

To: Professor Ross Garnaut
cc: The Hon K Rudd, Prime Minister
cc: The Hon W Swan, Treasurer
cc: Senator the Hon P Wong, Minister for Climate Change and Water
cc: The Hon M Ferguson, Minister for Resources and Energy

11th April 2008

Dear Professor Garnaut,

Greenpeace submission to Garnaut Review

Thank you for the opportunity to make a submission to the Garnaut Climate Change Review. Greenpeace would like to draw your attention to the submission already made by the Climate Action Network Australia (CANA) of which we are members, and ask that this submission be read in conjunction with the CANA submission.

Greenpeace would like to make the following recommendations to the Review:

1. A legislated target to reduce greenhouse gas emissions by at least 40% below 1990 levels by the year 2020

The IPCC has identified that to keep warming between 2°C and 2.4°C developed countries' emissions must peak by 2010, and then fall 25-40% below 1990 levels by 2020. This was recognised by the Australian Government at the UNFCCC meeting in Bali in December 2007.

As acknowledged in the Garnaut Interim Report, Australia has a high vulnerability to climate impacts. It is therefore in our interests to restrict anthropogenic warming of the atmosphere as much as possible. However, as one of the highest per-capita polluting nations in the world, we have a disproportionately high responsibility for producing greenhouse gas emissions for a country our size. In spite of this, Australia managed to negotiate a target under the Kyoto Protocol that allowed us to increase our CO₂ emissions by 8% from 1990 levels. Greenpeace believes that Australia has a political and moral obligation to show leadership on reducing greenhouse gas emissions and that this leadership will be essential in driving future international negotiations to reduce emissions globally. Australia's commitment to addressing domestic emission levels will directly impact on our effectiveness to advocate for global action.

The need to set a strong national 2020 target is underscored by the brief window of opportunity to turn around the rising trend in emissions. Urgent action, driven by government leadership, bold targets, effective incentives, and major investment in energy efficiency and

renewable energy is needed to change the trajectory of Australia's emissions and set us on a pathway that will deliver the long term reductions that are required.

Greenpeace believes that the Australia Government should set a domestic national target for reducing greenhouse gas emissions of at least 40% below 1990 levels by the year 2020.

2. A moratorium on new coal-fired power stations and extensions to existing coal fired power stations

Australia is one of the most coal-dependent countries in the world, with approximately 85% of Australia's electricity generation requirements coming from coal-fired power¹. New coal-fired power plants are being planned or proposed in a number of Australia states. A typical large coal-fired power station emits about 15 million tonnes of CO₂ each year². Australia is already one of the world's largest per capita greenhouse gas emitters and adding new coal-fired electricity generation capacity in Australia will make the task of reducing CO₂e emissions to safe levels virtually impossible.

Advocates of coal-fired power generation believe technological solutions such as carbon capture and storage (CCS) will reduce carbon emissions from coal-fired power stations. Yet CCS technologies are not yet commercially available, nor are expected to be commercially available until at least 2020.³ The IPCC has estimated that significant deployment of CCS would not take place until the second half of the century⁴, and that "technical, economic and regulatory developments" of CCS will affect the contribution it can make.⁵ A range of outstanding issues in relation to CCS remain unresolved: the technologies are not yet available on the scale necessary to bury the millions of tonnes annually, suitable sites for burying these wastes have not been identified, and the potential environmental and human health risks of leakage of CO₂ from underground or oceans storage have not been identified. CCS is therefore unable to contribute to short-term emission reductions targets and should not be considered as part of solution to greenhouse emission reductions

In keeping with the urgency and scale of reductions in greenhouse gas emissions required by 2020, and with the abundance of renewable energy resources in Australia, it is entirely untenable to build new coal-fired power stations or extensions to existing power stations.

¹ Australian Greenhouse Office (2005) National Greenhouse Gas Inventory
<http://www.greenhouse.gov.au/inventory/2005/pubs/inventory2005.pdf>

² Diesendorf/Greenpeace (2007) "Paths to a low-carbon future".

<http://www.greenpeace.org/raw/content/australia/resources/reports/climate-change/paths-to-a-low-carbon-future.pdf> Yallourn brown coal-fired power station and Bayswater black coal-fired power station emit 17.3 and 14 million tonnes of CO₂ respectively.

³ the National Generators Forum believing that 2020 would be the earliest possible time in which the technology could be commercialized, www.abc.net.au/7.30/content/2007/s2210205.htm

⁴ IPCC (2005) "Carbon dioxide capture and storage". Technical Summary 8. Costs and Economical Potential, p 44.

⁵ IPCC Fourth Assessment Report, Working Group III, Mitigation of Climate Change, Summary for Policy Makers.

