SUSTAINABILITY COUNCIL of NEW ZEALAND

# Integrity Gap

## *Copenhagen Pledges and Loopholes*

### Overview

Rather than the deep cuts on 1990 level emissions that are required, current pledges by developed countries would allow them to maintain business as usual emission levels, once "loopholes" are taken into account.

Copenhagen Accord pledges to cut emissions by 2020 are made relative to existing and proposed accounting rules that significantly reduce their net impact on the atmosphere. A series of independent studies have assessed the pledges and there is close agreement that before loopholes, they represent commitments to reduce developed country emissions to between 12% and 18% below 1990 levels.

Available 'hot air' emission units represent an erosion of the effect of those commitments equivalent to 6% or more of 1990 levels, and the exclusion of international aviation and shipping emissions amounts to a reduction of at least another 4%. The scale of the land use accounting loopholes will be determined by new rules that are yet to be agreed. The generation of land use credits is expected to have a 5% impact on the pledges and this is taken as a proxy for land use loopholes.

These three factors constitute a set of core loopholes amounting to 15% of 1990 levels. In other words, the core loopholes would alone reduce the environmental integrity of the Copenhagen pledges to between 3% below and 3% above 1990 levels, when 25% to 40% below 1990 levels was the range indicated for developed countries in the IPCC's 2007 report. More recent science firmly indicates that more stringent measures will be required.

There are additional potential loopholes that are conditional on certain versions of the proposed new climate treaty being agreed upon. These include proposed land use rules that would give too much scope for each country to select an accounting basis that advantaged it and left the atmosphere the poorer. In particular, if land use loopholes are large, emissions disciplines on the fossil fuel side of the ledger could be overwhelmed. A further set of loopholes that could arise from compromised systems are also significant in their potential to erode environmental performance.

| Measure | Impact Relative to 1990 Levels |
|---|---|
| Aggregate Emission Reduction Pledges (developed countries, before loopholes) | -12% to –18% |
| Effect of: Core Loopholes | +15% |
| Potential Effect of: Contingent Loopholes | +Large |
| Compromised Systems | +Significant |

If governments wish to adhere to the FCCC mandate of avoiding dangerous climate change, a fundamentally different approach is required that closes down the loopholes *and* delivers emissions obligations commensurate with that task. The existing pledges plus loopholes constitute a package that is out of integrity with that mandate.

# 1. What the Atmosphere Sees

## Targets

The IPCC estimated in 2007 that developed countries need to cut emissions to between 25% and 40% below 1990 levels to be on track to achieve stabilisation of greenhouse gases at a concentration of 440 to 490 ppm $CO_2$eq. This is often quoted as a 450 ppm target and associated with limiting the global temperature rise to 2 degrees C.[1] More recent science firmly indicates that more stringent measures will be required.[2] In light of this, over 100 parties to the FCCC have called for developed nations to cut their emissions to 45% or more below 1990 levels.[3]

Avoiding dangerous climate change will also involve developing countries significantly constraining their emissions. However, due to the historic responsibility developed countries bear for 77% of the cumulative emissions present in the atmosphere, the Kyoto Protocol specifies that developed countries will take the lead in emission reductions. In assessing progress towards the goals specified in the UN Framework Convention on Climate Change (FCCC), it is therefore instructive to focus first at the pledges made by developed nations.

## Current Pledges

Developed country pledges, first made under the Kyoto Protocol framework and repeated under the Copenhagen Accord, have been independently assessed for their ability to reduce emissions below the 1990 baseline. There is close agreement that those countries with binding Kyoto targets (known as Annex 1 parties) have collectively pledged targets estimated to be 12% to 18% below 1990 levels (before loopholes).[4] The low estimate is based on unconditional pledges (or those at the low end of a country's range) and the upper estimate is based on higher (often conditional) reduction targets also offered. The UNFCCC secretariat assesses that the pledges amount to 17% to 25% below 1990 levels if the US is not counted. Once the US is included in the developed country group, the UNFCCC results similarly align with the 12% to 18% range presented in other studies.[5]

## Treaty Compliance vs Environmental Performance

The pledges are made relative to existing and proposed treaty rules. That is, they are commitments relative to particular accounting arrangements and exclusions that significantly reduce the level of total emission reductions that would be measured in the atmosphere. To understand the true level of environmental integrity that the pledges represent, it is necessary to distinguish between progress made relative to these accounting rules, and progress relative to the total emissions being released to the atmosphere – what the atmosphere 'sees'. This involves assessing the scale of emissions that are not, or may not be, counted.

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1 The 445 to 490 ppm $CO_2$-equivalent concentration at stabilisation is defined to include GHGs and aerosols. R Pachauri and A Reisinger, *Climate Change 2007: Synthesis Report*, IPCC Fourth Assessment, November 2007, p 67; and Working Group III Summary, p 39 and 90.

