 3.2: Project teams’ evaluation of the capacity trading platform(s) options

| Evaluation criteria | | AEMO Operated Platform | Pipeline Operated Platform(s) | |
|---|--|---|--|--|
| | | | Single Platform | Multiple Platforms |
| Operation of platform: | Operated by independent and experienced operator | ✓ | ✗ | Could be independent if a Joint Venture is established |
| | Operated in a predictable and reliable manner | ✓ | Untested but expected to be operated in this manner | Untested but expected to be operated in this manner |
| | Operation of platform underpinned by a robust governance framework | ✓ (Already established in NGL, NGR and Exchange Agreement) | Would need to be established | Would need to be established |
| | Transparency in costs and operation of platform | Could be mandated | Could be mandated | Could be mandated |
| Trading System Features: | Provides for low transaction costs and quick and effective execution of trades | ✓ (while transaction costs were considered relatively low, some concerns were raised about the barrier the annual licence fee may pose to small players) | Untested | Untested |
| | Integrated with pipeline operators’ nominations and scheduling processes | Separate processes required | Separate processes required | Separate processes required |
| Co-ordination benefits: | Shippers can readily co-ordinate trades across pipelines | ✓ | ✓ | ✗ |
| | Shippers can readily co-ordinate trades with other services on the GSH | ✓ | ✗ | ✗ |
| Scale and scope benefits and adaptability: | Capable of capturing scale and scope benefits | ✓ (e.g. new capacity and other gas services can be added over time and shippers can aggregate prudential requirements across the GSH) | Potentially but not to the same extent as the AEMO operated platform | Potentially but not to the same extent as the AEMO operated platform |
| | Future proof, scalable and adaptable | ✓ | Potentially | Potentially |
| Implementation Costs: | | Est. \$90,000-\$140,000 | No estimate provided but expected to be higher than the AEMO option because new exchange trading platform and matching algorithm, settlement, prudential, reporting systems and legal arrangements would need to be put in place | |

The feedback that project team members provided on this issue is consistent with the feedback that most stakeholders expressed during the AEMC’s *East Coast Review*, which



was that a single platform forming part of the GSH was preferable to any of the other options, because it would:²⁴

- provide shippers with the greatest co-ordination benefits, both in terms of being able to secure gas and secondary hub service and pipeline capacity through one platform;
- provide for common prudential and settlement arrangements; and
- avoid any conflicts of interest that may otherwise arise between shippers and the pipeline operator selling capacity (i.e. because the pipeline operator and shipper would be competing to sell capacity).

3.3.2 Feedback received through the public consultation process

Feedback on the options outlined above was received from 18 stakeholders through the public consultation process.

In a similar manner to the project teams, most of these stakeholders were of the view that a single capacity trading platform should be developed by AEMO and form part of the GSH trading exchange because they considered this option more consistent with the NGO and the Council's *Vision*.

The stakeholders that supported this option included AGL, APLNG, Central Petroleum, Orica, Origin, Tas Gas Retail, Santos, Shell, the MEU, Epic, APPEA, the ACCC, the ECA and a shipper that asked to remain anonymous. The benefits that stakeholders cited in support of this option were similar to those identified by the project teams, with stakeholders pointing to:²⁵

- the independence, experience and impartiality of AEMO and the robust governance framework that underpins the GSH;
- the co-ordination benefits that the platform would offer, with shippers able to use one platform to secure their gas supply, transportation and hub service requirements across multiple pipelines (regardless of ownership) and GSHs;
- the scale and scope benefits associated with the GSH trading exchange, with stakeholders noting that this option would enable participants to be subject to one set of prudential arrangements for gas purchases and capacity trades and provide for greater integration with other markets operated by AEMO; and
- the fact that this option would leverage existing technology, experience, trading rules, settlement and prudential arrangements, which stakeholders noted would result in

²⁴ See for example, ERM, Submission to AEMC March 2016 Discussion Paper, p. 2, PIAC, Submission to AEMC March 2016 Discussion Paper, p. 5, APLNG, Submission to AEMC March 2016 Discussion Paper, pp. 2-3, EnergyAustralia, Submission to AEMC March 2016 Discussion Paper, pp. 6-7, Stanwell, Submission to AEMC March 2016 Discussion Paper, pp. 4-5 and Origin, Submission to AEMC March 2016 Discussion Paper, p. 3.

²⁵ These points were raised to varying extents in the following submissions: ACCC, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, ECA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 1, Origin, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, APLNG, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, Orica, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, APPEA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 13 June 2017, pp. 1-2 and AGL, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 16 June 2017, p. 1.



lower implementation costs, reduce the transaction costs for market participants and allow the platform to be implemented in a more timely and efficient manner.

The ECA, for example, noted that:²⁶

“...there is a strong case, both on principled and practical grounds, for the Australian Energy Market Operator (AEMO) to operate both the Capacity Trading Platform and the Day-Ahead Auction. As the consultation paper sets out, AEMO has the expertise, as well as existing systems that can be adapted, to implement these reforms in a timely and efficient way. A single NEM-wide solution, with one interface and one set of protocols, will also reduce transactions costs for users, many of whom trade in different jurisdictions and will not want to engage with unnecessary complexity. Embedding these activities within AEMO will also give users confidence that the systems are being managed in an independent and neutral way.”

Elaborating further on the benefits of an AEMO operated platform, AGL noted that:²⁷

“AEMO has significant experience in operating in complex energy markets, and AGL considers that it can bring this experience to create a fair, and transparent, marketplace for capacity trading that end users have confidence in trading upon. Transport is a key service to the gas industry, and the independence of AEMO, coupled with a single operator having oversight over the entire capacity network provides significant benefit in combinatorial trading (i.e. optimised trading between pipeline operators).”

Orica made similar observations in its submission:²⁸

- “- Having a single platform will create a uniform system where all market participants can participate in a standardised manner, which is consistent with the efficient operation and use of the natural gas services promoted by the NGO.*
- Channelling all trading volumes into a single platform will help create a liquid market enabling market participants to trade a full range of products and services under one unified system seamlessly, as envisioned in the Council's Vision.*
- With the Gas Supply Hub already set up and in operation by AEMO, it is logical to leverage on existing system rather than reinventing the wheel and set up a whole new system operated by a different operator.*
- ...*
- Adding capacity trading into an existing Gas Supply Hub system that is already operating with gas and hub services trading helps create a platform that offers a complete gas and related services trading under a seamless and unified system.*
- Given the familiarity of existing market players with the Gas Supply Hub operated by AEMO, it is expected that it will be easier to on-board market participants with the capacity trading platform and hence a faster take-up rate.”*

Similar observations were also made by the MEU, who also expressed some concerns about a pipeline operated trading platform and noted that in its members' experience

²⁶ ECA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 1

²⁷ AGL, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 16 June 2017, p. 1

²⁸ Orica, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 1-2.



“dealing with a joint venture style arrangement based on gas market participants were not as efficient as when the services were provided by AEMO as an independent operator”:²⁹

APPEA, on the other hand, noted that tasking AEMO with the development of the platform was “likely to be the most time efficient option”, but suggested that a review be conducted after three years of operation, to “assess the costs and benefits of an option to spin out the platform into an industry led joint venture”.³⁰

In contrast to the position taken by these stakeholders, APGA, APA, DBP and Jemena were of the view that the decision on who should operate the capacity trading platform should be deferred until the final design of the trading platform is determined.^{31,32} APA, for example, stated that.³³

“...the decision on who will operate the capacity trading platform is premature given the current stage of the policy, service, and market design and development process. This decision must be deferred until after further work has been undertaken on the role of the capacity trading platform in respect of other policy initiatives, the nature of services that should be offered through the platform, and the high level arrangements around governance processes and systems have been established.”

