TOTAL ENVIRONMENT CENTRE INC.

LEVEL 4, 78 LIVERPOOL STREET, SYDNEY, NSW 2000 PO BOX A176, SYDNEY SOUTH 1235 Ph: 02 9261 3437 Fax 02 9261 3990 www.tec.org.au



SUBMISSION to

AEMC Review of Energy Market Frameworks in light of Climate Change Policies

1st Interim Report

Reference EMO 0001

24 February 2009

For further information contact:

Glyn Mather Ph 02 9261 3437 Email <u>glyn.mather@tec.org.au</u>

AEMC Review of Energy Market Frameworks in light of Climate Change Policies

1st Interim Report

1. Introduction

1.1 The Climate Change Review

Although Total Environment Centre (TEC) is pleased to have another opportunity for input to the AEMC's Review of Energy Market Frameworks, we are still convinced the terms of reference fall short of adequately addressing the convergence of the National Electricity Market (NEM) with the full range of climate change policies being developed at the Federal level. The Carbon Pollution Reduction Scheme (CPRS) and the Renewable Energy Target (RET) are only two of the mechanisms under development with which the energy market framework will interact; the National Strategy for Energy Efficiency and the Climate Change Action Fund are just two examples of other related policies.

There are in addition two significant issues which have not been sufficiently canvassed within the AEMC Climate Change Review itself – demand side opportunities and embedded generation. We discuss these in more detail in sections 1.2 and 1.3.

(Please note that we have attached a letter [Attachment A] we wrote to the AEMC on 21.10.2008 on the subject of the reserve trader mechanism, because it relates directly to the discussion of "Issue A2: Generation capacity in the short-term".)

Our main concerns in this submission are:

- There needs to be proper consideration given within this Review to the contribution demand side initiatives can make to the amelioration of climate change impacts and achievement of the RET; this still has not been dealt with adequately.
- The problem of the removal of barriers for embedded generation lagging behind development of the RET will not be resolved while this issue is embedded within the National Energy Customer Framework process.
- A significant effort needs to be made to redesign the mechanism for provision of reserve, to enable fast response and proper incorporation of demand management solutions (such as formal load shedding arrangements, some form of permanent reserve, and proper utilisation of embedded and stand-by generation).
- Provision of transmission infrastructure for remote renewable generators poses a significant barrier since the costs could be prohibitive for a single generator to bear. This needs further investigation in the light of overall government climate change policy, with funding probably most equitably borne by all taxpayers rather than solely electricity consumers since it is driven by Commonwealth policy.

We have not directly addressed issues pertaining to the West Australian or Northern Territory electricity markets in this submission.

1.2 Demand side opportunities

A continuing oversight within the Review is that it has focused on supply and connection (for renewable energy) with virtually no mention of the demand side. TEC raised this in our previous submission to this Review, and the 1st Interim Report still does not properly incorporate the benefits that optimisation of demand side activity can offer. We emphasise that the limited number of demand side provision businesses, despite the huge potential for aggregation of load curtailment and embedded generation, indicates a significant lack of proper investment signals within the market.

We include here a section from our submission on the Scoping Paper¹:

There is some discussion of behavioural change in the scoping paper, but limited coverage of demand side opportunities in the list of issues highlighted for review. Although there is a concurrent AEMC review of demand side participation, this part of the equation cannot be quarantined off as it is fundamental to the efficient delivery of climate change policies in the long term interests of consumers and the operation of the market – without demand side participation, there **is** no market. The review is strangely blind to a major goal of a CPRS: to encourage the more efficient use of electricity. Any reduction in consumption will also provide a buffer against increased carbon costs as the economy shifts to less intensive forms of generation.

We also note that MMA raised this issue in their report as well: "Whereas the value of participation by distributed resources may markedly increase under CPRS and RET, there is currently minimal public information to assist planning of these resources by private investors."² They also noted: "What are missing are the commercial arrangements to install and utilise the integrating technologies that would enable [energy storage] to work at the wholesale level and to control multiple distributed resources. These commercial arrangements are difficult to establish because of the barriers to planning and trading distributed energy resources." (p 34)

