Garnaut
CLIMATE CHANGE
REVIEW

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Organisation: **Australian Network of Environmental Defender's Offices (ANEDO)**

Contact person: **Rachel Walmsley**

Postal address: **Level 1, 89 York Street, Sydney**

State: **NSW** Postcode: **2000** Country: **Australia**

Email address: **rachel.walmsley@edo.org.au**

Telephone: **02 9262 6989**

Submission title: **ANEDO submission on the Garnaut Climate Change review – Interim Report.**

Author(s): **Richard Merzian**

No. of pages: **14**

Date: **11th April 2008**

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This submission addresses the Interim Report. ANEDO is submitting separate submissions relating to:

- **Issues Paper 6 - Emissions Trading Scheme Discussion Paper**
- **Issues Paper 4 – Research and Development: Low Emissions Energy Technologies**

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australian network of environmental defender's offices

Submission on the Garnaut Climate Change review – Interim Report to the Commonwealth, State and Territory Governments of Australia

11th April 2008

The Australian Network of Environmental Defender's Offices (ANEDO) consists of nine independently constituted and managed community environmental law centres located in each State and Territory of Australia.

Each EDO is dedicated to protecting the environment in the public interest. EDOs provide legal representation and advice, take an active role in environmental law reform and policy formulation, and offer a significant education program designed to facilitate public participation in environmental decision making.

Contact Us

EDO ACT (tel. 02 6247 9420)
edoact@edo.org.au

EDO NSW (tel. 02 9262 6989)
edonsw@edo.org.au

EDO NQ (tel. 07 4031 4766)
edonq@edo.org.au

EDO NT (tel. 08 8982 1182)
edont@edo.org.au

EDO QLD (tel. 07 3211 4466)
edoqld@edo.org.au

EDO SA (tel. 08 8410 3833)
edosa@edo.org.au

EDO TAS (tel. 03 6223 2770)
edotas@edo.org.au

EDOVIC (tel. 03 9328 4811)
edovic@edo.org.au

EDO WA (tel. 08 9221 3030)
edowa@edo.org.au

Introduction

The Australian Network of Environmental Defender's Offices Inc (ANEDO) is a network of 9 community legal centres in each state and territory, specialising in public interest environmental law and policy. ANEDO welcomes the opportunity to provide comment on the *Garnaut Climate Change Review – Interim Report to the Commonwealth, State and Territory Governments of Australia* ('Interim Report').

We welcome the recognition in the Interim Report of the environmental and economic significance of climate change to Australia, and strongly support the recognition of the need for Australia to adopt a strong position on mitigation involving clear set targets for 2020 and 2050.

ANEDO would like to see clear and progressive laws and policies established in Australia to: facilitate meeting our international emissions reduction obligations, increase our investment, development and use of renewable energy technologies, develop our role as a climate change leader in the region.

This submission makes comment on the following areas canvassed in the Interim Report:

1. **Climate science –** danger levels and tipping points
2. **Costs of climate change –** the need for public investment
3. **Mitigating climate change**
    a. International frameworks – principles for effective international action
    b. Regional Agreements
4. **Living within our carbon budget**
    a. Emissions Trading Scheme
    b. Research and development
    c. Addressing market failures and implementing complementary policies
5. **Implications of addressing climate change for Australia**

ANEDO has prepared separate submissions on Garnaut Climate Change review: *Issues Paper 6 - Emissions Trading Scheme Discussion Paper*; and *Issues Paper 4 – Research and Development: Low Emissions Energy Technologies*.

1. The Climate Science

Australia's obligation as a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) is to stabilise emissions "at a level that will prevent the dangerous anthropogenic interference with the climate system."[1]

This international obligation poses both a scientific and subjective question. What level is dangerous in this context? Some scientists believe we are "already experiencing dangerous climatic change" and that "the question is whether we can avoid catastrophe."[2] Ultimately, 'dangerous' climate change is climate change which threatens the sustainable survival of the human species, and therefore encompasses climate change impacts upon those ecological and other natural processes and systems upon which the human species depends for its sustainable survival.

The Garnaut Review Issues Paper 3 maintains that "a mean global temperature increase of 2°C [is] widely considered the maximum level of warming that may avert 'dangerous climate change' (and the current European Union target)."[3]

Looking at the numbers, the average global temperature has already increased 0.7°C since the start of the industrial age and with time lag an additional 0.6°C is further locked into the atmosphere, putting the global average at a 1.3°C increase since the start of the industrial age.[4] There remains a 0.7 degree window of opportunity. The Climate Action Network, an association of 365 Non-Governmental Organisations believes we should keep "as far below 2°C as possible."[5] If 2°C is the maximum threshold before 'dangerous climate change' occurs then as far below that threshold seems reasonable.

