



Wholesale electricity market performance monitoring

Update and consultation paper

December 2017

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1 Introduction

The AER is seeking stakeholder input to the development of a new approach to wholesale electricity market monitoring. The approach will guide our long-term monitoring of the market and help inform advice to the Council of Australian Governments Energy Council (COAG EC) on the effectiveness of competition, and any barriers to competition and the efficient operation of the National Electricity Market (NEM).

We published a discussion paper on 31 August 2017 that outlines options for defining effective competition and market efficiency, the products and markets to consider, the approaches to assessing market structure, participant conduct and market performance, and how information should be gathered and reported. We invited interested parties to respond to the issues raised in the discussion paper by providing us with written submissions. We also held a public forum on 6 October 2017 to listen to stakeholders' views on the issues raised in our discussion paper.

Based on the feedback received on the discussion paper we have prepared a draft statement of approach and draft 2018 Focus for further consultation.

1.1 About this document

This document provides an update on our processes in developing an approach to electricity wholesale market performance monitoring. It also provides a summary of stakeholder submissions and our responses to those submissions.

Stakeholder submissions touched on a broad range of issues. We explore these submissions in more detail in chapter 2 and Appendix A: Summary of submissions and responses. However, two important themes that stakeholders submitted were:

- For us to adopt a flexible approach to our monitoring so we can respond to market changes and emerging issues
- For us to prioritise our resources by focussing on specific issues that have the potential to cause the greatest harm if left unexamined.

In response to these suggestions, we are publishing two draft documents:

- A high-level and flexible draft statement of approach for our ongoing monitoring role
- The context for the 2018 performance report, the metrics we intend to use and the areas that we will focus on.

At this stage, we are seeking stakeholder feedback on both documents to help us define and prioritise our work. We are not yet looking for views on whether competition is effective in the wholesale market.

1.2 Wholesale electricity market performance monitoring functions

Under new amendments to the National Electricity Law (NEL), the AER is required to monitor electricity wholesale market performance on a systematic basis and publish a report on its findings at least every two years (the performance report). This important monitoring and reporting role supports the efficient operation of the electricity wholesale market as it allows timely detection of issues affecting market performance. We must publish the first report by December 2018.

In particular, we are required to identify and analyse whether:

- there is 'effective competition' within the relevant wholesale market, as defined in the NEL
- there are features of the market that may be detrimental to effective competition within the market
- there are features of the market that may be impacting detrimentally on the efficient functioning of the market and the achievement of the national electricity objective

Our existing monitoring activities for wholesale markets generally focus on short term outcomes, compliance issues and individual price events. The new functions will take a longer term view and focus on efficiency and competition issues. This will assist to identify and highlight emerging market inefficiencies or competition issues as they unfold.

1.3 Consultation process

Our proposed engagement with stakeholders to develop our statement of approach is set out in Table 1.1.

Table 1.1 Indicative timetable for development of statement of approach

Milestone	Date
Consultation paper published	31 August 2017
Public discussion forum	6 October 2017
Written submissions on the discussion paper close	13 October 2017
Draft statement of approach & 2018 Focus published	20 December 2017
Written submissions on the draft documents close	2 February 2018
Final statement of approach & 2018 Focus published	March 2018

We anticipate there will be additional scope for engagement on detailed methods and other issues as we move to preparing the performance report in 2018. The first report is due in December 2018.

1.4 How to get involved

We will post information and updates on this project on our website at www.aer.gov.au/wholesale-markets/market-guidelines-reviews.

1.4.1 Register your interest

We invite stakeholders to register their interest in receiving specific updates on this project via wholesaleperformance@ aer.gov.au.

1.4.2 Invitation for submissions

We invite interested parties to make written submissions in response to the specific issues or questions raised in this paper or any other aspects of the new monitoring and reporting obligations by the close of business, **2 February 2018**.

Submissions should be sent electronically to: wholesaleperformance@ aer.gov.au.

Alternatively, submissions can be mailed to:

Mr Peter Adams
General Manager, Wholesale Markets
Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

We will place all non-confidential submissions on our website at www.aer.gov.au. For further information regarding our use and disclosure of information provided to us, see the *ACCC/AER Information Policy*, June 2014 available on our website.

Enquiries about this paper, or about lodging submissions, should be directed to the Wholesale Markets branch of the AER via wholesaleperformance@ aer.gov.au.

