

Level 15, 222 Exhibition Street  
Melbourne VIC 3000  
Australia  
T: +61 3 9929 4100  
F: +61 3 9929 4101  
E: [info@cleanenergycouncil.org.au](mailto:info@cleanenergycouncil.org.au)  
[cleanenergycouncil.org.au](http://cleanenergycouncil.org.au)  
ABN: 84 127 102 443



25 January 2013

Senator Simon Birmingham  
Environment and Communications References Committee  
PO Box 6100  
Parliament House  
Canberra ACT 2600

Dear Senator Birmingham,

**RE: Extreme weather events**

The Council welcomes the opportunity to respond to the Parliament's initiative to undertake an enquiry into extreme weather events. A brief submission to the enquiry is attached.

We would be pleased to continue our involvement as the enquiry progresses.

Yours sincerely,

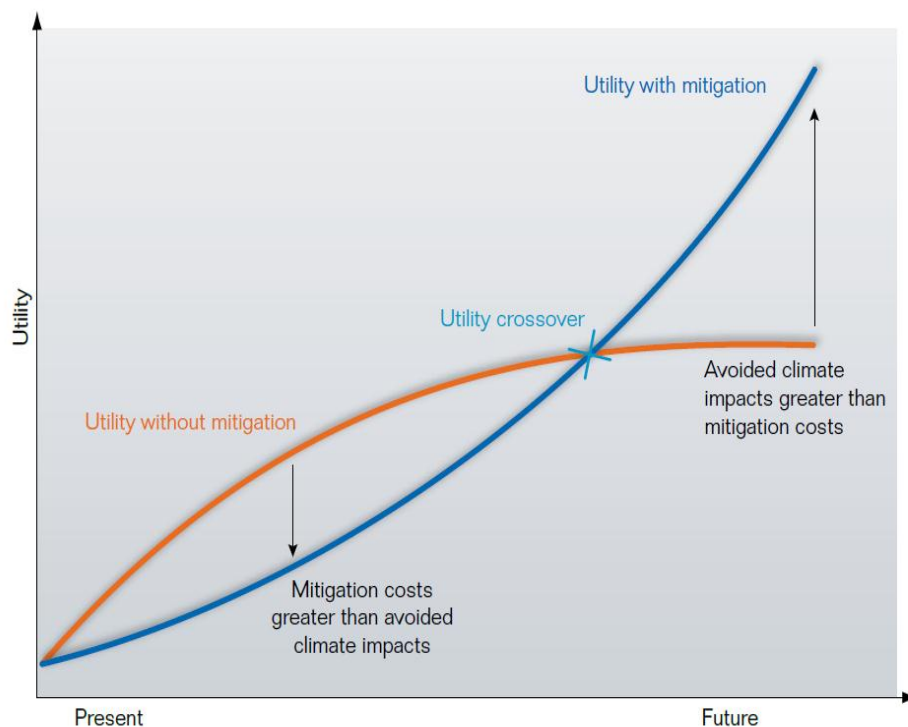
< original signed >

Kane Thornton  
Deputy CEO

## CEC submission to the Environment and Communications References Committee

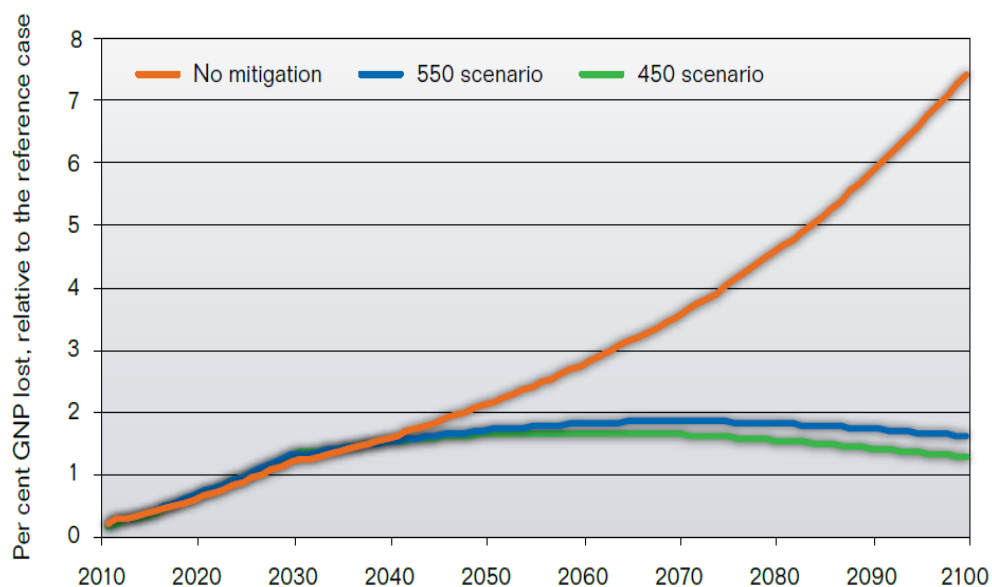
It is well established that the benefits of avoiding dangerous climate change exceed the costs of doing so. Scientific and economic consensus is clear that the cost of extreme weather events in the future from climate change will far outweigh the benefits of meaningful and cost effective mitigation. Garnaut (2008) has proposed a stylised representation of future global utility with and without greenhouse gas mitigation (see Figure 1.4, below). Future utility with mitigation clearly will exceed future utility without mitigation.

