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Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amounts

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Introduction

This manual is provided as a reference tool to assist Parties included in Annex I to the United Nations Framework Convention on Climate Change (Annex I Parties) in the implementation of their commitments related to accounting of emissions and assigned amounts under the Kyoto Protocol. In this regard, the manual synthesizes the requirements for Annex I Parties with respect to:

- National systems for preparation of national inventories;
- National registries;
- Reporting, review and compliance procedures related to the accounting of emissions and assigned amount;
- Accounting for land use, land-use change and forestry (LULUCF) activities;
- Participation in the Kyoto Protocol mechanisms and the procedures for establishing, maintaining and suspending eligibility; and
- Transactions of Kyoto Protocol units.

This manual does not address methodologies and baselines or procedures for crediting of emission reduction and removal projects under the clean development mechanism or joint implementation. Nor does it provide information on other Kyoto Protocol commitments not directly related to the accounting of Parties' emissions and assigned amounts, other than what is covered in this introduction.

To provide a context for the requirements and procedures for accounting of emissions and assigned amounts, this manual begins, in this chapter, with a brief introduction to the Kyoto Protocol, with particular emphasis on the requirements and systems that are key to this accounting.

Chapter 2 describes how emissions and assigned amount are accounted. It highlights the key requirements for Annex I Parties in establishing their assigned amounts, accounting of emissions and assigned amount during the commitment period (the first commitment period being 2008–2012), and demonstrating compliance at the end of the commitment period.

Chapter 3 explains the requirements for participation in the Kyoto Protocol mechanisms, and the procedures by which a Party's eligibility to participate in these mechanisms is established, maintained, suspended and reinstated.

The remainder of the manual provides detailed information on the substantive and reporting requirements.

- Chapter 4 covers requirements related to greenhouse gas (GHG) emissions, specifically national systems and national inventories.
- Chapter 5 covers requirements related to assigned amounts, specifically national registries and transactions of Kyoto Protocol units.

- Chapter 6 describes the rules and procedures for accounting for LULUCF activities.

The rules and requirements explained in this manual are derived from the Kyoto Protocol, and from decisions of the Conference of the Parties serving as the meeting of the Protocol (COP/MOP). In some cases, technical details relating to implementation have been elaborated by expert bodies, such as the Registry System Administrators (RSA) forum, or by meetings of lead reviewers, or have been developed in response to the practical needs of implementing the secretariat's data systems.

Throughout the document, references to the underlying provisions of the Kyoto Protocol, relevant decisions of the COP/MOP, and other documents are provided in the margins of the page. Unless otherwise indicated, all Articles referenced are Articles of the Kyoto Protocol.

Full titles of all decisions with source documents are provided in appendix III to this manual. Appendix IV provides a glossary of terms used in this manual and appendix V gives a list of the acronyms and abbreviations used.

Unless otherwise indicated, reference to a Party in this manual means an Annex I Party that is also a Party to the Kyoto Protocol, with an emission reduction commitment in Annex B of the Kyoto Protocol.

1.1 The Kyoto Protocol

The Kyoto Protocol to the Framework Convention on Climate Change was adopted in Kyoto, Japan, in December 1997 and entered into force on 16 February 2005. The rules and requirements for implementation of the Kyoto Protocol were further elaborated in a package of decisions called the Marrakesh accords. The Marrakesh Accords were formally adopted by the COP/MOP at its first session in Montreal, Canada, in December 2005.

The Kyoto Protocol shares the ultimate objective of the United Nations Framework Convention on Climate Change (hereafter referred to as the Convention) to stabilize atmospheric concentrations of greenhouse gases at a level that will prevent dangerous interference with the climate system. In pursuit of this objective, the Kyoto Protocol builds upon and enhances many of the commitments already in place under the Convention.

- Each Annex I Party must undertake domestic policies and measures to reduce GHG emissions and to enhance removals by sinks.
- In implementing these policies and measures, each Annex I Party must strive to minimize any adverse impact of these policies and measures on other Parties, particularly developing country Parties.

*Article 2,
paragraph 1*

*Article 2,
paragraph 3*

- Annex I Parties must provide additional financial resources to advance the implementation of commitments by developing countries. *Article 11, paragraph 2*
- Both Annex I and non-Annex I Parties must cooperate in the areas of: *Article 10*
 - (a) The development, application and diffusion of climate-friendly technologies;
 - (b) Research on and systematic observation of the climate system;
 - (c) Education, training, and public awareness of climate change;
 - (d) The improvement of methodologies and data for greenhouse gas inventories.

However, the Kyoto Protocol's most notable elements are its binding commitments on Annex I Parties to limit or reduce greenhouse gas emissions, and its innovative mechanisms to facilitate compliance with these commitments.

1.1.1 Emission targets and assigned amounts

The core commitment under the Protocol, contained in Article 3, paragraph 1, requires each Annex I Party to ensure that its total emissions from GHG sources listed in Annex A of the Protocol over the commitment period do not exceed its allowable level of emissions. (Annex A covers GHG emissions from the energy, industrial processes, solvent and other product use, agriculture and waste sectors; see appendix I) The allowable level of emissions is called the Party's *assigned amount*. Each Annex B Party has a specific emissions target listed in Annex B, which is set relative to its emissions of GHGs in its base year (see figure 1). The Annex B emissions target and the Party's emissions of GHGs in the base year determine each Party's initial assigned amount for the Protocol's five-year first commitment period (2008–2012). This quantity is denominated in individual units, called assigned amount units or AAUs, each of which represents an allowance to emit one metric tonne of carbon dioxide equivalent.

Figure 1. Annex B emission targets

Annex I Parties	Emissions target (expressed in relation to emissions in the base year or period*)
Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, European Community, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland	-8%
United States of America**	-7%
Canada, Hungary, Japan, Poland	-6%
Croatia	-5%
New Zealand, Russian Federation, Ukraine	0
Norway	+1%
Australia**	+8%
Iceland	+10%

* This base year is flexible in the case of countries with economies in transition.

** Countries which have declared their intention not to ratify the Protocol.

Unlike other multilateral environmental agreements, the Kyoto Protocol allows Annex I Parties to change their assigned amounts, and thus the level of their allowed emissions over the commitment period, through LULUCF activities and through participation in the Kyoto Protocol mechanisms. Through these activities, Parties may generate, cancel, acquire or transfer emission allowances. These emission allowances are collectively called Kyoto Protocol units, and are subject to explicit rules, depending on the particular unit type.

Each Annex I Party is required to implement domestic policies and measures to reduce its GHG emissions and help meet its Article 3, paragraph 1, commitment. In addition, Annex I Parties are required to take measures to protect and enhance emission removals in the LULUCF sector. Emissions and removals from the LULUCF sector are treated differently from the emissions of the Annex A sectors. LULUCF is not covered by Annex A to the Kyoto Protocol.

1.1.2 Land use, Land-use Change and Forestry

Unlike the Convention, which includes all emissions and removals from LULUCF in a Party's total emissions, the Kyoto Protocol restricts the accounting of the LULUCF sector to emissions and removals from specific activities that are defined under Article 3, paragraphs 3 and 4, of the Protocol. Article 3, paragraph 3, covers direct, human-induced,

*Article 3, paragraphs
3 and 4*

afforestation, reforestation and deforestation activities. Accounting of these is mandatory: each Annex I Party must account for emissions and removals in the commitment period on lands on which these activities have occurred.

Article 3, paragraph 4, activities are restricted to forest land management, cropland management, grazing land management and/or revegetation. Accounting of these activities is elective, which means that each Party must choose whether to account for emissions and removals from each such activity during the commitment period.

*Decision 16/CMP.1,
annex, paragraph 6*

In contrast to emissions from Annex A sources, the Kyoto Protocol requires Parties to account for emissions and removals from LULUCF activities by adding to or subtracting from their initial assigned amount. Net removals from LULUCF activities result in the issuance of additional emission allowances, called removal units or RMUs, which a Party may add to its assigned amount; Parties must account for any net emissions from LULUCF activities by cancelling Kyoto Protocol units. Calculation of the quantity of emission allowances to be issued or cancelled is subject to specific rules, which differ for each LULUCF activity (see section 6.1).

*Decision 13/CMP.1,
annex, paragraphs
25 and 32*

1.1.3 The Kyoto Protocol mechanisms

The Kyoto Protocol allows Annex I Parties to change the level of their allowed emissions over the commitment period, by trading Kyoto Protocol units with other Parties. This trading is carried out through the so-called Kyoto mechanisms:

*Article 3, paragraphs
10, 11 and 13*

- Emissions trading;
- Joint implementation (JI);
- Clean development mechanism (CDM).

