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Energy White Paper Taskforce
Department of Industry
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Clean Energy Council submission to Energy White Paper – Issues Paper

The Clean Energy Council (CEC) works with more than 550 solar, wind, energy efficiency, energy storage, bioenergy, hydro, cogeneration, geothermal and marine energy businesses to accelerate the transformation of Australia's energy system into one that is smarter, cleaner and more consumer-focused.

The CEC welcomes the opportunity to make a submission to the Energy White Paper – Issues Paper (the issues paper) and commends the Government for taking such a forward looking view of the electricity market in Australia. We look forward to the process underway resulting in a clear, long-term vision for the energy sector in Australia.

Our submission focuses on the following:

- The significant benefits that renewable energy brings to the Australian economy and the low cost to consumers of realising that benefit
- The need for policy stability and in particular the end of the constant cycle of reviews of the Renewable Energy Target.
- The importance of institutions such as ARENA to drive the development and deployment of emerging technologies, and take advantage of Australia's comparative advantage in large-scale solar technology in particular
- The importance of improving energy productivity and driving energy efficiency
- The need for tariff reform
- The need for a gas strategy that doesn't just focus on supply but also looks at options for reducing domestic demand for gas.
- The need for federal government oversight of the setting of reliability standards
- The cessation of ongoing work on the proposals for Optional Firm Access

If you have any questions regarding this submission please contact Alicia Webb via telephone on 03 9929 4100 or by email at AWebb@cleanenergycouncil.org.au. For media inquiries, please contact Mark Bretherton on 03 9929 4111.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'AWebb', written in a cursive style.

Alicia Webb
Senior Policy Advisor
Clean Energy Council

Response to questions for consideration

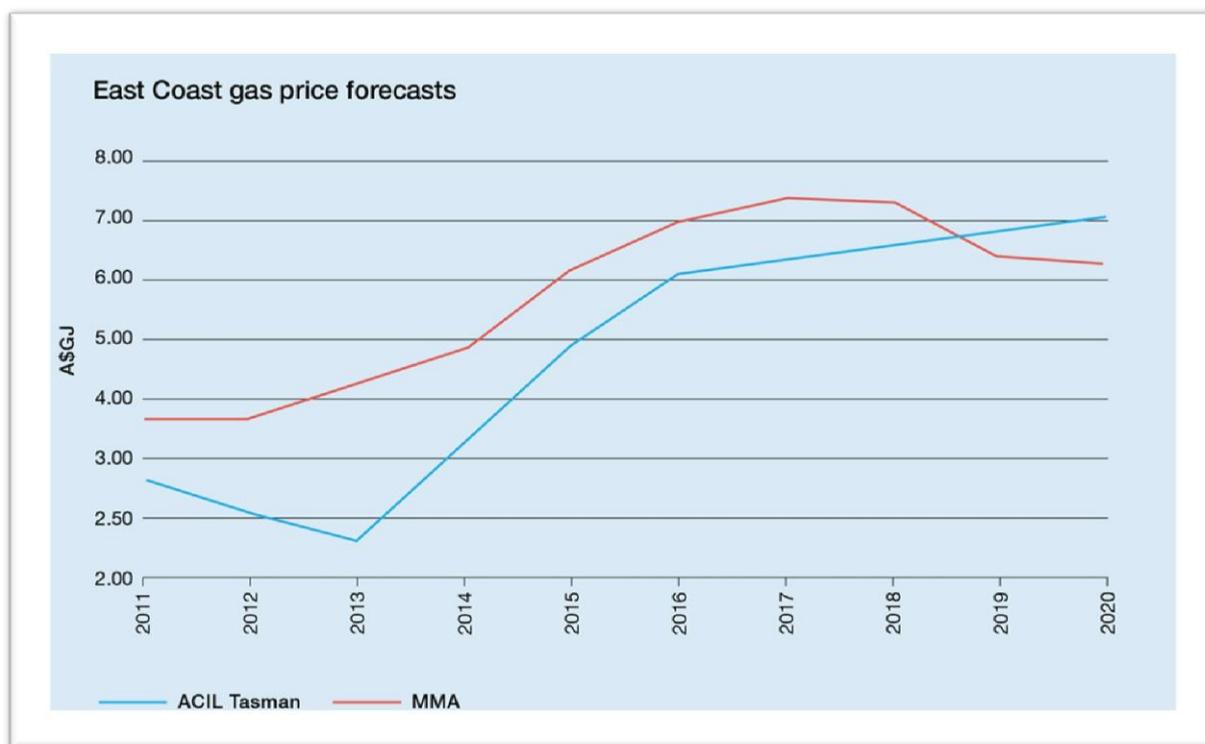
Alternative and Emerging Energy Sources and Technology

Ways to encourage a lower emissions energy supply that avoids market distortion or causes increased energy prices

Renewable energy can deliver significant amounts of zero emissions electricity, is increasingly cost competitive with fossil fuels and can help to protect consumers against rises in the cost of fossil fuel generation – particularly gas.

With gas prices expected to rise in the coming years renewable energy is set to become one of the cheapest forms of new electricity generation available to Australia. Achieving this requires the primary policy driver for renewable energy – the Renewable Energy Target – to be left largely unchanged.

As indicated below East Coast gas prices are projected to at least double in the next five years.

