The *Low Carbon Growth Plan for Australia.* Response to critique by ITS Global

ClimateWorks Australia's *Low Carbon Growth Plan for Australia* has received extensive positive feedback from a wide audience, including representatives from all levels of government, the business sector, academics and the broader community. It has been selected as a finalist for the prestigious 2010 Australian Museum Eureka Prizes and been cited in a range of reports and publications, including 18 of the submissions to the Prime Minister's Task Group on Energy Efficiency.

After three months of wide dissemination of our report at conferences, public meetings, government and industry events, just one evaluation of our work has been critical.

ITS Global's Alan Oxley released a critique of ClimateWorks' *Low Carbon Growth Plan* in July 2010. Oxley's critique misrepresents our report and its findings and is factually incorrect. One of the objectives of our report was to generate debate, so in this response we will take this opportunity to address Oxley's criticisms.

Oxley's overarching argument is that Australia should not act on climate change, because doing so will cost money. Yet the findings of many economists are that the costs of doing nothing are significantly greater that the costs of acting. The Stern Review, for example, found that acting on climate change would cost the global economy approximately 1 percent of GDP, while inaction would cost between 5-20 percent of GDP. In Australia, a recent report by the Energy Supply Association of Australia found that AU$10 billion of investment has been deferred due to uncertainty arising from current policy. Another study by the Climate Institute found that inaction will cost the Australian economy and consumers AU$2 billion per year in higher electricity prices.

As the driest inhabited continent, Australia is particularly threatened by climate change, including through the increased risk of droughts and bushfires. As we have seen in recent years, the social, environmental and financial costs of dealing with events such as these can be significant.

The *Low Carbon Growth Plan for Australia*

ClimateWorks Australia's *Low Carbon Growth Plan* demonstrates that Australia can achieve significant reductions in carbon pollution whilst continuing our economic growth. A reduction of 25% below 2000 levels (the upper limit of the Australian Government's target and the lower limit of the IPCC scientists' recommendation) can be achieved over the next decade for an annual net cost to society of just $1.8 billion per annum, less than 1% of predicted GDP growth in that period.

The cost curve methodology

Oxley criticises the use of the cost curve methodology to assess and prioritise emissions reduction opportunities. Yet the cost curve methodology provides a method to prioritise

measures to reduce greenhouse gas emissions on the basis of cost – so that regulators, industry and others may construct regulation and action with greatest effectiveness and lowest cost.

A cost curve analysis seeks to provide an integrated picture of emissions reductions opportunities, and the capital and operational expenditure required to capture each opportunity. It acts as an effective inventory of all opportunities available across our economy and ranks them according to cost.

Our report is clear that it does not estimate the transaction costs of capturing each opportunity, as this is dependent on the particular approach taken. The various policy options available to incentivise the implementation of opportunities will require very different levels of transaction costs, including possible compliance costs for companies. Thus the policy choice is critical to the cost effectiveness of the implementation. ClimateWorks chose to exclude this analysis from the *Low Carbon Growth Plan,* as the decision on which policy to implement in order to capture a given opportunity is best decided by those responsible for their implementation.

Rather, we aim to provide an indication of the relative costs of each opportunity in relation to all other opportunities across the economy. In this respect, as clearly detailed in the report, our cost estimations exclude project transaction and policy implementation costs.

ClimateWorks has been clear that the *Low Carbon Growth Plan* is intended to provide a useful starting point for policy making and implementation, rather than to be interpreted as a definitive financial costing of emissions reduction in Australia.

Calculating the direct cost of individual abatement opportunities

Oxley also claims that the *Low Carbon Growth Plan* omits various other costs that relate specifically to individual abatement opportunities, yet has failed to reference pages 101 to 141 of our report where the assumptions are clearly stated and include these costs. Below we address each of these claims in turn.

- ***ITS Global claim:*** *The additional transmission and distribution costs from switching to renewable energy sources is excluded from the analysis*. **Fact:** we have included these additional costs in the modelling for all renewable energy technologies, as detailed in the Key Assumptions under 'Grid extension cost' and 'Grid maintenance/upgrade cost' (see pages 108 to 117 of the *Low Carbon Growth Plan*).

- ***ITS global claim:*** *The cost of additional reserve capacity required for some renewables is not included.* **Fact:** The *Low Carbon Growth Plan* allows for an intermittency cost for all renewables opportunities that cannot provide base load power, as detailed in the key assumptions (see pages 108 to 117 of our report). This allows for the costs of keeping additional reserve capacity on standby.

