26th February 2009

Australian Energy Market Commission
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By email: submissions@aemc.gov.au

ENA RESPONSE TO THE AEMC 1st INTERIM REPORT – REVIEW OF ENERGY MARKET FRAMEWORKS IN THE LIGHT OF CLIMATE CHANGE

The Energy Networks Association (ENA) welcomes this opportunity to respond to the Australian Energy Market Commission (AEMC) 1st Interim Report relating to its "Review of Energy Market Framework in light of Climate Change" released on 23rd December 2008.

ENA is the peak national body for Australia's energy networks. ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and energy policy issues.

ENA strongly supports the AEMC Review's efforts to ensure the energy market framework will be responsive to the climate change challenge. However, ENA notes in its submission (enclosed) that this review is only one of a number of related reviews and policy initiatives currently underway which have a similar overall objective and overlapping terms of reference. ENA hopes the reviews will lead to practical changes which will allow energy networks to be strengthened, augmented and upgraded in response to the challenges of climate change. This will in turn better enable networks to deal with projected high temperatures, flooding and shifts in projected electricity supply and demand.

ENA considers that the efficient operation of the energy market framework is contingent on having regulatory settings which ensure full cost recovery, allow for pass-on of climate change related price signals to customers and has the capacity to address the risks posed by the incorporation of large numbers of embedded generators into distribution networks.

The AEMC is encouraged to give serious consideration to whether the current energy market framework is sufficiently flexible to enable the attraction of the substantial funds needed to bring forward the critical infrastructure required to enable energy networks to realise their full potential to mitigate and adapt to climate change

Unless these issues are adequately addressed, options identified and solutions implemented the vital contribution that energy networks can make to meet the climate change challenge will be compromised. In this context ENA decided in May last year to engage a consultant, Parsons

Brinckerhoff (PB), to investigate the challenges, solutions and opportunities that climate change creates for energy network businesses.

ENA takes this opportunity to make an advanced draft copy of the report by PB, *Energy Network Infrastructure and the Climate Change Challenge* available to the AEMC to assist with its review (PB Report attached to submission). The PB Report assesses both the mitigation and adaptation responses which will need to be undertaken by network businesses. The report recognises that electricity and gas networks are in a unique position to assist network users in reducing greenhouse gas emissions. Virtually every customer in Australia is connected to the network. The service and information they are offered, the energy metering and the charges for connection can have a significant impact on the outcomes. However network businesses are currently constrained by the regulatory framework and the incentives provided to the businesses.

Please be aware that ENA has not as yet publicly released the PB Report. Therefore we ask the AEMC not to post it on its website or in any other way make it available to stakeholders until it appears on the ENA website. Your cooperation on this matter would be much appreciated.

Please contact me should you wish to discuss our response further.

Yours sincerely

Andrew Blyth
Chief Executive

THE AEMC 1st INTERIM REPORT – REVIEW OF ENERGY MARKET FRAMEWORKS IN THE LIGHT OF CLIMATE CHANGE

ENA Submission

26 February 2009

Key Messages:

- **ENA considers that the efficient operation of the energy market framework is contingent on having regulatory settings which ensure full cost recovery, allow for pass-on of climate change related price signals to end users and has the capacity to address the risks posed by the incorporation of large numbers of embedded generators into distribution networks.**
- **The AEMC will need to give serious consideration to whether the energy market framework is sufficiently flexible to enable the attraction of the substantial funds needed to bring forward the critical infrastructure required the enable energy networks to realise their full potential to mitigate and adapt to climate change.**
- **As part of its deliberations the AEMC will need to consider incentive mechanisms and other options to address the risk that energy network businesses will be penalised for any shortfalls in power quality arising from significant increases in low emission embedded generation.**
- **The AEMC also needs to address the efficient delivery of connections services for embedded generators above 2 KW in the context of distribution networks.**
- **ENA recommends that AEMC consider the treatment of climate change as part of its review of the Regulatory Test under its "Review of Electricity Distribution and Network Planning and Expansion Arrangements".**
- **ENA seeks AEMC clarification of the relationship between the numerous government processes currently being instigated or underway on the subject of energy market responses to climate change issues**
- **ENA notes that the AEMC reports focus on transmission makes it unclear whether it has given due consideration to distribution specific issues.**

Executive Summary

The Energy Networks Association (ENA) welcomes this opportunity to respond to the Australian Energy Market Commission (AEMC) 1st Interim Report relating to its "Review of Energy Market Framework in light of Climate Change" released on 23rd December 2008.