2 See in particular: James Hansen etc al, *Target Atmospheric $CO_2$: Where Should Humanity Aim?*, Open Atmos. Sci. J., Vol 2, 2008.

3 AOSIS, the Africa Group and the LDCS have called for targets of 45% or more below 1990 levels.

4 Four analyses essentially agree on this range: The European Commission, 13.2% to 17.8% (p 5), NEAA 12% - 18% (p 16), Grenada 12 to 18% (p 1), Climate Action Tracker, 11 to 17%.

5 See FCCC/KP/AWG/2010/INF.1 p 8. The US is a party to the UNFCCC and listed in Annex 1 to it, and so part of the develped conntry group. It is not a party to the Kyoto Protocol.

# 2. The Loopholes

There are four major categories of rules and arrangements that diminish, or could diminish, the level of environmental performance to be expected from the pledges and are termed loopholes for the purpose of this briefing. These concern the treatment of: 'hot air', international aviation and shipping, land use changes, and Clean Development Mechanism credits (CDM).

The following presents estimates for the size of each set of loopholes, drawing in particular on those prepared by: the European Commission,[6] the Netherlands Environmental Assessment Agency and Ecofys (NEAA),[7] the Potsdam Institute,[8] and the UNFCCC secretariat (UNFCCC).[9]

## Hot Air

Under the Kyoto Protocol, Annex 1 countries must surrender Assigned Amount Units (AAUs) equal to their emissions (where each AAU and other qualifying units correspond to one tonne of carbon dioxide equivalent). Each nation is issued with AAUs equal to its target and if it overshoots, it can purchase AAUs from others that have a surplus. Russia and former Soviet states have a large surplus of AAUs (known as 'hot air') as a result of the collapse of the Soviet economy soon after the 1990 base year. If other Annex 1 countries purchase these AAUs to assist them to meet their targets, they can comply with the Protocol but there will be no reduction in emissions to the atmosphere as a result.[10]

Estimates of the hot air surplus vary mostly due to different projections for the total volume of emissions that will be produced during the first commitment period from 2008 to 2012 (CP1).[11] The UNFCCC states that depending on assumptions, a surplus of between 7 and 11 gigatonnes of $CO_2$ equivalent (Gt) could be carried over to the second commitment period (2013 to 2020, known as CP2).[12] If the midpoint of this range is taken at, and use of that 9 Gt is spread evenly through CP2, this is equivalent

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6 European Commission (2009), *Towards a comprehensive climate change agreement in Copenhagen*, Part 1, SEC(2009) 102, Commission Staff Working Document, January 2009; and European Commission (2010), *International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change*, SEC(2010) 261, 9 March 2010.

7 M den Elzen, A Hof, M Mendoza, M Roelfsema, B van Ruijven, J van Vliet, D van Vuuren, N Hohne, S Moltmann, *Evaluation of the Copenhagen Accord: Chances and risk for the 2 degree C climate goal*, Netherlands Environmental Assessment Agency and Ecofys, 2010.

8 Joeri Rogelj, Malte Meinshausen and colleagues, *Copenhagen Accord pledges are paltry*; Potsdam Institute for Climate Impact Research, Climate Analytics, and Ecofys; Nature, Vol 464, 22 April 2010.

9 UNFCCC, *Compilation of pledges for emission reductions and related assumptions provided by Parties to date and the associated emission reductions*, 20 May 2010, FCCC/KP/AWG/2010/INF.1.

10 Article 3.13 allows parties to transfer surplus AAUs into subsequent commitment periods and also sell them to other parties.

11 They also vary due to some estimates being quoted as surpluses before units used to square up for CP1 have been deducted and others quotes as surplues completely available to the second commitment period. As a number of studies do not reference clearly on which basis the estimate is made, only those for which the basis for the estimate can be clearly identified are compared.

12 Unless otherwise specified, all emisisons are expressed in Gt of $CO_2$ equivalent. Reference is to UNFCCC p 9, which clarifies that the estimate excludes the acquisition of CERs by Annex 1 Parties, as are subsequent estimates.

to 1.1 Gt of emissions for the year 2020. That in turn translates to 6% of Annex 1 emissions for 1990 and would erode the environmental performance of developed nation pledges to that degree if all the units were utilised.[13] Although individual countries can elect not to purchase hot air, its availability represents a loophole until the units are removed from circulation.

Estimates that had not factored in the economic downturn projected surpluses lower than this.[14] However, two detailed estimates that do account for the downturn are at or above the 6% level.

