

Climate Policy Analysis Tool

Client: The Climate Institute Pty Ltd

Simulation: The Australian Labour Party 15-07-2010

CPAT – CI – ALP-15-07-2010 (combined)

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1 Introduction

This briefing sets out the results of a modelling run to test a specified climate change policy package on Australia’s greenhouse gas emissions.

The policy package is specified below and has been modelled using the Climate Risk Industry Sector Technology Allocation Model (CRISTAL). This is a computational model that uses Monte Carlo methods to consider a range of possible outcomes simultaneously. Details of the CRISTAL model are provided in a companion document to this briefing.

The way in which Government Policy will create change is dependent upon the policy mechanism, the sectors and industries involved, their scale and possible constraints to growth, the resources being used and barriers to uptake, as well as other factors. Where possible the data required to specify these parameters is sourced from the public domain. If ranges of opinion exist then these are included as input probability distributions. Otherwise assumptions are made which are specified in this briefing.

2 Run Details

Client :	The Climate Institute
Simulation Date:	15-07-2010
Run Name :	ALP Climate and Energy Policies as of 15-07-2010
Simulation Type:	Monte Carlo - 5,000 cycles
Baseline:	The emissions base-line is based on projections from the DCC’s “Fifth National Communication on Climate Change”, 2010 and the Commonwealth of Australia’s “Australia to 2050: Future Challenges”, 2010.
Population in 2050:	35.9 million

3 Explanation of Results

- The results for the ALP show no change from the existing hybrid-baseline for emissions.
- Since this baseline was created two policies have changed which were included in this baseline – changes to the Renewable Energy Target, and changes to the Energy Efficient Homes Package.
- The amendments to the Renewable Energy Target will act to remove ‘phantom’ Renewable Energy Certificates which were otherwise reducing the amount of renewable energy generated by the scheme. This was modelled as worth up to 2.5MtCO₂e per year.
- The curtailment of the Energy Efficient Homes Package will mean that the intended emission reductions of up to 5MtCO₂e by 2012 will be reduced. The impact is estimated to be between 2 and 3MtCO₂e.
- For simplicity, these two schemes as assumed to have an equal and opposite impact, resulting in no change from the baseline.

4 Summary of Results

Parameter	2013	2020	2050	Units
Total national emissions (with all policies)	600	669	897	MtCO ₂ e
Change in emissions with respect to baseline	0	0	0	MtCO ₂ e
Percentage change in emissions with respect to baseline	0	0	0	%
Change in emissions with respect to 1990	+52	+121	+349	MtCO ₂ e
Percentage change in emissions with respect to 1990	+10	+22	+64	%
Change in emissions with respect to 2000	+47	+116	+344	MtCO ₂ e
Percentage reduction in emissions with respect to 2000	+8	+21	+62	%
(Final) energy intensity per \$ GDP	0.9	0.8	0.6	kWh/2005\$
Emission intensity per \$ GDP	0.5	0.4	0.3	kgCO ₂ e/2005\$

5 Trends to 2020

Figure 1: Emissions to 2020 with full y-axis.