The global climate is a non-linear system, meaning that any one of many tipping points could thrust it disproportionally further towards irreversible destabilisation. ANEDO supports the Garnaut Review's evaluation of the 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), but would like to add that the 4th Assessment Report for the most part aggregates a generally linear climate system.[6] An International Report in the Proceedings of the National

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[1] Article 2, UNFCCC (1992).
[2] Holdren, Dr. John, American Association for the Advancement of Science (speech available at http://belfercenter.ksg.harvard.edu/experts/140/john_p_holdren.html).
[3] Issues Paper 3, 'Climate Change: What is the science telling us?' p4.
[4] Timothy M. Lenton, 'Tipping points in the Earth system', available at http://researchpages.net/ESMG/people/tim-lenton/tipping-points/ (accessed 02/04/08).
[5] See 'CAN submission on the Bali Action Plan, under the AWG-LCA' (last updated 31/03/2008) available at http://www.climatenetwork.org/climate-change-basics/by-meeting/bangkok-awgkp-awglca/CAN_1CP13%20workplan%20submission_FINAL-1.pdf/view .
[6] Lenton, above at n4; He notes that the IPCC (i) tends to focus on global mean quantities (e.g. temperature, sea-level) that aggregate and average over regional scale spatial variability, (ii) these global average projections often come from a simple box model (MAGICC) that has been 'trained' to emulate large scale features of state-of-the-art general circulation models (GCMs) but not their non-linear and stochastic features, (iii) where GCM output is shown it is typically averaged over relatively long time windows, and sometimes over ensembles of runs, in order to iron out short-term temporal variability.

Academy of Sciences Journal this year indicated 9 potential tipping points.[7] Once a tipping point is reached, the climate shifts dramatically. As the lead author notes, "Society may be lulled into a false sense of security by smooth projections of global change".[8]

The IPCC 4th Assessment Report notes two particular tipping points: the possible collapse of the Atlantic thermohaline circulation and the irreversible melt of the Greenland ice sheet.[9] The latter is predicted to be the closest to tipping, with the rate of melting apparently increasing every summer.[10]

Given the non-linear variability of our climate and the potential for tipping elements, will the maximum threshold of 2 degrees be sufficient to meet the international obligation of preventing dangerous anthropogenic interference with the climate system? The Interim Report maintains that the only available target is stabilising greenhouse gas concentrations at between 445-490 parts per million (ppm) CO_2-equivalent, with emissions peaking between by 2015.[11] Unfortunately that range only gives a 50% chance of remaining below 2 degrees. This involves a high degree of risk, even without factoring in the need to 'overshoot'.[12]

In terms of contributing to the body of climate science in order to better inform the setting of interim and long term targets that will be effective, Australia could play a valuable role within the region. The Alliance of Small Island States (AOSIS) has called for a report on impact and vulnerability of Small Island Developing States (SIDS), and the Least Developed Countries (LDCs) are interested in further vulnerability studies. Australia could assist our closest Pacific neighbours in undertaking such studies, and could augment the capacity of SIDS and LDCs by providing peer review assistance. Assisting countries within the region in this way could provide important information consistent with the concerns raised by the

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[7] The tipping points include: 1. Arctic sea ice: some scientists believe that the tipping point for the total loss of summer sea ice is imminent. 2. Greenland ice sheet: total melting could take 300 years or more but the tipping point that could see irreversible change might occur within 50 years. 3. West Antarctic ice sheet: scientists believe it could unexpectedly collapse if it slips into the sea at its warming edges. 4. Gulf Stream: few scientists believe it could be switched off completely this century but its collapse is a possibility. 5. El Niño: the southern Pacific current may be affected by warmer seas, resulting in far-reaching climate change. 6. Indian monsoon: relies on temperature difference between land and sea, which could be tipped off-balance by pollutants that cause localised cooling. 7. West African monsoon: in the past it has changed, causing the greening of the Sahara, but in the future it could cause droughts. 8. Amazon rainforest: a warmer world and further deforestation may cause a collapse of the rain *(con)* supporting this ecosystem. 9. Boreal forests: cold-adapted trees of Siberia and Canada are dying as temperatures rise. The last review of scientific research to feed into the IPCC was from October 2005 (Ben McNeil, Speech NSW Parliament House 11/04/08). The feedback loops especially the Ice Melts in the Artic and Greenland have accelerated at an incredible rate in the last three years.

[8] Ibid.

[9] IPCC 4th Report, Working Group 1 'Summary for Policymakers', p5.

[10] 'Greenland Ice Sheet Melting Faster' (available at http://news.nationalgeographic.com/news/2006/08/060810-greenland.html).

[11] Issues Paper 3, above n3.

[12] Garnaut Review - Interim Report, p20.

Garnaut Review about regional impacts of climate change, security implications and adaptation costs.

Summary and recommendations:

- ANEDO supports the use of IPCC 4th Assessment Report as a starting point for the Garnaut Review and supports the use of the A1F1 emissions scenario as other scenarios are in danger of underestimating emissions.
- ANEDO recommends the review account for the non-linear climate system tipping points, and look towards lower scenarios than 450ppm.
- ANEDO recommends that Australia support regional initiatives to improve climate science and modelling of neighbouring countries, particularly those vulnerable to climate impacts and lacking research resources.

