5 May 2017

Climate Change Policies Review
2017 Review Branch

By email: climatechangereview@environment.gov.au

Dear Sir or Madam,

Re: Climate Change Policies Review Discussion Paper

The Southern Sydney Regional Organisation of Councils (SSROC) is an association of 11 Councils in the area south of Sydney harbour. SSROC provides a forum for the exchange of ideas between our member Councils, and an interface between governments, other Councils and key bodies on issues of common interest. We facilitate collaboration between councils on joint projects, procurement, and advocacy. Together, our member Councils cover a population of over 1.7 million, or one third of the population of Sydney.

SSROC strongly supports government policies to reduce Australia's greenhouse gas emissions and minimise climate change. And, as highlighted in the Climate Change Authority's *Towards A Climate Policy Toolkit: Special Review On Australia's Climate Goals And Policies,* there is a need to escalate our efforts if Australia is to meet its 2030 target and Paris Agreement commitments. This 2017 review of policies is both important and timely.

Australia's Paris Target

In considering a potential long-term emissions reduction goal for Australia beyond 2030, our economic transition to low-emissions will need to be addressed. Financing for projects that will involve high emissions is increasingly difficult to find, as investors are beginning to fear creating assets that will in future become stranded. Many stakeholders in traditional development projects are becoming frustrated at this changing attitude to investment. This is symptomatic of another factor that must be taken into account: stakeholder attitudes to this transition.

Yet many opportunities exist in the transition to a low-emissions economy. There are compelling reasons for moving towards the new model, as well as sound drivers for moving away from the traditional high-emissions model. Climate Change Policy will need to ensure that Australia manages the transition effectively for jobs, investment, trade, households and regional Australia while also ensuring that we effect that transition rapidly in order to meet our Paris commitment and to position the nation as a leader in the new low-emissions economic order.

Electricity Generation

At 35% of our emissions, electricity is a key focus for reform. As SSROC highlighted in its submission to the Finkel Review (attachment 1), a substantial move towards distributed generation

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from renewable sources could significantly reduce these emissions, as well increasing the security of the electricity supply. However, the National Electricity Rules (NER) would need to change to incentivise renewable and decentralised generation rather than benefits to the grid. Workers in the traditional electricity industry will need to be given alternative opportunities, preferably transferring their skills to a renewable electricity industry as much as possible, with training in new skills as required.

National policy on climate and energy has been fragmented in recent years, with changes and uncertainty creating a difficult challenge for those seeking investment in renewable energy initiatives. In this context, States and Territories have formed policies and plans in relative isolation from a national context. SSROC urges the Australian Government and State and Territory Governments to collaborate on an overarching national policy framework, which still permits States and Territories to have their own policies, but which collectively support the implementation of a national climate change policy. Clearly this would require the levels of government to work together to achieve or exceed the 2030 target.

With respect to jobs and investment, recent policy uncertainty has negatively affected the development of the climate change mitigation and adaptation industry. The Renewable Energy Target (RET) is expected to deliver $40 billion in investment and 15,200 jobs[i], much of that in regional areas. This is a very good outcome, and suggests that there is much more potential after 2020. SSROC would recommend that a further, higher target should be identified for after 2020 to provide the continuing incentive to increase renewable energy generation and to assure investors that further opportunities lie ahead.

However, the fragmentary policy and uncertainty in the industry led to a drop in jobs in the renewable energy sector[ii], and clearly signals the negative economic impacts that policy shortfalls can cause. Employment in the sector was estimated at 11,150 in 2015/16, down from 19,200 in 2011/12 when government incentives were higher[iii]. A clear policy framework would build on the success of the RET and facilitate the transition. Policies clearly directed at achieving or exceeding the 2030 target and subsequent targets would give a real boost the development of the industry.

In relation to households, it is important that people are enabled to change. At the moment there is a limit to how much a household can reasonably be expected to reduce its emissions: solar PV is effective but not suitable for everyone; energy efficiency measures are effective but only to a limited extent. But both have more potential, which could be exploited through direct community engagement. SSROC's own Community Energy Service, which will shortly be piloted for a year by our contractor, Positive Charge, is an example of how this engagement might be achieved.

