

Australian Youth Climate Coalition
Submission to the Select Committee on Climate Policy

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Introduction

Young Australians have a simple vision - we want to enjoy a stable climate similar to that of our parents, grandparents and generations before us. The relatively stable climate of the past 12,000 years has allowed humanity to flourish and create the civilization we now take for granted.

While climate change will have dramatic impacts on everyone, it is the youth of today that will endure its longer-term consequences. If inadequate action is taken now we will be condemned to future hardship as we struggle to cope with a changed climate.

There are 6.9 million reasons to act strongly on climate change – the 6.9 million young Australians under the age of 24 alive today who will suffer the brunt of climate change impacts in our lifetimes. Not acting on climate change violates the basic rights of our generation – ultimately, our most basic right of all: survival.

The Australian Youth Climate Coalition (“AYCC”) submits that strong action to reduce greenhouse gas emissions is an effective tool not only to solve climate change but also to drive investment and job growth in a low carbon economy. It has the potential to not only solve both the climate crisis and the economic crisis, but also to lay the building blocks for a new 21st century low-carbon economy.

Addressing the Terms of Reference

(1)(a) the choice of emissions trading as the central policy to reduce Australia’s carbon pollution

The AYCC believes that the use of emissions trading as the central policy choice to reduce Australia’s carbon pollution requires an appropriately robust governance framework to ensure that the necessary structural change is driven in the Australian economy. However, we note that no jurisdiction has successfully managed to implement an emissions trading scheme to drive significant carbon abatement.

The NSW Greenhouse Gas Abatement Scheme has been plagued by a lack of transparency, was always a transitional measure and, perversely, rewarded ‘business as usual’ activity.¹ Similarly, Phase 1 of the EU Emissions Trading Scheme raised energy prices, caused no significant structural changes in energy generation, simply fuelling resentment amongst voters.

The AYCC implores the Senate Committee to assess the governance risk associated with implementing such poor policy measures in driving resentment in the wider populace and delaying the necessary changes needed for the transition to a low carbon economy.

(i) Reduce carbon pollution at the lowest economic cost,

The idea of ‘lowest economic cost’ in the context of reducing carbon pollution relies on assessments about three related variables:

- 1) How we value future welfare over present welfare
- 2) Which ‘externalities’ are counted and how
- 3) How costly adaptation efforts are going to be relative to expenditure on mitigation

¹ MacGill, et al (2008) “The governance challenge for implementing effective market-based climate policies: a case study of The New South Wales Greenhouse Gas Reduction Scheme”, *Energy Policy*, 36(8), p2999-3008

The Garnaut Review highlights the complication of costs to mitigate versus the avoided costs of climate change.² In particular the report highlights that 'the need for discounting when it comes to inter-generational equity as a matter of debate.'³ As youth, however, we do not believe there should be a debate over the value saving our future, and the future of those to come. A considerable body of economic thought has accumulated in recent times favouring a declining discount rate in assessing how present 'lowest cost' functions are calculated⁴.

With each further round of IPCC reporting, and each additional piece of research emanating from the Arctic and Greenland⁵ the urgency becomes clearer and the relative costs of inaction greater. Federal Climate Change Minister Penny Wong recently stated that the break-up of the Wilkins ice shelf will not prompt a speed-up of the Government's climate change policies, but it should alert those who do not believe in global warming to its dangers⁶. The AYCC is concerned that the mantra of 'lowest economic cost' will be used to ignore such warning signs until they make tangible impacts on national infrastructure. We do not believe such an approach is prudent, equitable or efficient.

The underlying reason the Stern Review chose to give future generations equal ethical weight by choosing a very low discount rate to value the importance of the environment to future generations. The alternative, as Stern explains, of a high discount rate would favour avoiding investment in mitigation now because gains from a safer and better climate in the future are a long way off (and therefore heavily discounted). As the Garnaut Review also notes, it might be 'that people value the present somewhat more highly than the future'.⁷ However, it is pertinent to remember that taking inadequate action today does not merely value future generations less than ourselves, but rather does not value them at all given the severe risks of disastrous consequences of taking inadequate action.