Point Carbon, a specialist carbon markets analyst, projects a surplus available for use in CP2 of 9 Gt, and so a 6% effect on the pledges.[15] The NEAA also undertook an extensive analysis of the hot air question and estimates the amount available to CP2 at 10.9 Gt, equivalent to 1.3 Gt available for the year 2020, and nearly a 7% erosion of the pledges.[16]

This team further notes that in addition to the legacy hot air from CP1, a significant new crop of hot air would be created in CP2 on current settings. This arises because "the pledges for 2020 made by Russia and Ukraine are at levels above their baseline projection, meaning that new surplus AAUs are generated".[17] While the effect of this new crop appears to be already factored into baseline estimates for the performance of the pledges (the 12% to 18% below 1990 levels for Annex 1), the NEAA comments that:

> … the sheer size of the surpluses of Kyoto hot air (about 6% of total 1990 Annex I emissions) and new hot air from the 2013-2020 period (about 5% of total 1990 Annex I emissions) would jeopardize the environmental integrity of a future climate agreement.[18]

Hot air represents a large loophole available to Annex 1 countries and constitutes a 6% additional erosion of the environmental effect of the pledges. It is a legacy from the first commitment period that must be counted before real gains for the atmosphere can be made.

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13 Percentage comparisons to Annex 1 1990 levels use the baseline estimated by the NEAA of 18.8 Gt unless otherwise stated. NEAA, p 38. Also, hot air is evenly apportioned over an eight year CP2 period assumed to run from 2013 to 2020.

14 The European Commission in early 2009 used emission levels from 2006 as the basis for its calculation and arrived at a significantly lower level estimate (European Commission 2009, p 59), but its 2010 report has estimated the surplus at 10 Gt and calculates this as equivalent to a 6.8% erosion of the effectiveness of the pledges if all the available AAUs were utilised, (European Commission 2010, p 6.)

15 Point Carbon, *Assigned Amount Unit: Seller/buyer analysis and impact on post-2012 climate regime*, 26 October 2009, p 21.

16 M.G.J. den Elzen, M. Roelfsema, S. Slingerland, *Too hot to handle? The emission surplus in the Copenhagen negotiations*, NEAA, December 2009, p 36. Appendix D to this report provides a cross-comparison of estimates that locate the NEAA figure relative to others.

17 NEEA, p 39.

18 Den Elzen, Roelfsema, and Slingerland, 2009, p 29. Climate Analytics similarly comments: "The total amount of surplus AAUs is large enough to allow the Annex I countries as a group to follow a business-as-usual emission pathway until after 2020 … , while still complying with the currently announced reduction targets. This implies that overall emissions of the developed countries would be only 3% below 1990 levels by 2020 (about equal to business as usual)". http://www.climateactiontracker.org/developed.php, accessed 16 July 2010.

## International Aviation and Shipping

Emissions from international aviation and shipping (known as bunker fuel emissions) are currently not counted under the Kyoto Protocol. Article 2.2 instead delegates action on these to the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO).

These international transport activities already emit over 1 Gt a year and the rates of emission growth are among the fastest - particularly aviation.[19] Scheduled aviation traffic grew by 4% a year from 2001 to 2008 and the ICAO expects it to grow at 4.6% a year through to 2025.[20] Accordingly, international aviation emissions have grown by over 60% since 1990, with the lower end forecasts projecting a doubling by 2020 and those that include non-scheduled traffic and higher growth rates project a tripling of 1990 levels by 2020 – to between 0.7 to 0.8 Gt/yr.[21]

At present there is no agreed basis for allocating responsibility for international aviation and shipping emissions between nations but Annex 1 parties do annually report those that result from the fuel they load from international bunkers and the following tabulates IEA figures for historic $CO_2$ emissions on this basis.

Table 1

**International Aviation and Shipping Emissions**

| Emissions Sector | 1990 (Mt/yr) | 2007 (Mt/yr) |
|---|---|---|
| International Aviation | | |
| - Annex 1 bunkers | 163 | 237 |
| - Non-Annex 1 bunkers | 124 | 175 |
| - Subtotal | 254 | 412 |
| International Shipping | | |
| - Annex 1 bunkers | 233 | 297 |
| - Non-Annex 1 bunkers | 123 | 314 |
| - Subtotal | 357 | 610 |
| Total International Bunkers | 611 | 1,022 |

Source: IEA, $CO_2$ Emissions from Fuel Combustion (2009 Edition), Paris.

In spite of the prominence of these emissions, neither the ICAO or IMO has presented plans that adequately address their part of the challenge of avoiding dangerous climate change. The ICAO emphasises lowering emissions intensity without also proposing a serious complementary response (such as sequestration obligations) to look after the total volume of emissions that will still be rising - just more slowly.[22] It is targeting a 1.5% per year reduction in emissions intensity when simply stabilising emissions by 2025 would require an average reduction in intensity of about 5% per year.[23] The

19 Total avaition and shippping worldwide (including non-Annex 1 and domestic emsisions) are 2% and 3% respectively of current emissions. www.icao.int/Act_Global/ and www.IMO.org

20 www.icao.int/Act_Global/

21 Andrew Macintosh and Lailey Wallace, *International aviation emissions to 2025: Can emissions be stabilised without restricting demand?* CCLP Working Paper Series 2008/1, ANU Centre for Climate Law and Policy, 2008, p 14.