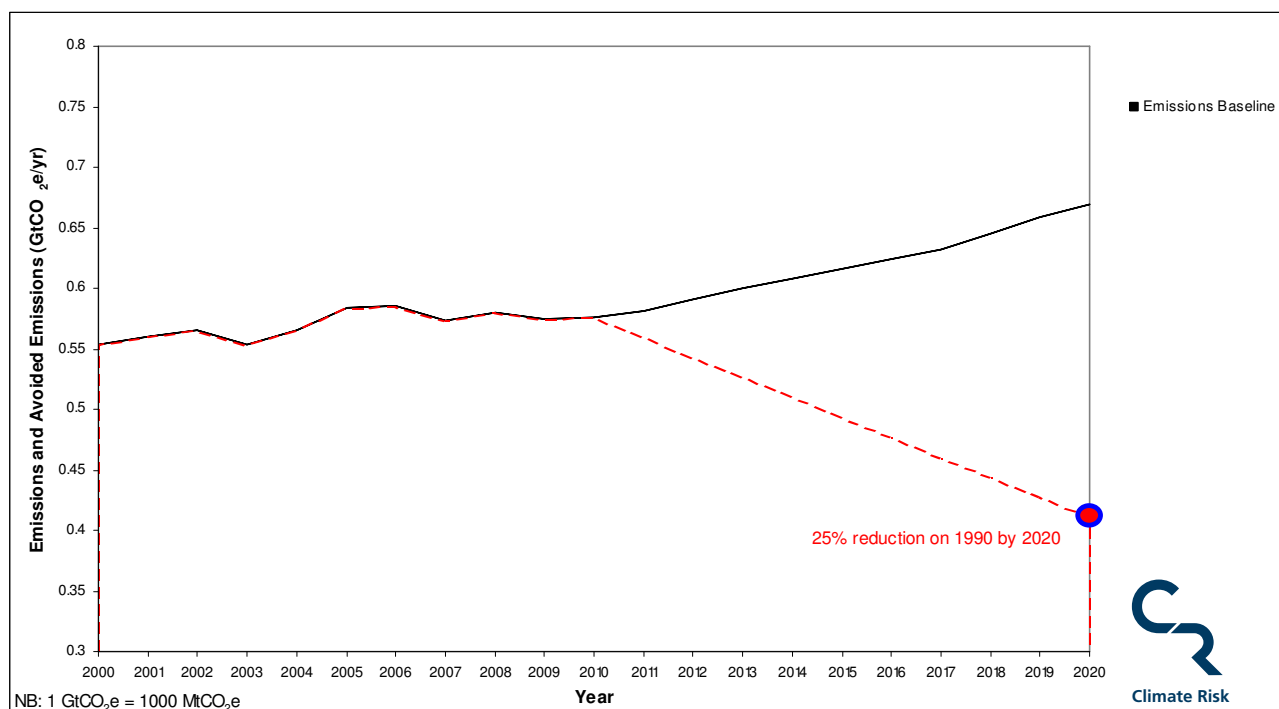


Figure 2: Emissions to 2020 with zoomed y-axis.

6 Trends to 2050

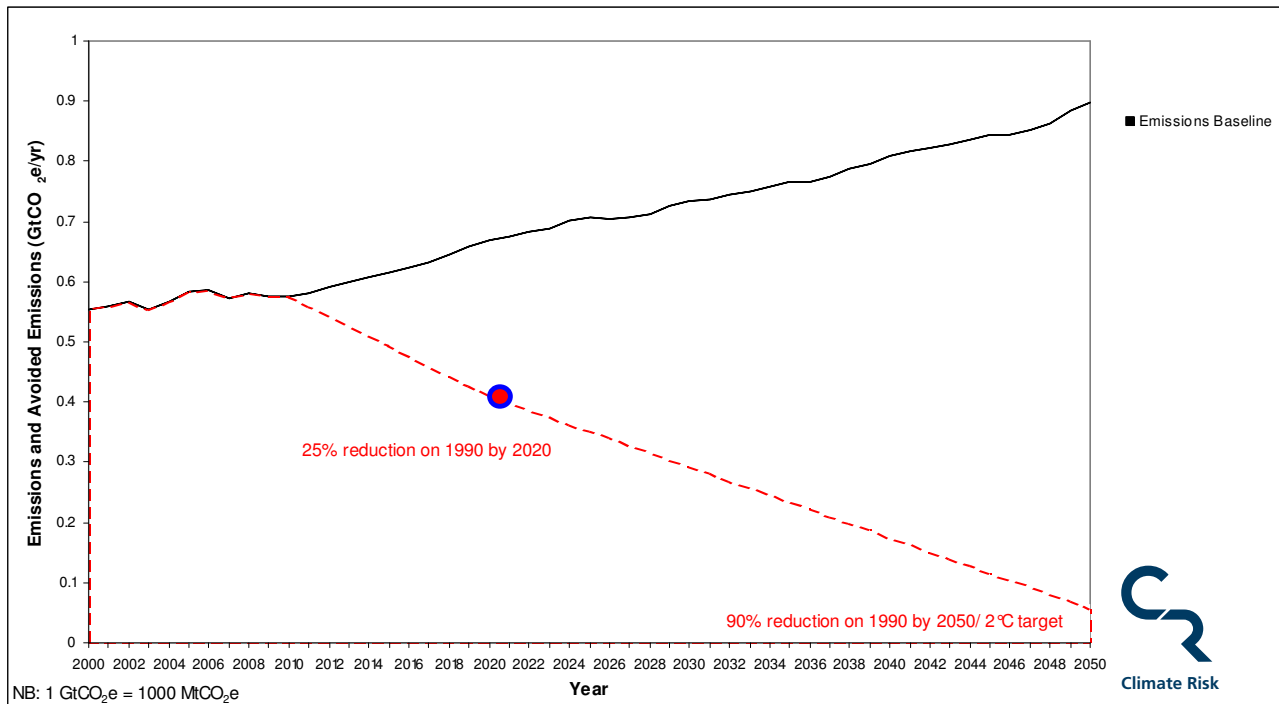


Figure 3: Emissions to 2050.