The principle of intergenerational equity suggests that each generation has the right to inherit the same diversity in natural and cultural resources enjoyed by previous generations and to equitable access to the use and benefits of these resources. The present generation is a custodian of the planet for future generations, obliged to conserve this legacy so that future generations may also enjoy these same rights. It is simply unfair for current generations to burden younger and future generations with climate impacts they have created. The principle of intergenerational equity is enshrined in 3(1) of the UN Framework Convention on Climate Change, which Australia has ratified and is bound.

For the above reasons, The AYCC calls for a true application of Intergenerational Equity through an equal weight given to the future costs of climate change.

On the Question of which 'externalities' are counted and how, we note that Germany is spending E600m just on a new sea wall for Hamburg - and this money was committed before the news came through that sea level rises this century could be two or three times as great as the Intergovernmental Panel on

² Ross Garnaut, 'Emissions Trading Scheme Discussion Paper' (March 2008) *Garnaut Review* p27.

³ Ibid

⁴ See for example Weitzman et al (1998) <http://www.sc-eco.univ-nantes.fr/~tvallee/memoire/actualisation/theorie/Why%20the%20far-distant%20future%20should%20be%20discounted%20at%20its%20lowest%20possible%20rate.pdf> and Hepburn (2006) <http://www.dfl.de/Presse/PMitt/2006/061030c2.pdf>

⁵ Miller, Barbara 'Ice Melt Worse than Predicted' ABC News (13/12/07) <<http://www.abc.net.au/news/stories/2007/12/13/2117735.htm?section=world.>>

⁶ <http://www.climateark.org/shared/reader/welcome.aspx?linkid=123666>

⁷ Garnaut, above n 1, p27.

Climate Change has predicted. For example The Netherlands will spend E2.2bn on dykes between now and 2015; again this is likely to be inadequate⁸.

(ii) Put in place long-term incentives for investment in clean energy and low-emission technology, and

AYCC believes that we must have long-term incentives for investment in clean energy and low emission technology. We recommend that the Inquiry reads the book "Ten Technologies to Save the Planet" by Chris Goodall. Investing now in clean energy and low-emission technology will stimulate the economy and create new green jobs.

The AYCC Recommends a strong emissions reduction target that would drive significant structural changes to Australian energy generation.

However, this must be supplemented with considerable complementary policies such as:

- For regions with significant impacts (Latrobe valley, Hunter) – promote new services and industries rather than provide cash payments to industry – with incentives and extra infrastructure.
- Reduce the support to EITEs or at least put a clear timeline and clear triggers for when international support comes on board.

(iii) Contribute to a global solution to climate change;

Domestic Australian action on climate change, whether it be a carbon tax, emissions trading scheme, or regulatory programs, will contribute to an adequate global solution to climate change if it aims towards an emission reduction trajectory to stabilise emissions at 350 ppm Co₂, which is what recent climate science demands.⁹ Australia must show international leadership in pushing for a strong global cut to emissions, based on what science demands rather than what is currently deemed politically possible in the face of the coal lobby.

James Hansen's 2008 paper 'Target Atmospheric Co₂: Where Should Humanity Aim?' concludes:

If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm. The largest uncertainty in the target arises from possible changes of non-CO₂ forcings. An initial 350 ppm CO₂ target may be achievable by phasing out coal use except where CO₂ is captured and adopting agricultural and forestry practices that sequester carbon. If the present overshoot of this target CO₂ is not brief, there is a possibility of seeding irreversible catastrophic effects."¹⁰

If Australia continues with a badly-designed emissions trading scheme with its current weak targets, it will have two major negative flow-on effects to the rest of the world:

(a) undermining a global deal for strong targets to reduce greenhouse emissions, because it indicates that Australia is not entering into the Copenhagen negotiations in good faith but is rather continuing to be an international laggard and try to "free ride" from the work of other nations

⁸ <http://www.monbiot.com/archives/2009/03/17/a-self-fulfilling-prophecy/>

⁹ Hansen, J. et al, Target Atmospheric Co₂: Where Should Humanity Aim? Available online at <http://arxiv.org/abs/0804.1126>.