22 ICAO, *High-Level Meeting on International Aviation and Climate Change, Agenda Item 1: Aspirational goals and implementation options*, 8 September 2009, p 3.

23 Macintosh and Wallace (2008), p 16 and 18.

IMO similarly places emphasis on energy efficiency in shipping without adequate complementary steps.[24] Both organisations also contemplate economic measures, but the negotiations over this that involve nations as well as carriers are deeply divided. This includes division between developed and developing countries over appropriate formulae for burden sharing that link back to UNFCCC negotiations. The European Union is meanwhile including international aviation within its Emissions Trading Scheme from 2012, and plans to include maritime emissions a few years later.

The EU is also distinguished by being the only country to have included an international bunkers obligation (for aviation) as part of its Copenhagen pledge in an attempt to make up for the inadequate sector level responses.[25] With all other pledges having been made exclusive of bunker fuels, emissions from these are left as a major loophole – one not often accounted for in studies of pledge adequacy as most take the perspective of the treaty framework rather than what the atmosphere sees. There are however no proposals to incorporate international bunker emissions in the Kyoto Protocol text, and even those earlier set out in the alterative LCA text have been stripped back in the latest draft to an obligation on ICAO and IMO simply to report in December 2011 without a single deliverable specified.[26]

The Potsdam Institute estimates that total emissions for international aviation and shipping will be 1.8 Gt by 2020, assuming fulfilment of the industry body plans.[27] If the conservative assumption is made that just half those emissions can reasonably be attributed to Annex 1 nations, then this amounts to 0.9 Gt/yr. That is equivalent to almost 5% of Annex 1 1990 emissions if the bunkers component of the EU pledge has already been factored into an assessment of the pledges, or closer to 4% if the EU pledge has not already been factored in.[28]

A half share is similar to the proportion recently recorded by Annex 1 countries in their bunker emissions (52% for 2007). If the proportion attributed to Annex 1 were higher, say 65%, the scale of the loophole would increase by 1% of 1990 levels. A further issue raised is whether the warming arising from non-$CO_2$ gases emitted by aircraft should also be counted. There is debate over the merits of this given that most of the other forcing agents are short lived, and policy is primarily focused on long-lived agents. However, if a so-called "uplift factor" of 1.7 (at the lower end of the range) were applied, this would raise the bunkers loophole by 1% of 1990 levels.[29]

International aviation and shipping represents an automatic loophole of at least 4% of Annex 1 1990 levels owing to it not being counted under the proposed CP2 text. Unless and until sector responses or improved pledges pick up the weight of this exclusion, it remains a significant loophole.

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24 International Chamber of Shipping, *Shipping, World Trade and the Reduction of $CO_2$ emissions*, 2010, p 3.

25 UNFCCC, p 16 and update of 21 July 2010, p 19; and NEAA, p 37.

26 FCCC/AWGLCA/2010/8, 9 July 2010, paras 54 to 56.

27 Potsdam Institute, p 1127.

28 It is unclear from the documentation publicly available how this component of the EU pledge has been treated. The full Annex 1 emissions in 2020 count as a loophole because the 1990 volume is excluded from the 1990 baseline adopted for this study (as it is for the NEAA and UNFCCC studies).

29 "If the purpose is to provide an approximation of $CO_2$-e using a 100-year timeframe, an uplift factor of 1.7 appears to be the best estimate, although it is subject to considerable uncertainty". Macintosh and Wallace (2008), p 4.

## Land Use

To properly manage climate change, biological systems need to be properly accounted for. The rules governing accounting for land use during CP1 vary significantly from those for fossil fuel use. They allow countries to elect whether to account for land based activities other than deforestation and afforestation, use different accounting bases for different land uses, and cap some emissions.[30] In all, these existing "LULUCF" rules raise many problems.[31]

The Kyoto Protocol intended that during the second commitment period, it would at least become mandatory for nations to take responsibility for a series of additional land use activities beyond forest management in order to better cover land use impacts.[32] However, the current draft text for CP2 leaves open the option that many of the current demonstrably leaky provisions will continue, while new loopholes are also presented.[33]

Exactly what is at stake in terms of the size of the loopholes is complex to assess, not least because different options in the draft text allow for a wide sweep of potential outcomes. A number of studies have however estimated the degree to which they see expected land use rules degrading the effectiveness of the pledges in the context of the Kyoto Protocol treaty framework. Climate Analytics and Ecofys state:

> The developed country industrial emission reductions targets assessed here as a whole are estimated to be 11-17% below 1990 levels by 2020. However the proposed forestry credits these countries want would degrade this by about 4% points.[34]