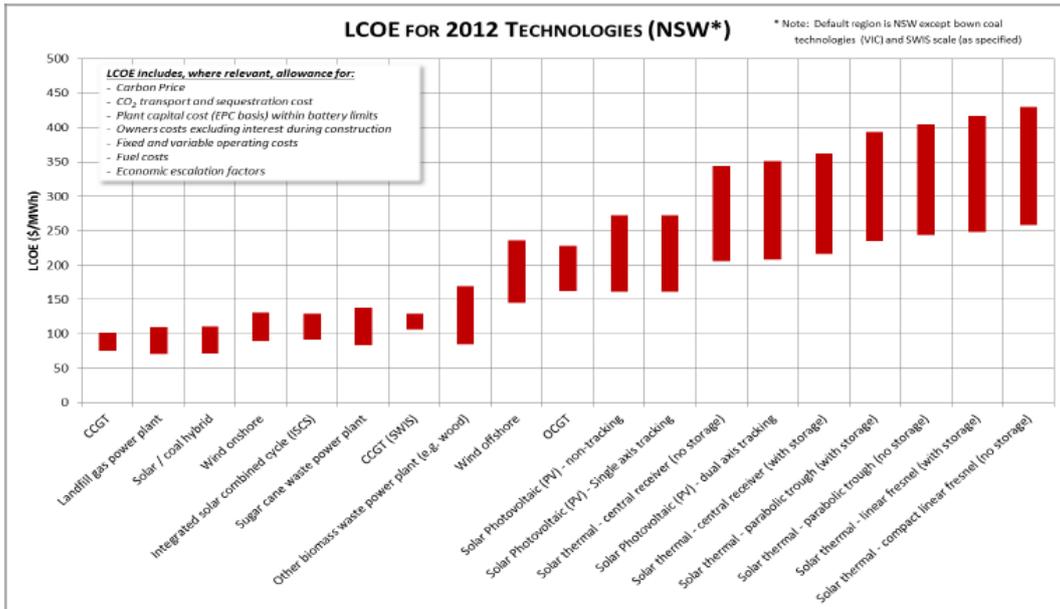


Source: Dart Energy and Innovative Energy Consulting

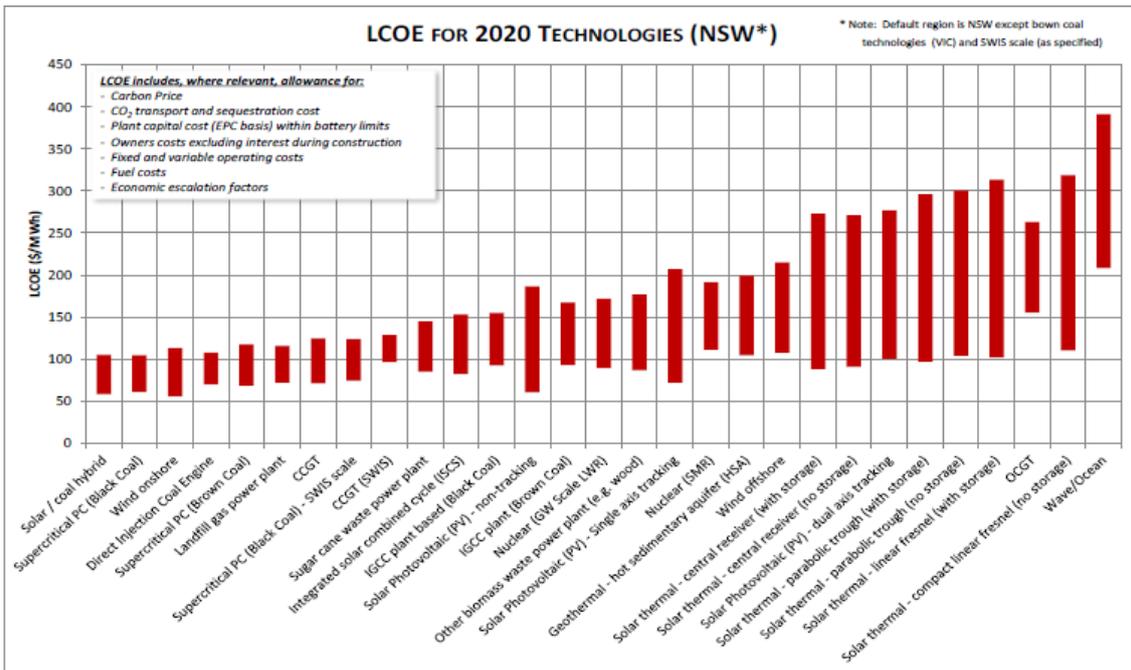
At the same time the costs of renewable energy are forecast to fall. The Australian Energy Technology Assessment (AETA) published by the Bureau of Resources and Energy Economics (BREE)¹ has shown that renewable energy is fast becoming the lowest cost form of new build electricity generation available in Australia.

The following graph shows BREE's assessment of the Levelised Cost of Electricity (LCOE) of a range of electricity generation technologies for 2012, and the projected costs out to 2020 based on current trends. It clearly demonstrates that by 2020 a number of renewable energy technologies will be among the cheapest forms of electricity generation available.

¹ Bureau of Resources and Energy Economics: <http://www.bree.gov.au/publications/aeta.html>



Updated LCOEs for AETA 2013 Model technologies, values for 2012 (NSW)



Updated LCOEs for AETA 2013 Model technologies, values for 2020 (NSW)

This analysis indicates that continuing to drive the deployment of renewable energy in Australia will provide a hedge against rising and volatile gas prices, effectively helping to protect consumers from the rise in electricity prices that will follow.

