



AUSTRALIA

Initial views on a long-term global goal for emission reductions

This submission provides initial views of the Australian Government on a long-term global goal for emission reductions, and on related matters. The Bali roadmap recognises that a long-term goal for emissions reduction is a critical component of a shared vision for long-term cooperative action.

The ultimate objective of the Convention¹ gives rise to a number of matters that the Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA) should address as part of its work program, in particular in addressing operative paragraph 1 (a) on developing a shared vision for long-term cooperative action. Two key questions for the AWG-LCA to address are (1) 'What level of greenhouse gas concentration in the atmosphere would prevent dangerous anthropogenic interference with the climate system?', and (2) 'What would be an appropriate time frame for the international community to achieve the stabilisation goal?'

The mandate for the AWG-LCA notes in particular the principle of common but differentiated responsibilities and respective capacities, and the need to take into account social and economic conditions and other relevant factors in developing a shared vision. These matters deserve careful consideration by the AWG-LCA, particularly in the context of the relative capacity and responsibility for Parties to act to mitigate emissions of greenhouse gases.

Dangerous anthropogenic interference with the climate system

The assessments of the Intergovernmental Panel on Climate Change, in particular the Fourth Assessment Report (AR4), provide Parties with a basis for making informed decisions about the relative consequences of different stabilisation levels.

¹ Article 2. *The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.*

The AR4 has provided a systematic understanding of the timing and magnitude of impacts related to differing amounts and rates of climate change. Climate change impacts are already evident as a result of a relatively small increase associated with global average temperature change. Projections indicate that impacts will become increasingly severe as the global average temperature rises.

Science can provide no single reference point at which a rise in the average global temperature would cross a boundary between safe and dangerous anthropogenic interference with the climate system. For instance, a two degree increase in the global average temperature above 1980-1999 levels (the AR4 benchmark) could already see widespread global impacts that would alter in severity from region to region. Australia, which has the driest and most variable climate of the inhabited continents, is projected to be among the first regions to suffer from the severe impacts of climate change.

The AR4 notes that, “determining what constitutes ‘dangerous anthropogenic interference with the climate system’ in relation to Article 2 of the UNFCCC involves value judgements.” The AR4 notes further that “to stabilise the concentration of greenhouse gases in the atmosphere, emissions would need to peak and decline thereafter. The lower the stabilisation level, the more quickly this peak and decline would need to occur.”

The international community can reduce the risks associated with dangerous anthropogenic interference with the climate system through long-term cooperative action on mitigation and adaptation. Effective collective mitigation action reduces the requirements of adaptation actions. In considering what constitutes dangerous anthropogenic interference with the climate system, Parties should agree on cooperative approaches that minimise the impacts of climate change at the lowest achievable stabilisation goal. Social and economic conditions (including access to financial and investment flows) and other factors will be relevant to such consideration, as will be the availability of affordable low emissions technologies.

Stabilisation goals

The three most referenced approaches towards defining stabilisation are (1) a temperature goal limiting the rise of the long-term equilibrium global average temperature, (2) a greenhouse gas concentration goal aiming to limit global emissions of greenhouse gases to a certain level of concentration in the atmosphere; and (3) an emissions reduction goal aiming to reduce anthropogenic emissions by a certain amount

compared to a specific base year.

(1) A global average temperature goal

In 1996 the EU Council decided on an ambition of limiting global temperature rise to two degrees above pre-industrial levels. Norway has adopted a similar goal. The primary benefit of such an approach is that it provides a readily understandable public objective. The main drawbacks with regard to using this goal as the basis for encouraging cooperative international action on mitigation are that the sensitivity of the global temperature to the level of greenhouse gases in the atmosphere is a significant variable, and that a temperature goal provides for no differentiation between anthropogenic and non-anthropogenic sources of greenhouse gases.

An additional consideration is that the global average temperature at equilibrium is different from the expected global average temperature at stabilisation due to the inertia of the climate system. The AR4 reports that, for most emission reduction scenarios, it would take a few centuries for the global average temperature to reach equilibrium after emissions are stabilised.

Given the loose correlation between actual emissions and global average temperature rise, the use of a temperature goal in isolation to other stabilisation goals complicates a future approach based on international carbon budgeting. Such a carbon budgeting approach, where each Party accepts responsibility for a proportion of global anthropogenic emissions, already forms the basis for mitigation action in the Kyoto Protocol.

(2) A global greenhouse gas concentration goal

An aim to limit temperature rise to a certain concentration of greenhouse gases in the atmosphere is more directly correlated to greenhouse gas emissions than a global temperature goal. The IPCC uses concentration figures to define its stabilisation scenarios. Such a goal is most accurate when expressed as a proportion (most commonly parts per million) of CO₂-equivalent gases in the atmosphere. A concentration goal removes many of the uncertainties associated with a global temperature goal, but does not differentiate between anthropogenic and non-anthropogenic sources of greenhouse gases.

