

REVIEW OF ENERGY MARKET FRAMEWORKS IN LIGHT OF CLIMATE CHANGE POLICIES

MINISTERIAL COUNCIL ON ENERGY

RESPONSE TO

**AUSTRALIAN ENERGY MARKET COMMISSION'S
FINAL REPORT**

December 2009

1. Introduction

The Ministerial Council on Energy (MCE) would like to thank the Australian Energy Market Commission (AEMC) for its presentation of the *Review of Energy Market Frameworks in light of Climate Change Policies Final Report* (the Report), which was released on 8 October 2009. The MCE recognises the extensive public consultation process that the AEMC has engaged in developing the Report and notes the Report's comprehensive coverage of the MCE Terms of Reference.

The MCE has considered the Report and developed this response addressing the Report's recommendations. The following sections present the MCE's response to the AEMC's Report.

2. Background and context

At its July 2008 meeting, the MCE recognised the importance of implementing climate change policies for the long term benefit of Australia's society, environment and economy. The MCE recognises that, to achieve the twin objectives of transitioning to a low emissions economy while maintaining long-term energy security and economic prosperity, reforms to the existing energy market frameworks may be required.

In recognition of the importance of energy markets being well positioned to respond to the structural changes associated with the implementation of climate change policies, on 25 August 2008 the MCE requested that the AEMC undertake a review of energy market frameworks in light of climate change policies. The intention of the review was to address broader issues that may emerge over the medium term.

The AEMC provided its Final Report to the MCE and it was released on 8 October 2009. The review covered both electricity and gas markets across all states and territories.

This response follows the structure of the AEMC's Final Report. That is, this response will first look at the AEMC's general findings, followed by findings relevant to the National Electricity Market (NEM) and gas markets in south-eastern Australia, issues specific to Western Australia, and the Northern Territory.

3. Impact of climate change policies

This section presents the MCE response to the Report's general findings in relation to the existing energy market frameworks and the likely impacts of the introduction of the Carbon Pollution Reduction Scheme (CPRS) and Expanded Renewable Energy Target (eRET). In this context, the Report considered whether energy market rules and regulations will continue to provide secure and reliable energy supplies at efficient cost.

The AEMC undertook its Review in the context of a dynamic energy policy environment. The Australian Government released its White Paper outlining the framework for the proposed CPRS in December 2008. The final form, including some key policy settings, had not been resolved while the AEMC was developing its recommendations. However, legislation to give effect to the eRET was passed by Parliament on 20 August 2009.

The AEMC found that the introduction of climate change policies would be likely to have a significant and ongoing impact on energy markets in Australia. Specifically, the AEMC considered that climate change policies would result in a structural

transformation of many aspects of markets over a period of years and this transformation would pose substantial risks and costs for energy markets.

In its Report, the AEMC noted that, even without the introduction of climate change policies, energy markets face challenges as they evolve to maturity. These challenges include attracting capital for investment, ensuring the effective operation of the financial market, and providing a predictable operating environment that promotes competitive outcomes. Despite these issues, the AEMC concluded that, subject to implementation of the framework changes it recommended, energy market frameworks will generally be resilient to the challenges associated with the introduction of climate change policies. However, the AEMC warned that there is still a requirement for timely adjustment to market settings within the existing frameworks.

MCE response

The MCE recognises that the introduction of the CPRS and the eRET will change the economics of Australia's energy markets and influence the behaviour of investors, market participants and consumers over the next ten to fifteen years. As a result, the design and framework for the CPRS and eRET are important considerations in determining the impact of the policies on the energy sector.

The MCE notes that the primary focus of its work to date has been to ensure that conditions are being met to provide confidence that investment will flow in a manner that maintains or enhances competition and delivers adequate capacity to meet demand. This response considers the recommendations in this light.

The MCE agrees with the AEMC that the existing energy market frameworks, developed through the various reform processes over the last fifteen years, are generally robust. The MCE also recognises the importance of ongoing energy market development and considers that the AEMC's Review is a key component of its work going forward.

The MCE has the view that energy markets should continue to be monitored in light of the changing policy environment and considers the AEMC is well placed to provide this service, given its extensive work in the area. The MCE therefore requests that the AEMC provide periodic update reports and develop a timeline for delivering this advice in consultation with MCE Officials. The MCE requests that the AEMC continue to work closely with market participants and the market institutions in developing its views.

4. Connecting generation clusters

The AEMC noted that the introduction of climate change policies will change the type and location of generation decisions. As a result, the NEM will need to accommodate a growing number of generators whose locational preferences differ from those of existing generators, around which the current transmission and distribution networks have largely developed. This is because abundant fuel sources for renewable technologies (such as wind, solar and geothermal) are generally located remotely to the grid.

The MCE notes that optimal energy market outcomes arise where the levels of generation, network and demand side investment are co-optimised with load requirements. The existing framework promotes this outcome by explicitly requiring generators to take into account the costs of connecting to the network when deciding where to locate new plant.

While the current arrangements enable participants to coordinate multiple connection applications, to date these have not been effective due to a number of

limitations in the connection process. The AEMC has identified that the most significant of these is the lack of incentive and regulatory scope for network service providers to scale their assets to accommodate future generation connections.