The benefits of renewable energy

Investment in renewable energy across Australia has been driven by the Federal Government's Renewable Energy Target (RET). Modelling by SKM MMA² shows that between 2001 and 2012 across Australia the RET resulted in:

- \$18.5 billion of investment in renewable energy infrastructure
- Wholesale energy prices being as much as \$10/MWh lower as a result of the RET being in place.

The modelling also shows that if the RET is left as currently designed, between 2012 and 2030:

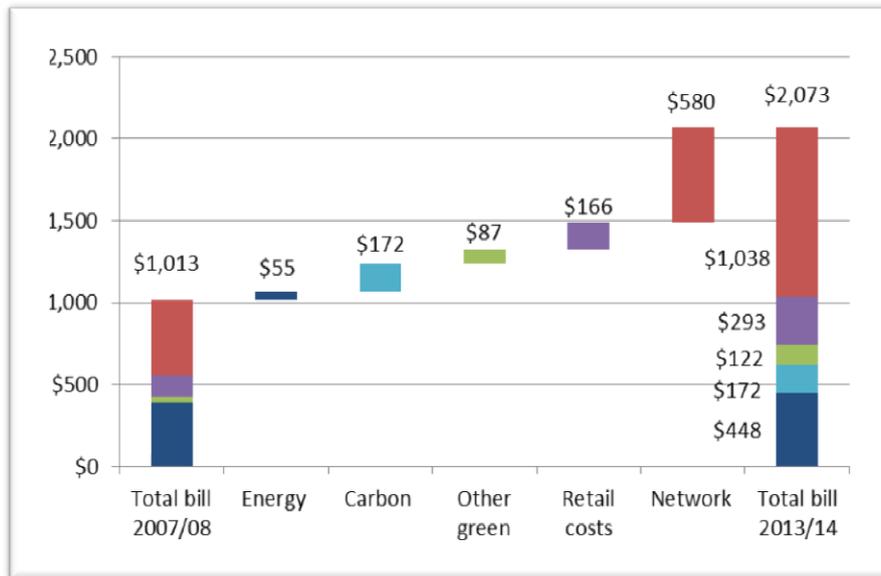
- An additional investment of \$18.7 billion will be made in renewable energy infrastructure
- Wholesale energy prices are expected to be up to \$9/MWh lower with the RET in place
- 1000 MW less gas fired generation capacity is expected to be required with the RET in place
- Generation from gas-fired power stations is expected to be 13% less with the RET in place
- Generation from coal-fired power stations is expected to be 12% less with the RET in place.

The cost of supporting renewable energy

The Renewable Energy Target currently contributes between three and five per cent to the average household power bill.

- In Queensland, the state's Competition Authority (QCA) has found the Renewable Energy Target will cost the average household less than \$50 per year – about 3.5 per cent of the total bill. This is a relatively small cost per household when considered alongside the thousands of jobs and billions of dollars of investment provided by renewable energy.
- In New South Wales, the Independent Pricing and Regulatory Tribunal (IPART) has confirmed the cost of the Renewable Energy Target is only about five per cent of a \$2129 average annual bill. That equates to \$107 per year. Again, this is a relatively small cost per household when considered alongside the benefits of jobs and investment renewable energy brings to NSW.
- IPART have also calculated the contribution of the RET to power price rises in NSW over the last five years. The following graph shows that green schemes (including the RET) have made a minimal contribution to price rises in NSW. The majority of the price rise in NSW has come from investment in network infrastructure.

² The Benefit of the Renewable Energy Target to Australia's Energy Markets and Economy:
<http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target.html#sthash.02F6Fs6j.dpuf>



Reference: IPART 2013: *Change in the annual electricity bill of a typical residential customer in NSW on regulated retail prices, 2007/08 to 2013/14 (\$nominal). Other green schemes includes RET and Energy Saving Scheme.*

The AEMC has confirmed that the amount of wind energy in South Australia is having a moderating effect on power prices in the state. In its 2012 report *Retail Electricity Price Movements*³ the AEMC concluded that:

Wholesale energy costs in South Australia have traditionally been high due to the relatively small market, high dependence on gas fired generation and limited interconnection capability. This looks likely to ease with an increasing volume of wind generation that now accounts for about 24% of generation capacity.

Renewable energy already makes a significant contribution to Australia's economy and energy mix and the RET will continue to drive the deployment of renewable energy at the lowest cost if left largely unchanged.

The importance of ARENA

The Australian Renewable Energy Agency (ARENA) is a critical institution for the development and deployment of the next generation of renewable energy technology in Australia.

While the Renewable Energy Target is critical to commercialising the least-cost renewable energy technologies (predominantly wind and domestic solar at this point in time), ARENA plays a crucial role in helping to demonstrate the potential of a range of new technologies such as large-scale solar, geothermal, marine energy and storage solutions. The cost of these technologies is already coming down as a result of local technology deployment, and presents a major opportunity for Australia to take advantage of our massive renewable energy resources and protect us from rising fossil fuel prices in the longer term. With the appropriate level of resources in the future ARENA can continue to build on the significant progress made to date.

³ Australian Energy Market Commission Market Reviews: <http://www.aemc.gov.au/Market-Reviews/Completed/retail-electricity-price-movements-2012.html>

The large-scale solar sector in particular has been affected by ongoing policy mismanagement and instability. Australia's solar resource is world class and Australians inherently appreciate the logic of exploiting our natural advantages. To capitalise on the full potential of large-scale solar technology the industry needs to demonstrate and ultimately deploy significant capacity in the local context. This will reduce costs and enable access to competitively priced finance.

