Major Energy Users Inc.

Climate Change Authority

Renewable Energy Target Review

Issues Paper

Submission by

The Major Energy Users Inc

September 2012

Assistance in preparing this submission by the Major Energy Users Inc (MEU) was provided by Headberry Partners Pty Ltd and Bob Lim & Co Pty Ltd.

This project was part funded by the Consumer Advocacy Panel (www.advocacypanel.com.au) as part of its grants process for consumer advocacy and research projects for the benefit of consumers of electricity and natural gas.

TABLE OF CONTENTS

1. Introduction

About Major Energy Users

The Major Energy Users Inc (MEU) represents large energy consumers operating in the NEM and in other jurisdictions. The MEU comprises some 30 major energy using companies in NSW, Victoria, SA, WA, NT, Tasmania and Queensland. MEU member companies – from the steel, minerals processing, cement, paper and pulp, automotive components, tourism, mining and mining explosives industries – are major manufacturers in the NEM and in other jurisdictions, are significant employers, and are located in many regional centres.

Analysis of the electricity usage by the members of MEU shows that in aggregate they consume a significant proportion of the gas produced and electricity generated in Australia. As such, they are highly dependent on the transport networks to deliver efficiently the energy so essential to their operations. Many of the members, being regionally based, are heavily dependent on local suppliers of hardware and services, and have an obligation to represent the views of these local suppliers. With this in mind, the members of the MEU require their views to not only represent the views of large energy users, but also those of smaller power and gas using facilities, and even at the residences used by their workforces.

The companies represented by the MEU (and their suppliers) have identified that they have an interest in the **cost** of the energy networks services as this comprises a large cost element in their electricity and gas bills.

Although electricity and gas are essential sources of energy required by each member company in order to maintain operations, a failure in the supply of electricity or gas effectively will cause every business affected to cease production, and MEU members' experiences are no different. Thus the **reliable supply** of electricity and gas is an essential element of each member's business operations.

With the introduction of highly sensitive equipment required to maintain operations at the highest level of productivity, the **quality** of energy supplies has become increasingly important with the focus on the performance of the distribution businesses, because they control the quality of electricity and gas delivered. Variation of electricity voltage (especially voltage sags, momentary interruptions, and transients) and gas pressure, by even small amounts, now has the ability to shut down critical elements of many production processes. Thus member companies have become increasingly more dependent on the quality of electricity and gas services supplied.

Each of the businesses represented by MEU has invested considerable capital in establishing their operations and in order that they can recover the capital

costs invested, long-term **sustainability** of energy supplies is required. If sustainable supplies of energy are not available into the future, these investments will have little value.

Accordingly, MEU members are keen to address the issues that impact on the **cost, reliability, quality** and the long term **sustainability** of their gas and electricity supplies.

1.1 A general view of the electricity market

The Major Energy Users Inc (MEU) draws attention to the statement made in the recently released draft Energy White Paper (EWP):

> *"Energy is fundamental to our modern economy and society, and access to secure, reliable and competitively priced energy has been a cornerstone of Australia's economic and social development. In this context, it is critical that energy policy continues to strike an appropriate balance in delivering energy security, facilitating economic development and meeting clean energy goals.*
>
> *Australia is a large continent with a small population and an open economy, and ensuring that our energy markets deliver efficiency to minimise costs for consumers while also providing a commercially attractive environment for investment remains the core challenge. This required investment – much of which will be sourced from foreign capital – is necessary to deliver energy security and provide the technological transformation we expect to see in the energy sector in the decades ahead."* (DEWP page ix)

Australia has benefited from ready access to abundant and competitively priced fossil fuels to aid in its economic development. In particular, our comparative advantage in energy has allowed Australian industries to offset many disadvantages associated with a small population, a high wage cost structure and being distant from many of our markets.

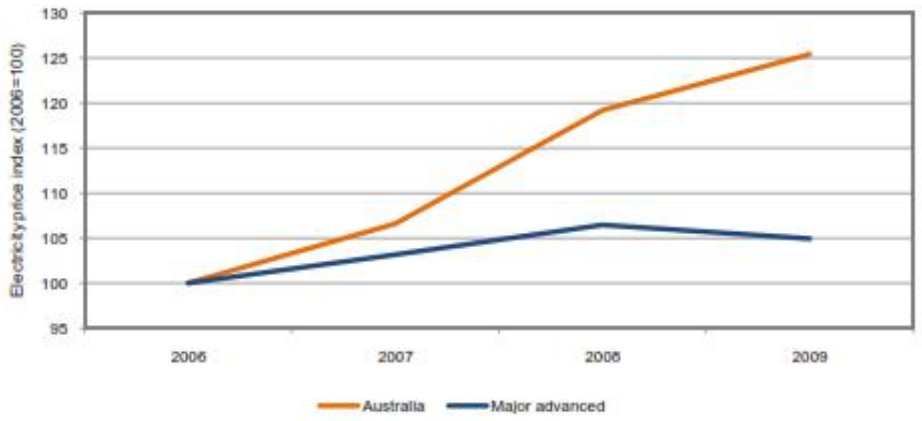
Thus, competitively-priced energy has enabled the establishment and preservation of a manufacturing sector that otherwise would not have been viable in light of many other factors, such as scale, high labour costs, distance from markets, lower tariffs and (more recently) minimal industry assistance.

Yet, in the space of a very short time period, Australia has lost its competitive advantage in electricity and is poised to extend that situation to its use of gas.

For instance, it should alarm policy advisors and policy makers that Australia has lost its electricity price competitiveness via-a-vis other countries in recent years, as the following chart[1] shows:-

[1] Garnaut Climate Change Update #8 2011 Transforming the Electricity Sector, figure 1

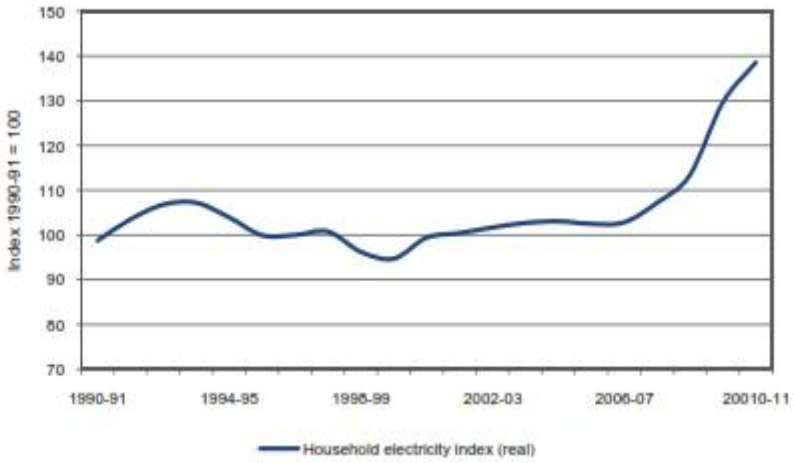
Figure 1: Real electricity prices in Australia and the seven major advanced economies, 2006 to 2009, index in US dollars



Source: IEA 2009, OECD 2010.

In the same report, Garnaut points out that the cost of electricity to households has increased in real terms by nearly 50% in the four years to 2010/11 – cause for further alarm – and shown in the following chart[2]:

Figure 2: Real household electricity price movements
(constant 100 would mean electricity prices rising at same rate as other prices)



Source: Australian Bureau of Statistics, Consumer price index for electricity (Category 6401.0).

Whilst increases in network charges have recently been highlighted as a cause of Australia's loss in international electricity price competitiveness, there is a need to look at the factors that have led to the need for investments in networks.

[2] Ibid, figure 2

The most frequently stated reason for the increase in network costs has been the need to fund replacement of ageing network infrastructure, but in actual fact replacement of network assets is roughly 30% of the capex generally sought by network businesses in the last regulatory pricing round of reviews. That is, 70% of capex is not planned to be used for replacing ageing network infrastructures.

The second most stated reason for rising electricity costs has been the need to service a rising peak demand when consumption has been flat or even falling. There is no doubt that the peak demand has increased faster than consumption but the rise in peak demand has not been so rapid that this is the main cause of the increase in prices.

Other reasons for increased network charges have been cited as unnecessarily high reliability standards (requiring significant amounts of idle or lightly used assets) and excessive incentivisation of network firms to over invest.

