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SUBMISSION ON EMISSIONS REDUCTION FUND GREEN PAPER

Thank you for the opportunity to comment on the Emissions Reduction Fund Green Paper.

Reducing Australia's greenhouse gas emissions

The primary stated aim for the Emissions Reduction Fund (ERF) is to reduce Australia's greenhouse gas emissions.

This is welcome, because the primary issue for the 21st century is mitigating climate change and ocean acidification. And the best way of doing this is to reduce emissions of the greenhouse gases that are causing them.

Furthermore, increasing evidence that climate change is accelerating amplifies the imperative to act quickly and boldly : we are beyond the stage where we can take a 'gently, gently' approach. Even to have a 50:50 chance of limiting global warming to 2°C (which, many warn, already involves facing massively damaging climate impacts), industrialised countries like Australia must cutting our greenhouse gas emissions by about 10 per cent a year – and we need to start right now.

We are living in times that are very dangerous for the future of our planet's ability to support life. Because of built-in lag times, our children and grandchildren, and our ecosystems are already facing a very different world to previous generations. They will experience much more extreme weather and worse food and water shortages.

And – if we continue to dig up, export and burn fossil fuels like coal, oil and gas – those impacts will only get worse...to the extent that planet Earth will be uninhabitable for humans and most other species.

It is therefore vital that the ERF be designed to deliver reductions in greenhouse gas emissions that effectively mitigate climate change as a matter of urgency.[1,2,3]

Care must be taken to ensure that the ERF is designed in such that it:

(a) delivers real, effective and permanent emission reductions quickly; and
(b) does not have perverse consequences such as adding to global warming. This may happen if, for example, the design of the ERF gives or supports incentives to increase emissions of greenhouse gases (in quantity or power) or maintain them at current levels.

The urgent need for rapid and permanent reductions in Australia's contribution to the greenhouse gases that are causing climate change and ocean acidification need to be

[1] Annan, K. (2014). A united call for action on climate change. The Elders, 24 January 2014. http://www.theelders.org/article/united-call-action-climate-change, viewed 25 January 2014.
[2] Climate Council. (2013). *Unpacking The IPCC Fifth Assessment Report*.
[3] Commonwealth of Australia. (2013). *The Critical Decade 2013. Climate change science, risks and responses.*

conveyed in the design of, and communication about, the ERF. It is missing from the Green Paper.

Value reductions in global warming potential

The ERF should be designed so that the value (and therefore value for money) of projects considers their contribution to reducing global warming. That is, projects should be weighted according to their proposed reduction in global warming potential.

For example, for the same quantities of greenhouse gases, the ERF should value reductions in methane (CH_4) emissions more highly than reductions in carbon dioxide (CO_2). This because CH_4 is:

(a) a much stronger greenhouse gas than CO_2;[4,5,6] and
(b) adds to global warming (and therefore takes us closer to the tipping point for abrupt and/or irreversible climate change) more quickly than CO_2.[7]

Avoid perverse consequences and reward added benefits

The operation of the ERF must not result in perverse outcomes, such as:

- increases in emissions of greenhouse gases in any way;
- increases in economic and social costs in the long run.

Increases in Australia's overall emissions could come from a variety of sources if the ERF is not designed well. For example:

- through setting high baselines
- by delaying full implementation of the ERF (such as the proposal in the Green Paper that the safeguard mechanism not start until 1 July 2015)
- allowing grace periods for new emitters
- having no effective guarantees that proposed emissions reductions will be achieved, and achieved within the timeframe proposed – and having no effective penalties if they are not.

The ERF must not encourage switching from electricity to gas.

The Green Paper misleadingly states that:

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[4] Romm, J. (2013). More Bad News For Fracking: IPCC Warns Methane Traps Much More Heat Than We Thought. *Climate Progress.* 2 October 2013, http://thinkprogress.org/climate/2013/10/02/2708911/fracking-ipcc-methane/, accessed 21 February 2014.

[5] Commonwealth of Australia. (2013). *The Critical Decade 2013. Climate change science, risks and responses.*

[6] National Aeronautics and Space Administration. Global Climate Change. Vital Signs of the Planet. Causes. A blanket around the Earth. http://climate.nasa.gov/causes, accessed 21 February 2014.

[7] Intergovernmental Panel on Climate Change. (2013). *Climate Change 2013: The Physical Science Basis*, Chapter 8 (Anthropogenic and Natural Radiative Forcing). Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.

> Using more natural gas in Australia's energy mix could also significantly reduce emissions. Natural gas is less emissions-intensive than coal or petroleum

In terms of reducing greenhouse gas emissions, options such as renewable energy or energy efficiency are much better than gas and should not be hampered by an ERF designed to favour gas. Burning gas still results in CO_2 emissions (even though burning gas in new, efficient power station may result in lower CO_2 emissions than burning coal in new, efficient power station. Furthermore – and worse – using more gas would result in increased CH_4 emissions from drilling and fracking, leaks from pipelines and other equipment, and incomplete combustion. This leakage of CH_4 reduces the emissions reduction advantages of gas; in contrast, it increases the advantages of other options such as renewable energy and energy efficiency.

Contrary to what gas industry proponents say, designing the ERF to favour gas or reward switching from electricity to gas (for example, for heating and electricity generation) could be counter-productive to the overall aim of reducing greenhouse gas emissions.