The AEMC has therefore recommended that the National Electricity Rules (NER) be amended to introduce a new framework for the connection of generation clusters in the same location over a period of time to deliver Scale Efficient Network Extensions (SENE).

MCE response

The MCE recognises that the introduction of climate change policies will create a need to ensure there is greater coordination of connections to the network where opportunities for economies of scale exist. The MCE therefore welcomes the AEMC's work in this area, and particularly its development of a regime to deliver a more efficient mechanism for connecting generation clusters than currently exists.

The SENE proposal involves the creation of a new mechanism for delivering investment within the NEM rather than a reform of the overall network augmentation framework. The MCE considers that this is appropriate and is consistent with the MCE's objective of ensuring that any changes to the market framework are well justified, proportionate and maintain market stability (as reflected in the terms of reference for the AEMC's review).

The key elements of the AEMC's proposed new framework are:

- a method for efficiently allocating the risks associated with the construction of SENEs;
- the creation of a centralised pre-planning function to identify areas suitable for SENEs; and
- an approvals process for selecting and developing SENEs that maintains the incentives for commercial decision making by generators.

Risk allocation

As the AEMC notes, the proposed SENE model is designed to overcome the lack of incentive for network businesses to invest in efficiently sized connection assets. The AEMC's proposed solution is to require consumers to assume the costs associated with the risk of SENE under-utilisation (and conversely benefit from early connection of generators to a SENE). The MCE supports this conclusion on the basis that the SENE model is intended to deliver market efficiencies that will minimise the costs faced by consumers in the long term.

In this context, the MCE notes the existing economic regulatory regime for networks manages similar risk allocation issues. For example, the economic regulation of network services is intended to ensure that investments in the shared network deliver long term benefits to consumers, consistent the National Electricity Objective (NEO). However, in the case of SENEs, the mechanisms proposed by the AEMC to achieve this outcome are different. In effect, the AEMC has argued that SENEs are more akin to connection services that would otherwise need to be negotiated bilaterally between interested parties.

The MCE notes the differences between these mechanisms, primarily in terms of governance arrangements (discussed below), and considers that they're generally appropriate. However, because SENEs will not be subject to the same level of regulatory oversight as shared network assets, the MCE considers that to ensure an equivalent discipline is applied to SENE developments, SENE proponents should be provided with direct incentives to develop accurately sized proposals. The MCE therefore requests that the rule change should include provisions that give the SENE

planners (i.e. Network Service Providers, NSPs) an internal incentive to prudently size SENE. The MCE recognises that this provision will need to be drafted carefully to ensure it does not itself act as a disincentive to investment in an otherwise efficient SENE project.

The MCE agrees with the AEMC's assessment that an alternative risk allocation model involving government underwriting the risks would deliver less efficient outcomes. Such a model could decrease transparency in the market and increase the risk of inefficiently sized assets. The MCE has consistently promoted energy market policies which provide clear price-based signals to the market and believes that the market is then best placed to deliver these signals. The MCE recognises that Australia's energy markets are both capital intensive and constantly evolving and therefore supports the development of new and innovative approaches to funding investment. This is especially important for ensuring that the market delivers the right level of investment at the right time.

Planning

The key feature of the SENE proposal is the development of a mechanism for identifying the most appropriate sites for locating SENE and for costing their development. The energy market has been designed to ensure that firms face the full costs of their investment decision making. The MCE therefore supports the AEMC's focus on ensuring that the SENE framework does not dictate where and when investment should occur but rather provides a framework for enhancing these choices.

The AEMC proposed that this be achieved by allocating responsibilities to both AEMO and NSPs. AEMO would identify possible SENE sites as part of its National Transmission Planning (NTP) responsibilities and would have regard to the likely future development of the national electricity transmission grid. NSPs will then be responsible for identifying and costing augmentation options based on an analysis of the expected generator requirements.

The MCE supports this approach as it enables the costs of each proposal to be communicated to the market transparently. In combination with the requirement that generators contribute to the full costs of the SENE, this ensures that decision making continues to be market driven.

The MCE notes that the SENE proposal requires that, when planning SENE, NSPs must take into account the possible implications for the shared network associated with different connection points. This ensures that the SENE is developed on the basis of an accurate assessment of shared network capacity (existing or likely). The MCE observes that that depending on the configuration of a SENE, it also has the potential to contribute to the overall development of the shared network (e.g. by providing the basis for a looped extension of the network).

The MCE notes that the AEMC proposed model facilitates this approach by allowing NSPs to undertake a Regulatory Investment Test (RIT) in conjunction with its SENE assessment. In undertaking this assessment the NSP can allocate some of the costs to customers on a permanent basis if some, or all, of the service passes the test for a shared network service. This is consistent with the existing arrangements for generators connecting to the grid, and means connecting generators should not bear the sole cost of assets that have wider network benefits. The MCE notes that the inclusion of any shared benefits is likely to significantly influence the price of the SENE. The MCE therefore requests that the obligation on NSPs to consider shared benefits be clarified so that these benefits are included in the development of planning options for SENE extensions.