The UNFCCC has also examined how proposed land use rules "may lower the overall level of ambition of the pledges and affect the expected reduction in the level of aggregate emissions". After applying the accounting treatments that each party assumes as a part of its pledge, the UNFCCC's preliminary estimate of the effect of this is 1 Gt a year, which translates to a 5% change relative to the Annex 1 pledges.[35] Granada also estimates a 5% reduction on a similar basis.[36] The Potsdam Institute takes half this value for its study, but on the assumption that the Kyoto Protocol rules remain the same and this reduces the effect.[37]

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30 "For different sectors there are different accounting rules. Forest activities are accounted for using the so-called 'gross-net' accounting method while for agricultural activities (cropland and grazing land management) the 'net-net' accounting approach was adopted. In the case of forest management, 'national caps' were agreed in the Marrakech accords, which were in part politically motivated and which are due for review before 2012". European Commission (2009), p 28 and 29.

31 Emissions involving land are formally known as land use and land use change and forestry, or LULUCF in UNFCCC accounting terms.

32 Article 3.4 of the Protocol.

33 UNFCCC, *Documentation to facilitate negotiations among Parties, Note by the Chair, Addendum, Land use, land-use change and forestry*, 29 April 2010, FCCC/KP/AWG//2010/6/Add.2 – hereafter called the "Draft Text".

34 http://www.climateactiontracker.org/developed.php, accessed 16 July 2010.

35 UNFCCC, p 7. The UNFCCC refers to it as an 8% change, as the US is not included.

36 Grenada, *Additional views on topics to be covered in the in-session workshop on the scale of emission reductions to be achieved by Annex I Parties in aggregate and the contribution of Annex I Parties, individually or jointly, to this scale (AWG-KP)*, Submission to UNFCCC, 9 July 2010, p 3, 4. http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/aosis_awgkp12.pdf

37 Potsdam Institute, p 1127. NEAA also assumes 0.5 Gt per annum but the basis for this is not specified.

How to regard these deductions in general is a matter of importance, but the key distinction at this point is that the above are simply estimates of the land use credits generated relative to the pledges, not what the atmosphere would still see while the treaty failed to count it.[38] Estimating the extent to which the atmosphere would be the poorer for land use that is not counted under the new treaty requires a different basis for assessment and we are not aware of such an overall assessment.

There is however no doubt that there are such loopholes in the current rules and that their effect is very significant. It is also apparent that some rules breach good accounting practice and deliver advantage to the parties that negotiated them. The following describes three rules that operate for CP1 and would remain in use for CP2 if certain versions of the current draft text were agreed.

> ***A Failure to Compare Like with Like (Gross-Net Accounting):*** Unlike normal accounting, a gross emissions baseline is compared with net emissions for forest management activities during CP1. That is, instead of net with net, it is a gross with net basis for comparison.[39] This is a one sided arrangement that masks true changes in position – amounting to "heads I win, tails I stay the same". Although there is a clear preference by most parties to move away from gross-net accounting, the European Commission reiterated its concerns over this practice in March 2010.[40] It is particularly concerned by a scenario that would allow gross-net accounting to continue without the volume of credits generated being capped as it estimates this alone would lead to an 8% erosion of Annex 1 pledges, relative to the rules currently in place for CP1.[41] That gross-net rule already provides a major loophole relative to what the atmosphere sees.
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> ***Parties Cherry Pick Their Best Set of Results (Elected Activities):*** During CP1, only forestry activities are compulsory to account for as not all countries were in a position to properly account for other land uses. However, rather than moving decisively to close this loophole for CP2, by compelling parties to take responsibility for the effects of all types of land use change, most versions of the proposed rules would allow parties wide choice over which sectors of land use they include or exclude.[42] This would allow a party to pick the set of land use sectors that minimises its emissions liability, and in consequence provide the least environmental integrity. The European Commission is concerned by what it terms "cherry picking" and calls for compulsory accounting for all land uses: "ensuring that no sector can be left

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38 To the extent an activity genuinely sequesters carbon, it is reducing what the atmosphere sees. The Potsdam Institute argues to exclude LULUCF credits in general on the basis that "It cannot be guaranteed that the accounted land-use and forestry adjustments reflect real, additional and permanent changes — there is no way to ensure that carbon stored in a planted forest or in agricultural soils will not be subsequently released." However, to the extent the accounts accurately track re-release, then this issue can be addressed.

39 Article 3.3 of the Kyoto Protocol specifies gross-net accounting for forest management.

40 European Commission (2010), p 6.

41 "Unconstrained accounting for forest management applied together with the current rules of gross-net accounting would lead to very large credits from the LULUCF sector in the order of -8.7% of 1990 emissions for the EU and -9.2% for the whole group of developed countries. … In addition, the method of gross-net accounting without applying a cap or a discount factor does not provide an accurate account of the real net carbon fluxes due to human-induced activities." European Commission (2009), p 57.

