

Remedying Discord in the Accord: Accounting Rules for Annex I Pledges in a Post-2012 Climate Agreement

KELLY LEVIN, DENNIS TIRPAK, FLORENCE DAVIET, and JENNIFER MORGAN

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- accounting rules for land use, land-use change, and forestry (LULUCF) emissions reductions and enhanced removals;
- accounting rules for domestic and international offsets, including avoiding double counting; and
- surplus emissions allowances remaining from the first commitment period of the Kyoto Protocol.

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EXECUTIVE SUMMARY

This paper addresses accounting rules relating to developed country, or Annex I, emissions reduction pledges for a post-2012 climate policy under discussion in the UN Framework Convention on Climate Change's (UNFCCC) *Ad Hoc* Working Group on Long-term Cooperative Action (AWG-LCA) negotiations track. These accounting rules are closely linked to the need to clarify the assumptions of Annex I emissions reduction pledges inscribed in the Copenhagen Accord. In addition, accounting rules for Annex I pledges are necessary for tracking aggregate performance toward meeting global temperature targets and for assessing and comparing emissions reductions. Options are provided for consideration by Parties to address the following issues:

- coverage of greenhouse gases and sectors;

This paper explores the implications of the failure to develop harmonized accounting rules for the above elements, and provides options to mitigate the consequences of unharmonized rules.

KEY FINDINGS

The Conference of the Parties (COP) should include the following elements in a decision to enhance the integrity of a climate agreement for the post-2012 period: (1) a decision to develop consistent, complete, comparable, transparent, and accurate accounting rules; and (2) a decision to clarify the assumptions underlying Annex I pledges.

Our recommendations assume pledges would be recorded in a decision, in some form or another, recognizing that these pledges are inadequate to meet the objective of the UNFCCC. We neither prejudge the final legal form of an agreement, which could range from a set of decisions under the UNFCCC to a number of articles integrated into a future legally binding agreement, nor Annex I participation in legal outcomes under

the Kyoto Protocol and/or AWG-LCA negotiations tracks.

- The decision relating to comprehensive (i.e. including covered greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets; and surplus allowances) accounting rules should “request the Subsidiary Body for Scientific and Technological Advice (SBSTA) to develop measurement, reporting and verification guidelines, building on Part I of the Guidelines for the Preparation of Annex I National Communications,¹ and as called for by the Copenhagen Accord, to ensure that accounting of Annex I Party targets is consistent, complete, comparable, transparent and accurate, for consideration by the COP at its next session.”
- The decision relating to clarification of the pledges should seek additional information from Annex I Parties by way of a supplemental form that addresses: coverage of greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets, including double counting; and surplus allowances remaining from the first commitment period of the Kyoto Protocol.

Additional recommendations and options regarding harmonizing accounting rules are contained in the body of this paper.

INTRODUCTION

Significant commitments to mitigating greenhouse gas (GHG) emissions are central to the realization of the UN Framework Convention on Climate Change (UNFCCC) goal to avoid dangerous climate change. Currently, Parties are negotiating a post-2012 climate agreement, as the first Commitment Period of the Kyoto Protocol comes to a close in 2012. In December 2009, Parties took note of the Copenhagen Accord, which provides a mandate for Annex I Parties, or developed countries, that choose to associate themselves with the Accord to submit quantified economy-wide emissions reduction targets for 2020.² Annex I pledges are registered in Appendix I

of the Accord. While they have yet to be incorporated into a UNFCCC Conference of the Parties (COP) decision,³ many countries have submitted their pledges to the UNFCCC Secretariat for inclusion in the Appendix and have begun taking action to meet them.

This paper focuses on Annex I emissions reduction pledges for a post-2012 climate policy under discussion in the UNFCCC *Ad Hoc* Working Group on Long-term Cooperative Action (AWG-LCA) negotiations track. COP 13 had launched a process to negotiate “the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012,” and, in doing so, created the AWG-LCA to undertake this work. In these negotiations, Parties have neither been clear about the underlying assumptions for their post-2012 pledges nor have they agreed to guidance relating to a robust accounting system to assess and track emissions reductions generated by the pledges. We center our discussion of accounting rules in the context of the pledges inscribed in the Copenhagen Accord.⁴

Unlike the Copenhagen pledges, most of the targets listed in the Kyoto Protocol adhere to the same base year⁵ and all adhere to common accounting rules. In some ways,⁶ Annex B of the Kyoto Protocol served a similar purpose to Appendix I of the Accord, listing Parties’ emissions reduction targets for the Protocol’s first commitment period of 2008-2012. Little else beyond the name of the Party and target had to be detailed in Annex B, as the common accounting system developed and identified under the Kyoto Protocol and elaborated under the Marrakesh Accords spelled out the ways in which Parties can account for offsets and land-use emissions reductions and enhanced removals. This framework provided assurances that emissions trading involved common units and also established consequences for failing to adhere to agreed standards. Additionally, an assessment of national emissions reductions achieved over the commitment period could be conducted with a significant level of consistency, as the assumptions regarding the targets were transparent due to the harmonization of accounting rules under the Protocol.

The Marrakesh Accords operationalized the Kyoto Protocol by establishing a uniform international accounting system to

assess and track Annex I emissions reductions and enhanced removals under the first commitment period of the Kyoto Protocol. The future of such an accounting scheme for the pledges inscribed in the Copenhagen Accord remains uncertain. Parties may have used very different assumptions regarding their pledges and could be relying upon dissimilar, and potentially divergent, assumptions with regard to future accounting rules.

A post-2012 international agreement under discussion in the AWG-LCA may endorse a uniform set of reporting and accounting systems for emissions reduction commitments. However, it has yet to be determined that this will be the case. In AWG-LCA discussions, Annex I Parties have generally indicated a willingness to adhere to the IPCC guidelines for reporting national GHG emissions inventories under the UNFCCC. However, statements relating to whether they would be willing to abide by some or all of the accounting provisions of the Kyoto Protocol for emissions reductions, or develop similar harmonized accounting provisions, have in some cases diverged and in other cases remained silent, particularly those relating to land use, land-use change and forestry (LULUCF) emissions reductions and enhanced removals and international offsets. At a minimum, any effort to assess emissions reductions resulting from Annex I commitments – and, therefore, track progress toward meeting global temperature goals – will require more information about the assumptions underlying the pledges. It will also require accounting rules that ensure that principles agreed to by the UNFCCC⁷ – consistency, transparency, completeness, comparability, and accuracy – are applied to future accounting methodologies.

In this paper, we proceed in the following steps. First, we provide a brief summary of the Copenhagen emissions reduction pledges and present our understanding of the underlying assumptions of the pledges. We then broadly describe existing provisions for reporting of and accounting for GHG emissions reductions that have been created to determine whether Parties are meeting their commitments established in Annex B of the Kyoto Protocol. Finally, we outline the implications of a post-2012 climate agreement developed in the AWG-LCA track that does not have such

harmonized emissions reduction accounting rules. In doing so, we discuss the failure to standardize:

- coverage of greenhouse gases and sectors;
- accounting rules for LULUCF emissions reductions and enhanced removals;
- accounting rules for domestic and international offsets; and
- the use of surplus emissions allowances (or assigned amount units, AAUs) remaining from the first commitment period of the Kyoto Protocol.

We present options for reconciling unharmonized accounting schemes in an effort to gain consistency among rules internationally. In doing so, we also identify elements of guidance for a system that can track emissions reductions and avoid double counting, essential for any assessment of global emissions reductions. It should be noted that changes to existing Kyoto Protocol accounting rules (e.g. to enhance integrity of LULUCF rules, to improve additionality assessments, etc.) is beyond the scope of this paper;⁸ instead, we focus upon the implications of a post-2012 climate regime that does not have harmonized accounting rules and infrastructure for tracking emissions reductions and enhanced removals. Also, while this paper focuses only on Annex I accounting issues, it is equally important for the COP to request that SBSTA revise the guidelines for reporting by non-Annex I Parties. The paper concludes by discussing necessary provisions in an upcoming COP decision related to Annex I accounting and enhancing transparency of Annex I Party pledges.