7 Economic Intensity Trends to 2050

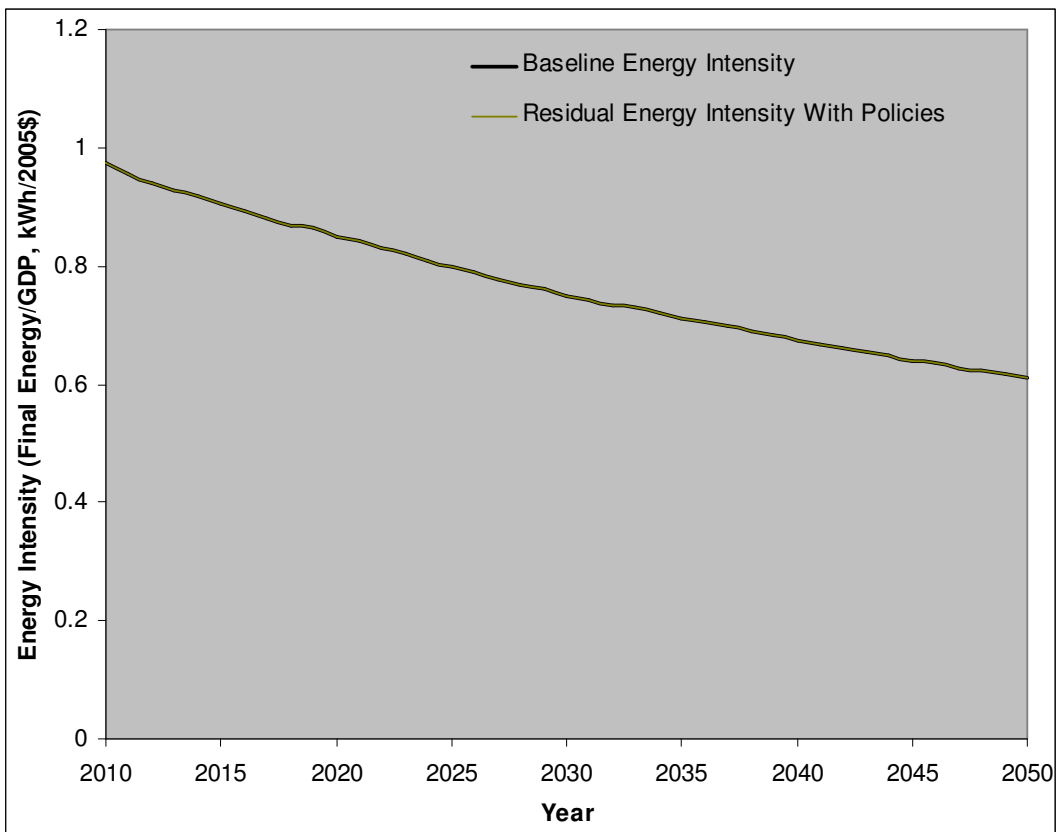


Figure 4: Energy intensity of economy (final energy in KWh per \$GDP).