Governance

The MCE supports the proposal that the AER be given powers to disallow SENE proposals where it does not consider that they will deliver efficient outcomes based on customer needs. As the AEMC notes this role is vital in protecting the interests of consumers.

In this vein, the MCE asks that the AEMC create a mechanism requiring the AER to actively engage with those affected by a SENE proposal, including retailers, in its decision making. This will ensure that the AER will be in possession of all relevant information about the risks that consumers are being asked to assume and provide a strong mechanism for these risks to be communicated to affected parties.

The MCE also welcomes the proposal to require AEMO to provide an assessment of the profile of the new generation assumed by the NSP and the requirement that the AER to consider this assessment. This will provide a strong basis for ensuring a rigorous treatment of the proposals put forward by NSPs. To strengthen the integrity of this process, the MCE considers that a favourable AEMO assessment should be a prerequisite for further consideration by the AER.

Review

The MCE agrees with the AEMC proposal that the SENE framework be reviewed after five years. This will ensure that that this proposal functions as intended and to determine whether there is merit in revising the approach so that the efficiencies generated by SENEs can be applied more broadly across the network.

Next steps

The MCE considers that the SENE framework will deliver benefits to the market by enhancing the capacity of the NEM to respond flexibly to the demands placed upon it through the introduction of climate change policies. The MCE therefore endorses the draft Rules provided by the AEMC (subject to the modifications set out above) and intends to initiate a full Rule change process.

The MCE recognises that the development of the SENE framework has required careful consideration of its interaction with other aspects of the market. The Rule change process therefore offers an opportunity to further refine the settings for the proposal. The MCE expects that the AEMC will continue to actively engage stakeholders in the development of the Rule change.

5. Efficient utilisation and provision of the network

The AEMC considered that climate change policies may result in higher levels of congestion on energy networks and, under the existing framework, there is a risk that congestion costs will not be minimised or that they will create significant risks for potential investors. Not only will the NEM see more new plant entering the market in different configurations and locations as the result of climate change policies but the pricing of carbon will also result in a pattern of retirement that would otherwise not occur. This may result in higher levels of congestion on energy networks and hamper the ability of parties (and generators in particular) to make efficient investment decisions. The AEMC has therefore highlighted the need to address these issues systematically.

The AEMC noted that generators do not currently have a fully developed incentive to locate in a way that accounts for the full costs of their decision for the network or for the impacts such decisions have for incumbent generators. The AEMC also noted that the current framework for network access could be improved to enable generators to negotiate the level of service provided by NSPs.

The AEMC proposed that further work be undertaken in this area in recognition of the importance of optimal decision making by generators in meeting the challenges of climate change. As a result, the AEMC recommended that it institute a Development and Implementation Program and report back to the MCE with an Implementation Plan by the end of 2010.

The objectives for the proposed Development and Implementation Program are to:

- develop a detailed specification of the preferred form of generator transmission charge and identify potential interactions with the existing framework for transmission regulation;
- determine the structure and feasibility of a framework for generators to negotiate and pay for an enhanced level of transmission service;
- design a feasible localised, time-limited congestion pricing mechanism where the costs of its introduction are proportionate to the materiality of the localised congestion problem; and,
- consider the role and usability of Rule 5.4A in the context of the delivery of transmission service for generators.

MCE response

The MCE thanks the AEMC for its work in this area. It agrees with the AEMC's assessment that there is a significant challenge for the electricity market in ensuring that future investment decisions in the generation and transmission sectors are effectively coordinated.

The primary concern of the MCE is to bring on investment in the market in a timely way. The MCE is cognisant of the risks associated with delivering over-investment and the resulting inefficient price outcomes faced by consumers of electricity, but is equally mindful of the consequences of under-investment. The Australian community has high expectations about the quality and reliability of the service provided by the electricity market. In the context of the NEO, the MCE has a strong positive obligation to ensure that these expectations continue to be met in the most efficient way possible.

The MCE considers that ensuring the timely delivery of investment requires a clear understanding of the constraints that are imposed on investment decision making within the wholesale market. In the context of investment, the key test for any intervention or proposed improvement is the degree to which it enhances the prospects for the delivery of new capacity. This requires a robust framework to ensure efficient locational choices on the part of generators and equally strong arrangements to ensure the optimal delivery of network capacity. However, the underpinning focus should be on the delivery of timely generation capacity to meet the needs of consumers.

The MCE recognises the strong interplay between the physical and financial markets. Forward contracting plays a critical role in ensuring that generators and retailers can manage the significant volatility in the spot market and provides the certainty needed to fund capital intensive investments (through debt obligations etc). Any review of the existing framework therefore needs to include a focus on the liquidity of the forward market (including inter-regional liquidity) and the ability to contract for periods sufficient to underpin investment. The effective operation of financial markets is essential to the continuing viability of the energy only, gross pool design of the NEM.

The MCE considers that there is merit in considering a range of solutions around issues associated with current arrangements, especially in light of the challenges that

the sector faces over the next decade. Given the significance of this issue and its bearing on questions of investment, the MCE is of the view that this work is most appropriately undertaken as part of the MCE's wider work program and should therefore be initiated by the MCE rather than the AEMC.