While these pipeline operators cautioned against making a decision on who should operate the trading platform at this point in time, APGA and APA noted their support for the development of a single capacity trading platform. APA, for example, stated that it:³⁴

“...supports a centralised capacity trading platform as providing the best opportunity for a vibrant and liquid secondary trading market to develop. This is consistent with a policy framework that seeks to maximise liquidity, and the attractiveness of products, in the capacity trading market.”

Jemena, on the other hand, stated that in its view pipeline operators are “best placed” to operate the trading platform because:³⁵

“...they have both a proven track record for operating trading platforms and are appropriately incentivised to keep costs down.”

On the issue of costs, Jemena noted that it had concerns about the incentive AEMO would have to deliver a ‘fit-for-purpose’ platform given it operates on a cost-pass through

²⁹ MEU, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 8.

³⁰ APPEA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 13 June 2017, p. 2.

³¹ APGA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 3, DBP, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, APA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 9 June 2017, p. 2 and Jemena, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 4.

³² Epic expressed a similar view in its submission. Epic, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2.

³³ APA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 9 June 2017, p. 7

³⁴ *ibid*, p. 6

³⁵ Jemena, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1.



basis.³⁶ Jemena went on to add that the governance framework that currently applies to AEMO under the NGR could be mandated for pipeline operators and so should not be seen as a point of distinction between the two options. APGA made a similar observation and questioned a number of other elements of the project teams' assessment, including their assessment of pipeline operator experience. On this issue, APGA noted that pipeline operators have the relevant experience to operate the platform and have a track record of delivering low-cost innovative services to the gas market.³⁷

3.4 GMRG's final recommendation

Drawing on the assessment framework set out in Chapter 2, the GMRG has examined the options for the operation of the capacity trading platform(s) that were identified by the AEMC in the *East Coast Review* and the feedback that the project teams and other stakeholders provided on these options.

Independent of the question of who should operate the capacity trading platform(s), the GMRG is of the view that a single capacity trading platform would be more consistent with the NGO, the Council's *Vision*, the objectives of the capacity trading reforms and the platform of choice criteria than the multiple trading platform option. Apart from providing for a more harmonised approach to capacity trading, the development of a single platform can be expected to cost less to implement and operate over time and provide for a range of other efficiencies. It can also be expected to foster the development of a more liquid secondary capacity market.

As to who should operate and administer the trading platform, the GMRG, like most stakeholders, is of the view that the capacity trading platform should be operated by AEMO and form part of the GSH trading exchange. As the discussion in the preceding sections highlight, expanding the scope of the GSH trading exchange to include secondary capacity trading can occur at a relatively low cost and without significant changes to the regulatory framework. It can therefore be implemented in a more timely and efficient manner than the alternatives. The other benefits that an AEMO operated capacity trading platform that forms part of the GSH offers relative to the alternatives, are as follows:

- **Operation and governance of the capacity trading platform:** The capacity trading platform would be:
 - operated by an independent and impartial operator that has no commercial interests in the trading outcomes and has experience operating a trading platform; and
 - underpinned by robust governance frameworks that have already been established in the NGL and NGR.

The Trayport system that AEMO has proposed to use for the trading platform has also been demonstrated to be predictable, reliable and transparent and to provide for fast and effective executions of trades with relatively low transaction costs. Together these

³⁶ *ibid*, p. 8.

³⁷ APGA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 9-11.



factors can be expected to provide market participants with more confidence to participate in the market and, in so doing, enhance liquidity in the secondary market.

- **Harmonisation of the trading arrangements and market interface:** The development of a single capacity trading platform would provide for a more harmonised approach to secondary trading, which would reduce the barriers to trade and provide shippers with better access to end-markets.
- **Centralisation of the trading platform:** The operation of a single capacity trading platform by AEMO that enables market participants to acquire secondary capacity on any transmission pipeline would:
 - increase the flexibility and opportunities that market participants have to trade capacity and readily identify any arbitrage or trading opportunities;
 - reduce the search and transaction costs faced by market participants;
 - aid the price discovery process by reducing information asymmetries and, in so doing, enable more informed decisions to be made; and
 - facilitate a greater level of competition between shippers with capacity on alternative pipeline routes.
- **Synergies offered by the capacity trading platform:** The inclusion of the capacity trading platform on the GSH would provide market participants with greater co-ordination benefits, by allowing them to:
 - trade secondary capacity across pipelines and locations, regardless of pipeline ownership;
 - procure gas and secondary transportation (pipeline and hub services) capacity through one portal; and
 - readily access other markets and systems operated by AEMO.

It would also allow market participants to aggregate their prudential requirements, which would further reduce the barriers to trade.

- **Adaptability of the capacity trading platform:** A single capacity trading platform operated by AEMO could capture more scale and scope benefits (i.e. because new secondary capacity products can be added to the exchange relatively quickly across multiple pipelines and market participants can access other markets). It could also adapt to changes over time through a transparent public consultation process overseen by an independent market operator that has no commercial interests in the outcome and is subject to a robust governance framework in the NGL and the NGR.
- **Implementation costs:** The implementation costs are expected to be relatively low, because it would utilise the existing GSH trading exchange platform, settlement, prudential and other arrangements. The use of the existing GSH infrastructure is also expected to result in lower administrative and transaction costs for market participants. The fact that the GSH can be expanded to include capacity products without changes to the NGL and little, if any, changes to the NGR, means that the platform can also be implemented in a more timely and efficient manner.

While it is possible that some of these attributes could be emulated under a pipeline operator model, the GMRG is not satisfied that developing a new stand-alone trading



platform that effectively duplicates the GSH systems and governance frameworks would benefit the market. The reasons for this are two-fold:

- First, the development of a new stand-alone trading platform that provides for exchange based trading and a listing service is likely to impose significant costs on the market, because it will require new IT systems, settlement, billing, prudential, reporting, trading rules and governance arrangements to be developed. The inclusion of the capacity trading platform on the GSH exchange, on the other hand, is expected to cost very little to implement.
- Second, the development of a stand-alone trading platform will mean that shippers will be unable to co-ordinate their gas supply and secondary transportation and hub service requirements as readily as they could if the trading platform formed part of the GSH exchange. Market participants would also be unable to access the scale and scope benefits associated with the GSH trading exchange outlined above.

The GMRG is therefore of the view that AEMO should be accorded responsibility for developing and operating a single capacity trading platform that will form part of the existing GSH trading exchange. In the GMRG's view, this option is more consistent with the platform of choice criteria and will better promote the NGO. It can also be expected to result in greater improvements in the efficiency with which gas is allocated and utilised in the market and foster the development of a more liquid secondary capacity market. It can therefore be expected to make a greater contribution to the Council's *Vision* for a liquid wholesale gas market and the next phase of gas market reforms. The GMRG therefore recommends that the Council accord AEMO responsibility for operating the capacity trading platform.

Notwithstanding the contrary view expressed by APGA, APA, DBP, Epic and Jemena, the GMRG is of the view that:

- there is sufficient information in the AEMC's *East Coast Review* on the design of the capacity trading platform (which was subject to significant public consultation by the AEMC) to make an informed decision about who should operate the platform now; and
- making a decision on organisation(s) that should operate the capacity trading platform auction now will enable the platform to be implemented in a more timely and efficient manner, because it will enable the GMRG and project teams to:
 - focus their attention on other important features of the design that are not material to the determination of who should operate the platform; and
 - avoid the costs that would be associated with scoping multiple designs with different operators where there is no demonstrable benefit from doing so.



4. Day-Ahead Auction of Contracted but Un-Nominated Capacity

GMRG final recommendation on who should operate the day-ahead auction

Having considered the options identified in the AEMC's *East Coast Review*, the feedback provided by stakeholders and the assessment framework set out in Chapter 2, the GMRG recommends that AEMO be accorded responsibility for developing, operating and administering the day-ahead auction.