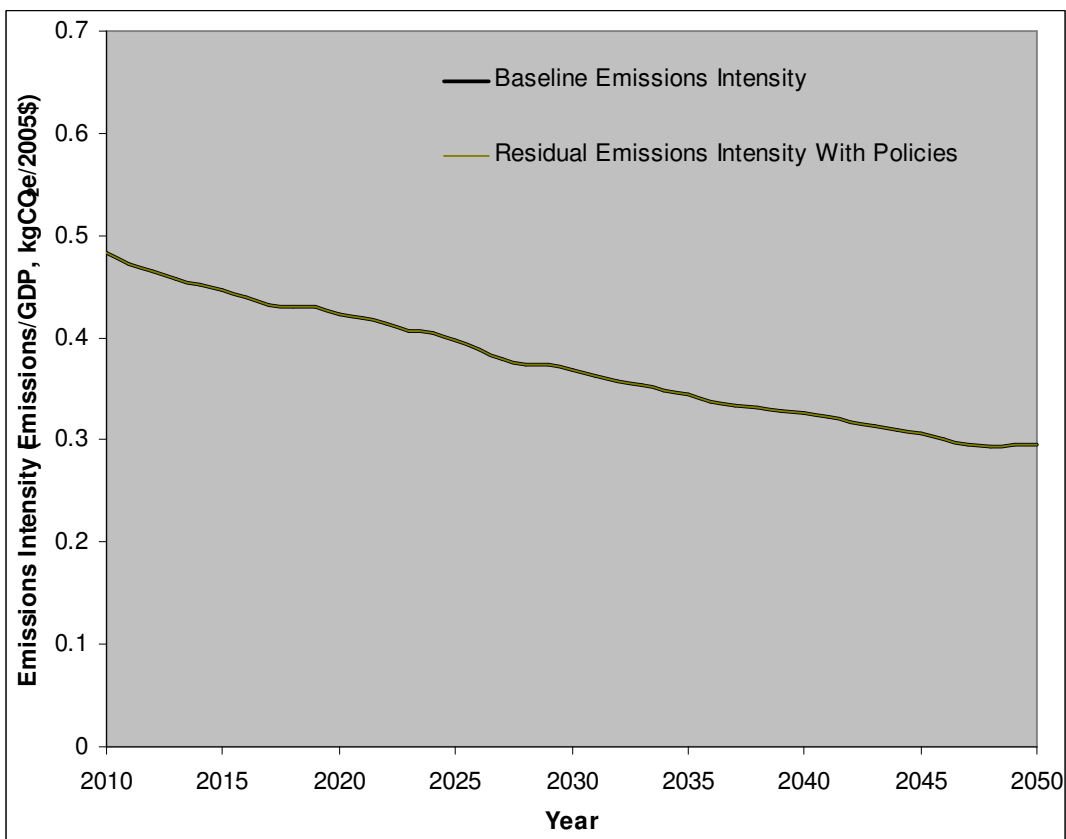


Figure 5: Emissions intensity of economy (kgCO₂e per \$GDP).

8 Policies and Assumptions

The emissions impact of all policies listed below are included in this scenario.

Policy Measure and Description	Assumptions	Sources and Clarifications
<p>Enhancement to RET</p> <ul style="list-style-type: none"> The split in the RET into LRET and SRET means that the target for large scale renewables will be revised downwards to 41,000GWh, by 4,000GWh. There is no cap on the number of small scale RECs that can be created, but the price can be reviewed, assumed to be regulated to 4,000GWh 	<p>-Assumed to deliver an additional 6750 GWh to the RET accounting currently included in the baseline data. Based in solar providing up to 5% of RECS</p> <p>- Effect is modelled at approximately 2.5MtCO₂e by 2020.</p>	<p>DLA 2010</p>
<p>Curtailement of Energy Efficient Homes Package</p> <ul style="list-style-type: none"> Ending of home insulation under the 'Energy Efficient Homes Package, including the Home Insulation Program and the Solar Hot Water Rebate Program' 	<p>-Estimated total abatement of scheme was 5MtCO₂e running 2007 to 2012, suspended /terminated after 2/3 years.</p> <p>- Assume that between 2 and 3 MtCO₂e will not be provided under the scheme.</p>	
<p>Net effect assumed to be zero</p>	<p>-for the sake of simplicity the effect of the RET amendments and the Energy Efficient Home Package curtailement are assumed to be equal and opposite (though in fact the negative impacts on efficiency will occur much earlier so the cumulative impact will be slightly negative)</p>	

9 References

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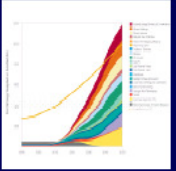
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DCC 2010a, “Fifth National Communication on Climate Change”, Department of Climate Change and Energy Efficiency. <http://www.climatechange.gov.au/publications/international/nc5.aspx>

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DLA Phillips Fox (2010) “Changes to the RET scheme and the impact on financing of renewable energy projects” <http://www.dlaphillipsfox.com/article/840/Changes-to-the-RET-scheme-and-the-impact-on-financing-of-renewable-energy-projects>

MMA 2010 “Impacts of Changes to the Design of the Expanded Renewable Energy Target.” McLennan Magasanic Associates report to Department of Climate Change and Energy Efficiency. May 2010



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