¹⁰ Ibid

(b) The handouts, compensation and free permits that compromise the design of the scheme in Australia may well be adopted by other countries. In this way, Australia's scheme sets a precedent and undermines the effectiveness of emissions trading schemes overseas.

(b) the relative contributions to overall emission reduction targets from complementary measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils;

The AYCC believes that large emission reductions can be made from regulatory measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils.

Luckily, all the solutions we need to solve climate change and manage water sustainably exist today. They are already being implemented all over the world; so we have the opportunity to bring them all together in this huge, sunny, windy and creative country of ours. We aren't waiting on the technology for Australia to become the world's most sustainable country; just the political will.

The Australian government subsidises the fossil fuel industry to the tune of \$10 billion each year.¹¹ We need to get the pricing right on energy; it is currently much cheaper to use fossil fuels than renewables. The most important first step for complementary measures is removing these perverse incentives.

The graph below summarises June 2008 modeling by the European Renewable Energy Council and Greenpeace International¹², showing Australia's possible energy pathways from now until 2050. The research shows that at least 40% of Australia's electricity can be supplied by renewable sources by 2020, energy consumption can be cut 16% by 2020, and coal fired power can be entirely phased out by 2030. Furthermore, the report shows how Australia can capitalize on heat wastage through combined heat and power generation, use electricity instead of petrol for transport (through electric cars), and cut consumption of fossil fuels through efficiency. With these measures, the report finds that Australia can reduce our emissions 40% by 2020 over 1990 levels – just from changes to the energy sector!

figure 1: australia: development of primary energy consumption under the reference scenario

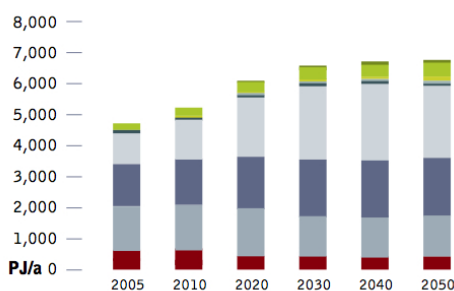
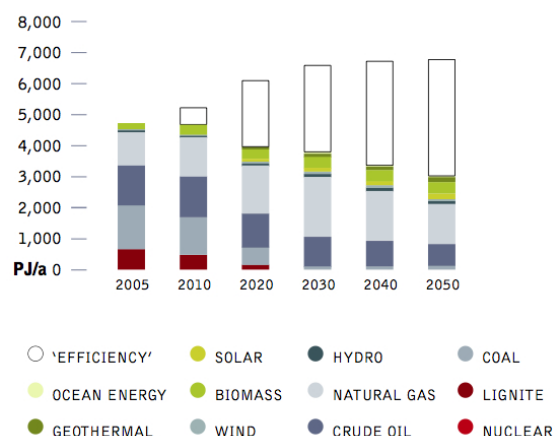


figure 2: australia: development of primary energy consumption under the energy [r]evolution scenario
(*'EFFICIENCY' = REDUCTION COMPARED TO THE REFERENCE SCENARIO)



Australia's energy sector – Business as usual compared with action to reduce carbon pollution¹³

¹¹ Chris Reidy, UTS Institute of Sustainable Futures

¹² Greenpeace International & European Renewable Energy Council *Energy Revolution: A Sustainable Australia Energy Outlook*, June 2008.

¹³ Greenpeace International & European Renewable Energy Council, *Ibid* at 7.

Energy Efficiency in Buildings, Transport and Consumer Goods

Energy efficiency is the first and most important step in reducing Australia's emissions— industrial efficiency, vehicle efficiency, building efficiency and better standards for consumer goods. Our federal government should set a target of 2% per year to reduce Australia's primary energy demand.¹⁴ This is eminently achievable and results in long-term savings for consumers and business as it reduces their reliance on fossil fuels.

Australia can also capitalise on the current heat wastage that is a by-product of electricity generation by using it to warm building interiors, especially those located close to the power generation source. This technology – called combined heat and power – will make power plants (which can be steadily replaced from fossil fuels to biomass and geothermal) more efficient.