The MCE recognises the strong interest from stakeholders in ensuring that these issues are addressed coherently and result in workable outcomes. The MCE also recognises the need for a timely resolution of these issues and has asked officials to liaise closely with the AEMC in developing the mechanism for providing advice to the MCE, as a matter of priority.

The MCE recognises that the AEMC's proposals around SENE and Inter-Regional Transmission Use of Service (IR-TUoS) charges could have significant impacts on electricity networks. The MCE anticipates that any future work would take into account the interaction of these initiatives with the electricity market as a whole.

6. Inter-regional transmission charging

The AEMC noted that the current regional model of transmission charging does not appropriately allocate to consumers the costs and benefits of inter-regional electricity flows. The current pricing arrangements allow for each Transmission NSPs (TNSPs) to recover the costs of building and operating the network from customers within its own region. However, there are limited arrangements for charging customers in adjoining regions for the costs of augmentations or network operation that deliver market benefits in those adjoining regions.

As a result, the AEMC recommended that the existing transmission charging framework be amended to oblige transmission businesses in each region to levy a new charge – a load export charge – on transmission businesses in adjacent regions. This charge would reflect the flow of electricity from one region to adjacent regions. The level of the load export charge would reflect the costs incurred in the use of the transmission network in the region to conduct electricity to the adjacent network.

The AEMC further recommended to the MCE that the new charging arrangements should begin on 1 July 2011, replacing the existing transitional provisions in the National Electricity Rules.

The AEMC developed a draft Rule for this proposal.

MCE response

The MCE recognises the importance of providing accurate and reflective market signals to encourage investment and to ensure that costs are allocated to the appropriate parties. The NEM has been designed to promote a competitive market with a strong focus on trade between regions. The role of inter-regional trade will become more important given the likely changed portfolio of generation mixtures and locations that will result from the introduction of the eRET and the CPRS. In this context, ensuring that market signals are right for delivering efficient investment in transmission networks in a timely manner is crucial for the continued operation of the NEM.

The MCE recognises that the AEMC's proposed IR-TUoS charge is an important part of ensuring that network businesses receive appropriate compensation for use of their system by inter-regional customers and that customers in exporting regions do not pay charges for services they do not use. As a result, the MCE considers that in principle the AEMC's recommendation will promote the efficient allocation of network costs to those who benefit from its use, which will assist the development of a national, interlinked energy market. However, noting that implementation is not

costless, in progressing any Rule change proposal consideration must be given to the net economic gains associated with this initiative.

The MCE endorses the AEMC's recommendations and proposes that the AEMC's draft Rule proposal be progressed through a formal Rule change process, subject to a strong empirical analysis under the NEO.

7. Regulated retail prices

The AEMC noted that changes in the level of volatility of costs faced by retailers as a result of the introduction of climate change policies, combined with ongoing price regulation, may reduce the effectiveness of retail competition. As a result, the AEMC recommended that:

- the MCE reaffirms its commitment to remove retail price regulation in those jurisdictions where competition is effective,
- the MCE clarifies that retail price regulation should result in regulated retail prices that provide headroom for the development of competition whilst also adequately protecting consumers unwilling or unable to take up a competitive market offer,
- those jurisdictions that have not removed retail price regulation by the commencement of the CPRS should introduce additional flexibility to retail pricing regimes,
- the MCE reviews the existing timetable of the AEMC retail competition reviews to enable jurisdictions to make informed decisions about whether to remove retail price regulation where competition has been found to be effective before June 2012, and
- the effort be made to ensure that the National Energy Customer Framework (NECF) is implemented by each jurisdiction prior to the introduction of the CPRS, to ensure effective arrangements are in place for the Retailer of Last Resort (RoLR) and customer protection are in place.

MCE response

The MCE has previously recognised the importance of cost reflective retail prices. As a result, the MCE requested that the Council of Australian Governments (COAG) amend the Australian Energy Market Agreement (AEMA) to require the pass-through of costs associated with the CPRS and eRET to end use consumers on regulated prices. The amended AEMA was signed by COAG on 2 July 2009. The MCE notes that all jurisdictions remain fully committed to the AEMA.

At its meeting on 10 July 2009, the MCE agreed to direct the AEMC to continue its program of reviews of the effectiveness of retail competition in jurisdictions. The timetable for these reviews has been set for the Australian Capital Territory in 2010, New South Wales in 2011, Queensland in 2012 and then Tasmania in 2013, if full retail contestability has been implemented in that jurisdiction by that time.

The MCE acknowledges that jurisdictions retain control of retail price regulation under the AEMA. As a result, while the AEMC may make recommendations in this area, the MCE considers that it is a matter for the relevant jurisdictions as to whether the recommendations will be implemented or not. However, the MCE recognises that where regulation is going to be retained beyond the commencement of the CPRS, the ability to allow for timely adjustment of regulated retail prices will be essential to reflect the underlying cost of energy in the market. Failure to act in this area could

see a diminishment of retail competition, or, where financial pressure is significant and remains unaddressed, potential retail failure.