ENA is the peak national body for Australia's energy networks. ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and energy policy issues.

ENA strongly supports the AEMC Review's efforts to ensure the energy market framework will be responsive to the climate change challenge.

Overall, ENA is not convinced that the AEMC has sufficient grounds for its apparent position that the energy market framework provides sufficient obligations and incentives to support efficient network responses. Further, ENA is aware that this AEMC Review is only one of a number of processes initiated by the Government to assess what is required to make the energy market framework climate change ready. ENA hopes the collective outcome of all these processes will lead to the changes required to make the energy market framework capable of operating efficiently and effectively in a carbon constrained world.

ENA's primary concerns are that the current regulatory settings::

- Do not ensure full cost recovery for energy network providers,
- Impede the passing on climate change related price signals to end users, and
- Do not adequately address the increased risk posed by large numbers of intermitted EGs connected to distribution networks.

Unless these issues are adequately addressed, options identified and solutions implemented the vital contribution that energy networks can make to meet the climate change challenge will be compromised. In this context ENA decided in May last year to engage a consultant to investigate the challenges, solutions and opportunities that climate change creates for energy network businesses. The report by Parsons Brinckerhoff, *Energy Network Infrastructure and the Climate Change Challenge* (see draft PB Report attached) assessed both the mitigation and adaptation responses which will need to be undertaken by network businesses. The PB Report estimates that $2.5 billion will be required over the next 5 years as a result of climate change not including the investment needed to address new energy generation. This represents a small part of the $4.4 billion per year of investment needed by distributors to cover maintenance and augmentation requirements[1].

Ideally, the future energy market framework will allow network providers to invest in the creation of smart networks incorporating technologies which will enable real time interactions between all elements of the network, from energy suppliers to end users. In addition, the PB Report identifies electricity line losses, which are in the order of 50 times greater than business operational losses, as a significant area to address for major emission mitigation. The PB Report notes that a high level of investment will be required to reduce electricity line losses (in the order of $1.2 billion for a 10 percent reduction).

[1] ACIL Tasman estimates cited in S3 Advisory Report commissioned by AEMC

For this investment to occur the PB Report concludes that there will need to be sufficient flexibility in the energy market framework. In addition, the PB Report concludes that to achieve the high level of investment required to meaningfully reduce electricity line losses would require a regulatory framework that provides assistance and strong incentives to undertake such investment.

Background

ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and national energy policy issues. Energy network businesses deliver electricity and gas to over 13 million customer connections across Australia through approximately 800,000 kilometres of electricity distribution lines. There are also 76,000 kilometres of gas distribution pipelines. These distribution networks are valued at more than $40 billion and each year energy network businesses undertake investment of more than $5 billion in distribution network operation, reinforcement, expansions and greenfields extensions. Electricity transmission network owners operate over 42,000 km of high voltage transmission lines, with a value of $10 billion and undertake $1.2 billion in investment each year.

Note that electricity transmission businesses who are members of ENA have made a submission to the AEMC review of energy market frameworks in the light of climate change through Grid Australia. Electricity transmission matters are dealt with through that submission.

GENERAL COMMENTS

Government climate change policy will impact on the domestic energy supply mix with consequent demands placed on energy networks to enable shifts in energy flows while maintaining power quality and the delivery of safe, reliable and secure energy to end consumers.

ENA notes that in recognition of the above, the Government, through the Ministerial Council on Energy Senior Committee of Officials (MCE-SCO) and through the Australian Energy Market Commission (AEMC), has initiated, or proposed, a number of processes in addition to this AEMC Review. These include:

- The AEMC Review of Demand Side Participation,
- The MCE-SCO Response to the Electricity Distribution Planning and Connection NERA/Allen report,
- The MCE proposed AEMC Review of Distribution Network Planning
- The AEMC Review of Energy Markets in the light of the impact on electricity supplies of the heat waves of 29-31 January 2009; and
- The work underway through the MCE Retail Policy Working Group (RPWG) with respect to the National Energy Customer Framework (NECF).