2. Costs of climate change

It is increasingly recognised that the costs of inaction on climate change may far outweigh the costs of acting now.[13] The impacts on both the Australian and the global economy of inaction are potentially significant.

ANEDO supports the Interim Report comment that the "cost of adjustment to a low-emissions economy requires public sector contributions."[14] The IPCC has noted that government funding in real absolute terms for most energy research programmes has been flat or declining for nearly two decades and is not half that of the 1980 level.[15]

The Australian Commonwealth Scientific and Research Organization (CSIRO) recorded its lowest level of federal funding in 25 years in 2006.[16] 40% of its income is now sourced from private sponsors, affecting the core public nature of general science research.[17] Given Australia's exceptional vulnerability to the impacts of climate change, it should aim over and above other developed countries in investing in new technologies for mitigation. In terms of appropriate priorities for funding please refer to ANEDO's submission on *Issues Paper 4*, relating to investment in Low Emission Technologies.

Summary and Recommendations:

- ANEDO recommends that the Government significantly increase funding for CSIRO, and to research low emission technologies in line with principles recommended in ANEDO's submission on *Issues Paper 4*.

[13] Sir Stern, Nicolas 'The Stern review on the Economics of Climate Change', quoted from http://www.aussmc.org/Stern_Review.php
[14] Garnaut above n12, p.34.
[15] IPCC, 4th Report, Working Group 3, 'Summary for Policymakers' (2007), p20.
[16] NewMatilda.com, 'Old King Coal', (15/10/2007), available at http://www.newmatilda.com/2007/11/15/old-king-coal.
[17] Ibid.

3. Mitigating Climate Change

a. International Frameworks – principles for effective international action

ANEDO agrees that the "principles to guide the allocation of a global emission budget across countries will need to be simple, transparent...readily applicable"[18] and fair.
The Interim Report recommends that "practical unilateral and regional action will require individual countries to act on the basis of principles that they consider to have good prospects of eventually being accepted internationally."[19] ANEDO is concerned that the Interim Report only discusses one principle-based model in the absence of a clear indication that it would be accepted by other countries. The Contraction and Convergence model (C&C) remains controversial in international discussions[20] and may be beyond the "prospects of eventually being accepted internationally."[21] ANEDO therefore would welcome modelling and consideration of a variety of principles-based allocations of emissions rights.

It is important to note that any principles adopted must build upon the existing framework of the UNFCCC and the Kyoto Protocol. As Dr. Tim Stephens maintains "there is little international appetite for a novel climate regime."[22] The urgency of the issue, as demonstrated in the IPCC 4th Assessment Report,[23] does not permit the luxury of a time to draft and acquire the support for a new treaty. Furthermore both the UNFCCC with 189 parties, and the Kyoto Protocol with 173 ratifying nations, already carry a large level of support.

Benefits and Drawbacks of the Contraction and Convergence Model

C&C has many benefits as a model. The emissions trajectories are long term, removing the debacle over commitment periods while at the same allowing for further 'racheting' of tighter contractions. While continued racheting might reduce the space for developing nations to grow, the model would compensate through the increased value of surplus permits due to stronger reduction targets on developed nations.[24]

Support for C&C appears to be gaining momentum in the UK, specifically from the

[18] Garnaut, above n12, p30
[19] Ibid.
[20] Baer, Paul & Athanasiou, Tom 'Frameworks & Proposals: A brief, Adequacy and Equity-Based Evaluation of Some prominent Climate Policy Frameworks and Proposals' Global Issues Paper (June 2007), p 15.
[21] Ibid.
[22] Dr Stephens, Tim 'Kyoto is Dead, Long Live Kyoto! A New Era for International Climate Change Law', (2007), p2.
[23] IPCC, above n9.
[24] Baer above n20, p 16.

All Party Parliamentary Climate Change Group.[25] Notwithstanding, it has little support elsewhere, including among developing countries.[26] Despite the model having been around for 15 years, it has not yet been broadly adopted. Furthermore, although C&C is based on equal per capita emissions, it begins with a form of grandfathering.

C&C would require the following convergence levels according to the carbon budget (2006 values).[27]

Carbon Budget	Lower Bracket (tCO2eq/cap)	Higher Bracket (tCO2eq/cap)	With Headroom (as percentage of Global Average)
400 ppmv	1.1	1.4	45% below
450 ppmv	2.1	2.7	10% below
550 ppmv	4	5.2	45% above
Current Global Average	5.6 tCO2eq/cap		

At 450 ppmv (converging by 2050), nations such as China, but also including Argentina, Brazil, Namibia and Thailand to name just a few would be above or close to the convergence average and have little room to grow.[28] Ultimately though, Baer and Athansiou in their comparison of principle based models conclude "C&C itself, having served its purpose as an 'ideal type' and an extremely valuable pedagogical tool, will soon cease to be promoted by serious climate policy advocates."[29]

Varying C&C

The Interim Report suggests the allowance of 'headroom' to make the model more enticing for developing countries, providing a capacity to grow in line with that previously received by developed countries. The suggestion is similar to a variation of C&C called Common but Differentiated Convergence (CDC) proposed by Niklas Höhne.[30] CDC retains the same per capita convergence point for all countries but allows developing nations to start converging from the date when their per capita emissions reach a certain percentage threshold of the global average.[31] By providing a later starting point both the Interim Report and CDC better reflect the responsibility connected with past emissions.