2 Stakeholder consultation on our discussion paper

On 31 August 2017, we published a discussion paper, which explored a number of relevant issues, including:

- Key concepts, such as the meaning of *effective competition* and *efficiency*
- The relevant products and markets we should consider
- How we should go about assessing the performance of the markets
- How we should gather, use and present information

We asked interested parties to respond to the issues raised in the discussion paper by providing us with written submissions.

We also held a public forum on 6 October 2017 to listen to stakeholders' views on the issues raised in our discussion paper. A summary of the discussion at the forum is located on [our website](#).

2.1 Overview of submissions

We received nine submissions, including two confidential submissions. Of the seven non-confidential submissions, four were from consumer representative groups and three were from generators. These submissions are available on [our website](#).

An overview of the issues raised in stakeholder submissions is below. A detailed summary of submissions by stakeholder and our responses is located in Appendix A: Summary of submissions and responses

2.1.1 How to establish our approach

Stakeholders agreed that the new functions we have been given are very broad and that we face a considerable task in establishing an effective wholesale market monitoring framework. Some stakeholders recommended we maintain flexibility in our approach, to best respond to changes in market conditions and emerging issues. Others advocated for us to prioritise our work and focus on the specific issues that have the potential to cause the greatest harm if left unexamined.

Based on these recommendations from stakeholders, we are consulting now on two draft documents:

- A high-level and flexible *Statement of approach* – This will describe, in broad terms, the general approach we will take towards fulfilling our wholesale electricity market performance monitoring functions. We intend for the statement of approach to be an enduring document, reflecting its flexibility.
- The focus for the 2018 performance report (*2018 Focus*) – This focus document will identify the areas we will focus our work on and the specific metrics and measures we intend to use for the 2018 review. It will also explain the current context of the markets

we are monitoring. We intend for the focus to be specific to particular years. We expect to change and consult on our focus in future years.

By using these two documents together, we are able to address both key stakeholder recommendations regarding how we approach our new functions. It ensures that the way we are approaching our new functions in the long term is clear, whilst giving us the flexibility to refine our priorities as necessary.

2.1.2 How to approach our new functions

In response to the issues raised below on how to approach our new functions, our intention is to take a very broad approach in the long term and not exclude any options. We note it is important to maintain flexibility in order to respond to changing market conditions and emerging issues. However, for specific reports, we will identify areas to focus on depending on the market conditions and context at the time. The *2018 Focus* outlines these priorities for the 2018 performance report.

2.1.2.1 How we define the market

A number of questions asked in the discussion paper were about how we define the relevant markets. For products, we explored different spot market products, derivative products and interregional settlement residue rights. We received a diverse range of views on this from stakeholders. Some stakeholders expressed that a narrow range of product markets was adequate. Others recommended casting the net as wide as possible to consider any related product market. Conversely, other stakeholders suggested that products like frequency control ancillary services (FCAS) and derivative products should not be examined separately from the energy spot market.

The *2018 Focus* outlines our approach for the 2018 performance report. Due to the close interrelationships of the many electricity products and markets, we do not want to restrict ourselves too much. While the wholesale spot market is a given, we intend to include ancillary service and derivatives markets in our monitoring. Derivatives we consider particularly important, as the level a participant is hedged affects its strategies, and low liquidity acts as a barrier to entry for generators.

In defining the geographic markets, consumers and consumer representative stakeholders generally suggested we assess the wholesale markets at a regional level to account for inter-regional limitations. Alternatively, generators generally advocated for considering the entire NEM as a single market, to reflect its interconnected nature. In addition, some stakeholders suggested that we be mindful of network constraints that can exist within a region and consider those appropriately. In 2018, we will assess the markets at a regional level to reflect the limitations on the market. However, we will maintain flexibility to allow for a broader, or narrower, definition where appropriate.

Most stakeholders also highlighted that we should be flexible in determining what time periods are relevant for our assessment, as different issues can arise across different timeframes. For example, investment decisions are made on a long term basis, and the NEL suggests a focus on the long term. However, for a robust assessment it may also be necessary to examine the context behind decisions made in the short or medium term, or

even individual intervals. We agree with stakeholder comments and will maintain flexibility when determining the relevant time periods. The performance report itself must cover a period of at least five years.¹

2.1.2.2 How we define effective competition and efficiency

Our discussion paper explored the concepts of effective competition and efficiency and asked stakeholders what issues we should be aware of, and what factors can compromise efficiency. Stakeholders suggested a range of relevant issues or factors for us to consider. These are explored in detail in Appendix A. Some key issues, and why they are important, include:

- Policy uncertainty and market intervention – Energy Australia and Snowy Hydro suggested that government intervention and policy changes could hamper efficient market operations by sending misleading investment signals, and increasing uncertainty. Stakeholders also raised this issue in the public forum.
- Availability and price of fuel inputs – A number of stakeholders raised fuel supply as a factor that can present a barrier to entry and contribute to price changes. This is something we observed in our recent investigation into the NSW electricity market.²
- Reduction in reserve generation capacity – AGL Energy identified the reduction in reserve generation capacity as the most important contributor to a change in bidding behaviour. A reduction in the reserve generation capacity represents a reduction in supply for the market. The remaining generators will find themselves dispatched more often to meet the same levels of demand. This can result in legitimate price rises from increasing fuel and operating costs.
- The impact of non-dispatchable generation – Both the MEU and EUAA highlighted the competition associated with intermittent generation technologies, such as wind and solar. As the bidding strategies for these technologies reflect a price taking position, they do not necessarily add to the level of competition, and may need to be considered differently.

We will consider each of these factors in our assessment.

Additionally, some stakeholders noted that each generator and each generation type has its own long list of factors that influence their strategies. Due to this, it could be unrealistic to apply the same expectations for conduct and performance across all market participants. Uniting Communities also suggested we consider the consumer perspective, and that our definition of effective competition should reflect that electricity is an essential service. This would focus on affordability; that nobody should be disconnected from the essential service components of electricity due to an inability to pay.

¹ The first and second reports must cover 2 years and 4 years respectively.

² AER *electricity wholesale performance monitoring – NSW electricity market advice*

We acknowledge that each generator is unique and that this may influence how it operates. We agree that it is unrealistic to apply the same expectations for conduct and performance across all market participants. While we intend to include materiality of observed or potential harm as a guiding factor for determining our focus, affordability for the end consumer is outside the scope of our wholesale monitoring role.³ We also have performance monitoring roles in networks and retail markets. Where relevant, our wholesale market monitoring will take into account any lessons we have learned as part of our other monitoring roles.

2.1.2.3 Structure measures

In the discussion paper, we explored a number of structural measures of effective competition and market efficiency. In their submissions, some stakeholders indicated support for specific metrics, including the Herfindahl-Hirschman Index (HHI) and Residual Supply Index (RSI). Most stakeholders also agreed that investigating barriers to entry is highly important for assessing effective competition and market efficiency. Stakeholders raised vertical integration, liquidity of contracts, policy uncertainty and market intervention as specific barriers to entry that they have observed in the market. AGL Energy questioned the significance of vertical integration, asserting that vertical integration is unlikely to have a detrimental impact on competition or efficiency.

We agree that particular metrics, such as HHI and RSI are valuable indicators of concentration and market power. Examining a range of barriers to entry is a key piece of analysis, and is required by the NEL. We acknowledge AGL Energy's comments regarding vertical integration. However, a number of other stakeholders supported including vertical integration in our analysis. We intend to incorporate vertical integration in our analysis, as it is a significant feature in the NEM. Both the Australian Energy Market Commission (AEMC) in its retail competition review and the Australian Competition and Consumer Commission (ACCC) in its Retail Electricity Supply and Prices Inquiry consider the impact of vertical integration, highlighting its importance.

2.1.2.4 Conduct measures

We asked, in our discussion paper, what aspects of a participant's conduct we could consider. A number of stakeholders noted the value of our current monitoring work and suggested expanding these existing reviews to examine longer term trends. However, Snowy Hydro cautioned against misdiagnosing issues and suggested that we remain mindful of the inherent price volatility of the NEM's energy-only design.

In addition, MEU suggested we consider the approach taken by other regulators to establish the manner in which a generator behaves during strong competition, and then assess deviations from this standard operating behaviour.

We agree with stakeholders that part of our performance monitoring should include a broadening of our existing work over a longer term to identify any trends or patterns. Our *2018 Focus* outlines the forms of conduct we intend to examine in our first performance

³ We note that the ACCC Electricity Supply & Pricing Inquiry is considering recommendations to improve affordability across the NEM.

report. We will continue to investigate approaches used by other market monitoring bodies and regulators.

2.1.2.5 Performance measures

The discussion paper also explored a range of measures of efficiency and effectiveness of competition we could use to assess the performance of the market. Some stakeholders drew on the requirement in the law to consider if prices are determined in the long run by underlying costs, to recommend a comparison of costs and price. Many said that a comparison similar to what the AEMC undertook in considering the MEU rule change is a good starting point. Stakeholders noted the difficulty in determining when market design rather than competition issues and scarcity cause high prices. Most also agreed with the number of limitations that we identified, Snowy Hydro noted the nature of the market to have short term price increases, and urged care in how we use such a comparison. Stakeholders agreed that we should use a price versus cost comparison only as an indicator as part of a larger whole.

