



Submission of the United Nations Environment Programme (UNEP) to the Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-DPEA)

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BACKGROUND

In response to Decision CP.17 Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action (FCCC/CP/2011/L.10), paragraph 8, which “Requests Parties and observer organizations to submit by 28 February 2012 their views on options and ways for further increasing the level of ambition”, the United Nations Environment Programme (UNEP) submits its 2011 “Bridging the Emissions Gap” report (http://www.unep.org/pdf/UNEP_bridging_gap.pdf).

The report provides an assessment of the levels of ambition, based on country pledges, and options for increasing ambitions to achieve emissions reductions in line with a 2°C and 1.5°C targets. To do the work UNEP convened 55 scientists and experts from 28 scientific groups and across 15 countries who put together an analysis based on the review of a large body of scientific studies. While the analysis was undertaken before Durban, the results remain valid after.

Below is a short text highlighting key findings from the “Bridging the Emissions Gap” report and organized around the following four issues: 1) The need to raise ambition before 2020; 2) the feasibility of raising ambition; 3) options and ways to raise ambition under the UNFCCC and; 4) options and ways to raise ambition nationally.

1) HIGH RISK OF DELAY: AMBITIONS NEED TO BE RAISED BEFORE 2020

Meeting the 2°C or 1.5°C targets will only be possible if ambition is significantly raised and urgent action taken before 2020. There is a gap of 6 to 11 GtCO₂eq between expected levels of

emission in 2020 if Parties’ pledges under the Cancun Agreements were fulfilled, and 2020 levels of emission consistent with a “likely” and “medium”¹ chance of holding the increase in global average temperature below 2 °C and 1.5 °C respectively, above pre-industrial levels, by the end of the century. The size of the gap depends on the extent to which the pledges are implemented, how they are applied, and what accounting rules they are assigned.

In most emissions pathways consistent with a “likely” chance of meeting the 2°C target, global emissions² peak in the decade between 2010 and 2020 and decline steeply afterward. This requires an average emissions reduction rate of 2.6% (the sooner and lower the peak, the slower the rate of decrease can be afterwards), to reach in 2050 a level about 53% lower than for 2005. For a “medium” change of meeting the 1.5°C target, emission reduction rates after 2020 need to be even

faster. In many emissions pathways, global net CO₂ emissions from fossil fuel and industry reach

negative levels before the end of the century.

¹ Likely chance (>66%), Medium chance (50% to 66%).

² Global annual emissions consist of emissions of the “Kyoto basket of gases” coming from energy, industry and land use.



2) AMBITIONS CAN BE RAISED AND THE EMISSIONS GAP CAN BE BRIDGED

Issues discussed under the UNFCCC can lead to significant impacts on the size of the 2020 emissions gap. In fact, without current pledges made under the Cancun Agreements, the emissions

gap would be up to 12 GtCO₂eq. Outcomes of a number of climate negotiation issues, including

pledges countries will choose to implement, rules governing land use, land use change and forestry (LULUCF) accounting, the use of surplus emissions units, the accounting of offsets, the control of leakage effects and climate finance can have significant positive or negative impacts on the size of the emissions gap. For instance, implementing pledges to their higher extent and not counting allowances

from LULUCF and surplus emission credits would bring the gap down to 6 GtCO₂eq, its lower estimate

(see section 2). However, bridging the emissions gap ultimately depends on whether Parties will increase their pledges and actions.

There are many technically and economically feasible options available to raise ambition nationally and bridge the 2020 emissions gap. No major technological breakthrough is needed to reduce emissions by 2020 to levels that are consistent with the 2°C or 1.5°C targets, and the costs of these reductions are not prohibitive. Global assessment models demonstrate that the gap can be bridged by making realistic changes in the energy system (mainly through increasing its efficiency and

accelerating the uptake of renewable energies) and reducing non-CO₂ emissions. A review of sectoral

studies confirms these findings. It shows that pursuing a wide range of feasible measures, in sectors such as electricity production, industry, transportation (including international aviation and shipping),

building, forestry, agriculture and waste, can deliver up to 17±3 GtCO₂eq of emissions reduction by

2020 as compared to a business-as-usual (BaU) scenario, more than enough to close the emissions gap (see section 3).

3) OPTIONS & WAYS TO RAISE AMBITION UNDER THE UNFCCC

Many of the issues discussed under the UNFCCC can have significant impacts on the size of the gap:

- **Ensuring that all countries implement their higher-ambition pledges**, i.e. pledges that may depend on the enactment of national laws, action from other countries, or the provision of finance

or technical support, could reduce the gap by up to 3 GtCO₂eq.