Among a recent study of OECD countries¹⁵, Australia has the third most energy hungry economy - with only Canada and US worse performers. Australia has the third highest energy use for passenger kilometres traveled. Between 1990 – 2004, Australia improved our service sector efficiency by only 6%. In contrast, Germany achieved 43%, and the UK 23%.

There are major opportunities for energy savings in residential, commercial and manufacturing – reports show these opportunities are up to 73%, 70% and 46%, respectively. The previous Government's Energy White Paper shows that the uptake of commercial energy efficiency opportunities alone could grow our economy by about \$1 billion a year.

A simple place to start is mandatory efficiency standards for buildings. Old, energy inefficient buildings must be retrofitted, or if that is not possible, replaced. Indeed, L. Hunter Lovins points out that current state-of-the-shelf technologies can make old buildings three-to-four-fold more energy efficient, and new ones nearer 10-fold more energy efficient. And surprisingly, in many cases they are cheaper to build.¹⁶

Decentralised Energy and Large Scale Renewables

Australia can be a leader in renewable energy. Currently, renewable energy generates 9.2% of Australia's electricity. By 2020, approximately 40% of electricity could be produced from renewable energy sources, and this could increase to 70% by 2050.¹⁷ Much of this will be large-scale offshore wind farms, geothermal energy and concentrating solar plants. The idea that renewables are not able to produce base load power is simply not true. In one day, the amount of sunlight reaching Earth produces enough energy to satisfy the world's current power requirements for 8 years.¹⁸ Renewable energy can provide several different clean, safe, base-load technologies to substitute for coal, including bioenergy, hot rock geothermal power (which is being developed in South Australia and Queensland), solar thermal electricity, with overnight heat storage in water or rocks or a thermochemical store; and large-scale, distributed wind power, with a small amount of occasional back-up from a peakload plant like gas.¹⁹

New industries will need to be created and expanded — in energy efficiency, industrial-scale reforestation, renewable energy, large-scale composting, and new clean tech industries. Hundreds of thousands of new jobs will be created, spurred by our investments in these activities. In Germany, already

¹⁴ Ibid at 40

¹⁵The Climate Institute, *Australia's urgent need to boost energy efficiency and productivity*, 13 July 2008 at http://www.climateinstitute.org.au/index.php?option=com_content&task=view&id=197&Itemid=1

¹⁶ L. Hunter Lovins, *Pathways to Sustainability?* at 5-6.

¹⁷ Greenpeace International & European Renewable Energy Council, op cit.

¹⁸ Ibid at 18.

¹⁹ Mark Diesendorf, *The Base-Load Fallacy*, www.energyscience.org.au at 2.

250,000 people are employed in the renewable energy sector and renewable energy exports have boomed.²⁰

Decentralised energy is energy generated at or near the point it will be used, like a small community owned wind farm or solar thermal farms. The centralized grid, with its huge inefficiencies, can be replaced by small-scale, decentralized energy systems. Communities can build and control their own small-scale renewable energy systems – better for the climate and better for energy security.

The Australian Youth Climate Coalition does not believe that nuclear power is a responsible option, because, as Professor Mark Diesendorf states, nuclear power stations:²¹

Produce little pollution during normal operation, but much pollution (including carbon dioxide emissions) from mining, enrichment, plant construction and decommissioning, reprocessing and waste management. They also increase the risks of proliferation of nuclear weapons and have the capacity for rare but catastrophic accidents.

The AYCC urges the Senate Committee to examine measures to break Australia's addiction to coal. New coal-fired power stations are in the process of being either approved or built – two in Western Australia, and one in Victoria's LaTrobe Valley. Coal is responsible for 88% of Australia's electricity generation, and 75% of Australia's greenhouse emissions from energy (including transport and heat)²², and instead of preparing to transition away from it, federal and state governments continue to allow it to expand.

Until Australia comes to term with the fact that coal causes climate change, and that our future therefore must lie in energy efficiency and renewable energy rather than coal, government and business rhetoric about addressing climate change will fail to convince young people that we as a nation are serious about solving the problem.