COPENHAGEN EMISSIONS REDUCTION PLEDGES

The negotiations in Copenhagen marked a key milestone for establishing mitigation commitments for a future international post-2012 climate regime. The Bali Action Plan, which had laid out the roadmap toward agreement on a future climate regime, called for “enhanced national/international action on

mitigation of climate change, including, *inter alia*, consideration of (i) measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances; [and] (ii) nationally appropriate mitigation actions (NAMAs) by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner” (UNFCCC 2008).

Prior to the meeting in Copenhagen, Annex I Parties came forward with emissions reduction pledges⁹ that they were willing to adhere to after the first commitment period of the Kyoto Protocol ends in 2012. Given the principle of common-but-differentiated responsibilities, there was no expectation by Parties that non-Annex I Party actions would be of the same nature as developed country commitments. The Copenhagen Accord does not qualify NAMAs to be quantified or economy wide and they are to be taken in the context of sustainable development. Accordingly, NAMAs vary in terms of scope (sectors covered; national vs. local) and metrics (intensity target, carbon neutrality, etc).¹⁰

Therefore, assessments of emissions pathways for 2020 focus largely on Annex I Party pledges. The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report summarizes emissions scenarios in the literature which suggested that stabilizing greenhouse gases to 450 ppm CO₂e¹¹ requires a reduction of developed country emissions 25-40 percent below 1990 levels by 2020 or, if not, steeper reductions over subsequent decades (Gupta et al. 2007).¹² While Annex I Parties could have chosen to negotiate an aggregate target for all Annex I Party emissions¹³ – perhaps according to a calculation based on equity, historical responsibility, or other variables – Parties have instead come forward with their own 2020 targets (see **Table 1**).¹⁴

Table 1: Current Annex I Emissions reduction Pledges for 2020 as Submitted to the Copenhagen Accord’s Appendix I

“Low” refers to low emissions reduction pledges; “high” refers to high emissions reduction pledges, as some countries have put forward multiple pledges.

PLEDGES	2020 (low)	2020 (high)	Baseline
Australia	5%	25%	2000
Canada	17%		2005
EU-27	20%	30%	1990
Japan	25%		1990
New Zealand	10%	20%	1990
Russia	15%	25%	1990
US	17%		2005
Belarus	5%	10%	1990
Norway	30%	40%	1990
Ukraine	20%		1990
Iceland	15%	30%	1990
Lichtenstein	20%	30%	1990
Croatia	5%		1990
Monaco	30%		1990
Switzerland	20%	30%	1990
Kazakhstan¹⁵	15%		1992

A number of analyses¹⁶ have noted that it is not possible to get an accurate picture of the level of ambition of aggregate Annex I emissions reductions given the information submitted in accordance with Appendix I of the Copenhagen Accord. While some Kyoto Protocol Parties have been more forthcoming about these details under Kyoto Protocol negotiations,¹⁷ there is still much uncertainty (as Tables 4 and 5 show) and these details have been absent in AWG-LCA discussions. This is due to several factors stemming from the nature of recent AWG-LCA climate negotiations:

- First, while the Copenhagen Accord does provide a mandate for “economy-wide targets” for Annex I Parties, this has yet to be adopted within the formal framework of the UNFCCC and “economy-wide” has yet to be defined. In contrast, Annex A of the Kyoto Protocol established a list of gases and sectors which formed the basis of Annex I Parties’ assigned amounts. If a post-2012 climate policy under the Convention does not contain such a list of covered greenhouse gases and sectors to be covered by all Annex I Parties, and instead these vary across countries, it will be difficult to assess comparability and ambition, as well as ensure that leakage does not occur. Another significant challenge will be presented if unilateral domestic offset programs are designed for noncovered sectors and accounting methodologies differ (unless performance toward a national pledge is assessed on the basis of emissions inventories only).
- Second, some Annex I Parties may choose to advance multilateral or bilateral offset programs that are designed outside of the UNFCCC Clean Development Mechanism (CDM) or any other future internationally agreed methodologies.¹⁸ For example, such programs could be advanced for domestic emissions trading systems. If accounting for these emissions reductions differs in rigor among offset programs, it will be difficult to track progress toward meeting international pledges in a comparable manner. Also, unless Parties make accounting for emissions reductions transparent and an accounting

system is designed to purposefully avoid double counting, double counting of emissions reductions could ensue in the event that both host and funding Parties claim such reductions.

- Third, the accounting rules for LULUCF, which also have yet to be decided for a post-2012 period, could have significant implications for the level of ambition of aggregate Annex I Party targets.
- Fourth, if excess allowances from the first commitment period of the Kyoto Protocol are banked toward a post-2012 climate commitment, the level of abatement over the 2012-2020 period may be less than current assessments estimate. It remains unclear what level of excess allowances will remain after 2012 and the extent to which they will be used in a post-2012 period. While this is more of a political decision regarding compliance than an accounting decision, it has significant implications on the ability to assess emissions reductions performed over the 2012-2020 period.

In discussions under the AWG-LCA negotiations track, Annex I Parties have yet to provide detailed information with regard to the role of the above factors in their pledges and a COP decision has yet to provide such guidance. Few Parties have declared which offset methodologies they may rely on, whether double counting of emissions reductions will be prevented, how they will account for LULUCF, whether surplus AAUs are relied upon, and which gases and sectors will be covered under their pledges. Therefore, considerable uncertainty remains.

EXISTING UNFCCC AND KYOTO PROTOCOL PROVISIONS FOR COMMON ACCOUNTING GUIDANCE

Annex I Parties have indicated a general willingness to adhere to the UNFCCC guidelines on inventory reporting in a post-2012 climate policy.¹⁹ In simple terms, this guidance requires Parties to:

- gather and archive all relevant inventory information for each year;
- use the IPCC Guidelines to estimate and report on anthropogenic emissions by sources and removals by sinks and use the IPCC Good Practice Guidance;
- use the global warming potentials accepted by the IPCC and agreed by the COP;
- provide supplemental information in a national inventory report;
- submit information to the UNFCCC Secretariat using a common electronic reporting format; and
- report emissions of greenhouse gases and adhere to the frequency of reporting as agreed by the COP.

Five important principles were also agreed to govern reporting of GHG inventories: transparency, consistency, comparability, completeness, and accuracy. See [Box 1](#).

Box 1. Reporting Principles under the UNFCCC

Transparency means that the assumptions and methodologies used for an inventory should be clearly explained to facilitate replication and assessment of the inventory by users of the reported information.

Consistency means that an inventory should be internally consistent in all its elements with inventories of other years.

Comparability means that estimates of emissions and removals reported by Annex I Parties in inventories should be comparable among Annex I Parties.

Completeness means that an inventory covers all sources and sinks, as well as all gases, included in the IPCC Guidelines, as well as other existing relevant source/sink categories which are specific to individual Annex I Parties. Completeness also means full geographic coverage of sources and sinks of an Annex I Party.

Accuracy is a relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, as far as can be judged, and that uncertainties are reduced as far as practicable. Appropriate methodologies should be used, in accordance with the IPCC good practice guidance.

The Kyoto Protocol²⁰ changed the ‘game’ in several important ways. It establishes the scope of gases and sectors that contribute to an Annex I Party’s assigned amount (amount of emissions allowed over the compliance period) in Annex A to the Protocol. It also allows emissions reductions achieved through the use of the flexible mechanisms, that is, emissions trading, Joint Implementation (JI), and the CDM, and through LULUCF to be used to achieve compliance with commitments over a particular period. This added new dimensions to the accounting process, broadening its objectives²¹ and making it somewhat more complex.

Prior to ratification of the Kyoto Protocol, Parties agreed to a series of decisions to ensure the integrity of the accounting system for compliance purposes and to establish the basis for a sound carbon market. Many of the accounting-related decisions are included in Articles 5, 7, and 8 under the Kyoto Protocol, but other important decisions address: modalities and procedures for the CDM, including those for afforestation and reforestation projects; modalities for accounting of assigned amounts, including registry requirements and publicly accessible information; banking of units; eligibility requirements for use of the flexible mechanisms; and guidance relating to the International Transaction Log which is used to track the transfers of emissions reduction units from one Party to another. See [Appendix 1](#) for a listing of relevant Kyoto Protocol decisions.

