

Rising Tide: Submission to the Garnaut Climate Change Review

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20 ***About the authors***

Rising Tide Newcastle is a grassroots community group taking action against the causes of anthropogenic climate change and for equitable, just, and sustainable solutions to the global climate crisis. We are part of the global Rising Tide network for climate justice.

25 We live in the shadow the world's biggest coal port in Newcastle, which is Australia's single biggest contribution to the global climate crisis. For the past three years we have campaigned against proposals to more than double coal exports from Newcastle. We advocate an immediate moratorium on new coal mines, coal-fired power stations, and coal export facilities, and we call for a Just Transition for coal-dominated communities into sustainable alternatives.

30 Rising Tide appreciates the opportunity to submit to the Garnaut review process, and sincerely hopes that the recommendations made in our submission will be given serious consideration. At this time of uncertain future and increasing danger, all options for meeting and solving the problems posed by climate change must be considered.

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1. Recommendations

- 40 ● That Australia's State and Federal Governments announce and lead a national public mobilisation on the scale of the war effort of the 1940's in order to make the transition to a post-carbon society as fast as possible. This will involve not only technological change, but lifestyle change and reduced consumption, public awareness campaigns and significant oversight by Government agencies of all sectors of agriculture and industry.
- 45 ● This emergency response must include government-sponsored radio and television advertising that communicates the scale and the urgency of the climate problem, to contextualise the Government's response. It is vital, however, that such advertising not merely be used as a tool to legitimate and promote half-hearted mitigation actions.
- 50 ● That this emergency response includes updating and actioning of the National Climate Change Biodiversity Action Plan, giving the Federal Department of Environment the power to require habitat and wildlife corridor protection and the funding of revegetation projects where necessary.
- 55 ● That Australia adopt a target of reducing atmospheric carbon dioxide levels to **a maximum of 350 parts per million by volume** (ppmv).
- 60 ● That Australia advocate at UNFCCC meetings for the "Greenhouse Development Rights" framework for a global climate treaty. Australia must not only make an emergency transition to a zero carbon society, we must help poorer nations to do the same – including paying some of their costs.
- 65 ● That new coal mines, coal export facilities, and coal-fired power stations be prohibited.
- That State and Federal Governments implement a Just Transition strategy to move coal-dominated communities into sustainable alternatives.
- 70 ● That coal exports and other scope three emissions are included in Australia's greenhouse accounts – with appropriate explanation to indicate which foreign national accounts these emissions are accounted under.
- 75 ● That no further public resources are wasted on Carbon Capture and Storage research and development.
- That strong measures are taken to stabilise and then reduce demand for electricity, and discourage over-consumption of resources in general.
- That the urgent problem of crisis be considered beyond the narrow economic terms of

80 “costs,” “benefits” and market-based solutions, but is treated instead as a social and cultural problem, with impacts on values that are difficult to cost in dollar terms, like biodiversity and social security.

- That State and Federal Governments review the paradigm of economic growth, and the degree to which it is inconsistent with a sustainable society.
- 85 ● That emissions from air travel on flights within and departing from Australia and all international shipping departing Australia be included in Australia’s domestic greenhouse accounting, and that Australia advocate within the UNFCCC for all emissions from international air and shipping travel and freight be brought under national accounts for the nation of departure.
- 90 ● That any emissions trading scheme introduced domestically in Australia make reductions within nationally agreed targets (which need to be strengthened) non-fungible.
- 95 ● That any ETS in Australia has to require that emissions trading only occur within discrete sectors (land use reduction credits for land use emissions; stationary energy reduction credits for stationary energy emissions) to help make such credits equivalent and the outcomes measurable.
- 100 ● The establishment of an ETS in Australia must not impede, limit or disguise the primary objective of immediate and strong emissions reductions targets. If it can be shown that real and immediate reductions will occur while a trading scheme operates, there is no inherent problem with such a scheme, but the market for emissions reductions must not be confused with the Government’s primary responsibility to ensure that emissions are reduced and the Government must retain discretion to shut down or dissolve such a market if it gets in the way of real reductions.
- 105 ● No free permits for greenhouse pollution should be issued. There will be no benefit from emissions trading unless greenhouse pollution is made prohibitively expensive by it. This cannot occur if emissions permits at current levels are issued.
- 110 ● A taskforce must be established which has power to review and recommend reform of Australian industry to find avenues for energy efficiencies and direct emissions reductions over the next two years. Industries of immediate priority are those which contribute most to our emissions profile: energy generation and transmission, aluminium production, cement production, cattle grazing and solid waste disposal.
- 115 ● That Federal and State Governments undertake a concerted public campaign to promote vegetarianism/veganism and organic foods, accompanied by a Just Transition program to move graziers into more sustainable agriculture or other industries.

- That interstate train and inter-city/town coach services are increased, and fares decreased, in an attempt to massively decrease the instance of car-travel (especially single-occupant car travel). One method of doing this might include an additional fuel excise (albeit based on GHG emissions), to be funnelled back into public transport.