Transport, Agriculture & Strengthening Communities

Every state in Australia deserves public transport systems that are efficient, fast, reliable and free. This requires large public investment on state and federal levels – starting with, for example, an initial \$10 billion investment. This would be half of the government's 'Building Australia' fund and the same amount as is currently given to the fossil fuel industry in subsidies each year. Cities are much safer and nicer places, fostering community and also reducing particulate air pollution, when they are re-designed to encourage walking and cycling and public transport. In rural, regional and outer suburban areas where vehicles are still required, the nature of vehicles can fundamentally change.

It is not the technology that is holding us back from having efficient vehicles – hybrid, hydrogen and plug-electric cars all exist - but the lack of large-scale *deployment* of these technologies. There are many ways that government can support fuel-efficient cars, including accelerated scrapping of vehicles beyond 15 years, a higher fuel tax excise, and mandatory fuel efficiency standards.

Broad-Scale Changes in Other Sectors

In agriculture, we have the opportunity to move to sustainable systems, organic farming, and localised growing, especially the rise of city farms, which have the added benefit of re-connected city communities with nature. Australia can phase out crops unsuited to our country's dry conditions like rice and cotton, and replace the hugely greenhouse-intensive cattle industry with kangaroo and sustainable crops.

²⁰ Laura Blue/ Schwandorf, Lessons from Germany, *Time*, April 28, 2008 at 46.

²¹ Mark Diesendorf, *The Base-Load Fallacy*, www.energyscience.org.au

²² Calculated using figures from Australian Greenhouse Office, National Greenhouse Gas Inventory 2002

The AYCC urges the Senate Inquiry to examine and learn from Indigenous cultures practices of land management. Aboriginal and Torres Strait Islanders are the people who have the experience and wisdom about sustainable land and water management techniques that worked here for over 60,000 years.

(c) Whether the Government's Carbon Pollution Reduction Scheme is environmentally effective, in particular with regard to the adequacy or otherwise of the Government's 2020 and 2050 greenhouse gas emission reduction targets in avoiding dangerous climate change;

Limiting Australia's emission reduction targets to 5-15% by 2020 below 2000 levels is a betrayal of today's youth.

Recent evidence, such as last year's dramatic Arctic melt²³, suggests that the climate system is responding faster than expected to increasing greenhouse pollution, with observed data being at the upper end, or exceeding, the predictions of the Intergovernmental Panel on Climate Change (IPCC) models.²⁴ The most recent science shows that the climate system is much more sensitive than scientists previously thought and that we may be close to climatic tipping points which can cause irreversible changes.²⁵ Melting is occurring so rapidly in the Arctic that scientists now suggest that there will be no summer ice by 2013²⁶, 90 years earlier than IPCC predictions.²⁷ This is made worse by the fact that global emissions are rising much more quickly than predicted in even the worse case scenarios projected by the IPCC.

Targets of 5-15% undermine the strong global agreement we need, and lock us into an emissions trajectory that presents tangible risks from sea level rise, intense droughts, more infectious diseases, less productive agricultural production, increased conflict over resources, and ultimately ecosystem collapse.

A 5-15% reduction by 2020 over 1990 levels is consistent with a global trajectory of 550 ppm, which locks us into a global average temperature rise of over 2 degrees C. Climate change's impact on the Australian economy is already becoming evident. It is far more expensive to reduce emissions now, than to attempt to adapt to the ever increasing effects of bushfires, droughts and flooding.

For example, 50,000 Australians depend on the Great Barrier Reef (GBR) for their livelihoods. The GBR contributes AUD \$5 billion annually to the Australian economy. Tourism is just one of the many sectors of the economy that will suffer from climate change.

The European Unions Emissions Trading Scheme and its 20- 30% below 1990 levels by 2020 targets has resulted in clear job creation trends. Spain has created 100,000 new "green" collar jobs. Germany has created over 250,000 jobs in renewable energy, estimated to grow to 710,000 jobs by 2030 matching the amount of jobs in the powerful German car making industry.²⁸ Globally, the International Labor

²³ Miller, Barbara 'Ice Melt Worse than Predicted' ABC News (13/12/07), <http://www.abc.net.au/news/stories/2007/12/13/2117735.htm?section=world>.

²⁴ Garnaut Climate Change Review, Interim Report p. 21-22.