The Copenhagen Accord states that the “delivery of [*emissions*] reductions and financing by developed countries will be measured, reported and verified in accordance with existing and any further guidelines adopted by the Conference of the Parties, and will ensure that accounting of such targets and finance is rigorous, robust and transparent.”²² Three provisions should be noted, that is, it notes the possibility of further guidelines ... and calls for accounting of both reductions and financing ... that is “rigorous, robust and transparent” (thereby introducing two new terms – rigorous and robust – not previously used in the context of the UNFCCC or the Kyoto Protocol).

Given the experience of reporting GHG inventories under the UNFCCC, accounting under the Kyoto Protocol and noting

the provisions of the Copenhagen Accord, it is suggested that a credible post-2012 emissions reduction accounting system should be built on the same principles as those in Box 1. That is, Annex I Parties should use *comparable* and *accurate* methodologies for estimating and reporting emissions reductions, enhanced removals, and offsets; report all data, procedures, and assumptions in a *transparent* manner; be *complete* (for example, include all sources and sinks); and report *consistently* over an agreed time period. If Parties agree to these criteria, they should be able to track whether an Annex I Party is likely to meet its pledge, avoid double counting of emissions reductions among Parties, and assess whether achievement of the pledges will affect atmospheric greenhouse gas concentrations.

RELATIONSHIP BETWEEN PLEDGES AND THE USE OF EMISSION OFFSETS

The need for accounting rules for emissions reductions that are not based solely on an evaluation of national GHG inventories is a function of the form of national pledges. If the pledge is based on an economy-wide target without any domestic offsets, it could be simply assessed by monitoring changes in the national greenhouse gas emissions inventory. If, however, the pledge relates to only a subset of national emissions sources and assumes the use of some form of domestic offsets – e.g. emissions reductions or enhanced removals from uncovered sectors that offset emissions elsewhere – national accounting methodologies for sectors that would supply domestic offsets would either have to be developed or international rules would have to be adopted by the Party. Even further complexity is added if the pledge includes the use of international offsets to meet domestic commitments. This progression is shown in **Figure 1** and **Table 2** below.

Under the Kyoto Protocol, greenhouse gas emissions inventories are used to track emissions and removals from relevant sectors (limited to those in Annex A of the Kyoto Protocol) in an effort to measure attainment of assigned amounts, and, in turn, targets. However, emissions and removals from the land use sector were not included in Annex A, as Annex A is used to establish the assigned amounts of Annex I Parties. Instead, emissions and removals from a list of

Figure 1: Demonstration of Impacts on Domestic and International Offsets on Pledge

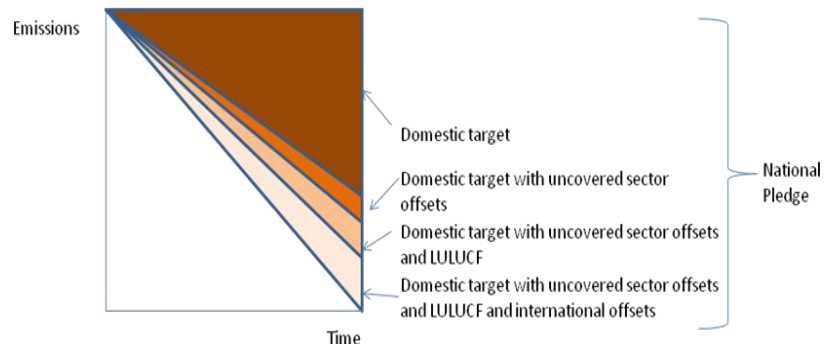


Table 2: Implications of Inclusion of Offsets in Annex I Pledges on Accounting Methodology

Emissions Reduction Target	Type of Assessment Methodology
National target (domestic actions only)	GHG inventory
National target with domestic sector offsets	GHG inventory + national methodologies for sector offsets
National target with domestic sector offsets and LULUCF	GHG inventory + national methodologies for sector offsets + LULUCF accounting methodologies
National target with domestic and international offsets and LULUCF	GHG inventory + national and international offset methodologies + LULUCF accounting methodologies

viable activities are calculated using accounting rules for each LULUCF activity and then added to/subtracted from the assigned amount. In addition, the “flexible mechanisms” of emission trading, JI, and CDM can be used to offset increases in the Party’s assigned amounts. These mechanisms also have accompanying accounting rules. See **Table 3** for a description of relevant accounting methodologies under the Kyoto Protocol.

Table 3: Emissions Reduction Accounting Methodologies under the Kyoto Protocol

Emissions reduction Commitment	Type of Assessment Methodology
Assigned amount	GHG inventory of sectors included in Annex A of Kyoto Protocol in base year or base period
Assigned amount + LULUCF emissions and removals	GHG inventory of sectors included in Annex A + LULUCF accounting rules
Assigned amount + LULUCF emissions and removals + flexible mechanisms (emissions trading, JI, and CDM)	GHG inventory of sectors included in Annex A + LULUCF accounting rules + accounting rules for flexible mechanisms

IMPLICATIONS OF UNHARMONIZED ACCOUNTING RULES FOR ANNEX I TARGETS

In the following sections, we explore the implications of not standardizing the accounting rules on the scope of greenhouse gases and sectors covered by a target (currently Annex A of the Kyoto Protocol); LULUCF; and international offsets (currently CDM under the Kyoto Protocol). We also discuss the role of surplus assigned amounts used in the pledge, which could have consequences for assessing resulting emissions reductions.

Scope of Covered Greenhouse Gases and Sectors

Annex A of the Kyoto Protocol defines the greenhouse gases and sectors that are covered by the assigned amounts, and accordingly under the target. The Annex lists six greenhouse gases, known as the “Kyoto basket” of greenhouse gases,²³ and the following sectors: energy, industrial processes, solvents and other product use, agriculture and waste. It is conceivable that a Party could limit coverage to fewer gases (e.g. a commitment to reduce only carbon dioxide) or add any additional gases and sources as identified in the IPCC 2006 Guidelines for National GHG Inventories,²⁴ making

comparability of emissions targets more challenging and compromising completeness if a subset of GHG emissions is included in the target. Neither the Copenhagen Accord nor negotiations under the AWG-LCA specifies that the pledges inscribed in Annex I adhere to the Kyoto basket of gases or additional gases, such as those included in the IPCC 2006 Guidelines.²⁵

Pledges may also cover different sectors. The Copenhagen Accord does provide a mandate for “economy-wide targets” for Annex I Parties, but this has yet to be adopted within the formal framework of the UNFCCC or defined. If this were not maintained, unharmonized domestic offset programs for uncovered sectors could emerge. For example, if the agriculture sector is not part of the pledges, it could serve as a source of offsets. If accounting for domestic offset programs differs among Parties, it will be challenging to assess ambition and measure and compare reductions across domestic offset crediting programs. However, as described below, these issues could be avoided if domestic offsets are used only for domestic compliance purposes and progress toward meeting an international target is determined by an inventory assessment. In addition to domestic offset programs, unharmonized sectoral coverage in pledges could lead to Parties covering emissions reductions from sectors or subsectors, such as international maritime and aviation emissions, differently. This could result in emissions unclaimed or double counted, further challenging any assessment of global emissions reductions and in turn atmospheric concentrations.

A first step that Annex I Parties should take is to be transparent about which greenhouse gases and sectors are included in and excluded from their pledge. In negotiating a COP decision, Annex I Parties may wish to consider the following options which are not mutually exclusive:

- Commit to implement individually or jointly quantified economy-wide emissions reduction pledges for 2020 and in so doing include all sectors and subsectors such as marine and aviation in their emissions reduction commitments. In this case, an

accounting system beyond that needed for an emission inventory would not be needed.

- Agree to include all greenhouse gases in the 2006 IPCC Guidelines for National GHG Inventories, but at a minimum agree on a basket of at least the six Kyoto greenhouse gases. A common set of greenhouse gases will enhance consistency and comparability. If the basket of covered greenhouse gases is expanded beyond the six greenhouse gases covered under the Kyoto Protocol, completeness would be enhanced, increasing the mitigation potential.
- Agree to apply the 2006 IPCC Guidelines for National GHG Inventories, which will create the basis of a harmonized assessment of emissions reductions generated in covered sectors and gases (see Tables 2 and 3 for the role of emissions inventories in tracking performance toward targets). This will enhance consistency, comparability and completeness.

