

Suite 201 T: + 61 3 9929 4100
18 Kavanagh Street F: + 61 3 9929 4101
Southbank VIC 3006 E: info@cleanenergycouncil.org.au
Australia www.cleanenergycouncil.org.au
ABN: 84 127 102 443



12 November 2010

John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235
By website: www.aemc.gov.au

Dear Mr Pierce

RE: ERC0100 National Electricity Amendment (Scale Efficient Network Extensions) Rule 2010 Options Paper

The Clean Energy Council (CEC) is the peak body representing Australia's clean energy and energy efficiency industries.

Its priorities are to:

- create the optimal conditions in Australia to stimulate investment in the development and deployment of world's best clean energy technologies;
- develop effective legislation and regulation to improve energy efficiency; and
- work to reduce costs and remove all other barriers to accessing clean energy.

The CEC works with members and the government to identify and address the barriers to efficient industry development in the energy efficiency and renewable energy sector.

The CEC welcomes this AEMC Rule Change options paper for the Scale Efficient Network Extensions (SENEs) and believes it could provide an important contribution to achieving the Australian Government's commitment of 20 percent of renewable energy by 2020 at least cost.

It should be noted that while there is broad recognition and support for reform to the process and framework guiding extension to the existing grid to connect renewable energy, CEC members have differing views on how this should best be achieved. CEC Members may submit individually to this process to outline their own positions.

In addition, the CEC notes that several critical aspects of the SENE proposal have a direct inter relationship with the parallel Transmission Framework Review. The current regulatory test, the Regulatory Investment Test for Transmission (RIT-T) provides the framework for regulatory determined network extensions. The CEC suggests that for a successful SENE framework and process, the RIT-T also needs to be further reviewed if it is to be used as the investment test for the SENE.

The CEC's Objective

The CEC's key objective is to accelerate the development and deployment of renewable energy and energy efficiency technology (clean energy) and to ensure at least 20 percent of Australia's electricity is generated by renewable energy by 2020. The connection of distributed renewable energy generation to the existing electricity grid may present a real impediment to the achievement of the Renewable Energy Target (RET). Further, the manner in which extensions to the existing grid are delivered to achieve connection of this renewable energy generation may be inefficient and result in sub optimal outcomes and overall higher costs to society. The CEC therefore welcomes the initiative of the AEMC to explore the SENE concept as a means to streamline and improve the overall efficiency of such investments.

However, the CEC remains concerned that the very objective by which the SENE proposal is being measured – the National Electricity Objective (NEO) - is fundamentally flawed by treating the imperative to reduce the carbon intensity of Australia's electricity supply as an externality and not integrating this national objective within the Market objective. The CEC continues to highlight this limitation and advocate for the NEO itself to be reviewed to consider the objective of carbon abatement and renewable energy deployment consistent with the legislated objectives of the Australian Government.

Without these changes, any proposal to reform the rule or frameworks governing investment in electricity transmission or network extension will therefore likely fail to cater appropriately for these broader carbon and renewable energy objectives. Never the less the CEC has welcomed the earlier conclusions of the MCE in regards to the impacts of climate change policy on the NEM and the subsequent decision to direct the AEMC to review the feasibility and form of the SENE proposal.

Both the AEMC and the Ministerial Council on Energy (MCE) have stated that the existing market framework is unlikely to promote the efficient connection of multiple generators in the same location over a period of time.

Justification of the SENE

The CEC and its members fully support transmission policy that will promote the development and investment of the renewable energy generation sector in order to:

- Ensure the delivery of the 20 percent RET by 2020.
- Achieve the 20 percent RET at least cost to Australian consumers, with full consideration to both costs of electricity, renewable energy certificates and network costs.

The theory behind the SENE framework, to provide a regulatory framework to assist in unlocking the untapped renewable energy resources in remote areas of Australia and bring low carbon energy to load centres, is one that is already in practice around the world. For example the networks associated with offshore wind in Europe are connected by the TNSP, and the Competitive Renewable Energy Zones (CREZs) by Electric Reliability Council of Texas (ERCoT) in the USA.

At present the locational signals within the NEM lead to a distinct bias towards the development of sub-optimal renewable energy resources which are in close proximity to the existing network. Exploitation of more optimal renewable energy resources that are further from the existing network is undermined to a degree by the difficulty facing prospective project developers from negotiating the most efficient network extensions. Such extensions would in theory allow the exploitation of premium renewable energy resources while facilitating optimal scale and maximum economic efficiency in the network extension required to connect these renewable energy projects. This should result in overall least cost delivery of the RET, by exploiting the best renewable energy resources and minimising overall network costs.