²⁵ <http://www.pewclimate.org/impacts/icecap>

²⁶ Maslowski 'Causes of the Changes in Arctic Sea Ice', AMS ESSS Seminar, (3 May 2006); Maslowski, Clement et al. 'On Ocean Forcing of the Arctic Climate Change', Geophysical Research Abstracts 8:05892 and Revkin, 'Retreating Ice: A blue Arctic Ocean in summers by 2013?' (2007) *International Herald Tribune*, <http://www.iht.com/articles/2007/10/01/news/enviro.php> at 9 April 2008.

²⁷ IPCC (2007) 'Climate Change 2007: The Physical Science Basis', Working Group I to the Fourth Assessment Report of the IPCC. This report states that summer sea-ice is projected to disappear toward the end of the 21st century.

²⁸ World Wild Life Fund 'The German feed-in system pushing wind and other renewables to market success' (2008)

Organization (ILO) estimates that job growth in the renewable energy sector alone to grow from 2.3 million jobs in 2006 to 20 million jobs by 2030.²⁹

In Australia, modest climate change policy has already seen its share of benefits. The Government's commitment to the Mandatory Renewable Energy Target is estimated to create 500,000 "green" collar jobs by 2030.³⁰ These jobs will be skilled, and help build Australian international competitiveness in a growing global market. Across the broader community CSIRO economic modeling predicts 2.7 million new jobs will be created by 2025 if we set a course to become carbon neutral by 2050.³¹

There is a lot of talk about job losses in emissions intensive industries. The AYCC believes that well-planned "just transitions" measures for workers and communities reliant on these industries must begin to be implemented now, to minimize hardship and disruption and ensure that the transition to a low-carbon economy is done in a fair and generous way to those most affected.

It is worth keeping in mind that in Australia today, more people work in restaurants and cafes than in mines. Bunnings employs almost one and half times more people than the entire aluminium industry. Overall, mining accounts for less than 15% of Australia's GDP.³²

The AYCC asks all Australian politicians to find the moral courage to set targets to reduce greenhouse emissions in line with what recent climate science and global justice demands.

The IPCC has recommended that developed countries like Australia reduce their emissions at least 25-40% over 1990 levels by 2020 in order to achieve a 50% chance of avoiding a global average temperature rise of 2 degrees C. From our perspective, a 50% chance of avoiding 2 degrees is not safe for our generation. Those odds are not enough to protect our future. Thus, Australia must set targets that will at least give us a chance of getting the global deal we need to reduce greenhouse emissions to 350 ppm Co2 – at least 50% by 2020.

We call for the Government's current targets to be left out of the legislation – to leave them in locks us in to a maximum emissions reduction of 5 – 15% - which is manifestly out of touch with climate science.

Cap Review Time

The way the scheme is designed, the Government can alter the cap but only for a point five years in the future, and even then it must stay within the 5-15% target range by 2020. In addition to the annual emissions caps being set on a five-year rolling basis, the subsequent 10 years of gateways will be set every five years.

The combined effect of these rules provides at least 10 to 15 years of caps — 5 years of set caps and 10 years of a cap range. Consequently, the Government will not be able to reduce the caps in response to new science, new technologies, increased voluntary action and international developments.

This is a key concern as recent evidence suggests that the climate system is responding more quickly to increasing greenhouse gas emissions than expected, with observed data being at the upper end, or

²⁹ ILO Green Jobs: Toward a Sustainable, Low Carbon World (2008) *UNEP*

³⁰ Australian Conservation Foundation and Australian Council of Trade Unions 'Green Gold Rush' (2009)

³¹ CSIRO from ACF <http://www.acfonline.org.au/articles/news.asp?news_id=1963> accessed 7 April 2009

³² Guy Pearse, Quarry Vision: Coal, Climate Change and the End of the Resources Boom, Quaterly Essay Issue 33 2009 at 11.

exceeding, IPCC climate model predictions³³. The most recent science demonstrates that the climate is much more sensitive to global forcings than previously thought and that we may be close to tipping points which can cause irreversible changes to the natural systems that support human life. For instance, melting is occurring so rapidly in the Arctic that scientists now suggest that there will be no summer ice by 2013³⁴, 90 years earlier than IPCC predictions.³⁵ This is made worse by the fact that global emissions are rising much more quickly than predicted in even the worse case scenarios projected by the IPCC.³⁶ It is crucial that cap reviews be conducted every two years with a primary focus on setting and achieving carbon pollution reduction targets in line with best available science.