3. A phase out of existing coal-fired power stations

Approximately 180 million tonnes of CO₂ are emitted from Australia's coal-fired power stations each year⁶ and emissions from the electricity sector have been growing rapidly. A In 2007, Greenpeace commissioned report that demonstrated how 133.8 Mt of greenhouse emissions could be saved from a business as usual scenario in electricity generation through a combination of energy efficiency measures and expanding renewable energy capacity to take the place of coal-fired power.⁷

“Reductions in greenhouse gas emissions must occur in all sectors but it is important to recognise the potential to make major reductions in electricity generation and prioritise a phase out of coal-fired electricity in planning to reduce Australia's greenhouse gas emissions.”

The notion that renewable energy cannot provide base-load power is a misguided one. There are already many sources of renewable energy that can provide steady and strong supplies of electricity, and by developing a broad range of renewable energy technologies, including a mix of solar thermal with storage, geographically distributed wind turbines, and bio-fuels, both base-load and peak energy requirements can be met. Geothermal energy also has the potential to provide significant proportion of base-load power.

Phasing out existing coal-fired power stations is necessary and inevitable if we are to meet targets to reduce greenhouse gas emissions to safe levels.

4. Stop Export Coal

Around 70% of coal mined in Australia is exported. Australian coal exports are our major indirect contribution to global warming through the release of millions of tones of CO₂ annually through the combustion of coal overseas. The current demand for Australian coal in markets is artificially boosted because the real costs of coal are not internalised and, as in Australia, there are many perverse subsidies promoting the use of coal

Some argue that it would be irresponsible and ineffectual for Australia to halt coal exports as developing country economies need energy and that if Australia does not supply coal then it will be supplied from other countries. Yet none of the coal exported from Australia currently (or for at least the next 20 years) will have its CO₂ emissions resulting from combustion sequestered, as CCS technology will not be available or widely utilised in that time frame. Nor, as discussed above, is there any guarantee that CCS technologies will ever deliver the required emission reductions from burning coal. Therefore Australia's coal exports could continue to contribute to global CO₂ emissions well into the future.

It is not ethical or sustainable for the Australian economy to be further locked into an export commodity that fuels global warming. Shifting to clean energy technology transfer will

⁶ Australian Greenhouse Office (2005) National Greenhouse Gas Inventory
<http://www.greenhouse.gov.au/inventory/2005/pubs/inventory2005.pdf>

⁷ Diesendorf/Greenpeace (2007) “Paths to a low-carbon future”.

<http://www.greenpeace.org/raw/content/australia/resources/reports/climate-change/paths-to-a-low-carbon-future.pdf>

provide a sustainable export revenue stream for Australia, create thousands of new jobs as well as genuinely assist long term development of clean energy systems globally.

Greenpeace believes there should be moratorium on new export coal mines providing thermal coal to global markets.

5. Renewable Energy and Energy Efficiency

Scaling up deployment of proven renewable energy technologies combined with investment in and regulation of energy efficiency are the solutions to turning around the projected growth in Australia's energy consumption. By doing these things on a large scale, within a few years we could begin to start turning off the most polluting coal-fired power stations.

Australia is blessed with abundant renewable energy resources with wind, solar and geothermal resources among the best worldwide. Unfortunately because we have failed to adequately support the renewable energy industry, it lags behind the rest of the world, however potential development opportunities are significant.

There are also massive gains to be made in energy efficiency in commercial industrial sites and households. The United Nations has estimated that industrialised countries can become 25-35% more energy efficient in the next 20 years at no net cost.

Greenpeace believes that the Government should expand and extend the renewable energy target, and that it should operate in parallel to any emissions trading scheme. The Government should also regulate and invest heavily in energy efficiency measures, set a national energy efficiency target, and commit to strong research, development and investment in energy efficiency and renewable energy technologies.

6. Emissions Trading Scheme

An Emissions Trading Scheme (ETS) must meet a number of key design tests to ensure that it effectively, efficiently and equitably delivers significant emission reductions. However, an ETS will not on its own, achieve the necessary short-term reductions required, and must be complemented by a suite of policy settings, such as a strong renewable energy target, and energy efficiency regulation and programmes, that will drive rapid and deep emission cuts.

Greenpeace believes that the emissions trading scheme must be consistent with Australia's national short-term emission reductions target and should be reviewed periodically to ensure response to new scientific evidence. 100% of permits should be auctioned from the outset of the scheme and any adjustment assistance to trade exposed industries should sit outside the ETS. The ETS should cover at least 70% of Australia's emissions, omitting only agriculture, land use and forestry unless robust measurement of these sectors can be achieved in the future. Revenue from the ETS should be used to support the deployment of climate change solutions and minimize the impact of climate change on those most affected.