Like more mature renewable technologies, solar will benefit from reducing costs on the experience curve. Local deployment is essential to drive cost reductions and industry development. ARENA is instrumental in driving deployment of large scale solar. Funding allocated to a dedicated large scale solar program would give the industry confidence to invest in continued development.

We are concerned about the planned cuts to ARENA's budget, following budget changes by the previous government and the impact that will have on the deployment of the next wave of renewable energy technologies. In particular we are concerned that:

- Continued changes and reductions in key clean energy programs occurred all too regularly under the previous government, and further substantive changes would exacerbate the lack of confidence of the renewable energy industry and its investors.
- A substantial reduction in ARENA funding – combined with the closure of the Clean Energy Finance Corporation – will stall the development of key renewable energy sectors, particularly large-scale solar which is beginning to demonstrate massive potential and a very clear cost reduction pathway. The jobs and investment potential of the sector would be lost and many local and international companies operating in the Australian large-scale solar sector may close or leave the country.
- Any substantial funding reduction would have a material impact on a diverse range of Australian and international renewable energy companies developing and demonstrating new technologies. This is likely to result in those businesses moving to markets with more supportive and stable programs for emerging and pre-commercialisation stage technology and projects. This will ultimately delay the development of the sector and substantially reduce the rate at which the technology comes down in cost.
- There is a high likelihood it would negatively impact ARENA's Regional Australia Renewables program. This program was focused on demonstrating renewable energy applications in remote Australia, and to support Australia's resources sector in protecting itself from rising gas and diesel costs through the uptake of increasingly cost competitive (but often unfamiliar) renewable energy technology. The potential of these technologies cannot be fully demonstrated with small pilot projects. Demonstration at high levels of penetration within the current energy system is essential to encourage the resource sector to explore renewable energy options that would deliver a material economic benefit to their core business.

Growth and Investment

Commercial or market initiatives that could enhance growth and investment in the energy and resources sectors;

Recent policy uncertainty and instability has had a detrimental impact on the energy sector, and the clean energy sector in particular. This includes past (and potentially future) uncertainty relating to the introduction of a price on carbon, changes to the RET, treatment of feed-in-tariffs for solar PV and positions regarding clean energy funding in particular.

In addition to impeding equity investment in energy project developments, these factors also increase the risk profile of such projects and therefore introduce significant barriers to debt financing.

This is of particular relevance to the RET. The RET has undergone regular and substantial reviews since it was first designed in the late 1990s. The 20 per cent target was legislated in 2009 and enhanced in 2010. This was followed by a legislated review of the scheme in 2012, and an expected review of the scheme in early 2014. Each review creates uncertainty and results in a slowing or deferment of investment in renewable energy.

To provide a stable investment climate for renewable energy the CEC believes that the upcoming review should be the last review of the scheme until 2020. This will enable the industry to get on with the job of deploying the renewable energy necessary to meet the 20 per cent by 2020 target.

Driving Energy Productivity

The current suite of energy efficiency measures, ways these could be enhanced to provide greater energy efficiency or possible new measures that would enhance energy productivity

Setting a target of improving our energy productivity will benefit the nation through increased competitiveness and reduced energy costs to businesses, as well as driving innovation in energy efficiency technologies.

Australia, in common with many other advanced economies, is experiencing significant increases in its electricity prices. Australia also has low energy productivity and a low rate of growth in energy productivity compared with other developed countries⁴. With rising electricity prices Australia can no longer afford to lag behind other developed economies in its energy productivity.

The findings of the 2010 Prime Minister's Task Group on Energy Efficiency suggested a number of measures that would provide the basis for a step change improvement in Australia's energy efficiency performance.

To improve energy productivity we must invest in demand management and energy efficiency, address challenges in the energy supply chain and improve consumer engagement to allow them to more actively participate in the energy market. The CEC encourages the Federal Government to work with state bodies to ensure coordination and cohesion of energy efficiency and demand side participation measures within a national market.

National Energy Savings Initiative

The CEC strongly advocates for a coordinated demand management and energy efficiency strategy that actively engages the states. The CEC supports the introduction of the National Energy Savings Initiative and urges the Federal Government to support and engage in the further development of the scheme.

Existing state schemes such as the Energy Savings Scheme (ESS) in New South Wales, the Energy Saver Incentive (ESI) in Victoria and the Residential Energy Efficiency Scheme (REES) in South Australia have been very effective in reducing the pressure on household and business budgets through efficient energy use. The New South Wales Government estimates that energy efficiency activities such as choosing high efficiency appliances, removing old inefficient spare fridges and

⁴ Report of the Prime Minister's Task Group on Energy Efficiency, July 2010
http://ee.ret.gov.au/sites/default/files/documents/03_2013/report---prime---minister---task---group---energy---efficiency.pdf

carrying out home energy efficiency retrofits can save a household about \$450 a year on their electricity bills⁵. The Victorian ESI has created an industry sector that is highly diverse, ranging from micro-businesses based around local trades or environmental services, through to energy retailers and manufacturers⁶.

The use of demand-side participation measures to encourage energy productivity and reduce peak energy use

Consumer engagement

Evidence suggests^{7,8,9} that consumers are concerned by rising energy costs and are willing to take action to use less energy. However, more information and the right tools are required to allow consumers to make informed choices about the way they use electricity and the measures they can take to use it more efficiently.