Greater reduction in households' emissions would be achieved by wholesale transition of the traditional electricity generation model to a low- or no-emissions model. This would require large-scale renewable energy generation by means of major new infrastructure such as concentrated solar thermal and pumped hydro. In Australia we are fortunate to have electricity available to switch on as required: to continue this, our electricity generation industry will need to transform.

Regional Australia could benefit greatly from the new industry by hosting the renewable energy power stations. SSROC is currently investigating the feasibility of a partnership with a regional council or ROC to co-develop a facility that could provide electricity and employment locally, with a guarantee that SSROC Councils would take-off surplus power. This type of arrangement is currently made difficult because of National Energy Market (NEM) rules that require electricity to be purchased from a retailer.

Households, small to medium-sized enterprises (SMEs) and the built environment

As the discussion paper notes, the trend to install household solar will obscure unevenly distributed impacts. Some of our most vulnerable households are also those that would benefit most from installing solar and/or energy efficiency measures, but their circumstances prevent them

from doing so, often because they are renting, living in units, cannot afford the up-front cost or simply do not know about the options. In the southern Sydney area St. George Community Housing has obtained Clean Energy Finance Corporation (CEFC) finance to build over 200 new energy efficient homes and to upgrade some of existing properties to 7-stars under the Nationwide House Energy Rating Scheme. This type of development and retrofit should be further promoted and encouraged: SSROC urges the Government to continue the very effective operation of the CEFC so that other such opportunities can be pursued.

In developing the new policy framework, SSROC would suggest that the Government consider implementing a National Energy Efficiency Trading Scheme similar to the Victorian Energy Efficiency Target (VEET) scheme in Victoria and the Energy Savings Scheme (ESS) in NSW.

In relation to the built environment, SSROC would urge the government to include a policy of mandatory disclosure of the energy performance of homes and commercial buildings, the information to published, and provided to potential buyers/lessees and on sale or transfer.

SSROC would support the establishment a process for reviewing the Building Code of Australia (BCA) to consider climate change and projections of changes to our climate. Currently, Section J of the BCA establishes energy saving requirements in buildings but these requirements are already dated and do not adequately take account of the current and projected changes to our climate, such as the increasing intensity of storms, rain events and heat. Australian residential building stock generally performs poorly against measures of energy efficiency. Increasing the standards through the BCA would be a good first step towards improving this. The Government is currently investigating how building requirements are implemented through the National Energy Productivity Plan, and could work with State/Territory and Local Governments to implement a robust system of enforcement of building standards to ensure that energy efficiency standards are met.

SSROC strongly support improving the availability of information and tools such as Energy Made Easy. However, further effort is required to draw the attention of households and SMEs to these tools and information sources: the fact of their availability is not enough to enable change. SSROC urges the government to consider our pilot Community Energy Service as a means of bridging the gap between the information and the people who can use it. The pilot will run from 1 July 2017 to 30 June 2018, delivered by Positive Charge (the trading name of the Moreland Energy Foundation), and will be monitored and evaluated throughout. SSROC would be happy to provide further information on this initiative should you require it.

SSROC supports the energy market reforms that enable adjustment of electricity consumption to save money. In order for households and SMEs to make changes they need to be able to understand their electricity consumption, and to have access to the tariffs that bring savings. Smart meters are required to enable this, and time-of-use tariffs enable further savings. SSROC urges the government to include these in the policy framework. Although they are available to some consumers, they are not readily available to all.

Resources, manufacturing and waste

SSROC supports the Renewable Energy Target policy and urges the government to retain it and to continue to use this as a policy lever to increase the proportion of energy that is derived from renewable sources. SSROC also supports the National Energy Productivity Plan and urges the government to strengthen this initiative to increase the channels whereby stakeholders who have the potential to improve their energy productivity are connected with the appropriate opportunities. In general SSROC supports the continued emphasis on policies on emissions reduction, although it is not clear that the Emissions Reduction Fund is the most efficient mechanism for achieving reductions, with many stakeholders questioning its efficiency and effectiveness[iv]. While it is driving reductions, it relies on federal funding and shifts the costs of reducing emissions from polluters to taxpayers.