MMA in section 4.1.2 of their report present a substantial discussion of the current flaws in the frameworks regarding demand side participation, beyond the matters to be raised in the concurrent AEMC Review of Demand Side Participation (DSP). They pointed out that: "The structural transformation that will be required will necessarily feature demand side response (DSR), as well as distributed and embedded generators, which together will become increasingly important in smoothing the impact of infrastructure investment activities on the wholesale market. ... DSR in particular could become a critical transition strategy to overcome critical investment lags if they occur." (p 67)

This issue is certainly relevant to the AEMC's DSP Review. That Review, however, does not overtly include the intersection with climate change policies in its brief, so there is no certainty that resolution of problems in addressing the dangerous impacts of climate change – nor meeting a RET – will be achieved in the DSP Review. We again urge the

¹ Total Environment Centre (2008) Submission to AEMC Review of Energy Market Frameworks in Light of Climate Change Policies Scoping Paper. 18 November 2008

² McLennan Magasanik Associates (MMA) (2008) An initial survey of market issues arising from the Carbon Pollution reduction Scheme and Renewable energy Target. December 2008, p 6

AEMC to properly come to grips with the need to rapidly reduce consumption of electricity; and equally increase the uptake of renewable energy options within the Climate Change Review. It is also high time the MCE acknowledged that there are significant barriers to demand management embedded in the NEM and deal with these appropriately.

1.3 Embedded generation

The discussions to date in this Review regarding renewable generation have been focused on large generators. Embedded generation may consist of generators with very small capacity individually but which together will constitute a significant cumulative impact towards achieving the RET. For instance, there has been a massive recent increase in the installation of household renewable energy generators (nearly 16,000 households had been connected under the program at September 2008³), due to rapid changes in technology; Commonwealth rebate initiatives; and jurisdictions enacting various permutations of feed-in tariffs for small, renewable generation.

The relevance here is that the NEM framework has not kept up with this rate of change. There are a number of barriers lingering in the Rules which are impeding simple and streamlined negotiations for connecting small embedded generation. The Network Policy Working Group has been engaged in a process focusing on these problems, and some features have been improved, but there are still details requiring modification.

Unfortunately, the Standing Committee of Officials has proposed that details around distribution connections (including capital contributions) are to be finalised within the National Energy Customer Framework (NECF)⁴. The timetable for settlement of this framework has been continually delayed and at the moment it appears it will not be available until 2011 at the earliest. The timetable for the RET has substantially overtaken this, which leaves the small renewable generators in limbo. It is imperative that the AEMC Review resolve this problem, as it is a key obstacle to a successful RET policy.

2. Issues within the Review

[Those marked * are considered in the AEMC 1st Interim Report to be "not a material issue]

* A1. Convergence of gas and electricity markets

Do you agree that the convergence of gas and electricity markets is not a significant issue in the eastern states and therefore should not be progressed further under this *Review? If not, what are your reasons for reconsidering this position?* We agree that it is not a material issue, and that the framework can support greater convergence of the gas and electricity markets. The only exception would be the case of small, stand-by generators for which barriers still exist – see Section 1.3 above.

³ Solar Homes and Communities Plan (2008) *Installed by State – Sept08*, accessed at http://www.environment.gov.au/settlements/renewable/pv/pubs/installedbystate-sept08.xls

⁴ MCE Standing Committee of Officials (2008) *Electricity Distribution Network Planning and Connection – Policy Response*. December 2008

A2. Generation capacity in the short-term

Do you agree that the ability for NEMMCO to manage actual or anticipated transitory shortfalls of capacity is a significant issue that should be progressed further under this Review?

The recent problems this year with the electricity system in Victoria and South Australia during heatwave conditions highlight the failure of the NEM to properly incorporate the demand side into planning and management of shortfalls of capacity. There was a convergence of events in part caused by higher than expected temperatures including the failure of the Basslink interconnector; unexpected, prolonged levels of demand; the failure of a generator; and the failure of a transmission transformer.

Each of these essentially led to power being cut to many homes and businesses (or "customer interruptions" as they are called formally), in some areas for many hours. Although the combined problem was within the standard parameter for reliability (0.002% of unserved energy), nonetheless severe effects were felt by many consumers as a result. Single events in themselves may cause substantial problems (such as the transmission failure in Victoria in January 2009 caused by an explosion in a substation), but clearly a combination of events is not properly catered for in the framework of the NEM. The response was simply to shed load – according to a set of criteria that is based on a hierarchy of need, rather than via pre-determined arrangements with large users and/or demand side providers.