It is clear that household customers in particular are already engaged in the electricity market as the massive growth in solar photovoltaic (PV) installations shows. The uptake of solar PV continues, although state-based subsidies have been reduced in line with the falling cost of the technology. The CEC believes that this growth is being primarily driven by the benefits installing solar brings to households through reduced use of electricity from the grid and subsequent reduction in bills. The continuing fall in National Energy Market (NEM) demand further indicates that a price incentive can drive significant behaviour change in consumers.

Improving customer engagement will make it easier for consumers to participate in the energy market. We believe that the introduction of smart meters is critical to driving further customer participation. Being able to easily access and interpret information on actual energy consumption over the day with the support of smart meters is crucial will allow consumers to be able to take action to modify their electricity usage.

Better customer engagement, tariff reform, demand side management and energy efficiency are all easier with smart meters. They provide the data and usability to allow consumers to respond to price signals and get the most benefit from the installation of demand-side measures. Any roll out of metering and demand side actions needs to be supported by a coordinated government and industry led education and information campaign to assist consumers to make informed choices about their electricity usage and the wider benefits to the energy market.

Policy options for demand management

The CEC supports the National Energy Customer Framework (NECF)¹⁰. The NECF strengthens customer protections and provides a robust connection framework, as well as providing consistency for participants and delivering efficiencies as the framework is implemented in states across Australia.

The Government should actively participate in the re-design of the National Electricity Rules' Demand Management and Embedded Generation Connection Incentive Scheme (DMEGCIS) to

⁵ NSW Government, Unlocking Energy Savings in NSW: Enhancing the NSW Energy Savings Scheme, Rule change consultation paper, 2013, http://www.energy.nsw.gov.au/__data/assets/pdf_file/0020/479000/ess-consultation-paper.pdf

⁶ Energy Saver Incentive Scheme: Phase 1 Evaluation Survey, September 2011, <http://www.dpi.vic.gov.au/energy/environment-and-community/energy-efficiency/energy-saver-incentive-scheme/esi-scheme-phase-1-evaluation-survey>

⁷ Auspoll survey for the Clean Energy Council, June 2011;

⁸ Energy shock: pressure mounts for efficiency action, AiGroup, July 2012

⁹ CHOICE online survey of Australian household energy decision makers, June 2012

¹⁰ For more information on the NECF see: <http://www.scer.gov.au/workstreams/energy-market-reform/national-energy-customer-framework/>

ensure it drives innovation and cost reduction. This mechanism provides a framework for distributors to derive a benefit from demand management practices as an alternative to network investment, while deferring higher cost investment in network assets, and making long term savings for consumers.

Market and Tariff Reform

One of the main drivers of electricity price increases is the rise of peak demand, when a lot of electricity is required for a short period of time. The need to meet these peak demand periods drives transmission and distribution companies to invest in upgrading ageing infrastructure – when other options do exist. Significant benefits can be realised through better management of demand, and this is particularly true in the case of peak demand.

With the introduction of electric vehicles and the increasing use of air conditioning, innovative ways of managing peak demand are now very necessary. Distribution businesses are already trialing initiatives to reduce a consumer's energy use at peak times. Options such as energy storage technology, voluntary load control programs, automated energy management systems, critical peak pricing and payments to businesses to reduce their energy use at requested times are all being considered.

The pursuit of these options by distribution businesses requires policy conditions that encourage investment in the appropriate technologies. The current regulatory arrangements fail to provide the right incentives for investment in demand reduction. There is an inherent focus on the short term and current policy encourages increased investment in network infrastructure¹¹ rather than investment in demand side options.

Enhancing existing measures

Improving information, data and analysis provides a stronger enabling environment for energy efficiency innovation. With the energy used by Australian buildings accounting for over 20 per cent of Australia's greenhouse gas emissions, improvements to the building stock will play a large role in energy efficiency.

Mandatory disclosure of a building's energy rating at the point of sale or lease allows buyers and tenants to make informed choices and is a powerful driver for change. Continuing and increasing minimum standards for buildings, updating appliance labelling and minimum standards for appliances through the National Construction Code and Greenhouse and Energy Minimum Standards (GEMS) will allow consumers to benefit from higher minimum standards and understand the relationship between efficiency and cost savings.

The recent Government cuts to the Energy Efficiency Opportunities (EEO) program have created confusion in the sector. A 2013 review found that the program had helped participants find more than one billion dollars in energy savings annually, and participants had voluntarily implemented projects to save \$808 million a year¹². The Government should consider an improved EEO program that reduces compliance costs and streamlines reporting requirements using the National Greenhouse and Energy Reporting Scheme to collect the required information. This would be a low cost program with substantial savings opportunities.

¹¹ Garnaut, 2011, *Garnaut Review 2011: 11 Electricity Transformation*, available: www.garnautreview.org.au.

¹² Acil Tasman, *Energy Efficiency Opportunities Program Review, 2013*, <http://eeo.govspace.gov.au/files/2013/05/EEO-Program-Review-Executive-summary.pdf>

The need to review existing network tariff structures in the face of rapidly growing deployment of grid-backed-up distributed energy systems, to ensure proper distribution of costs

Consumers, particularly households, are changing the way in which they create and consume electricity. They have changed their patterns of demand and are rapidly embracing new technologies such as solar and storage, while also making significant headway in reducing energy consumption by installing energy efficient appliances and insulation.

Tariff reform is urgently needed and it's important to give careful consideration to reform options which ensure the proper distribution of costs. Effective price signals must be provided for consumers to appreciate the impact of their actions. The magnitude of cross-subsidisation created by a single air-conditioner owner's contribution to peak demand provides a well-documented¹³ example of how electricity price signals can easily become opaque.