Waste is a potential source of energy that could be exploited, with technology now well proven in many other countries. In the southern Sydney area the quantity of waste being generated is increasing on a per capita basis as well as from population growth. Landfilling is now considered to be an acceptable means of disposal only as a last resort (even with methane capture), and we increasingly at risk of exceeding the capacity of waste management infrastructure. While SSROC supports the principle of the waste hierarchy, we recognise that there is an increasing quantity of residual waste even after reuse, recycling and resource recovery interventions. SSROC therefore supports the development of waste-to-energy infrastructure for that residue, and therefore we recommend that future climate change policy needs to encourage the development of this technology in Australia as a source of energy.

Waste-to-energy is still a new technology in Australia, although there are many installations in Japan and Europe that operate effectively, even located in urban areas. It will take time and conscious effort to obtain the necessary social licence to operate: currently there is no broad understanding of the difference between this technology and the old, outdated waste incinerators. In fact the technology is very different, and generate electricity using a feedstock that would otherwise be largely wasted in landfill.

Transport

The government should consider changing the current tax incentives for private vehicles that are part of a salary package. Instead of favouring private vehicles, which effectively provides an incentive for commuters to drive, employees could be permitted to use these same incentives for public transport tickets (e.g. yearly passes) and bicycles where these are used for travelling to work. Vehicle allowances could also be changed to greatly favour low emission vehicles over high emission vehicles.

Emissions from transport are mainly from cars and light commercial vehicles: these are the most viable vehicles for replacement with electric versions. This transition would have to be coupled with the transition of the electricity generation industry to renewable sources. The Government policy framework could cover the provision of charging infrastructure for electric vehicles (EVs), which is a key element in increasing the take-up of EVs. This element could perhaps be incorporated into the Smart Cities Plan, and enabled through City Deals.

Standards for fuel or vehicle emissions that require lower greenhouse gas emissions could also significantly reduce emissions in the transport sector. Such standards could extend beyond cars and light commercial vehicles to heavier and long-distance freight vehicles to make improvements in that sector.

In the future, self-driving cars may also become a feasible alternative, and could be programmed to drive in the most fuel-efficient way. To exploit this coming opportunity, consideration needs to be given now to future implications and infrastructure requirements. New policies are required to allow for the development of future standards and regulations to ensure that they are nationally consistent and enable interoperability across Australia[v].

Research, development, innovation and technology

SSROC strongly supports research into the sector. At this stage, research into battery storage that will make these solutions more affordable is of particular relevance, since we see this as the next step to enabling further expansion of decentralised renewable energy generation. Future Climate Change policy could seek to incentivise this area of research.

As noted above, there are real barriers to installing solar for households and businesses that are not owner-occupiers. Research into overcoming these barriers would be beneficial: reform of the NEM would again be necessary to enable and facilitate precinct generation that would permit, for

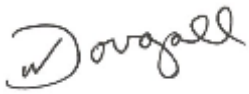
example, a small industrial area to share the electricity supplied from an installation on the roof one tenant. Policy change that drove this reform would be very beneficial to transforming the electricity sector.

Conclusion

SSROC supports Climate Change Policy that is a comprehensive and consistent framework, that drives the transition to a low-emissions economy and promotes investor confidence. Some existing policy levers are strong: the CEFC, ARENA, the Renewable Energy Target and the National Energy Productivity Plan in particular. However, there is a substantial opportunity to develop a new, transformed, low-emissions energy industry sector that Australia is not fully exploiting.

For any enquiries regarding this submission, please contact me or Helen Sloan, Program Manager SSROC on 02 8396 3800 or ssroc@ssroc.nsw.gov.au .

Yours faithfully,



Namoi Dougall
General Manager
Southern Sydney Regional Organisation of Councils

Attached: SSROC Submission to the Independent Review into the Future Security of National Electricity Market.

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[i] In *Power Shift: A Blueprint for a 21st Century Energy System*, Clean Energy Council, based on modelling studies by ACIL Allen for the Federal Government's Review of the Renewable Energy Target and ROAM Consulting, with additional analysis by the Clean Energy Council.

[ii] See for example, *Australian renewable energy jobs continue to fall,* Tom Arup in the Sydney Morning Herald, 15 March 2016.