Annex I Parties must meet specific methodological and reporting requirements, or criteria, under Article 5, paragraphs 1 and 2, and Article 7, paragraphs 1 and 4, in order to be eligible to participate in each of these mechanisms (see section 3). These eligibility criteria help to ensure that a Party is accounting accurately for its emissions and assigned amount, so that use of the Kyoto mechanisms will not jeopardize the Party's compliance with its Article 3, paragraph 1, commitment. Each Party's eligibility to participate in each of the Kyoto mechanisms will be determined as a normal outcome of reporting, review and compliance procedures under the Protocol.

*Decision 2/CMP.1,
paragraph 5*

Kyoto Protocol units acquired from another Party under the Kyoto mechanisms are added to a Party's assigned amount, whereas units transferred to another Party are subtracted from a Party's assigned amount. Each Party's use of the Kyoto mechanisms must be supplementary to domestic action in that a Party should not meet its Article 3, paragraph 1, commitment solely by acquiring Kyoto Protocol units.

1.1.3.1 Emissions trading

Under emissions trading, an Annex I Party may transfer Kyoto Protocol units to or acquire units from another Annex I Party. A Party may acquire an unlimited number of units under Article 17. However, the number of units that a Party may transfer is limited by the Party's commitment period reserve (CPR). The CPR is the minimum level of units that a Party must hold in its national registry (see section 1.1.5.2) at all times. The requirement for each Party to maintain a CPR prevents a Party from over-transferring units, and thus impairing its ability to meet its Article 3, paragraph 1, commitment. (See section 5.2 for more information on the CPR and the way in which it is calculated.)

Article 17

*Decision 11/CMP.1,
annex, paragraph 6*

Annex I Parties may choose to implement domestic or regional (e.g. with a group of Parties) systems for entity-level emissions trading, under their authority and responsibility.¹ Although the Kyoto Protocol does not address domestic or regional emissions trading, Kyoto emissions trading forms an umbrella under which national and regional trading systems operate, in that the entity-level trading uses Kyoto Protocol units and needs to be reflected in the Kyoto Protocol accounting. Any transfer of units between entities in different Parties under domestic or regional trading systems is also subject to Kyoto Protocol rules. The emissions trading scheme (ETS) of the European Union is one example of a regional trading system, operating under the Kyoto Protocol umbrella.

1.1.3.2 Joint implementation

Joint implementation (JI) is a mechanism by which one Annex I Party can invest in a project that reduces emissions or enhances sequestration in another Annex I Party, and receive credit for the emission reductions or removals achieved through that project. The unit associated with JI is called an emission reduction unit (ERU).

Article 6

There are two approaches for verification of emission reductions under JI, commonly called 'track one' and 'track two'. Under track one, a host Party that meets the specific eligibility requirements may verify its own JI projects and issue ERUs for the resulting emission reductions or removals. Annex I Parties operating under track one are required to inform the secretariat of their national guidelines and procedures for approving these projects and to make information about each project publicly available.

*Decision 9/CMP.1,
annex, paragraphs
20 and 23*

*Decision 13/CMP.1,
annex, paragraph*

Annex I Parties may also choose to use the track two verification approach. The eligibility requirements for track two are less strict than those for track one (see chapter 3). Under track two each JI project is subject to verification procedures established under the supervision of the Joint

*Decision 9/CMP.1,
annex, paragraphs
24, 30 -45*

¹ An entity can be a company, plant or broker authorized by a Party to hold or trade in emissions.

Implementation Supervisory Committee (JISC). Track two procedures require that each project be reviewed by an accredited independent entity to determine whether the project meets the requirements established under Article 6. The emission reductions or removals resulting from the project must also be verified by the accredited independent entity in order for the Party concerned to issue ERUs.

Detailed information on the requirements and procedures for verification under track two is available at <http://ji.unfccc.int/>.

1.1.3.3 The clean development mechanism

The clean development mechanism is also a project-based mechanism. However, emission credits from the CDM are generated from projects in non-Annex I Parties. CDM credits may be generated from emission reduction projects or from afforestation and reforestation projects. CDM projects must meet detailed requirements and follow exact procedures for registration validation and verification by designated operational entities, and crediting to demonstrate that reductions or removals associated with the project are additional to what would otherwise occur in the absence of the project. Additional rules apply to afforestation and reforestation projects. CDM projects may result in three types of Kyoto Protocol units – certified emission reductions (CERs), temporary certified emission reductions (tCERs) and long-term certified emission reductions (lCERs).

*Decision 13/CMP.1,
annex, paragraphs 25
and 32*

The CDM Executive Board supervises the CDM, under the authority and guidance of the COP/MOP. The Executive Board is responsible for approving methodologies for project baselines and for monitoring and calculating emission reductions. It is also responsible for accreditation of designated operational entities and for accreditation procedures.

*Article 12,
paragraph 4*

The emission reductions or removals resulting from a CDM project must be calculated and monitored according to specific methodologies, including for project baselines. A detailed explanation of the procedures and methodological requirements of the CDM is beyond the scope of this manual. More information is available at <http://cdm.unfccc.int/>.

*Decision 3/CMP.1,
annex*

*Decision 5/CMP.1,
annex*

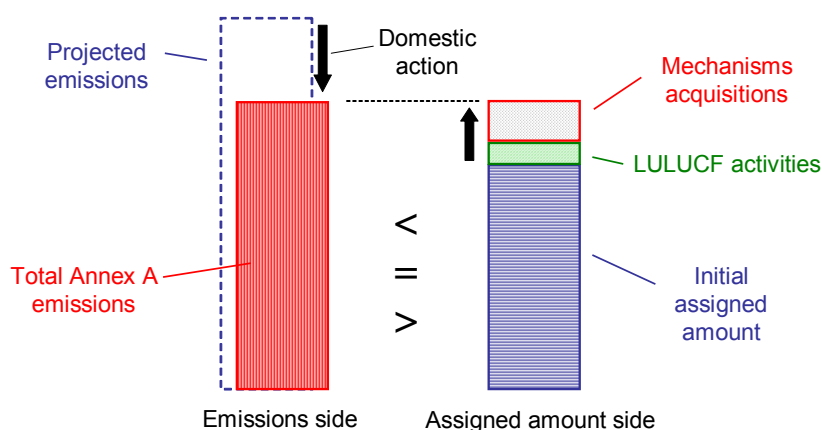
1.1.4 Demonstrating compliance

At the end of the commitment period, the determination of each Annex I Party's compliance with its emission commitment will be made by comparing its total Annex A emissions to its available assigned amount.² Each Party's available assigned amount is equal to its initial assigned amount, plus any additional Kyoto Protocol units that the Party has acquired from other Parties through the Kyoto mechanisms or issued for net removals from a LULUCF activity, minus any units that the Party has transferred to other Parties or cancelled for net emissions from a LULUCF activity.

Decision 13/CMP.1, annex, paragraphs 11, 12 and 14

So long as the Party's total emissions over the commitment period are less than or equal to its total assigned amount, the Party will be in compliance with its emissions limitation and reduction commitment. Figure 2 shows the relationship between domestic action, LULUCF activities and the Kyoto mechanisms in meeting the Article 3, paragraph 1, commitment.

Figure 2. Determination of compliance with Article 3, paragraph 1



² Under the Kyoto Protocol, the term assigned amount is used for both the quantity of units established by Articles 3, paragraph 7 and 8, and the quantity against which a Party's Annex A emissions are compared for the determination of compliance in Article 3, paragraph 1. This latter quantity includes the assigned amount established under Article 3, paragraph 7 and 8, and any additions to or subtractions from the assigned amount, pursuant to Article 3, paragraphs 10, 11 and 12. For clarity in this paper, the term 'initial assigned amount' is used to refer only to the quantity established under Article 3, paragraphs 7 and 8. The term 'available assigned amount' means the initial assigned amount, plus any additions to or subtractions from the assigned amount through LULUCF activities or the Kyoto mechanisms.

1.1.5 The Kyoto Protocol accounting system

Determination of each Party's compliance with its Article 3, paragraph 1, commitment depends on the accurate accounting of each Party's emissions and assigned amount prior to, during and at the end of the commitment period. In order to ensure accurate accounting, the Kyoto Protocol elaborates requirements for the estimation of emissions and the tracking of assigned amount by Parties at the national level. It also incorporates and intensifies the Convention's reporting requirements and review procedures. Finally, the Kyoto Protocol establishes a Compliance Committee to consider and determine cases of non-compliance. Together, these components, and the underlying data systems that support them, comprise the Kyoto Protocol accounting system.

*Article 7,
paragraph 4*

The Kyoto Protocol accounting system is centred on two parallel information streams – GHG inventories and assigned amount information, (see figure 3 below).