The MCE notes that retail price regulation is the responsibility of jurisdictions. As a result, the MCE considers that it is appropriate for the AEMC to work with jurisdictional regulators on means for introducing flexible arrangements around regulatory reviews, recognising the work undertaken to date in this area by jurisdictional regulators, and that the methodology used to determine regulated retail prices is ultimately a matter for jurisdictional regulators. Accordingly, the MCE considers that it would be appropriate for the AEMC to continue to work with the relevant jurisdictional regulators and stakeholders on these flexibility mechanisms.

MCE considers it crucial that the transition to a low emissions economy does not cause disturbance in the retail supply of energy to end-use consumers. The potential volatility of wholesale prices may make it extremely difficult for regulators to determine a price cap that is competitive but still allows a retailer to manage its risk. Building in flexibility to retail price determinations will continue to remain a material issue at the forefront of industry concern and inevitably require the ongoing attention of the MCE.

With regard to the RoLR, the MCE notes that a national RoLR regime is on track to be included in the NECF. The framework is likely to be introduced to the spring sitting of the South Australian Parliament in September 2010. The MCE notes the importance of ensuring the effective operation of jurisdictional RoLR arrangements in the period prior to the implementation of the NECF by individual states and territories. The MCE considers that implementation of the NECF package is of high importance.

MCE will continue to oversee the approach to implementation of the NECF and acknowledges the AEMC's recommendation that the RoLR regime be in place prior to the introduction of the CPRS.

8. Generation capacity in the short term

The AEMC considered that delays to generation investment due to current uncertainty around future policy settings, and timescales required to commission new investment, could result in a transitional problem in respect of the adequacy of generation capacity. As a result, the AEMC recommended that the set of options that AEMO may call upon to procure reserve to address capacity shortfalls be expanded further than the current Reliability and Emergency Reserve Trader (RERT) and directions power. It also recommended improved demand side participation reporting and facilitating access to embedded generation.

Under the Improved RERT Flexibility and Short-notice Reserve Contracts Rule change proposal (RERT Flexibility Rule change proposal), the AEMC proposed that a framework be introduced in the NER to support AEMO procuring reserve contracts at short notice. On 15 October 2009, the AEMC published its final Rule determination on the Reliability Panel's proposal relating to Improved RERT Flexibility and Short-notice Reserve Contracts, which came into force on that date. The AEMC noted that the Reliability Panel will review the RERT, including any changes made to the existing RERT through Rule changes, by 30 June 2011. The RERT will expire no later than 30 June 2012 unless a Rule change is made.

The AEMC also recommended to the MCE that AEMO's ability to forecast reserve shortfalls be enhanced and the likelihood of reserve shortfalls occurring be reduced by:

- strengthening the quality of demand-side capability information available to AEMO through improved reporting; and
- increasing the generation capacity potentially available to the market by facilitating the use of existing but underutilised embedded generators.

The AEMC recommended AEMO's ability to forecast reserve shortfalls be enhanced by strengthening the quality of demand-side capability information available to AEMO through improved reporting. This recommendation would be implemented by AEMO establishing a working group to explore:

- the obligations on parties to report demand-side capability information to AEMO, including the timeframes for such reporting; and
- the forms of information most valuable to AEMO for demand forecasting.

Finally, the AEMC recommended increasing the generation capacity potentially available to the market through facilitating the use of existing, but underutilised, embedded generators. The AEMC considered that the relevant current and proposed MCE SCO and AEMO reviews are appropriate ways to consider these issues and should be progressed expeditiously.

MCE response

The MCE notes the recent Rule change introduced by the AEMC (as above). The MCE welcomes the improvements in the RERT and notes that such an approach to procuring reserve is likely to be further assessed for effectiveness in the future. However, the MCE notes that the direction powers have only limited applicability and cannot be used if a generator is unable to operate due to legal or operational issues. Given the changing operating environment for the electricity sector, the MCE considers that any future changes to the RERT arrangements should not be made until sufficient time has passed to assess the effectiveness of the new Rule change introduced on 15 October 2009.

Given the existing tight supply/demand balance, the MCE has asked the AEMC to undertake an investigation of the ability of the current framework to deliver sufficient generation capacity at times of record demand. The introduction of climate change policies, with any resultant reduction in generation capacity or closure of emissions intensive plant, could exacerbate this situation.

In light of the above, the MCE considers that it would be appropriate to develop measures to ameliorate possible risks of future load shedding. Consequently, the MCE requests that the AEMC consider further work around standing reserves.

The MCE is strongly supportive of measures that improve demand side capabilities, such as improved demand side information collecting and integration of embedded generators. Additionally, the MCE considers that there is value in determining the extent to which such measures can replace generation capacity. Such work is consistent with the MCE's objectives to improve the uptake of demand side responses in maintaining system security. The MCE considers that it would be most appropriate to address these matters in the context of any recommendations that the AEMC may make in its *Review of Demand Side Participation in the National Electricity Market*.

9. Investment in capacity to meet reliability standards

The AEMC considered that, if standards relating to the reliability of electricity supplies are going to continue to be met, investment in intermittent generation (such as wind-farms) will need to be supplemented by investment in other forms of

generation (or transmission) – to ensure that supplies are reliable when wind generation output is unavailable.