125 2. The problem

In many respects, further elaboration of the problem of climate change is unnecessary. The task of reining in, mitigating and adapting to climate change has unfortunately been made more difficult by the length of time that it has taken the global community and the Australian community to recognise the problem and the need for action. Nevertheless, some aspects of the problem, notably the
130 structural incentives to emit, the inequitable distribution and use of resources globally, and the problematic assumption that any solution to climate change must maintain the “standard of living” or even more problematically, “lifestyles,” of a relatively tiny population of the globe, remain unexplored in popular approaches to climate change, and deserve some further exploration.

2.1 Population, consumption, and global equity

Rich, industrialised nations like Australia have the greatest historical liability for climate change.
135 Historically, the vast majority of emissions have come from these countries. Since industrialised nations are responsible for most of the increased concentration of carbon dioxide in the atmosphere, it is logical and fair for these countries to work harder to fix the problem. Not only are industrialised nations more responsible for climate change, we are far more financially capable of paying the costs of mitigation and adaptation (due to our history of development based on fossil fuels).

140 Australia is a highly developed nation, and has one of the highest emissions per capita (between ~18 tonnes per annum and 27 tonnes per annum¹), compared to a world average of 6.8. Currently, and historically, Australia's share of global greenhouse emissions far outweighs its share of population.

In the Garnaut Interim Review, February 08 (the Interim Review), the executive summary states:

145 It is neither desirable nor remotely feasible to seek to remove environmental pressures through diminution of the aspirations of the world's people for higher material standards of living. The challenge is to end the linkage between economic growth and emissions of greenhouse gases.²

We find two problems with this statement: the first is the implication that it is the right of all people in the world to have access to the extremely high material living standards enjoyed by many in
150 Australia. We agree that all people in the world have an ethical right to access to the same living standard. However, the material living standard of many (perhaps most) Australians is excessively high by definition, since, as the interim review indicates, it would be impossible for everyone in the world to live at that level of wealth and consumption and maintain a living planet. Here, we need, as a community to make a distinction between “standards of living” and “lifestyles”; the former
155 incorporating basic levels of education, health care, food and fresh water, practise of culture and

1 *"Greenhouse gas emissions in industrialised countries - Where does Australia stand?"* p.5, The Australia Institute, 2004.

2 Garnaut Climate Change Review, Interim Report Executive Summary, P2.

protection under the law; the latter is a more amorphous term but refers to consumer goods, travel, entertainment and other superfluities. The distinction between these two spheres is very useful for delineating the response to climate change and its problematic relationship to global development issues and equity. The former concept – living standards – should be and can be available to every
160 citizen of the planet.

In contrast, Australian and other “western” lifestyles, with plasma televisions, patio heaters, 2 cars per family, and frequent flights for holidays or "love miles" (all of which are entirely unnecessary for a good life) contribute greatly to greenhouse gas emissions, and were they to be shared by the 6 billion people in the world, would be untenable for a planet such as earth. We in the industrialised
165 world should be helping those in the poorest regions of the earth to come up to a suitable material living standard, in the areas of food, water and sanitation, and housing, while at the same time scaling down our own consumption of non-vital material goods (“lifestyles”).

2.1.1 Rethinking the economic growth

The second problem with the assumptions upon which our current climate response is based is the
170 purported "decoupling" of economic growth from greenhouse gasses. It is not possible to decouple economic growth from some corresponding growth in labour, materials, or energy. Rising Tide recognises that the most urgent priority is the immediate commencement of emissions reductions starting this year, and in no way wishes to interfere with this process and its general consensus basis by descending into disputes which some might perceive to be ideologically motivated. Nevertheless,
175 it is healthy for the community to talk about structural impediments to emissions reductions, and Rising Tide believes that one of these is that the very notion of “reduction” in demand for and use of energy, and the staged reduction of greenhouse gas emissions, is in many ways anathema to an economic system predicated on continual growth.

The earth is limited in its physical resources, as well as its energy resources (the earth's energy is
180 provided more or less directly from the sun). The economy, being a function of human social systems, is as limited by the earth's resources as human society is. At some point, a growth economy will hit the total limit of these resources and energy and though we have no wish for real action on emissions reductions to be delayed by more substantial issues, we are equally profoundly concerned that substantial emissions cuts are incompatible with an economic system that requires non-stop
185 growth.

It *is* possible to make the conversion to wealth more efficient (which is a partial decoupling of the growth paradigm from the greenhouse problem), however, there is a well recognised effect in economics, called the "Jevons Paradox" or rebound effect³, whereby increasing the efficiency of material or energy functionally increases the supply of that resource. This leads to a decrease in the
190 price, and a subsequent increase in demand, and the overall use of the resource goes up. In this case, increasing the efficiency of carbon-producing industries may increase the overall carbon emissions.

3 Frank Gottron, "RS20981: Energy Efficiency and the Rebound Effect: *Does Increasing Efficiency Decrease Demand?*", <http://www.ncseonline.org/nle/crsreports/energy/eng-80.cfm?&CFID=11262148&CFTOKEN=7028302>

2.1.2 A narrow economic approach

The Cost-Benefit Analysis (CBA) tool is used throughout the Interim Review:

195 The costs and benefits of Australia taking significant action to mitigate climate change ahead of competitor nations.