ENA is unclear as to the relationship between the above reviews and is concerned if they are not being coordinated and targeted or are being operated in isolation of each other reducing the overall benefits to industry. A statement setting out the relationship between them would assist in clarification of this matter.

ENA also notes that the Report focuses largely on Transmission Network Service Providers (TNSPs) and proposes options specifically related to TNSPs. It is not clear from the Report whether specific consideration has been given to Distribution Network Service Providers (DNSP) issues and whether the options proposed seek to cover DNSPs. ENA considers that the AEMC needs to clarify its position in this regard.

ENA hopes the Government's Reviews/Processes lead to changes which allow energy networks to be strengthened, augmented and upgraded in response to the challenges of climate change. This will better enable networks to deal with extreme weather events, such as the recent heatwaves and fires in South Eastern Australia, flooding in Northern Australia and shifts in projected electricity supply and demand.

Energy network adaptation to climate change will require the incorporation of new technology including computer processing, digital two way high speed communication technologies, advanced sensors and smart metering to provide a highly responsive electricity infrastructure which can deliver:

- Real time interaction between all elements of a network from generator to end user ,
- Rapid diagnosis of and precise solutions to specific network problems,
- Automated correction of voltages, frequency and power factor issues,
- Automated rapid grid response management to events such as electricity outages,
- Increased response to consumer preferences with respect to power source, quantity and timing of power supply, and
- Accommodation of all embedded generation and storage options into the network.

ENA welcomes the Government initiation of the mandatory smart meter roll out, subject to positive cost benefit analysis, as a first step in the creation of smart networks capable of delivering a smaller national carbon footprint through:

- Automated adjustments to the electricity grid to mitigate the impacts of power outages, power quality problems and service disruptions with resulting improvements to reliability and life of infrastructure assets,
- Empowering consumers with the ability to respond to real time pricing and load reduction signals to manage energy use with resulting efficiency gains,

- Improving energy security, energy efficiency and environmental benefits through reductions in electricity network losses, reducing peak demand energy consumption with resulting capital expenditure deferrals and increased reductions in carbon emissions.

The delivery of the aforementioned benefits depend crucially on the ability of energy networks to access the investments necessary to fund the infrastructure needed to make smart networks a reality. To ensure that sufficient investment is made in energy networks the regulatory processes will need to be sufficiently flexible to enable energy network businesses to recover costs from the impact of climate change. Distributors alone will need around $50 billion over the next 10 years for maintenance and augmentation of the network driven by increased demand for air conditioning, electric cars and the need to connect new generation. Dealing with the expected increased air conditioning load alone is estimated to require $2.5 billion in funding over the next 5 years. In addition high levels of investment will be required to significantly reduce line losses and to strengthen infrastructure to adapt to climate change.

The most immediate concern for ENA is for the Australian Energy Regulator (AER) to make a final decision on the return to regulated capita (the weighted average cost of capital - WACC) for network infrastructure that does not reduce the rewards of investment to a level where they are no longer commensurate with the risk. Failure here will lead to a significant shortfall in investment funds allocated to the domestic energy network sector over the coming decade and consequently to an inadequate market response to the Carbon Permit Reduction Scheme (CPRS).

Energy transmission and distribution networks both play a vital role in delivering the aforementioned benefits for addressing climate change policy. Yet in reading the AEMC's 1st interim report it is not clear that DNSPs are being considered.

This raises a concern that the AEMC report implicitly assumes that climate change policy impacts on energy market frameworks and possible responses are the same for transmission, distribution networks and other stakeholders. This is not the case as each stakeholder in the energy market, while having some common features, have their own role and responsibilities for the delivery of energy supply and their own unique stress points that need to be recognised and addressed. Further, DNSPs must provide connection to customers where as TNSPs do not have an automatic connection obligation. Differences in the regulatory regime may allow consumers to game the regulatory arrangements with greater consequential business risks for the DNSP compared to the TNSP

DNSP Stress Points that need to be recognised:

1. Impact of Embedded Generation

For DNSPs the stress points include those arising from a significant increase in the utilisation of embedded generators (EG) by domestic and commercial end user. Given Government policy to encourage the installation of renewable energy sources through the provision of direct grants and high feed-in tariffs, the demand for connection of EG into distribution networks is expected to rise rapidly.