Mechanisms such as increasing the fixed component of electricity prices in order to recover costs will fail to capture the opportunity to reward activities that help reduce demand and reduce network expenditure. Faced with no way to control costs consumers will see an enhanced driver to disconnect from the grid altogether. This both reduces technology costs to support disconnection, while increasing grid-supplied electricity costs for the remaining customers. Both outcomes increase incentives for more customers to disconnect and the so called 'death spiral' scenario may be a realistic outcome. An outcome of widespread asset stranding would result in high societal costs.

Tariffs need to be structured in order to provide the appropriate incentives for efficient use of energy and to encourage proper integration of generation, storage and demand management. A tariff structure must also value the benefit these technologies bring while remaining sustainable in the long term. Managing a transition to a new tariff regime will require careful management by industry and government, and must include educating consumers on the reasons for the change and what impact it will have on them. Price signals must balance the need for simplicity for consumers and the ability of market participants to recover costs.

The security of energy supplies

Ways community expectations can be better understood and reflected in reliability standards;

Much consideration has been given recently to the costs and benefits of prescriptive reliability standards. For example, in the final report of the Electricity Network Regulatory Framework Review¹⁴ the Productivity Commission found that changes made by the Queensland Government have placed additional costs on consumers. In particular, the report found that

"[Deterministic planning standards for distribution businesses in Queensland] have imposed high costs on Energex and Ergon Energy customers and it is not clear that the resulting increased levels of reliability are adequately valued by them."

The CEC supports a move away from prescriptive reliability standards. The costs imposed by prescriptive "N-1" reliability criteria should be brought into question under the significant changes

¹³ The Energy Supply Association of Australia (esaa) Discussion Paper: *The real cost of air conditioners*, 2012. Available: http://www.esaa.com.au/Library/PageContentFiles/37cd5390-c7ee-4693-9ba0-21c958293d85/The_real_cost_of_air_conditioners_17_Dec_2012.pdf

¹⁴ Productivity Commission 2013, *Electricity Network Regulatory Frameworks*, Report No.62, Canberra, p. 556.

occurring in electricity consumption and generation patterns, as well as increasing consumer awareness of energy use resulting from excessive network charges.

The cost of operating and expanding Australia's electricity distribution networks constitutes around 35-45 per cent of every electricity bill¹⁵. While the reliability standards are a significant driver of this cost their influence is stronger in those states in which state governments have prescribed additional reliability criteria.

The National Electricity Market's electricity networks are bound by the rules prescribed in Chapters 5, 6 and 6A of the National Electricity Rules. This already includes oversight and regulatory approval for costs and reliability of electricity supply, as defined by the schemes therein. This regulatory framework is in place to promote efficient costs and levels of reliability, and also provides a national perspective of the value of reliability to end consumers. This framework should be the primary channel through which these aspects of network investment are delivered.

In addition, the role of the Australian Energy Regulator (AER) is to provide independent assessment of network investment. It is absolutely critical that the AER is capable of undertaking this role without intrusion from jurisdictional bodies. In particular, this role is magnified where state governments have clear conflict of interest when government-owned networks receive dividends from state government prescribed reliability criteria.

The challenge before the Government is to understand how consumers value reliability and quantify their expectations for reliability. This task is non-trivial and developing a platform from which to make informed decisions will take time. The current regulatory frameworks are a barrier to ever obtaining certainty that outcomes will remain efficient.

An initial role for the Federal Government should be to actively seek to legislate for the removal of state government intervention in reliability standards by amending the National Electricity Law (and other relevant state-based instruments in Western Australia and the Northern Territory). Centralised regulation should be the primary driver for reliability and will create a nationally consistent understanding of the value of reliability for consumers.

With regard to the reliability standards themselves, the blunt nature of prescriptive standards may be simple to implement and enable networks to undertake planning processes without ambiguity. However, the resulting societal costs have been significant. Customer focused reliability standards are now an essential aspect of electricity reform.

For distribution networks a customer-focused reliability standard will require monitoring and reform of planning and investment processes. These processes should be designed in a way which captures the material costs and benefits. At a high level a planning process should take account of the following principles:

- Consumers affected should be actively consulted in order to identify alternatives to investment in poles and wires.
- Commercial arrangements from third party suppliers must be considered in all cases.
- Innovative solutions should be trialled and tested in real-world scenarios and the lessons learned clearly disseminated to the industry.

In summary, rather than focusing directly on gaining an understanding of community expectations for reliability the Federal Government should actively seek to address the ways in which the

¹⁵ AEMC 2013 Residential Electricity Price Trends Report. Available online: <http://www.aemc.gov.au/market-reviews/completed/retail-electricity-price-trends-2013.html>

regulatory frameworks capture this value. Over time and with appropriate mechanisms, these frameworks should deliver clarity on the value of reliability and consumer expectations.

The CEC recommends the following steps to achieve this outcome:

1. The Federal Government must enact legislation which removes the capacity for state government to intervene in network reliability standards.
2. The AER's existing role should be reinforced in order to have principal oversight for the setting and monitoring of reliability standards and should be directed to ensure that the value of reliability to consumers is captured over time.
3. Consideration should be given to the effectiveness and value of opportunities created by the current planning processes mandated by the National Electricity Rules. This should include the creation of an annual 'report card' style assessment of the current planning regime prescribed in Chapter 5 of the National Electricity Rules.
4. The review of the Demand Management and Embedded Generation Connection Incentive Scheme (expected to start in 2014 via the Australian Energy Market Commission (AEMC)) should focus on capturing the value of reliability and consumer expectations of every project delivered by the scheme.
5. A five-yearly review process should be established to report on community expectations and the value of reliability revealed throughout this process. This should be reported on six months before the regulatory determination cycles begin to ensure that the findings are a primary input into the determination processes.