CBA is inherently limited to those parts of society and the environment which can be of direct economic benefit (since benefit is measured in financial terms). This makes CBA deceptive when discussing non-financial benefits/cost, such as the extinction of species within ecosystems, and mental and physical health issues. Some of these impacts are extremely important, and cannot be
200 adequately quantifiable due to the large number of unknowns, even where they have some quantifiable outcomes. How can we place a dollar value on the trauma and dismay experienced by the population of the Cartaret Islands, who are now being forced to flee their submerging homeland? There are many species which have no commercial value whatsoever to human societies, but does that mean we may let them go extinct (this may have other detrimental impacts on other
205 species)? CBA discounts such unquantifiable impacts, and therefore is extremely limited. It is important that costs and benefits be assessed, but the chain reaction of the costs of inaction is much harder to assess than the immediate costs of action, and so any analysis of this kind must be qualified commonsense and considerations of inter- and intra-generational equity (i.e. perhaps we will bear a significant cost now, but this will prevent a potentially unmeetable cost being borne by
210 future generations and by remote members of the current generations).

2.2 Too much carbon in the atmosphere

The terms of reference for this review assert the following as a “Core Factor” for consideration:

215 The weight of scientific opinion that developed countries need to reduce their greenhouse gas emissions by 60 percent by 2050 against 2000 emission levels, if global greenhouse gas concentrations in the atmosphere are to be stabilised to between 450 and 550ppm by mid century.⁴

This assertion is made without supporting evidence. The claim that a 60% GHG reduction by 2050 is an adequate response to climate change is false, and so is the implication that a GHG concentration of up to 550ppm is safe or desirable.

220 According to the IPCC Fourth Assessment Report, a stabilisation of 450 ppmv CO₂-e (total) is “likely” to lead to temperature rises of ~2°C. This is defined as a 50% chance of remaining under 2°C.⁵ That is, stabilising CO₂-e in the atmosphere at 450ppm would carry a 50% chance of temperatures *exceeding* the commonly accepted threshold of “dangerous climate change” - 2 degrees. Numerous reports have pointed out that 2°C is the highest temperature increase that we can assume reasonably safe^{6,7}. After 2 degrees, positive feedbacks are much more likely, including the
225 release of methane from the sea floor⁸ and from permafrost, and the collapse of carbon-dense

4 Garnaut Climate Change Review

5 IPCC 4AR synthesis report, Topic 5, Table 5.1.

6 Climate Code Red (2008), Spratt and Sutton, Friends of the Earth

7 Tyndal Centre for Climate Change Research

8. Gerald R. Dickens, 'Methane Hydrate and Abrupt Climate Change', Geotimes, November 2005.

ecosystems such as the Amazon rainforest. These feedbacks open up the possibility of further climate change, to the point where a 2-3°C increase may inevitably lead to a 5-6°C increase, which would be extremely catastrophic.

230 So according to the IPCC, we have only a 50% chance of avoiding catastrophic climate change if we stabilise atmospheric CO_{2-e} concentrations at 450ppm. Rising Tide submits that a 50% risk of the wholesale destruction of ecosystems and human societies is completely unacceptable, and that the 450ppm target is clearly too high.

235 It must also be noted that IPCC predictions have been shown to err on the conservative side: In 2007, actual sea level rise was mapped against the IPCC Third Assessment Report predictions, and exceeded the IPCC's highest "likely" prediction. The IPCC suffers not only from the limitations of scientific consensus (getting agreement from the vast majority of climate scientists on every sentence in IPCC reports means that all IPCC's predictions are inherently very conservative), but also from political pressure. Governments, as well as scientists, have input into the IPCC process, and these governments often see it in their interests to understate the severity of climate change.

240 More and more scientists are now concluding that a 450ppmv target is too high. NASA's Jim Hansen, one of the most highly respected scientist in the field, argues that a more appropriate target would be 350ppmv⁹. The fact that atmospheric carbon dioxide levels are already higher than this is not an excuse to ignore the science. If we were to swiftly and deeply reduce emissions, and preserve, protect, and expand terrestrial carbon sinks, then atmospheric carbon dioxide levels could be
245 *decreased*. However, we must not allow ourselves to use carbon draw-down processes as an excuse for delaying action: the possible draw down quantities are unknown, and will change as the global temperature changes.

In terms of the Garnaut review's own cost-benefit approach, the difference between aiming for a 450ppmv and a 350ppmv level of GHG concentration would provide potentially enormous benefit
250 to the global community in averting runaway climate change. By contrast, Rising Tide would argue that the *additional* cost of meeting this more sensible target once we are already on track to meet the more dangerous 450ppm target, are relatively small.

