ClimateWorks Submission to the Energy White Paper Issues Paper 7 February 2014

ClimateWorks Australia is an independent, evidence-based non-profit organisation, a partnership between Monash University and The Myer Foundation. This submission draws on ClimateWorks Australia's research, particularly the *Low Carbon Growth Plan for Australia*, the *Industrial Energy Efficiency Data Analysis Project* and the *Tracking Progress Towards a Low Carbon Economy* reports.

This submission responds to the following issues identified for comment in the Energy White Paper:

1. **The Security of Energy Supplies:** ClimateWorks' research into energy efficiency opportunities in industrial energy use and transport indicates that there are significant savings to be made, which would reduce demand for and increase security of available gas and transport fuel supplies.
2. **Driving Energy Productivity:** ClimateWorks' *Low Carbon Growth Plan* identifies the main opportunities to reduce energy wastage, augmenting available energy supplies. The Plan showed which energy efficiency opportunities provide investors with the largest 'bang for buck'. ClimateWorks' recent *Tracking Progress* reports show which of these opportunities are already being implemented, and which energy policy measures have been effective in unlocking these opportunities. The reports also reveal which opportunities remain, and suggest measures that could be introduced to unlock these opportunities, delivering additional future cost savings for businesses and households. These are detailed below.
3. **Alternative and Emerging Energy Sources and Technology:** The cost of producing and supplying energy is fundamental to Australia's cost-of-living and business competitiveness. Energy planning requires long-term planning in the context of domestic and global trends, and one trend that will unavoidably impact on Australia's energy system is the international commitment to limit global warming to 2°. Major economies have already begun to plan for this commitment in their domestic energy policy (including the United States, which has offered a 17 per cent emission reduction by 2020) and momentum is growing in the lead-up to international negotiations in 2015. Taking steps to prepare for a likely international agreement in the coming years, including through the policy framework provided in the Energy White Paper, is prudent because delay in reducing emissions increases the cost to government, business and the community. Australia is well placed to meet this challenge, and ClimateWorks' research shows that a least-cost approach to significantly reducing emissions by 2020 is achievable via a combination of energy efficiency, land-based abatement and cleaner power, through technologically proven and commercially viable technologies that require no change to lifestyle, if the right mix of policies is established.

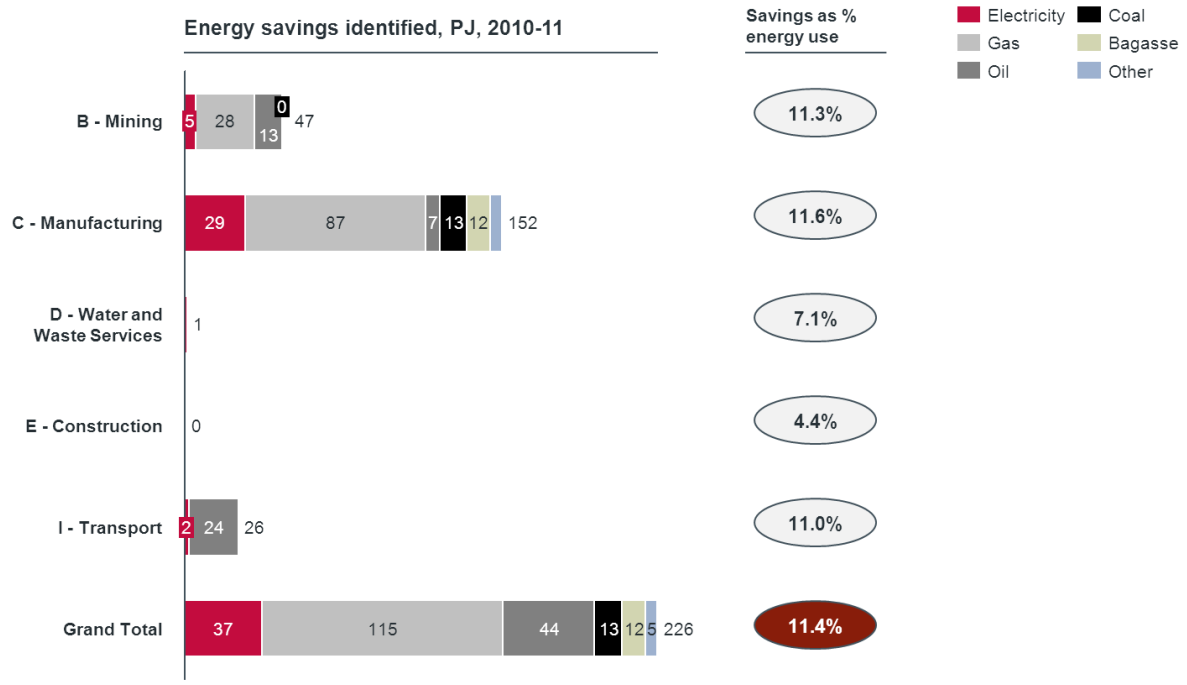
Further detail on each of these points is provided below.