[iii] Source: Australian Bureau of Statistics, *Employment in Renewable Energy Activities – Australia,* and related explanatory notes, available: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4631.0 accessed: 2 May 2017.

[iv] See for example, the Climate Institute, *How much can the Emission Reduction Fund really Achieve?*, available: www.climateinstitute.org.au, accessed 2/5/17, and *Direct Action not giving us bang for our buck on climate change*, by Paul Burke, Fellow, Crawford School, Australian National University, available: https://theconversation.com, accessed 2/5/17.

[v] Further information is available at: https://future.transport.nsw.gov.au/technology/program/overview/technology-strategies/enable-connected-automated-vehicle-platforms/ accessed: 3/5/17.

Attachment 1

21 February 2017

NEM Security Review Expert Panel
By email: NEMSecurityReview@environment.gov.au

Dear Panel Members,

Re: Preliminary Report of the Independent Review into the Future Security of National Electricity Market

The Southern Sydney Regional Organisation of Councils (SSROC) is an association of 11 Councils in the area south of Sydney harbour. SSROC provides a forum for the exchange of ideas between our member Councils, and an interface between governments, other Councils and key bodies on issues of common interest. We facilitate collaboration between councils on joint ventures, procurement, and projects including advocacy. Together, our member Councils cover a population of almost 1.7 million, or one third of the population of Sydney.

SSROC has advocated for some years for the reform of the National Electricity Market (NEM). SSROC strongly supports a reform that not only permits but encourages energy efficiency and decentralised energy production from renewable sources. We note the expert panel's view that "The transition to a lower emissions economy is underway and cannot be reversed.[1]"

1 Taking advantage of new technologies and business models

SSROC supports actions to attract investment in advanced energy demonstration projects. Exploration of emerging technologies and demonstration projects is valuable research for future development of the electricity supply business. Some respected authorities including CSIRO and Energy Networks Australia, even propose that a transition to 100% renewable energy is feasible by 2050[2].

One of the major barriers to significant increases in deployment of renewable energy is the intermittent nature of wind and solar, which is not suitable for baseload generation. But the feasibility of overcoming this barrier is increasing, highlighting the importance of new technologies and business models to enable renewables to have a role in meeting baseload demand. Technologies such as molten salt energy storage, lithium-ion batteries and pumped hydro energy storage are increasingly proven and financially viable. SSROC would ask the Panel to consider the mechanisms whereby regulatory frameworks can be made more responsive and appropriately resourced to enable new technologies to be rapidly deployed, and whether the NEM could incorporate incentives that favour renewable generation over carbon-intensive generation.

In taking advantage of new technologies and business models that are reaching a demonstrably proven status, the National Energy Objective needs to be broadened to include social and environmental risks: currently the Objective aims to minimise risk to the existing system by protecting and strengthening the status quo. The Objective is:

> *"to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to – price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system."*

The Objective fails to consider the long-term effects of continued use of carbon-intensive sources of energy on consumers due to its contribution to climate change: this could be addressed by

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modifying the Objective to require that it addresses the social and environmental risks of the system's operation.

Fundamentally, the NEM was designed to sell electricity from a centralised generating model. Alternatives now exist that challenge that paradigm while lowering price, improving quality, reliability and security, and are genuinely in the long-term interests of consumers. The NEM needs to adapt to become a market that rewards reductions consumption and accommodates decentralised generation.

Changing the Objective might appear to be a simplistic solution: it is not. It represents a major cultural change for all stakeholders in the sector, but particularly for the Australian Energy Market Commission (AEMC) which is responsible for making and amending the rules. A significant overhaul of the organisation will be needed to shift its operation from protection of the entrenched approach to electricity generation to one that actively seeks ways to improve the NEM and works with proponents to rule change to find effective solutions.