- Accounting of emissions and assigned amount starts at the national level. Each Annex I Party is required to establish and maintain a national system for the preparation of its national GHG inventory. On the assigned amount side, each Annex I Party is required to establish a national registry for tracking its holdings of and transactions of Kyoto Protocol units.
- GHG inventory data and assigned amount information are compiled in national reports and are subject to review and compliance procedures. These procedures verify the Party's level of emissions and assigned amount, and its eligibility to participate in the Kyoto mechanisms.
- Each Party's emissions and assigned amount information will be recorded as official only after that information has been reviewed and any questions of implementation resolved through the compliance procedures. The secretariat's compilation and accounting database (CAD) is the official repository of information related to each Party's accounting of emissions and assigned amount.

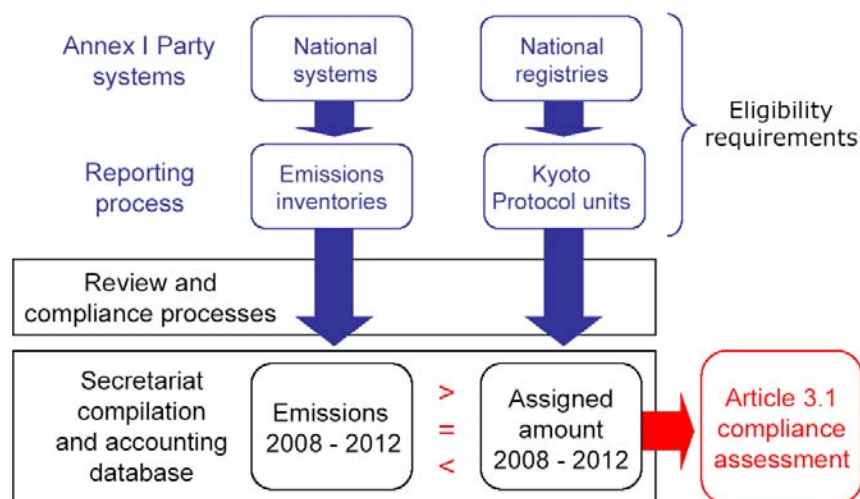
Article 5, paragraph 1

*Decision 13/CMP.1,
annex, paragraph 17*

*Article 7, paragraphs
1 and 2*

Article 8

*Decision 13/CMP.1,
annex, paragraph 50*

Figure 3. Kyoto Protocol accounting

1.1.5.1 National systems

Each Annex I Party is required to establish and maintain a national system for the estimation of anthropogenic emissions by sources and removals by sinks of greenhouse gases. A national system means the institutional, legal and procedural arrangements associated with the preparation of a national GHG inventory, and for reporting and archiving inventory information. Each national system must meet specific requirements for planning, preparing and maintaining GHG inventory data over time. The national system must be in place at least one year prior to the first commitment period, that is 31 December 2006.

Article 5, paragraph 1

Implementation of a national system is a criterion for eligibility to participate in the Kyoto mechanisms.

1.1.5.2 National registries and the International Transaction Log

Similarly, each Annex I Party is also required to establish and implement an electronic database, called a **national registry**, to track its holdings of and transactions of Kyoto Protocol units. Each registry must conform to detailed technical standards that cover data format, data exchange and communication between registries, data security, serial numbers of Kyoto Protocol units and transaction rules, including termination of invalid transactions. The national registry must be in place by 31 December 2006 and is a criterion for eligibility to participate in the Kyoto mechanisms.

Decision 24/CP.8 and annex

Decision 16/CP.10, paragraph 6(k)

The International Transaction Log (ITL), which is administered by the UNFCCC secretariat, monitors and tracks transactions of Kyoto Protocol

units by Parties, and by the CDM registry. The CDM registry, administered by the secretariat under the guidance of the Executive Board, is responsible for generating and tracking CERs from CDM projects. The CDM registry must conform to the same technical standards as national registries. Whenever a national registry undertakes a transaction that affects the Party's holdings of Kyoto Protocol units available for meeting its Article 3, paragraph 1, commitment, it communicates with the ITL. The ITL checks each transaction to ensure that it conforms with the general rules for accounting of assigned amount, as well as specific rules for the particular mechanism and transaction in question. The transaction will be approved only if it passes all these checks (see also 2). The ITL also receives information from the JI implementation system regarding ERUs verified under track two procedures.

*Decision 13/CMP.1,
annex, paragraphs
38, 42 and 43*

1.1.5.3 Reporting

As in the case of the Convention, the Protocol imposes two regular, ongoing reporting requirements for Annex I Parties – an annual report and a periodic national communication. For each, Parties are expected to submit the information elements as required by the Convention and to include additional information related to the implementation of the Kyoto Protocol. Submission of the annual report and the national communication under the Kyoto Protocol also fulfils the Party's reporting obligation under the Convention.

Annual reports

For the annual report, each Annex I Party is required to submit an annual national GHG inventory, as required by the Convention, plus supplementary information on its implementation of the Kyoto Protocol. This supplementary information covers:

Article 7, paragraph 1

*Decision 15/CMP.1,
annex, section I*

- The Party's holdings of and transactions of Kyoto Protocol units;
- Emissions and removals from LULUCF activities under Article 3, paragraphs 3 and 4, and calculations of the amount to be added and subtracted from the assigned amount;
- Changes in the Party's national system;
- Changes in the Party's national registry;
- Information on the Party's implementation of its commitment to strive to minimize adverse social, environmental and economic impacts of its climate change mitigation actions on developing country Parties (see also section 2.1.1).

The specific information to be included in a given annual report depends on the Party's participation in the Kyoto mechanisms, its accounting frequency for LULUCF activities, and the year of the commitment period (see section 2.2.1). Annual reporting of the GHG inventory, and of information on

holdings of and transactions of Kyoto Protocol units, is a requirement for participation in the Kyoto mechanisms.

National communications

Each Party must also provide the following supplementary information on its implementation of the Kyoto Protocol in its periodic national communications:

Article 7, paragraph 2

*Decision 15/CMP.1,
annex, section II*

- A description of the national system;
- A description of the national registry;
- An explanation of how the Party's use of the Kyoto mechanisms is supplementary to domestic action;
- Information on the Party's implementation of policies and measures under Article 2;
- A description of the Party's legislative, enforcement and administrative arrangements;
- Technology transfer, capacity-building and other Article 10 activities;
- Financial resources.

The parts of the national communication that are directly relevant to the accounting of emissions and assigned amount are the sections on the national system and the national registry.

Initial reports

In addition to the annual report and national communication, the Kyoto Protocol establishes two special reports to facilitate the accounting of emissions and assigned amount: the initial report and the true-up period report. The initial report is required to facilitate the calculation of the Party's assigned amount and to demonstrate its capacity to account for its emissions and assigned amount. Initial reports must be submitted by Parties by 31 December 2006 or one year after the entry into force of the Protocol for the Party, and should contain the following information:

*Decision 13/CMP.1,
annex, paragraphs
7 and 8*

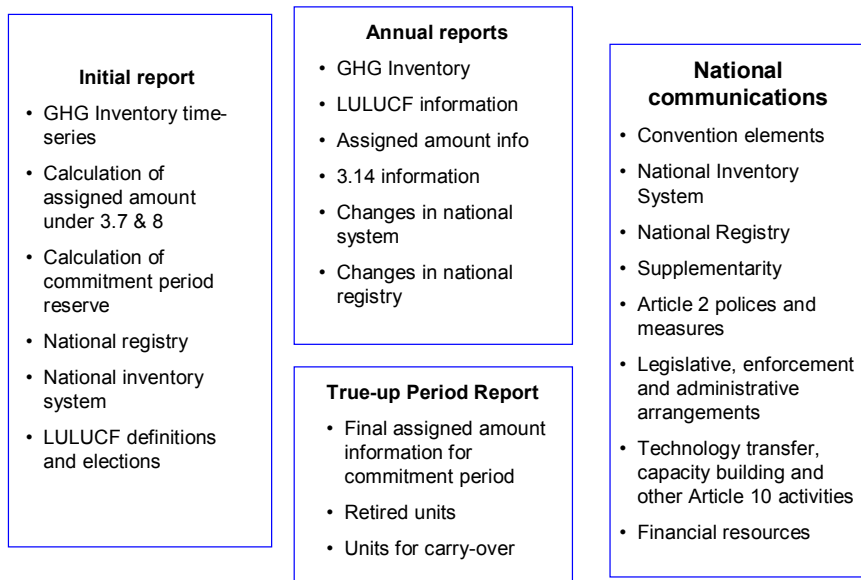
- A complete GHG inventory time-series;
- The Party's calculation of its assigned amount;
- The Party's calculation of its CPR;
- A description of the national registry;
- A description of the Party's national system;
- Parameters related to the accounting of LULUCF activities.