The AEMC contended that the Rules are robust enough to deal with this transition to lower emissions generation mixtures.

MCE response

The MCE welcomes the work that the AEMC has undertaken to assess the risks in this area and supports the AEMC's finding that there is no need for additional work at this time. The MCE reiterates its confidence in the energy market to deliver efficient investment outcomes in the context of new climate change policies.

10. Convergence of gas and electricity markets

The AEMC recognised that the impact of climate change policies will mean a larger role for gas in the transition to a lower carbon economy, and that differences between gas and electricity markets may mean that the market response is inefficient. While the AEMC considered that this was not a material issue, it recommended that:

- the AEMC Reliability Panel should take into account the likely interactions between the electricity and gas markets when reviewing market reliability standards and settings,
- AEMO should take account of the likely interactions between the electricity and gas markets when reviewing gas market settings, and
- AEMO should review the existing provisions in the National Electricity Rules and National Gas Rules to ensure it can appropriately co-optimize its decisions on market interventions.

MCE response

The MCE notes the AEMC's conclusion that gas and electricity markets will be resilient in the face of the additional interactions that are expected as a result of the CPRS and the expanded RET. Further, to the extent that the AEMC identified requirements for coordination between the two markets, which relate to market settings (such as market price caps) and market intervention by system operators, can be accommodated in the current energy market frameworks.

The MCE recognises that the introduction of climate change policies will lead to greater utilisation of gas in the near and medium term. In particular, gas fired generation will play a particularly important role as a substitute for more carbon intensive generation technologies and help address intermittency issues associated with renewable technologies.

The MCE recognises that this shift will create a significant investment challenge for gas markets in order to maintain pace with increasing demand. However, the MCE notes that gas markets have delivered an appropriate level of investment in the past and are likely to continue to do so. In line with the AEMC assessment, it is agreed that market mechanisms within the gas sector are robust and therefore are capable of facilitating the shift toward a low carbon economy.

The growing size and importance of Australia's gas markets highlights the need to ensure that they develop appropriately and in an efficient manner. The MCE recognises that gas markets in Australia are generally less mature than electricity markets and that their development trajectory is likely to be materially distinct to that of electricity markets. This material distinction is due to differences in the nature of the commodity, its associated infrastructure and the contractual frameworks.

The MCE considers that the further development of Australia's gas markets will provide greater price transparency to assist investment and end-use decisions. The range of initiatives currently being developed in close consultation with industry via the Gas Market Leaders Group (GMLG) and AEMO will facilitate this outcome in the near future. With the gas Bulletin Board already in operation, the gas Short Term Trading Market (STTM) and the Gas Statement of Opportunities are the key initiatives in this regard.

These initiatives will lead to incremental improvements and that the benefits will likely take some time to be realised. Accordingly, the MCE asks the AEMC to continue monitoring the development of gas markets as part of its wider periodic update of the Review. In making these assessments the AEMC should have regard to the gas market development principles agreed by MCE in December 2004 and as enhanced by the GMLG during development of the STTM.

The MCE recognises the need to ensure a level of harmonisation, where appropriate, between the operation of gas and electricity markets. Accordingly, it supports the recommendations that the Reliability Panel and AEMO take into account the interactions between the two sectors.

In particular, the MCE notes that where there are cases of intervention in either the electricity or the gas market, which impact upon the other market, the efficient response would be for AEMO to take account of the cost caused by the instruction or direction in the related market. However, the MCE notes that the development of the wholesale market in gas is specific to one jurisdiction at this point and that there could be requirements for directions that exceed AEMO's current powers of operation.

On this basis, the AEMC recommended that AEMO should review the existing National Electricity Rules provisions to ensure it can appropriately co-optimize its decisions on market interventions across such markets in a manner that may not have been practicable prior to its establishment. The MCE considers that such a review would be beneficial for the operation of the electricity and gas markets.

11. System operation with intermittent generation

The eRET and, to a lesser extent, the CPRS will provide incentives to build new renewable generation capacity, with wind-powered generation likely to provide a significant proportion of the eRET requirements. The CPRS will also increase drive the retirement of uneconomic high emission plant, which tend to be major sources of reactive power and inertia in the NEM.

The operation of the electricity system is supported by ancillary services, such as reactive power and inertia. The market operator, AEMO, uses these characteristics to maintain the system operating within its technical parameters. Intermittent generation has different reactive power and inertia characteristics than thermal plant. Consequently, the increased reliance on intermittent generation could have significant implications for operation of the electricity market.

The AEMC found that the existing energy market frameworks are sufficiently resilient to enable the system operator to maintain a secure system following the anticipated large increases in renewable generation as a result of the introduction of the CPRS and the eRET. Further, the AEMC considered the frameworks to be capable of supporting timely and efficient change to operational arrangements as required. In this regard, the AEMC noted that reviews are currently being undertaken to address a number of system operation issues.

MCE response

The MCE welcomes the AEMC's advice on this issue. The MCE agrees that there is no need for the AEMC to progress this issue further in the context of this report.