EUAA and MEU recommended that we examine when the Australian Energy Market Operator (AEMO) dispatches generators out of the expected merit order for the technology type. If high cost generators are running in place of lower cost participants without a sound reason, it can provide a starting point for investigating further. Generally, stakeholders also agreed with our discussion paper that a balance of measures, both qualitative and quantitative, is required to accurately assess the performance of the wholesale markets.

We agree with stakeholders that the requirement in the NEL indicates the need to compare prices to costs. Our current preference for estimating costs is to use the Levelised Cost of Energy (LCOE) method, however we have not ruled out using the Long Run Marginal Cost (LRMC) method in the future. Relative to the complex modelling required to estimate LRMC, LCOE is easier to derive, and each technology will yield its own LCOE value. We also agree that qualitatively analysing instances of higher cost technologies running in place of lower cost technologies could contribute to an assessment of productive efficiency.

2.1.3 General comments

Stakeholders raised a range of other general comments. Snowy Hydro and EnergyAustralia noted the potential for increased regulatory burden associated with ongoing monitoring. They suggested that we should be non-intrusive, and minimise the regulatory burden by only using public data. We are mindful of not imposing unnecessary regulatory burden. Our approach will be to use public data in the first instance and compel confidential data where we identify an issue that requires further examination.

Other stakeholders also suggested that we consider the approach taken by other market monitors in other international jurisdictions. We will continue to investigate approaches used by other regulators. In doing so, we will remain conscious of the differences between our market and other jurisdictions.

A number of stakeholders discussed including materiality of harm as a factor to consider when prioritising tools or analysis. This would prioritise our work based on the observed or

potential harm, which may result from non-competitive behaviour. We propose to use this factor to prioritise work in 2018.

Many stakeholders also raised demand response as an important issue to consider. Some considered that effective demand response can improve competitive and efficiency outcomes. MEU however cautioned against over-emphasising the value of demand response, as it is not a costless exercise. Gains in productivity because of demand response can mean a loss of productivity for the user providing the response. We will consider the extent to which we can report on demand response in the 2018 performance report.

Uniting Communities and MEU also recommended we establish an advisory panel, comprised of a mix of wholesale market stakeholders. We would then be able to consult with the panel to consider the questions of what the data is saying and how issues could be resolved. We will consider how such a panel could fit into future stakeholder engagement for this ongoing monitoring role.

3 Next steps

Following the close of the submissions period in February 2018, we will develop the final statement of approach and 2018 focus. We expect to publish these documents in March 2018. Our first full performance report is due in December 2018.

In March 2018, we will deliver advice to the COAG EC on the impact of the closure of Hazelwood Power Station (Hazelwood).⁴

⁴ In November 2016, the Minister for Environment and Energy and the Treasurer requested the AER, in light of Hazelwood's closure, closely monitor market developments in Victoria and South Australia. In particular, we are to provide advice on any factors impacting on the efficient functioning of the market in the year following Hazelwood's closure.

Appendix A: Summary of submissions and responses

Stakeholder	Issue	Our response
General comments		
Energy Australia	<p>AER should use published data rather than developing new data analysis. Regulatory data burden is already high.</p> <p>Further work could be done to analyse patterns of behaviour, rather than focussing on single events in isolation.</p> <p>AER should focus on key areas of concern rather than do a detailed review of all markets.</p>	<p>We will use public data in the first instance. We will request confidential data if we identify an issue that requires further examination.</p> <p>We intend to examine conduct over the long term to identify patterns.</p> <p>The AER will focus on key areas of concern. We will look in more detail if we identify an issue in a particular market.</p>
Snowy Hydro	<p>AER needs to be non-intrusive. Focus should be on the efficiency of the NEM and not an indirect examination of alleged anti-competitive use of market power. It should only use public information.</p> <p>Requiring participants to divulge confidential information adds to business risk.</p>	<p>We will be mindful of not imposing unnecessary regulatory burden.</p> <p>Our monitoring will focus on efficiency and the effectiveness of competition in the wholesale market. We are not investigating misuse of market power, which is under the ACCC's remit.</p>
Energy Users Association of Australia (EUAA)	<p>AER should use a mix of quantitative and qualitative measures and be flexible over time. Quick action is needed to lower bills. AER should seek confidential information early in the process to save time and help decide which matters to focus on.</p> <p>Supports a formal mechanism where consumers can approach the AER with any concerns they might have about the wholesale electricity market performance.</p>	<p>We will use a mix of quantitative and qualitative measures. We will also be flexible as we develop our approach and in response to market evolution.</p> <p>We are required to use public information in the first instance. We may compel confidential information where we identify an issue requiring further examination.</p>
Major Energy Users Inc. (MEU)	<p>The AER should not focus on a few key elements but assess all aspects where there might be low competition to establish which areas to spotlight. It should use a suite of measures.</p> <p>Supports the establishment of an advisory panel comprised of a mix of representatives, similar to AEMC Reliability panel.</p> <p>Being active in demand response is not a</p>	<p>We will consider this in developing our advice to COAG EC on possible responses to issues. One possible outcome of our monitoring role could be to propose changes to the rules to address conduct or elements of market design that are detrimental to effective competition.</p> <p>We will examine a range of markets and metrics to establish which areas to</p>