As a result of these high prices we are seeing considerable assessment of the causes of these increases. In the recent past we saw Garnaut's update #8, the Parry/Duffy review and the IPART review. Now we have the Select Senate Committee on Electricity Prices review, the AEMC assessments of rule changes on network costs, market power and demand side participation.

It must be recognised that the RET, the price on carbon and the nearly 300 clean energy and energy efficiency schemes are all contributors to this rapid increase in electricity costs to consumers. Further, the direct and indirect costs incurred are adding to the costs of doing business in Australia.

The MEU considers that this assessment by the CCA has to accept that continued increases in the cost of electricity must be a primary consideration as it is becoming more and more apparent that electricity is now a major contributor to energy poverty being increasingly seen in the community at large and electricity affordability is a major concern to manufacturing industries (especially energy intensive industries) that are seeing their continued viability being eroded by increasing costs.

The MEU notes that it is not just industry that is concerned about increasing costs of electricity. Similar concerns are being seen in the residential sector[3].

1.2 The concept of the renewable energy target

The concept behind the renewable energy target program is to achieve an outcome where 20% of electricity used in 2020 (and through to 2030) is to be provided from renewable energy sources. Using this target and an assessment of the expected electricity use in 2020, the legislation was worded so that 45,000 MWh of electricity in 2020 will be provided from renewable sources.

[3] See appendix 2

With the legislative changes to include the excise of the small scale technology projects (SRES) from large scale projects (LRET) the LRET target was revised to 41,000MWh in 2020 with an expectation that the small scale projects would contribute 4,000MWh in 2020. The Issues Paper rightly highlights that the SRES is likely to provide more power than 4,000MWh in 2020, due mainly to the massively incentivised solar PV feed-in tariffs, with the result that the 45,000MWh target in 2020 is likely to be significantly exceeded.

When this increased amount of renewably sourced generation is combined with a reduced expectation of electricity consumption for 2020, it is highly probable that the 20% target will be significantly exceeded.

The Minister (Mr Combet) made it clear in the second reading speech[4] that:

> "The government's commitment to a renewable energy target of 20 per cent of our electricity supply to come from renewable sources by the year 2020 is a key measure within the government's comprehensive approach to tackling climate change."

The Act requires periodic reviews of the operation of the legislation. In particular, the legislation (section 162) requires of the review:

> "In formulating a recommendation that the Commonwealth Government should take particular action, the Climate Change Authority must analyse the costs and benefits of that action. (section 162(9))

and

> "A recommendation must not be inconsistent with the objects of this Act". (section 162(11)

Firstly, it is clear that the core objective of the Act is to have 20% of electricity used in 2020 to be from renewable sources. Therefore, under section 162(11) of the Act, the review must advise whether there is a likelihood of the 20% target for 2020 being exceeded, and what the new target (in GWh) should be in order to achieve the 20% target.

Secondly, it is also clear that the costs and benefits of any action proposed needs to be demonstrably efficient. It is simply not acceptable for the review to recommend or allow the 20% target to be exceeded or, simply, that a more costly option for achieving the target to be recommended.

The MEU is strongly of the view that the review and its recommendations should not result in the 20% target being exceeded.

Further, the review must address the costs that consumers are having imposed on them as a result of the many State based schemes that act to increase the

[4] Hansard, House of Representatives Wednesday, 17 June 2009 Page 6251

amount and cost of renewable energy generation above the level of the most efficient form of renewable energy generation.

1.3 The impact of clean energy and energy efficiency policies

What has not been clearly enunciated as a major cause of increases in electricity prices has been the myriad and duplicative Federal and State-based clean energy and energy efficiency schemes that have been enacted.

The various clean energy and energy efficiency schemes are threatening Australia's unique energy position because of the following challenges:-

- The enormous size of the investment task in new generation and networks.
- The threat to energy reliability in meeting renewable energy targets
- The competitiveness of energy prices which is already placing Australian industries and consumers at an ever growing disadvantage,

Most, if not all, of the programmes instituted recently have distorted the efficient functioning of the energy market. Many have:

- Distorted pricing signals in the energy market and scarce capital has been inefficiently allocated;
- Unnecessarily added to delivered energy prices causing economic damage to downstream industries and to residential consumers;
- Raised transaction costs and the costs of doing business in Australia; and
- Are seen for what they really are – disguised forms of indirect taxation that raise the cost of doing business in Australia and the engendering of greater uncertainty and risk for industry.

Thus these many clean energy policies and a plethora of energy savings schemes are not only adding unnecessarily to the cost of doing business in Australia, but also creating a huge investment challenge. The multiplicity of other clean energy schemes has distorted the RET (particularly the SRES) scheme considerably by the addition of other incentives (eg the various incentives in feed-in tariff schemes) with the result that there has been over incentivisation of the SRES outcome. The costs of these other schemes have been added to electricity charges, resulting in further costs being applied to consumers.

For example, the pass through of the feed-in tariff allowed by the SA government resulted in network costs in SA increasing by more than 10% in 2012/13. Costs such as these are not seen to be associated with "clean energy" but in fact they should be recognised as such. The approach to recovery of the costs of these many clean energy schemes is concealing the real impact of the cost to the nation of the incentives provided to increase the amount of renewable energy in the electricity supply chain.

In the MEU's view, a key lesson in recent years that has engendered major risks and uncertainties for energy market participants has been the ad hoc and duplicative interventions by different levels of government, all seeking to introduce clean energy and energy efficiency programmes, thereby raising unnecessary costs for energy users – directly and indirectly. Often, there has been no cost-benefit analysis undertaken, let alone a subsequent evaluation of their effectiveness. A failure to have rational and national policy approaches represents the largest single threat to Australia's energy future. It is indeed astonishing that these myriad schemes have all occurred under the policy purview of the then Ministerial Council on Energy[5].

Administration of these many clean energy and energy efficiency schemes at all points in the supply chain have imposed quite excessive costs on manufacturing industries, which far outweigh the hoped for benefits the schemes are intended to bring. With this in mind, there should be a rationalisation of all these schemes into a single, focused, and highly visible approach to address carbon emissions.

There are many examples of schemes introduced as a result of policy made "on the run", seen most recently in the expansion of the VEET scheme. The result of such an approach frequently means that such schemes are full of contradictions meaning that there is no confidence the rules will not be changed again due to poor initial scheme design.

Another example of excessive encouragement of expansion of renewable energy schemes was the impact of the extraordinarily high "feed-in tariffs" offered by state governments for roof top solar PV schemes. The tariffs offered, combined with incentives from the RET scheme, resulted in a massive distortion of the renewable energy scheme. This disjointed approach to a national issue has caused considerable harm to all electricity users.

[5] This policy failure is not unique. Poor policy making in regard to renewable energy has been seen in the UK as well. In appendix 1, we provide an excerpt of an assessment of "green" activities in the UK by Alex Henney, a well known commentator on energy issues in the UK. His most recent book *The British Electric Industry 1990-2010: The Rise and Demise of Competition* can be sourced at http://www.alexhenney.com/. Appendix 1 provides the executive summary for the update of this book

The policy initiatives on energy have also had their impact on the cost of electricity and the general policy approach to energy issues is also quite confusing.

The MEU notes the following statements from the draft Energy White Paper (EWP):

> "*Australia is fortunate to have high-quality [renewable] energy reserves with enormous commercial potential (such as wind, hydro, bioenergy, geothermal, solar and ocean energy).*
>
> *However, a range of commercial and technical barriers must be addressed before this potential is realised."* (page 88)

and

> *"The scale of investment required to develop our energy resources for domestic and export is enormous and, as has been the case historically, the capital to support this development will invariably be sourced in large part from foreign resources."* (page 88)

Given the scarcity of capital to exploit, not only our energy resources but all investment, it is somewhat surprising that the renewable energy policy mechanisms[6] should be applied so widely – such policies are simply an inefficient allocation of the scarce domestic capital that the draft EWP observes.

The counter-productive nature of such policies is magnified when it is seen that much of the subsidy is paid for by competitive manufacturing industry, which has found its cost base artificially raised by government intervention (and by a rising dollar) severely impacting their ability to export or import replace.

1.4 The indirect costs of renewable energy need to be recognised

Whilst there headline costs of the RET scheme (both LRET and SRES) can be clearly seen in electricity bills, what is not so apparent are the hidden costs of these schemes.