In the GMRG's view, according AEMO responsibility for the operation of a day-ahead auction that allows market participants to procure contracted but un-nominated capacity across pipelines (regardless of ownership), and to more readily co-ordinate gas and transportation, is more consistent with the platform of choice criteria and will better promote the NGO than the alternatives. It can also be expected to result in greater improvements in the efficiency with which gas is allocated and utilised in the market and foster the development of a more liquid secondary capacity market. It can therefore be expected to make a greater contribution to the Council's *Vision* and the next phase of gas market reforms.

Having AEMO operate both the auction and capacity trading platform, can also be expected to provide for a number of other efficiencies, the ultimate beneficiaries of which will be consumers of natural gas, consistent with the NGO.

4.1 Introduction

Another key recommendation of the AEMC's *East Coast Review* was that a day-ahead auction of contracted but un-nominated pipeline and hub service capacity be developed and provide for the auction to be carried out shortly after nomination cut-off time. The objectives of this reform were described by the AEMC as being to "address contractual congestion and to undermine the market power held by pipeline operators in the market for day-ahead capacity".³⁸

In a similar manner to the capacity trading platform(s), the AEMC identified a number of organisations that could operate and administer the auction, but did not reach a concluded position on this issue. The options that the AEMC identified included:³⁹

- each pipeline operator developing and operating their own auction platform; or
- a centralised auction platform being developed and operated by:
 - AEMO; or
 - a joint venture between pipelines, or another party with relevant capabilities.

While the AEMC did not express a final view on any of these options, it did note its preference for a single auction to be conducted across the east coast market. The AEMC also suggested there may be benefits to having the same organisation(s) operate both the

³⁸ AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, p. 83.

³⁹ *ibid*, p. 84.



capacity trading platform(s) and the auction⁴⁰ and recommended the GMRG consider the options in further detail.⁴¹

Consistent with the approach used to assess the capacity trading platform(s) options, the Day-Ahead Auction and Capacity Trading Platform project teams have jointly considered who should operate and administer the day-ahead auction. To help inform their consideration of this issue, AEMO and APGA provided the two project teams respectively with an overview of what an AEMO operated auction and a pipeline operated auction(s) would involve.

Further detail on the options presented by AEMO and APGA and the feedback that the project teams and other stakeholders provided on these options is provided below, along with the GMRG's final recommendation.

It is important to note at this stage that the pipelines that will be subject to the auction will be subject to a separate consultation process, which will consider whether the auction should apply to:

- contractually congested pipelines only; or
- transmission pipelines that are used to supply facilitated markets or major demand centres plus any contractually congested pipelines.

Irrespective of that decision, it is worth noting that if contractual congestion was measured as having 95% or more of a pipeline's capacity contracted, then based on the most recent Bulletin Board data the day-ahead auction would at a minimum⁴² apply to seven transmission pipelines that are currently used to supply gas to or from the facilitated markets in Sydney, Adelaide, Moomba and Wallumbilla and another contractually congested pipeline.⁴³ So even if the auction was limited to contractually congested pipelines, it would encompass eight pipelines, which are owned by five different pipeline operators (APA, Jemena, Epic, SEAGas and Origin).

4.2 Options for the operation of the day-ahead auction

4.2.1 AEMO proposal

In a similar manner to its capacity trading platform proposal, AEMO proposed the development of a centralised auction platform that shippers can use to purchase capacity between key points (or zones) on any pipeline that is subject to the auction.⁴⁴

⁴⁰ *ibid*, p. 16.

⁴¹ *Ibid*, p. 84.

⁴² The term 'at a minimum' has been used in this context because there are a number of transmission pipelines in the east coast that are not currently required to report information on the Bulletin Board.

⁴³ The seven pipelines include the Eastern Gas Pipeline, the Moomba to Sydney Pipeline (flowing to Moomba), the Moomba to Adelaide Pipeline System (flowing to Adelaide and to Moomba), the SEAGas Pipeline, the South West Queensland Pipeline (flowing to Moomba), the Darling Downs Pipeline and the Spring Gully Pipeline.

⁴⁴ The material in this section is based on information contained in a presentation provided by AEMO to the Day-Ahead Auction and Capacity Trading Platform project teams on 4 April 2017, entitled *Pipeline Capacity Trading Reforms – Scoping Presentation to GMRG Technical Working Group*.



To minimise the costs and time associated with implementing the auction platform, AEMO has proposed to leverage a number of its existing systems, including the Electricity Market Management System (EMMS) web portal. This EMMS portal is currently used by market participants to access a number of AEMO operated market systems, including the GSH. AEMO has proposed to expand the scope of the EMMS to include the auction platform, by adding an additional tab to the web portal. AEMO has also proposed to draw on:

- an adapted version of the web-interface and file exchange mechanism that is currently used for the inter-regional settlements residue auctions (SRA) (see Box 4.1 for an overview of SRAs);
- the auction algorithm that is currently used in the SRA, which provides for combinatorial (linked) bidding and uses a linear program to establish the bid stack and allocate inter-regional settlements residue;
- the existing EMMS file server and data interchange to provide market participants with auction related information and reports; and
- the GSH settlement, prudential, billing and registration frameworks.

Box 4.1: SRAs

Inter-regional settlement residues accrue on interconnectors when power is transferred from a lower priced region to a higher priced region. AEMO does not retain these residues and they are allocated to participants in the form of units through SRAs. Units are auctioned in each direction for the interconnector and reflect the capacity of the interconnector. These units entitle the holder to a share of the inter-regional settlement residue that accrues on the interconnector. Participants provide bids in price bands for a quantity of units. The SRA algorithm uses these bids to determine a clearing price and allocate the units to participants, consistent with the fundamental objective of maximising revenue.

Conceptually, the mechanisms that make-up the SRA are similar to those that would be required to deliver a pipeline capacity auction. The interconnectors in the SRA, which 'transport' electricity between regions, are analogous to pipelines, which transport gas between 'zones', and the SRA units are equivalent to the transportation capacity of those pipelines. In the pipeline capacity auction the SRA algorithm would determine a clearing price for each transportation direction on each pipeline that is included in the process and allocate the transportation capacity to the successful bidders.

SRAs also allow participants to make 'linked bids'. Linked bids allow a participant to bid for units across multiple interconnectors. The SRA algorithm will clear the auction in a way that ensures that these linked bids are either allocated their full quantity or that the ratio between the linked bid quantities remains fixed. For a pipeline capacity auction, this mechanism would enable contingent bidding (also known as combinatorial bidding) – allowing participants to bid for capacity across multiple pipeline legs without the risk of only acquiring one pipeline leg and having stranded capacity.

Source: AEMO, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 3-4.



AEMO has indicated that it could take up to 12 months to implement this option once the final design is agreed and has estimated that it would cost AEMO \$350,000-\$450,000.⁴⁵ This estimate only relates to the costs AEMO is expected to incur and does not include:

- the cost pipeline operators will incur setting up data exchange systems to enable time critical auction information to be communicated between AEMO and the pipelines;
- the system integration costs that pipeline operators are likely to incur; or
- the cost of setting up reporting systems to enable auction related information to be published on the Bulletin Board.

APGA has indicated that if these costs were included then the implementation cost of the AEMO proposal would be \$3.55-\$3.65 million, of which:⁴⁶

- \$0.35-\$0.45 would be incurred by AEMO setting up the auction platform;
- \$1.5 million would be incurred by pipelines setting up data exchange systems;⁴⁷
- \$1.5 million would be incurred by pipeline operators on system integration costs;⁴⁸ and
- \$0.2 million would be spent on reporting systems.