2 The role of the electricity sector in meeting Australia's emissions reduction targets

With electricity the largest source of Australia's annual emissions by a significant margin, the sector has to play a major role in meeting the emissions reduction targets. Further, many solutions exist already to enable this to happen: many of which would be greatly facilitated by reform of the NEM. For example:

- enabling the take-up of renewable technologies by consumers,
- facilitating the integration into the NEM of distributed renewable generation, which CSIRO and ENA estimate will comprise 30 to 50 per cent of Australia' electricity needs by 2050,
- paying a fair price for electricity generated locally, by applying a model such as the Local Generation Network Credits (LGNC) proposed by the City of Sydney, the Total Environment Centre and Property Council of Australia last year,
- where a proposed rule change has merit and could reduce emissions, working with the proponent to develop and implement the rule change within the framework of the National Electricity Rules.

Ambitious strategies exist that would enable Australia to transition towards renewable electricity, such as that recently published by the ANU[3] and Beyond Zero Emissions' (BZE) Stationary Energy Plan[4]. SSROC supports the principle of increasing renewable electricity, and is working to support Councils achieving their renewable energy targets, and to enable residents to reduce their electricity consumption. While the extent of potential renewable generation put forward by ANU and BZE is very ambitious, we urge the Panel to consider these strategies, with a view to future-proofing the NEM so that it does not prevent the achievement of higher proportions of renewable electricity in the long-term.

3 Barriers to investment in the electricity sector

SSROC strongly supports building the capacity of local communities to deliver and own renewable energy projects consistent with the objectives of the SSROC Renewable Energy Master Plan. Finance can be a significant barrier to community energy projects, which may need seed funding, grants or finance that can be repaid from energy cost-savings.

The electricity industry could fund local projects paid for by the savings on investment in the network that would otherwise have been required. Some electricity retailers already offer solar leasing options to their customers; this offer could be enhanced if sufficient customer demand could be generated that the resulting installations would generate enough electricity to reduce the need for additional infrastructure. Technology-based solutions are already used to facilitate consumer bulk-purchases[5], and could be used by the electricity industry, potentially targeting geographical areas where a network infrastructure upgrade is likely to be needed.

SSROC supports rule changes for electricity networks and retailers to implement Virtual Net Metering (VNM). VNM is widely used in the USA and currently being trialled in Australia. Byron Shire (solar PV) and Willoughby Councils (co-generation unit) are the first Councils to participate in a VNM trial and Essential Energy, Ausgrid, Origin Energy and Energy Australia are all participating

in the trial as well. Enabling VNM would significantly improve the business case for Councils for rooftop solar PV.

The preliminary VNM trial results showed that VNM significantly improves the business case associated with renewable/distributed energy generation, relative to a base case that assumes current market conditions and the current structure of network charges. At the same time, it shows that VNM has a negative impact on network business revenues. For this reason, SSROC suggests a change in market rules to induce this service to be offered. If VNM were enabled by the NER, councils (and other consumers with multiple sites) would be able to maximise the benefits from on-site renewable energy technologies by installing them on more viable sites and net-off their outputs against the total electricity consumption.

Another barrier to investment in distributed generation is the inability under the existing rules for a small generator to supply electricity to another premises, even an immediate neighbour, without incurring significant cost that renders the investment unviable. This could be addressed by a new tariff for use of the grid for this limited purpose.

4 Technologies at consumers' premises to improve energy security and reliability

Demand-side management (DSM) technology can contribute to improving energy security by allowing consumers to understand and control their energy consumption. If consumers could easily see a financial benefit to reducing their peak consumption, then they might contribute to lowering peak demand and avoiding a power-outage. DSM would require technology to be implemented at the consumers' premises to enable them to see and monitor their consumption, as many households and buildings have access to only basic monthly meter data.

If consumers were willing to surrender some degree of control over their peak consumption, then the supply-side could have greater control over excessive peak consumption. A low-tech version of this approach is credited by some stakeholders[6] with averting threatened blackouts in NSW in February 2017: technology could make the approach more reliable and responsive.

SSROC urges the review to promote the extensive penetration of smart meters and DSM.

The preliminary report states that the roll-out in Victoria of digital meters would not realise all the anticipated benefits and would represent a cost to consumers. SSROC agrees with the point that a business case must be built on the benefits to consumers (p17). However, it does not necessarily follow that the cost should be borne by those consumers: the benefit of consumers' reduced consumption to the network should be acknowledged and a financial adjustment made to that consumer's account. Currently the consumer only benefits from their own reduced consumption. This was the basis of the rejected LGNC rule-change proposal, which SSROC recommends should be reconsidered.