At present, sub-optimal investment in network extension infrastructure is occurring as there is no method for competing developers to cooperate with other developers to achieve scale efficient network extensions that would support additional connections of generators and an overall lower cost. The CEC believe the primary objective of the SENE should be to overcome this market failure and to provide a distinct incentive for the investment in network extension that will support additional generation connections, in critical renewable energy zones. The CEC accepts that in pursuit of these optimal outcomes, consumers will be required to take the risk in underpinning the initial investment in what may be an oversized network asset. The CEC believes however that prudent selection of such renewable energy zones and scaling of this initial investment, can collectively ensure that consumers will ultimately receive a net benefit as a result of the overall reduction in network costs and exploitation in the most productive and theoretically least cost renewable energy resources.

As previously stated by the CEC, consumers have historically underwritten similar investments by the previous vertically integrated utilities, for example the building of the lines at 500kV from La Trobe Valley to the border with South Australia which has proven to be of immense long term customer benefit. However the CEC believes that relying on this historical approach may not be adequate. The ability to build projects that would benefits consumers a decade or more into the future are very difficult to undertake.

In considering how to achieve these outcomes, this submission provides insight on the key design elements, and does not specifically recommend or support any one of the five proposed options.

The SENE trigger

It is the CEC's view that the trigger for considering a SENE should include either a generator connection enquiry or AEMO identifying zones through the NTNDP. To holistically capture the options for renewable energy generation there needs to be both.

Investment test options

The CEC believes that an investment test must be timely and minimise the risk of asset stranding. It is important that the economic model which guides the ultimate network investment realises there is a chance that the risk of stranded assets is heightened given the significant increase in renewable and climate change policy and the unstable environment in which they operate.

As stated above, the CEC believes that the RIT-T requires further work for it to be a sound mechanism and work efficiently as an investment test. The CEC understands that some of this reform will be undertaken in the Transmission Frameworks Review. Currently there are concerns about the effectiveness of the RIT-T, particularly given the requirement for the proponent to produce multiple options. The AER has veto power, which the CEC supports, however this issue of requiring multiple options must be addressed to ensure the effectiveness of RIT-T through the Transmission Frameworks Review. The current framework does not give another efficient method on how to provide large transmission investment to supply power to the load centre on behalf of generators.

Additionally, it is also important an investment test does not fail to produce a credible outcome either due to artificial regulatory constraints or to poorly conceived analysis. A recent report by McLennan Magasanik Associates (MMA) [1] for the CEC, states that;

“The regulatory regime is currently geared towards protecting customers from unjustified increases by requiring proponents for transmission investment to undertake a regulatory test where only proposals that have a net economic benefit to all those who produce, consume and transport electricity in the NEM are allowed to proceed unless the augmentation is required to meet reliability or service standards. Given that nearly all transmission development would be approved through the regulatory investment test, the main focus of the AEMC should be to ensure that the National Transmission Planning process provides quality output information that is useful for planning coordination across the supply chain. “

The regulatory oversight that may occur is if the RIT-T as it is designed currently continues as an economic test, is that price gouging may occur. There will need to be a strong oversight of TNSPs to ensure any SENE is delivered at least cost and therefore avoids price gouging from TNSPs. The CEC strongly recommends that this oversight is considered within the Transmission Frameworks Review.

SENE cost allocation and access provisions

At present, renewable energy project proponents and all connected generators face considerable risks due to the lack of firm access arrangements in the shared network. Without

some consideration of this issue, the adoption of SENE could simply multiply such access concerns by connecting a large amount of generation into a single point into a shared network and actively encouraging additional generation in the same proximity and therefore compounding the risk of congestion. The CEC believes it is unclear how the SENE will connect to the shared network as well as how its rights will be protected into the future and how they will be dealt with. This is another aspect that requires substantial reform and consideration and the CEC again reflects on the need for the Transmission Frameworks Review to address this matter.

Defining access rights are needed to help in reducing these risks and guarantee access into the shared network. MMA [1] suggests one option where once regional prices are established at the remote node, inter-regional settlement surpluses could then be provided to firm up the effective transfer capacity. Option 5 allows for a prescribed transmission charge. By whatever means, providing access rights would be useful progress where free-rider risks are significant.

The new prescribed service option as outlined in the Options Paper requires new transmission lines would be paid for by generators and that generators will pay for the part that they use, instead of recovering the costs incurred in connecting a generator to the network as a negotiated service,. Currently generators do not pay for prescribed transmission assets. The CEC sees this as a good option.

If a stranded network asset occurs when a SENE is built based on a particular generation forecast that does not eventuate then the unfounded component of the SENE proposal will be borne by the customers. The CEC emphasises that the AER and AEMO have key roles under the SENE framework to ensure customers are not exposed to unnecessary asset stranding risk.