The data exchanges required to support the centralised auction are a key point of difference between this option and an option where each pipeline operator conducts their own auction, because under the centralised option:

- pipeline operators will need to inform AEMO of the amount of capacity that is available to be auctioned shortly after the initial schedule is conducted; and
- AEMO will need to inform pipeline operators of the auction results once the auction has been completed.

Apart from giving rise to additional implementation costs, the data exchange requirements mean that, relative to an option where each pipeline conducts their own auction:

- the centralised auction cannot be conducted as quickly; and
- the pipeline's schedule for the next gas day cannot be finalised as quickly.

APGA has suggested that the data exchange and validation requirements could give rise to a difference of up to one hour for the auction and two hours for the scheduling process if the same type of standards and regulatory requirements are applied to the data

⁴⁵ AEMO has advised that these estimates are predicated on the following assumptions:

- a single auction is conducted between key points/zones on the east coast;
- the auction utilises the settlements, invoicing, prudential and registration framework from the GSH;
- the auction interface is adapted from the existing SRA;
- the auction algorithm is based on the existing SRA solver without substantial modification;
- backhaul is not incorporated into the auction algorithm;
- the auction is not integrated with the pipeline operators' nominations systems;
- the trading platform and day ahead auction are implemented concurrently to capture synergies.

AEMO has also advised that the estimate excludes:

- the costs of integration with the STTM and DWGM;
- the cost of carrying out training, developing guidelines; and
- the cost of any changes that may need to be made to the NGL, NGR or Procedures.

⁴⁶ APGA Presentation, Pipeline-run capacity auctions, 2 May 2017.

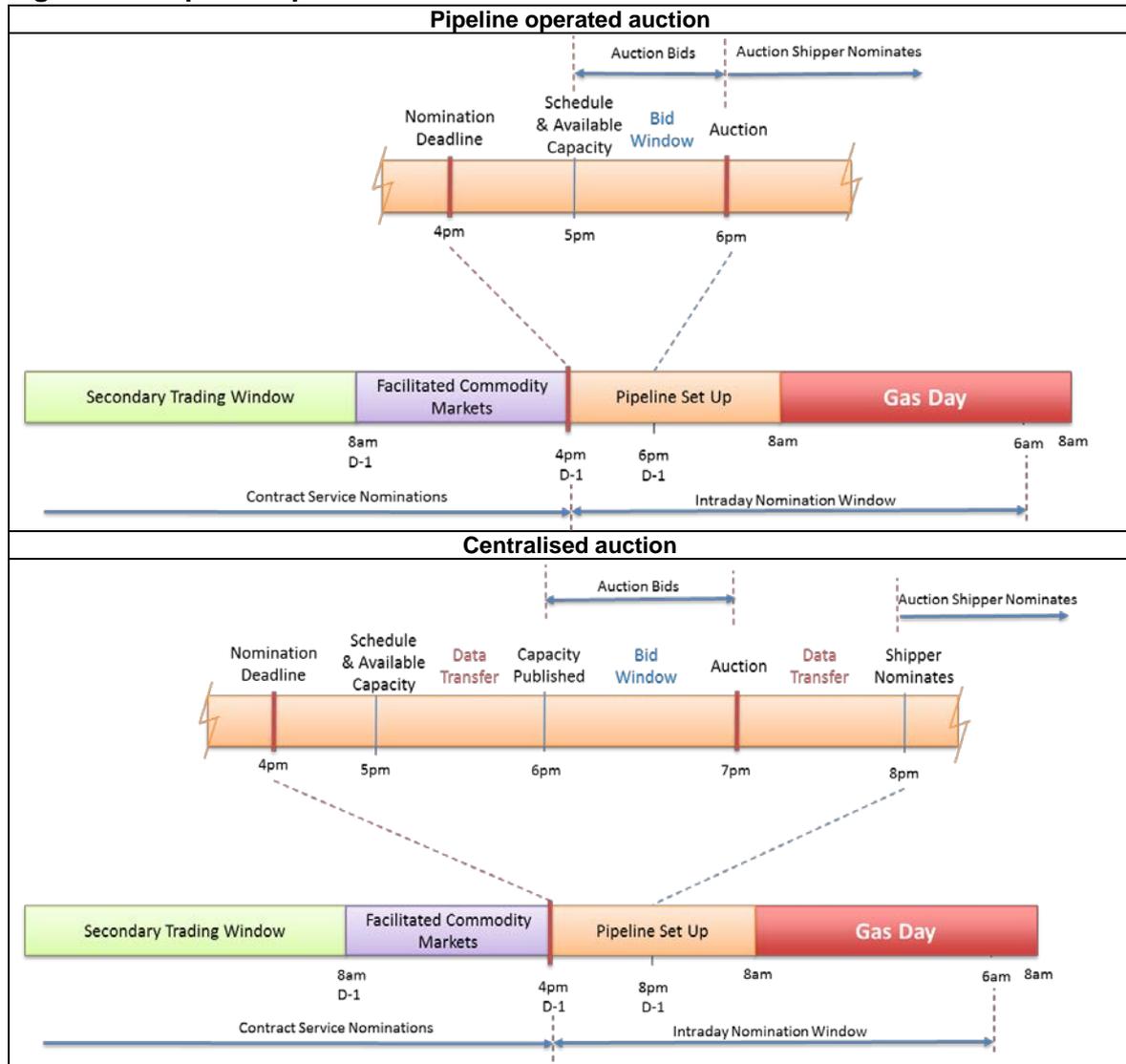
⁴⁷ According to APGA this estimate is based on the costs APA, Epic, SEAGas, Jemena, Palisade and AGN would incur.

⁴⁸ *ibid.*



transfers as those that apply in the Short Term Trading Markets (STTM) (see Figure 4.1). This issue was debated by project team members and while there was broad acceptance that there would be some delay in the timing of the auction and scheduling process, a number of team members believed the time frames for data exchange could be reduced.

Figure 4.1: Pipeline operated auction versus Centralised auction



Source: APGA Presentation, Pipeline-run capacity auctions, 2 May 2017.

Finally, under AEMO’s proposal, pipeline operators would retain responsibility for operating their pipelines and nominations would be made by the auction winners directly to the pipeline operator. The management of the pipelines that are to be subject to the auction will therefore be unchanged.

4.2.2 Pipeline operated auction(s)

In contrast to the centralised auction platform proposed by AEMO, APGA has proposed that each pipeline operator that is to be subject to the auction develop and operate their



own auction platform.⁴⁹ Under this proposal, pipeline operators would be required to implement their own:

- auction interface to allow shippers to place bids for capacity, which APGA noted would be integrated with the pipeline operators' existing nomination systems;
- auction algorithm (engine) to establish the bid stack and allocate capacity;
- systems to incorporate the auction results into the pipeline scheduling process; and
- reporting system if they don't already have one, to allow information on the capacity available for auction and results of the auction to be published on the Bulletin Board.

To ensure a consistent approach is employed across pipelines, APGA has proposed the development of a common standard for key elements of the auction that pipeline operators would be required to comply with.

APGA has estimated that it would cost \$2.2 million to implement this option across all the pipeline operators that could be captured by the auction,⁵⁰ of which:

- \$1 million would be spent on installing auction interfaces and algorithms;
- \$1 million would be spent on system integration; and
- \$0.2 million would be spent on reporting.

APGA estimated the implementation cost to be \$1.35-\$1.45 million lower than the centralised auction, because the data exchange infrastructure that is required to support a centralised auction will not be required under this option.