This shortcoming has been highlighted by many, including the Energy Users Association of Australia who suggested that, "If we had some demand-side management in the system last week we could have avoided a lot of these problems ... the Government is overlooking the onset of climate change and is putting the state at risk as temperatures continue to increase." ⁵

Explicit, formal arrangements for speedy response must be better developed within the NEM, including demand management. It could be in the form of reserve capacity (aggregated, small generators such as renewable or stand-by generators) or contracted load shedding. There needs to be permanent contracts with major users and demand side providers that are in place well ahead of the seasons of peak use, but which can be rapidly deployed.

It also appears⁶ that the responsibility frequently gets passed down the line to shed load, that is, from NEMMCO to the transmission businesses to the distribution businesses. There is some leeway on the way down for contracted large users to curtail load; but these currently provide minimal savings at the NEMMCO and transmission level. As discussed at the meeting, a better description would be "Supply/demand balance in the short term".

It is worth nothing that MMA also suggested: "Demand management may become a significant transition strategy to manage energy scarcity in a scenario of investment delay

⁵ *The Age*, 2 February 2009

⁶ Discussion at AEMC Climate Change Review meeting, 13 February 2009.

and early coal unit retirement. Large controllable loads may therefore benefit with increased service innovation and price competition."⁷

Are additional mechanisms required to complement the Reliability and Emergency Reserve Trader (RERT) and NEMMCO's directions powers, and what characteristics should such mechanisms have?

Do you have any views on the detailed design and implementation of additional mechanisms?

Treatment of demand management (DM) as a viable reserve must be expedited. There are various ways that DM as reserve can be treated, including within the requirements for the Reserve Trader mechanism; or through scheduled load arrangements; or as standing reserve. We sent a detailed letter to the AEMC on 21.10.08 on this subject, and since it directly relates to the two questions posed in this interim report we have attached it to this submission (Attachment A). In summary, we reiterate from that letter:

The current version of a reserve trader within the NEM is rarely used and overly cumbersome, providing limited potential for rapid response (or reduction of greenhouse gas emissions). Replacing the same mechanism with a permanent program that awards contracts for demand side reserve capacity could be made to work within the NEM model. It would provide a range of functions: to provide reserve; enhance security and reliability; and deliver significant co-benefits of reduced carbon pollution and carbon costs. ...

We therefore strongly urge the AEMC to investigate the potential for load curtailment programs within the NEM in the form of permanent programs to provide standing reserve. There are models in existence which provide the basis for a design for the NEM, possibly using a staged approach to be established in the interim. Development of load curtailment programs is a way in which the NEM could provide the sorely needed boost to DSR as well as a significant contribution to reducing carbon costs and greenhouse emissions.

* A3. Investing to meet reliability standards with increased use of renewables

Do you agree that the existing framework based on an energy-only market design with supporting financial contracting is capable of delivering efficient and timely new investment, including fast response capacity to manage fluctuations in outputs resulting from larger volumes of intermittent wind generation? If not, what are your reasons for reconsidering this position?

Do you agree that the processes supporting the ongoing maintenance of this framework in respect of review and periodic amendment to the market settings, including the maximum market price, are robust? If not, what are your reasons for reconsidering this position?

We agree that larger volumes of wind generation per se do not pose a significant problem within the terms of this Review. We consider there are greater barriers to fast response within the NEM than that posed by such generation (as discussed in A2). The proposition also implies that the rest of the system is 100% reliable, which it is not. It is set up to average .002% of unserved energy over the system, and the expectation is not

⁷ McLennan Magasanik Associates (MMA) (2008) *An initial survey of market issues arising from the Carbon Pollution reduction Scheme and Renewable energy Target.* December 2008, p 8

that each component is reliable in and of itself. This issue is not relevant and is based on faulty assumptions.

* A4. System operation and intermittent generation

Do you agree that operation of the power system with increased intermittent generation is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position? We agree; see response to A3.

A5. Connecting new generators to energy networks

Do you agree that the connection of new generators to energy networks is a significant issue that should be further progressed under this Review? If not, what are your reasons for reconsidering this position?

We agree that the connection of new generators is a significant issue and that this Review is an appropriate forum within which to address this. We note that there are not only potential difficulties for connection of large, renewable generators, but also for smaller types (see the discussion above in Section 1.3).