- **Agreeing to strict accounting rules regarding LULUCF and surplus emission credits** could reduce the gap by up to 3 GtCO₂eq.
- **Agreeing upon rules and measures to avoid double counting of offsets and improve additionality of CDM projects** would prevent an increase of emissions levels by up to 2 GtCO₂eq in 2020 (1.6 GtCO₂eq and 0.4 GtCO₂eq respectively).
- **Agreeing upon rules and measures to avoid leakage effects**, i.e. actions to reduce emissions in one country that lead to an increase in emissions elsewhere) would also prevent a potential widening of the gap. However estimates of potential emissions from leakage effects vary widely (from 0.05 GtCO₂eq to 0.55 GtCO₂eq).
- **Effective and efficient delivery of climate finance through, for example, the Green Climate Fund**, could lead to further emission reductions in developing countries of up to 2.5 GtCO₂eq.
- **Raising pledges** will however be necessary in order to close the emissions gap. Even the aggregated effects of all the options listed above will not make up for the additional emission reductions required. Ultimately meeting the 2°C or 1.5°C targets will only be achievable if Parties' pledges are raised before 2020.

4) OPTIONS AND WAYS TO RAISE AMBITION NATIONALLY

Policymakers and stakeholders have a degree of flexibility in choosing from a wide variety of options to raise ambition nationally and bridge the emissions gap by 2020.

Scenarios from global integrated assessment models that achieve 2020 emissions levels consistent with the 2°C target include a combination of the following options:

- **Improving energy efficiency:** Primary energy production is up to 11% lower than business-as-usual levels in 2020.
- **Reducing use of fossil energy:** Producing up to 28% of total primary energy from non-fossil fuel energy sources in 2020, including up to 17% from biomass and up to 9% non-biomass renewable energy (as compared to 18.5%, 10.5% and 2.5% respectively in 2005).



- **Reducing non-CO₂ emissions:** Reducing non-CO₂ emissions by up to 19% relative to business-as-usual in 2020.

Globally, the marginal costs of reduction of these packages of measures range from about 25-54

US\$/tCO₂eq. In addition, the preceding numbers are maximum values for the different mitigation

options and every scenario considered uses a different mix of them indicating that there are many pathways to bridging the gap.

A review of sectoral studies indicates that pursuing a wide range of technically feasible measures can

deliver up to 17±3 GtCO₂eq of emission reductions by 2020, as compared to BaU, including the

following reductions:

- **Electricity production sector:** 2.2 to 3.9 GtCO₂eq per year through more efficient power plants, renewable energy sources, carbon capture-and-storage, and fuel shifting.
- **Industrial sector:** 1.5 to 4.6 GtCO₂eq per year through increased energy and material efficiency, fuel switching, power recovery, and other measures.
- **Transportation sector (excluding aviation and shipping):** 1.4 to 2.0 GtCO₂eq per year through increased fuel efficiency, use of electric drive vehicles, shift to public transit, and use of low carbon fuels.
- **Aviation and shipping (a major part of emissions are international and do not fall under countries pledges):** 0.3 to 0.5 GtCO₂ per year through increased fuel efficiency, use of low carbon fuel (both for aviation), reduced ship speed (for shipping) and other measures.



- **Buildings sector:** 1.4 to 2.9 GtCO₂eq per year through efficient heating, cooling, lighting, and appliances, among other measures.
- **Forestry sector:** 1.3 to 4.2 GtCO₂eq per year through a reduction in deforestation, and changes in forest management that increase carbon stocks.
- **Agriculture sector:** 1.1 to 4.3 GtCO₂eq per year through changes in cropland and livestock management that reduce non-CO₂ emissions and enhance soil carbon.
- **Waste sector:** about 0.8 GtCO₂eq per year through wastewater treatment, waste gas recovery from landfills, and other measures.

These can be realized at marginal costs of reduction up to about 50-100 US\$/tCO₂eq and assuming that strong, long-term and sector specific policies are in place.

Raising ambition along with pledges to levels that would prevent dangerous climate change can be done in many ways. Many successful mitigation policies are already implemented in developed and developing countries that have great potential for scaling up and replication. Some studies even demonstrate that existing policies in some developing countries could lead to levels of emissions that are lower than pledges (up to 2GtCO₂eq).

However each year of delay in taking action will reduce the available emission reduction potential - because less time is left to implement measures. Overall, delayed action implies risks of higher mitigation costs over the long term and, most importantly, later and larger damages from climate change impacts.