[25] All Party Parliamentary Climate Change Group, 'An Incontestable Truth: UK Contraction and Convergence' DVD available at http://portal.campaigncc.org/node/1850.
[26] Baer, above n19, at 18.
[27] Niklas Hohne 'Comparisons of International Climate Policy Approaches for Post 2012', Kyoto Plus Paper, at 6.
[28] Ibid at 5.
[29] Baer above n19 at 18.
[30] Hohne above n19 at 5.
[31] Ibid at 6.

Conditionality

Furthermore as the Interim Report notes, the difference in starting times allows developed countries to step up and demonstrate their commitment, encouraging other nations to follow. The combination of delayed commencement and conditionality are necessary for any international agreement. Article 4.7 of the UNFCCC maintains that the extent to which developing country Parties will effectively implement their commitments "will depend on the effective implementation by developed country Parties of their commitments under the Convention."[32] Enticing major developing nations into the fold requires their commitment to limit their growth upon reaching a certain emissions intensity - it requires binding commitments. Such a task requires major leadership.

Emissions Intensity

The benefit of a percentage threshold is the simplicity. At the same time it does not reflect the equity around developing countries with high per capita emissions but low living standards. Yet emissions intensity, while a better index of de-carbonized economic growth, does not ensure a certain level of living standard. To remedy this, one option would be to investigate and include a form of humanitarian index to compliment either the emission intensity or per-capita rate. Once both metrics are met, the developing country can graduate onto the global convergence path.

Simplicity of Metric

C&C has the advantage of being based on a simple and well-established metric - population. The fact that almost every nation has a form of census population system, allows for an easily calculated evaluation of where their nation stands. Variations of C&C like that suggested by the Interim Report and CDC would complicate the simplicity of the model. Yet the benefits of integrating historical responsibility, and providing assured 'headroom' outweigh the removal of simplicity and increase the acceptability of the model for developing countries. [33]

We note that there are limits to the complexity of international frameworks in mitigating emissions that have been encountered when using more complex models. For example, the Triptych model, developed over a decade ago, hinges upon a far more sophisticated approach.[34] Emission allowances are calculated according to various sectors which are added to obtain national or regional targets. Yet it is the national or regional target that is binding, providing flexibility to use the most cost-effective mitigation opportunities. Like C&C, a per-capita approach is used for the 'domestic sectors' that is each individual's responsible emissions. For other sectors (such as industry, electricity production, agriculture etc) a rate of growth and a level of efficiency are calculated, after which a similar reduction and convergence is applied. The system requires a high level of data required and in so

[32] Article 4.7, UNFCCC (1992).
[33] Hohne, above n19.
[34] Ibid.

doing is open to abuse through national interests.[35] The model is best suited for regions, but even then the high level of reporting and data, increase the models vulnerability to abuse. This was one of the many problems associated with the first round of the EU's ETS.[36]

ANEDO is concerned that an increase in complexity often correlates with a decrease in compliance to the principles of the system. The Interim Report notes the benefit of Australia's migration in easing the per capita burden on each nation.[37] Yet one of the major necessities to an international budget and emissions trading is the certainty of long term targets. Would changing migration and growth require readjusting national emission allocations? If it did, and was significant to ease the burden, it would reduce long term certainty. If it didn't then Australia does not really gain from having ongoing population growth.

Potential to support adaptation

The C&C model would not necessarily generate adaptation support. A levy could be applied on all permit trades, similar to the adaptation fund levy on CDM's under the Kyoto Protocol. C&C would create a world market, many times bigger than trading under Kyoto, resulting in a significant fund with greater potential to support LDCs.

Summary and recommendations:

- ANEDO supports a strong role for Australia in promoting an effective international framework which builds upon the existing framework of the UNFCCC and the Kyoto Protocol.
- ANEDO would welcome modelling and consideration of a variety of principles-based allocations of emissions rights, in addition to C&C.
- ANEDO supports the allowance of appropriate 'headroom' which better reflects the responsibility connected with past emissions, consistent with the principle of common but differentiated responsibility.
- ANEDO recommends that there be consideration of a humanitarian index in determining a convergence path.
- ANEDO recommends that convergence path models include consideration of mechanisms to support adaptation.

b. Regional Agreements

As noted in the Interim Report, a regional agreement can assist Australia in building towards the next international agreement. It is part of Australia's concern

[35] Garnaut above n12, p.36 who states 'Each country will try to secure a "better deal" than others, with equity concerns figuring large and incentives for free-riding working against cooperative outcomes.'