The true-up period report, due at the end of the commitment period, is intended to enable the determination of the Party's compliance with its Article 3, paragraph 1, commitment. This report must contain final information on the Party's holdings of and transactions of Kyoto Protocol units, including all units retired for compliance purposes. (For the definition

*Decision 13/CMP.1,
annex, paragraph 49*

of the true-up period, see section 2.2.2; and on the retirement of units, see section 2.3.) Figure 4 summarizes the information required by each report.

Figure 4. Kyoto Protocol reports



1.1.5.4 Review procedures

The Kyoto Protocol also incorporates and enhances the review procedures under the Convention, and establishes a Compliance Committee to resolve any potential problems identified during the review process.

Decision 22/CMP.1, annex, paragraphs 3, 7, 8 and 49

Each report submitted by a Party under the Kyoto Protocol is subject to a review by an international expert review team (ERT). The ERT conducts a thorough and technical assessment of the Party’s implementation of its Kyoto Protocol commitment and prepares a review report. If the ERT identifies a problem with a Party’s implementation of a particular commitment that is not resolved by the Party during the review, the ERT has the authority to list the problem as a ‘question of implementation’ in its final review report. An ERT can raise questions of implementation only when there is an unresolved problem regarding implementation by a Party of a mandatory commitment. All review reports, including those that do not list any questions of implementation, will be forwarded to the Compliance Committee for consideration.

Article 8, paragraphs 1 - 3

ERTs have specific responsibilities with respect to the accounting of emissions and assigned amounts, as described below.

Inventory review and adjustments

During the initial and annual reviews, ERTs will examine each Party's GHG inventory to assess whether the emissions and removals have been reported correctly and estimated using appropriate methodologies. If an ERT is of the opinion that a Party's inventory is incomplete, or has been prepared in a manner which is not consistent with the Intergovernmental Panel on Climate Change (IPCC) methodologies and the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance), it may recommend the application of an 'adjustment'. However, a Party will always be given the opportunity to correct a problem before the ERT recommends an adjustment.

*Decision 22/CMP.1,
annex, part II*

Decision 20/CMP.1

An adjustment is essentially a change to the inventory estimate reported by the Party. Adjustments may be applied to a Party's emissions for the calculation of its assigned amount, to a Party's Annex A emissions during the commitment period, or to a Party's emissions and removals for an activity under Article 3, paragraphs 3 and 4. If an adjustment is applied, it is recorded in the CAD, and the adjusted estimate is used for the purpose of accounting and the determination of compliance. An adjustment will always result in a conservative estimate. In other words, any adjustment calculated for emissions in the base year will always result in lower total emissions, so that the Party's initial assigned amount is not inflated. Conversely, adjustments to emissions in a year of the commitment period will always result in a higher figure for total emissions, so as not to underestimate emissions during the commitment period.

*Decision 20/CMP.1,
paragraph 5 and 8,
and annex,
paragraphs 10-13*

Adjustments to a Party's inventory can affect a Party's eligibility to participate in the Kyoto mechanisms (see section 3.2) or its ability to issue RMUs for LULUCF activities (see section 6.1.4.).

Review of assigned amount information and corrections

During the annual review and the review at the end of the commitment, ERTs will assess the Party's reported information on holdings of and transactions of Kyoto Protocol units and compare this information with that maintained by the ITL. ERTs will also review any information on problems identified by the ITL. If an ERT identifies a problem with a particular transaction, it may recommend a 'correction'. A correction is analogous to an inventory adjustment; however, whereas adjustments are applied to inventory estimates, corrections are applied to a Party's holdings of Kyoto Protocol units.

*Decision 22/CMP.1,
paragraph 5, and
annex, part III,
paragraph 93(a)*

For corrections, as for adjustments, a Party will have the opportunity to resolve a problem for which a correction has been identified, in accordance with time frames established in the review procedures. If the Party is unable to correct the problem within this time, the ERT may recommend the application of a correction in its review report. The Compliance Committee

*Decision 22/CMP.1,
annex, paragraph 93(b)*

*Decision 27/CMP.1,
annex, section V
paragraph 5(b)*

will determine whether to apply the correction, and any corrections applied will be recorded in the CAD.

1.1.5.5 The Compliance Committee

The Compliance Committee was established to facilitate, promote and enforce compliance with the commitments under the Kyoto Protocol. It considers ‘questions of implementation’ concerning a Party’s compliance with the Kyoto Protocol requirements. Only a Party or an ERT can bring a question of implementation to the attention of the Compliance Committee. An ERT may identify a question of implementation in a review report for a particular Party, or a Party may submit a question of implementation in respect of itself or another Party. Neither the UNFCCC secretariat nor the Committee itself may raise a question of implementation.

Article 18

Decision 27/CMP.1

The Compliance Committee has two branches: the facilitative branch and the enforcement branch. The bureau of the Committee allocates a question of implementation to the appropriate branch, based on their mandates. In addition, at any time during its consideration of a question of implementation, the enforcement branch may refer the question to the facilitative branch.

*Decision 27/CMP.1,
annex, section I V*

The facilitative branch

The mandate of the facilitative branch is to provide advice and facilitation to Parties in implementing requirements under the Protocol and to promote compliance by Parties with their Kyoto commitments. It is responsible for addressing questions of implementation relating to measures taken by Annex I Parties aimed at mitigating climate change in a way that minimizes their adverse impacts on developing countries and the use by Annex I Parties of the Kyoto mechanisms as supplementary to domestic action. Furthermore, the facilitative branch may provide early warning of potential non-compliance with emissions targets, methodological and reporting commitments relating to GHG inventories, and commitments to provide the supplementary information required in a Party’s annual inventory (see section 1.1.5.3).

The enforcement branch

The enforcement branch is responsible for questions of implementation regarding a Party’s implementation of its methodological and reporting requirements where its accounting of emissions and assigned amount is concerned, and for determining and applying consequences for non-compliance with the Article 3, paragraph 1, commitment. The enforcement branch also has the authority to suspend and reinstate a Party’s eligibility to participate in the Kyoto mechanisms.

*Decision 27/CMP.1,
annex, section V*

The enforcement branch has three important roles with respect to the accounting of emissions and assigned amount.

*Decision 27/CMP.1,
annex, section XV*

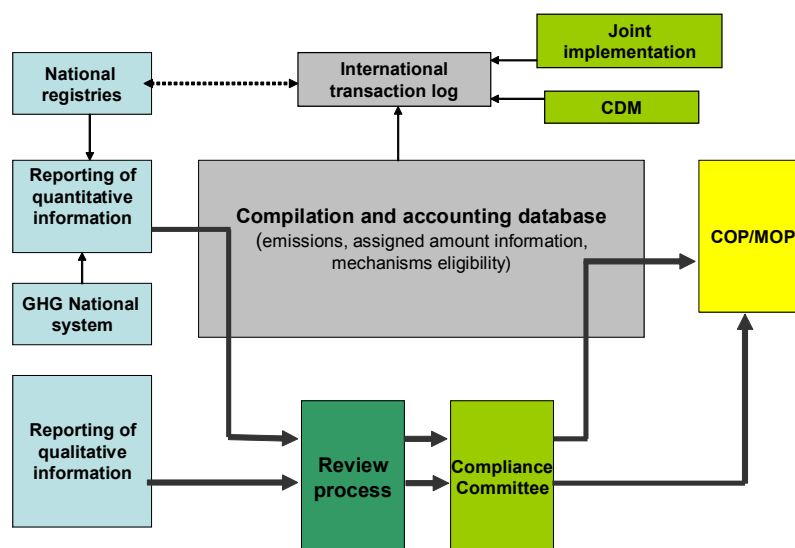
- a) It can apply adjustments to a Party’s inventory and corrections to the Party’s holdings of Kyoto Protocol units. The adjusted inventory estimates or corrected assigned amount holdings will be recorded in the CAD and become the official data for compliance purposes.
- b) It can suspend and reinstate a Party’s eligibility to participate in the Kyoto mechanisms. The branch will suspend eligibility whenever it determines that a Party is in non-compliance with a commitment related to eligibility; it can reinstate the Party’s eligibility once the Party has demonstrated that it is no longer in non-compliance with the particular commitment that led to the loss of its eligibility.
- c) It has the authority to determine non-compliance with a Party’s emissions commitment at the end of the commitment period. If the branch determines that the Party’s emissions have exceeded its available assigned amount, it will apply the following consequences:
 - i. Deduct tonnes from the assigned amount of the subsequent commitment period, equal to 1.3 times the amount of excess emissions;
 - ii. Require the Party to develop a compliance action plan;
 - iii. Suspend the Party’s eligibility to transfer units.