While EG contribution to total energy may be relatively small for transmitters, the aggregate impact of EG, including small wind farms and photo voltaic arrays, introduced into distribution grids over a relatively short time have the potential to significantly impact on the ability of DNSPs to deliver secure and reliable energy. This outcome translates into increased risk that DNSPs will incur penalties for failure to deliver energy supplies. Addressing this stress will require changes to the risk/reward balance through an appropriate adjustment in the regulatory framework. Getting the balance wrong will lead to increase network constraints, decreased reliability and security of electricity supply which will in turn lead to price volatility and hence increased market risk.

Further, the accumulated impact of large numbers of intermittent EG will make a significant contribution to the supply of electricity in specific urban areas. In the absence of an arrangement requiring registration of small or micro EG location and capacity it will be impossible for DNSPs to manage power quality and safety issues in a timely manner.

2. Costs relating to CPRS

As mentioned in the ENA response to the Scoping Paper gas distribution businesses, in addition to the increased costs of materials will also be liable under the CPRS of fugitive gas emissions. As with demand risk above, the potential volatility of carbon permit prices could lead to significant cost changes for network businesses. This is of particular concern in cases where the CPRS commences operation within a regulatory period as it will not be accounted for in the price received by network businesses. As gas networks are exposed to trading risk under the CPRS this needs to be recognised by the regulator.

Some gas distribution businesses have contract or access arrangements which only pass through costs associated with a change in a tax event, which may not allow businesses to recover permit costs. It would provide certainty to the industry if the AEMC/AER made clear, through an appropriate mechanism, that the introduction of the CPRS would be deemed to meet the criteria for a change in tax event. This would ensure a more efficient outcome as opposed to those businesses relying upon re-opening of their respective access arrangements - a protracted and costly approach.

Network businesses can only recover these cost changes if the regulatory framework enables timely pass-on to customers through increased prices. However, unless the current regulations for

determining price setting are made to be more flexible there is a material risk that increased CPRS related input costs will not be fully recoverable by network service providers. AEMC needs to consider this matter as any perceived increase in risk that costs will not be recovered will have a negative impact on investment in infrastructure.

Key Message:

AEMC needs to consider whether the inability to pass-on CPRS related input costs in a timely manner will impede investment in infrastructure in response to climate change policy.

RESPONSES TO SPECIFIC ISSUES ARISING FROM THE AEMC PAPER

ISSUE 1. Convergence of gas and electricity markets

Q A1.1 Do you agree that convergence of gas and electricity markets is not a significant issue…..?

ENA Response

Based on our submission to the Scoping Paper we would agree.

ISSUE 3. Investing to meet reliability standards with increased use of Renewables

Q A3.1 Do you agree that the existing framework based on an energy only market design where supporting financial contracting is capable of delivering efficient and timely new investment, including fast response capacity to manage fluctuations in output resulting from large volumes of intermittent wind generation?

QA3.2 Do you agree that the process supporting the ongoing maintenance of the framework in respect of the review and periodic amendment to the market settings, including the maximum market price are robust?

AEMC's position is that they consider that the existing framework of economic regulation provides sufficient obligations and incentives to support efficient network responses. In particular, the AEMC Reliability Panel's role in reviewing market settings from the perspective of reliability can propose changes where necessary. Therefore AEMC has dismissed the concerns ENA raised with respect to this issue in our submission.

ENA Response

QA3.1

AEMC appears to assume that the energy only market will drive the appropriate increase in generation. Quantitative modelling has been carried out to support this. While ENA is not advocating a change in the energy only market structure, it believes that it is wrong to assume that the modelling has covered all abnormalities that can arise within an electrical infrastructure on a distribution network. Modelling at a high level can mask lower level impacts due to the variability between the transmission and distribution networks.