On the issue of cost recovery, APGA noted that pipeline operators would absorb the implementation costs and any ongoing costs of operating the auction. While this was considered a point of distinction between APGA's proposal and AEMO's proposal, the AEMC subsequently advised that its preferred outcome was that the costs of running the auction be recovered from the auction proceeds with any residual revenue to then be provided to pipeline operators.⁵¹ In response to this advice, a number of pipeline operators have raised concerns about the incentive that AEMO would have to minimise costs. Some pipeline operators also noted that if the auction proceeds were insufficient to cover costs, market participants would bear the additional costs under an AEMO operated auction.

4.2.3 Summary of options

Table 4.1 provides a summary of the key features of the proposals that AEMO and APGA presented to the project teams.

⁴⁹ The material in this section has been prepared based on the information contained in a presentation made by APGA to the Day-Ahead Auction and Capacity Trading project teams on 2 May 2017 entitled, *Pipeline-run capacity auctions*.

⁵⁰ According to APGA this estimate is based on the costs APA, Epic, SEAGas, Jemena, Palisade and AGN would incur.

⁵¹ This intention is reflected in the following statement from the Stage 2 *East Coast Review*

"The preferred method of allocating auction revenue is to give it to pipeline owners, after the costs of running the auction have been recovered."

AEMC, Stage 2 Final Report: Eastern Australian Wholesale Gas Market and Pipelines Framework Review, 23 May 2016, p. 80.



Table 4.1: Day-ahead auction: Options considered by the project teams

| Key features | AEMO Centralised Auction | Pipeline Operated Auction Platforms |
|--|---|---|
| Assumed features of the auction | <ul style="list-style-type: none"> ▪ Single centralised auction operated by AEMO. ▪ Auction conducted on a pipeline by pipeline basis between key points (zones). ▪ Conditional bidding across pipelines will be possible. ▪ A number of data exchanges will be required between the pipeline operators and AEMO, which will have implications for the timing of the auction and scheduling process. | <ul style="list-style-type: none"> ▪ Each pipeline operator develops and operates its own auction platform ▪ Auction conducted on a pipeline by pipeline basis and can either be carried out between key points (zones) or between specific receipt and delivery points. ▪ Conditional bidding across pipelines will not be possible unless a pipeline operator owns more than one pipeline. ▪ Data exchanges with AEMO will not be required. |
| Auction interface and algorithm | <ul style="list-style-type: none"> ▪ Auction interface: AEMO proposes to include the auction interface as an additional tab in the EMMS web portal and adapt the interface and file exchange mechanism that is currently used for SRAs ▪ Auction algorithm: AEMO proposes to use the same algorithm that is used for SRAs, which provides for combinatorial bidding. | <ul style="list-style-type: none"> ▪ Auction interface: Pipeline operators propose to include the auction interface into their respective nominations systems ▪ Auction algorithm: Pipeline operators propose to purchase or develop their own auction algorithm (engine) ▪ Common standard to be developed by APGA to ensure consistent implementation across pipelines. |
| Settlement, billing and prudential arrangements | AEMO proposes to leverage the existing GSH settlement, prudential and billing frameworks. Auction participants will also need to have a standing contract in place with the pipeline operator that outlines the terms for utilising auction capacity, which may also include the pipelines prudential requirements. | Pipeline operators propose to use their existing billing and prudential arrangements and to develop a common standard for settlements. |
| Reports and information | AEMO proposes to use the EMMS file service and data interchange. | Pipeline operators propose to publish information on the Bulletin Board and use their existing systems to transfer information to auction participants. |
| Legal framework | Amendments expected to be required to the NGL and NGR to provide for the day-ahead auction | |
| Governance arrangements | <p>If AEMO operates the auction, it is likely to be required to develop Procedures. The process AEMO is to follow when making or changing Procedures is set out in Part 15B of the NGR. In short, AEMO can only make Procedures if it is satisfied they are:</p> <ul style="list-style-type: none"> ▪ consistent with the NGL and NGR; and ▪ are appropriate having regard to the NGR, any compliance costs likely to be incurred by AEMO and participants and any principles in the NGR. | This detail was not covered in APGA's proposal. |
| Implementation Costs | Estimated: \$3.55-\$3.65 million (\$0.35-\$0.45 million to be incurred by AEMO). | Estimated: \$2.2 million. |



4.3 Feedback on options from project teams and stakeholders

In a similar manner to the capacity trading platform, the Day-Ahead Auction and Capacity Trading project teams were asked to work together to consider the relative merits of these two options. Other stakeholders were also given an opportunity to provide their views on who should operate the auction through the public consultation process that was conducted between 19 May 2017 and 8 June 2017. An overview of the feedback that the project teams and stakeholders provided is set out below.

4.3.1 Feedback from the project teams

Like the capacity trading platform, the project teams considered the relative merits of the two options using the 'platform of choice' evaluation criteria outlined in Chapter 2. The table below provides a summary of this evaluation.

Table 4.2: Project teams' evaluation of the options

| Evaluation criteria | | AEMO Centralised Auction | Pipeline Operated Auction Platforms |
|----------------------------------|---|--|--|
| Operation of platform: | Operated by independent and experienced operator | ✓ | ✗ |
| | Operated in a predictable and reliable manner | Requires a common auction standard to be developed | Requires common auction standards to be developed and implemented by all pipelines |
| | Operation of platform underpinned by a robust governance framework | ✓ | A new governance framework would need to be established |
| | Transparency in costs and operation of platform | Could be mandated | Could be mandated |
| Platform System Features: | Provides for: <ul style="list-style-type: none"> ▪ low transaction costs ▪ quick and effective execution of the auction | <ul style="list-style-type: none"> ▪ The use of existing systems is expected to result in low transaction costs, although the implementation costs are estimated to be higher. ▪ The use of the SRA algorithm is also expected to result in the effective execution of the auction. ▪ Data exchange requirements are, however, expected to result in the auction be conducted later than a pipeline operated auction. ▪ Some project team members noted that AEMO would not have the same incentives to minimise costs as a pipeline operator. | <ul style="list-style-type: none"> ▪ Pipeline operators have proposed to absorb transaction costs. ▪ Because data exchanges are not required under this option, the auction is expected to be executed relatively quickly. |
| | Integrated with pipeline operators' nominations and scheduling processes | Separate processes required | Separate processes required |



| Evaluation criteria | | AEMO Centralised Auction | Pipeline Operated Auction Platforms |
|---|---|--|--|
| Co-ordination benefits: | Shippers can co-ordinate trades across pipelines | Possible across all pipelines that are subject to the auction, regardless of ownership | Co-ordination of auction products only possible when pipelines are operated by the same pipeline operator Shippers can, however, co-ordinate with primary products. |
| | Shippers can co-ordinate trades between the capacity trading platform and the day-ahead auction | ✓ | ✗ |
| | Shippers can readily co-ordinate trades with other services on GSH | ✓ (The GSH and auction would be housed on the same web portal, EMMS) | ✗ |
| Scale and scope benefits and adaptability: | Capable of capturing scale and scope benefits | ✓ | ✓ (in so far as it relates to other services offered by the pipeline operator) |
| | Future proof, scalable and adaptable | This option is expected to be future proof and scalable, but questions were raised about the incentives for innovation and its ability to adapt to change over time unless driven by industry. | Depending on the governance arrangements that are put in place, this option may be future proof. It is also possible that competition between pipeline operators could drive innovation. The option is not, however, scalable. |
| Implementation Costs | | Estimated: \$3.55-\$3.65 million (\$0.35-\$0.45 million to be incurred by AEMO). | Estimated: \$2.2 million. |

When evaluating the two options, the issue of who should operate and administer the auction was widely debated by the project teams and a range of views were expressed, with pipeline representatives favouring a pipeline operated auction and all other project team members favouring an AEMO operated auction. The diversity of views expressed on this issue is consistent with what occurred in the AEMC's *East Coast Review*, with most shippers that participated in this process recommending the auction be operated by AEMO,^{52,53} while pipeline operators stated that they had better operational knowledge to conduct the auction.⁵⁴

Those project team members that favoured AEMO developing and operating the auction platform, noted that it complied with the AEMC's preference for a single auction platform and pointed to the following benefits of this option:

- **Operation of the platform:** The auction platform would be operated by an independent and experienced market operator that has a track record of conducting auctions and operating in a transparent manner. The auction platform would also be underpinned by a robust and well understood governance framework.