If Parties fail to agree on a standardized set of gases and/or sectors to be covered by national-level pledges, an alternative option could be the following:

- Attainment of international pledges could be determined by an emissions inventory assessment only. Parties could develop offsets for domestic purposes, but the attainment of international pledges will be judged by an evaluation of economy-wide inventories of emissions reductions and enhanced removals.

Land use, Land-use Change, and Forestry

The inclusion of LULUCF emissions and removals in a national target can make a significant difference in the assessment of emissions reduction pledges. Under the Kyoto Protocol, LULUCF emissions and removals are not covered under Annex A and are instead added to or subtracted from the assigned amount (the amount of emissions allowed over the compliance period). The Marrakesh Accords established additional accounting rules to quantify emissions reductions and enhanced removals from the sector (see [Figure 1](#) and [Tables 2](#) and [3](#) above for a depiction of the role of LULUCF in measuring performance toward a target).

Unlike the inventory approaches described in the 2003 Good Practice Guidelines and 2006 IPCC Guidelines, which estimate emissions and removals from various LULUCF pools, the Kyoto Protocol includes accounting rules based on activities (e.g. deforestation, forest management, cropland management, and others). These activities define what should be included in accounting for emissions reductions and enhanced removals. Some activities (e.g. forest management, cropland management) are optional for inclusion, and Annex I Parties are allowed to decide whether they will do so. The Protocol rules further specify accounting methodologies for each covered activity, including methodologies for the creation of baselines from which emissions reductions and enhanced removals are calculated.²⁶ The Protocol also clearly defines which carbon pools need to be included in the accounting for various activities. Lastly, the Kyoto Protocol defines the amount of credits from enhanced removals from one of the optional activities – forest management – that can be used toward offsetting emissions reduction targets and thus “caps” these enhanced removals. This set of rules establishes what Parties account for from LULUCF.

Negotiations in the AWG-LCA have yet to specify which LULUCF accounting methodologies will apply to Annex I pledges. Furthermore, while some Annex I Parties have brought forward their assumptions regarding how LULUCF will be treated in their pledges under the Kyoto Protocol negotiations, others have yet to do so. See [Table 4](#).

Party	Use of Land Use, Land-use Change and Forestry			Details on Contribution and Rules
	YES	UNCLEAR	NO	
Australia				Pledge assumes current Kyoto Protocol provisions and decisions, including Article 3, paragraph 7, and the relevant decisions of the Marrakesh Accords.
Belarus				If the LULUCF sector is included, the pledges would increase by another five per cent. This option is still under consideration and subject to agreement on the new LULUCF rules and modalities.
Canada ²⁷				If the new LULUCF rules under consideration remove emissions from natural disturbances in the accounting, then the impact of anthropogenic LULUCF emissions and removals would be approximately between -2 per cent and +2 per cent of Canada's 2006 emissions, depending on the final decisions made on the LULUCF rules such as reference levels and harvested wood products.
Croatia				
EU	30%		20%	The EU 20% target does not include the LULUCF sector. In case the EU commits to a 30% reduction of GHGs, the LULUCF sector will be included. The contribution of LULUCF to the overall effort depends on accounting rules that have not been decided yet.
Iceland				A substantial share of mitigation efforts will be achieved through LULUCF activities.
Japan				Does not yet have any numerical information on the expected use of LULUCF.
Lichtenstein				No inclusion of LULUCF.
New Zealand				Potential rule changes can have significant impact on accounting for emissions/removals from LULUCF.
Norway				If rules for LULUCF are changed, Norway will revise the figures in the pledges accordingly. Norway will estimate further how the LULUCF sector will affect the 40% target when the rules for this sector have been agreed.
Russia				
Switzerland				The Swiss reduction target would include those LULUCF effects given that there is continuity with the current accounting rules (gross-net with cap) and Switzerland will reduce its emissions in other sectors accordingly.
Ukraine				
United States				Not a Party to the Kyoto Protocol so did not submit information to KP/AWG/2010/INF.2.

Table 4: Available Information Regarding LULUCF in Annex I Pledges

Adapted from the “Compilation of pledges for emissions reductions and related assumptions provided by Parties to date and the associated emissions reductions”
FCCC/KP/AWG/2010/INF.2/Rev.1.

Unless harmonized accounting rules for LULUCF are adopted, even if Annex I Parties are transparent in their assumptions and accounting methodologies, assessment of emissions reductions and comparability will be challenging, if not impossible. For example, depending on the LULUCF accounting rules, the contribution of forest management in Japan could vary from -2.9 percent to 1.5 percent in 2020 relative to 1990 levels. For the EU, it could vary between -0.7 percent to 2.1 percent in 2020 relative to 1990 levels.²⁸

A first step that Annex I Parties should take is to be transparent about how LULUCF is included in their pledge and which accounting methodologies are being assumed. In negotiating a related COP decision, Parties should consider the following option:

- Parties should negotiate, or request the Subsidiary Body for Scientific and Technological Advice (SBSTA) to develop, a harmonized set of accounting rules for all LULUCF activities and carbon pools. This should include harmonization of baseline calculations, which should be based on historical emissions to enhance comparability and consistency.

If Parties fail to agree on harmonized LULUCF accounting rules, alternative options could include the following:

- Option 1: Annex I Parties could agree to use an inventory approach, accounting for all emissions reductions and enhanced removals.²⁹ If adopted, this would lead to enhanced completeness, consistency, comparability and transparency. However, it should be noted that data quality would need to be improved to enhance accuracy. Also a decision about baselines would still be required, as well as any approaches to distinguish anthropogenic and non-anthropogenic emissions, to maintain consistency and comparability.
- Option 2:³⁰ If harmonized approaches for baselines or other components of the rules are not used, Annex I

Parties could submit accounting methodologies to a mutually agreed third party entity for review and comment. All findings and proceedings should be publicly accessible with a justification provided on why a particular methodology was chosen, as well as data quality. The entity should be authorized to recommend modifications to proposed methodologies. This would ensure transparency and depending on the content, some degree of comparability and assessment of completeness. Consistency is difficult to determine prior to their use. In addition to a technical expert review body, the COP or the Subsidiary Body of Implementation (SBI) should be granted power of approval, providing greater transparency regarding the final methodologies used. This review should be informed by the technical review body's findings.

In combination with Options 1 or 2, a cap on the amount enhanced removals can offset targets could be included. A cap could address some³¹ of the concerns about data quality and accuracy of accounting methodologies. Parties are not likely to cap their own enhanced removals, so this option would require either harmonized rules on the establishment of a cap or a review body to make such a judgment.

Accounting for International Offsets

International offsets, that is, emissions reductions from projects or programs in developing countries that are measured against counterfactual baselines, can significantly affect the nature of Annex I Party pledges. Under existing systems, international offset methodologies and proposals have been developed by a variety of entities and submitted to an independent third party, for example, the CDM Executive Board, for review and approval before credits in the form of emissions reduction units are issued. The Copenhagen Accord is silent on the role offsets are to play in meeting Annex I pledges in the post-2012 period (see [Table 5](#) which demonstrates the possible divergence among countries regarding the role of international offsets in post-2012

pledges, as submitted under Kyoto Protocol negotiations). Some Annex I Parties (e.g. the United States and Japan) have informally expressed an interest in developing and using multilateral or bilateral offset mechanisms. This has important implications for the environmental integrity and comparability of offset mechanisms moving forward, as well as for the evaluation of emissions reduction pledges.

Consider the example of two Annex I Parties purchasing offsets from the same non-Annex I Party but the offset accounting rules differ (e.g. Annex I Party A uses national-level boundaries for a bus rapid transit system, while Annex I Party B uses provincial-level boundaries). The emissions reductions generated may be measured differently and it will be very challenging to ensure that the credited emissions reductions units are not double counted by the Annex I purchaser and the non-Annex I Party seller, as discussed further below.