costless exercise. Small gains in productivity in the electricity market as a result of demand side activity might result in a larger loss of productivity when measured nationally.

assess in more detail.

We will consider further how best to engage with interested stakeholders.

We will consider the extent to which we can provide information on demand response and how this affects the wholesale market.

Public Interest
Advocacy
Centre (PIAC)

AER should cast a wide net. Consider AEMC material in MEU rule change as well as work done by other regulators (both local and international).

The AER should prioritise its work based on the observed or potential harm, which may result from non-competitive behaviour in a particular market.

Approach the role as an expert regulator, rather than a legal regulator. Be active in gathering data to identify issues as they emerge, rather than acting after the harm has occurred.

Our analysis will need to be informed by a range of qualitative and quantitative analysis. We will examine the interactions between these various pieces of analysis rather than relying on any single result or test as being determinative of a particular conclusion. We are likely to expand and enhance the measures and tools we use over time. Results of our analysis will assist to identify issues early.

Where we are able to assess materiality/harm, we will use it as a factor to guide our priorities and resources.

AGL Energy

Material to consider: the Federal Court decision on AGL's acquisition of Loy Yang A (AGL v ACCC (No3)), and the Australian Competition Tribunal's decision on AGL's application for authorisation of acquisition of Macquarie Generation in 2014.

We are not bound by competition law jurisprudence; however, we will consider it where appropriate.

Uniting
Communities

A useful aspect of the AER's wholesale reporting is to bring together the best available wholesale market data into one, easy to access location – the AER website. Readily accessible, up to date data from a credible source is particularly useful of consumers and consumer groups who may not have the resources to collect or digest data.

Around time of release, the AER should hold a workshop with stakeholders to consider the questions of what the data is saying.

We will draw on our existing wholesale reporting and State of the Energy Market results to inform our report. We will continue to consider ways in which we can provide information in an accessible format.

Defining the market

<p>Snowy Hydro</p>	<p>The AER should only focus on the spot market and FCAS. Period of assessment should be longer than a single trading interval. Sufficient to assess NEM wide market.</p>	<p>While we will focus on the spot market, it will also be important for us to have regard to the extent to which participants in the spot market trade in electricity derivative instruments. It will also be important for us to examine the markets on a region by region basis due to network constraints. We will examine the level of competition in the market over the long term, but may also draw on our analysis of shorter term events where appropriate. .</p>
<p>AGL Energy</p>	<p>FCAS and derivative should not be examined separately from the energy spot market. Inter-regional settlement residues (IRSRS) should not be treated differently to other tools for managing pool price exposure.</p> <p>Analysis should consider the NEM market as a whole; region- based assessment is unnecessary.</p>	<p>We will also consider the interactions between the spot and derivatives markets as part of our assessments. We will also initially look at FCAS markets separately. Not all generators can provide FCAS and the increasing proportion of non-synchronous generation in the NEM may have a significant impact on the operation and performance of FCAS markets.</p> <p>We consider it important for us to start our examination of the markets on a region by region basis due to network constraints. We may take wider or narrower market definition where our analysis suggests this is appropriate.</p>
<p>EUAA</p>	<p>Analysis should include all products that impact the wholesale price: spot, FCAS, derivatives, IRSR and Reliability and Emergency Reserve Trader (RERT). Should assess by region, including transmission constraints.</p> <p>There are large barriers to entry for the provision of ancillary services. This suggests a relatively short time period for the evaluation of market performance for ancillary services.</p>	<p>We will have scope to consider all of the products listed by EUAA, however we will initially focus our assessment on those products that have the greatest impact. We agree that our assessment should start at a regional level., We will examine the level of competition in the market over the long term, but may also draw on analysis of shorter term events where appropriate.</p>
<p>MEU</p>	<p>Market power can be exercised in many elements of market, such as FCAS and inertia. Derivative products provide an expectation of what prices are acceptable in forward contracts, and can reflect market power issues.</p> <p>Many elements make up the final cost to</p>	<p>We will assess whether competition is effective in the wholesale markets including the FCAS markets. We will monitor futures prices to the extent we are able.</p> <p>We will prioritise the issues that may</p>

consumers. The AER should assess the impact of each element and focus on those with the highest impact. There is no need for ongoing monitoring if an element has little impact.