2.2.1 Climate change is already dangerous

255 As we have seen lately, with the Ross and Larsen B Ice Shelf breaks in Antarctica, as well as Arctic sea ice breaking up faster than usually, climate change is already having a heavy impact. The science has noted this, and current predictions are for an ice-free arctic ocean as soon as the summer of 2013.¹⁰

260 Species are already going extinct as a result of climate change, such as the Golden Toad in the Amazon¹¹. Domestically, the Great Barrier Reef, the World Heritage tropical forests of Queensland and World Heritage forests of the Blue Mountains are all under significant threat of destruction from climate change – as are an array of less iconic landscapes and species.

http://www.geotimes.org/nov04/feature_climate.html

9 Hansen 350ppm

10 CCR

11 Flannery, Tim (2005). *The Weather Makers*. Toronto, Ontario: HarperCollins, 114-119.

People living on Pacific islands are already being forced to move off their land¹². Australia has a large degree of responsibility to accept refugees from neighbouring Bougainville, Tuvalu and other Island states given our historical liability. So far, no such commitment has been made, and although
265 Rising Tide is focussed mainly on ,mitigation measures, we are deeply interested in the persistence of biodiversity and the justice of global development, so will be keenly interested in the Federal Government's adaptation response framework.

2.2.2 Catastrophic climate change may be just around the corner

270 While not wishing to indulge in destructive alarmism, Rising Tide is deeply concerned that the urgency of the climate change problem is still being downplayed due to the geographic removal of many decision makers from the accelerating impacts. There is growing evidence that positive
275 feedbacks (effects of climate change that fuel more climate change, resulting in 'runaway' climate change beyond our influence) may begin sooner than we think.¹³ Permafrost in the Arctic is already thawing to a large extent, with house foundations dropping metres. While the destruction of Arctic
280 houses isn't necessarily a global issues, the permafrost holds large amounts of methane – a greenhouse gas 21 times more powerful than carbon dioxide. As the permafrost thaws, the methane will escape into the atmosphere, causing further warming. An even greater risk involves the same process taking hold in the ocean, where sediment methane stores a huge. Their release would
285 change the face of earth.

Greenhouse gas sinks are already or beginning to failing, some due to climate change (ie. soils), some due to other causes, such as deforestation. In anything close to a Business As Usual, these sinks will continue to fail. Some, such as the Amazon, are likely to become large *sources* of greenhouse gasses.

285 Predictions of low-level climate change drying out central South America point to the death of the Amazon rainforest, and a conversion into savannah – a change that would release large amounts of methane into the atmosphere. The distance of such effects, and the difficulty of measurement and translation of such measurements into clear mandates for action are, without exaggeration, a contemporary tragedy of a scale yet to be revealed. If these sentiments appear hysterical or
290 overwrought, it is unfortunate, but the risks of downplaying such impacts seem to us unacceptable. We have no wish to paralyse decision-makers or members of our community with despair, but by the same token, feel strongly that someone must take the task of advocating for ecosystems that are given little consideration contemporary Australian policy making and give ourselves that task.

295 The melting of glaciers and polar ice caps – the Arctic especially – equates to a lowered albedo on the planet's surface. This causes less solar radiation to be reflected back into space, further warming the atmosphere and oceans.

Such positive warming feedbacks are likely to cause any change we create to the global atmosphere to be greatly exacerbated, to the point where it could be impossible to stop further warming, leading

12 Roberts, Greg. "Islanders face rising seas with nowhere to go", The Sydney Morning Herald, 2002 March 30.
Retrieved on 2008 January 4. <http://www.smh.com.au/articles/2002/03/29/1017206152551.html>

13 Spratt and Sutton (ibid)

to large increases in the planet's surface temperature.

2.3 Coal Australia's biggest climate polluter

300 Australia's coal exports produce as much greenhouse pollution as all domestic sources combined. To
ignore our coal exports would therefore ignore half of our contribution to the problem. While we
accept that double-reporting of emissions in global accounting would not be helpful, a clear account
of Australia's scope three emissions – of which emissions produced from export coal are part –
305 would more accurately reflect the global greenhouse profile, while still acknowledging the
responsibility of coal-burning nations.

The third term of reference requires the Review to report on

The role that Australia can play in the development and implementation of effective
international policies on climate change.

310 We submit that it would make no sense, therefore, for the Review to remain silent on the issue of
coal exports, which in terms of greenhouse gases produced is Australia's most significant
contribution to the global climate change emergency.

Australia currently exports approximately 233 Million tonnes per annum (Mtpa) of coal¹⁴, and this
amount is growing fast. When burned, each tonne of this coal produces approx. 2.4 tonnes of carbon
315 dioxide¹⁵. This means that Australia's coal exports produce about 560 Mtpa, an amount higher than
our total domestic greenhouse pollution.

Coal exports are, of course, not included in Australia's official greenhouse accounts. Since our
exported coal is burnt in other countries, which include the emissions in their own greenhouse
accounting, including it our national greenhouse accounts would lead to double counting when
calculating global greenhouse emissions.

320 This is, however, not a valid reason for coal exports to remain unaddressed by Australia's policy
response to climate change. In fact, there are two very good reasons why addressing coal exports
should be the primary focus of Australia's response to climate change.