The energy only market approach is based on pricing signals to deliver the desired outcome. The questions that follow are:

1. Has it been demonstrated that periods of extreme demand can be sustained given the moderate energy prices during other periods, and that high demands are not cyclic or definitive especially across a distribution network?
2. What is the quantitative value of price signal variation that is to be impacted onto the market participants?
3. If the price signals do not drive the desired outcome what will be the fall back plan and impact on the customers?

There is a requirement to attain a more definitive understanding of this variability and the ability and incentive for distributed generators to react and conversely for the customers to respond.

Key message:

The AEMC needs to do a comprehensive assessment to ensure that the energy market approach will deliver the desired climate change responses.

QA3.2

ENA is concerned that once substantial uptake of micro generators occurs in response to Government policies, there will be significant impacts on the ability of DNSPs to deliver on reliability standards with consequent increased risk of penalties being imposed. This arises because the small size of these embedded generators gives them a right to automatic connection (ENA understands that this issue is under consideration by MCE-SCO). However, when considered in aggregate, a large number of intermittent embedded generators have the potential to give rise to unforeseen technical constraints that may not be addressed without significant delay.

As a result, in the longer term, the wide spread adoption of micro EG (such as a Photo voltaic array on every roof) could make it necessary to have a record of the number, capacity and location of every EG installation with consequent obligations on customers (or their electricians) to provide accurate and complete information. Such records would allow the network operating, supplied power quality and safety performance affects of what could become substantial and increasing aggregated capacity to be assessed and monitored if and as needed.

Since the introduction of the Commonwealth Government's Photovoltaic Rebate Program (PVRP) and at the state government level feed-in tariffs and renewable energy buyback scheme (REBS), there has been marked increase in the uptake of micro/small EG systems. This trend is likely to continue or accelerate going forward, given the impending introduction of the CPRS and MRET. As such, careful consideration needs to be given to the definition of the capacity and characteristics of any plant to be given the right of automatic connection and the "record keeping" associated with their installation to minimise the impacts on network safety, reliability and security.

Separately, there is a need to consider the impact of the increased risk of DNSPs failing to meet their obligation to provide secure and reliable energy once a significant EG contribution has been established**.** The ENA suggests that the AEMC investigate options to ensure that this risk is mitigated through adjustments in the market framework (see response to QA 5.1).

Key Message:

ENA suggests that the AEMC investigate options to ensure that risks posed by large numbers of EG installation is mitigated through adjustments in the energy market framework

ISSUE 4. Operating the system with increased intermittent generation

QA4.1 Do you agree that operation of the power system with increased intermittent generation is not a significant issue and therefore should not be progressed in this Review?

AEMC's position is that DNSPs are able to deal with voltage fluctuations via their connection agreements with generators. Frequency fluctuations are handled by NEMMCO as an ancillary service. All new wind farms will be required to register as semi scheduled generators and then be subject to NEMMCO requirements. Further, standards are subject to determination by the AEMC Reliability Panel.

ENA Response

ENA raised concerns in our submission about the systems ability to deal with the management of hazards including public health and safety issues and stated that DNSPs should not be penalised. AEMC has ignored this position. The issue for ENA is whether the AEMC position is valid and particularly whether the measures in the National Energy Market (NEM) that are cited apply effectively to distributions network such that there is no problem.

ENA's considered position remains that a material risk of a reduction in reliability exists should a significant portion of additional generation requirement come from intermittent sources such as wind and solar power exists despite the current arrangements in the regulatory arrangements.

A significant component of EG in the southern areas of Australia will mainly come in the form of wind generation which has a variable and unpredictable generation source. The variability of this generation type makes forecasting generation complex and together with customer load variability means the balancing of the 'generation versus load' equation difficult. In the past this task has been carried out at a TNSP level heavily influenced by stable base load generation plants. The EG being introduced into the distribution network is another variable component entering into the equation. A clear mechanism and agreement on the planning and operational responsibilities need to be established.

As part of system security there are 'under frequency' and 'under voltage' customer load shedding schemes in operation. The European experience in 2003 showed that the decentralised EG effect was not expected and finally provoked a system blackout. The EG being connected is a collection of large generation schemes 'riding through' system disturbance and medium, small and micro generation schemes disconnecting from the network. There is a requirement for more in depth understanding and co-ordination between the DNSP's, TNSP's and the generators to consider the impact of the increasing EG installations.