[36] Weishaar, Stefan 'The EU ETS: current problems and possible ways to move forward', conference speech, (28/09/07), available at http://www.wlu.ca/viessmann/ClimateChange/Weishaar.pdf, p16.

[37] Garnaut above n12, p39.

as potentially 'the biggest loser'[38] from climate consequences among developed countries. With so much to lose, it is reasonable for Australia to lead and look beyond only reducing its own domestic emissions.

A regional agreement is one way to expand the effort and should be considered, both in the form of a regulated funding and market credits. Another method of more accurately addressing Australia's true climate change impact would be to address Australia's unique 30% share of the world's coal exports.[39] (This is discussed further in Part 5 below).

Regional Trading in REDD

As the Interim Report pointed out, both Indonesia and PNG have high per-capita emissions and high cumulative emissions in a large part due to deforestation. If Australia wants to take the lead by forming a per-capita regional mitigation agreement it can take two forms; funding or market based.[40] The Interim Report seems to favour a market based agreement and ANEDO encourages a discussion on the benefits and vulnerabilities of both systems and ultimately recommend at least initially a fund based agreement.

Australia is well placed to assist Indonesia and PNG with avoiding deforestation. Australia successfully lobbied for Article 3.7 in the Kyoto Protocol[41] to include net emissions from land use change within emission targets. However, this clause only pertains to Annex 1 counties. Credits from avoided deforestation, or as it is formerly known, Reducing Emissions from Deforestation and Degradation (REDD) does not qualify as credits under Kyoto market mechanisms.

For Australia to set up a regional agreement with PNG in the hopes of purchasing "freed-up emission permits"[42] which qualify at an international level, REDD would need to be recognised. Otherwise it is simply altruistic of Australia to assist its neighbour to lower emissions.

The prosects of formal international REDD recognition are gaining momentum. The Bali Action Plan, under Article 1.3 agreed to enhance international mitigation including "Policy approaches and positive incentives on issues relating to reducing emission from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries."[43] Both PNG and the host of the last UN

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[38] Garnaut, above n12, p57.
[39] Australian Coal Association, 'Coal Exports: Summary - 2005-2006 figures', available at http://www.australiancoal.com.au/exports.htm.
[40] The two options are well laid out an article by Associate Professor Rosemary Lyster, 'Approaches to recognizing carbon offsets arising from avoided deforestation in developing countries.'
[41] The 'Australia clause' permits countries for which land-use change and forestry are a net source of greenhouse gas emissions to include net emissions from land-use change in their 1990 base year for the purpose of calculating assigned amounts or targets for the commitment period 2008–2010.
[42] Garnaut, above n12, p43.
[43] Article 1.3, Bali Action Plan COP 13 (15th December 2007)

Climate Change Conference, Indonesia are strong advocates for the inclusion of REDD.[44]

The problem with REDD is the effectiveness in ensuring the avoided emissions remain avoided. Problems include leakage[45], additionality, measurement and monitoring[46]. These factors have been noticed within our own local voluntary carbon offset market, and as such have shaken the credibility of local bio-sequestration credits.[47] Large developing nations with serious inabilities to curb illegal logging should ease into a REDD system through initial regulated funding, and begin with a comprehensive assessment of why and how deforestation takes place. In a report, spanning ten years of research, by the Center for International Forestry Research (CIFOR), it was noted that, "the danger [is] that policy-makers will fail to appreciate that forest destruction is caused by an incredibly wide variety of political, economic, and other factors that originate outside the forestry sector, and require different solutions."[48]

As the Director for CIFOR continued 'since forest property rights are often very unclear, payment for carbon services could end up providing incentives for corrupt officials or local elites to appropriate this new forest value from local communities.'[49]
The CIRFOR Report advises the need to strengthen weak governance mechanisms 'that have long proven unable to enforce many existing prohibitions on forest clearing.'[50] National legislation in Indonesia and PNG should be assessed and amended to create a supportive legal framework. Last year the Australian Government created the $200 million Global Initiative on Forests, including agreements with Indonesia and PNG. ANEDO recommends this fund be developed to support pilot REDD programs and legal framework evaluations. The Indonesian Forestry Minister, Malam Sambat Kabat has already committed the government to commencing 'pilot activities' for the REDD scheme this year.[51]

For the above reasons it is better to focus on setting up the ability to sustainably maintain avoided deforestation, than simply lowering deforestation to generate credits.

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[44] Adianto P. Simamora, 'Govt launches emissions cuts through forestry' Jakarta Post, 10th December 2007.
[45] Myers, Erin. Resources for the Future, 'Policies for Reducing Emissions for Deforestation and Degradation in Tropical Forests available at http://www.rff.org/rff/Publications/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=32196 , p 40.
[46] Ibid, p.31.
[47] See EDO submission to the ACCC on carbon offset claims (2008).
[48] Kanninen, M.; Murdiyarso, D.; Seymour, F.; Angelsen, A.; Wunder, S. and German, L. Do Trees Grow on Money?: The implications of deforestation research for policies to promote REDD'.. (2007). 'Center for International Forestry Research, p61.
[49] Ibid.
[50] Ibid.
[51] Simarmora above n37.