The MCE recognises the number of the reviews currently being conducted by AEMO in regard to system operation. This includes the review of network support and control services (the NSCS review), which is expected to be completed by December 2009.

The MCE considers that issues around the delivery of ancillary services necessary to operate within the technical parameters of the system, for example, inertia and Frequency Control Ancillary Services (FCAS), could be challenged by the introduction of climate change policies and the possible retirement of large, thermal plants. Consequently, the MCE requests that AEMO look into the existing arrangements for procuring inertia and FCAS.

12. Distribution networks

The AEMC recognised that there is likely to be a period of substantial change in operation and design of distribution networks resulting from the introduction of the CPRS and eRET. Specifically, increased variability of flows on the network may shift the focus of distribution businesses from simply reacting to demand growth to more active management of the network.

The AEMC concluded that the existing frameworks do not require amendment. However, the AEMC proposed that the existing Demand Management Incentive Allowance (DMIA) under the National Electricity Rules should be expanded to accommodate connections of embedded generators. This would be aimed at encouraging distribution businesses to deliver cost efficient connections for embedded generators.

MCE response

The MCE thanks the AEMC for its consideration of this issue. The MCE recognises that there is currently a body of work being undertaken to improve connection arrangements to distribution networks and considers that this will further strengthen existing arrangements.

Despite this, distribution networks will need to be capable of adjusting in a timely manner to the increasingly dynamic role that is likely to be required under the CPRS and eRET. Consequently, the MCE supports the AEMC's proposal for expanding the DMIA to incorporate the connection of embedded generators in recognition of the role this is likely to play in distribution network operation in the future.

While there is little evidence of failure within the existing framework, the MCE considers that it would be prudent for the AEMC to undertake ongoing reviews into the situation as part of its update of the Report.

13. System operation with intermittent generation in Western Australia

The energy market frameworks in the Wholesale Electricity Market (WEM) will be tested in respect of system operation in that the eRET is likely to lead to a significant increase in renewable generation, principally wind-powered generation. The increase in wind-powered generation, combined with the inflexibility of much incumbent generation to ramp output up or down, will therefore test the market by increasing the actions necessary to ensure that the power system is operated within technical

limits. This increase in activity will consequently also test whether economically efficient outcomes result.

The CPRS is unlikely to add materially to these pressures. This is due to the relatively higher gas prices in Western Australia, which means that little increase in baseload or high-merit gas generation (which has more flexible output that could balance the variability of wind) in the WEM is likely.

The AEMC recommends that arrangements for system operation should be reformed. The transparency of actions taken, and the resulting costs, should be increased through additional reporting. This would be used to inform the consideration of further reform options, which should include options to introduce greater competition and cost-reflectivity.

MCE response

The MCE welcomes the AEMC's work in analysing the Western Australian electricity market frameworks. The MCE supports the AEMC's recommendations and requests that the relevant parties in Western Australia work to further progress these reforms.

The MCE notes that the AEMC has recognised that there is a body of work underway to examine the issues associated with system operation in the light of increased penetration of intermittent generation in the WEM. This work is to consider mechanisms to introduce competitive balancing arrangements as part of the Market Rules Evolution Plan for the WEM.

The MCE considers that the measures proposed by the AEMC will also assist in ensuring that cross-subsidisation between alternate forms of generation is avoided and will assist the development of comprehensive criteria to allow load curtailment to be undertaken at least cost.

These measures will also assist in managing the demands of intermittent renewable generators, by encouraging the taking of steps to manage the impacts of these facilities on the network and system security and through raising of funds to assist in offsetting costs imposed on the network. Although, it is recognised that such arrangements may disincentivise intermittent generation and potentially lower the likelihood of achieving the eRET requirements.

It is also noted that System Management (a ring fenced entity within Western Power) is working on arrangements to provide a consistent and auditable basis for all commitment and dispatch decisions made in the South West Interconnected System (SWIS). This would be implemented as the balancing environment tightens, due to more independent power producers connecting to the SWIS and more intermittent and must run generation enters the WEM.

System Management is also working on wind forecasting arrangements for the WEM.

The MCE also notes that at this stage no inefficiencies have been identified by System Management as a result of Verve Energy's obligations to provide ancillary services. Nonetheless work is underway to introduce arrangements for the competitive procurement of ancillary services.

14. Connecting remote generation and efficient utilisation and provision of the network in Western Australia

The energy market frameworks in the WEM will be tested by the eRET, which is likely to lead to a significant increase in renewable generation, principally wind-powered generators. Significant network augmentations may be required to connect wind-powered generators, and the larger number of generators involved can make

planning such augmentations complex. Wind-powered generators locating at the periphery of the system can also materially change flows on the shared network. The lower capacity factors of wind-powered generators may mean that existing planning standards, designed for conventional generators with the ability to generate consistently at peak capacity, can be inappropriate or can result in inefficient over-investment.

The CPRS is unlikely to add materially to these pressures. This is because relatively higher gas prices in Western Australia mean that little increase in baseload or high merit gas generation in the WEM is likely, and therefore little change in connection applications or network flows is anticipated in this regard.