Decision 27/CMP.1, annex, section XV, paragraph 4

Decision 27/CMP.1, annex, section XV, paragraph 5

Figure 5 shows the Kyoto Protocol accounting system and the relationship of the individual components to each other.

Figure 5. The Kyoto Protocol accounting system



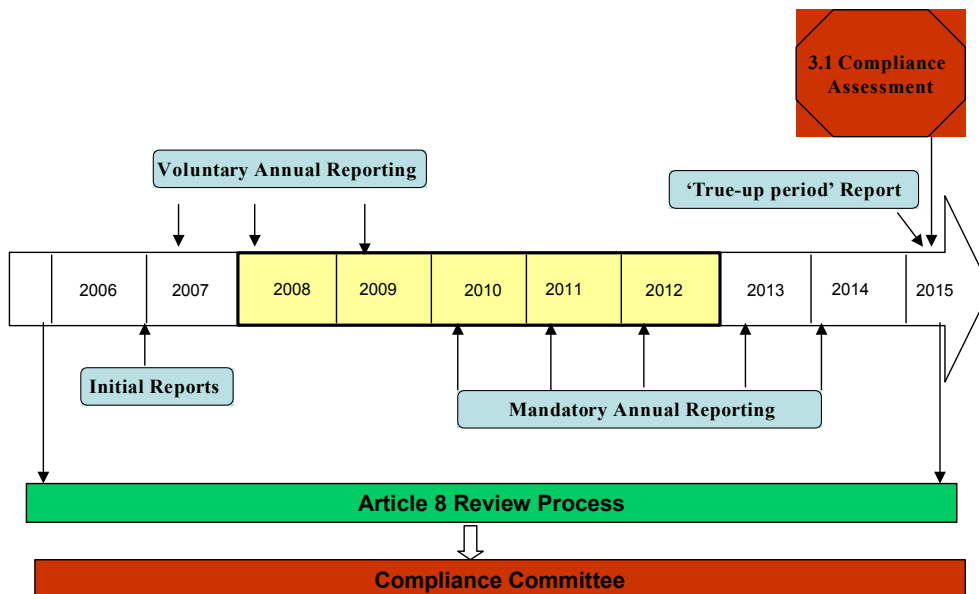
2. Accounting of emissions and assigned amount over the commitment period

The accounting of assigned amount can be separated into three distinct phases:

- The initial phase, during which a Party’s assigned amount is established and its eligibility to participate in the Kyoto mechanisms is determined;
- The annual phase, during which the Party accumulates emissions and assigned amount towards meeting its Article 3, paragraph 1, commitment;
- The end of the commitment period phase, at which point the Party’s compliance with its Article 3, paragraph 1, commitment is assessed or determined.

Each of these phases requires the submission of a specific type of report, and corresponding review and compliance procedures. This chapter provides an overview of these phases. More detailed information is provided in chapters 4 through 6. The timeline for these phases is shown in figure 6 below.

Figure 6. The Kyoto Protocol accounting timeline



2.1 The process for establishing the initial assigned amount

Article 3, paragraphs 7 and 8, of the Kyoto Protocol establish the initial assigned amount for each Party in terms of a percentage of base year emissions. However, the exact quantity of each Party's initial assigned amount in tonnes of carbon dioxide (CO₂) equivalent must be established prior to the commitment period or within one year of the entry into force of the Protocol for the Party.

Decision 13/CMP.1, paragraph 2, and annex, paragraphs 5 - 10

The process for establishing a Party's assigned amount is initiated by the Party's submission of its initial report, which should provide information on the Party's calculation of its assigned amount, its commitment period reserve, and other information necessary for the Party's accounting of assigned amount during the commitment period.

After the initial report has been reviewed, and any questions of implementation have been resolved by the Compliance Committee, the Party's initial assigned amount, together with other information related to the accounting of emissions and assigned amount, will be recorded in the secretariat's CAD. Once the initial assigned amount is recorded, it is permanent for the commitment period and cannot be changed.

2.1.1 Initial reports

Each Party is required to submit its initial report before 1 January 2007 or one year after the entry into force of the Protocol for that Party, whichever comes later. The initial report must contain the information listed below or, if the information has already been submitted, a reference to where it can be found.

Decision 13/CMP.1, paragraph 2, and annex, paragraphs 6 and 8

- (a) A national GHG inventory, containing a complete set of common reporting format (CRF) tables for the Party's base year up to the most recent year, and a national inventory report (NIR) (see section 4.2);
- (b) The Party's selection of its base year for the fluorinated gases (F-gases) – hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) (see section 5.1.1.2);
- (c) The agreement, under Article 4, for the 15 member States of the European Community (EC) that are Party to this agreement (see section 5.1.1.3);
- (d) The Party's calculation of its assigned amount (see section 5.1);
- (e) The Party's calculation of its commitment period reserve (see section 5.2);

- (f) Identification of its forestry parameter values for use in accounting for its activities under Article 3, paragraphs 3 and 4 (see section 7.4.1);
- (g) Identification of the activities that the Party elects under Article 3, paragraph 4 (see section 7.4.1);
- (h) Identification of the frequency of accounting for each activity under Article 3, paragraph 3, and each elected activity under Article 3, paragraph 4 (see section 7.4.1);
- (i) A description of its national system (see section 4.1);
- (j) A description of its national registry (see section 5.3).

2.1.2 Recording of initial accounting parameters

The information contained in the initial report will be subject to a thorough technical review by an ERTs. Any problems identified during the review will be resolved by the Compliance Committee. After the review and compliance procedures have been completed, the Party's initial assigned amount and its eligibility to participate in the Kyoto mechanisms will be recorded in the secretariat's CAD. The CAD will also maintain other information necessary for the accounting of Parties' assigned amounts, such as elections of activities under Article 3, paragraph 4, and the accounting period for each activity under Article 3, paragraph 3, and elected under Article 4.

*Decision 13/CMP.1,
annex, paragraphs 9
10, 52 and 53*

Once the value of a Party's initial assigned amount and its eligibility to participate in the Kyoto mechanisms has been recorded in the CAD, the information will be provided to the ITL. At this time, the Party can begin to issue AAUs into its national registry. If the Party meets the eligibility requirements it can also begin to transfer and acquire units through the Kyoto mechanisms. The initial accounting phase is now complete and the annual accounting phase begins.

2.2 Annual accounting

The annual accounting phase tracks each Party's emissions and assigned amount of each Party during the commitment period. During the commitment period, each Party will accumulate Annex A emissions, and will account for LULUCF activities under Article 3, paragraph 3 and activities elected under Article 3, paragraph 4. Eligible Parties may also transfer or acquire units through the Kyoto mechanisms. Accurate accounting of the accumulating emissions and assigned amounts is facilitated by the submission by Parties of annual reports, and corresponding review and compliance procedures.

2.2.1 Annual reports

The first annual report under the Kyoto Protocol is due on 15 April 2010, 2010 being the year of submission of national inventories for the first year of the commitment period. However, for full eligibility to participate in the Kyoto mechanisms, a Party must submit the annual report in 2007 and continue to submit annual reports until the end of the commitment period.

Article 7, paragraph 1

*Decision 14/CMP.1,
paragraph 1*

*Decision 15/CMP.1,
annex, part I*

The information required in the annual report changes over time. For Parties that submit their annual report voluntarily in 2007, a complete GHG inventory is the only requirement, because these Parties will not yet have undertaken any transactions of Kyoto Protocol units. Information on any significant changes to a Party's national system, or to its national registry, must also be included in the annual report whenever such changes occur.

*Decision 15/CMP.1,
paragraph 2*

Once a Party has transferred or acquired units under the Kyoto mechanisms, it must include information on its holdings of and transactions of Kyoto Protocol units in the annual report for the following calendar year. This information must be reported in a specific format called the standardized electronic format for reporting Kyoto Protocol units (SEF) (see section 5.4.2). It is expected that most Parties will begin to participate in the Kyoto mechanisms in 2008. These Parties must begin reporting the supplementary information on Kyoto Protocol units in their annual reports due in 2009.

From 2010 and onwards, each Party must include information on its emissions and removals for each activity under Article 3, paragraph 3, and for any elected activities under Article 3, paragraph 4.³ If a Party has chosen annual accounting of an activity (see section 6), it must also include its calculation of the 'accounting quantity' for that activity annually beginning in 2010; alternatively, the Party must include the calculation of the accounting quantity for commitment-period accounting activities in its annual report for the last year of the commitment period, which will be submitted in 2014 (see section 7).

Figure 7 below shows the information required in the annual reports over time. The information required in the final report for the commitment period – the true-up period report – is discussed in section 2.3.

³ Supplementary information on implementation of Article 3, paragraph 14, is not required until 2010.