Key Message:

AEMC should examine options ensuring that a clear mechanism is established relating to planning and operation responsibilities to enable coordination between EG proponents, DNSPs and TNSPs for embedded generators above 10 KVa for single phase and above 30 KVa for 3 phase consistent with AS 4777.

ISSUE 5. Connecting new generators to energy networks

QA5.1 Do you agree that the connection of new generators to the energy networks is a significant issue that should be further progressed by this Review?

AEMC recognises the importance of timely connection of generators into the networks but it focuses exclusively on remote generator connection to the transmission networks. AEMC does not deal with embedded generation (EG) possibly because it does not see this as a separate issue and regards a solution at the transmission stage as solving EG connections as well.

ENA Response

ENA agrees that the connection of new generators to energy networks is a significant issue to be further considered in this review. ENA focuses this response on matters related to connecting EG to distribution networks and refers the AEMC to Grid Australia's submission in relation to connecting new generation to the transmission grid.

Many low greenhouse gas emission generators are much smaller than traditional large scale thermal generators and these smaller generators are increasingly connected to distribution networks. Electricity businesses clearly have a role in providing the network to connect EGs. As discussed above in our response to Issue 3, ENA considers that to prepare for the increased connection of EG, the AEMC needs to consider the following issues:

- The regulatory framework needs to provide an incentive to support innovation and facilitate the connection of low emissions generators or generation that can provide network support.

- Administrative and monitoring arrangements will be necessary to allow for effective reporting and monitoring in relation to embedded generation and its impact on the distribution network.

- Appropriate governance arrangements need to be established for the determination of feed-in tariffs.

Incentives

Transmission and distribution businesses are subject to "Service Target Performance Incentives" for supply of electricity to customers. This means that network service providers are exposed to penalties for any shortfalls in their performance regarding reliability and quality of power supplied to customers arising as a consequence of EG failure to meet performance requirements.

ENA submits that any risk to a DNSP's obligations to provide network services and ensure power quality to other network users posed by the connection and operation of EGs should be covered by an appropriate requirement or penalty on the EGs involved. As a result network providers would not be penalised through 'performance incentives' when a non-network solution is implemented in lieu of network augmentation. ENA's view is that there needs to be consideration of mechanisms to address this issue.

ENA's position is that DNSPs should not be penalised through 'performance incentives' when an alternative non-network solution with a higher risk profile is implemented in lieu of a network augmentation.

Network providers, including both gas and electricity distributors, need to be provided with sufficient incentive to facilitate the connection of low emissions generators or generation that can provide network support and support innovation in energy and network solutions. Network businesses undertake a range of peak demand and energy consumption forecasts and therefore have views on how energy and the network may be most efficiently utilised. Peak demand management may result in the use of EGs to reduce demand on the distribution network. As the EG is usually close to the end user, this will likely result in lower network losses and lower carbon emissions. If the EGs are based on a low emission technology this will lower emissions even further. Such an alternative solution would also reduce the need to construct additional network and provide efficiency savings.

Given this, policy-makers need to consider providing financial incentives to DNSPs to connect distributed generation forming part of a demand side solution. For example, the D-factor scheme

currently provided in NSW provides cost recovery and revenue rewards for the uptake of any demand management option which defers network investment. This scheme appears to have been effective in encouraging greater demand management projects. Between 2004–05 and 2005–06, NSW DNSPs spent approximately $8.26 million on 26 demand management programs under the D-factor scheme.[2] Over this period NSW DNSPs avoided $24.23 million of planned capital and operating expenditures through the approved demand management projects.[3] The impact of the D-factor on customer prices has been relatively small, with the largest impact being less than five cents on an average customer's annual bill.[4] Alternatively, a $/kW revenue driver could be provided to reward DNSPs for the level of EG capacity connected on their network, similar to the scheme which operates in the UK.