Detail

1. ClimateWorks' research into energy efficiency opportunities in industrial energy use and transport indicates that there are significant savings to be made, which would reduce demand for and increase security of available energy supplies.

Reducing pressure on available gas supplies: The Energy White Paper mentions a need to increase new gas sources to meet demand, however efficiency can also help reduce demand, thereby reducing pressure on existing gas supplies and providing some insurance against the significant expected rise in gas prices over coming years. ClimateWorks' *Industrial Energy Efficiency Data Analysis Project*[1] found that opportunities exist that could reduce industrial gas consumption by around 15 per cent (compared to 2010-11 levels) through efficiency projects. These opportunities would not only reduce demand for gas supplies, they would deliver cost savings and greenhouse gas emissions for industrial companies.

As illustrated in the chart below, gas represents the largest portion (in PJ) of energy savings identified.



ClimateWorks has worked with the Department of Industry to analyse the geographical spread of where these gas savings are available, which can help identify the opportunities that may have the greatest impact on reducing gas market pressures.

[1] See the *Industrial Energy Efficiency Data Analysis Project* (IEEDAP) reports available at www.climateworksaustralia.org/project/current/industrial-energy-efficiency-data-analysis.

Reducing transport fuel demand (without reducing kilometres driven): Another opportunity to improve the security of energy supplies is in transport fuels. ClimateWorks' research on vehicle fuel efficiency[2] concludes that introducing best practice light vehicle CO2 emission standards to bring Australia on a trajectory that follows best practice improvements targeted in Europe and the United States would reduce fuel costs for the average driver by $850 per year within a decade, and save $7.9 billion per year across our economy through reduced fuel use. It would also help to enhance Australia's fuel security, with fuel demand reducing under best practice standards by between 40 and 66 million barrels per annum in 2024, equivalent to 50 per cent of all automotive fuel used in Australia in 2012.

[2] A ClimateWorks report on vehicle efficiency standards will be published by the end of February 2014.

2. ClimateWorks' *Low Carbon Growth Plan for Australia* and *Tracking Progress Towards a Low Carbon Economy* research series identify the main opportunities and enabling policies to reduce energy wastage, augmenting available energy supplies.

Examples of regulatory and other policy measures that have been used effectively to achieve large-scale energy efficiency and productivity improvements and corresponding emissions reductions are detailed in ClimateWorks' *Tracking Progress* reports[3] and include:

- **Building and appliance standards**, which have reduced costs for consumers, by ensuring that new buildings and appliances keep up with advances in energy efficient technology. Improved standards could contribute even more as technology has advanced faster than the standards. For example, a third of office space built in the last decade has emissions performance 46 per cent better than the minimum standards. Setting trajectories for constantly increasing standards can drive industry to continually innovate.
- **The Energy Efficiency Opportunities (EEO) program**, which enabled over 40 per cent of the energy savings achieved by industrial companies between 2006-07 and 2011-12, representing net annual financial savings of $291 million.[4] ClimateWorks' *Industrial Energy Efficiency Data Analysis Project*[5] found that there remains around $2.1 billion in potential energy savings in the industrial sector which is not currently expected to be implemented – this may be an area for consideration of additional government policy support. Energy efficiency is acknowledged in the Issues Paper as delivering significant benefits including 'energy cost savings, better resource utilisation and improved production efficiencies', and it should remain an area of continued focus for government policy. In addition, some energy efficiency projects could have significant additional benefits beyond the cost savings – for example, as noted above, ClimateWorks has found that opportunities exist that could reduce industrial gas consumption by almost 16 per cent (compared to 2011-12 levels) through efficiency projects, which would reduce emissions and deliver cost savings but also provide some insurance against the significant expected rise in gas prices over coming years.