Ways to increase new gas sources to meet demand and measures to enhance transparency in market conditions

While increasing gas sources to meet demand is important, equal focus should be given to the demand side of gas use. One way to reduce exposure to rising gas prices, and reduce pressure on supply, is to use the gas more efficiently and look at alternative ways of supplying the same service. The CEC would support the Government developing a gas strategy that looks at the demand side opportunities as well as the supply side challenges within the gas market.

Gas based energy supply may not be a least cost option in the short or medium term given Australia's exposure to rising commodity international prices. In contrast, renewable energy provides a hedge against rising prices as renewable energy technology costs are continually falling and marginal costs are zero or comparatively low for key renewable energy resources.

The CEC recognises the role natural gas can play as a transition fuel as Australia evolves into a clean energy economy. However, based on current projections and technology cost curves, Australia's energy future in the longer term will be increasingly towards renewable forms of energy. Australia has some of the best renewable resources anywhere in the world, and is blessed with great innovation and capability in Australian industry to take advantage of these resources.

A global clean energy race is underway to develop the next generation of clean energy technologies that will transform the way we produce and consume energy. International commitments to reduce greenhouse gas emissions will further accelerate this trend. In such a world, Australia will no longer be able to rely on an abundance of fossil fuels for either its energy security or its economic prosperity. Australia can and should instead rely on its world-leading renewable energy resources to continue delivering a competitive advantage in low cost, low emission energy generation.

Regulatory Reform and Role of Government

Priority issues, barriers or gaps within the COAG energy market reform agenda

There are two priority areas which the Federal Government should address within the COAG energy market reform agenda. These are: managing faltering distribution networks, and abolishing the development of 'firm access' arrangements in the National Electricity Market.

Priority 1 – managing faltering distribution networks

The Australian electricity distribution industry currently faces a multitude of complex and inter-related issues relating to the integration of renewable energy and demand management technologies into distribution networks.

Broadly, the issues at play include:

- a lack of engagement from consumers
- declining embedded storage costs incentivising consumers to disconnect from the grid
- the lack of incentives for efficient connection practises by generators
- unsustainable electricity tariff structures
- the perceived failure of the regulatory and decision making frameworks to address these issues holistically.

A focused assessment will reveal that each and every one of these issues stem from the rapidly changing nature of consumer expectations of electricity infrastructure. This shift in expectations is driving a permanent and irreversible paradigm shift for electricity networks where the linear supply chain approach is no longer feasible. The resulting challenges are multi-faceted, and no one electricity market entity has the capability or business model to approach them holistically. Should the challenges remain unaddressed it is likely that barriers to consumer choice will develop and consumers will be exposed to long term costs which could have been avoided.

The role of COAG is to lead industry towards efficient, sustainable outcomes that promote flexibility and resilience of Australia's electricity infrastructure. COAG needs to work to establish frameworks to facilitate the following outcomes:

1. Distribution companies need the capacity and skills to be flexible and to deliver adaptive solutions via appropriate training and re-skilling. Embedded generation, demand management, advanced metering and properly designed tariffs must be fully integrated.
2. At an economic level the traditional network business models require *adaptation*, rather than *reinforcement*. Protecting traditional business models will lead to perverse outcomes and high costs to consumers. Network business models must be optimised for flexibility and resilience in order for them to remain sustainable in the face of the anticipated rapid change resulting from the influence of consumer choices.

Priority 2 – abolishing the development of 'firm access' arrangements in the National Electricity Market

Recent recommendations from the Australian Energy Market Commission (AEMC) to continue the work on their Optional Firm Access (OFA) proposal has no clear basis for proceeding. The proposed model which creates 'firmer access' for generators has not been shown to create any efficiencies or cost savings for consumers, therefore should not remain a priority activity for COAG.

The OFA model creates significant risk for generators operating in the NEM and creates a barrier to market entry by new generators which may be crucial for delivering electricity during peak demand

periods. In addition, the scheme adds considerable complexity to what is already one of the most complex electricity markets in the world.

Overall it is not clear that any stakeholder in the generation sector maintains support for the continued development of the OFA model. It would appear to be a problem looking for a solution and the Federal Government should ensure that COAG abolishes its continued development.

Possible approaches and impacts of review of tariff structures including fixed network costs, further time-of-use based electricity tariffs and the use of smart meters

The roll-out of smart meters is essential to facilitate a number of the proposals put forward by the Government in this issues paper. Better customer engagement, tariff reform, demand side management and energy efficiency are all easier with smart meters. They provide the data and usability to allow consumers to respond to price signals and get the most benefit from the installation of demand-side measures.

The CEC is aware that there is a reluctance to mandate the roll out of smart meters following the experience in Victoria, but the full benefits of smart meters will only be realised when there is a coordinated roll out on a large scale. One of the key mistakes made in Victoria was charging consumers for the cost of the roll out even in households that had not yet had smart meters installed. A second mistake was an absence of education on the value of smart meters even for those that had them installed.

These two factors resulted in confused and angered consumers who were paying for a device they didn't yet have, didn't understand and were not obtaining any benefit from. In addition, the Victorian rollout was too premature of the electricity retailers' work on utilising the smart meters to introduce new options and services for consumers, and this further fed into the perception that smart meters provided no benefits.