Each region should be considered separately, but sub-regional issues also need to be assessed, where they affect prices.

AEMC concluded that periods of one year were sufficient for its assessment of the MEU rule change. Other regulators in other jurisdictions adopt shorter periods, eg: 3 months.

cause the most harm.

We consider it important for us to start our examination of the markets at a regional level. We may take wider or narrower market definition where our analysis suggests this is appropriate.

We will examine the level of competition in the market over the long term, but may also draw on analysis of shorter term events where appropriate.

PIAC

The AER should consider any market, product or service that materially impacts the final price paid by consumers, including:

- ancillary service markets
- derivatives and settlement residues
- system security markets
- gas supply

The AER should look at the levels of demand side participation for all markets monitored.

Should assess at a regional level, but also be mindful of constraints that can exist within a single NEM region.

AER approach should be able to examine 5-minute bidding, but also be able to capture trends, behaviours and factors that are longer-term in nature.

We will consider the markets, products and services suggested by PIAC. We agree we should prioritise the issues that we consider may cause the most harm.

We will consider the extent to which we can provide information on demand response and how this affects the wholesale market. We consider it important for us to start our examination of the markets at a regional level. We may take wider or narrower market definition where our analysis suggests this is appropriate

We will examine the level of competition in the market over the long term, but may also draw on analysis of shorter term events where appropriate.

Uniting Communities

All relevant aspects of wholesale electricity markets need to be monitored with data publicly available. This includes IRSRs, ancillary services such as FCAS and SRAS, as well as any new provisions that may come into effect, such as inertia. Reporting on spot and derivative markets is crucial.

Significant differences across geographic regions mean that data reporting for wholesale markets will need to be strongly influenced by geographic dimensions, reporting on each jurisdiction. The AER should consider reporting on non-NEM markets to create a “national” report, including WA, NT and off-grid remote

We have scope to consider the markets suggested by Uniting Communities. We agree with the important of spot and derivatives markets.

We consider it important for us to start our examination of the markets at a regional level. We may take wider or narrower market definition where our analysis suggests this is appropriate

Reporting on non-NEM markets is outside the scope of our monitoring role.

The NEL requires that the

communities.

As generation assets are long-life, the reporting period would ideally cover at least 20 years, longer where the data permits it.

performance report cover at least a period of 5 years.

Competition and efficiency

Energy Australia	AER should consider external factors, which compromise efficient investment: policy uncertainty and market intervention.	We will consider these factors when assessing the efficiency of the market.
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EUAA	Efficiency can be compromised by a range of factors, including the availability of coal and gas, impact of government intervention, constraints on demand response and renewable bidding practices.	We will consider these factors when assessing the efficiency of the market.
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MEU	<p>Within dispatchable generation, there are three groupings - base load, intermediate and peaking. Each has its own cost structure. A reduction of competition in any one of these three sectors can have a major influence on the outcome of the market and the ability of players in each sector to exercise market power.</p> <p>Wind and solar, as price takers, do not add to the level of competition.</p>	We agree that different technologies compete in the market in different ways. We will consider these factors when assessing the effectiveness of competition and efficiency of the market.
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PIAC	<p>No market can be considered efficient or effective without optimal levels of demand side participation, and regulatory and market frameworks to incentivise it.</p> <p>Other issues that can comprise efficiency include:</p> <ul style="list-style-type: none"> • gaming and the use of excessive market power • pursuing levels of reliability that exceed the value consumers place on it • interventions by governments that affect investment signals 	<p>We will consider the extent to which we can provide information on demand response and how this affects the wholesale market.</p> <p>We will also consider how a range of market behaviours and non-market factors could affect efficiency..</p>
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AGL Energy	<p>Considering generator costs in isolation may create unrealistic expectations of bidding behaviour. Many factors influence bidding strategies.</p> <p>The most important contributor to a change in bidding behaviour that causes</p>	We will take a range of factors into account, when considering bidding behaviour.
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prices to rise is a reduction in reserve generation capacity.