In addition to the direct costs of the RET scheme there has had to be significant network investment (at consumer costs) to augment the networks to allow access for large amounts of intermittent renewable generation (especially wind) to be dispatched into the NEM. This aspect has been overlooked by many but the underlying cost impact has been significant.

---

[6] The MRET policy has redirected significant capital investment to much higher cost generation. For example the lowest cost renewable generation, wind, has a cost for each MWh of wind generation of about twice that of alternative forms of generation (output of wind farms cost ranges from $90/MWh to over $120/MWh)

It is important to highlight this impact as the impact of wind generation (the largest provider of electricity incentivised by the Renewable Energy Target scheme) has driven up costs to consumers in many more ways than seen by the headline costs.

Firstly, wind generation has tended to be remote from the existing transmission system, necessitating new network extensions to allow their connection, and increasing network costs.

Secondly, the load factor of wind generation is quite low, usually being little more than 30-35%. This means that connections to and augmentations of, the existing network have to be sized to provide large amounts of power for short periods of time, with the resultant that significant amounts of network assets are idle for extended periods, again increasing network costs.

Thirdly, the way intermittent generation operates, it has to bid its output to displace dispatchable generation, yet because of its intermittency, there is a need for dispatchable generation to be retained in the energy market. Intermittent generation has two main impacts on prices from dispatchable generation. It makes dispatchable generation less thermally efficient as it is not able to operate at its highest efficiency levels, thereby increasing operating costs for dispatchable generation which lead to higher dispatch prices. Additionally, because intermittent generation replaces dispatchable generation, this means that dispatchable generation has to recover more of its fixed costs over a lesser amount of output, forcing dispatchable generation to increase its prices for the amounts of power that they do dispatch. This is exacerbated by the increased instances of negative pool prices caused by large swings in wind generation output. As a result, the mere presence of intermittent generation drives up prices for dispatchable generation, often for little reduction in greenhouse emissions as, if the wind is only available for short periods of time, the large baseload generators will not significantly adjust their output as they are not that flexible.

This assessment is in stark contrast to the assumption made by CCA in the Issues Paper. The CCA considers that the increase in renewable generation will lead to lower wholesale electricity prices because of the increased stock of generation and greater competition. The MEU does not consider that the Issues Paper has appropriately assessed the impact on prices of the renewable generation that has occurred as a result of the RET scheme, especially as the lower cost renewable generation options have been predominantly intermittent.

A final impact on electricity costs has been the transaction costs inherent in both RET schemes (LRET and SRES) and the many clean energy and energy efficiency schemes enacted at both Sate and Federal levels. In addition to the costs incurred in establishing and operating the schemes, there is considerable cost incurred by retailers and end users in their administration of the requirements of the schemes.

It is small wonder that when all of the additional costs (in addition to the headline costs) are added, that the price of electricity in Australia has ramped up so significantly in recent years. It must also be said that the administrative and compliance costs for business in coping with many and duplicative Federal and State based schemes are quite severe.

To these costs, there must now be added the cost of the price on carbon.

The MEU accepts that the decisions to address global warming may reflect a sound scientific view that excessive carbon emissions are detrimental to the world in which we live, but the myriad of disjointed and often overly complex approaches implemented at Federal, State and even local levels have imposed quite significant costs on all users of energy with little overall benefit. Duplication of schemes merely adds to the cost of business and achieves little.

The MEU sees that the introduction of a price on carbon reflects this need for a readily visible relatively straight forward approach to reducing carbon emissions. Its introduction should result in the elimination or rationalisation of all state based schemes to reduce carbon emissions and other federal schemes.

1.5 The impact of energy prices and renewable policies

The decline in Australia's competitive energy advantage has been accompanied by many manufacturing plant closures and substantial job losses, especially in regional centres where those businesses provided the core of regional employment.

Whilst the $A appreciation has been a significant factor, electricity price increases of the magnitudes seen by MEU members are also a major cause. Companies have seen price rises of more than 50% in one year, and no company faced with international competition can absorb price increases of this magnitude[7] and still be able to sustain a viable business. Continuing price shocks of such magnitudes will lead to further plant closures. The strategic reviews currently being undertaken by a number of manufacturing and energy intensive trade exposed businesses in Australia will inevitably lead to more closures unless the continuous large increases in input costs cease.

The urgency for managing the investment challenges, together with the expected continuing upward trend in energy cost, is acute. With no end in sight to the appreciation of the Australian currency (and the continuing dismantling of manufacturing in this country and the increasing costs visited on our agricultural and mining sectors), energy policy and energy market development are faced with major challenges.

[7] For example, companies in NSW in 2010 experienced step increases in network price rises of 30-50% with slightly smaller rises in 2011. Similar large step increases have been seen in other NEM regions and WA

The MEU is concerned that the approach to renewable energy and energy efficiency policies excludes any reference to the downstream implications of ever-increasing cost of energy in the domestic market, despite the requirement of the CCA Act that the impact on business, households, workers and communities should be considered. Already we are seeing a significant downward shift in employment and training provided by the manufacturing sector and increasing numbers of small consumers facing severe "energy poverty".

There is a real risk that in trying to generate a lower carbon emission environment, the costs that this imposes on productive activity across the country will lead to an outcome where secondary industry in this country declines to a level where regional employment and training no longer occur. A great concern with the declining consumption of electricity is that unit costs rise and that puts even more pressure on industry and consumers.

In particular, there are three negative aspects of the Renewable Energy target that must be addressed, viz:

- The uncapped nature of the SRES has resulted in considerable cost pass throughs to energy consumers and has introduced considerable volatility in the amount passed through. Whilst the initial concept of the SRES was that the cost would be a small proportion of the total renewable energy target, the actuality of it has been that in the 2012 year, the SRES cost to consumers was many times the cost of the LRET. As the Issues Paper notes, the SRES has resulted in considerably more certificates being issued than was planned and has provided a view that the RET scheme could deliver more that the targeted amount of renewable electricity expected of the scheme. This was not the expectation at the time of establishing the RET scheme
- Associated with the point above, particularly as a result of the SRES, the RET scheme is demonstrating that it is not the most efficient tool for delivering the renewable energy target as it has specifically involved "technology picking" rather than allowing the market to identify the most cost efficient methods of generating the required amount of renewable energy by 2020.
- There has been considerable downward revision of the consumption of electricity in the last 12 months or so, and the forecasts of consumption out to 2020 are now much lower than previously forecast. As the RET scheme is intended to provide 20% of electricity used in 2020, to maintain a higher volume (in GWh) than the 20% will impose greater costs on the market than was intended with the 20% target. The Issues Paper notes that the conversion of the 20% target to a fixed volume was intended to provide more certainty and greater stability of costs, the approach used has resulted in considerable cost volatility being seen, especially with the introduction of the SRES. This clearly shows that the

> intention of creating stability is not, in practice, a high order issue for the RET scheme, and as the RET scheme is a subsidy, it is accepted that renewable energy is more expensive than from conventional sources. Allowing the RET to overshoot the 20 % target will impose higher and unnecessary costs on consumers.

The MEU recognises that carbon emission reduction in Australia is a supported target. It is the means by which this is achieved that is important. The current approaches used in its achievement are duplicative and misdirected, and a clear and concise focus is required which allows end users of electricity to find the most effective ways to deliver the goal sought.

1.6 Definitions of renewable energy

The approach to defining renewable energy needs to be reassessed. For example in its report to the Minister for Innovation, Industry, Science and Research, the Pulp and Paper Industry Strategy Group (PPISG)[8] commented (page 41):

> About 30 per cent of the Australian pulp and paper industry's energy requirements are currently derived from renewable sources,[43] and that percentage could be substantially increased under the Australian Government's emissions reduction and renewable energy policies.
>
> A number of pulp and paper businesses generate energy on site using waste materials from uncommercial feedstock and other industry processes. As the pulp and paper industry is a user of both electricity for power and steam for heating, co-generation is generally energy efficient. For this reason, some operations in the industry generate significant proportions of their own electricity and steam. Black liquor and wood waste are eligible sources under the expanded national Renewable Energy Target (RET) scheme, so pulp and paper manufacturers are able to create renewable energy certificates for the electricity they generate. However, the RET does not recognise the generation of heat energy from biomass or other renewables, as distinct from electricity, as a qualifying energy for renewable energy certificate creation.
>
> Renewable energy generation has been the basis for the payment of substantial subsidies to pulp and paper manufacturers in North America and Europe. Inconsistencies in renewable energy policies and incentive schemes internationally are increasingly distorting trade and investment decisions in the international paper and wood products industry.