It is clear that there is considerable potential for a range of renewable forms of energy such as solar thermal, geothermal, wave and wind to be developed in areas remote from existing transmission systems. The costs of transmission infrastructure over large distances would be more than likely be too great for a single generator to bear and thus would be a deterrent to investment. If the RET is to be met, then a strategy needs to be developed to build and fund the construction of transmission lines to these new generators, potentially on a very large scale. One of the difficulties is that the extent of this potential is currently indeterminate, therefore the scale of the problem – and hence the necessary extensions and augmentations – is very unclear.

As highlighted in the MMA report:

"There are benefits in a review to consider how transmission investments can be encouraged so that new generation regions can be opened up without the risks that deep connection costs may overwhelm generation investment decisions."⁸ And "Currently, the regulation of transmission services may not fully support new generation locating where spare transmission capacity will emerge in the future." (p 33)

"Additional transmission lines may be required to capture remotely located renewable energy ... no individual generator could likely sponsor an efficient transmission line and no efficient transmission line could pass the regulatory test as it is currently implemented, because the prospective future generation is too speculative." (p 37)

The AEMC's proposal concerning development of transmission "hubs" to which a number of, say, wind farms could be connected over a period of time holds merit (and mimics the existing situation with clusters of large, coal-fired generators). This would assist with

⁸ McLennan Magasanik Associates (MMA) (2008) *An initial survey of market issues arising from the Carbon Pollution reduction Scheme and Renewable energy Target.* December 2008, p 6

efficiency of costs, for instance the cost of augmentation would be spread across a number of generators relatively easily, rather than the first wind generator having to fund augmentation from which others will later benefit.

Would any of the models identified in this chapter ensure the more efficient delivery of network connection services? In particular, with relation to these models:

• How should the risks of connection be most appropriately spread across new connection parties, network businesses and end use consumers?

• How do the connection charges change for new connecting generation plant and what benefits may arise?

• How do the costs for end use customers change and what benefits may arise?

• Are there any other potential models that we should consider to mitigate this issue? Our preferred choice for dealing with these questions is Option 4, including separation of the investment tasks. The actual connection of the generator should be dealt with as for any other large generator. Option 1 (the "open season" concept) is not acceptable as it does not allow for sufficient flexibility; this is new technology in many cases and government policy is likely to change considerably in the coming decades.

Regarding the necessary network extension, we recommend:

- the National Transmission Planner as the most appropriate body to determine whether an economic test was met; the Australian Energy Regulator should develop the test mechanism;
- seeking commitment from the generators for use of the system; however, a 50% commitment is not at all reasonable and would be sufficient for many investors to retreat;
- support for the proposal for the project to trigger its identification as a contingent project meets the potential difficulty of forecasting the volume to be connected in future; and
- up-front capital costs should be funded by an external source, to be decided by the Federal Government. The expansion of the RET is a public policy development and it is therefore more equitable for taxpayers to support it. It is not equitable for the costs to be smeared across all electricity consumers.

This whole issue of transmission infrastructure should be taken up by the Commonwealth Government. It is a fundamental and difficult issue that probably cannot be dealt with adequately in this Review, as solutions need to be assessed in the context of broad policy decisions about addressing climate change and the AEMC is not the body charged with creating policy. There is a clear net benefit from supporting large renewable generators in terms of ameliorating dangerous climate change via the potential for vastly reduced greenhouse gas emissions.

A similar difficulty will be faced by the Carbon Storage Taskforce process, as part of the National Low Emissions Coal Initiative. The taskforce is producing a "National Carbon Mapping and Infrastructure Plan" to deal with the problem of carrying away the carbon dioxide for storage via pipeline infrastructure. This is another Commonwealth initiative established as part of overall climate change policy and the same funding problem applies here – the costs of the pipeline infrastructure (which would match that for transmission in

scale) will need to be recovered in some mode or carbon capture and storage will be completely unworkable.

Once again, the discussion of this issue focuses only on large, remote generation and completely excludes consideration of small, embedded generation. Issues for smaller renewable generation must be expedited.

A6. Augmenting networks and managing congestion

Do you agree that the issue of network congestion and related costs requires further examination under 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? If not, what are your reasons for reconsidering this position?