[3] Available via www.climateworksaustralia.org/tracking-progress.
[4] From ClimateWorks' research in the *Energy Efficiency Opportunities Program Additionality Analysis* (undertaken in partnership with the then Australian Department of Resources, Energy and Tourism), eeo.govspace.gov.au/files/2013/05/EEO-Additionality-Report.pdf.
[5] See the *Industrial Energy Efficiency Data Analysis Project* (IEEDAP) reports available at www.climateworksaustralia.org/project/current/industrial-energy-efficiency-data-analysis.

Other measures that could be considered include:

- **Vehicle CO_2e emissions standards** – as mentioned above in relation to Security of Energy Supplies. Australia currently has no regulated standards, and without intervention the average efficiency of our national fleet is expected to fall further behind many other countries which have adopted standards, including the US, EU, Japan and China.
- **Market-based incentives for industrial demand-side participation in the national energy market** – As recognised in the Issues Paper, demand-side participation can 'reduce system congestion, increasing the utility of energy infrastructure and reducing costs and prices for all users'. ClimateWorks will soon publish a report estimating the potential reduction in peak electricity demand that could be delivered by the industrial sector if financial incentives and internal company capacity are aligned by a market approach under the National Electricity Market. This report will help policy makers to understand the opportunity and capability for industrial demand response.
- **Inclusion of energy efficiency or abatement requirements in streamlined environmental approvals processes** – There is opportunity to ensure that any new one-stop-shop environmental approvals arrangements between the Commonwealth and State governments require the inclusion of best practice energy efficiency and emissions reduction measures. A recent example is the inclusion of carbon capture and storage technology into the environmental approval for the Gorgon LNG project.
- **Improved commercial building standards**, which are indicated to have a positive economic return by ensuring that new buildings keep pace with improvements in technology, delivering emissions reductions and cost savings for owners and tenants.
- **A national energy savings initiative**, which could harmonise existing state-based schemes and extend the white certificate approach to those states which do not have schemes, reducing costs for energy retailers while increasing abatement by helping to overcome high transaction costs which prevent the capture of many low cost energy efficiency opportunities in buildings. A national scheme was found to deliver $2.2 billion overall net benefit to the Australian economy between 2015 and 2020. A national energy savings initiative would be well placed to provide the financial incentive for rolling out standard retrofit technologies such as LED lighting, thus reducing the financial burden on an Emissions Reduction Fund. In order to avoid overlap, any measures eligible under such a scheme would need to be excluded from funding through the Fund, but could still be packaged with ERF-funded projects.

3. **Energy planning requires long-term planning in the context of domestic and global trends, and one trend that will unavoidably impact on Australia's energy system is the international commitment to limit global warming to 2°. Taking steps to prepare Australia's energy system for a likely international emissions reduction agreement in the coming years, including through the policy framework provided in the Energy White Paper, is prudent because delay in reducing emissions increases the cost to government, business and the community. ClimateWorks' research demonstrates that significant emissions reductions are possible in Australia by 2020 through technologically proven and commercially viable technologies that require no change to lifestyle, if the right mix of policies are established.**

The cost of producing and supplying energy is fundamental to Australia's cost-of-living and business competitiveness. Energy planning requires long-term planning in the context of domestic and global trends, and one trend that will unavoidably impact on Australia's energy system is the international commitment to limit global warming to 2°. Major economies have already begun to plan for this international commitment in their domestic energy policy (including the United States, which has proposed a 17 per cent emission reduction by 2020) and momentum is growing in the lead-up to international negotiations in 2015. Most recently, US President Barack Obama and French President Francois Hollande released a joint statement calling on other nations to join them in seeking an ambitious global agreement in 2015.[6] Australia will be asked by the UN to advise its 2020 and post-2020 emissions targets, for decision in 2015.