<p>Uniting Communities</p>	<p>Definitions of effective competition need to reflect that electricity is an essential service. Consequently, affordability must be a factor in considering effective competition.</p> <p>Both long term and short term factors need to be considered separately, and the AER should report on both sets of issues.</p>	<p>While we will consider materiality as an important factor, affordability is outside the scope of this monitoring role. However we do report affordability measures as part of our other monitoring functions. We will examine the level of competition in the market over the long term, but may also draw on analysis of shorter term events where appropriate..</p>
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Structure

<p>EUAA</p>	<p>There are huge barriers to entry for new synchronous generation but low barriers for renewables. For coal, it is investor risk built on legal and regulatory barriers. For gas, it is a structural barrier around availability of gas. For hydro, it is a regulatory barrier around environmental approval process as well as the time required to develop and build new projects. Assessment of these barriers is through discussions with potential investors.</p> <p>Vertical integrations impacts market liquidity for new entrant generators.</p>	<p>We will assess the range of barriers to entry for new generation in the NEM. We plan to assess barriers to entry qualitatively by surveying or interviewing participants and potential investors.</p> <p>We will consider the extent to which vertical integration affects the effectiveness of competition..</p>
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<p>MEU</p>	<p>The AER should examine impact of AEMO dispatch directions to limit dispatch of some generation types on market concentration.</p> <p>The bulk of new generation is effectively owned by the dominant retailers either directly or by through long term power and REC purchase agreements with new developers. So there needs to be assessment of the levels of concentration of generation plant owned by the dominant retailers and also of the amounts of generation that they beneficially own through long term contracts and what new generation will be controlled by the dominant retailers.</p> <p>There are a range of tools developed by regulators in competitive electricity markets to assess level of competition:</p>	<p>In analysing market concentration, we will be conscious of the operation of various technology types.</p> <p>We will assess market share on the basis of both ownership and control (based on publicly available information).</p> <p>Our analysis will be informed by analysis of a range of qualitative and quantitative measures, including HHI and RSI. We will examine the interactions between these various pieces of analysis rather than relying on any single result or test as being determinative of a particular conclusion.</p> <p>We agree that barriers to entry can take many different forms. We plan to assess a range of barriers to entry including qualitatively by surveying or</p>
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- HHI assessments of concentration
- HHI assessments at different levels of demand (as a generator is dispatched that amount of generation dispatched can no longer provide competition)
- Analysis of temporal bidding practices
- Residual supply indexes.

interviewing participants and potential investors.

There are many barriers to entry other than delivering a product at less than the price provided by a market signal.

Snowy Hydro	<p>The key barriers to entry in the NEM relate to the need to incur high fixed costs that become sunk after entry, and the lead time for investment. Policy uncertainty negatively impacts investment.</p>	<p>We agree that high costs and long lead times for investment form key barriers to entry. We plan to assess a range of barriers to entry qualitatively by surveying or interviewing participants and potential investors.</p>
PIAC	<p>Traditional indicators of market concentration based on markets where participants actively participate in setting market prices may not apply in an energy market where some participants are passive price takers.</p> <p>AER should look at vertical and horizontal integration to examine whether the benefits of such integration are passed onto consumers to offset the potential detriment to competition.</p>	<p>We agree that some traditional measures of market performance may not accurately reflect the context of the market. Our analysis will be informed by a range of qualitative and quantitative analysis. We will examine the interactions between these various pieces of analysis rather than relying on any single result or test as being determinative of a particular conclusion.</p> <p>We will consider the extent to which vertical and horizontal integration affects the effectiveness of competition.</p>
AGL Energy	<p>Vertical integration does not present a barrier to entry. It does not affect the contracting level, just the composition of hedges. There is no evidence that vertical integration raises prices.</p> <p>Being vertically integrated dis-incentivises withholding behaviour. It also reduces investment as the new generation, in part, can be sold through the gentailer's retail business.</p>	<p>We think it important to analyse the impact vertical integration may be having on competition or efficiency in the NEM, particularly given it is currently a significant feature in the market.</p>
Uniting Communities	<p>HHI is an appropriate measure of market concentration. A score below 1500 is a reasonable representation of an effectively competitive market. HHI should be applied to wholesale and retail markets</p>	<p>HHI results will form part of our assessment of market structure.</p> <p>We intend to examine access to contracts to the extent we are able.</p>

to consider the impact of gentailers on competition.

Access to contracts is a critical barrier to entry.

Vertical integration needs to be monitored and reported upon.

We will consider the extent to which vertical integration affects the effectiveness of competition.