- There is no action that Australia could take to reduce its greenhouse emissions that would
325 have more effect than addressing our coal exports. Coal exports make-up more than 50% of
our total greenhouse footprint .
- Coal exports are not only Australia's biggest contribution to greenhouse pollution, but our
fastest-growing. Here in Newcastle, the world's biggest coal port, companies and
governments are proposing to more-than double coal exports over the next decade, seriously
undermining the nations genuine attempt to address and respond to climate change. Coal
330 exports are growing much faster than our domestic emissions, and tackling them is the most
efficient action that the nation could take at this stage.

14 <http://www.australiancoal.com.au/exports.htm>

15 Calculated using the Australian Greenhouse Offices “Factors and methods workbook.”

2.4 Aviation

Aviation is the fastest-growing source of carbon emissions globally, and this growth is based largely on unnecessary travel – "Love Miles": people travelling to see their families, cheap holidays, and
335 business trips. This is extremely problematic, as the greenhouse emissions from flying, released high in the atmosphere, have a far greater effect than ground-level emissions (3.6 times as potent (IPCC)). This trend must be reversed: flying must be reduced as quickly as possible.

As little as ten years ago, flying was much more expensive, and therefore much less used. If people
340 needed to travel interstate, they would drive or catch public transport. No-one had any problem with that. Now, due to perverse pricing schedules that see flying cheaper than public transport, more and more people are flying. One method of reduction is to increase prices – a carbon tax could do this, if it included and accounted for the increased impact of high-altitude emissions. Such a tax could be funnelled back into low-emission transport, such as electric trains, and increased coach networks.

This answer is not entirely equitable: one around-the-world flight is more than equivalent to the
345 total equitable carbon output for one person. It might be more equitable to use a rationing system, or simply implement a ban (or staged restrictions) on discrete categories of non-essential air travel.

Currently, air travel is responsible for 3.5% of the total Carbon Dioxide emissions worldwide, but the Intergovernmental Panel on Climate Change (IPCC) estimates that by 2050 that will increase to 15%.

350 It is not just the carbon dioxide emissions to consider with aviation, but a number of other chemicals used in the process of burning aviation fuel, including nitric oxide, nitrogen dioxide and sulphur oxide. The mixture of these chemicals reacting together at high altitude are nearly 3 times more damaging than carbon dioxide produced from surface transport, according to the IPCC.

Other damaging bi-products of flying are soot and water vapour. Water vapour in itself isn't a
355 dangerous pollutant until it is released into the atmosphere at a high altitude as with flying. This creates condensation trails, which are clouds of frozen ice crystals. These contrails go on to make cirrus clouds, which act like big mirrors, trapping and reflecting Infra-red heat radiation back on to the earth. IPCC estimates that 30% of the world is covered in cirrus clouds already.

3. A global solution

3.1 The impasse

360 It is widely acknowledged that global climate change negotiations have been at an impasse for several years. Rich industrialised nations (most vocally Australia and the US, but the position is fairly universal) are unwilling to commit to the required wholesale reductions in greenhouse pollution unless fast-developing nations (China and India are usually cited) commit to some form of
365 pollution cut as well. On the other hand, developing nations argue that they should not have to cut their emissions until their living standards have reached the same level as those enjoyed in developed countries. This seems a fair position to take.

370 It is true that developed nations are almost totally responsible for the present climate crisis, due to
our historical and per-capita greenhouse emissions, which dwarf those of even China and India. It is
true that endemic and grinding poverty is a far more pressing concern than climate change for many
people in the developing world. It is ethically and politically untenable for people in the developed
world to ask people in the developing world to remain in poverty in order to fix a problem which we
are largely responsible for creating. Such arguments as are put forward by developed nations like
375 Australia and the US equally ignore the growing imbalance of development and industry across the
globe, where developing nations like China and India produce consumer goods for export to
developed countries. This further undermines the “not until China agrees” position, since China's
rapid economic growth (and corresponding emissions growth) are intimate with the excessive
consumption of developed nations.

380 However it is also true that the climate crisis is so urgent, and the scale of pollution cuts required is
so great, that virtually *all* nations must make greenhouse reductions in the near future if catastrophe
is to be averted (catastrophe that would be visited earliest and most severely on the world's poorest
people). Certainly, if all the world's nations go down the development trail blazed by rich countries
385 like Australia, the world's climate will be radically altered, and life on earth as we know it would
cease.

At its essence, the global political impasse stems from the apparently competing demands of the
climate crisis, and the development crisis. How can the impasse be resolved?

390

3.2 The Greenhouse Development Rights framework

Rising Tide would like to bring the attention of the Review to a proposed solution to this impasse,
known as the “Greenhouse Development Rights” (GDR) framework¹⁶. The GDR framework has
been proposed by the US think tank EcoEquity, and in our view it meets the essential criteria for a
395 effective and realistic global climate framework. These are:

- Efficacy. The GDR framework is designed to meet an atmospheric carbon dioxide target that
would keep average global warming *below 2* degrees.
- Fairness. The GDR framework shares the burden of climate change mitigation and adaptation
400 fairly amongst the world's people, according to their responsibility for the problem and their
capacity to act.
- Consistency. GDR does not allow rich people in poor countries to hide behind their poor
populations. It uses the same logical methods to allocate the global burden amongst people,
regardless of the country they live in. Although allocations are still made on a national basis (by
405 necessity), there is just one set of rules for all countries. The GDR framework thus avoids
charges of inconsistency and unfairness.

