

Senate Select Committee on Climate Policy
Parliament House SG.64
Canberra ACT 2000

Dear Senator

I seek leave to provide the following supplementary information to the Select Committee on Climate Policy with respect to:

1. Evidence presented by me at the Committee's hearing, April 15, 2009, reflected a substantial assessment prepared as a support document to the Department of Treasury's paper on the Carbon Pollution Reduction Scheme published October 2008.
2. Responses given at the time of the hearing relating to Senator Boswell's concern over the incorporation of economic impacts of action on climate change was inadequately covered.

Published assessment of Australia's exposure (risk) associated with various future atmospheric levels (targets) of greenhouse gas concentrations.

During 2008 I was contracted by the Department of Treasury to provide an assessment of Australia's potential exposure given future stabilisation concentrations of greenhouse gases (CO_{2e}) in the atmosphere of 450, 550 and 750 ppm. The assessment also considered a business-as-usual, non stabilisation scenario. This document was referred to in my opening statements to the Committee, is available at http://www.treasury.gov.au/lowpollutionfuture/consultants_report/downloads/Risk_in_Australia_under_alternative_emissions_futures.pdf., and a copy is attached. I recommend its circulation to the Committee as a simple-language statement of Australia's future potential exposure.

As pointed out at the hearing, this assessment strongly suggests any future levels of greenhouse-gas concentrations exceeding 450 ppm are likely to deliver a high degree of vulnerability across all facets of the Australian economy, social well-being and environmental integrity. Indeed it shows that for:

Water availability
Coastal exposure and
Natural ecosystems,

even a 450 ppm stabilisation has about a 50% probability of delivering vulnerability in these areas.

Hence my conclusion that there is a non-zero probability that in the near future global attention will focus on concentration reductions below current levels (perhaps 350 ppm) and that current policy should at least reflect the possibility of such changes (that is build in flexibility to respond).

Balanced assessment of the economic consequences of particular responses to climate change that leads to transitions within this Australia's energy sector.

Senator Boswell is of course correct in his assertion that the economic consequences of setting specific targets and policy settings needs examination by economists. The session of the Hearing on "Science of climate policy" was heavily weighted by

scientists most regarded for their competency in the physical science of climate change. Unfortunately this discussion failed to examine the wealth of studies that have addressed this issue.

The Committee may not be aware that globally, within the broad academic community, the realisation of this need has led to the establishment of new methods of integrating research across the boundaries of traditional physical and social sciences and economics. In both North America and Europe this has led to the establishment of specific institutions. Several universities in Australia have also established units designed to provide this level of integration as a way of providing more useful underpinning of policy advice. For example Monash University has established the Monash Sustainability Institute, which has as its purpose the evolution of the University to break down boundaries between faculties and departments and opening up the possibility of more integrated assessments of policy options in all fields. This is not a denial of the usefulness of disciplinary and more traditional reductionist science, but a recognition, as Senator Boswell as pointed out, that most problems are complex and require this kind of integration. The following is a brief attempt to provide information on examples of where such integrated assessments have been made of energy futures that may be of value to the Committee.

1. **The Stern Report.** On behalf of the UK Government, Nicholas Stern (2006) produced one of the first comprehensive considerations of the economic consequences of climate change and the costs of change avoidance. His historic study is available at:

www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_chnage/stern_review_report.cfm., is a large volume and globally focused. His broad conclusions were:

- “The severity of the likely consequences and the...analytical approach...in the Review ... favour ... strong and urgent action to reduce greenhouse-gas emissions, and of major action to adapt to the consequences that now cannot be avoided”. Part I, Key Messages
- “... human-induced climate change is an externality, one that is not ‘corrected’ through any institution or market, unless policy intervenes”. Part I, Section 2.2
- “...climate change is an externality of market failure involving externalities and public goods”. Part I, Section 2.2
- “... if we don't act, the overall costs and this change will be the losing at least 5% of the GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates damage could rise to 20% of GDP or more”. Summary of conclusions
- “In contrast, the costs of action - reducing greenhouse gas emissions to avoid the worst impacts of climate change - can be limited to about 1% of the GDP each year”. Summary of conclusions.

2. **The Intergovernmental Panel on Climate Change** engaged 31 economists and energy technologist from about 19 countries to examine emissions-reduction options and their costs. Again this is a large and globally focused document available at <http://www.ipcc.ch/ipccreports/ar4-wg3.htm>. It's broad conclusions were:

- With a high degree of probability, very significant emissions-reduction options exist mainly reflecting, in the short term, the inefficiency of existing global energy use, creating win-win opportunities for emissions reductions and simultaneous economic efficiency improvements

- Significant emissions reductions of the order of 20% over the next 2 decades can be achieved at a cost of <0.1% of annual GDP
 - Near-term health benefits of reduce air pollution may offset substantial fraction of mitigation costs (high agreement), that is, provide co-benefits: e.g. air pollution, trade balance, wealth creation and employment.
3. **The McKinsey Company Report.** For those wishing to view an assessment that is first, Australian in its focus, second, distanced from the political process, and third is based on economic analysis, this is a study worth consideration. These are available at the McKinsey web site, www.mckinsey.com/clientservice/ccsi/pdf/Australian_Cost_Curve_for_GHG_Reduction.pdf. Copies are attached. Both are Australian centric and relatively concise. They examine the economics of Australia's mitigation options and conclude reduction of Australian emissions are:
- “achievable- 30 percent below 1990 levels by 2020 and 60 percent by 2030 without major technological breakthroughs or lifestyle changes”
 - “affordable with an average annual gross cost of approximately A\$290 per household to reduce emissions in 2020 to 30 percent below 1990 levels”
 - Achieving significant emissions reductions requires prompt action from government, business and consumers.
4. **The Australian Business Roundtable on Climate Change.** This study ABR (2006) was conducted by the CEOs of BP Australia, Insurance Australia Group, Origin Energy, Swiss Re, VISY, Wespac and the Australian Conservation Foundation. Their report is available at <http://www.businessroundtable.com.au/pdf/F078-RT-WS.pdf>. Its main conclusions were
- “Achieving a 60% reduction in greenhouse gas emissions from 2000 levels by 2050 is possible while maintaining strong economic growth”
 - “Economic impact by 2020 under early action would be modest”
 - “Delayed action may lead to a major disruptive shock”
 - “Early action favours employment growth compared with delayed action”
 - “Electricity price impacts are lower under early action than delayed action”.

These are but a few examples of such studies. Each was established in full recognition that no one discipline is capable of making assessments of options that are useful for policy consideration. For example in a study commissioned by the Victorian Government several years ago that was undertaken by the private organisation Australia21 (I was the Program Leader), we set up team of 13 experts including economists, energy technologists, sociologists and physical scientists. The objective was to find a series of options for Victoria's energy futures for consideration by that Government that delivered deep emissions cuts, had minimal economic impact, were environmentally sound and reflected the realities of existing social structures (communities, jobs, politics, etc).

It is true that this study (which has not been released publicly) had in common with all such studies, including those listed above, the fact that they were demanding on time, challenging the integrating across disciplines and multiple purposes and preliminary. Nevertheless, such studies do exist and respond explicitly to the concern that disciplinary, sectoral or ideologically narrow development of policy options have the potential to produce failures into the future, culminating from insufficient inclusiveness in their development. These studies are not concerned with prescribing

specific policy, but rather providing guidance to policy settings within this complex background.

I thank the committee for the opportunity to appear and to provide these supplementary data.

References

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April 18, 2009