- ***ITS global claim:*** *The loss of output and option values from the constraints on land use in forestry and agriculture is not accounted for.* **Fact:** The agricultural abatement opportunities identified in the *Low Carbon Growth Plan* do not affect output or change land use, and therefore place no constraints on option values. In fact, the

opportunities for soil carbon sequestration and improved land management are in line with best practice, and can improve land productivity. In Forestry, the bulk of the opportunity comes from reforestation of marginal and degraded land; that is, land that is below normal levels of productivity. Therefore, the changes to output or option values are minimal. We do also include strategic reforestation of non-marginal land, but capturing this opportunity involves planting trees along waterways, fence lines and as shading for livestock, all in line with farming best practice and therefore expected to have a positive effect on land productivity. Where the forestry is assumed to occur on land currently in use for agriculture we have accounted for the opportunity cost of the revenue foregone from the existing activity and added this to the cost shown for the new activity.

Counting emissions savings

Oxley claims that the *Low Carbon Growth Plan* double counts emissions savings that would be achieved under business-as-usual. This is simply not true.

The business-as-usual baseline (BAU) used in our report draws directly on projections by the Department of Climate Change which factors in the improvement in energy efficiency that results from normal competitive processes, and recently adopted policy measures.

On page 6 of our report, we outline the BAU case, and specifically highlight that the emissions intensity of the economy will continue to decline over the next decade. This has been accounted for *before* we began to calculate the abatement potential of each opportunity.

Exhibit 2 of our report shows the improvement in the BAU emissions forecast for 2020 between 2006 to 2009. Overall, in this 3 year period the BAU emissions projections for 2020 fell by 5 percent. This is due to a mix of energy efficiency measures, a cleaner fuel mix (through programs such as the national Renewable Energy Target), changes in land use and forestry and changes in economic assumptions and trends.

We give this example to highlight that our BAU projections utilise the most up to date forecasts of Australia's greenhouse gas emissions projections for our baseline. These forecasts, prepared by the Department of Climate Change for the Australian Government, form the basis of the Government's own projections about the impact of its policies and programs on Australia's emissions.

In the Key Assumptions section of the report we detail the BAU assumptions made for individual opportunities, in particular those in the industrial sector where technological improvements can rapidly improve energy efficiency. Based on the factual information available to us and analysis of past trends, we have made assumptions on the emissions abatement that will be captured under BAU. For example, improving boilers and steam distribution systems and waste heat recovery, and improving building utilities improve the energy efficiency of the manufacturing process. We have assumed that 5% reduction in emissions will occur under BAU, but that a further 13% of emissions can be achieved above and beyond BAU (see 'other industry' page 120 of the *Low Carbon Growth Plan*).

It is also worth noting that we have assumed that the least cost opportunities will be captured first through energy efficiency, and have factored this in to the abatement potential that can be captured through more expensive measures in the power sector.

Despite Oxley's assertions to the contrary, all abatement potential identified in the *Low Carbon Growth Plan* is incremental to the BAU baseline, as defined by the Australian Government.

Economic impacts of capturing abatement opportunities

Oxley argues that the *Low Carbon Growth Plan* ignores the economic impacts that capturing the abatement opportunities identified would generate. We do not claim that our cost curve is an economic model; our modelling deliberately focuses on project costs, so as to show community members what actions are available and what they cost in dollars per tonne of carbon dioxide equivalent saved.

However, we wish to respond to Oxley's assertions regarding the specific economic impacts he believes we have ignored.

- ***ITS global claim:*** *Potential increases in gas prices from fuel substitution are not reflected in the analysis*. **Fact:** our Plan allows for an increase in the gas price of 42% over the next decade, and anticipates that domestic gas prices will eventually reach export price parity. This more than accounts for any increase in gas prices from its increased use for electricity. This contrasts with coal prices which have been modelled as remaining flat over the same timeframe.

  Further, given the significant volume of gas used across our economy for purposes other than generating electricity and the significant volume of gas that is exported, the volume required to generate the additional capacity modelled in the *Low Carbon Growth Plan* would increase domestic consumption by less than 5% of total gas production.

- ***ITS global claim:*** *The downstream impacts of increases in electricity prices are not considered*. **Fact**: our analysis uses current published price forecasts for electricity, which continually rise over the next decade, and are fully reflected in our work. Detailed economic modelling of the downstream impacts of rising electricity prices has been undertaken elsewhere, in particular by Federal Treasury and state governments, and so we did not duplicate this effort. Finally, we've been explicit that the *Low Carbon Growth Plan* is a static analysis, and there are of course any number of external factors that could change in next decade that have also been excluded from our modelling, such as inflation, commodity prices and exchange rates.

  It is also worth noting that capturing energy efficiency opportunities will reduce energy consumption with a correlating reduction in energy bills, which will help to offset higher power prices.

It is worth also giving mention to the positive effects of transitioning to a low carbon economy that have been excluded from our modelling. These include the additional jobs expected to be created; the value of avoided environmental losses or reduced remediation costs; and a reduced growth in healthcare costs (in addition to the health benefits of reducing pollution, climate change is considered to pose a significant health risk).

Oxley's critique of the *Low Carbon Growth plan* clearly demonstrates his long-standing and well-known opposition to action on climate change.

Of course, ClimateWorks continues to welcome an open dialog in relation to our work and its findings.