⁵² See for example, AGL, Submission to AEMC March 2016 Discussion Paper, p. 2, APLNG, Submission to AEMC March 2016 Discussion Paper, p. 4, QGC, Submission to AEMC March 2016 Discussion Paper, p. 7, APLNG, Submission to AEMC March 2016 Discussion Paper, p. 6, EnergyAustralia, Submission to AEMC March 2016 Discussion Paper, p. 6.

⁵³ PIAC also supported the proposal that AEMO run the auction. See PIAC, Submission to AEMC March 2016 Discussion Paper, p. 5,

⁵⁴ See for example, APA, Submission to AEMC March 2016 Discussion Paper, p. 14 and APGA, Submission to AEMC March 2016 Discussion Paper, p. 19.



- **Platform features:** Market participants would only need to utilise one auction platform, which a number of project team members claimed would reduce the risks faced by traders. Some project team members acknowledged that the data exchanges required to support the centralised auction could give rise to additional risks, but they noted that these risks could be managed by AEMO and pipeline operators.
- **Co-ordination benefits:** The co-ordination benefits are expected to be highest under this option because:
 - market participants would be able to bid for capacity across multiple pipelines through one auction platform and would also be able to make conditional bids across pipelines; and
 - the auction platform would be on the same web portal as the GSH, so market participants would be in a better position to co-ordinate their transportation, gas and hub service requirements.

Some project team members noted that these features of the auction mean that it is more likely to support the development of a liquid wholesale gas market and promote energy security and reliability.

- **Scale and scope benefits and adaptability:** The centralised platform is expected to capture greater scale and scope benefits. Some concerns were, however, raised about innovation, with some project team members noting that industry would need to use AEMO's consultative processes to drive innovation in the future.
- **Implementation costs:** While the implementation costs are estimated to be \$1.35-\$1.45 million higher under this option, a number of project team members noted that they did not think the cost differential was significant, or that it would be sufficient to outweigh the other benefits offered by the centralised auction. A number of project team members also noted that the cost estimates had been developed at such a high level that it was possible the \$1.35-\$1.45 million difference could fall within the margin of error.

Pipeline representatives, on the other hand, noted that they are in a better position to manage the operational complexities presented by the auction and focused on the following benefits of this option: ⁵⁵

- **Auction features:** The auction can be conducted between specific receipt and delivery points, rather than being limited to key points (or zones), which will enable the utilisation of the pipeline to be maximised during peak periods. It is worth noting in this context that an AEMO operated auction could also be conducted on this basis, but the cost of doing so is likely to be higher because it would be a more complex auction system and is likely to require more data transfers and validation between AEMO and pipeline operators.
- **Platform features:** Under the proposal some level of data exchange will be required between pipeline operators and the Bulletin Board (i.e. to publish available capacity), but fewer data exchanges will be required than under the centralised option, which means that:

⁵⁵ APGA also claimed that curtailments of auctioned capacity could be managed more effectively under this option because the pipeline operator would have access to the bid stack, although it noted in its presentation that if AEMO provided this information to the pipeline operators the same outcome could be achieved under the centralised option.



- the auction and scheduling process can be completed earlier;
- there will be fewer potential points of failure between the pipeline operator and AEMO reducing these operational risks; and
- it will cost less to implement and there are greater incentives for pipeline operators to minimise costs.

The platform would also be integrated into the pipeline operator's nominations system, which means shippers would only have to use one system to enter their auction bids and pipeline nominations. Shippers seeking access to capacity across multiple pipelines would, however, need to access each pipeline operator's system individually, which some project team members noted could expose shippers to greater risk of error and cost if they are trying to bid for capacity from different pipeline operators.

The contractual, prudential and billing arrangements are also expected to be simpler under this option (i.e. because shippers will only have to enter into a contract with the pipeline operator and the prudential and billing arrangements will be set out in the gas transportation agreement).

- **Adaptability:** Competition between pipeline operators for the provision of auction services is expected to drive more innovation (the two examples APGA cited in this context include the intra-day auctions and pipelines releasing uncontracted capacity through the auction). Some project team members also noted that external operation of the auction may limit the potential growth and development of this market mechanism.
- **Implementation costs:** The implementation costs are expected to be \$1.35-\$1.45 million lower under this option.

4.3.2 Feedback received through the public consultation

Feedback on the options outlined above was received from 19 stakeholders through the public consultation process. In a similar manner to the project teams, stakeholders were divided on who should operate the day-ahead auction, with:

- shippers and other stakeholders (AGL, APLNG, Orica, Origin, Santos, Shell,⁵⁶ Tas Gas Retail, the MEU, APPEA, the ACCC, the ECA and two shippers that asked to remain anonymous) supporting the development of a centralised platform operated by AEMO;
- Central Petroleum indicating that a centralised auction operated by AEMO would “promote the liquidity and evolution of the day-ahead auction”, but noting that if the firmness of the product could be improved by conducting the auction with the initial pipeline scheduling then an alternative operating arrangement may be appropriate;⁵⁷

⁵⁶ Shell noted in its submission that it would have considered an arrangement between pipeline operators that would enable a single auction system (rather than each pipeline operator developing their own auctions) to enable combinatorial bids to be submitted, but this was not part of the proposal put forward by APGA. Shell, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 1.

⁵⁷ Central Petroleum, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 2.



- Epic expressing some concern about the timing of the decision on who should operate the auction and stating that if the product as proposed by the AEMC is implemented, it may support AEMO administering the auction platform, but if the product is developed in a way that AEMO is unable to administer then it may be more suited to pipeline operators developing their own auction platform;⁵⁸ and
- APA, DBP, Jemena and APGA supporting the development of auction platforms by each pipeline operator, but noting that the decision on who should operate the auction should be deferred until the final design of the auction is determined.

The stakeholders that supported the development of a centralised auction platform operated by AEMO noted that many of the benefits cited in support of a single trading platform were also relevant in this context (see section 3.3.2). Some of the benefits cited by these stakeholders were that:⁵⁹

- the auction would be operated by an independent, experienced and impartial operator and underpinned by a robust governance framework;
- the co-ordination benefits would be greater, with market participants able to use:
 - one auction platform to purchase capacity across multiple pipelines, regardless of pipeline ownership; and
 - one portal to access capacity through the auction and other services offered on the GSH trading exchange (i.e. gas supply, secondary pipeline capacity and hub services), as well as other markets and systems operated by AEMO.
- the use of a single auction interface would reduce the cost and risk that market participants would otherwise be faced with if they had to access multiple auction systems;
- this option would leverage existing technology, experience and governance arrangements; and
- this option would have lower search and transaction costs and provide market participants with greater visibility of what is available in the market, which stakeholders noted would aid the price discovery process and enable shippers to make more informed decisions.

A number of stakeholders also highlighted the benefits of having both the capacity trading platform and auction operated by the same organisation. APPEA for example, noted that:⁶⁰

⁵⁸ Epic, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 3-4.

⁵⁹ These points were raised to varying extents in the following submissions: ACCC, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, ECA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 12 June 2017, p. 1, Origin, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 1, APLNG, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2, Orica, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2, APPEA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 13 June 2017, pp. 1-2 and AGL, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 16 June 2017, p. 2.

⁶⁰ APPEA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 13 June 2017, p. 2.