The fact that the pulp and paper industry (already a considerable contributor of renewable resources) identifies that there is a need for greater recognition of other sources of renewable energy to be recognised highlights that the current approach is in need of further examination and change.

Generally, waste is a product that cannot be commercially used for another purpose but if it could be used productively by appropriate investment to increase the generation of renewable energy (whether this be in the form of electricity or heat) then the definitions need to be readdressed.

---

[8] Available at http://www.innovation.gov.au/Industry/PulpandPaper/PPIIC/Pages/PulpandPaperIndustryStrategyGroupFinalReport.aspx

Already in the SRES, solar hot water heating is allowed to receive renewable energy certificates, so it is inconsistent that heat generated from otherwise waste biomass should not be equally recognised.

Equally, there are some forms of biomass that cannot be used commercially for any other purpose, yet the definition of biomass precludes their use as a source of renewable energy.

By enforcement of somewhat inconsistent and arbitrary rules, the current approach to the recognition of renewable energy sources has unnecessarily increased the costs of providing renewable energy by the use of such exclusions.

1.7 Conclusions

The MEU is greatly concerned that the assessments made as to the effectiveness of the various State and Federal energy policies looks exclusively at the headline costs and does not include the indirect costs of the policies. This failure results in quite a biased view as to the effectiveness of such policies.

Policies to provide impetus to deliver a sufficient scale of economy for new technologies to enter the electricity market might be needed but must have an end date. If there is insufficient development of the technology within the time frame then it should be discarded.

The environment must be clear and unequivocal, with no duplication, to ensure a simple, manageable and assessable process for achievement of the agreed outcome. What applies now is a highly complex and intertwined mix of State and Federal policies with no defined outcome other than a broad view that carbon emissions must be reduced.

The prime tool for creating a reduction in carbon emissions must be the price on carbon, as this has been demonstrated to be an effective approach for other emissions such as unacceptable sulphur and nitrogen based gaseous emissions.

Adding a price on carbon provides users with the basis for a strong business case that increased efficiency of energy use delivers. There should be no need for government to attempt to force energy users to comply with edicts to comply with programs to deliver increased energy efficiency as the business case outcome should provide the necessary incentive.

If there is a need to provide an incentive to allow renewable energy generation sufficient time and scope to achieve sufficient scale to allow it to match the costs of fossil fuelled electricity, then such a program needs to be closely

controlled and assessed. Any such program must not be allowed to become indefinite or indeterminate.

In assessing the effectiveness of any outcome, all costs, (direct, indirect and transactional) need to be factored into any assessment of the effectiveness of the policy.

All other clean energy and energy efficiency programs should be eliminated.

1.8 The structure of this response

This response provided in the above sections an overview of what the MEU considers are the impacts of the current high costs consumers face in relation to their electricity supplies and the reasons for this high cost.

The MEU addresses each of the questions raised in the Issues Paper in the following section. The reasons behind the MEU responses to the questions are based on the foregoing commentary

2. Responses to CCA questions

CCA question		MEU response
Large-scale Renewable Energy Target		
1	Are the existing 41,000 GWh LRET 2020 target and the interim annual targets appropriate? What are the implications of changing the target in terms of economic efficiency, environmental effectiveness and equity?	The import of the expanded MRET policy was that 20% of the electricity used in 2020 would be from renewable sources. This was converted to a fixed amount of electricity based on an assumed total usage in 2020. The 41,000 GWh LRET target is the 45,000 GWh target less the contribution from the SRES. However the SRES has now included other elements (eg hot water heating) which are not directly related to the 45,000 GWh target. With the expected reduction in electricity consumption expected for 2020, to maintain a fixed GWh amount of renewable generation is likely to exceed the targeted 20%. There is a significant cost to consumers to provide for both the direct (headline) costs and the indirect costs associated with the achievement of the GWh target. The concept of 20% renewable target has associated with it a specific cost to consumers. To exceed the 20% target will impose greater costs on consumers than was envisaged with the 20% target. As such, we believe the target should be reset in recognition of the changed circumstances in the energy market.
2	Is the target trajectory driving sufficient investment in renewable energy capacity to meet the 2020 target? How	The fact that there is currently an excess of RECs in the market implies that the current trajectory is achieving sufficient investment in renewable energy options.

	much capacity is needed to meet the target? How much is currently committed? Has the LRET driven investment in skills that will assist Australia in the future?	The fact that the RET must be complied with (with penalties imposed for non-achievement) will result in the 2020 target being reached, providing the penalty imposed exceeds the cost of the providing renewable energy. The very nature of the RET scheme requires consumers to pay whatever the cost of the achievement of the target will be. This then raises the questions as to whether the cost of the achievement of the target is the lowest possible cost. It is simply inefficient to impose costs when a lower cost option might deliver a better outcome. For the CCA to ask whether the LRET has driven investment in skills to assist in providing for future needs without assessing the cost for this achievement, reflects poor policy assessment.
3	In the context of other climate and renewable policies, is there a case for the target to continue to rise after 2020?	The provision of a renewable energy target was to provide sufficiently large scale investment to provide the basis for sustainable renewable energy to compete with non-renewable energy options. The arbitrarily extend the scheme beyond the period by which it was assumed there would have been sufficient support to establish a sustainable renewable energy industry, is not efficient. Other industries are not provided with never ending support (eg tariff reductions were implemented to other industries to prevent this sort of continued support), so there should be a sunset on continued support for renewable energy technologies. If there is to be increasing targets after 2020, then the cost to consumers needs to be balanced against the benefits that might flow from increasing the targets. The imposition of a price on carbon was always intended to provide the core driver of change. It would be a duplication of policy to impose both a price on carbon as well as to increase the renewable energy target after 2020. In the absence of any assessment as to which policy is likely to deliver the lowest cost outcome for consumers, it would be poor policy to implement a continued increase in the target.

4	Should the target be a fixed gigawatt hour target, for the reasons outlined by the Tambling Review, with the percentage being an outcome?	No, see above answer to Q1
5	Should the target be revised to reflect changes in energy forecasts? If so, how can this best be achieved – as a change in the fixed gigawatt hour target, or the creation of a moving target that automatically adjusts to annual energy forecasts? How should changes in pre-existing renewable generation be taken into account? What are the implications in terms of economic efficiency, environmental effectiveness and equity?	Yes, see above answer to Q1. The reason used in the Tambling review, was to provide certainty of outcomes so that consumers could anticipate the impact on their future costs. Currently this certainty is not provided at all. The massive variations in the STP over a relatively short period of time have resulted in massive changes in forecast electricity costs. The fact that the RPP is not known until 3 months after the start of a year also introduces uncertainty Similarly the imposition and pass through of FiT costs has resulted in massive increases in electricity costs (eg costs for power in SA rose, unforecast, by over 10% in one year as a result of a policy change in how this cost would be apportioned). It is more important that the cost of the RET does not become overstated because of unintended consequences from manipulating the targeted outcomes. For example, by retaining the GWh amount of renewable energy for 2013, there will be an overstatement of LRET costs to consumers by at least 10-15% because the forecasts of consumption for 2013 made 3 years ago are grossly overstated. This overstatement will be retained for every year until 2020, at which point it is likely that the 20% renewable energy will be overstated (perhaps to 25% or more) based on current projections. The causes of a large proportion of the reduction in electricity usage in recent years is a result of the large energy users reducing production (eg such as the closures or part thereof of the NSW aluminium smelters). The high $A is causing some of this but high cost of electricity is also driving this outcome. Once this large manufacturing consumption is lost, it is most unlikely to return, implying a

		continuing reduction in overall electricity consumption.
6	What are the costs and benefits of increasing, or not increasing, the LRET target for Clean Energy Finance Corporation-funded activities? What are the implications in terms of economic efficiency, environmental effectiveness and equity?	This question puts the cart before the horse. The LRET is to provide a fixed amount of renewable energy generation (either in terms of GWh or % of total generation). The fact that there can be low cost loans made available via the CEFC should not be a reason to increase the target. The MEU is cognisant that the availability of such loans will impact on the mix of renewable generation but the reason for setting the target at the current level was a policy decision. To increase the target because CEFC is able to provide finance is not efficient and will impose greater costs on consumers than was envisaged when the target was set.
7	Is the calculation of individual liability using the Renewable Power Percentage the most appropriate methodology?	As the approach works, there would appear no reason to make a change to the current process
8	Is it appropriate to set the Renewable Power Percentage by 31 March of the compliance year?	No. Setting the RPP 3 months into the year in which it applies, provides no ability for incorporation into cost budgets. It would be more use if the RPP was set prior to the start of the year in which it applies to allow consumers to build the cost into its future budgets
9	Is the shortfall charge set at an appropriate level to ensure the 2020 target is met?	The cost of generating LGCs is currently well below the post tax cost of the shortfall charge. The fact that the price for LGCs has remained less than $40 over a considerable period, implies that cost is unlikely to rise significantly in the future. Historically, forecasts for the cost of providing renewable energy in the future show that renewable energy could cost much the same as non-renewable generation by 2030. This implies that the future cost of LGCs could fall from current levels. On this basis, the shortfall charge is probably too high.