We agree that there is the potential for greater congestion as a result of the RET, but for distributed generation this should be ameliorated by reduced consumption. We consider there are no features in particular that would not be covered by solutions developed for A6. That is, the major difficulty will be the **lack** of infrastructure of remote renewable generators, rather than congestion on existing systems. We would agree there are various details to do with transmission, including the RIT-T, which could do with clarification and therefore are worth investigation, but we are not convinced they are directly critical for the success of the CPRS or the RET.

Of course, a solution would be to fully utilise all potential demand management solutions to relieve forecast congestion; and the investment signals must be there to develop this infant industry.

A7. Retailing

Do you agree that the current inflexibility in the retail price regulatory arrangements is a significant issue that should be progressed further under this Review? If not, what are your reasons for reconsidering this position?

We do not agree that the retail price regulatory arrangements pose a barrier to proper implementation of a CPRS. Any arrangements can be amended to allow for the flow-through of carbon costs; for instance, price arrangements are usually based on forecasts of capital and operating expenditure and thus can incorporate predicted carbon costs. Moreover, the Ministerial Council on Energy in its most recent communiqué resolved this problem by allowance for cost increases to flow through to consumers. The MCE noted that⁹:

Ministers agreed to propose to Council of Australian Governments (COAG) that it amend the Australian Energy Market Agreement (AEMA) to specify that, where retail prices were regulated, energy cost increases associated with the CPRS shall be passed through to end-use consumers.

The reasons for regulating retail prices are many and varied (including wider social equity and customer protection concerns), and we believe this Review is not the appropriate forum to make recommendations on retail price regulation. For instance, that decision is already subject to the AEMC Review of the effectiveness of competition in each

⁹ Ministerial Council on Energy. *Communiqué*. Adelaide, December 2008. p 2

jurisdiction, and has already been raised in many other reviews of the NEM. The AEMC should not investigate the issue further in this Review as it does not constitute a significant impediment.

* A8. Financing new energy investment

Do you agree that financing, as an individual issue, should not be progressed further under this Review? If not, what are your reasons for reconsidering this position? We agree that the energy market frameworks are not an impediment to large-scale energy investment. It should be noted, however, that the continuing barriers to connection of small embedded generators will continue to slow the rate of their installation. Investment in demand-side aggregation as a viable industry is also being blocked by the lack of incentives and continued barriers in the Rules and market mechanisms.

ATTACHMENT A

TOTAL ENVIRONMENT CENTRE INC.

LEVEL 4, 78 LIVERPOOL STREET, SYDNEY, NSW 2000 PO BOX A176, SYDNEY SOUTH 1235 Ph: 02 9261 3437 Fax: 02 9261 3990 www.tec.org.au



20 October 2008

John Tamblyn Australian Energy Market Commission submissions@aemc.gov.au

Dear Mr Tamblyn,

Re: Reliability and Emergency Reserve Trader

Total Environment Centre (TEC) is concerned about the current design of the Reliability and Emergency Reserve Trader (RERT) and the associated guidelines. There has been a massive oversight and hence a missed opportunity to establish a standing reserve based on demand side response (DSR). This concept was raised by NERA during the AEMC's Demand Side Participation Review and was considered directly in relation to the RERT, but was inappropriately rejected. It may not be possible to revisit the idea at this stage of the RERT Review, but should be considered within the AEMC's other reviews of Demand Side Participation and the Climate Change Review.

The NERA report¹⁰ did argue against a DSR standing reserve, but recommended a staged approach, which would include annual invitations to provide reserve capacity. They suggested that where necessary these providers could be invited to quote for provision of reserve; then capacity would be contracted on the basis of the quotes. Even this mild recommendation seems to have been rejected by the AEMC.

TEC supported NERA's recommendations in our submission on that report, but we are still not convinced that the concept of a DSR standing reserve has no value. We suggest that both approaches should be followed, that is, the staged approach be adopted as an interim but that the AEMC, together with NEMMCO, continue to investigate the potential for a DSR standing reserve. The investigation should focus on the potential of demand side reserve to contribute to reliability and efficiency while following the principle of optimising demand side participation. This needs to be done in tandem with any investigation of the potential for DM bidding within the wholesale market.

Other models

Other markets have set up reserve trader programs of various kinds, fashioned around the provision of load curtailment by participants registered for the purpose in some permanent fashion within the market. The examples of Texas and California – although there are a number to choose from – are briefly described here.