Greenpeace, in conjunction with the Total Environment Centre and the Climate Action Network Australia (CANAN), issued in March 2008 a paper outlining the key tests for an Emissions trading Scheme. (Attached) Recommendations on targets, permit allocation, adjustment measures, coverage, international links and governance are outlined.

7. Tax reform to remove public subsidies to fossil fuels.

Research commissioned by Greenpeace has revealed more than \$9 billion of state and federal government subsidies annually that encourage fossil fuel use.⁸ Most of these subsidies result in an increase in greenhouse gas emissions, thereby resulting in perverse public policy outcomes. Also, many fossil fuel subsidies are economically perverse, artificially reducing the price of fossil fuels.

Greenpeace supports the removal of public subsidies that lead to increased greenhouse gas emissions. Public funding should be prioritised for the development and deployment of technologies that can be relied upon to deliver emission-free energy within the 2020 timeframe and to the support of communities that may be affected by the implications of an economic restructure to a low carbon economy.

A comprehensive review of the taxation system and energy and transport subsidies is required to ensure that climate protection is integrated into public spending.

8. Supporting affected communities, workers and low-income households

Greenpeace welcomes the acknowledgement in the Garnaut Interim Report of the need for support to affected workers and communities in the economic restructuring required for a shift to a low-carbon economy. Greenpeace, with many other environmental organisations and labour unions, refers to this process as a 'Just Transition'.

Particular industries will suffer the most in a carbon restrained global economy, including trade-exposed energy intensive industries (TEEIs), coal mining and export industries as well as coal-fired power generation. A Just Transition accepts that workers in these sectors face eventual displacement in a low carbon economy and recognises the needs of current and future generations for secure and low-carbon intensity jobs and lifestyles. A Just Transition builds collaborations rather than conflict and avoids false 'jobs vs. the environment' dichotomies. Failure to plan for and create a Just Transition means that the cost of moving away from a carbon-based economy will devolve unfairly onto workers in targeted industries and their communities. Support for workers and for low-income households affected by economic restructuring is a key element of a Just Transition.

A Just Transition process offers scope for economic and social transformation linked to Green Job creation and related social development⁹. The Australian Council of Trade Unions (ACTU) noted that a Just Transition is needed to deal with the challenges of climate change, and requires new partnerships of the labour movement, government, industry, local communities and training providers to retrain and re-skill workers into jobs in the renewable

⁸ Riedy, C. (2007) *Energy and Transport Subsidies in Australia: 2007 Update*. Sydney, Australia: Institute for Sustainable Futures, University of Technology Sydney.

⁹ United Nations Environment Program, World Health Organisation, International Labour Organisation (2007) *Labour and the Environment: A Natural Synergy*. Nairobi, Kenya, UNEP. [Online] Available at: www.unep.org/labour_environment/PDFs/UNEP-labour-envsynergy.pdf

energy industry¹⁰. The ACTU policy recognises the tremendous potential of renewable energy to create additional jobs in development, installation and operation phases.¹¹

Greenpeace believes that a Just Transition involves assistance for displaced workers, contractors and local communities involves:

- Support for innovation and partnerships for new industries, research and development, tax relief, infrastructure investments
- Training and alternative employment tailored to local and individual needs and opportunities
- Relocation assistance for workers and contractors
- Cheap loans for local business development
- Subsidies to new employers
- Support for displaced workers, including income maintenance, redundancy entitlements and retraining allowances
- Compensation and equipment buy-outs for contractors
- Assistance programs for workers employed by contractors
- Prioritisation of low and fixed income individuals and households for energy efficiency programs
- Income support for low-income households to meet rising energy costs and install energy efficiency technology.
- Establishment of Regional Economic Development Funds to facilitate research and investment incentives for the establishment of new industries and jobs in targeted areas.

The transition should be funded from income from an Emissions Trading Scheme and/or from the removal of subsidies that encourage and support fossil fuel use. The funds for this transition should be prioritised to coal-affected regions such as the Hunter Valley, Lithgow and Illawarra regions of NSW, Latrobe Valley of Victoria, Bowen and Surat Basins of Queensland and Collie region of Western Australia.

The implementation of a Just Transition offers opportunities for the creation of thousands of new jobs in energy efficiency and the renewable energy industry, a potential revitalisation of the Australian manufacturing sector, and support for workers and low-income households affected by transition to a clean energy economy.

10 Australian Council of Trade Unions (ACTU) (2007) *Principles and Policy on Global Warming: ACTU Position Paper*. Melbourne, ACTU.