42 Draft Text, Clause 6, p 6.

out that poses a considerable risk of the release of the enormous quantities of GHG stored in soils and biomass into the atmosphere".[43]

***The "Australia Clause" - Article 3.7:*** A rule negotiated by Australia in 1997 when its agreement to the Kyoto Protocol text was sought, is set out in Article 3.7 of the treaty.[44] Generally known as the "Australia clause" as it principally benefits that country, it allows 1990 deforestation emissions to be added to a country's 1990 baseline that otherwise excludes land use activities. Australia's deforestation emissions in 1990 of 132 Mt thereby boost its gross emissions baseline by 32% for the first commitment period. This is Australia's version of hot air - recycled internally to greatly lower that country's emissions liability, which would be much higher without Article 3.7 as Australia's gross emissions have risen by over 28% since 1990.[45] There is currently no proposal in the draft text to remove this loophole, which is the equivalent of close to 1% of 1990 Annex 1 emissions.[46]

A key focus of the negotiations over land use rules is the proposal to allow countries to account for forestry activities according to what are termed "reference levels". Instead of a fixed historical baseline (such as 1990 levels), countries would project forward their expected net emissions and receive credits or pay for excess emissions according to how they performed against this line.[47]

This proposal has arisen partly as a way to cope with the major equity issues that arise when trying to determine what is a fair baseline. If countries are to be measured simply on the flows of carbon (up and down) with no account taken of maintenance of stocks of carbon in the pre-1990 period in particular, then to the extent those equity considerations are to find expression, they need to be built into the baseline for land use activities. It is not within the scope of this briefing to further address this issue but there are immediate indicators that the proposed reference levels are suspect.

**Lack of Independence in Setting Reference Levels:** The first indication is the startlingly thin basis for the reference levels currently set out in the draft text. The level for each country is taken from proposals made by that country itself, without presenting evidence of any independent audit having been undertaken. The draft text indeed proposes that these reference levels be "reviewed" as a part of the normal reviews undertaken of the emissions data each country's supplies to the UNFCCC secretariat.[48] However, such reviews are intended to be scientific while the reference levels are also in part being set to take account of the so-called "legacy" issues that concern patterns of land management prior to 1990. That is, they imply judgements about the degree to which these should be taken account of, and so the allocating of burden

43 European Commission (2009), p 29.

44 Article 3.7 allows Parties that have a net source of emissions from their land-use change and forestry sector in 1990 to add their emissions from land-use change (i.e. deforestation) to their base year for the purposes of calculating their assigned amount.

45 For details see: Sustainability Council, *Australia's Indefensible Climate Change Targets*, March 2009, p 4.

46 Grenada, p 4.

47 Draft Text, Clause 11, p 7.

48 Draft text, p 7.

sharing.[49] It is reasonable to expect that a fair and transparent process would produce an independent and documented analysis that worked through the legacy claims as a part of the current negotiations. The alternative of simply allowing countries to set their own reference levels opens the way to a lowest common denominator result at the expense of the atmosphere.

***Nature Picks Up the Cost for Fires (Force Majeure):*** The proposed rules would excuse nations from taking responsibility for emissions on managed lands that result from large-scale fires and other similar events "beyond the control of" a party – for CP2 at least.[50] Force majeure is a traditional insurance exclusion that means the entity otherwise being insured picks up the cost. Yet in a global environmental agreement that seeks to at least allocate responsibility for anthropogenic emissions, there are no other parties to fall back on. Real harm will have occurred (given that the primary driver of climate change is cumulative carbon emissions), which means that parties will be impacted. The question of how to allocate the cost of an event therefore remains if it is not to be passed as a burden to a future generation. The issue is simply what form that responsibility takes and how arguments for distinguishing between natural and unnatural causes are to be treated. Current proposals to carry over the emissions liability to a subsequent period or for longer are equivalent to placing it off balance sheet, and would undermine the economic signal otherwise given that there is something important to protect and that preventative investments are worthwhile.[51] It is understandable that nations are reluctant to take on what has formerly been an unaccounted cost, but the proposed force majeure rules provide a completely inadequate set of financial incentives. Under any form of solution that allocates responsibility, specialist insurance market instruments will be available that would properly incentivise nations to seek out investments to lower the risk of these events.[52]

If the land use sector was small in carbon accounting terms, a case could be made for continued leniency. But the NGO umbrella group, Climate Action Network (CAN), reminded negotiators in a presentation to them why forestry accounting in particular is important:

> **>700,000 Mt carbon** reservoir in Boreal and Temperate forests
> - Global anthropogenic GHG emissions: **45,000 Mt $CO_2$e/yr**
> - Reductions under KP in the first commitment period: **~600 Mt $CO_2$e/yr**
> - Annex I forest-based mitigation potential: **700 - 1,600 Mt $CO_2$e/yr** in 2040[53]

In other words, carbon flows associated with land use are very significant in scale. Certain current and proposed rules already clearly violate good practice for

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49 As a part of this or separate to it, the European Commission reports that "many Parties have submitted reference levels and documents that include policies to increase harvest rates and net emissions from LULUCF". European Commission (2009).