A first step that Annex I Parties should take is to specify in a supplement to current information provided in Appendix I to the Copenhagen Accord (in a format suggested below) whether they intend to rely on CDM methodologies and/or if they also intend to use bilateral or multilateral international offsets. This should be included in any relevant COP decision on this matter. Parties should also indicate the percentage of the target to be achieved by international offsets. To ensure the environmental integrity of an offset system, Parties should consider the following options:

- Option 1: Require all Annex I Parties wishing to utilize offsets to use only CDM approved methodologies. This would ensure the highest level of consistency, comparability and transparency.
- Option 2: Require all Annex I Parties choosing to develop offset methodologies bilaterally or multilaterally to submit their methods and procedures to a mutually agreed third party entity for review and comment. In so doing, Parties might be requested to

demonstrate that their methodologies equaled or exceeded the stringency of comparable CDM methodologies.³² The entity should be authorized to recommend modifications to proposed methodologies. Optimally the entity would be granted power of approval. Without approval, transparency regarding the final methodologies used and accuracy may be sacrificed. All findings and proceedings should be publicly accessible with a justification provided on why a particular methodology was chosen and how double counting was avoided.³³ This would ensure transparency and depending on the content, some degree of comparability and assessment of completeness. Consistency is difficult to determine prior to their use.

Other measures that could be applied in conjunction with Option 2 include:

- Annex I Parties might be requested to limit the number of sectors and project types using bilateral or multilateral methodologies (or required to use CDM methods to achieve 90 percent of their emission offsets) in achieving their targets.³⁴ This would limit the number of non-comparable and inconsistent methodologies and thereby improve the possibility of assessing their effects on the achievement of pledges or the integrity of the carbon market.
- Annex I Parties might be requested to demonstrate that the systems employed and processes used ensure that emissions reductions are not double counted.
- Two or more Parties might pool their resources to develop methodologies and procedures for sectors of common interest and consequently collectively demonstrate to other Parties the validity of their approaches by submission for review and comment by a mutually agreed body. Optimally the entity

would be granted power of approval. Without approval, transparency regarding the final methodologies used and accuracy may be sacrificed. Data from the UNFCCC Secretariat show that 15 CDM methodologies of large scale non-afforestation and reforestation (non-A/R) methodologies, out of 90 that have been approved, account for 81 percent of the non-A/R projects. Fifteen methodologies of small scale non-A/R methodologies, out of 60 that have been approved, account for 98 percent of the non A/R CDM projects. This suggests that it may be possible for a country or small group of countries to develop a handful of methods, thereby reducing the complexity of independently developed offset methods and any subsequent international review process. This would improve the efficiency of the process and limit the number of potentially inconsistent and non-comparable methodologies.

The design of the CDM is built on the premise that non-Annex I Parties had no requirement to take mitigation actions. However, the Bali Plan of Action noted the need for NAMAs by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner. Moreover, many developing countries have volunteered to take actions using their own resources and inscribed those emissions reduction actions in Appendix II of the Copenhagen Accord. This raises the possibility that some actions and offsets projects or programs could be double counted between Annex I and non-Annex I countries or are not additional to planned actions by the host country for the offset. This could transpire if international offsets are used for domestic compliance purposes, or are simply used to meet the national target but are developed outside of a national compliance scheme.³⁵ Consider, for example, a combination of actions that might affect emissions in the power sector of a developing country such as the unilateral rescinding of subsidies and implementation of an energy tax by the developing country and purchase of offsets by a developed

country, achieved by providing financial incentives for energy efficiency projects in the industrial sector. Measuring and subdividing the effects of multiple policies in any country is extremely challenging. There are some significant policy and accounting questions involved in these potential transactions:

- Should policy-based actions be eligible to result in credits and offsets?
- How then should such offsets be used to achieve the target of a developed country?
- How might the international community account for the impact of such efforts on any global goal?

A COP decision will be necessary to create a mandate that ensures that double counting does not occur. There are several options for doing so. Each requires both Annex I and non-Annex I Parties to maintain transparent sets of books so as to demonstrate how offsets are accounted for and allocated between developed and developing country partners. In negotiating a related COP decision, Parties should consider the following option:

- Parties decide to maintain the International Transaction Log (ITL)³⁶ to track the purchase of all offsets by Annex I Parties to meet their pledges.

An important step that Annex I Parties should take is to be transparent in their financing of emissions reductions (regardless of how it is delivered – either via offset for domestic compliance programs or support), specifying whether they will plan to count any resulting emissions reductions toward their own target. The following options could also be considered to contend with double counting:

- Option 1: Request developing countries to claim emissions reductions in sectors or subsectors A, B, and C and agree to sell offsets internationally only from emissions reductions in sectors or subsectors D,

Party	Use of International Offsets			Details on Amount and Rules
	YES	UNCLEAR	NO	
Australia				The majority of the abatement effort will still take place domestically.
Belarus				
Canada				Canada's mid-term commitment does not assume or provide for significant use (< 5% of total reductions) of the Kyoto Protocol mechanisms.
Croatia				
EU				The EU legislation limits the use of JI and CDM credits to achieve those targets. For 20% pledge, the distribution of the overall EU target to individual sectors in the EU is done compared to 2005 and the sectors outside the EU ETS (non- ETS) before 2005. For 30% pledge, half of the additional reductions required could be met by use of credits from JI and CDM.
Iceland				Pledge will be fulfilled mostly or even fully through domestic efforts; the role of offsets in achieving it to be small.
Japan				Does not yet have any numerical information on the expected use of project-based mechanisms.
Lichtenstein				
New Zealand				New Zealand has not based the stringency of its target pledge on specific assumptions about the quantity of reductions to be met domestically because of the wide variability of factors driving emissions and reductions.
Norway				About one third of the reductions from the reference scenario to reach the 30% reduction could be reached through the net acquisition of units through flexible mechanisms.
Russia				
Switzerland				In order to reach the 20% reduction target, Switzerland's domestic measures are designed to contribute to about two thirds of the total emissions reduction. The rest would be covered by the use of flexible mechanisms. Regarding the 30% reduction target, the domestic measures are contributing to approximately 60% of the total emissions reduction.
Ukraine				
United States³⁷				Not a Party to the Kyoto Protocol so did not submit information to KP/AWG/2010/INF.2.

Table 5: Available Information Regarding CDM and JI credits in Annex I Pledges

Adapted from "Compilation of pledges for emissions reductions and related assumptions provided by Parties to date and the associated emissions reductions" FCCC/KP/AWG/2010/INF.2/Rev.1.

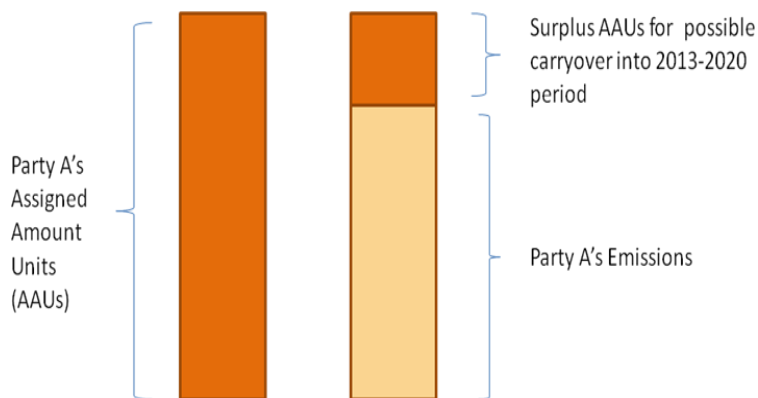
E, and F, and develop methodologies to account for leakage among sectors.

- Option 2: Request the developing country to limit the offsets it sells internationally to specific subsectors, technologies, locations or entities.
- Option 3: Request developing countries undertaking multiple policies with at least some support from an Annex I Party to reach agreement on a shared offset allocation that recognizes the contribution of each. Request both Parties to make the agreement and all assumptions publicly available.

Surplus Assigned Amount Units (AAUs)

At the end of the first commitment period of the Kyoto Protocol, according to Article 3, paragraph 13, Parties that reduce emissions below their assigned amounts are able to carry forward those reductions for use or sale in future Protocol commitment periods. See **Figure 2** below.