“The increasingly interconnected east coast market means that gas transportation is often required over multiple pipelines, not all under common ownership, to reach the final end user. It therefore makes sense that an AEMO auction platform provides a single interface for gas market participants to coordinate their gas, hub services and transportation requirements.”

Elaborating further on its view that the auction should be operated by AEMO, APLNG noted that:⁶¹

“Although starting out with each pipeline operator developing its own auction platform might work in the short term, APLNG believes that the auction platform should be designed from the beginning to fulfil the COAG Vision of efficient trade between locations, thus we support a single auction platform for the long term benefit to the market.”

In a similar manner to project team members, a number of the stakeholders that supported an AEMO operated auction noted that while the upfront cost of this option may be higher than APGA’s proposal, the benefits of implementing a centralised auction were likely to outweigh the costs in the longer term. Origin, for example, noted the following:⁶²

“As noted in the Consultation Paper, AEMO’s proposal may impose additional data exchange and validation requirements on pipeline operators relative to an option where each pipeline creates their own trading/auction platforms. But it also offers a range of additional benefits, as noted below.

- *The platforms would be operated by an independent entity with no commercial interest in trading outcomes. This would remove the potential for any conflicts of interest that could potentially arise between shippers and pipeline operators selling spare capacity.*
- *The platforms would largely utilise existing trading rules and settlement frameworks, all of which are already well understood. Market participants would also be subject to only one set of prudential arrangements and could therefore apportion collateral between gas purchases and capacity trades accordingly.*
- *Market participants would only need to utilise one auction platform for either secondary capacity trades or the day-ahead auction. Relative to the decentralised model, this would improve the ability for market participants to coordinate gas supply and pipeline capacity requirements across multiple pipelines/hubs.*

Origin believes the benefits described above will outweigh any additional costs associated with AEMO’s proposal and ultimately increase the likelihood of achieving the desired objective.”

A similar observation was made by Orica, who noted the following:⁶³

“Although upfront development cost is perceived to be higher and auction timeline to be longer by having a single auction platform operated by AEMO, they are deemed to be insignificant in the longer-term vis-à-vis having an efficient system.”

⁶¹ APLNG, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2.

⁶² Origin, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2.

⁶³ Orica, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 2.



The MEU made a similar observation and questioned the robustness of APGA's estimate, as highlighted in the following extract:⁶⁴

"The MEU notes that the costs estimated by AEMO to provide the auctioning process is higher than that proposed by the pipeline owners via the APGA. The MEU is suspicious of this lower cost proposed by the APGA, as there would be multiple auctions proposed and in theory having more than one auction process must be less expensive than multiples. The MEU considers that the pipeline owners have a vested interest in controlling the auction process as this gives them greater opportunity to maximise their revenues and profitability.

Further, the MEU considers that if the APGA estimate is wrong (ie too low), there will be no ability to test at a later stage if the actual costs are higher than the estimate, and if this occurs then it will be consumers that will pay the higher costs which will not be transparent. In contrast, the AEMO costs will there for all to see and therefore fully transparent. When considered in actual dollar terms, the difference between the AEMO estimate and the APGA estimate is only some \$1.3m of implementation costs. When this amount is considered in context of the total east coast gas market, the saving is modest but provides a transparency and independence that is essential in ensuring that overall, the most efficient outcome is implemented."

In contrast to the position taken by these stakeholders, APGA, APA, DBP and Jemena are of the view that each pipeline operator should develop and operate their own auction platform and believe that this option "best meets the NGO and the Council's Vision".⁶⁵ Some of the benefits that this group of stakeholders pointed to in support of this option were that it would:⁶⁶

- address contractual congestion most effectively by maximising the available capacity at every receipt and delivery point, providing the greatest capability to address contractual congestion in times of peak demand;
- deliver auctioned capacity at the earliest possible time and provide the auction greater potential to be co-ordinated with market activity;
- incentivise market participants to participate in the secondary capacity market;
- be simpler and cost less to implement than the centralised option and involve the least amount of regulatory intervention;
- utilise one system for the auction and pipeline nominations; and
- balance the purpose of the auction with the need to maintain investment incentives.

On the latter of these points, APGA noted that the pipeline operator model:⁶⁷

"...recognises that an auction for contracted but un-nominated capacity does not benefit all market participants and should not deliver a product that is equal to contracted capacity in terms of service levels or potentially even superior, in the case of contingent bidding across pipelines. If the auctioned product does have equal or superior qualities to contracted

⁶⁴ MEU, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 6.

⁶⁵ APGA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 13.

⁶⁶ *ibid.*

⁶⁷ *ibid.*



capacity, there will be less incentive for shippers to enter into firm contracts or trade on the platform. The risks associated with contracting (where a competitor can gain access to a pipeline through the auction without contributing to costs) will in turn disincentivise shippers from underpinning new capacity.”

The following extract taken from Jemena’s submission provides further insight into the strengths that pipeline operators believe their model offers: ⁶⁸

“A pipeline run platform would allow for the most effective and maximum utilisation of available pipeline capacity on the east coast of Australia. This is because pipeline operators best know the limits and capabilities of their pipeline assets, meaning they are best placed to respond really quickly to a direction around changing requirements in the market.

...

The pipeline operator option would also represent the lowest cost option for the industry in aggregate as there would be a lower level of costs to be incurred by the businesses during establishment. ...The pipeline operator auction platforms, to a large extent, will utilise ...existing processes and procedures where possible, including shipper interfaces and AEMO interfaces. These existing procedures will be expanded and modified to include the auction process requirements. This approach will assist with cost management.”

Jemena also noted that the ability of pipeline operators to conduct the auction earlier was a key strength of this option and was “far more important to the co-ordination of trades across platforms and hubs” and would make a “greater contribution to maintaining the security of supply within the system”, particularly in peak demand periods in the NEM.⁶⁹

On the issue of co-ordination benefits, APA noted that it did not consider the benefits associated with secondary market products to be realistic and that in contrast:⁷⁰

“...pipeliner run auctions give the opportunity for extension (by the pipeliner) into systems for allocating spare (uncontracted) capacity after the nomination cut-off time. This provides scope for shippers to secure contracted but un-nominated capacity or spare capacity suited to their needs.”

APA added that it did not consider there was a case for a centralised auction, regardless of who operates it, because in its view, the auctions should only apply to contractually congested pipelines, which it noted would make “any integration opportunities across pipeline legs potentially transient” as pipelines moved in and out of the auction.⁷¹ APA also raised concerns about the costs that would be borne by pipeline operators under the AEMO operated model and questioned AEMO’s cost estimates.⁷²

APGA also questioned AEMO’s cost estimates and noted that no detail had been provided on how the costs would be controlled or minimised.⁷³ In a similar manner to the

⁶⁸ Jemena, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, pp. 4-5.

⁶⁹ *ibid*, pp. 7-8.

⁷⁰ APA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 9 June 2017, p. 11

⁷¹ *ibid*, pp 11-12.

⁷² *ibid*, p. 13.

⁷³ APGA, Submission: Operation and Administration of the Capacity Trading Platforms(s) and Day-Ahead Auction, 8 June 2017, p. 10.



capacity trading platform, APGA also questioned some elements of the project teams' assessment of the two options and noted that:⁷⁴

- pipeline operators have the relevant experience to operate the platform and have a track record of delivering low-cost innovative services to the gas market;
- an auction operated by pipeline operators would have greater integration with their nomination and scheduling processes and systems; and
- information on the capacity available in the auction would be published in a centralised location under both proposals, which it believed would facilitate a “sufficient level” of co-ordination.

4.4 GMRG's final recommendation

Drawing on the assessment framework set out in Chapter 2, the GMRG has examined the options identified in the AEMC's *East Coast Review* for the operation and administration of the day-ahead auction and the feedback the project teams and stakeholders have provided on these options.