16 Unless otherwise stated, all statements in this section are referenced to: *The right to development in a climate
constrained world – the Greenhouse Development Rights framework*, (September 2007), Paul Baer and Tom
Athanasίου, EcoEquity (www.ecoequity.org)

3.3 GDR *the principals*

410 The central tenet of the GDR framework that an effective global climate regime must explicitly secure the right to human development. It does not prioritise the global development crisis ahead of the global climate crisis, or vice versa. Rather it acknowledges that neither can be solved in isolation, and attempts to marry the two.

415 Critically, the GDR framework is founded on a sound understanding of the urgency of the climate crisis, and notes that “even if industrialised country emissions were to be suddenly and magically halted today, the climate crisis calls for such a dramatic reduction in global emissions that the developing countries would *still* urgently have to decarbonise their economies, and indeed do so while they were still combatting endemic poverty.” The GDR's authors therefore dismiss other framework proposals that are based on “emissions rights”. Under the GDR framework, no country has a right to carry on polluting the climate.

420 GDR seeks to take “inequality within countries as seriously as inequality between countries”. It does not “aim to protect the rights of countries to unfettered economic growth, but rather the rights of *people* within countries to a 'global middle class' level of sustainable human development.”

425 Essentially, the GDR framework requires greenhouse emissions *everywhere* to fall, deeply and soon. But it requires the people and countries that are most responsible for climate change, and those with the most capacity to act, to carry the costs. Importantly, the GDR also requires that the burden of *adaptation* costs are distributed in the same way. This is essential, because the people least responsible for climate change, and with the least resources to respond, are already facing the

430 harshest impacts of the problem.

3.4 *How it works*

- 435 ● It defines a *global development threshold*. This is an income level above which a person is regarded to be of the “global middle class”. Below this threshold, individuals have the right to prioritise development, and should not have to bear the costs of climate change mitigation or adaptation. If you're above it, you have to shoulder some burden, regardless of the country you live in.
- 440 ● It calculates the *development threshold* to be US\$9000 per year (calculated in PPP terms, it therefore translates to a lower figure in developing nations). It notes that this is well above the global median income of \$3500, and higher too than the global average income of \$8500.
- 445 ● It defines and calculates a national *Responsibility and Capacity Indicator (RCI)* for each country, in a manner that takes explicit account of the distribution of income and emissions – inequality – within countries. A country's “capacity” is calculated based on the proportion

of its population with income in excess of \$9000. The more individuals within a country that are below the \$9000 threshold, the lower the countries capacity will be. A country's "responsibility" is calculated based on it's cumulative per capita carbon dioxide emissions from fossil fuel consumption since 1990. (1990 was chosen because it was the year of the first IPCC climate change report, and the point at which nations had no excuse to carry on with business-as-usual greenhouse pollution. Note that this is fairly generous, considering that a) some nations [including our own] had high levels of greenhouse pollution for many decades before this point, which made the problem of climate change what it is today; and b) informed policy-makers would have known of the risks of climate change before the first IPCC report was published.) While there are several ways to calculate appropriate RCIs, the GDR framework proposes the equation:

$$\text{RCI} = R^a \cdot C^b$$

Where the sum of 'a' and 'b' must equal 1, "which confers the property that, as the paired weights go from a=1 and b=0 towards a=0 and b=1, the RCI goes from being exactly equal to responsibility (R) to being exactly equal to capacity (C). Perhaps more importantly, the sum of the RCIs calculated for parts (say nations within a region) is equal to the RCI of the whole, which means that RCI calculation behave appropriately whether you're looking at countries, fractions of countries, or multi-country regions." The GDR framework document lets a = 0.4 and b=0.6, therefore giving more weight to capacity than responsibility.

- The framework calculates an RCI figure for all nations, and uses it to estimate the amount of money that each country would be obliged to contribute *for each one percent of global GDP that is spent to mitigate and adapt to climate change.*
- The GDR framework calculates a *global mitigation requirement*, which is the difference between baseline emissions projections and the global emissions pathway required to keep average global warming below 2 degrees (the GDR Framework sets an atmospheric carbon dioxide limit of 400 ppm, which in our view is too high). This is then divided into *national mitigation obligations*, based on a country's RCI. Each country is then assigned a *national mitigation budget*, which is equal to its baseline trajectory minus its national mitigation obligations.
- The GDR framework finds that "for key wealthy countries, reduction obligations exceed even total baseline emissions. So that even if these countries were to reduce their emissions to zero, they'd still be obligated to pay for emissions reductions elsewhere." Conversely, the mitigation obligations of many developing nations are smaller than the global requirement. What this effectively means is that *developed countries pay for emissions reductions in developing countries.*
- To facilitate this, the GDR framework proposes a strict cap-and-trade global emissions

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trading system. It does this while acknowledging that carbon trading currently has a very poor record of success, and has a history of being captured, gamed, and manipulated by vested interests. It also notes that “in principle, alternatives based on taxes, public funds, and other financing mechanism could do the same.” Rising Tide is inclined to prefer these alternatives.