If the ERF were designed to reward switching from electricity to gas (or reward gas over other options), it would:

- lock in new gas infrastructure that would add to global warming for decades to come – in contrast to the peak in emissions that is required before 2020 if we are to avoid the worst impacts of global warming;[8]
- further increase the barriers to options (such as renewable energy and energy efficiency) that genuinely deliver the greenhouse gas emissions reductions needed and make changing to such options later much more cumbersome, disruptive and expensive…resulting in higher economic and social costs in the long run;
- increase adverse health and other environmental effects,[9,10] particularly as the extra gas would mainly come from fracking. These, in turn, would reduce Australia's and Australians' resilience to climate change.[11]

In contrast, switching from electricity generated from coal and diesel to electricity generated from renewable energy, and from gas to various other options, offers significant benefits[12],[13] in terms of:

- reducing greenhouse gas emissions and their impacts,
- reducing health and other environmental damage,
- increasing efficiency, with resultant lower ongoing costs,

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[8] Commonwealth of Australia. (2013). *The Critical Decade 2013. Climate change science, risks and responses.*

[9] Public Health Association of Australia. (2014). Submission on the Energy White Paper Issues paper, 5 February 2014.

[10] Union of Concerned Scientists. (2013). *Gas Ceiling. Assessing the Climate Risks of an Overreliance on Natural Gas for Electricity*, September 2013.

[11] Commonwealth of Australia. (2013). *The Critical Decade 2013. Climate change science, risks and responses.*

[12] Beyond Zero Emissions and the University of Melbourne Energy Research Institute. (2010) *Zero Carbon Australia 2020 Stationary Energy Plan.*

[13] Beyond Zero Emissions and Melbourne Energy Institute, The University of Melbourne. (2013) *Zero Carbon Australia Buildings Plan.*

- reducing longer term economic risks,
- stabilising and increasing employment, and
- improving resilience to climate change.

Ensuring 'lowest cost'

The other aim of the ERF is to buy emissions reductions at 'lowest cost.'

Care needs to be taken to ensure that 'lowest cost' is 'lowest cost' to society.

The basis for comparing costs of emissions reductions in the ERF should ensure that:

- avoiding or reducing emissions from more potent and/or faster-acting greenhouse gases is worth more than avoiding or reducing emissions from less potent and/or slower-acting greenhouse gases; and
- costs (and benefits) beyond reductions in greenhouse gas emissions (eg subsidies and other incentives that encourage fossil fuel extraction, burning and export; social, environmental, health and other infrastructure costs and benefits) are included in the overall price of a bid; for example, bids that, for a given reduction in greenhouse gas emissions, also reduce adverse effects and/or increase good effects should be worth more than bids that increase adverse effects and/or reduce good effects.

The ERF should make use of the Clean Energy Finance Corporation model. The Clean Energy Finance Corporation model provides both low (negative) cost to the Government and society and a stable and sustainable funding model for 'purchasing' emissions reduction.

Avoiding emissions in the first place

It is usually much easier to avoid damaging something than it is to (try to) fix up any damage later. Usually it is impossible to reverse damage to the environment, particularly after a certain threshhold is reached. This will certainly be the case with runaway climate change – if we have not already reached that tipping point.

The easiest – and probably the cheapest – emissions to reduce are those that are not already occurring. Avoiding setting up an emissions stream means avoiding the investment and disruption involved in changing technologies, processes and/or systems to reduce emissions. It also makes more certain reductions in Australia's emissions than other forms of reducing emissions such as carbon sequestration projects, and immediately reduces Australia's growth in emissions.

It would therefore make sense for the ERF to value avoiding emissions occurring in the first place more highly than sequestration and other less certain methods of reducing emissions.

Avoiding emissions occurring in the first place is particularly suited to fossil fuel extraction, distribution and combustion. Avoiding new (or expanded) gas, coal and petroleum projects (or stopping existing operations) means permanently avoiding the

associated methane emissions[14] as well as the CO_2 from burning the fossil fuels. It would also avoid the health[15] and other adverse environmental impacts associated with fossil fuels. Examples of suitable projects would be closing a coal-fired power station or not proceeding to develop a coal seam gas project.

The ERF should be constructed to encourage proponents of new (or expanded) gas, coal and petroleum projects not to proceed with them - permanently.

Within the Carbon Farming Initiative (CFI), sequestration projects offer additional benefits beyond emissions reductions and achieving emissions reductions from emissions reductions projects is not as easy or guaranteed as it is with avoiding new or expanded fossil fuel projects. The benefits of weighting emissions avoidance over sequestration within the CFI are therefore not so clear. They should, nevertheless, be considered as part of developing the ERF.

Guaranteeing emissions reductions

The administration of the ERF will need to include independent auditors to ensure that promised emissions reductions are delivered. The auditors must be appointed (and paid) by the Government to ensure no conflict of interest, which might occur if they were appointed and paid by the ERF participants.

Where an ERF participant cannot deliver emissions reductions, they need to pay some penalty, preferably that also delivers reductions in greenhouse gases. A penalty that delivers emissions reductions as well could be requiring the participant to invest in, say, renewable energy or in increasing the energy efficiency of public or community housing.

Further details

Further details to this submission may be provided separately. I am happy to discuss my comments further.

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[14] Commonwealth of Australia. (2013). *The Critical Decade 2013. Climate change science, risks and responses.*

[15] Public Health Association of Australia. (2014). Submission on the Energy White Paper Issues paper, 5 February 2014.