Figure 7. Information requirements for annual reports

Reporting Element	2007*	2008*	2009*	2010	2011	2012	2013	2014	2015 (True-up report)
Convention Inventory	•	•	•	•	•	•	•	•	
KP LULUCF Inventory				•	•	•	•	•	
Holdings and transactions of KP units		○	○	•	•	•	•	•	•
Calculation of AQ for annually accounted LULUCF activities				•	•	•	•	•	
Calculation of AQ for CP accounted LULUCF activities								•	
3.14 Information				•	•	•	•	•	
Retired KP units									•
KP units for carry-over									•

Key:

*: Voluntary reporting required for mechanisms eligibility

•: Element required

○: Element required year following first transfer or acquisition of units

KP: Kyoto Protocol

KP LULUCF Inventory: Emissions and removals from Article 3, paragraph 3 and elected Article 3, paragraph 4 activities, AQ: accounting quantity

CP: commitment period

2.2.2 Recording of annual accounting parameters

Following review of each annual report, and any related compliance procedures, the Party's Annex A emissions, its emissions and removals and accounting quantities for LULUCF activities, its holdings of Kyoto Protocol units, and any changes in the Party's eligibility to participate in the Kyoto mechanism, will be recorded in the CAD. Any changes in the Party's eligibility to participate in the mechanisms, and the accounting quantity for each LULUCF activity, when relevant, will also be provided to the ITL. The ITL will notify the Party, via its national registry, of any action required of the Party in response to the updated data, such as the cancellation of units for emissions for a LULUCF activity. (See sections 6.3.1 and 7.2.1)

Decision 13/CMP.1, annex, paragraph 54 - 58

The annual report containing the inventory for the last year of the first commitment period (2012) will be submitted in 2014. After completion of the review and compliance procedures for that year, each Party's total Annex A emissions for the commitment period will be recorded in the CAD, as will the Party's final accounting quantities for LULUCF activities. Once the review and compliance procedures have been completed for all Parties,

Decision 13/CMP.1, annex, paragraph 54 and 55

Decision 27/CMP.1, section XIII

the ‘additional period for fulfilment of commitments’ will begin. This 100-day period, commonly called the true-up period, is intended to provide Parties with the opportunity to undertake and finalize the transactions necessary to achieve compliance with the Article 3, paragraph 1, commitment. The specific date when the true-up period begins will be determined by the COP/MOP prior to 2014. The accounting period for the end of the commitment period begins with the start of the true-up period.

2.3 End of commitment period accounting

The end of the commitment period accounting phase provides the final tally of the Party’s assigned amount for the commitment period and enables the determination of whether the Party is in compliance with its Article 3, paragraph 1, commitment.

During the true-up period, each Party is allowed to continue to undertake transactions of Kyoto Protocol units. This includes the transfer of units to and the acquisition of units from other Parties, the issuance of RMUs and cancellation of units for activities under Article 3, paragraphs 3 and 4, the replacement of tCERs and ICERs, and the retirement of units. In addition, if the Compliance Committee has applied any corrections to a Party’s holdings of assigned amount, and the Party has not yet taken action to reflect the correction, then the Party should take such action during the true-up period. If the Party fails to take corrective action, then the correction will be included in the final determination of compliance following the true-up period.

Before the end of the true-up period, each Party is required to demonstrate that it meets its Article 3, paragraph 1, commitment. To do so, each Party must ‘retire’ a quantity of Kyoto Protocol units equal to or greater than its total Annex A emissions for the commitment period. The Party retires units by transferring them to a designated account in its national registry (see section 6.5).

*Decision 12/CMP.1,
annex, paragraphs
13 and 14*

2.3.1 The true-up period report

Each Party must submit a final report at the end of the true-up period in order to enable determination of its compliance with its Article 3, paragraph 1, commitment (see section 2.3.2). The due date for the submission of this report will be determined by a decision of the COP/MOP and will be dependent on the date for expiry of the true-up period.

*Decision 13/CMP.1,
annex, paragraph 49*

This report must contain all the information that is normally reported annually on assigned amount, including the SEF, but it must cover both the calendar year 2014 and the true-up period.

*Decision 15/CMP.1,
annex, paragraph 20*

In addition, the report must include a list, by serial number, of the units that the Party has retired. If the Party has AAUs, ERUs or CERs remaining in its registry after it has retired sufficient units to cover its Annex A emissions, it

*Decision 13/CMP.1,
annex, paragraph
49 (b) and (c)*

may request that these units be carried over to the subsequent commitment period. The Party should include a list of these units, by serial number, in its true-up period report.

2.3.1.1 Comparison of emissions and assigned amount

Whether a Party is in non-compliance with its Article 3, paragraph 1, commitment will be determined after the review of the true-up period report. The determination will be based on a comparison of the quantity of units retired by the Party with the Party's total Annex A emissions for the commitment period.⁴ The ERT responsible for the review of a Party's true-up period report will first verify that the Party has taken the necessary actions in its registry related to the cancellation and replacement of units, and with respect to any corrections applied by the Compliance Committee.

*Decision 13/CMP.1,
annex, paragraph 14*

If a Party has not cancelled sufficient units to replace tCERs or ICERs, or has not undertaken transactions necessary to reflect a correction in the CAD, then the ERT will deduct the corresponding quantity of units from the Party's reported quantity of retired units.

The ERT will then compare the resulting quantity of units in the Party's retirement account to the Party's total Annex A emissions for the commitment period. The review report of the ERT for the true-up period will include a clear assessment of whether the Party's total Annex A emissions for the commitment period are less than or equal to the quantity of units retired by the Party (including any deduction for outstanding corrections or replacements).

*Decision 22/CMP.1,
annex, paragraph 91*

⁴ During the negotiations of the Kyoto Protocol, Parties recognized that in some circumstances, emissions of a single industrial processes project that was put into operation after 1990 could significantly impact a Party's ability to meet its Article 3, paragraph 1, commitment. To address this problem, Decision 14/CP.7 allows Parties that meet specific criteria to exclude these emissions from their Annex A total emissions for the purposes of determining their compliance. In order to use this exclusion, both the Party and the project concerned must meet specific conditions:

- a) The Party's total carbon dioxide emissions in 1990 must be less than 0.05% of the total carbon dioxide emissions from Annex I Parties in that year.
- b) The project must be an industrial process facility at a single site that has entered into operation after 1990, or the expansion after 1990 of an industrial process facility at a single site that was in operation in 1990.
- c) The project must use renewable energy, and apply best environmental practice and best available technology in order to minimize emissions

If these conditions are met, then the Party may exclude that portion of the project's emissions that would cause the Party to exceed its assigned amount from its total Annex A emissions.

2.3.2 Determination of non-compliance

If the enforcement branch determines that a Party is in non-compliance with its Article 3, paragraph 1, commitment, the Compliance Committee will apply specific consequences. First, the branch will deduct a quantity of units from the subsequent commitment period equal to the amount by which the Party's Annex A emissions exceeded its available assigned amount, multiplied by 1.3. The deduction of assigned amount will be recorded in the CAD and provided to the ITL. The ITL will notify the Party of its obligation to cancel units equivalent to the deduction.

Decision 27/CMP.1, annex, part XV, paragraphs 5 and 6

DES, section 6.2.2

In addition, the branch will suspend the Party's eligibility to transfer units to other Parties through emissions trading.

Finally, the enforcement branch will request the Party to prepare and submit a compliance action plan. This plan must assess the reason for the Party's non-compliance, and indicate actions, including a timetable, to show how the Party intends to meet its emission commitment in the subsequent commitment period.

2.3.3 Carry-over of units

The ERT will also review the quantity of units that the Party has indicated that it wishes to carry over to ensure that the Party has no outstanding correction, and that the units requested meet the rules for carry-over. For instance units derived from LULUCF activities may not be carried over.

Decision 22/CMP.1, annex, paragraph 90

Following the review and compliance procedures, the total quantity of units available for carry-over will be recorded in the CAD and provided to the ITL. Once the ITL has information on a Party's total quantity of units available to a Party, the Party may initiate carry-over of the units (see section 6.6). Any units carried over will be validated by the Party's registry and the ITL for the subsequent commitment period. The Party should report on the units carried over in its next SEF for the subsequent commitment period.

If the Party is required to retire additional units, or has an outstanding correction, this information will also be provided to the ITL. The ITL will not approve the carry-over of any units until the Party has undertaken all necessary retirement of units, as well as any action necessary to reflect a correction applied by the Compliance Committee.

The accounting for the commitment period is now complete. For more in-depth information about specific issues discussed in this chapter, refer to chapters 4 through 6.