Whatever form an incentive is to take, it needs to go beyond a cost pass through. ENA notes that the AER's demand management incentive scheme for DNSPs in South Australia and Queensland operates as a capped cost pass through scheme. The scheme is very limited in its magnitude and form, and falls short of providing real opportunities for DNSPs to be rewarded for implementing demand management. ENA considers that real change in this area needs to be led by policymakers who have ultimate responsibility to determine the optimal regulatory arrangements to facilitate climate change policy.

Key Message:

The AEMC needs to consider incentive mechanisms to mitigate the risk that DNSPs will be penalised for any shortfalls in power quality and reliability arising from the connection of low emission EG.

Administrative and monitoring arrangements

In order to manage flows on the distribution network and maintain secure and reliable supply, DNSPs will need to have adequate information to track and understand changes in use patterns on our networks. This will mean appropriate administrative and monitoring arrangements need to be in place to allow for effective reporting and monitoring in relation to EG and its impact on the distribution network (note that this matter is being considered by MCE-SCO).

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[2] IPART, *NSW Electricity Information Paper No 2/2007 - Demand Management in the 2004 distribution review: progress to date*, 2007, p. 3

[3] Ibid. p 4

[4] Ibid. p 5

Key Message:

AEMC in co ordination with MCE-SCO need to ensure that an adequate information data bank is created to monitor customer energy use patterns on the networks including the capacity and type of embedded generation installed.

Feed-in tariffs

ENA considers appropriate governance arrangements need to be established for the determination of feed-in tariffs. The setting of a feed-in tariff is likely to have an impact on the level of EG uptake which may create reverse power flows on distribution networks and affect the reliability of the network. As such, the determination of feed in tariffs should be through a consultative and open process and, where possible, provide a level of consistency across the NEM jurisdictions. In this context ENA notes and welcomes the recent decision of the MCE to request officials develop a work program to develop a set of national principles to apply to new feed-in tariffs for renewable energy[5].

QA5.2 Would any models identified in this chapter ensure more efficient delivery of network connection services (the four broad options are presented on p40)

ENA Response

The four options provided in the AEMC paper refer specifically to TNSPs. ENA seeks a clear statement from the AEMC regarding:

- Whether it has considered this issue in respect of DNSPs and the outcome of that consideration; and
- How the AEMC's current review aligns with work being undertaken by the MCE-SCO in developing a national framework for connection to the electricity distribution network.

In the absence of a clear statement regarding the above, ENA is unable to provide further comment in response to the Report.

[5] MCE Communiqué of 6th February 2009

Key Message:

AEMC needs to clarify whether it has considered the issue of efficient delivery of connection services in the context of distribution and, if so, how its review relates to the MCE-SCO's development of a national framework for connection to the electricity distribution network.

ISSUE 6. Augmenting networks and managing congestion

QA6.1 Do you agree with the issue of network congestion and the related costs requires further examination by this Review to determine its materiality? This includes considering whether the existing frameworks provide signals that are clear enough and strong enough in the new environment where congestion may be more material?

ENA Position

ENA agrees that the issue of network congestion and the related costs requires further examination by the Review to determine its materiality. EGs in the medium size range can cause network congestion and operational difficulties that need to be assessed.

ENA notes that the Review discusses the regulatory test only in relation to TNSP planning arrangements and responsibilities. ENA is concerned that climate change policies would also affect the Regulatory Test for DNSPs and as such would like to see the treatment of the climate change policies in the Regulatory Test clarified for DNSPs. The ENA considers that this should be a separate consideration as part of the broader DNSP Regulatory Test evaluation to be undertaken by the AEMC in its Review of the National Framework for Electricity Distribution and Network Planning and Expansion Arrangements.

ENA believes that when considering the characteristics of EGs, as part of Regulatory Test options analysis, AEMC needs to give consideration to the availability and reliability of EGs and also the associated supply risk and repair times.

In this context, ENA's view is that there is a need to consider options for adopting a regulatory approach which places non-network options, such as EG, on an equal footing with established network augmentation approaches in terms of delivering the needed performance requirements.

Separately, AEMC should consider the need to make customers, who are installing micro EG particularly, aware of congestion and the impact of the EG on the network.

Key Messages:
AEMC should consider the treatment of climate change as part of its evaluation of the DNSP Regulatory Test under its *Review of Electricity Distribution and Network Planning and Expansion Arrangements*.
AEMC should assess options for making EG proponents aware of their impacts, including congestion.