A more effectively designed roll out could be staged with larger business consumers receiving meters first followed by smaller business consumers then residential consumers to allow further learnings to occur prior to the widespread residential roll out. Roll outs could also be considered on a region-by-region basis, starting with those regions where there is the most to benefit from smart meters. For example, those areas where there is a need for significant network investment to keep pace with demand growth. A coordinated roll-out would also mitigate any risks associated with contestability in metering, ensuring the balance between customer engagement and network visibility.

Areas where further privatisation of government-owned assets would contribute to more effective regulatory frameworks and better outcomes for consumers.

As noted above a key priority for the Federal Government should be to address the conflict of interest where state governments are able to set the reliability criteria for government-owned electricity networks.

Areas where approvals processes could be further streamlined while maintaining proper environmental and social safeguards;

Energy concession payments – protecting consumers, budget savings, manufacturing jobs.

State governments have various concession payment systems to assist low income households with their energy bills. How these policies are structured can have important impacts on social, economic and energy efficiency outcomes. Victoria's proportional based energy concessions payment system

is a crucial piece of social policy, but it could be the basis for significant budget savings which are a win-win for government and consumers.

A proportional, rather than a fixed payment means that assistance for vulnerable households keeps pace with any sudden spike in price or unavoidable increases in electricity usage (such as having children, or suffering from conditions that require increased heating/cooling). This automatic adjustment greatly reduces the chance that a single, unexpectedly high bill will create a financial crisis for a lower income household.

But a proportional payment system is also better from a government expenditure perspective. Although it could be seen as a financial risk (of being required to make higher than anticipated expenditure) what it really means is that incentives for action to reduce bills (for both government and consumers) are properly aligned.

When government assistance is a fixed amount per household there is no financial benefit to government of helping households to reduce electricity (or gas) usage through efficiency or behaviour change – those programs are simply an additional expense on top of the concessions.

However, a proportional system creates a mutually beneficial incentive for government and households. Activities and programs that reduce electricity consumption save households money and reduce the government's budget expenditure on household assistance (without compromising the relative level of support for households). This transforms the household assistance payments into an opportunity for government to ease budget pressures, rather than just a straight expenditure that delivers no additional policy benefits.

The CEC has developed a policy proposal for realising this potential win-win benefit through installing solar water heaters in public housing in Victoria. We commissioned some preliminary research on the scale of the potential savings that could be achieved if significant numbers of low income households took up solar hot water (or heat pumps) when replacing their existing water heaters. The savings for the government can easily run into the tens of millions, with major reductions in electricity bills for affected households as well.

While these savings for households and government could themselves justify adopting this proposal, there are added benefits, such as the employment benefits – some brands of solar hot water systems are manufactured in Victoria, and several thousand additional systems installed each year would trigger a substantial increase in local production.

Naturally, as a clean energy technology there is also an environmental benefit as well. Switching households to solar hot water heaters would make a material difference to Victoria's greenhouse gas emissions.

There are a variety of policy tools that could be used to support the roll out of solar hot water in concessions-eligible households Australia-wide. For the public housing stock, the government could supply replacement water heating appliances. For lower income households in privately owned houses, incentives such as rebates, or innovative funding models such as Social Impact Bonds (financed by some of the savings to government) could also be effective.

The Energy White Paper should push for a small scale trial of this proposal in 500 public housing households. This would allow for the gathering of data on the cost of installation, the level of savings experienced by households and the reduction in costs to government.

The impacts of variable land access policy and ways the community could be better informed and engaged on development in the energy sector.

While planning regulation is a state government concern, there are other ways to ensure that new renewable energy developments are viewed positively by host communities. The renewable energy industry in Australia is absolutely committed to community engagement. The CEC has worked closely with its wind industry members over the past two years to fund and develop a set of best practice community engagement guidelines and raise the bar for good engagement across the industry.

These guidelines, launched in mid-2013¹⁶, describe several methods for effectively interacting with members of the community as well as some models for sharing the financial benefits of the project through such mechanisms as community funds. The CEC believes that lessons learned in the wind industry can be applied to other large-scale renewable energy projects.

While strong community engagement is an essential part of any large-scale infrastructure project, the renewables industry is now looking to consider new models for benefit sharing.

Various approaches are being applied (at individual projects) in Australia and other nations that seek to include members of the community as beneficiaries of a project. These approaches go further than distributing funds into local councils or community funds, striving to engage community members as partners in a project.

According to an independent report on AGL's Oaklands Hill and Macarthur wind farm projects in Western Victoria, Oaklands Hill added \$27.7m to the region during construction, and \$144.6m to the Australian economy. SKM modelling estimates that the total number of direct jobs resulting from pre-operation activities (i.e. development and construction) was some 95 jobs in the region, 153 jobs in Victoria and 177 jobs across the country. The total number of jobs (direct, indirect and induced) was some 156 jobs in the region, 517 jobs in Victoria and 599 jobs in Australia.

The Energy White Paper should recognise the benefits for communities in hosting renewable energy projects, which include economic investment in rural Australia, and of course ongoing employment opportunities.

If you have any further questions please contact Alicia Webb via telephone on 03 9929 4100 or by email at AWebb@cleanenergycouncil.org.au. For media inquiries, please contact Mark Bretherton on 03 9929 4111.

Yours sincerely,



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¹⁶ CEC Community Engagement Guidelines for the Australian Wind Industry. Available online: <http://www.cleanenergycouncil.org.au/technologies/wind-energy/community-engagement-guidelines.html>