3. Eligibility to participate in the Kyoto mechanisms

3.1 The eligibility criteria

The Kyoto Protocol requires that a Party must meet six specific criteria in order to be eligible to participate in the Kyoto Protocol mechanisms. These criteria are based on the methodological and reporting requirements under Article 5, paragraphs 1 and 2, and Article 7, paragraphs 1 and 4. These eligibility criteria help to ensure that a Party is accounting accurately for its emissions and assigned amount, so that use of the Kyoto mechanisms will not jeopardize the Party's compliance with its Article 3, paragraph 1, commitment.

*Decision 2/CMP.1,
paragraph 5*

Each Party's eligibility to participate in the Kyoto mechanisms will be determined as a normal outcome of the review and compliance procedures following submission of the initial report, and thereafter through the annual review and compliance procedures. Only the enforcement branch may suspend or reinstate a Party's eligibility to participate in the Kyoto mechanisms.

*Decision 27/CMP.1,
annex, section V,
paragraph 4*

There are six basic criteria for eligibility to participate in the Kyoto mechanisms.

- (a) The Party is a Party to the Kyoto Protocol.
- (b) The Party's initial assigned amount has been recorded in the CAD.
- (c) The Party's GHG national system is in compliance with the requirements established under Article 5, paragraph 1.
- (d) The Party's national registry is in compliance with the requirements established under Article 7, paragraph 4.
- (e) The Party has submitted its inventory for the most recent year, and this inventory meets the requirements established under Article 7, paragraph 1. (It should be noted that additional conditions apply for this eligibility criterion: see section 3.2 below.)
- (f) The Party has submitted its information on assigned amount under Article 7, paragraph 1 (e.g. the SEF and related information), and has accounted correctly for additions to and subtractions from its assigned amount.

*Decision 3/CMP.1,
annex, paragraph 31*

*Decision 9/CMP.1,
annex, paragraph 21,*

*Decision 11/CMP.1,
annex, paragraph 2*

The individual eligibility criteria apply to all three Kyoto mechanisms. Failure to meet criteria (a), (b) or (d) above would prevent participation in any of the Kyoto mechanisms. However, the effect of failing to meet the eligibility criteria related to the national system (c), the annual inventory (e) and annual assigned amount information (f) is different for each mechanism.

- (a) For emissions trading, failure to meet any of these criteria will prevent a Party from transferring or acquiring units.
- (b) For JI, failure to meet any of these criteria will prevent a host Party from using track one, but the Party may use track two (i.e. verification of project emission reductions must occur through JISC procedures). However, a Party must have a national registry in place in order to issue and transfer ERUs under track two.
- (c) For the CDM, failure to meet any of these criteria will prevent a Party from retiring CERs. It should be noted, however, that the Party would still be able to acquire CERs from the CDM registry (this is considered a forwarding of units rather than a transfer).

*Decision 9/CMP.1,
annex, paragraphs 21,
23 and 24*

All the eligibility criteria, with the exception of that related to the annual submission of assigned amount data (criterion (f)), apply immediately after submission of the initial report. However, because Parties submit information on transactions of Kyoto units in the year after the transactions occurred, this eligibility criterion will not apply until the submission year after the Party first transferred or acquired Kyoto units.

3.2 Most recent inventory

The conditions under which a Party will fail to meet the eligibility criterion related to the annual inventory (criterion (e) above) are explicitly defined. A Party will fail to meet the inventory eligibility criterion only if one or more of the following has occurred.

*Decision 15/CMP.1,
paragraph 3*

- (a) The Party has not submitted an annual inventory, containing both the CRF tables and the NIR, within six weeks of the due date (15 April of the relevant year).
- (b) The Party has omitted a key source category that accounts for 7 per cent or more of its annual Annex A emissions in the most recently reviewed year.
- (c) The total adjustments applied to Annex A emissions in any given year of the commitment period amount to more than 7 per cent of total reported Annex A emissions.
- (d) At any point during the commitment period, the sum of the total adjustments to Annex A emissions for all years, measured as a percentage of reported Annex A emissions for those years, exceeds 20 per cent; or
- (e) An adjustment is applied in three consecutive years to an Annex A key source category that accounts for 2 per cent or more of the Party's Annex A emissions.

The first two of the inventory failure conditions above (failure to submit within six weeks of the due date, and omission of a large key source category) will apply immediately upon submission of the initial report.

Thus each Party's inventory for the years 2007–2009 must be complete and submitted in time for the six-week deadline in order for the Party to maintain full eligibility to participate in the Kyoto mechanisms.

Conversely, the inventory failure conditions that relate to the application of adjustments apply only to inventories submitted for a year of the commitment period (i.e. those submitted in the years 2010 – 2014). Thus a Party would not lose its eligibility to participate in the Kyoto mechanisms because of adjustments to Annex A sources until after the review and application of compliance procedures for the annual inventory submission in 2010 (which will cover emissions for the first year of the first commitment period).

Finally, it should be noted that the inventory failure conditions above apply to *Annex A emissions only*, except in terms of completeness. The eligibility criterion related to the annual inventory requires only that the inventory covers emissions and removals from the LULUCF sector. The requirement explicitly excludes the LULUCF sector from the inventory quality tests described here. Instead, problems with the quality of the inventory of emissions and removals for LULUCF activities under Article 3, paragraphs 3 and 4, are covered by a separate condition which governs a Party's ability to issue RMUs for a particular activity (see section 7.5).

*Decision 3/CMP.1,
annex, paragraph 31*

*Decision 9/CMP.1,
annex, paragraph 21*

*Decision 11/CMP.1,
annex, paragraph 2*

*Decision 15/CMP.1,
paragraph 3 (a)*

3.3 Establishment of eligibility to participate in the Kyoto mechanisms

Each Party will be considered eligible to participate in the Kyoto mechanisms 16 months after the date of submission of its initial report, unless the enforcement branch has previously taken a decision to suspend the Party's eligibility. The Party will be deemed eligible at a date earlier than 16 months if the enforcement branch notifies the secretariat that it is not considering any question of implementation related to the eligibility criteria for individual mechanisms.

*Decision 3/CMP.1,
annex, paragraph 31*

*Decision 9/CMP.1,
annex, paragraph 22*

*Decision 11/CMP.1,
annex, paragraph 3*

The date of 16 months after submission of the initial report is intended to allow sufficient time for review of the initial report (12 months) and, if necessary, 'expedited procedures' of the enforcement branch to resolve any questions of implementation related to eligibility (four months). Thus the establishment of each Party's eligibility to participate in the Kyoto mechanisms will be a normal outcome of the review and compliance procedures following submission of the Party's initial report.

An ERT will review the information contained in the initial report, including the information related to the Party's implementation of the individual eligibility criteria. If the ERT identifies no problems with any of these criteria (i.e. no question of implementation) then, after consideration of the report by the Compliance Committee, the secretariat will record in the CAD that the Party meets each individual eligibility criterion. This information

will be provided immediately to the ITL to enable the Party to begin making transfers and acquisitions of units through the Kyoto mechanisms.

Conversely, if an ERT does raise a question of implementation related to an eligibility criterion, the enforcement branch must consider the question under expedited procedures and take a final decision within four months of receiving the question. Once the branch has taken a decision (either a decision not to proceed with a question of implementation, in which case the Party meets the eligibility criterion, or a decision that the Party does or does not satisfy the particular eligibility criterion), it will notify the UNFCCC secretariat of the decision, which will record the results of the branch's decision in the CAD and inform the ITL accordingly.

*Decision 27/CMP.1,
annex, section X,
paragraph 1*

In the unlikely event of the review process and any resulting enforcement branch procedures not being completed within 16 months after the submission of a Party's report, the secretariat will record that the Party meets each of the eligibility criteria and send this information to the ITL. If the enforcement branch later decides, upon completion of its procedures, that a Party fails to meet a particular eligibility criterion and suspends the Party's eligibility to participate in the relevant mechanisms, the secretariat will update this information in the CAD and for the ITL.

3.4 Maintenance of eligibility to participate in the Kyoto mechanisms

Once a Party has established its eligibility to participate in the Kyoto mechanisms, it will remain eligible until and unless the enforcement branch determines that it is in non-compliance with a particular eligibility criterion. Such a determination of non-compliance could occur when a question of implementation regarding the Party's implementation of a requirement related to eligibility has been raised by an ERT or by another Party.

Questions of implementation raised by ERTs will usually be forwarded to the Compliance Committee at the end of a review cycle, as part of the final review report. However, for the annual review cycle, questions of implementation regarding an inventory may also be raised at the initial check stage, and would be forwarded to the Compliance Committee in a status report.

If an ERT has not identified a question of implementation regarding any eligibility criterion in a review report, then the Compliance Committee will not proceed on any question of implementation relating to eligibility on the basis of that report. However, if the ERT has raised such a question, then the Compliance Committee must consider the particular eligibility criterion and may suspend the Party's eligibility based on its determination.