Figure 2: Generation of Surplus AAUs



The majority of surplus AAUs will be generated in the Economies in Transition Parties as a result of their economic decline in the early 1990s. Some of these Parties are now part of the European Union and hence will be subject to the

assumptions and conditions associated with the EU's pledge. To the extent to which surplus AAUs are generated in other Annex I countries, such units could signify that Annex I Parties were able to generate emissions reductions more quickly, potentially signaling that it is possible Parties could achieve even greater emissions reductions in a post-2012 climate policy than included in their pledges, or that they are an artifact of the base year.

The total volume of surplus AAUs that will exist after the first commitment period remains unknown. Moreover, if the Kyoto Protocol is not extended for another commitment period, the surplus AAUs would presumably cease to exist. If Parties agreed that surplus AAUs could be used to meet the pledges of Annex I Parties, they would also have to determine under what, if any, conditions such AAUs could be used, including establishing equivalency between various types of offsetting instruments used to meet the pledges. While this is less an issue of the need for harmonized accounting rules and, instead, is a political decision about compliance, the role of surplus AAUs in a future climate agreement could have significant implications on the amount of emissions reductions generated over the 2013-2020 period, and thus contributes to the uncertainty regarding emissions reductions generated by Annex I pledges.

In the event that carryover is allowed, is of significant volume, and is used or sold in a post-2012 climate policy, it is quite possible that Annex I Parties' emissions reductions are far less than current assessments indicate, given that surplus AAUs can be used to offset emissions over the period from 2013-2020. A first step that Annex I Parties should take is to specify in a supplement to Appendix I to the Copenhagen Accord (in a format suggested below) whether they intend to rely upon surplus AAUs to meet their target.³⁸

To ensure accurate assessment of emissions reductions under pledges, Annex I Parties should consider the following options:³⁹

- Option 1: Choose not to recognize surplus AAUs post-2012, enabling comparability and enhancing the transparency of emissions reductions generated over the 2013-2020 period;
- Option 2: Limit the use of surplus AAUs in a post-2012 agreement. While this option does not enable comparability of emissions reductions generated over the 2013-2020 period as much as the above option, it would limit the degree to which surplus AAUs play a role in offsetting emissions post-2012;
- Option 3: Allow only Parties that generated surplus AAUs to use such units, ensuring that other Parties deviate emissions pathways from business-as-usual trajectories while rewarding those Parties that have reduced additional emissions in the first commitment period of the Kyoto Protocol (in the event that these surplus emissions reductions are not associated with economic collapse);
- Option 4: Include a levy on the transaction or sale of surplus AAUs; and
- Option 5: Apply a discount factor to the surplus AAUs.

which could range from a set of decisions under the UNFCCC to a number of articles integrated into a future legally binding agreement, nor Annex I participation in legal outcomes under the Kyoto Protocol and/or AWG-LCA negotiations tracks.

A Decision to Develop Accounting Rules

There are several options for formulating a COP decision relating to accounting guidelines for Annex I Parties:

- Option 1: A decision to negotiate accounting guidelines,⁴⁰ under the guidance of the COP, that are transparent, consistent, comparable, complete, and accurate in order to assess attainment of Annex I Party targets.
- Option 2: A decision requesting the Subsidiary Body for Scientific and Technological Advice (SBSTA) to develop measurement, reporting, and verification guidelines, building on Part I of the Guidelines for the Preparation of Annex I National Communications,⁴¹ and as called for by the Copenhagen Accord, to ensure that accounting⁴² of Annex I Party targets is consistent, complete, comparable, transparent, and accurate, for consideration by the COP at its next session.
- Option 3: A decision requesting the SBSTA to use, as appropriate, key elements of the Kyoto Protocol's Articles 5, 7, and 8 to develop measurement, reporting, and verification guidelines, building on Part I of the Guidelines for the Preparation of Annex I National Communications,⁴³ and as called for by the Copenhagen Accord, to ensure that accounting⁴⁴ of Annex I Party targets is consistent, complete, comparable, transparent, and accurate, for consideration by the COP at its next session.

MOVING FORWARD IN DEFINING A POST-2012 CLIMATE POLICY

Moving forward, the Conference of the Parties (COP) should include the following elements in a decision to enhance the integrity of a climate agreement for the post-2012 period: (1) a decision to develop consistent, complete, comparable, transparent, and accurate accounting rules; and (2) a decision to clarify the assumptions underlying Annex I pledges.

Our recommendations assume pledges would be recorded in a decision, in some form or another, recognizing that these pledges are inadequate to meet the objective of the UNFCCC. We neither prejudge the final legal form of an agreement,

A Decision to Request Annex I Parties to Clarify the Assumptions Underlying Emissions Reduction Pledges to Enhance Transparency

Pledges submitted under the Copenhagen Accord will need to be clarified if ambition is to be assessed and progress toward meeting targets is to be tracked in a consistent and comparable manner. Insofar as the Appendices in the Accord are translated into a COP decision, we propose to supplement Appendix I of the Accord by requesting Annex I Parties to provide additional information relating to:

- scope of covered greenhouse gases and sectors;
- LULUCF;
- inclusion of international offsets, including double counting; and
- reliance upon purchase or use of surplus AAUs.⁴⁵

The supplementary information to be requested from Annex I Parties in a COP decision is presented in **Table 6**. In gray shading and black text, we include the columns that currently exist under the Copenhagen Accord. In pink shading and red text, we include the columns that could be included in a future COP decision listing emissions reduction targets. The questions are not comprehensive and less than ideal as a result, but are put forward as an interim approach to enhance transparency of Annex I pledges.

CONCLUSION

Annex I Parties have not been clear about the accounting assumptions underlying their pledges and current negotiations under the AWG-LCA do not provide guidance relating to a robust accounting system to assess and track emissions reductions resulting from those pledges. An assessment of the adequacy of pledges made by Annex I countries inscribed in Appendix I of the Copenhagen Accord can only be made if additional information is forthcoming about key assumptions pertaining to which greenhouse gases and sectors are covered, the extent to which domestic and international offsets and LULUCF were built into the pledge, whether surplus emission allowances remaining from the first commitment period of the Kyoto Protocol were assumed to be part of the pledge, and whether double counting of emissions reductions did not ensue.

The environmental integrity of a post-2012 climate policy and of the collective pledges of developed countries is dependent on the development of a robust accounting system based to the extent feasible on harmonized methodologies. However, in the absence of harmonized methodologies, an accounting system should promote the use of consistent, comparable, transparent, complete, and accurate rules. It should also be noted that while this paper focuses on Annex I accounting issues, it is equally important for the COP to request that SBSTA revise the guidelines for reporting by non-Annex I Parties.

Table 6: Supplementary Form to Increase Transparency of Appendix 1 of the Copenhagen Accord

<i>Quantified economy-wide emissions targets for 2020</i>					
Emissions reduction in 2020	Base Year	Which gases are included? What sectors are covered in defining “economy-wide”?	Is LULUCF included? In the baseline? Is it included as an offset? If Y, which accounting methodologies have been used?	Are international offsets included? What percentage of emissions reductions generated under the pledge depends on offsets? If Y, are CDM methodologies used? If no, describe the methodologies. How was double counting avoided?	Are surplus AAUs used? If Y, what percentage of emissions reductions generated under the pledge depends on surplus AAUs?

Five critical issues need to be addressed in any accounting system for Annex I pledges: Will a complete set of greenhouse gases and sectors be covered by a pledge? How will LULUCF emissions reductions and enhanced removals be counted? How will international emissions reduction offsets be counted? What procedures will be used to ensure that emissions reductions achieved in developing countries (with and without financial support) are not double counted? And will surplus emissions allowances remaining from the first commitment period of the Kyoto Protocol be used to achieve pledges?

There are options available for consideration by Parties as they design a robust accounting system. For example, to promote high standards relating to offsets, Parties may wish to require all Parties utilizing international offsets to use only CDM approved methodologies. Throughout this paper, we have recommended that a harmonized approach for all accounting methodologies be used in a post-2012 climate policy, as this would ensure a high level of consistency, comparability and transparency. Alternatively, Parties choosing to develop offset methodologies bilaterally or multilaterally may be requested by the COP to submit their methods and procedures to a mutually agreed third party entity for review, comment, and

approval. In so doing, Parties might be requested to demonstrate that their methodologies equaled or exceeded the stringency of comparable CDM methodologies. All findings and proceedings should be publicly accessible. This would ensure transparency and, depending on the content, some degree of comparability and assessment of completeness. The entity should be authorized to recommend modifications to proposed methodologies. Optimally the entity would be granted power of approval. Options to address the other critical issues have also been presented in the paper.