Either method, by assisting our neighbours with emission reductions would be one of the most effective ways to go far and beyond domestic efforts.

Summary and Recommendations:

- ANEDO supports Australia developing a role as a climate change leader within the region, and the development of appropriate regional agreements, such as with PNG and Indonesia.
- ANEDO supports the development of a robust REDD mechanism, but with appropriate enforcement and monitoring, built through regulated funding first to ensure validity and credibility of any future reduction credits.

4. Living within our carbon budget

a. Emissions Trading Scheme

ANEDO welcomes the development of an Australian emissions trading scheme. Our detailed comments on key elements of such a scheme are in our separate submission on *Issues Paper 6 - Emissions Trading Scheme Discussion Paper.*

Our previous submissions on proposed emissions trading schemes include:

- *Submission regarding the Possible Design for a National Greenhouse Gas Emissions Trading Scheme* - 22 December 2006;
- *Submission on Prime Minister's Task Group on Emissions Trading - Issues Paper* - 7 March 2007; and
- *Submission regarding abatement incentives prior to the commencement of the Australian Emissions Trading Scheme* - 7 December 2007.

These submissions are available at:
http://www.edo.org.au/edonsw/site/policy.php.

b. Research and development

ANEDO strongly supports increased funding for 'public good'[52] research and development into renewable energy and environmentally sustainable low carbon technologies. Our comments in relation to this are contained in our separate submission on *Issues Paper 4 – Research and Development: Low Emissions Energy Technologies.*

c. Addressing market failures and implementing complementary policies

ANEDO submits that a key element of 'living within our carbon budget' involves two key actions: first, undertaking a comprehensive review of existing market

[52] Garnaut Interim above n12, p53.

failures and perverse subsidies, and second, undertaking a comprehensive review of complementary policies needed to support the primary emissions reduction activities.

Addressing market failures and perverse subsidies - Tax Reform

ANEDO agrees that effective mitigation at the lowest possible cost requires measures to correct market failures or weaknesses.[53] In fact there is a broad support[54] to abolish many of the $9 billion AUD in tax incentives and subsidies that support GHG emissions.[55]

For example, the following specific recommendations have been made regarding transport:

- **Aviation**
    - Fuel Tax Concession: Domestic Air Travel is three to five times more energy intensive as other forms of transport, yet only faces a fuel excise of 3 cents a litre compared to the regular 38 cents.
    - Remove the blanket exemption from import duties for planes.
- **Automotive Competitiveness and Investment Scheme (ACIS)** provides over $4 billion to manufactures who typically produce large inefficient models. Specific environmental standards are required.
- **Reform the Fringe Benefit Tax** (Supported by ACF, CPA, Public Transport Groups and Greenpeace).[56] The $1.1 billion in rebate must come with criteria for fuel efficiency or engine size.
    - Rely on the recommendations of the Senate Rural and Regional Affairs and Transport Committee to revise the statutory formula to remove the perversity and also to encourage more fuel efficient cars.

The IPCC Working Group 3's 4th Report (2007) clarifies in Section E Policies, measures and instruments to mitigate climate change and notes: "integrating Climate Policies in broader development policies makes implementation and overcoming barriers easier."[57]
This includes policies in energy security. There is currently an Oil and Gas exploration subsidy currently set at 150% in Australia.[58]

A report by the Australian Petroleum Production and Exploration Association has found that "only a quarter of Australia's oil and gas reserves have been explored,

[53] Garnaut. Interim above n12, p5.
[54] See in particular the Pre-Budget submissions (available on each organisations website) of the Australian Conservation Foundation, Greenpeace, Chartered Practising Accountants (CPA) and Public Transport Groups.
[55] Reidy, ISF 2007
[56] See n54.
[57] IPCC, above n15, p19.
[58] The subsidy means for every dollar a company spends on exploration, the Australian taxpayer gives the company $1.50. The subsidy equated to approximately 265 million in 2005/2006 (more than the total federal subsidy to renewable energy and energy efficiency).

and without further oil discoveries, Australia faces a trade and energy crisis."[59] The Energy Minister, Martin Ferguson recently signaled that the new Government would give more "substantial incentives" to assist these corporations in their expensive exploration efforts.[60] If the Government is serious about moving to a carbon constrained future, it should stop gifting the costs of the further exploration of carbon.

Complementary policies

In advice to the Climate Action Network of Australia, the EDO in NSW identified 20 preliminary areas of law reform needed to comprehensively address the climate change challenge.[61] While we support the development of an ETS as the centerpiece of Australia's domestic emissions reduction policy, we note that there is a range of other environmental, planning, and reporting amendments that are needed to support emissions reduction processes and to ensure reductions made elsewhere are not undermined. Recommendations included amendments to: the *Environmental Protection and Biodiversity Conservation Act 1999*, energy efficiency legislation, coal export permits, GHG reporting requirements (we note that this has subsequently been done[62]), director's duties, financial products disclosure, electricity bill regulations, feed in laws, public transport regulations, and environmental management plans.