As the discussion in the preceding section highlights, there are strengths and weaknesses associated with both options. It is not surprising therefore that project team members and stakeholders were unable to reach consensus on this issue. While the GMRG appreciates the work that APGA and its members put in to developing their proposal, on balance, it has concluded that the operation of a centralised auction platform by AEMO would be more consistent with the NGO, the Council's *Vision*, the objectives of the capacity trading reforms and the platform of choice criteria.

The main benefits that the GMRG believes an AEMO operated centralised auction offers relative to APGA's proposal, can be summarised as follows:

- **Operation and governance of the auction:** The day-ahead auction would be:
 - operated by an independent and experienced operator that has no commercial interest in the auction outcomes; and
 - underpinned by a robust governance framework that has already been largely established in the NGL and NGR.

As stakeholders have noted, this can be expected to provide market participants with more confidence to participate in the day-ahead market for contracted but un-nominated capacity and enhance liquidity in this market.

- **Harmonisation of the trading arrangements and market interface:** The development of a centralised auction platform would provide for a more harmonised approach to the auction, which would reduce the barriers to trade and the risks that market participants may otherwise face if trying to secure auction capacity across multiple pipeline operators' auction platforms.
- **Centralisation of the auction:** The operation of the centralised auction platform by AEMO would:

⁷⁴ *ibid*, pp. 9-13.



- increase the flexibility and opportunities that market participants have to procure contracted but un-nominated capacity and readily identify any arbitrage or trading opportunities;
- reduce the search and transaction costs faced by market participants;
- aid the price discovery process by reducing information asymmetries and, in so doing, enable more informed decisions to be made; and
- facilitate a greater level of competition between pipelines.

The GMRG understands that according AEMO responsibility for carrying out the day-ahead auction may mean that:

- the auction cannot be carried out as quickly as a pipeline operated auction; and
- the allocation of capacity may not be as efficient on peak days if the auction is conducted on a zonal basis rather than on a receipt/delivery point basis as proposed by APGA.

However, in the GMRG's view these factors are not significant enough to warrant the loss of the other allocative, productive and dynamic efficiencies associated with a centralised auction.

- **Synergies offered by the auction:** The operation of both the capacity trading platform and the centralised auction by AEMO would provide market participants with greater co-ordination benefits, by allowing them to:
 - procure contracted but un-nominated capacity across pipelines and locations, regardless of pipeline ownership;
 - procure gas, secondary and auctioned transportation (pipeline and hub services) capacity through one portal; and
 - readily access other markets and systems operated by AEMO.

It would also allow market participants to aggregate their prudential requirements.

The operation of both the capacity trading platform and the day-ahead auction by AEMO should also foster greater co-ordination and synergies across the secondary capacity market and the market for day-ahead contracted but un-nominated capacity.

- **Adaptability of the auction:** A centralised auction platform operated by AEMO could capture more scale and scope benefits. It would also be able to adapt to changes over time through a transparent public consultation process overseen by an independent market operator that has no commercial interests in the outcome and that is subject to a robust governance framework in the NGL and the NGR.
- **Implementation costs:** The GMRG understands that the cost of implementing the centralised auction has been estimated by APGA to cost \$1.3-\$1.45 million more than its proposal. However, it is worth noting that the of APGA's proposal does not appear to include:
 - the cost of developing the new regulatory, governance and monitoring framework that would be required under this option;
 - the cost of developing standards that each pipeline operator would be required to comply with; and



- the cost that new pipeline operators would incur if they were to be subject to the auction and had to set up their own auction platform.

The cost of these activities is likely to be significant and could conceivably exceed the \$1.3-\$1.45 million cost differential estimated by APGA. The GMRG is therefore of the view that little weight should be placed on this cost differential when deciding who should operate the auction, particularly given the other benefits associated with the centralised auction, which as a number of stakeholders noted are likely to outweigh the costs.

It follows from the preceding discussion, that in the GMRG's view according AEMO responsibility for the operation of a centralised day-ahead auction is more consistent with the platform of choice criteria and will better promote the NGO. It can also be expected to result in greater improvements in the efficiency with which gas is allocated and utilised in the market and foster the development of a more liquid secondary capacity market. It can therefore be expected to make a greater contribution to the Council's *Vision* for a liquid wholesale gas market and the next phase of gas market reforms. The GMRG therefore recommends that the Council accord AEMO responsibility for operating the day-ahead auction.

Finally, it is worth noting that the GMRG understands the concerns that pipeline operators have raised about the limited incentives that AEMO may have to minimise the costs associated with operating the auction. This is an area of particular concern for pipeline operators, because one of the AEMC's preferred outcomes was that the costs of operating the auction be recovered from the auction proceeds, which means that pipeline operators would only receive the residual auction proceeds. The concerns raised by pipeline operators in this context essentially relate to:

- the cost controls that AEMO employs to manage projects of this nature; and
- the cost recovery mechanism that is to be used in the auction.

On the first of these matters, the GMRG agrees with pipeline operator that profit motivated businesses will generally have a greater incentive to minimise costs, however, it is aware from discussions with AEMO that a range of cost control measures have been put in place to deal with this issue. Specifically, AEMO has advised that projects of this nature are subject to a strict project governance model, which is independently audited by AEMO's auditors and requires:

- projects to be initially assessed on a cost/benefit and risk basis by the Executive Project Committee before approval to proceed is granted;⁷⁵
- approval from AEMO's Board for major projects;
- project steering committees to be established for large and major projects, which includes members of the Executive (or their delegates);
- the status of the project to continually monitored, with project reporting provided to the Executive and the Board, in the case of major projects;

⁷⁵ Note that if the NGL and NGR require AEMO to develop the auction then this step will not be required.



- AEMO's Risk and Compliance Committee to monitor significant risks throughout the project; and
- AEMO's Project Management Office to be used by teams implementing new initiatives, which provides a range of support services (e.g. planning, resourcing and budgeting) and to help identify risks and implement mitigation strategies at the start of the project, which are then monitored by the Risk and Compliance team.

In addition to these project governance arrangements, there are other elements of AEMO's governance model, which mean that expenditure on these types of project must be managed prudently and efficiently. For example, as an independent not-for-profit market operator jointly owned by governments and industry, AEMO's operations are subject to a high degree of transparency and it must justify the expenditure it incurs to its owners, as well as how these costs are recovered through market fees. While not specified in AEMO's proposal, the GMRG would expect the same cost controls and governance arrangements to be applied to the development of the capacity trading platform and day-ahead auction.

On the second matter, the GMRG understands that the AEMC's preferred cost recovery proposal differs from the cost recovery model used in other markets operated by AEMO. For example, in the GSH trading participants are required to pay a fixed fee and variable transaction fees, while in the SRA purchasers are required to pay a variable charge for units purchased in the auction. In both of these cases it is the market participants utilising the market mechanisms that pay AEMO's implementation and operating costs, rather than the infrastructure provider. While the GMRG appreciates the simplicity of the AEMC's proposal, it does think there would be merit in exploring the issue further with stakeholders before making a final recommendation on how the costs AEMO incurs in implementing and operating the auction should be recovered.



Appendix A List of Stakeholder Submissions

The GMRG received submissions responding to the *Options Paper* from the following stakeholders:

- Australian Competition and Consumer Commission (ACCC)
- AGL
- APA Group
- Australian Energy Market Operator (AEMO)
- Australian Pipelines and Gas Association (APGA)
- Australia Pacific LNG (APLNG)
- Australian Petroleum Production and Exploration Association (APPEA)
- Central Petroleum
- DBP Transmission
- Energy Consumers Australia (ECA)
- Epic Energy
- Jemena
- Major Energy Users (MEU).
- Orica
- Origin Energy
- Qenos
- Santos
- Shell
- Tas Gas Retail