Australia has not only failed to keep pace but is falling further and further behind the rest of the world. To be a credible player in the global effort to avoid catastrophic climate change, Australia needs to ensure that government action is able to respond to international developments through implementing flexible policies.

The AYCC strongly recommends that the Government improve its international standing by reviewing the targets or gateways set under the CPRS every two years of operation of the scheme. The CPRS states that the Ministers declaration of the national scheme cap number is to be based on greenhouse gas concentrations and Australia's international obligations. However at the same time it restricts government action and policy flexibility in response to new science, increased voluntary action and international developments.

The legislative approach must position Australia to react to the changes that occur by allowing greater flexibility to tighten the caps through regular reviews every two years. The government must have a mechanism that allows the cap to be reviewed if new climate science dictates and new developments take place in the international arena.

The Australian Government still has a chance to lead the world with innovative climate policy. To ensure we are well placed to do so, it is crucial that we have legislation that is flexible so that we can be responsive to change and thus adequately mitigate projected climate change impacts.

The AYCC contends that requiring the Minister to declare the national scheme cap number for five years in advance is too long term to allow for the new Climate Change science to recommend scheme cap numbers that will adequately mitigate projected impacts. This comment is supported by part 2, section 14, item 5a-c) which states that the Minister's declaration of the national scheme cap number be based on greenhouse gas concentrations and Australia's international obligations.

The AYCC recommends that this item be reconsidered to allow for changes to the scheme cap every 2 years. This adjustment should be performed in line with changes to Climate Change understanding and international agreements. This change could be expressed as; *"regulations declaring the national scheme cap number for a later eligible financial year are made at least 2 years before the end of the later eligible financial year."*

³³ Ibid. 21-22

³⁴ Maslowski 'Causes of the Changes in Arctic Sea Ice', AMS ESSS Seminar, (3 May 2006); Maslowski, Clement et al. 'On Ocean Forcing of the Arctic Climate Change', Geophysical Research Abstracts 8:05892 and Revkin, 'Retreating Ice: A blue Arctic Ocean in summers by 2013?' (2007) *International Herald Tribune*, <http://www.iht.com/articles/2007/10/01/news/enviro.php> at 9 April 2008.

³⁵ IPCC (2007) 'Climate Change 2007: The Physical Science Basis', Working Group I to the Fourth Assessment Report of the IPCC. This report states that summer sea-ice is projected to disappear toward the end of the 21st century; *Green Paper: Carbon Pollution Reduction Scheme*, Department of Climate Change, July 2008, p 58

³⁶ Garnaut, above n 1, p15

(d) An appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be;

The Australian Youth Climate Coalition is part of the global youth climate network, which encompasses youth climate networks like ours in every region of the world. There is a growing youth movement around the globe, all of us pushing our own Governments to take stronger action on climate change.

AYCC urges the Inquiry to examine the Contraction & Convergence theory, which ultimately aims for every individual to have equal per capita emissions no matter which country he or she resides in. The Australian Government should also take into account the concept of environmental debt – that we are responsible for historic emissions and have used up more than our fair share of the global atmosphere.

The Australian Government should also make immediate provisions to support climate refugees, especially from our region. Our aid budget must substantially increase to fund climate mitigation and adaptation measures in developing countries.

(e) Whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues;

The AYCC believes that the proposed scheme is completely inadequate given the low targets, generous assistance to EITE Industries and cash payments directly to coal fired generators.

We believe the government must have a stronger hand in promoting research into green job creation, noting only a minor CSIRO report into green jobs last year.

Right now, Australia does not have an adequate green job workforce. The skills shortage is especially acute in environmental industries like wind and solar design, manufacturing, and installation. Australia even has a shortage of climate scientists. The Australian government has an opportunity to address this challenge through a national green-job program.