(3) A global emissions reduction goal

A global emissions reduction goal is closely correlated to national anthropogenic emissions. If the anthropogenic emissions of Parties are

accounted in a comparable manner then such a goal should allow for accurate international carbon budgeting across national jurisdictions. It can also be tailored over time to reflect the evolution of scientific and technological knowledge.

The 'Bali Action Plan' mandates the AWG-LCA to develop a recommendation with regard to a long-term global goal for emissions reductions. Australia notes that, in addition to the Bali mandate, the G8, APEC, EAS and Commonwealth leaders have all identified the need to work towards a long-term global emissions reduction goal.

The work to develop a long-term global emissions reduction goal should be a priority for the AWG-LCA. If additional goals are considered by the AWG-LCA, any subsequent recommendations should necessarily complement and recognise the centrality of the long-term global emissions reduction goal in guiding our collective efforts.

A long-term global goal for emissions reductions

The pattern of emissions growth in recent years and the magnitude of the mitigation challenge are such that global emissions will take time to peak and then decline to a level consistent with the stabilisation of anthropogenic greenhouse gas emissions in the atmosphere. The more stringent stabilisation scenarios in the AR4 require emissions to peak and decline more quickly.

A number of countries have already nominated their preference for a global emissions reduction goal, notably Japan with a preference for a 50% reduction in global emissions by 2050 on current levels and Canada for a 50% reduction in global emissions by 2050 based on 2005. In addition a number of countries have adopted domestic long-term goals. Australia has already adopted a goal of reducing national emissions by 60% by 2050 based on 2000 levels.

The AR4 indicates that global greenhouse gas emissions need to peak in the next 10-15 years and be reduced to very low levels, below half of levels in 2000 by 2050 in order to stabilise their concentrations in the atmosphere at the lowest levels assessed by the IPCC. The AWG should take into close account the AR4 when considering its recommendation on a long-term global goal for emission reductions.

Australia considers 2050 to be an appropriate target date for the long-term global goal to reduce emissions. The base year should reflect the decision taken by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol regarding a suitable base year for the second commitment period. The goal should take into

account all sources and sinks of greenhouse gases.

While the UNFCCC will set a long-term global emissions reduction goal as part of the current negotiation, this goal should be iterative to respond to the evolution of scientific knowledge and technological advancements. Similarly the need for further global emission reductions beyond 2050 will need to reflect future developments in the coming years.

Common but differentiated responsibilities

The UNFCCC enshrines the principle of working to protect the climate “on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities”. This principle led to Annex I Parties agreeing to accept binding targets on national emissions under the Kyoto Protocol. There has yet to be further differentiation of responsibilities and capabilities other than highlighting the vulnerability and lack of capacity of some Parties to respond to the impacts of climate change.

There is considerable variation in the circumstances of the 191 countries in the UNFCCC. Accordingly there can be many different approaches to differentiating and grouping countries according to such circumstances.

Thirty-nine Parties and one regional economic community are listed in Annex I to the Convention. Seven of the top 15 emitters of greenhouse gases are in this group, namely the United States, European Union, Russian Federation, Japan, Canada, Australia and Ukraine.²

At the other extreme, 49 Parties are Least Developed Countries (LDCs), which contribute relatively little to global emissions from energy and are a focus for development assistance. No LDC is among the top fifteen major emitters. However, emissions from land use, land use change and forestry are relatively high in some LDCs and reducing emissions from deforestation should continue to be a priority for action.

One benchmark to further differentiate the remaining 103 UNFCCC Parties is to consider them according to their respective GDP per capita³. Accordingly 46 of the remaining 103 Parties have a GDP per capita higher than that of Ukraine, which is an Annex I Party. This group of non-Annex I Parties includes six of the top 15 major emitters, namely Brazil, China, Iran, Korea, Mexico, and South Africa.

² World Resources Institute, CAIT, Total GHG Emissions in 2000 (six GHGs , excluding LULUCF)

³ IMF World Outlook 2007, GDP per capita based on purchasing power parity

There are 57 Parties with GDP per capita lower than Ukraine, but which are not LDCs⁴. This group of countries includes the remaining two of the top 15 emitters – India and Indonesia.

All UNFCCC Parties should contribute towards collective mitigation efforts taking into account differing national circumstances. The top 15 emitters are responsible for nearly three-quarters of global greenhouse gas emissions⁵. These Parties will need to act as part of the post-2012 outcome for any goal to be met.

The current list of Annex I Parties does not reflect the relative contribution that all economies could make towards mitigating emissions. UNFCCC Parties should decide on an objective basis for graduation of non-Annex I Parties to the Annex I list or additional lists which may be adopted under a future framework, with a view to all advanced economies adopting a comparable effort towards the mitigation of greenhouse gas emissions. The AWG-LCA should consider and adopt recommendations in this regard.

⁴ The number of Parties with GDP per capita higher than Ukraine *increases* if US\$ is used rather than PPP.

⁵ 73.8%, World Resources Institute, CAIT, Total GHG Emissions in 2000