5 New planning and technical frameworks to complement current market operations

Network service providers already have planning processes in place to enable them to forecast where infrastructure upgrades are likely to be required in future. These forecasts could be used to target specific locations for local renewable energy projects as described in section 3 above.

Tariffs could be reformed to enable consumers to choose from a range of demand-based network tariffs, including the option of going off-grid, with standalone and micro-grids rewarded for their contribution to reducing the need for upgrades to traditional infrastructure.

Distributed generation needs to be fully integrated into networks, so that it can be exploited as part of the electricity generation mix. The current NEM regulatory framework persistently hinders and fails to acknowledge the potential positive contribution of 1.5 million small electricity generators. This source of electricity is contributing the slight fall in demand for electricity in recent years[7].

Technical frameworks need to be more flexible and adaptable than they currently are, and should be designed to facilitate speedy adoption and deployment of new technologies. Open standards will be necessary for secure system operation, efficient management, communications, and interoperability between decentralised networks, including small generators and micro-grids.

6 Effective competitive retail markets and consumers paying no more than necessary

Consumers contribute to reduced electricity demand when they implement energy efficiency or distributed energy solutions. This contribution should be recognised as a financial saving to the electricity industry and rewarded appropriately.

A mechanism whereby the electricity industry funded new household-scale renewable electricity installations would enable low-income earners, renters, vulnerable and hardship consumers to benefit from renewable energy; a sector from which they are effectively currently excluded.

A new network optimisation market could be established to generate demand and supply of distributed electricity generation and network services. This would need to enable the rapid optimisation of supply from multiple sources with demand, and include the integration of resources to achieve the necessary reliability and efficiency. It would also need to be transparent, with pricing commensurate with actual benefits received.

7 Governance structures

Governance structures will need to be transformed to enable dramatically improved agility within the networks, as technology facilitates connections, integration and opportunities for all consumers to make lower carbon electricity choices. Failure to transform would cripple the industry, and would incentivise consumers at every level opting out of the grid altogether, enabled by rapidly improving technology and increasingly competitive pricing.

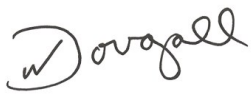
New information and control systems will be required to enable full integration of distributed resources. These will be very agile, but will also need to be very secure as they will become a critical element of electricity network infrastructure. They will be necessary to enable AEMO to judge the operational constraints of the system.

Conclusion

SSROC supports the reform of the NEM to enable it to efficiently and effectively accommodate the changing nature of Australia's energy mix and the shift from centralised to decentralised electricity generation. We also acknowledge the difficulty of combining agility and responsiveness with a robust regulatory framework, and of the transition. The opportunity for the electricity sector to transition to cheaper, cleaner, distributed services is huge, and undoubtedly in the long-term interests of consumers of electricity with respect to price, quality, safety, reliability and security of supply.

For any enquiries regarding this submission, please contact Helen Sloan, Program Manager SSROC on 02 8396 3800.

Yours faithfully,



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General Manager

Southern Sydney Regional Organisation of Councils

References

[1] Preliminary Report of the Independent Review into the Future of the National Electricity Market, p19.
[2] CSIRO and Energy Networks Australia 2016, *Electricity Network Transformation Roadmap: Key Concepts Report*. Available: www.energynetworks.com.au/roadmap
[3] Blakers A, Lu B, Stocks M 100% Renewable Electricity in Australia, February 2017. Available: http://energy.anu.edu.au/files/100%25%20renewable%20electricity%20in%20Australia.pdf

[4] Wright M, Hearps P (lead authors) Australian Sustainable Energy, Zero Carbon Australia, Stationary Energy Plan, June 2010. Available: http://bze.org.au/publications-overview/
[5] See for example: www.suncrowd.com.au
[6] See for example: http://www.abc.net.au/news/2017-02-10/nsw-power:-blackouts-across-the-state-averted/8260830
[7] Australian Energy Regulator, National Electricity Market electricity consumption, 2016. Available: http://www.aer.gov.au/wholesale-markets/wholesale-statistics/national-electricity-market-electricity-consumption