
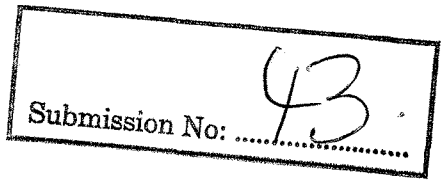


Friday, 15 June 2007

**Submission to the House Standing Committee on Industry and Resources inquiry into the development of the non-fossil fuel energy industry in Australia: Case study into selected renewable energy sectors**

Via email: ir.reps@aph.gov.au

The Climate Institute (Australia) is pleased to have the opportunity to make a submission to the House Standing Committee on Industry and Resources inquiry into the development of non-fossil fuel industries in Australia.

Established in late 2005, The Climate Institute has a five-year goal of raising public awareness and debate about the dangers to Australia of global warming and to motivate the country to take positive action. The Climate Institute is funded by a donation from the Poola Foundation (Tom Kantor Fund).

The Climate Institute is a non-partisan, independent group that works with community, business and government to drive innovative and effective climate change solutions. We research. We educate. We communicate.

The Climate Institute recently commissioned McLennan Magasanik Associates (MMA)[1] – one of Australia's leading electricity sector modelling groups - to produce an independent report on the cost effectiveness of various policies that governments may use to achieve science-based greenhouse emission reductions in the electricity sector. In late May, the first results of this work where released in a preliminary research report.[2] The full report is attached as supplementary material to this submission.

Key preliminary results from this modelling indicates:

- *A mix of policies[3] - carbon pricing, market based clean energy targets and comprehensive energy efficiency - is the most cost effective policy response to reducing greenhouse pollution from the electricity sector.*
    - A mix of policies reduces carbon price increases by around a third and electricity price increase by around 20% over the first two decades of action.
    - By 2050, a mix of policies reduces resource costs in the industry by $13.4 billion.
    - Between 2010 and 2030, the additional household weekly expenditure on electricity will also be reduced by around 50% with a mix of policies (the

increase is projected to be an additional $3-4/week or 0.3% of weekly income at that time).

- *The range of energy technologies currently available or expected to be available in the coming decades in the electricity sector can achieve 80% reductions in emissions by 2050*:

    - In the short term, renewable energy sources – in particular wind and bio energy – could account for 18-25% of national generation by 2020 with gas-fired generation at 24-27% by 2020.
    - Between today and 2050 renewable energy accounts for between 21-24% of generation. In these scenarios, the successful development of carbon capture and storage technologies is required to maintain the long-term viability of fossil fuel generation in Australia. By 2030 all new fossil fuel generation captures and stores carbon. Gas supplies between 16-21% to 2050 and coal between 47-53%.

This modelling also found that a soft start to carbon pricing does not significantly reduce emissions in the short-term, leads to higher carbon prices and electricity prices over the medium to long-term, and does not promote the deployment of clean energy over the next decade. For example, beyond the impact of current policies, emissions trading, with or without other measures reduces the greenhouse intensity of the electricity sector by 16-21% by 2020. A soft start scenario reduces it by about 1% representing the fact that the low carbon prices and long-term targets are not sufficient to promote investment in clean energy.

MMA's initial results indicate that long-term science based greenhouse gas reductions are best achieved by a policy response that includes the following elements:

- *Credible medium and long-term targets to reduce greenhouse pollution*: A medium term 2020 target is required to reduce Australia's emissions in the short-term and the 2050 target is a important signal to investors in long-life infrastructure such as power generation.

- *Carbon pricing*: Establishing a clear economic signal would allow the market to find the most cost-effective technologies, provide incentives for innovation and create a level-playing field for business and consumers. However, setting an artificially low price or starting slowly will only delay the inevitable restructuring of the electricity sector, lock in investments of high emitting generation and increase the risk of more disruptive action at a later date.

- *Clean energy targets (CET)*: The introduction of a market based mechanism to ensure all new electricity load is met by near zero emission technology. This is likely to reduce both the short-term and long-term costs of reducing emissions. The early deployment of a broad range of low emission energy technologies by 2020 will also increase our flexibility in achieving long-term reductions as uncertainties currently exist around the costs and viability of a number of new low emission technologies.

- *Energy efficiency/demand measures*: A National Energy Efficiency Target (NEET) and policies to meet it will be required to overcome the barriers to improving energy efficiency.[4] Measures that cut energy waste and improve the energy productivity of our homes, businesses and industries significantly reduce the cost of emission reductions, contribute to improved performance and comfort levels, and help make energy more affordable for communities even if electricity prices increase. The NEET should be set to ensure Australia at least meets world's best practice technical energy efficiency improvement rates by 2015.[5]

- *Research, development and demonstration*: To achieve long-term reductions and increase Australia's flexibility in the advent that any of the new technologies prove commercially unviable, a broad, balanced and expanded research, development and demonstration program is needed. Australian governments and industry have already embarked on this route and this is to be congratulated. However progress needs to be accelerated, balance between fossil and non-fossil fuel generation source assured, funds increased, barriers to large investments in high risk demonstration projects removed, and incentives provided for projects that will build national clean energy infrastructure.

The Climate Institute would welcome the opportunity to appear before the committee to discuss these results if the opportunity arose. For more information please contact:

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[1] McLennan Magasanik Associates (MMA) have used similar modelling approaches for a number of studies for the Australian Government, the Council of Australian Governments, the National Emission Trading Taskforce, Sustainability Victoria and Origin Energy. MMA are also one of the principle modellers used to generate the Australian Government's projections of future greenhouse gas emissions and the impact of current policy programs.

[2] Climate Institute (2007), MAKING THE SWITCH, Australian Clean Energy Policies, Preliminary Research Report. (http://www.climateinstitute.org.au/cia1/publication.php?content_id=91)

[3] These outcomes are predicated on the assumption that a CET leads to earlier and sharper cost reductions through learning by doing and induced technological change. A strong initial emission cap and significantly higher carbon prices could have a similar impact to the Clean Energy Target in terms of early deployment clean energy and therefore also drive cost reductions.

[4] See Appendix 1, Climate Institute (2007), ibid.

[5] Australia's current technical energy efficiency improvement is 0.3%/pa. OECD average is 0.7%/pa.