Independent Body

ANEDO is in agreement with the Interim Report on the strong case for an independent authority. We note such a body could have an important role – in addition to ETS - in the comprehensive reviews we have recommended.

In the UK, a current bill calls for a Committee on Climate Change involving experts in different but relevant fields who annually report to the Parliament on the country's progress on combating climate change.[63] If their advice is dismissed the Minister must publicly disclose the reasons for such a diversion. [64] A similar such 'Climate Change Council' has been earmarked for South Australia.

However given the past lack of transparency in forming climate policy as depicted by Clive Hamilton in the "Greenhouse Mafia",[65] a more stringent approach might be suggested such as that in the Canadian Province of British Columbia.

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[59] Koutsoukis, Jason 'Tap new oil wells or pay a heavy price' (February 24th 2008) http://www.theage.com.au/news/national/tap-new-oil-wells-or-pay-a-heavy-price/2008/02/23/1203467459942.html.
[60] Ibid.
[61] CANA, 'Turning Down The heat – A Climate Change Action Agenda for Australia', p50-51.
[62] National Greenhouse and Energy Reporting Act (Cth) (2007).
[63]Lord Puttman, Joint Committee on the Draft Climate Change Bill (3 August 2007) available at http://www.parliament.uk/parliamentary_committees/climatechange.cfm.
[64] Ibid.
[65] This would ensure a transparent and well founded policy to avoided situations such as those depicted by Clive Hamilton in his book 'S*corcher: The dirty politics of climate change*', (2007).

In order to avoid the influence of vested interests, a "Global Warming Solutions Board" creates a climate action plan to reduce the provinces GHG emissions. The Boards recommendations must be implemented by the Governor in Council. In addition, there is the option for a provision for citizens suits for either the failure to enforce the Act (creating the Solutions Board) or loss or damage caused by failure to follow instruction of the Board.

The independent body can draw upon Recommendation 1 of the House of Representatives Standing Committee on Environment and Heritage September 2007 report, *Sustainability for Survival: Creating a Climate for Change: Inquiry into a Sustainability Charter*.[66] In similar capacity to the 'Razor Gang' which has swept through Canberra, cutting away unnecessary costs, ANEDO recommends the Independent Body be similarly empowered to cut unsustainable practices and enforce sustainable protocols. The Government has already committed to run energy and efficiency audits on its agencies with more than 100 staff.[67] Those reports should be publicly published and operate under the same standards as private business (under the *National Greenhouse and Energy Reporting Act 2007*).

Summary and recommendations:

- ANEDO supports the development of an ETS in Australia – please refer to recommendations in our separate submission on *Issues Paper 6 - Emissions Trading Scheme Discussion Paper.*
- ANEDO strongly supports increased research, development and investment in renewable energy and environmentally sustainable low carbon technologies – please refer to recommendations in our separate submission on *Issues Paper 4 – Research and Development: Low Emissions Energy Technologies.*
- ANEDO recommends a comprehensive review be undertaken to identify current market failures and perverse subsidies. The review should result in appropriate legislative amendments and reforms.
- ANEDO recommends a comprehensive review of complementary policies, and welcomes the different issues papers put together by the Garnaut review team. We recommend a comprehensive approach requires examining potential areas for law reform across a range of current Acts and regulations in Australia.
- ANEDO supports the establishment of an appropriate independent body that could also assist in the recommended reviews.

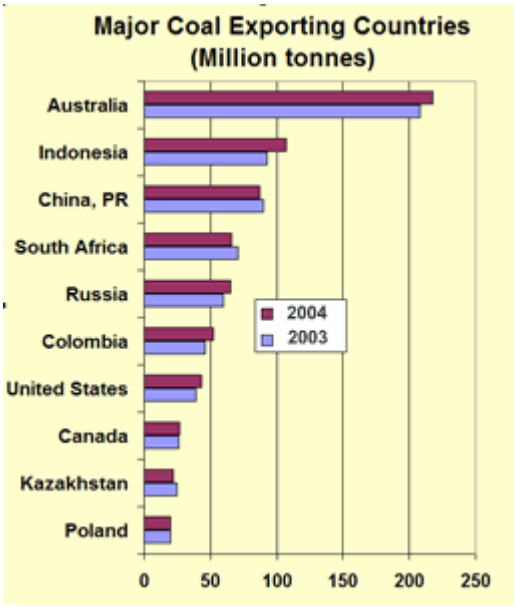
[66] House of Representatives Standing Committee on Environment and Heritage September 2007 report, Sustainability for Survival: Creating a Climate for Change: Inquiry into a Sustainability Charter.[66] p66.

[67] Joint Committee on Corporations and Financial Services *Corporate Responsibility: Managing Risk and Creating Value*. (June 2006) p180.