⁶ "Increasing the share of renewable energy in the total energy mix is possible without damaging existing industry and with continuing growth in high quality jobs, as the EU experience demonstrates." (ACTU, 2007, p.6)

9. Green jobs

It has been demonstrated that many thousands of new jobs can be created in renewable energy and energy efficiency industries, many more than in current fossil fuel industries.¹²

Investment in renewable energy generates more jobs per dollar invested than the fossil fuel sector¹³, with the solar photovoltaic industry, for example, generating 5.65 persons per year of employment and the wind energy industry generating 5.7 persons per year of employment per million dollars over ten years. These job-creation figures contrast favourably with the much smaller 3.96 persons per year of employment generated for each one million dollars invested in coal industry over the same period.

The coal-fired electricity generating capacity installed in the Hunter Valley in 2008 is around 6000 MW. A California study estimated that building 5,900 MW of renewable energy capacity in California would generate 28,000 year-long construction jobs, and 3,000 permanent jobs in operations and maintenance over 30 years of operation.¹⁴ Removing subsidies to fossil fuels, combined with a system of tradeable carbon emission permits would more than provide sufficient funds for a just transition process for energy workers and create more jobs than would be lost.¹⁵

Energy efficiency and renewable energy installation offers good potential for providing high quality jobs for those with barriers to employment. In the USA, the Apollo Alliance, a coalition of labour unions, environmentalists and community organisations campaigning for clean energy and new jobs, works with local organisations, such as the Ella Baker Centre and the City of Berkeley in California to create 'Green Collar' jobs: 'blue collar jobs in green businesses whose products and services directly improve environmental quality' with particular emphasis on jobs for disadvantaged youth.¹⁶

A report commissioned by the Australian Conservation Foundation, Greenpeace and the Climate Change Action Network (CANAN) found that a 25% renewable energy target by 2020 would deliver 16,600 new jobs to Australians, as well as generating \$33 billion in new investment and enough renewable electricity to power every home in Australia.¹⁷

12 Singh, V.S. and Fehrs, J. (2001) *The Work That Goes Into Renewable Energy. Renewable Energy Policy Project*. [Online] Available at http://www.crest.org/articles/static/1/binaries/labor_final_rev.pdf; Turkenburg, W.C. (2001) 'Renewable energy technologies', in J. Goldenberg (Ed.), *World Energy Assessment: Energy And The Challenge Of Sustainability* (pp.220–274). New York, NY: UNDP, UN-DESA, World Energy Council; Heavner, B. and Del Chiaro, B. (2003) *Renewable Energy and Jobs Employment Impacts of Developing Markets for Renewables in California*. Sacramento, CA, USA: Environment California Research and Policy Center; Saddler, H., Diesendorf, M. and Denniss, R. (2004) *A Clean Energy Future for Australia*. Sydney and Melbourne, Australia: Clean Energy Future Group.; Sawin, J.L. and Prugh, T. (2004) *Mainstreaming Renewable Energy in the 21st Century*. Washington, DC: Worldwatch.

13 Kammen, D., Kapadia, K. and Fripp, M. (2004) *Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate?*. Berkeley, CA, USA: University of California Berkeley.

14 Heavner, B. and Churchill, S. (2002) *Renewables Work: Job Growth from Renewable Energy Development in California*. Sacramento, USA: CALPIRG Charitable Trust.

15 Marshall, D. (2002) *Making Kyoto Work: A Transition Strategy for Canadian Energy Workers*. Ottawa, Canadian: Centre for Policy Alternatives.

16 Pinderhughes, R. (2007) *Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment*. Berkeley, CA: City of Berkeley Office of Energy and Sustainable Development.

17 Rutovitz, J. (2007) *A Bright Future: 25% Renewable Energy for Australia by 2020*. Carlton, Australia: Australian Conservation Foundation, Greenpeace Australia Pacific, Climate Action Network Australia.

Successful regional-scale transitions from dirty to clean industries indicates a need for multi-faceted intervention by government that provides regulatory frameworks, market incentives and regional development support.¹⁸

The shift to a low carbon economy offers enormous potential for green job creation specifically in relation to supporting a transition for communities currently dependent on coal. Income generated from carbon emission permits should be directed towards green job creation which has potential to provide satisfying and secure employment in disadvantaged communities.

We thank you for your consideration of the above issues as you continue your work on examining the impacts of climate change on Australia, and make recommendations for policy to manage this very important issue.

Yours sincerely,



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18 Binder, M., Jänicke, M. and Petschow, U. (Eds.) (2001) *Green Industrial Restructuring: International Case Studies and Theoretic Interpretations*. Berlin, Germany: Springer.