The AEMC recommended that the frameworks for the connection of generation and the utilisation and provision of the transmission system should be reviewed. Amendments should be made to current connection processes, and arrangements should be developed for the connection of clusters of generation in the same location over a period of time where there are scale efficiencies. The basis for generator access to the network should be reassessed as a matter of priority, and the regulatory approvals process and charging arrangements should be reviewed.

MCE response

The MCE considers that ensuring Western Australian electricity market frameworks are flexible in light of the introduction of climate change policies is key for the continued security of electricity supply in Western Australia. The MCE supports the AEMC's recommendations and requests that the relevant parties in Western Australia work to further progress these reforms.

The MCE notes that the AEMC has recognised that there is a proposed body of work to review the frameworks for the connection of generation and the utilisation and provision of the transmission system operation.

The MCE notes that (subject to funding and other approvals) work is to be undertaken in Western Australia to address the management of network constraints on the SWIS, and consider future approaches for granting network access for generators (i.e. the constrained versus unconstrained approach) and customer loads. This may form part of the required review of the Electricity Networks Access Code governing the SWIS, with revisions to the Code expected to be completed by December 2010.

The MCE also notes that a review of the Access Queuing Policy for the SWIS is underway with a revised policy due for completion around April 2010.

15. Convergence of gas and electricity markets in Western Australia

In Western Australia, the energy market frameworks will be tested in that the eRET is likely to lead to a significant increase in the levels of intermittent renewable generation, principally wind-powered generation. The variable nature of this generation is likely to lead to an increasing requirement for low-merit plant to provide back-up capacity. This additional generation plant would be expected to be predominately gas-fired.

The AEMC found that the existing energy market frameworks are sufficiently resilient to manage any increased interaction between the markets triggered by the CPRS and the eRET.

The MCE considers that the existing energy market frameworks in Western Australia will continue to deliver efficient and flexible outcomes and manage any increased interaction between the gas and electricity markets triggered by the CPRS and the

eRET. The MCE notes that Western Australia has completed a review of gas supply security arrangements, which includes proposals to increase transparency in the wholesale gas market and coordination of gas supply disruptions across markets.

The MCE welcomes the AEMC's analysis of this issue. The MCE supports the AEMC's position and recommendation.

16. Reliability in the short term and longer term in Western Australia

In Western Australia, the energy market frameworks will be tested in that the eRET is likely to lead to a significant amount of renewable, principally wind-powered, generation connecting to the SWIS. Wind-powered generation is intermittent, and significantly less reliance can be placed on intermittent generation being available to generate at times of system peak demand. The frameworks therefore need to ensure that sufficient non-intermittent generation capacity is available such that reserve capacity targets can be met.

The AEMC considered that it would be unlikely that the CPRS will trigger a material increase in baseload gas-fired generation in the WEM due to the relatively high gas prices in Western Australia.

The AEMC found that the existing energy market frameworks are sufficiently resilient, due to the existing Reserve Capacity Mechanism (RCM) which has resulted in the presence of adequate generation reserves in the short-term and is likely to attract new investment in the longer term.

MCE response

The MCE appreciates the work that the AEMC has done on this issue. The MCE supports the AEMC's findings and recommendation.

The MCE notes that the AEMC has recognised that there is a proposed body of work to review the treatment of wind generation under the RCM framework, including in relation to the allocation of Capacity Credits.

17. Northern Territory

The AEMC's analysis indicated that the introduction of the CPRS and the eRET would have limited impacts on the Northern Territory energy market frameworks in relation to:

- convergence of electricity and gas markets;
- generation capacity in the short term;
- investing to meet reliability standards with increased use of renewables;
- system operation with intermittent generation;
- connecting new generators to energy networks; and
- augmenting networks and managing congestion.

This was due to certain unique features of the market, including the current dependence on gas-fired generation and the lack of viable wind resources.

The Northern Territory has virtually no coal deposits, with the result that 99 per cent of the Territory's electricity is produced by gas-fired generation. This implies that the Northern Territory electricity and gas markets are already highly interdependent.

Additionally, this current reliance on gas generation will result in little or no fuel shifting for baseload power. As such, the introduction of the CPRS and the eRET is unlikely to have a significant impact in relation to the convergence of gas and electricity markets.

Unsuitable climatic conditions have resulted in a lack of wind-powered generation in the Northern Territory to date, with future investment in wind being unlikely. This lack of viable wind resource influences a wide range of the issues discussed in this Final Report.

This lack of wind-powered generation will also mean that issues relating to short term reliability with increased renewable generation and system operation with increased intermittency, will not be material in the Northern Territory. The lack of wind-powered generation also means that issues relating to the connection of new renewable generation, increased congestion or requirements for network augmentation will not be material in the Northern Territory.

Issues of short-term reliability are not considered to be material in the Northern Territory. The Northern Territory Utilities Commission has asserted that there is no shortfall of capacity over the short to medium term for the entire Northern Territory market (although this depends on the reliability standard applied). Generally, there is no indication that the introduction of the CPRS or the eRET will in any way reduce the likelihood of new generation investment in the Northern Territory.

MCE response

The MCE thanks the AEMC for its analysis and endorses its findings.