10	Are there other issues relating to the liability or surrender framework the Authority should consider?	The authority should consider expanding the types of entities which can be liable entities under the scheme. Many large energy users are aware they could meet the obligations of the scheme at a lower cost than energy suppliers seek to pass through. This is the approach used in relation to the carbon tax liability for large gas users.
11	What are the costs and benefits of the current exemption arrangements? Are they appropriate?	There is a real need to ensure that Australian firms compete with their international counterparts on an equal footing. This is the basis of the exemption processes in place. By not allowing a full exemption, international firms not exposed to a RET and/or carbon price, have an advantage over domestic producers. By the application of both a RET and a price on carbon, domestic firms face a double jeopardy in relation to environmental imposts compared to overseas producers. The imposition of both a RET and a price on carbon to EITE industries merely increases the cost penalties on domestic producers. There is a cost of administering the exemption process which adds to the impost of the RET and price on carbon The flaw within the current processes is that the scope of the exemptions is restricted to a very few industries and the partial nature of the exemptions still results in a penalty on domestic production. A level playing field should be applied and EITE industries should be fully exempt from both the RET and the price on carbon
12	The self-generator exemption pre-dates the emissions intensive, trade exposed partial exemptions – are both required? If so, why?	Self generation should be exempt from the RET as is the current practice. EITE firms are not necessarily self generators and self generators are not necessarily EITE firms – to link the two is wrong. Therefore, both exemptions are required and should be mutually exclusive. If an EITE firm invests in self generation then it should be provided with the benefits of both exemptions. It should be noted that there is a cost to implement self generation so the driver of self generation will not

		be for an EITE firm to avoid RET obligations although this might be a by-product. It must also be noted that an EITE firm that implements self generation, will only avoid RET liabilities between the EITE level and the extent to which it self generates, as imports of power by an EITE firm are still liable for RET obligations. A self generator is still exposed to a cost for the carbon emissions it generates from the fuel it uses if it exceeds the emissions threshold.
13	What, if any, changes to the current exemption arrangements should be made? What would be the impact of those changes on directly affected businesses and the broader community?	The MEU considers that EITE firms should be fully exempt from RET and carbon costs so they can compete equitably with overseas producers. RET was introduced to drive lower national carbon emissions. Since the inclusion of a price on carbon into the power market, there is a doubling of the impost on domestic producers. Imposing a price on carbon should be the primary tool for reducing carbon emissions and the RET and the many other State and Federal schemes for reducing carbon emissions should be scrapped. If there is a policy decision to retain the RET and the price on carbon, then the impost from the RET should be reduced as much as possible, such as ensuring the target is not increased above the 20% of electricity usage by 2020 and that EITE firms should be insulated from it as far as possible. Duplication of programs reduces the national efficiency and self sufficiency. Additionally, the application forms and calculation process for the allocation of PECs could be simplified.
14	Is a list approach to 'eligible renewable sources' appropriate?	Formalising a list has the potential to eliminate reasonable sources of renewable energy. A more preferable approach is to define the features of what is considered to be a renewable energy source. The CER could then decide what a renewable energy source is in the future without just applying a decision made in the past. Such an approach recognises that new and different forms of renewable energy may emerge over time. Decisions of the CER could be appealable. One of the criteria for a renewable energy source should be one which defines a

		waste product as one which cannot be commercially utilised for another use.
15	Are there additional renewable sources which should be eligible under the *REE Act*?	See response to Q14 above
16	Should waste coal mine gas be included in the RET? Should new capacity of waste coal mine gas be included in the RET?	Yes. Such a waste would be renewable under the definition used in the response to Q14 above
17	What would be the costs and benefits of any recommended changes to eligible renewable sources?	With the imposition of a price on carbon, there no need for the RET to be the primary driver of carbon emission reductions. Widening the scope of renewable sources will result in both a reduction in carbon emissions and reduce costs on domestic production.
18	Are the LRET accreditation and registration procedures appropriate and working efficiently?	
Small-scale Renewable Energy Scheme		
1	What do you consider to be the costs and benefits of having a separate scheme for small-scale technologies?	It is important to recognise that the purpose of the RET is to provide 20% of electricity needs from renewable sources by 2020. This was seen as an achievable outcome at a cost to the national that is acceptable. The administration of small scale technologies is much greater in proportion when measured on an MWh basis than large scale technologies and therefore to minimise transaction costs, it makes

		sense to separate the two programs. However, the implementation of the SRES has resulted in very large imposts on consumers, with SRES costs to consumers, for example in 2012, being much higher than the LRET and causing considerable financial harm. The multiplicity of other clean energy schemes has distorted the SRES considerably (eg the various incentive feed-in tariff schemes) with the result that there has been over incentivisation of the SRES and greater uptake than was forecast. This greater uptake has resulted in considerable cost to the nation, both that seen directly (SRES costs themselves being significant) and indirectly (through the concealed costs raised through network charges).
2	Should there continue to be a separate scheme for small-scale technologies?	Transaction costs associated with the SRES technologies supports the need for an approach which is different to the LRET, so there is some support for there being a separate scheme Equally, it is clear that the implementation of the SRES leaves a lot to be desired and the methodology needs to be revised so that the costs are not as volatile as has been seen in the past. The RET is intended to provide a long term impact so that future users of electricity will benefit from investments made now. This means that the costs should be spread over a longer time period to ease the cost pressure on current users of electricity.
3	Is the uncapped nature of the SRES appropriate?	An uncapped program has the potential to provide an outcome higher than the 20% and therefore impose higher costs on the nation than was considered appropriate when the RET program was initiated. The Issues Paper notes that the forecast of the SRES uptake will result in a much larger contribution to the renewable energy stocks than the 4 TWh assumed when the SRES was implemented. The RET scheme was targeted to achieve 20% of renewable energy use by 2020. If the SRES provides more than the 4 TWh assumed, then the 20% target will be

		exceeded. This will result in the nation paying a greater cost than was considered to be appropriate when the RET scheme was expanded. The target of 20% should be maintained and the over-recovery of the SRES should be offset by a reduction in the LRET scheme, so the initial concept is retained. This then raises another concern. There has been no assessment made as to whether the SRES program provides a lower cost solution to meeting the RET target than the LRET approach. By keeping the SRES uncapped and adjusting the LRET, the outcome may be that the total cost of achieving the 20% target is greater than it needs to be. The CCA should assess which of the schemes is more economically efficient (after allowing for all of the other incentives that are available from other schemes) and ensure that the levels of the two schemes are set to provide the lowest overall cost to the nation to achieve the 20% target.
4	What do you see as being the costs and benefits of an uncapped scheme in terms of economic efficiency, environmental effectiveness and equity?	See response to Q3 above
5	Is the SRES driving investment in small scale renewable technologies? Is it driving investment in skills?	There can be no certainty that the SRES is driving investment as there are many other incentives that contribute to the take up of the technologies. The fact that the take up of technologies under the SRES has been heavily biased towards PV is a result of the combination of the SRES and the high feed-in tariffs available from the state schemes. Therefore the SRES cannot be attributed with driving the investment. There is considerable doubt as to whether SRES is driving investment in skills as most of the equipment installed under the SRES is sourced from overseas, resulting in an effective net export of skills development.