Green jobs encompass many areas - insulating homes, building and operating more public transport, retrofitting office blocks, farming sustainably, building and install wind turbines and solar panels in every community. This will take tens of thousands of people and millions of hours of work. It will create jobs. To stop climate change, we need *not only* good policies, but also workers to implement these policies. Transitioning to a new, clean economy will create jobs; and these jobs need to go to those who need them the most, to make sure that all parts of society are brought along – and leading – our journey to sustainability.

The Australian government could begin a national green job program, with the aim of creating the workforce with the ability to solve the climate crisis. This means redesigning curriculum in schools, TAFE and Universities, and working with industry to create world-class skills and training to develop 'job-ready' young people for sustainable careers. This means well thought-out 'just transitions' schemes for those workers already employed in carbon-intensive industries like coal, gas, aluminium and cement: a way for these workers to transition out and into more sustainable work, with fair retrenchment packages and re-training into other industries. New industries will emerge and grow to be the next powerhouses of the Australian economy, and we will have the people to drive these industries.

In the United States, for example, the Green Jobs Act is an initial pilot program to identify needed skills, develop training programs, and to train workers for jobs in a range of renewable energy and energy efficiency industries. This bill directs \$125 million annually for greening the nation's workforce, including job training for 35,000 people. The bill authorizes \$25 million each year to fund programs like the Oakland Green Jobs Corps, to create green pathways out of poverty for low-income people. The Oakland Green Jobs Corp is an amazing partnership between employers in the Bay Area, and local public benefit organisations who train young adults with barriers to employment (e.g., lack of job skills, lack of education, language/cultural barriers, or history in juvenile/criminal justice system) in green-collar careers. The scheme is funded by the City Council, and came about through a campaign run by a coalition of Unions, public benefit organisations and employers aiming to transform Oakland into a national example of a blue-collar town transformed into a green-collar powerhouse. Their vision is for Oakland to become a model sustainable city that creates high quality jobs for its residents while cleaning up the environment, improving public health and helping America achieve energy independence.

The Australian Government should encourage and create similar programs in Australia.

(f) Any related matter

The AYCC would like to provide young people from areas affected by climate change to give testimony for the Senate Inquiry. For example, we have young people willing to testify from a variety of backgrounds: Young Indigenous people being culturally affected by climate change, young people from coal-mining communities, and young farmers being affected by the drought.

Conclusion

Is Australia innovative enough and resourceful enough make such large changes in a short period of time, as has happened in previous periods of human history?

Much greater material sacrifices have been made by generations who are still with us today. Our grandparents, and probably yours, can tell you all about it. We have so much strength in Australian society, both in our past and in our future, and we certainly have the creativity and natural wealth to lead the world in sustainability.

The choice is ours.

About the AYCC

The AYCC unites youth organisations to build a generation-wide movement to ensure that adequate action is taken to address and avert the climate crisis. The AYCC believes that climate change is primarily a moral issue and that young people are uniquely placed to provide this perspective. As a coalition the AYCC combines the skills, knowledge and energy of a diverse range of young people to leveraging our collective power to create a clean, efficient, just and renewable energy future. The role of the AYCC is both to facilitate, coordinate and support its member groups carrying out their activities and to develop collaborative national projects and campaigns. The AYCC seeks to inspire, train, empower and mobilise young Australians to take action on climate change individually, within their community or regional area, nationally and internationally, and to insist that immediate and meaningful action is taken to reflect the severity and urgency of the crisis we face.

Our membership includes: *Australian Climate Change Education Network, Affinity, AIESEC, Australian Medical Student Association (AMSA), Australian Student Environment Network, Australian Youth Affairs Coalition (AYAC), Centre for Sustainability Leadership (CSL), Engineers without Borders, International Young Professionals Foundation (IYPF), Just Act, Law Students for a Just Community (LSJC), National Indigenous Youth Movement of Australia (NIYMA), National Union of Students (NUS), The Oak Tree Foundation, Oz Green, Sai Youth (Multi-Faith Youth Network), Student Organised Network for Architecture (SONA), The Otesha Project (Australia): Cycling for Sustainability, United Nations Youth Association of Australia, Vision Generation and University Environment Collectives & high school groups*