3.5 Application to Australia

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The proponents of the GDR framework have developed a computer program¹⁷ to calculate the obligations and costs of countries, based on varying the input figures. Using the default weighting of 0.4 for Capacity, 0.6 for Responsibility, and \$9000 for the Global Development Threshold, Australia is allocated 1.81% of the global Responsibility and Capacity Indicator.

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If the cost of climate mitigation and adaption turns out to be 2% of Gross World Product annually, which is in the range of common estimates, then Australia's bill (based on 1.81% of global RCI) would be 3.24% of GDP annually.

4. Domestic solutions and pseudo-solutions

4.1 An emergency response

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As has been discussed, climate change is already dangerous, and greenhouse gas concentrations in the atmosphere are already too high. Australia's State and Federal Governments must announce and lead a national public mobilisation on the scale of the war effort of the 1940's in order to make the transition to a zero carbon society as fast as possible. The earlier we begin such an effort, the easier it will be.

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In order for the general community and the business community to understand the steps that (we hope) will be taken by the Federal Government to address this increasingly urgent problem, this urgency must be communicated to the public from credible (ie Government) sources. To date, most of the education campaigns about the effects of climate change and the actions we need to take to address it have been undertaken by NGOs, and while this has been important, it does not have the impact that Government advertising and community notices carry. As such, Rising Tide believes that the Federal Government must commence radio and television advertising that communicates the scale and the urgency of the climate problem, to contextualise the Government's response. It is vital, however, that such advertising not merely be used as a tool to legitimate and promote half-hearted mitigation actions.

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Obviously, catastrophic climate change should be avoided at nearly any cost. Taking swift action now will substantially reduce the need to take drastic action later. It has been pointed out that a number of climate change mitigation measures would be good for the economy. If this is the

17 available for download at <http://gdrs.sourceforge.net/>

case, there is a double benefit, and such measures should be immediately implemented. If the benefit to the economy is not clear, however, this should not be a significant reason not to take necessary action. If we do not take significant action now, the results for the economy later will be much more problematic.

525 Outside of the economy, in the real world, many such actions will have a positive impact on the social sphere – allowing and encouraging greater creativity, compassion, health, an awareness of scarcity and needs vs wants, and general wellbeing. Some actions required to avert catastrophic climate change will not have a such a positive impact, however, and in these situations, the options will have to be weighed, with a major emphasis on the importance of a stable climate over more
530 immediate and petty economic concerns. If we don't have a stable climate, the social sphere will be thrown into anomie, and in such a system, there will be no chance for an economy of any beneficial kind.

4.2 A just transition away from coal

There must be an immediate moratorium on new coal-export infrastructure. This is urgent, as our rapidly expanding coal export industry is Australia's fastest-growing contribution to climate change.

535 Coal – both domestic and export – must be completely phased out as fast as possible. Communities and regions that are currently dependent on domestic and export coal industries must be provided with a fair and smooth transition into sustainable alternative industries.

4.2.1 Clean coal is a dangerous distraction

540 Carbon capture and storage technologies are demonstrably incapable of reducing greenhouse pollution in the medium term, and may possibly never be capable. They are a waste of time and money, and are consuming resources that would be far better spent on already existing or more promising technologies. No more public money or research institutions should be wasted on CCS technology.

4.3 Changing consumption habits

Demand for stationary and transport energy must be stabilised now, and then reduced.

545 Technological development alone is not sufficient to meet the challenge of climate change within the time-frame required. Lifestyle changes, particularly reduced energy consumption, are needed.

To this end, Federal and State Governments should undertake a concerted public campaign to promote vegetarianism/veganism and organic foods to help the community move towards a less intensive consumption patterns. Such a move would have obvious added environmental and health
550 benefits.

The livestock industry is responsible for a significant proportion (12%) of Australia's domestic greenhouse pollution. The only solution to this problem is to drastically reduce the level of livestocking in Australia. A public campaign to promote vegetarianism and veganism must be accompanied by a Just Transition program to move graziers into more sustainable agriculture or
555 other industries.

The industrial fertilisers used in agriculture are nitrogen-based, made from Liquid Natural Gas, and pesticides used are petroleum based.

4.4 Transport

560 Australia must act immediately to increase the efficiency, cover, and frequency of all forms of land based mass public transport, as well as water-based public transport where required. Efforts must be made to decrease the costs, and otherwise increase the incentives to use public transport (convenience, comfort, etc).

565 Of special import, interstate train and inter-city/town coach services must be increased, in an attempt to massively decrease the instance of car-travel (especially single-occupant car travel).

One method of doing this might include an additional fuel excise (albeit based on GHG emissions), to be funnelled back into public transport.

4.4.1 Aviation

570 There is a major problem of inaccurate greenhouse emissions reporting while emissions from international air travel and freight and from international shipping remain unaccounted because there has been no agreed framework for attributing these emissions to individual nations. One solution for this is to include the emissions from international flights and shipping in the GHG accounts of the nation of departure. This would avoid developing nations having to account for tourist flights for visiting foreigners and commonsensical slate these emissions home to the wealthy 575 nations where such tourism originates. Such a system would also instigate international review of trade and export relationships since exporting nations would have to include the cost of emissions produced by freight in their production costs. Clearly, this would require some increase in commodity pricing to avoid penalising developing nations who rely on export industries.