50 Draft Text, Clause 19 and/or definition l, page 5.

51 "In the current set of rules for the LULUCF sector, countries lack consistent incentives to develop climate-friendly policies in the LULUCF sector. Rules often do not encourage real additional action in the LULUCF sector to mitigate GHG emissions and increase GHG removals." European Commission (2009) p 29 2009.

52 The scale of recent such events is well inside the scope of those covered by the global reinsurance markets.

53 CAN International, *Forest Management: Getting the Accounting Right*, Presentation to Bonn LULUCF Pre-sessional Workshop, July 30, 2010, p 3.

accounting for these flows. If in CP2 countries are to be allowed to not only cherry pick which land use activities they will account for beyond forestry, but also set their own baseline for forestry accounting, it provides far too much scope for parties to game their accounts to mop up excess fossil fuel emissions. Or, as the European Commission put it when commenting on its own work:

> This analysis should reassure the legitimate concern regarding the risk of large LULUCF credits coming into the system solely because of partial accounting methods, potentially overwhelming the reductions needed in the other sectors.[54]

The proposed land use rules contemplate a series of changes that would give countries far too much ability to select an accounting basis that would most advantage each nation and leave the atmosphere the poorer. The land use loophole that the atmosphere sees has the potential to be very large, depending on the rules adopted. In absence of either specified rules or a ready basis to measure the size of the loophole, we take as a proxy and placeholder for the sector, an estimate of the reduction in the effect of the pledges resulting from land use credits – 5% of Annex 1 1990 levels.

## Credits Earned in Developing Countries (CDM)

Kyoto Protocol rules allow Annex 1 countries to invest in developing country projects and use credits resulting from these to help meet their emission reduction targets. There is however uncertainty as to the scale of the net environmental benefit that will be derived from use of this Clean Development Mechanism (CDM).

An exposure identified by the NEAA arises from the potential for the credits to be double counted. That is, for the developing country that hosts the offset project to count the results towards its performance, while the Annex 1 country that funds the project also counts it. The NEAA estimates the scale of emissions at risk on this basis to be 1.3 Gt, which equates to 7% of 1990 Annex 1 emissions.[55]

This is not so much a rules loophole, as identification of a lack of confidence in the global auditing and reconciliation process. It is part of a set of loophole concerns arising from systems that are inadequate to properly protect environmental performance (as discussed in the following section).

A further set of concerns about the environmental integrity of CDM credits revolves around the extent to which the environmental gains are truly additional to that which would have occurred under business as usual.[56] Obtaining robust information on this and interpreting it against proposed new rules for CDM in CP2 that provide for the "standardisation" of baselines for the assessment of CDM credits requires further research.[57] However, any credits issued for which there are no net environmental gains would count as additional erosions of performance, on top of any double counting.

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54 Although made in the context of gross-net accounting in particular, the comment equally applies to the conditions outlined here. European Commission (2009), p 57.

55 NEAA, p 40.

56 Lambert Schneider, *Assessing the additionality of CDM projects: practical experiences and lessons learned*, Climate Policy, 2009 p 242 to 254.

57 *Chair's Proposed Draft Text on the outcome of the work of the ad hoc working group on long term cooperative action under the convention*, 11 December 2009, pages 10 to 11.

# 3. A Loopholes Taxonomy

Multiple independent studies have each highlighted that loopholes in the planned agreement for CP2 would seriously undermine the environmental gains implied by developed country pledges. Each of the studies quoted above uses a somewhat different approach and different assumptions, so it is difficult to directly compare their output in terms of overall findings. What comparison across a number of studies does make clear however is the rough size of a core set of loopholes and the scope of further loopholes beyond this.

## Core Loopholes

A set of loopholes that is widely expected to be available and would be fully permissible to exploit are termed "core loopholes" for the purpose of this briefing.[58]

The studies that provide the most detailed workings and clear assumptions concerning hot air suggest that it represents no less than a 6% erosion of the Annex 1 pledges. The exclusion of international aviation and shipping from coverage amounts to at least a further 4% reduction, in absence of offsetting industry-led measures. The scale of the land use emissions that the atmosphere would see but the CP2 agreement would not capture is unknown at this stage. As a proxy, we take an estimate of the erosion of the pledges LULUCF credits would represent with respect to the pledges, the equivalent of 5%.

**Together these core loopholes total 15% and would alone reduce the environmental performance of the Copenhagen pledges to between 3% below and 3% above 1990 levels.**

## Contingent Loopholes

Beyond the core loopholes is another set identified by the studies that are conditional on certain versions of the proposed text for CP2 being agreed to, or other matters that determine Annex 1 responsibilities. These are termed "contingent loopholes".