Beginning a process to develop an accounting system for the post-2012 period is of critical importance. The COP should include the following elements in a decision: (1) a decision requesting the SBSTA to develop measurement, reporting, and verification guidelines, building on Part I of the Guidelines for the Preparation of Annex I National Communications, and as called for by the Copenhagen Accord, to ensure that accounting⁴⁶ of Annex I Party targets is consistent, complete, comparable, transparent and accurate; and (2) a decision to request Annex I Parties to clarify the assumptions underlying their emissions reduction pledges to enhance transparency. These decisions should be under consideration by the COP at its next session.

Acronyms

AAU	Assigned amount unit
AOSIS	Alliance of Small Island States
AWG-LCA	<i>Ad Hoc</i> Working Group on Long-term Cooperative Action
CDM	Clean Development Mechanism
CERs	certified emissions reductions
COP	Conference of the Parties
ERUs	Emissions reduction units
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
ITL	International Transaction Log
LULUCF	land use, land-use change, and forestry
NAMAs	nationally appropriate mitigation actions
non-A/R	non-afforestation and reforestation
REDD	reducing emissions from deforestation and forest degradation
SBI	Subsidiary Body of Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
UNFCCC	UN Framework Convention on Climate Change

Appendix 1: Kyoto Protocol Decisions Relevant to Accounting

Decision	Main Provisions
3/CMP.1 Modalities and procedures for a CDM	Defines the role of the COP, Ex. Board, designation/accreditation of operating entities, monitoring, participation requirements, verification, project design docs, guidelines for baselines and methodologies
4/CMP.1 Guidance relating to the CDM	Rules of procedure for the Ex. Bd., modalities for small scale projects, and procedures for the review of projects
5/CMP.1 Modalities and procedures for afforestation and reforestation projects under the CDM for the '1 st commitment period'	Includes definitions and provisions relating to participation requirements, validation, registration, monitoring, verification, certification and issuance of tCERs and ICERs
6/CMP.1 Simplified modalities for small scale afforestation and reforestation project activities	Identifies simplified modalities, validation/registration, monitoring, baseline methods, project design documents, and criteria for debundling
9/CMP.1 – Guidelines for Joint Implementation	Relates to accounting of offsets between Annex I Parties, including the establishment of a supervisory committee, participation requirements and criteria for baselines and monitoring
11/CMP.1 Modalities, rules and guidelines for emission trading	Stipulates eligibility requirements, i.e., must have a national system, a national registry, submit an annual GHG inventory, and a list of legal entities eligible to trade. Other provisions specific to the Kyoto Protocol, e.g., maintenance of a commitment period reserve

Decision Cont.	Main Provisions Cont.
12/CMP.1 Guidance relating to registry systems	Adopts technical standards for data exchange between national registry systems. Makes other requests to the administrator of the international transaction log to ensure that registries can connect
13/CMP.1 Modalities for accounting of assigned amounts under Article 7, paragraph 4, of the KP	Stipulates how to calculate assigned amounts, identifies registry requirements and transaction procedures and how to compile and account for emissions inventories and assigned amounts
14/CMP.1 – Standard electronic format	Stipulates electronic formats for annual reporting of offsets
15/CMP.1 Guidelines for the preparation of info under Art. 7	Stipulates how information is to be reported in order to ensure consistent, transparent, accurate, comparable, and complete information on GHG inventories, changes in national systems/registries, KP units, policies and measures, domestic and regional programmes and financial resources
16/CMP.1 LULUCF	Adopts IPCC Good Practice Guidelines to estimate and report changes in carbon stocks, provides definitions for terms such as forest, afforestation, cropland management and stipulates eligibility conditions and limitations for applying the definitions and for accounting
17/CMP.1 Good Practice guidance for LULUCF under Art3, para 3 and4	Adopts a reporting format for emissions from LULUCF
18/CMP.1 – Criteria relating to the removal units	Criteria for cases of failure to submit information relating to estimates of greenhouse gas emissions
19/CMP.1 Guidelines for national systems under Art. 5, para 1	Establishes definitions of national systems, objectives, characteristics and general functions
22/CMP.1 Guidelines for review under Art. 8	Establishes general objectives, approach, timing/procedures, institutional arrangements and publication. Contains specific provisions for inventories, AAU/CERs/RMUs, national systems and registries, NCs, information on adverse effects, and procedures to reinstate eligibility of mechanisms
23/CMP.1 Terms of Service for lead reviewers	Establishes terms of service for reviewers
24/CMP.1 Issues relating to the implementation of Art. 8 - 1	Establishes training programmes, examination procedures for reviewers and criteria for the selection of lead reviewers
25/CMP.1 Issues relating to the implementation of Art. 8 - 2	Establishes provisions relating to the treatment of confidential information

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Endnotes

¹ UNFCCC 2006. Updated UNFCCC Reporting Guidelines on Annual Inventories Following Incorporation of the Provisions of Decision 14/CP.11., FCCC/SBSTA/2006/9.

² While this Working Paper focuses on Annex I emissions reduction pledges only, as the nature of such pledges differs from those of developing countries, we do touch upon emissions reductions generated in developing countries insofar as they affect the environmental integrity of Annex I pledges.

³ We do not prejudge the final legal form of an agreement, which could range from a set of decisions under the UNFCCC to a number of articles integrated into a future legally binding agreement. However, for the purposes of this paper, we use "a COP decision" as short-hand.

⁴ While we focus this paper on harmonized accounting rules under the UNFCCC, the discussion on consequences of unharmonized rules, and options presented to mitigate the consequences of unharmonized rules, could apply to a post-2012 climate agreement developed either within or outside of the UNFCCC. Our findings may also be relevant to rules under the Kyoto Protocol that are currently under negotiation.

⁵ The large majority of Annex I Parties use 1990 as the historical base year. However, economies in transition can choose another year or period, in accordance with Article 3, Para 5 of the Kyoto Protocol. Similarly, for hydrofluorocarbons, perfluorocarbons and sulphur

hexafluoride, Annex I Parties can choose either 1990 or 1995 for the base year, per Article 3, Para 8 of the Kyoto Protocol.

⁶ However, Annex B has a different legal status and is subject to extensive review.

⁷ UNFCCC 2006. Updated UNFCCC Reporting Guidelines on Annual Inventories Following Incorporation of the Provisions of Decision 14/CP.11., FCCC/SBSTA/2006/9

⁸ Many have noted the weaknesses of various elements of accounting under the Kyoto Protocol, including for the Clean Development Mechanism (e.g. see World Bank 2010; Cosbey et al. 2005; and Wara 2006) and for LULUCF emissions reductions and enhanced removals (e.g. see Daviet et al. 2009 and Schlamadinger et al. 2007).

⁹ Many were first brought forward under the Kyoto Protocol negotiations and compiled in informal documents by the UNFCCC Secretariat.

¹⁰ See http://pdf.wri.org/summary_of_non_annex1_pledges_2010-06.pdf and <http://www.climateactiontracker.org>.

¹¹ It is important to note that stabilization at 450 ppm CO₂e is associated with a 26 to 78% risk of overshooting a goal of limiting warming above pre-industrial levels to 2°C (Meinshausen 2005).

¹² Chapter 13 of the IPCC's Working Group III contribution to the Fourth Assessment Report also notes that under most of the considered regime designs for low and medium stabilization levels, the emissions from developing countries need to deviate – as soon as possible – from what we believe today would be their baseline emissions, even if developed countries make substantial reductions.

¹³ It should be noted that the Kyoto Protocol aggregate target for the first commitment period was also not developed on a scientific basis regarding needed emissions reductions consistent with a temperature goal.

¹⁴ However, it is conceivable that under the Kyoto Protocol negotiating track the intent is to negotiate these pledges further before including in an amendment to Annex B.

¹⁵ Kazakhstan is a Party included in Annex I for the purposes of the Kyoto Protocol in accordance with Article 1, paragraph 7, of the Protocol, but Kazakhstan is not a Party included in Annex I for the purposes of the Convention.