The CEC believes it is critical that the SENE cost allocation approach ensures there is a direct financial incentive to encourage the first generator to participate in the establishment of the SENE, rather than simply negotiate a single network connection. The CEC therefore believes that the first generator must be exposed to the relevant proportional cost of the SENE. This incentive (vice a vise the greater proportional cost of the negotiated network extension) will compensate for the potentially more complex and time consuming SENE process as well as the increased risk of access constraints (as outlined above).

Size decisions on capacity

The ultimate efficiency of a SENE will be measured by the extent to which the full network extension is subscribed by subsequent generators. Achieving this optimal outcome will require diligence and consultation that considers:

- The extent of the renewable energy resource/s in the zone.
- The extent to which these resources can be realised, given potential environmental, planning and development issues.
- The stages of development of renewable energy projects within the zone.
- The transfer capacity of the shared network connecting the SENE and the likelihood of constraints on that shared network.

The CEC believes that the ultimate decision on the location and scale of the network extension must consider these factors and be undertaken in consultation with between AEMO, TNSPS, renewable energy project proponents and industry.

If another generator comes into the area of a fully contracted SENE they may invest to increase SENE capacity in exchange for a firm access right or they could connect without getting access rights and then compensate others if they constrain them off.

The Competitive Renewable Energy Zones (CREZs) in Texas USA is a framework which could potentially be used in Australia to enhance the ability of renewable generation to connect efficiently [2]. This project began as a solution to the issue where no new renewable energy projects were committed to (predominantly wind) without new transmission being committed to, and no new transmission would be committed until there were committed new renewable energy projects.

The solution, where legislation has required the Public Utility Commission of Texas (PUCT) to designate CREZ areas as high-quality clean energy resources, requires transmission to be built to allow access to load centres. The PUCT orders utilities to construct or expand transmission between the CREZ and load centres to help meet the Renewable Portfolio Standard (RPS) requirements (which are similar to Australia's LRET scheme). Under this law, transmission investments are automatically considered 'prudent' and are funded by load.

The CEC fully supports this example and its application in Australia should be explored..

Conclusions

The CEC supports the following key designs from the five options as outlined on the following page from the summary table in the Options Paper.

Suite 201 T: + 61 3 9929 4100
 18 Kavanagh Street F: + 61 3 9929 4101
 Southbank VIC 3006 E: info@cleanenergycouncil.org.au
 Australia www.cleanenergycouncil.org.au
 ABN: 84 127 102 443



Key design feature	Option 1	Option 2	Option 3	Option 4	Option 5
Trigger for considering a SENE	AEMO identifies zones. NSPs identify credible options	AEMO identifies zones. NSPs identify credible options	A generator connection enquiry	A generator connection enquiry	A generator connection enquiry
Investment test	Implicit in NSP planning and firm connection agreements	Explicit economic test applied to assess merits of SENEs plus firm connection agreements	Signed connection agreement with first generator, RIT-T applied to incremental capacity	Signed connection agreement with first generator, RIT-T applied to incremental capacity	RIT-T is applied to the entire investment proposal
Cost allocation and charging methodology	Generators pay a proportional average cost. Customers underwrite risk but should face no cost over life of asset if generation enters as expected	Generators pay a proportional average cost. Customers underwrite risk but should face no cost over life of asset if generation enters as expected	First generator pays stand alone cost. This charge reduces as other generators connect. Customers pay for incremental capacity	First generator pays stand alone cost. Customers underwrite costs of incremental capacity. Both these charges reduce over time with further connections	A new type of prescribed transmission charge is introduced relating to SENEs, which generators pay. Customers pay for spare SENE capacity
Access provisions	Mandated compensation arrangements	To be negotiated between generators and NSPs	As per the shared network	As per the shared network	As per the shared network
Regulatory oversight	AER has power of veto, AEMO reviews forecasts	AER has power of veto, AEMO reviews forecasts	AER reviews application of RIT-T, AEMO reviews forecasts	AER reviews application of RIT-T, AEMO reviews forecasts	AER reviews application of RIT-T, AEMO reviews forecasts

Suite 201 T: + 61 3 9929 4100
18 Kavanagh Street F: + 61 3 9929 4101
Southbank VIC 3006 E: info@cleanenergycouncil.org.au
Australia www.cleanenergycouncil.org.au
ABN: 84 127 102 443



To discuss our submission and answer any other questions, please contact the undersigned on (03) 9929 4100 or via email nicolen@cleanenergycouncil.org.au.

Yours sincerely

[Original Signed]

Kane Thornton
Strategy Director

[Original Signed]

Nicole Nsair
Policy Analyst

[1] McLennan Magasanik Associates, *Transmission Issues for Remote Renewable Energy Generation*, 2 March 2010

[2] National Renewable Energy Laboratory, *Competitive Renewable Energy Zones in Texas*, National Governors Association Center for Best Practices Clean Energy States Grant Program Workshop, D. Hurlbut, November 2008