Figure 1.4 Utility with and without mitigation



Australia is particularly exposed to the adverse impacts of climate change. Figure 11.6 (below) shows a comparison of expected market costs for Australia of unmitigated and mitigated climate change up to 2100. Note that this diagram only shows estimates of 'Type 1' (Currently measurable market impacts ) costs of climate change.

**Figure 11.6** A comparison of the modelled expected market costs for Australia of unmitigated and mitigated climate change up to 2100 (Type 1 costs only)



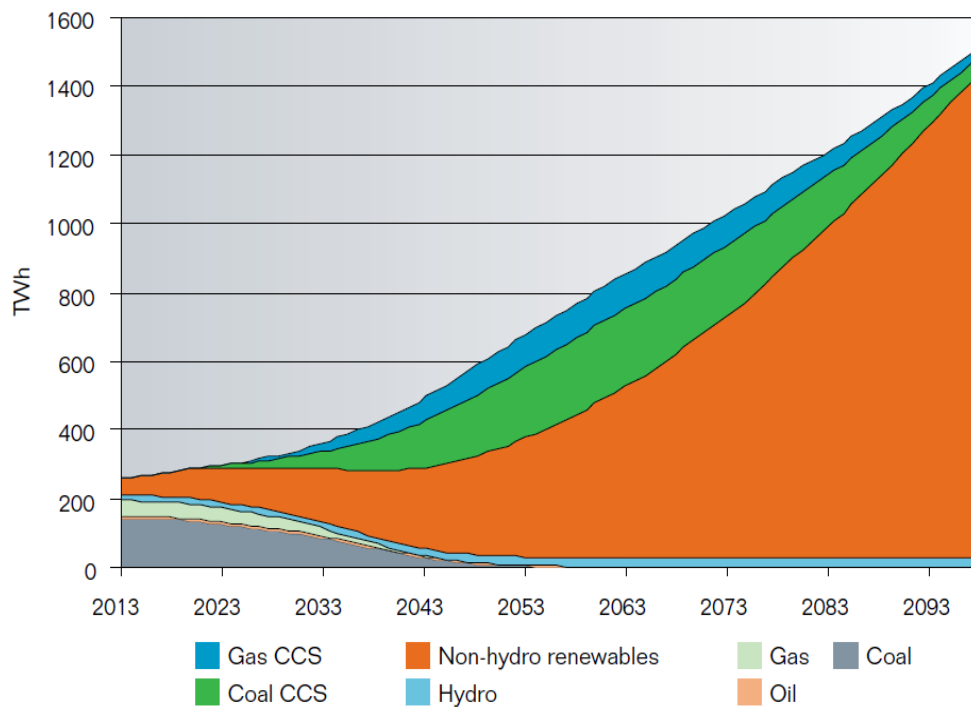
There is much that has already been written regarding the depth and speed of emissions reductions required to minimise the likelihood of dangerous climate change.

The electricity sector is the major source of Australia's greenhouse gas emissions. Deep cuts in Australia's greenhouse gas emissions must therefore necessitate an accelerated transition toward smarter use of electricity and very significant reduction in the emissions intensity of Australian electricity.

The emissions intensity of Australia's electricity supply is the highest of any OECD country. It is 98 per cent higher than the OECD average and 74 per cent higher than the world average. Only eight countries in the world have an electricity system that is more emissions intensive than Australia's (Garnaut, 2008).

Such a rapid reduction in the emissions intensity of generated electricity requires more efficient end use of energy and significant and ongoing growth in the market share for renewable forms of electricity generation. Figure 20.10 (below) shows estimates of the growth in market share required for renewable forms of electricity generation if Australia is to meet the emission reductions required under a 450 ppm scenario.

Figure 20.10 Australia's electricity generation technology shares, 450 scenario



Making a rapid switch to low carbon heating, cooling and electricity generation is one of the cheapest forms of insurance against the impacts of climate change.

Climate change and extreme weather events are already having an effect on the Australian energy sector. This is apparent in such extreme weather events as the impact of drought conditions on water intensive thermal generation and the impact of inundation on mining operations and energy supply for coal and gas generation.

These impacts provide an even stronger rationale for accelerating the deployment of a diverse set of renewable energy options that distribute generation throughout Australia (building in resilience), taking advantage of our abundant renewable resources which are less likely to be adversely affected by future extreme weather events.

## References

Garnaut, R. (2008) *The Garnaut Climate Change Review*. Cambridge University Press