Conduct

EUAA

Merit in extending existing AER review of participant behaviour in high prices to a broader remit over a longer term. A key part of this would be the monitoring of contract liquidity and prices.

We agree that examining longer term trends of participant behaviour may be of benefit. We will consider the interrelationship between contract and spot markets.

MEU

Deviations from merit order dispatch are a starting point for assessing conduct.

Other regulators in different jurisdictions conduct in depth analysis of how a generator operates during strong competition, and then assess deviations from this standard operating "envelope" to identify behavioural issues.

Over time we intend to develop a range of metrics and tools to report on participant conduct. The development of these tools will be informed by the experiences of other international energy market regulators.

If generators are being dispatched out of merit order this is an indicator that potentially the lower cost producers are withholding capacity that might otherwise keep prices lower.

The AER should assess bidding practices when generators are over or under contracted with forward hedges.

PIAC

Broaden existing reviews of participant behaviour in high price events to examine longer term price trends.

We agree that examining longer term trends of participant behaviour may be of benefit.

Investigate whether there is evidence of generators withholding capacity at strategic times to affect wholesale prices.

We intend to investigate instances of withholding behaviour as part of our analysis.

Performance

Energy
Australia

Against a detailed assessment of business costs. Comparing prices to marginal costs would be a poor method for assessing the long run efficiency of market pricing as LRMC are complex. An impossibly large task for the AER to do with accuracy.

We acknowledge the limitations of different methods of estimating underlying costs. We will not over-emphasise the results of a price versus cost analysis.

An assessment of the LRMC of new entrants provides best indication of

effective competition. If LRMC is lower than prices there is an incentive for new entry.

Prices must be considered over broad timeframe. Capital costs are not recovered in cycles.

Snowy Hydro	<p>Price spikes are essential in an energy-only market to support sufficient generation capacity. Generation dispatched to meet occasional peaks in demand may not be required for the majority of the year and must be able to earn sufficient revenue when it does run to contribute to its year round fixed costs. High prices raise the volume weighted pool price and provide the signal for new investment. Price cycles are long due to large sunk costs.</p> <p>Simple models of pricing behaviour are not applicable to fixed costs which can result in prolonged periods of prices being above and below the notional long-run price.</p> <p>LRMC values for planning purposes do not take into account the opportunity costs of energy limited generations such as hydro.</p> <p>Assessment of performance must have regard to barriers to new entry as exercise of substantial market power is tempered by threat of new entrants. The number of proposed and under construction generation projects indicates low barriers to entry.</p>	<p>We will remain mindful of the inherent design of the energy-only market in undertaking our assessment of the NEM.</p> <p>We agree with the limitations of estimating prices and underlying costs and will not over-emphasise the results of a price versus cost analysis.</p> <p>We will assess barriers to entry.</p>
EUAA	<p>The difficult question is - when are these high prices reflecting scarcity or temporal market power (and may be signal for new investment and indicate “effective competition”) and when are they a sign of sustained market power?</p> <p>Agree with limitations of LCOE and LRMC given different generation mix and age.</p>	<p>We acknowledge the limitations of different methods of estimating underlying costs. We agree that there are difficulties in interpreting price analyses. We will not over-emphasise the results of a price versus cost analysis.</p>
MEU	<p>Price is a fundamental tool to indicate exercise of market power.</p> <p>Despite shortcomings the AER should monitor costs (LRMC and LCOE for new</p>	<p>Part of our assessment of the effectiveness of competition will be to determine if prices are determined by underlying costs.</p> <p>We acknowledge the limitations of</p>

	<p>entrants).</p> <p>Access to accounts (split between retail and generation) could indicate which generators use market power to increase their profitability and what their costs for generation actually are.</p> <p>When the high price is primarily driven by the exercise of market power, new investment in generation does not occur.</p>	<p>different methods of estimating underlying costs. We will not over-emphasise the results of a price v cost analysis.</p> <p>We will use public data in the first instance. We may request confidential information where we identify an issue that requires further examination</p>
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PIAC

Assessment should be guided by minimising the harm of inefficient price outcomes for consumers.

A suite of measures, both qualitative and quantitative, considered as a whole, is required to accurately assess the performance of the wholesale markets.

Where we are able to assess materiality/harm, we will use it as a factor to guide our priorities and resources.

Our analysis will need to be informed by a range of qualitative and quantitative analysis. We will examine the interactions between these various pieces of analysis rather than relying on any single result or test as being determinative of a particular conclusion. We are likely to expand and enhance the measures and tools we use over time.