ISSUE 7. Retailing

QA7.1 Do you agree that the current inflexibility in the retail price regulatory arrangements is a significant issue that should be progressed further under the Review?

ENA Response

ENA drew attention in its response to the Scoping Paper to the need for appropriate and timely mechanisms to ensure that climate change related costs are passed-on to final consumers. Accordingly ENA would support the use of mechanisms to remove inflexibility where jurisdictional impediments exist.

QA7.2 Do you agree that the existing limitation to the RoLR arrangements are a significant issue that should be progressed further in this Review?

ENA Response

ENA also drew attention to this problem in its response to the Scoping Paper and notes the three processes in place to investigate potential changes:

- Proposal by MCE that energy cost increases associated with the CPRS shall be passed through to the end customer,
- MCE-SCO are continuing to develop the national ROLR framework, and
- Further AEMC Reviews of the Effectiveness of Competition.

ENA supports the reviews already progressing**.**

QA 7.3 Are there any additional options that could supplement the processes under investigation to address these issues?

No Response.

ISSUE 8. Financing new energy investments

Q A8.1 Do you agree that the current energy market frameworks do not impede the efficient financing in investment implied by CPRS and the expanded national RET?

ENA notes the AEMC position is that frameworks for regulated investment are robust and have been capable of sustaining significant capital investment programs**.**

ENA Response

In its response to the Scoping Paper, ENA mentioned problems with the current 5 year reset regime and its ability to cope with the CPRS and for the need for consideration of risks on the network. These issues have been ignored in the paper.

Environmental obligations and continuing energy demand are reshaping the investment requirements of networks. Rising uncertainty relating to the global economic downturn, the pending CPRS and recent draft decisions of the Australian Energy Regulator (AER) threaten the requisite risk-reward balance in the regulated energy network sector and therefore undermine future investment in network infrastructure.

Private sector confidence to invest will be strongly influenced by perceptions of the stability, consistency and predictability of the regulatory framework in which the NEM operates. The December 2008 draft decision of the Australian Energy Regulator (AER) in relation to its current review of the cost of capital does not inspire industry confidence. This decision calls for a reduction in the regulated return allowed for gas and electricity network infrastructure to fall almost 1 percentage point, from 9.56 to 8.6 percent. If upheld in the final AER decision the result would be a reduction in returns to the industry by $350 million per annum at a time when the world economy is in turmoil.

It will also puts at risk some of the estimated $50 billion of electricity network investment needed over the next 10 years for maintenance and expansion of the grid. As competition for scarcer global funding for energy development and upgrades is on the rise, the result would be less private sector investment in critical network infrastructure needed to respond to CPRS related price signals. Consequently there will be more reliance on Australian Government funding to ensure that the level of future investment in the energy sector is adequate to meet the challenge posed by climate change.

In summary there is a significant risk that there will be a shortfall in investment funds allocated to the domestic energy network sector over the coming decade and consequently there is uncertainty about whether the market response to the CPRS will be adequate. To achieve significant changes swiftly, there needs to be a strong incentive for network businesses themselves to find innovative solutions in which to invest. If regulated returns to capital are set too low not only will innovation be absent but no significant action will occur in response to the CPRS unless and until a series of detailed mandatory investments are identified and imposed.

Key message:

AEMC needs to ascertain what needs to be done to ensure full cost recovery is achieved to enable the energy market framework to facilitate the investment required to develop energy network infrastructure capable of delivering the desired climate change driven outcomes.

Conclusions

ENA's is not convinced that the present energy market framework can deliver timely responses to the impact of the CPRS. Our reasons are that the current regulatory settings :

- Do not ensure full cost recovery for energy network providers,
- Impede the passing on climate change related price signals to end consumers, and
- Do not adequately address the increased risk posed by large numbers of intermitted EGs connected to distribution networks.

Consequently, ENA believes that in the absence of amendments to the energy market framework in the light of climate change, the development of energy infrastructure crucial to mitigation, and adaptation in response to climate change will not be forthcoming at the levels required to make a crucial difference to Australia's ability to respond adequately to the challenge.