¹⁰ NERA (2008) *Review of the role of demand side participation in the National Electricity Market*, Draft Report for the AEMC

Texas

The Electric Reliability Council of Texas (ERCOT), which is also an energy only market similar to the NEM, has realised the value of the demand side and implemented programs to encourage DSR from various sources.¹¹ The NEM could include any combination of these ERCOT mechanisms within a permanent program as an adjunct to the Reserve Trader.

Of particular interest here is the Load acting as a Resource (LaaR) program, which is used within the ancillary services (AS) markets. It involves signing up customers with interruptible loads to provide operating reserves. Any provider of operating reserves under this program is eligible for a capacity payment, regardless of whether the curtailment occurs. Up to 1,300 MW can be called on through this program.

Another feature of the Texas programs, which is called on after the LaaRs have been exhausted, is the Emergency Interruptible Load Service (EILS). Its main features are:

- Contracts are made with network businesses in this case, who put in bids for contracts; the minimum is for one MW that can be via aggregation
- The contracts may be made for one or more quarterly contract periods, and more than this can be renegotiated
- There is a cost cap on the EILS program
- Each quarterly contract period is capped at 1,000MW
- The contracted "resource" must be able to reduce its load within 10 minutes
- Each resource is only to be called on twice in a contract period
- Each contractor is paid a capacity payment.

California

The "Base Interruptible Program" (BIP) involves participants nominating a base level of electricity necessary to maintain operations that is below their historic average maximum demand. They then receive a monthly payment based on the size of the curtailable portion of their load, in return for committing to reduce to the base level when called upon. Curtailment requests cannot exceed one per day (of up to four hours), ten per month, or a fixed number of hours per year.

The "Demand Bidding Program" provides incentive payments of a fixed rate beyond market price for day-ahead curtailment commitments. When notified of such an event, participants can bid the amount of load they can reduce, and the hours for which they are willing to reduce this load. Bids must cover at least two consecutive hours.

Another feature is the "Demand Reserves Partnership Program". Participants in the program agree to reduce their electricity load (by curtailment or by operating on-site generation) when notified. This program, like BIP, also has time limits. Participants receive a monthly reservation payment as well as a performance payment for each load curtailment event. Individual customers usually participate via a designated "Demand Reserves Provider."

Load curtailment in the NEM

The current version of a reserve trader within the NEM is rarely used and overly cumbersome, providing limited potential for rapid response (or reduction of greenhouse gas emissions). Replacing the same mechanism with a permanent program that awards

¹¹ Texas ERCOT PUC Substantive Rule #25.507 (EILS)

contracts for demand side reserve capacity could be made to work within the NEM model. It would provide a range of functions: to provide reserve; enhance security and reliability; and deliver significant co-benefits of reduced carbon pollution and carbon costs.

The particular problem for demand side response is that the participant offering the load curtailment does not know in advance what the actual price paid will be at the end of the trading interval, and therefore participants cannot be confident of the value they will get for their curtailment. If there is a monetary incentive, in the form of payment to be in reserve plus a bonus when the reserve is activated, there is greater certainty for potential participants. This certainty is likely to unlock some of the demand side potential that is widely recognised to be untapped at present.

There is currently a very small amount of load curtailment in operation in the NEM, some of which is negotiated via retailer or networks. Prices paid for the curtailed load are based on a retailer's avoided cost, usually when the spot price exceeds the trigger price in a hedge contract, or on the value of network deferral. These are chronically under-utilised and there are virtually no other incentives to seek DSR as an alternative.

For end users, the main disincentive for load curtailment is that they do not get proper remuneration. Presently the end user merely avoids consumption at the market price when they curtail their load.

For the networks, deferral of new investments is disincentivised as it reduces the asset bases from which they can earn revenue. The only active incentives are those being developed under the AER's demand management incentive schemes. The schemes under way do offer some minor incentives – consideration of foregone revenue, "learning by doing" funds and so on – but TEC has argued that these need to go much further to have any real impact.

We therefore strongly urge the AEMC to investigate the potential for load curtailment programs within the NEM in the form of permanent programs to provide standing reserve. There are models in existence which provide the basis for a design for the NEM, possibly using a staged approach to be established in the interim. Development of load curtailment programs is a way in which the NEM could provide the sorely needed boost to DSR as well as a significant contribution to reducing carbon costs and greenhouse emissions.

Yours faithfully,

Jeff Angel Executive Director