There is a high level of contingency surrounding emissions from international aviation and shipping. Depending on how pledges are measured, how bunker emissions are split between nations, and whether any account is to be taken of non- $CO_2$ forcing agents emitted, the loophole could rise from 4% to 6% or more. Equally, to the extent that the ICAO and IMO introduce measures that bring these emissions under regimes that compel them to use Kyoto instruments, or alternative measures that result in the emissions being effectively recaptured within the FCCC system, then the loophole could be partially or fully closed.

The land use accounting rules being contemplated provide scope for a number of major loopholes. These include: the adoption of gross-net accounting for forestry, the ability for parties to select not to account for certain classes of land use, force majeure provisions, and ability for parties to set their own baseline for forestry. As a group they constitute an unquantified but large set of contingent loopholes.

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[58] They are either already present in the Kyoto Protocol or contained in draft text for the CP2 agreement and are currently widely expected to be adopted. To the extent that understandings and expectations change, so these scope of these core loopholes will change.

Table 2

**Loophole Impacts as a Percentage of 1990 Annex 1 Emissions**

| Loophole | Core (%) | Contingent (%) | Compromised Systems (%) |
|---|---|---|---|
| Hot Air | 6 | | |
| International Aviation & Shipping | 4 | 2+ and (4) | |
| Land Use (LULUCF) | 5 | Large | + |
| CDM | | | 7+ |
| Totals | 15 | Large | Significant |

## Loopholes from Compromised Systems

A further set of loopholes has the potential to arise not from explicitly agreed rules but for reasons including: inadequate rule specification, unsound measurement, and inadequate auditing and enforcement. These are termed loopholes from compromised systems.

The NEAA identifies the issue of potential double counting of CDM credits and that this could cover credits equivalent to 7% of 1990 Annex 1 emissions. CDM project issues that resulted in failure to deliver additionality would be additive to this.

Also of concern in this context are land use loopholes. To the extent that nations agree to rules in the full knowledge of how they could be used, systems are not compromised. However, a combination of the inherent uncertainties in measuring biological carbon flows, the complexity of those systems, and potential flexibility of the rules mean there could be wide scope for gaming.[59] At worst, these features combined would provide a creative accounting warehouse.

[59] The European Commission (2009), p 29 notes: "The complexity of the natural processes, high uncertainties in the measurement, the difficulty in differentiating between anthropogenic and natural emissions, and high inter-annual fluctuations (part of them outside, or only limited, human control) need to be recognised in the accounting rules". See also NEAA, p 2.

# 4. A Question of Integrity

The implications of the nature and scale of the loopholes are extraordinary when totted up.

**The core loopholes alone effectively allow developed countries to emit at much the same level they would have by 2020 in any case.** The NEAA estimates that business as usual emissions for Annex 1 countries will be around 19 Gt in 2020 – similar to their 1990 emissions of 18.8 Gt.[60] So if the core loopholes bring the pledges back to about 1990 levels, it means that emission levels do not need to change from business as usual in order for the pledges to be met.[61]

Additional contingent loopholes involving land use would allow more of the business as usual emissions to be produced without paying a penalty.[62] Currently, only the hot air component of the core loopholes requires payment to access it. Land use loopholes carry no direct financial costs, and international transport loopholes will not unless and until appropriately stringent regimes are put in place.

If the pledges were strengthened, the test would then be whether additional loopholes were adopted to compensate. If the existing pledges represent the limit of the current political will to act, then developed countries would be likely to raise pledges only to the extent that offsetting loopholes could be utilised. While it is still to be determined which parts of the parallel negotiating texts (including the Copenhagen Accord) will ultimately contribute to the new climate treaty framework, the general form of the rules (and so loopholes) negotiated under the Kyoto Protocol remain important under any scenario because of their potential to continue to frame the accounting basis for that new treaty, and hence the yardstick against which pledge performance is measured.

If the parties wish to return to the FCCC mandate of avoiding dangerous climate change,[63] a fundamentally different approach is required that both closes down the loopholes *and* delivers emission obligations commensurate with that task. The current pledges tell in hard numbers that developed nations are currently not serious about meeting conditions required to avoid dangerous climate change - even as it was described three years ago when a much softer version of the science was current.

The existing pledges plus loopholes constitute a package that is out of integrity with the FCCC mandate.

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60 NEAA, p 38, which notes a 0.45 Gt allowance for land use rules. See also p 49 on the risk of no emission reducions being achieved.

61 The Potsdam Institute concluded that "in the worst case the Copenhagen Accord pledges could permit emission allowances to exceed our business-as-usual projections". Potsdam Institute, p 1127.

62 The same is true for a number of forms of loopholes arising from compromised systems.

63 Article 2 of the FCCC states that the ultimate objective is to: "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".