¹⁶ For example, see Baker 2010; Rogeji et al. 2010; Ward 2010; and UNEP 2010.

¹⁷ *Ad Hoc* Working Group on the Kyoto Protocol (FCCC/KP/AWG/2010/INF.2/Rev.1)

¹⁸ This paper assumes that the CDM and Joint Implementation (JI) will be extended as a means of generating certified emissions reductions (CERs) and emissions reduction units (ERUs) in the post-2012 period for those Annex I Parties whose pledges are premised on the use of multilaterally generated offsets. It remains unclear whether the flexible mechanisms developed under the Kyoto Protocol could be used by non-Kyoto Protocol Parties but presumably the methodologies could still be adopted by all Parties.

¹⁹ UNFCCC 2006. Updated UNFCCC reporting guidelines on

annual inventories following incorporation of the provisions of decision 14/CP.11., FCCC/SBSTA/2006/9.

²⁰ While not all Annex I Parties to the UNFCCC have ratified the Kyoto Protocol, the accounting rules under the Kyoto Protocol could inform negotiations under the AWG-LCA.

²¹ The objectives of reporting under the Kyoto Protocol are to assist Annex 1 Parties in meeting their commitments under Articles 3, 4, 5, 7 and 12; to facilitate the process of considering annual national inventories; and to facilitate the process of verification, technical assessment and expert review of the information.

²² Added for clarification.

²³ These include carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF₆).

²⁴ The following GHGs are covered by the IPCC 2006 Guidelines for National GHG Inventories: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulphur hexafluoride (SF₆); nitrogen trifluoride (NF₃); trifluoromethyl sulphur pentafluoride (SF₅CF₃); halogenated ethers (e.g. C₄F₉OC₂H₅, CHF₂OCF₂OCHF₂); and other halocarbons not covered by the Montreal Protocol including CF₃I, CH₂Br₂, CHCl₃, CH₃Cl, CH₂Cl₂.

²⁵ It would not be legally coherent for Parties that are party to both the UNFCCC and the Kyoto Protocol to deviate much from this unless the basket of gases is altered under Kyoto Protocol negotiations.

²⁶ It should be noted that Article 3.7 does allow for an exception to be made when accounting for LULUCF, permitting Parties for which LULUCF was a net source of emissions to include net emissions from the sector in their

1990 base year when calculating assigned amounts. This does lead to a difference in the way Parties account for LULUCF but has been applied in a limited manner (to Australia only).

²⁷ Although FCCC/KP/AWG/2010/INF.2/Rev.1 notes that LULUCF will be included in the Canadian pledge, this is not entirely clear from other discussions.

²⁸ <http://unfccc.int/resource/docs/2010/awg13/eng/misc04.pdf>

²⁹ If harvested wood products are included, related baselines will need to be developed in a manner that maximizes environmental integrity.

³⁰ Option 2 should not be applied to harvested wood products, which are currently omitted from Kyoto Protocol accounting rules, as unharmonized rules would have significant adverse effects, given international trade of such products. Consider the following example: if one Party decides to account for harvested wood products and sells such products to a Party that does not account for such products, then those emissions will not be captured. If Parties decide to account for harvested wood products, they should do so in a harmonized manner, and more work will be required to develop related methodologies.

³¹ For example, baseline approaches that are not calculated using a historical average could omit some emissions, and caps would fail to address this concern.

³² Parties have put forth a series of proposals to reform the CDM. These include institutional reforms, better ways to address sustainable development, additionality and other issues. While far from perfect, the CDM represents the international standard by which the efforts of others will be measured. Applied to post-2012 pledges, CDM methods would ensure transparency and a level of consistency and comparability in accounting irrespective of whether reforms are instituted.

³³ This responsibility could be given to the CDM Executive

Board or to an independent body should Parties consider the former to have a potential conflict of interest.

³⁴ There are over 2300 registered projects in 68 host countries accounting for over 1.8 billion CERs. Twenty investor countries have purchased certified emissions reductions (CERs) in 15 major sectors, although over 60 percent are in the energy sector. For large-scale projects, the Executive Board has approved 90 methodologies, 18 consolidated methodologies, and 10 tools to help developers of large scale projects and over 50 small scale methodologies. In addition, 10 methodologies and 15 tools have been developed for afforestation and reforestation projects.

³⁵ Norway, for example, has stated that its financial contributions to reducing emissions from deforestation and forest degradation (REDD) in Indonesia will not count toward its own pledge (http://www.norway.or.id/Norway_in_Indonesia/Environment/-FAQ-Norway-Indonesia-REDD-Partnership-/).

³⁶ The ITL verifies transactions proposed by registries to ensure they are consistent with rules agreed under the Kyoto Protocol. Each registry sends transaction proposals to the ITL, which checks each proposal and returns to the registry its approval or rejection within seconds. Each registry is to be connected to the ITL through secure communication channels established across the Internet.

³⁷ It is not clear which accounting rules the U.S. plans to use, nor the expected role of offsets in meeting its target. Previous legislation (e.g. H.R. 2454) allowed for as many as 2 billion tons a year of combined domestic and international offsets to be used.

³⁸ This assumes surplus AAUs exist in the future.

³⁹ Some of these ideas were raised in the August 2010 In-Session Workshop on the Scale of Emissions Reductions by

the Alliance of Small Island States (AOSIS) (http://unfccc.int/files/kyoto_protocol/application/pdf/aosis.pdf), and then presented in textual form at the October 2010 session. See CRP.3 Chapter I on approaches to address the issue of surplus.

⁴⁰ Accounting guidelines would be comprehensive (i.e. including covered greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets; and surplus allowances).

⁴¹ UNFCCC 2006. Updated UNFCCC Reporting Guidelines on Annual Inventories Following Incorporation of the Provisions of Decision 14/CP.11., FCCC/SBSTA/2006/9.

⁴² Accounting guidelines would be comprehensive (i.e. including covered greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets; and surplus allowances).

⁴³ UNFCCC 2006. Updated UNFCCC Reporting Guidelines on Annual Inventories Following Incorporation of the Provisions of Decision 14/CP.11., FCCC/SBSTA/2006/9.

⁴⁴ Accounting guidelines would be comprehensive (i.e. including covered greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets; and surplus allowances).

⁴⁵ This assumes that the Kyoto Protocol will not be amended and that surplus AAUs will be carried into next commitment period.

⁴⁶ Accounting guidelines would be comprehensive (i.e. including covered greenhouse gases and sectors; land use, land-use change and forestry; national and international offsets; and surplus allowances).

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About the Authors

Kelly Levin is a Senior Associate with WRI's Climate and Energy Program. She leads WRI's work on developed country emission reduction pledges. She is also Research Director of the 2010 World Resources Report, which is dedicated to adaptation. Kelly holds a PhD and Master of Environmental Management from Yale's School of Forestry and Environmental Studies and a B.A. from Yale College. Contact: klevin@wri.org; 202-729-7910

Dennis Tirpak is a Senior Fellow at WRI and an Associate with the International Institute of Sustainable Development. He was the Director of Global Change Policy Division at the US Environmental Protection Agency; the Coordinator of Science and Technology at the UNFCCC and Head of the climate change unit at the Organization for Economic Cooperation and Development (OECD). He was one of the coordinating lead authors of Chapter 13 of the IPCC. Contact: dtirpak@wri.org; 202-729-7847

Florence Daviet is a Senior Associate with WRI's Climate and Energy Program. Ms. Daviet is the manager of the International Forests and Climate Policy project and co-manager of the Governance of Forests Initiative project. She holds a Masters in International Environmental Policy from the John Hopkins's School of Advanced International Studies and a Bachelors in English Literature from Mount Holyoke College. Contact: fdaviet@wri.org; 202-729-7822

Jennifer L. Morgan is the Director of the Climate and Energy Program at WRI. Prior to WRI, she worked at E3G from October 2006 until August 2009 as its Global Climate Change Director, where she lead the organization's climate change work on its full range of global activities. Prior to joining E3G, Jennifer Morgan led the Global Climate Change Programme of Worldwide Fund for Nature (WWF). She holds a Bachelor of Arts from Indiana University and a Masters of Art from the School of International Service, The American University in International Affairs. Contact: jmorgan@wri.org; 202-729-7777

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