6	What is the appropriate process for considering and admitting new technologies to the SRES?	Broadening the allowable technologies in to the SRES avoids the challenge of "technology picking" that tends to limit the ability to source the lowest cost option for delivering the outcome. Allowing the SRES to continue to be uncapped, will result in higher cost technologies being subsidized by the scheme. As noted above, the SRES should be capped, otherwise the original target is likely to be exceeded. Capping the SRES should ensure that the lowest cost technology is implemented and therefore the overall lowest cost to the nation for achieving the target of 20% renewable should result.
7	Should any additional small-scale technologies be eligible to generate small-scale technology certificates?	See response to Q6 above
8	Is it appropriate to include displacement technologies in the SRES?	It is inconsistent to include solar hot water heating (an electricity replacement technology) in the SRES but not other replacement technologies. The RET is targeted with ensuring 20% of electricity use din 2020 will be from renewable sources, and therefore the SRES should only target electricity generation. On this basis, the inclusion of any replacement technologies in the SRES should not be allowed and the two existing replacement technologies allowed in the SRES should be removed. This is then a consistent approach to the RET
9	Should additional eligible technologies under the SRES be limited to generation technologies?	Yes. See response to Q8 above
10	Is deeming an appropriate way of providing certificates to SRES participants?	The allocation of transaction costs for SRES on an MWh basis would result in costs which outweigh the value of the STCs. On this basis alone, deeming is an appropriate approach. However the combination of the deeming approach combined with the other

		incentives provided and an uncapped SRES have resulted in an explosion of SRES supported investments and a very high cost to current consumers. To control this unrestricted and excessive cost to consumers, if the SRES was capped, then the deeming provision would impose a much lower annual cost on current consumers and lead to a more manageable SRES cost impost over time.
11	Are the deeming calculations for different small-scale technology systems reasonable?	
12	What are the lessons learned from the use of multipliers in the RET? Is there a role for multipliers in the future?	An efficient market would encourage the implementation of the lowest cost option to deliver the targeted outcome. A multiplier erodes this concept and increases costs to the nation to achieve the target. The concept of the RET is to deliver 20% of electricity used in 2020 to be from renewable sources. Applying a multiplier does not assist in achieving the lowest cost outcome.
13	Is the Small-scale Technology Certificate Clearing House an effective and efficient mechanism to support the operation of the SRES?	The clearing house should only be considered to be a tool to deliver the benefits of the SRES program. The SRES program is to assist in achieving the target of 20% of electricity used in 2020 to be from renewable sources. Therefore the operation of the clearing house should only be to deliver this outcome. The SRES is to provide a defined benefit to providers of small scale renewable generation. Therefore the clearing house operation should be to deliver this outcome.
14	Should changes be made to the Clearing House arrangements? If so, what would be the costs and benefits of any suggested alternative approaches?	See response to Q13 above

15	Is $40 an appropriate cap for small-scale certificates given the recent fall in cost of some small-scale technologies, particularly solar PV?	The RET must be efficient and therefore it must deliver the outcome sought at the lowest price. It is not efficient to provide incentives which over deliver the outcome sought. This has been the outcome in recent years where the SRES, combined with other incentives has led to an explosion of SRES investments, such that the expectation is now that the SRES will deliver more than the 4 TWh of electricity expected. The cap for the SRES should reflect the total amount of subsidies received by the provider of the SRES investment (ie recognise the benefits provided from other incentive programs as well). It should also be set at a level that reflects the cost to the provider of implementing the investment and to receive a reasonable return. If the return to the investor is excessive, the program is not efficient. Therefore the cap needs to be set at a level which reflects other incentives provided and provides a reasonable return for the investment made. If the current $40 cap results in an over-incentive, it should be reduced.
16	Are the SRES administration arrangements appropriate and working efficiently?	The requirements for the issuing of STCs by the CER reflects good industry practice
Diversity of renewable energy access		
1	Should the RET design be changed to promote greater diversity, or do you think that, to the extent that there are barriers to the uptake of other types of renewable energy, these are more cost-effectively addressed through other means?	No. The current approach to being technology neutral is the most cost effective method to achieve the target. The aim of the RET is to provide 20% of electricity used in 2020 to be from renewable sources, and this must be the basis on which any change must be founded. Experience in “technology picking” has not been shown to be successful over time and acts to prevent take up of lower cost emerging technologies as the time frames to change rules provide a barrier to such options. If a new technology is developed that provides a lower cost option than the current

		technologies, then this should be allowed, but not receive greater incentives.
2	What would be the costs and benefits of driving more diversity through changes to the RET design?	A new lower cost technology would survive in the current environment. If a new technology needs additional support, then it is obviously not as efficient as the current technologies. By providing a new technology with additional support increases the cost of reaching the target. Driving diversity is likely to be less efficient and therefore be more expensive
Review frequency		
1	What is the appropriate frequency for reviews of the RET?	A two year review cycle of the entire scheme is probably too frequent. If changes are made, then only the impact of the changes should be reviewed after 2 years.
2	What should future reviews focus on?	This current review has failed to reflect the very basis of the RET scheme – ie to provide 20% of the electricity used in 2020 to be from renewable sources, and for this to be achieved in the most efficient manner. This should be the basis of any review – have changes made resulted in better achieving the basic concept of the RET.

Appendix 1

A view of the UK outcomes in renewable energy

THE COLLAPSE OF THE GOVERNMENT'S ELECTRICITY GENERATION POLICIES, Alex Henney[9], 11 May 2012

"When the facts change, I change my mind. What do you do sir?"
J.M. Keynes

1. EXECUTIVE SUMMARY

The New Labour government and the Coalition – which signed up to Labour's ambitions – published profusely on the need to decarbonise the electricity industry and moved from opposition to nuclear to supporting it. Against the advice of his ministers Blair signed Britain up to achieve 15% of *total* energy consumption from renewables by 2020, which implies achieving the virtually impossible level of 30% electricity from renewables (mainly wind), up from 5% in 2007.

The government introduced the Renewables Obligation scheme for subsidizing renewables, which was an ill-conceived scheme based on a naïve belief in the efficacy of markets[10]. It unnecessarily exposes renewables developers to multiple price risks and consequently increased the cost of capital and thus the cost of renewable energy was higher than necessary. Windmills in England have a lamentably low load factor averaging 21% in 2009-11 (well below the 30% spun by the wind industry) and obviously many are well below 20%. **That developers want to build at such low performance shows the subsidy is too high.** New Labour also put in place feed-in tariffs for a range of small renewable generators of less than 5MW. **In the British climate and at current costs photovoltaic solar panels are a daft way of producing trivial amounts of electricity currently at very high cost.**

As part of its greenwash the government boasted about Britain leading the world, but others are not following, least of all China and India which are forecast by 2035 to increase coal based electricity production by 30 times British coal based output. It also produced a lot of spin about "green jobs" but the majority of photovoltaic panels and windmills are made overseas. A European Commission study predicts the consequence of a high level of renewables for the UK is relative economic contraction, and in all but one scenario up to 30,000 net job losses, with the costs of policies destroying more jobs than are

[9] Thanks are due to a number of people most of who wish to remain anonymous lest they miss out on the opportunity of tea and biscuits at DECC. Comments welcome to alexhenney@aol.com.

[10] In 1987 I wrote the Centre for Policy Study's pamphlet "Privatise Power" which advocated a competitive power market, and in October 1987 a paper for the government "The Operation of a power market" which progressed the business.

created even in some of the more optimistic scenarios. **In reality subsidised "green" jobs generally destroy other jobs. Furthermore, since about two thirds of the windmills are foreign owned, we transfer £½bn p.a. in subsidies overseas. Now, with over- market subsidized plant, market competition to produce electricity has been replaced by political competition for subsidy.**

The wheels began to come off the green venture with the cut to the "sun rush" as developers leased fields to smother them with photovoltaic panels. Then the government ineptly ran foul of the courts as it attempted to cut the feed-in tariff for all schemes. Next, the government's nuclear ambitions were hit by the 2011 Fukushima nuclear disaster. The German government announced nuclear plants would be closed, which hurt the already weakened finances of RWE and E.On. In March 2012 they pulled the plug on their joint British nuclear venture. Iberdrola, which is in a joint nuclear project with GDF/Suez, has a weak balance sheet, and will not be in a hurry, and EDF Energy may proceed more slowly than the government had hoped for.

In 2003 the government was "urgent" about getting a Carbon Capture Storage demonstration project off the ground. It has dilly-dallied since then and Treasury delays undermined its first competition. It is now about to commence a second competition – the earliest any plant could be built is by 2016.