5. Implications of addressing climate change for Australia

With Australia potentially poised as the biggest developed country loser,[68] the review maintains "it is in Australia's interest to seek the strongest feasible global mitigation outcomes".[69] The review claims the EU are leading with a 2 degree target. They are not the leaders, it is our small island neighbours. The Association of Small Island states (AOSIS) has been calling for stronger targets for years, because they are the ultimate 'biggest losers'. At the Rio Summit AOSIS called for 20% below 1990 levels by 2010.[70] AOSIS have also called for the modelling of stabilisation scenarios below 450ppm in Bali. As noted by the current Leader of the House of Representatives "Our Pacific neighbours are at the frontline of climate change. They provide a window into the future that Australia, and indeed the rest of the world, will face."[71] It is our neighbours who are leading the call, and a 2 degrees increase is too much for them to bear. ANEDO recommends that the Review consider not just the emissions reduction potential of our nearest neighbours, but also how we can help address their vulnerability and enhance their adaptation.

In addition to highlighting Australia's potential to be the 'biggest loser', the Review also highlights where Australia stands to benefit. ANEDO would like to raise concerns related to the references to exploiting Australia's uranium resources and potential for carbon capture and storage (CCS) technology. As stated above, focus should be on investing and promoting Australian renewable energy technology as a first priority. Untested CCS technologies should not be the focus of investment unless certain environmental impact assessment and criteria are met. These issues are discussed further in our separate submission on: *Issues Paper 4 – Research and Development: Low Emissions Energy Technologies.*



A further concern relates to the ongoing development of Australia's coal industry. Australia uses 172Mtc, and exports 233 Mt of black coal,[72] amounting to 30 percent of world coal exports. Australia is in the interesting position of being both the largest exporter of coal and the largest loser in terms of climate consequences (of any developed nation). In order for a genuine discussion on how Australia should address it's total climate change impact more comprehensively, conditioning of coal exports should be seriously considered.

[68] Garnaut, page 56.
[69] Garnaut, above n12, p25.
[70] OECD publications available at http://www.oecd.org/dataoecd/38/52/1923151.pdf
[71] Anthony Albanese, Media Statement available at http://www.alp.org.au/media/0106/msenh090.php
[72] ACA above n 30.

The table demonstrates the spread of international coal exporters. [73]

In addition, the coal market is looking at 20 years of continued growth. In a 2006 report by the Australian Bureau of Agricultural and Resource Economics (ABARE), it was estimated that global consumption of black coal will grow by 52 per cent to 7.6 billion tonnes by 2025. Most of the demand will come from China and India with their consumption level almost doubling by 2025. Between the two, they will account for 57 per cent of world wide coal consumption in 2025.[74]

The previous Federal Government, was hesitant to take domestic action on climate change due to the relatively small national footprint compared to the large developing country emitters. The 2006 ABARE report noted that Australia would continue to be a major supplier for the next twenty years, if not the largest. This presents an opportunity for Australia to more fully consider the impacts of this activity in the context of global emissions.

NSW and Queensland produce nearly all of Australia's output of black coal, constituting 100% of Australia's black coal exports in 2006. Last year the NSW government approved $1 billion in developments[75] to double the capacity of Newcastle, the world's largest coal exporting port, to 209 million tonnes a year. When asked why the NSW planning minister approved the controversial developments, he responded "Demand for coal continues to grow, largely driven by developing Asian markets."[76]

ANEDO would like to see coal treated in a similar fashion to uranium. Coal exports should be having their use and waste conditioned according to strict environmental standards. This would not necessarily impede developing countries right to grow, it would simply encourage a more de-carbonized energy mix. In order for such a venture to work, a range of coal players would need to participate. The potential for Australia to at-least debate such options came and went with the APEC summit. Six APEC countries together provide 80 percent of world exports, and three APEC countries consume 40 percent of world coal imports. APEC includes all the major coal trade players, including China.[77]

[73] Australian Coal Association, above n39.

[74] ABARE, 'Australian coal exports: outlook to 2025 and the role of infrastructure' (2006) - http://www.abareconomics.com/publications_html/energy/energy_06/coal_exports.pdf

[75] Specifically a new coal export terminal for Newcastle costing $922 million and an upgrade of the Kooragang Island terminal at a cost of $78 million. http://www.smh.com.au/news/national/coal-exports-to-double/2007/04/13/1175971356295.html

[76] Minister Frank Sartor, *ibid.*

[77] See Article at http://cpd.org.au/article/global-warming-and-case-coal-tax.

Summary and recommendations:

- The implications of addressing climate change in Australia extend beyond our national borders to include our nearest neighbours. ANEDO supports Australia taking a strong regional leadership role that actively supports vulnerable neighbouring countries.
- ANEDO is concerned about the focus on Australia's potential development of uranium and CCS. We recommend that focus be on developing Australian renewable energy technology as a priority, and any untested CCS technology be subject to environmental impact assessment - please refer to recommendations in our separate submission on *Issues Paper 4 – Research and Development: Low Emissions Energy Technologies.*
- ANEDO recommends that coal exports should have their use and waste conditioned according to strict environmental standards.