Taking steps to prepare for a likely international agreement in the coming years, including through the policy framework provided in the Energy White Paper, is prudent because, as ClimateWorks' 2011 update to the *Low Carbon Growth Plan*[7] demonstrates, delay in reducing emissions increases the cost to government, business and the community.

Evidence is beginning to emerge around what this international commitment might mean for Australia. The Climate Change Authority's *Draft Targets and Progress Report* finds that in order to have a 65 per cent chance of keeping warming within the internationally agreed 2 degree limit, a global emissions budget of 1,700 Gt of carbon equivalent is available over the period 2000 - 2050[8]. Approximately 35% of this budget has already been used between 2000 to 2012, and this suggests that all major economies will need to largely decarbonise domestically by 2050. The Climate Change Authority's Draft Report concludes that achieving this without imposing un-manageable cost on the Australian economy would require a 25 per cent reduction by 2020.

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[6] See http://www.sbs.com.au/news/article/2014/02/10/us-france-want-climate-change-deal.
[7] ClimateWorks, *Low Carbon Growth Plan for Australia 2011 update*
[8] Climate Change Authority, *Reducing Australia's Greenhouse Gas Emissions: Targets and Progress Review Draft Report* (CCA Draft Report), November 2013, Chapter 3 page 1.

In order to decarbonise the Australian economy by 2050, significant emissions reductions would be required in all sectors. For the energy sector, this would mean decarbonisation of energy production, alongside electrification and fuel switching in the transportation system and improved energy efficiency. Given the significant proportion of Australia's emissions coming from energy generation and consumption, and the long life of many electricity generation and distribution assets, energy policy will need to be developed with these longer-term emissions reduction parameters in mind. In particular, it will be important for the Energy White Paper to consider potential emissions reductions pathways and the range of possible enabling measures that may be needed by 2020 and 2030 to allow these opportunities to be implemented without unnecessary cost – and incorporate this analysis into each of the relevant energy policy areas. ClimateWorks suggests that a specific additional objective of the Energy White Paper should be to provide a framework for energy policy to support the transformation of Australia's energy system in line with Australia's contribution to meeting the international commitment to limit global warming to 2^{o}.

ClimateWorks and the Australian National University are leading Australia's participation in a global project co-ordinated by the UN Sustainable Development Solutions Network, which will explore the most cost-effective possible pathways to decarbonisation and the technological solutions that might enable the transitions. The project involves 12 major economies (including Australia, the United States and China) which collectively represent more than 70% of global greenhouse gas emissions. The first phase of the project is scheduled to be completed in July 2014, and ClimateWorks will seek to contribute insights from the report to support the development of the Energy White Paper.

Australia is well-placed to respond to the challenge of reducing emissions, including through low emissions energy. ClimateWorks' *Low Carbon Growth Plan for Australia*[9] shows that achieving a 25 per cent emissions reduction by 2020 is achievable with the right mix of policies via a combination of energy efficiency, land-based abatement and cleaner power, through technologically proven and commercially viable technologies that require no change to lifestyle, although delay increases the cost.

One policy worth noting in particular (in addition to the energy efficiency and productivity measures identified above) is Renewable Energy Target (RET), which ClimateWorks' research indicates has been particularly effective in reducing emissions from the power sector. The RET is the main driver behind the increase in large-scale renewable energy and corresponding reduction in overall power generation emissions over the past decade and the expected 32 $MtCO_2e$ in annual emissions reductions from the power sector in 2019-20. If the RET is altered or removed, other policy measures would need to be provided to deliver an equivalent volume of emissions reductions.

[9] ClimateWorks Australia, *Low Carbon Growth Plan for Australia*, 2010, available via www.climateworksaustralia.org/project/national-plan/low-carbon-growth-plan-australia