Onshore windmills are expensive, and many people regard them as unsightly in our crowded land and planning objections are increasing. Offshore windmills are extraordinarily expensive and it is an immature technology and the integrity of the support structures unproven. Using the latest figures for the basic production cost of wind and adding in the costs of system integration and transmission we get the medium scenario costs:-

	(£/MWh)
onshore	105
offshore round 2	145
offshore round 3	200

Wind makes nuclear (latest under-estimate £74/MWh and excluding transmission) look cheap. These figures compare with the £53.3/MWh for the winter 2012 seasonal power contract.

The final nail in the case against windmills is the finding from both Irish and US systems that in a thermal based system like the one in Britain they reduce CO2 emissions by a fraction of their output because they require thermal plants to cycle, which reduces their thermal efficiency and thus increases their output of CO2/MWh and so mitigates the apparent CO2 savings from wind.

Windmills make electricity prices very volatile and reduce the operation of gas plant, so making investment more risky. DECC is undertaking the Electricity Market Reform (EMR) project to replace the Renewables Obligation scheme for windmills with feed-in tariffs; to develop long-term contracts for nuclear power plants; and to devise a capacity payment mechanism to support the gas plant required to back-up the windmills. **The EMR is misnamed – it is not about reforming a market but about replacing the investment function of a market with central planning – indeed in the case of renewables, micro central planning – and with what are in effect regulated price contracts designed to de-risk investment. The conventional investment role of a normal market has been eliminated, and also the "spot" market price will be further distorted by the must-run subsidized renewables and nuclear plant**.

Two years on from project inception no tariffs have been tabled; no proposals for risk sharing and incentives for nuclear contracts have been made in public; and the development of a capacity market has been a naïve mess. Officials first proposed the wrong type of capacity mechanism and then confused the type of instrument. The EMR has a number of additional flaws (including a failure to sort out the shortcomings of the existing market properly), and has been undertaken for the most part behind closed doors. **The EMR is a case example of how not to restructure an industry. While politicians have had some say over the general direction of policies, there can be no doubt that the major failures of the last dozen or so years are the result of the incompetence of DECC officials due to their lack of experience and technical and commercial professionalism.** Their shortcomings are exacerbated by the frequency with which they (and ministers) change jobs; their naïve marketism; and the interest some have in greenness at the expense of reality and cost.

To achieve its target requires Britain spending about a quarter of all of the cost incurred by member states in achieving the EU target, with a figure of £110bn cited by the government for electricity capex this decade. **Citigroup repeatedly told anyone who cared to listen that the green cost for Europe in general and Britain in particular was not financially feasible and "in terms of the overall target it will not happen".**

The annual cost of subsidy (*excluding system integration costs*) for windmills in 2011 was almost £0.9bn[11] and of subsidies for other renewables was about £0.65bn making a total of £1.5bn. DECC forecast the cost of ROCs increasing to £3.2bn in 2014-15 and the Renewable Energy Foundation has extended the

[11] These figures are derived from multiplying the ROCs issued by £50/ROC. The subsidy for offshore windmills was £368m implying a plus up of nearly twice times the price of electricity (less carbon tax) and £509m for onshore windmills implying a plus up of the price of electricity.

forecast to £8bn in 2020[12] for onshore wind. Implementing the government's green ambitions has already increased the price of electricity to households by 13%; achieving its targets for 2020 would increase prices by 25%. The number of fuel poor households in the UK has increased from 2m in 2004 to 5½m in 2009 and will increase significantly driven in part by green measures. **We cannot afford the green dream on top of being squeezed to pay off our debts.**

So what can we do? There was once a sensible alternative option to central planning of adopting a market approach to decarbonising/introducing renewables. But after all of the micro-meddling, that is not longer feasible. **Obviously stop building windmills – but if we must have some then ensure the developers have an incentive to build them in wind efficient locations. This can be achieved by 1) tapering the subsidy the lower the load factor, and 2) as in Spain, not paying for constraining off.**

Next we should seek a derogation from the Large Combustion Plant Directive which requires closure of some 12,000MW of coal and oil plant by the end of 2015. We will need more gas plant, as Secretary of State Ed Davey admitted on 17 March 2012, which he claimed the capacity market would assist. Furthermore we should also exploit our reserves of shale gas as quickly as possible.

There is scope to improve energy efficiency including the level of thermal insulation of buildings. Although *notional* house building insulation standards have improved they are still below those in other north European countries with similar climates. But the real shortcoming is that there is no effort to ensure compliance, and many new dwellings are not compliant.

The government has talked for decades about promoting more combined heat and power schemes (CHP), which can achieve a high overall thermal efficiency and low CO2, but the talk has achieved little. NETA had an adverse effect, and so to offset NETA the government introduced a number of financial incentives including exempting CHP from the Climate Change Levy, which is currently worth about £5/MWh. With the exquisite timing the Chancellor announced removal of the exemption on 21/3/12, a week before the Secretary of State published "The Future of Heating: A strategic framework for low carbon heat in the UK" which is full of fluffy words about government support policies for CHP. **We need real policies, not more words.**

The only substantial low carbon option for Britain in the medium term appears to be nuclear power provided that we have a long term depository, and that the costs can be contained. **This requires a commercial arrangement where the customer base underwrites the investment to keep down the cost of capital.**

[12] Energy Policy and Consumer Hardship, Renewable Energy Foundation, 2011.

Finally we need a genuinely reforming government that will make an effort to improve the performance of the civil service by improving its technical professionalism and the rigour of its analysis. But, given the inertia of the civil service, that is easier said than done. In any case it is another story.

Appendix 2

Extract from a recent submission[13] to the AEMC by UnitingCare Australia

The most recent ABS Household Expenditure Survey (HES) reports that average household expenditure on 'domestic fuel and power' has remained unchanged from 2003-4 to 2009-10, at 2.6% of household expenditure, prompting some to observe that energy is a minor part of household expenditure and consequently affordable for all.

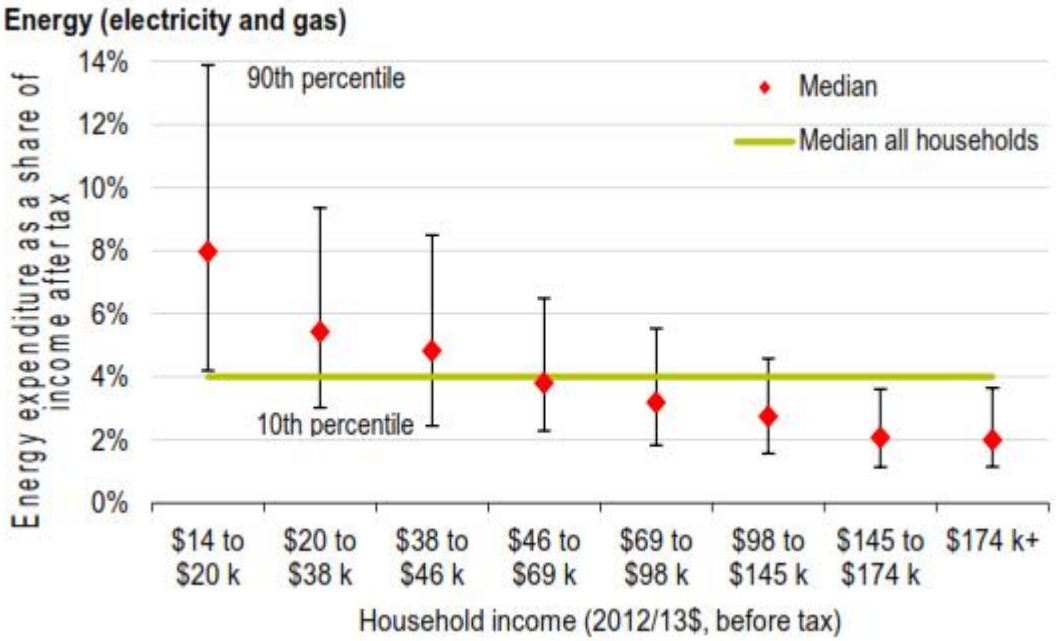
This however is not the reality, because distribution measures of affordability are much more useful than statistical measures of "central tendency" (eg mean and median).

Graph 2 indicates the spread in relative household energy costs for the Sydney region. We expect that similar distribution impacts for various income classes would apply across Australia.