4.5 Forestry and landclearing

580 Rising Tide does not focus our campaign effort on the carbon impacts of landuse change and forestry, so in general we support the work of environment NGOs on this issue -- particularly Greenpeace Australia Pacific. In general, however, we offer the following coments.

585 The carbon profile of logging is highly complex and so its inclusion in any accounting system in Australia and in any ETS within Australia is problematic. Conversely, the carbon impact of deforestation is clearly measurable and demonstrable. Therefore, Rising Tide believes that while logging clearly has a detrimental impact on the biodiversity values of forests, and should be addressed for thast reason, the variables of different logging regimes, in different climates, with different rotations and different tree species are such that the carbon impact of logging in Austalia cannot be generalised and carbon accounting and emissions reduction effort must be concentrated 590 on deforestation instead.

Nevertheless, "logging" regimes in Australia that amount to deforestation in real terms because of the use of patch-clearfelling or short rotation cycles may be included given the extreme impact that these activities have on soils and the extreme loss of vegetation cover. This is also true for logging industries that produce primarily disposable products, such as woodchips or firewood. This is the case, for example, in southeast NSW (predominantly woodchips), in the NSW Red Gum forests (largely firewood) and in Tasmania (woodchips). Unlike forest products that survive intact longterm, these low-value products do not sequester carbon, and as such, logging for such purposes is counter-productive for national emissions reductions. In general terms, we support the advocacy of forest-protection groups on this score.

Having said this, it is imperative that emissions from different sectors of the economy and the carbon accounting system are not treated as equivalent in any proposed emissions trading scheme. For example, emission avoided from forestry and landclearing should not be used to offset ongoing (and particularly not increasing) emissions from stationary energy generation or other sectors. Land use changes must not be used to offset the continuing consumption of fossil fuels.

Most importantly, Australia must play a cooperative and facilitatory role in preventing emissions from deforestation and degradation in the Pacific, including by regulating to prevent the importation of timber sourced from deforestation.

4.6 The problems with carbon trading

We have seen over the past few decades how a free market in operation affects our greenhouse impact: emissions have risen exponentially (in line with growth). There is no reason to believe that a continuing free market will do any better. The only market-based solution that has a possibility of working is a market heavy with regulation and incentives to change the course of the market.

The primary action required by the Australian Government is the real and immediate reduction of greenhouse gas emissions with the majority of cuts occurring as soon as possible. The establishment of an ETS in Australia must not impede, limit or disguise this primary objective. If it can be shown that real and immediate reductions will occur while a trading scheme operates, there is no inherent problem with such a scheme, but administration of the market for emissions reductions must not be confused with the Government's primary responsibility to ensure that emissions are reduced and the Government must retain discretion to shut down or dissolve such a market if it gets in the way of real reductions.

The European Emissions Trading Scheme is a good example of how carbon trading schemes fail. Grandfathering of heavily emitting industries meant that the worst polluting industries maintained, or even increased their emissions, without penalty, or even managed to make money by selling their excess.

The Basic problem with ETSs is that permits are dealt out on a per-company basis, but companies are not quantifiable entities. Different industries emit different amounts, and operate at different

efficiencies, and are of differing importance (a junk food factory is inherently less important than a fresh produce market), and different companies within those industries are different sizes, and also operate at different efficiencies. Any attempt to quantitatively compare such companies will be arbitrary and extremely subjective.

635 One ETS that could overcome this is an equitable tradeable emissions rationing: each person is assigned a maximum carbon ration (based on a contraction and convergence world model, and it doesn't matter if Australia is the first), of which a safe portion is tradeable, and can be sold to other people who need it. This is mostly equitable, because the richest, who tend to be the highest emitters, have to purchase emissions rations from the poorest, allowing the poorest increase their
640 standard of living, while lowering the total emissions.

Regardless, the downfall of many environmentally-based trading schemes is often the pressure from the outset to issue free permits and not constrain the market within the environmental measures it was designed to meet. This has occurred with pollution trading and in the more recent water trading schemes. There will be no benefit from emissions trading unless greenhouse pollution is made
645 prohibitively expensive by it. This cannot occur if emissions permits at current levels are issued.

Conclusions

Australia's greenhouse pollution reduction policies must not be based on political expediency, must
650 not be done in a spirit of compromise with other conflicting concerns such as business profit margins or the maintenance of affluent and consumptive lifestyles. Policies must be based on the imperative to minimise the impact of climate change on humans and other species.

Developed countries, including Australia, must reduce their greenhouse pollution by much more
655 than 60%, much sooner than 2050. Also, global greenhouse gas concentrations in the atmosphere must not be allowed to rise as high as 550ppm. To allow GHG concentrations to rise this high would almost certainly result in massive and unacceptable impacts on species and societies. It would likely also result in the crossing of climate tipping-points, making worsening climate change impossible to avoid.

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