This graph is consistent with the experience of financial counsellors across the UnitingCare network, who identify significantly growing numbers of clients presenting with major concerns about the capacity to pay rising energy costs. Graph 2 shows that for some very low income households, nearly 14% of the household pre-tax income is spent on energy, while there are households in each of the three lowest income bands who spend over 8% of their household income on energy. Generally lower income households are lower energy use households, so a high proportion of income being spent on energy is more a function of income than energy use.

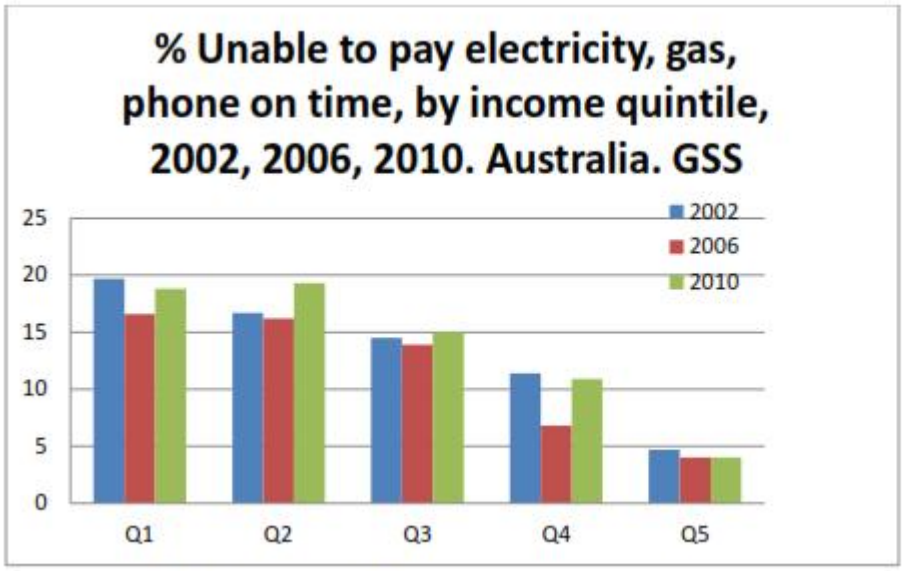
These lower income households are heavily affected by energy price rises above CPI, by price shocks in general and therefore are the households at greatest risk of adverse impacts as a result of any use of market power, including in energy markets.

[13] Available at http://www.aemc.gov.au/Media/docs/UnitingCare-Australia---received-7-August-2012-7339d6e0-3a03-4f0f-9241-71b1678d4c31-0.pdf



Graph 2

The following provides some further brief discussion about the growing numbers of households are who are experiencing difficulty in paying energy bills and therefore that there are a growing number of households likely to be adversely impacted by short-term as well as sustained application of market power. A more detailed discussion about difficulty in paying energy bills was provided in our response to the network rule change (ERC0134) issues paper.



Graph 5: Source ABS, General Social Survey

Graph 5 shows data from the ABS, General Social Survey (GSS), for the years 2002, 2006 and 2010, for ability to pay utility bills on time, by income quintile. We

highlight that the level of inability to pay these bills rose for all quintiles, except highest income, between 2006 and 2010. The percentage increase in inability to pay bills, over the 4 years 2006-2010 for each quintile is"

Income Quintile	% change in Households unable to pay on time, 2006-10
Q1	13%
Q2	19%
Q3	8%
Q4	60%
Q5	No change

Table 1: Source ABS, General Social Survey

For Uniting Care Australia the alarming reality of utility price increases is the move from affordability being a predominantly low income household issue, to it also being a problem for middle and higher income households. The 19% increase for households in the second quintile, along with the 13% increase in the first quintile shows the pressure that lower and modest income households experience in paying their bills. That there has been a 60% increase in inability to pay bills on time for fourth quintile households shows how deeply utility prices are biting into budgets of all but the most affluent households.

In an attempt to better understand energy payment and affordability issues, we have conducted 3 short omnibus surveys of well over 1000 households over the last couple of years. One question we have asked is "if electricity prices doubled over the next 5 years, then what will be the impact on spending on various other parts of your household budget?" Results are given in Graph 5 and are given for 3 income levels, households with less than $40,000 per year (low), $40, 000 - $80,000 per year (medium) and over $80,000 per year (high).

Note that we believe that the proposition that electricity prices could double over the next 5-6 years to be reasonable, it is a notion that has had recent media coverage for example: "The recent media hype about moves by the Australian Energy Regulator to 'slash power bills' is at odds with new analysis suggesting that electricity prices may double between 2011 and 2017, " was written by Keith Orchison in the Business Spectator , October 3rd 2011. . On May 22nd last year, the Herald Sun reported similar projections from TRU Energy.

UnitingCare agencies report that many clients are reliant on casual work, with declining hours of work and wage rates that barely keep up with inflation, so nominal price increases are likely to be very close to real increases for lower and modest income households.

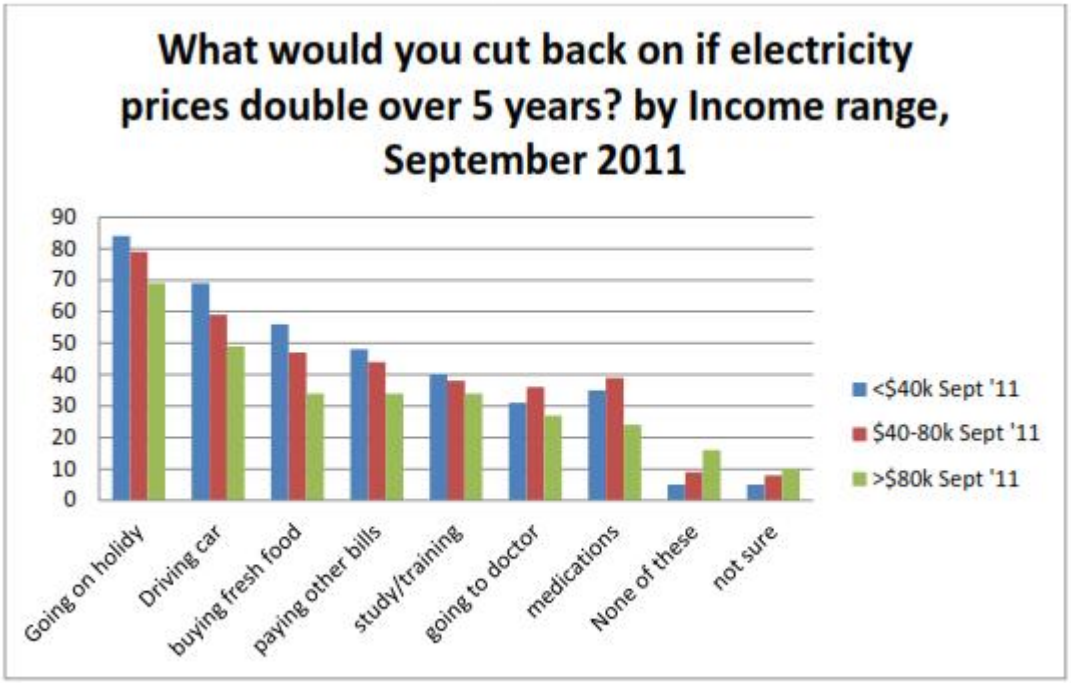
Of considerable concern is that about half of households with incomes of less than $80k per year, a majority of Australian households, have indicated that they would

struggle to pay other bills if electricity prices increased, while nearly 40% of lower income households and about half of middle income households (our definition of $40-80k per year household income as middle income) would reduce their spending on fresh food. Another major concern is that about 30% of households across the entire survey of about 1300 sample size, said they would go without medicines or visits to the doctor with major electricity price increases, so there are adverse health impacts of rising energy costs.

Nearly a third of people surveyed, across all incomes also indicated that they would reduce spending on study and training. This has substantial economic implications. If rising living costs, including energy costs, are reducing spending on skills then the productivity and indeed employment growth, so central to overall economic growth, are hindered. Another implication is that if lower income households are less able to gain skills for employment, then they are further excluded from economic opportunity, extending divisions in our two speed economy.

Uniting Care Australia was surprised by the relative similarity of responses across income groups, confirming that energy affordability is a concern that is community wide.

Likely Impact on spending of a doubling in electricity prices, over 5 years Australia, September 2011, n = 1300



Graph 6.Source: Survey conducted for UnitingCare Australia, by The Australia Institute.