3.5 Suspension of eligibility

The Kyoto Protocol rules presume that each Party meets the eligibility criteria for participation in the Kyoto mechanisms. A Party's eligibility to participate in the Kyoto mechanisms may be suspended only by the enforcement branch of the Compliance Committee. The decision of the enforcement branch to suspend a Party's eligibility is contingent upon a determination that the Party concerned fails to meet one or more of the individual eligibility criteria.

Decision 27/CMP.1, annex, section V, paragraph 4 and section XV

3.6 Reinstatement of eligibility

If a Party's eligibility to participate in the Kyoto mechanisms has been suspended, it may request reinstatement directly from the enforcement branch or through the ERT review process. In either case, the enforcement branch will reinstate the Party's eligibility, provided that it determines that there is no longer a question of implementation regarding that eligibility criterion.

Decision 27/CMP.1, annex, section X, paragraph 2

There are two options available to a Party through the review process. If it has been able to correct a problem that led to suspension of eligibility in time for the next annual review cycle, then the Party can request reinstatement of eligibility upon completion of the review report for that cycle. This option would be appropriate, for instance, if the Party is able to submit an annual report, containing updated information demonstrating that the problem has been corrected, within six weeks of the due date for submission. In this case, the Party should alert the secretariat and the review team that it has corrected the problem that led to the loss of eligibility and should request reinstatement of its eligibility. The secretariat will bring the review report to the attention of the enforcement branch to ensure that the branch considers the Party's request.

A Party may also request reinstatement of eligibility through an 'expedited review'. An expedited review is a short review that focuses only on the matter that led to suspension of the Party's eligibility. In order to initiate an expedited review, a Party must officially notify the secretariat that it requests an expedited review. The Party must then submit new information on the matter that led to suspension of eligibility. The new information must be provided to the secretariat at least six weeks after the date of the request for an expedited review. The ERT will provide a draft review report within three weeks of receipt of the new information. The final expedited review report must be completed within 11 weeks.

Decision 22/CMP.1, annex, part VIII

If the ERT's review report (either annual or expedited) indicates that the problem with the eligibility criterion of the mechanism concerned has been resolved, the enforcement branch must reinstate the Party's eligibility, unless it determines that there is still a question of implementation relating to that criterion. In this case, the branch will consider the question of implementation under expedited procedures.

Decision 27/CMP.1, annex, section X, paragraph 2

4. Greenhouse gas inventory-related requirements

This chapter discusses the accounting requirements related to GHG emissions, in particular the national system and the GHG inventory.

4.1 The national system

4.1.1 Requirements

Article 5, paragraph 1, requires that each Annex I Party establish and maintain a national system for the estimation of GHG emissions and removals. A national system refers to the institutional, legal and procedural arrangements necessary for the planning, preparation, reporting and archiving of inventory information. The national system must be in place by 1 January 2007.

Article 5, paragraph 1

Decision 19/CMP.1

The requirements for national systems are essentially functional, in that the guidelines define what a national system must do, rather than how it should do it. Although there is some flexibility in how each Party implements its national system, certain requirements apply. Each Party must:

- (a) Designate a single national entity with overall responsibility for the national inventory;
- (b) Define and allocate specific inventory responsibilities, such as data collection and processing, and select data and methods;
- (c) Develop and implement an inventory quality assurance/quality control (QA/QC) plan and procedures;
- (d) Use the IPCC methodologies and good practice guidance to prepare the inventory;
- (e) Archive all inventory information for each year.

Decision 19/CMP.1, annex

Implementation of a national system that meets the requirements of Article 5, paragraph 1, is a criterion for eligibility to participate in the Kyoto mechanisms (see section 3).

4.1.2 Reporting

Each Party is required to include a full description of its national system in its initial report, and in each national communication, indicating how the national system meets the requirements under Article 5, paragraph 1, of the Protocol. This description must include:

Decision 13/CMP.1, annex, paragraph 8(e)

Decision 15/CMP.1, annex, paragraph 30

- (a) The name of and contact information for the national entity and its designated representative with overall responsibility for the national inventory of the Party;
- (b) The roles and responsibilities of various agencies and entities in relation to the inventory development process, as well as the

institutional, legal and procedural arrangements in place for preparing the inventory;

- (c) A description of the process for collecting activity data, for selecting emission factors and methods, and for the development of emission estimates;
- (d) A description of the process and the results of key category identification;
- (e) A description of the process for the recalculation of previously submitted inventory data;
- (f) A description of the QA/QC plan, its implementation and the quality objectives established, and information on internal and external evaluation and review processes and their results in accordance with the guidelines for national systems; and
- (g) A description of the procedures for the official consideration and approval of the inventory.

In describing its national system, a Party may refer to relevant portions of its NIR.

If a Party makes significant changes in its national system, it should include information on these changes in its annual report. This information may be highlighted in the Party's NIR because the national system is closely related to the Party's efforts to implement the IPCC good practice guidance.

Decision 15/CMP.1, annex, paragraph 21

4.1.3 Review and compliance procedures

Each Party's national system will be subject to a thorough in-country review during the initial review and during the periodic review of national communications. The purpose of this review is to assess the conformity of the national system with the requirements under Article 5, paragraph 1, and its capacity to produce national GHG inventories in line with the requirements under the Kyoto Protocol.

Decision 22/CMP.1, annex, paragraph 12 and 96

The review will be conducted by an ERT, which will examine the activities undertaken by the Party to implement the general and specific functions of the national system, in particular with respect to inventory planning, preparation and management. Much of the ERT's assessment will be based on its assessment of the national inventory and its conformity with the IPCC good practice guidance.

Decision 22/CMP.1, annex, paragraph 100 - 106

In addition, any reported changes to a Party's national system will be reviewed during the annual review. If the ERT identifies potential problems in the Party's inventory and believes that these problems may be related to significant changes in the national system, the ERT may request an in-country review of the national system and inventory. The in-country review

Decision 22/CMP.1, annex, paragraph 12, 99, and 107

would occur with the next scheduled in-country review of the annual inventory or national communication, whichever is earlier.

If the ERT identifies any potential problems with the national system, the Party will be given the opportunity to provide additional information, in accordance with the applicable review deadline. Any questions of implementation regarding a Party's national system will be considered by the enforcement branch of the Compliance Committee. The facilitative branch is also responsible for providing advice and facilitation relating to the national system prior to the first commitment period.

*Decision 27/CMP.1,
annex, section V,
paragraph 4*

4.2 The national inventory

The Kyoto Protocol requirements for national greenhouse gas inventories incorporate and build upon the requirements under the Convention. Each Annex I Party to the Kyoto Protocol must submit an annual GHG inventory that meets the methodological and reporting requirements established under the Convention. Submission of this inventory covers the obligation of that Party under both the Protocol and the Convention.

*Article 5, paragraph 2
and 3*

Article 7, paragraph 1

Submission of an annual inventory that meets the requirements under Article 7, paragraph 1, is a criterion for eligibility to participate in the Kyoto mechanisms (see section 3).

*Decision 15/CMP.1,
annex, paragraph 2*

4.2.1 Requirements

Both the Convention and its Kyoto Protocol require Parties to estimate emissions by sources and removals by sinks of six direct GHGs not controlled by the Montreal Protocol: CO₂, methane (CH₄), nitrous oxide (N₂O), HFCs, PFCs and SF₆. These emissions and removals must be classified according to the six sectors identified by the IPCC: energy, industrial processes, solvents and other product use, agriculture, LULUCF and waste. In addition, each Party must estimate emissions and removals from activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4.

Decision 13/CP.9

Decision 14/CP.11

*Document
FCCC/SBSTA/2004/8*

Under the Kyoto Protocol, the energy, industrial processes, solvents and other product use, agriculture and waste sectors are considered Annex A sources. (For a full list of Annex A sources, see appendix I.)

Annex A sources

All Annex A inventory estimates must be prepared using methods that are consistent with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines) and the IPCC good practice guidance, which provide detailed guidance on sectors and specific sources. A Party may use national methods to prepare its GHG inventory provided that these methods are consistent with the IPCC guidance and result in more reliable estimates.

*Article 5, paragraphs
2 and 3*

Decision 2/CP.3

Each inventory submission must be submitted in the most recent reporting format adopted by the COP under the Convention, including the set of standardized data tables called the CRF. Each inventory must contain a full set of CRF tables for all GHG sectors (including LULUCF) for all years from and including the Party's base year up to the most recent year. Thus, in the year 2010, the inventory submissions of most Parties must contain the years 1990–2008 inclusive. In addition, each inventory submission must include an NIR describing the methodologies and the data sources used in compiling the inventory, as well as the institutional structures and QA/QC procedures.

Decision 18/CP.8

Decision 13/CP.9

*FCCC/SBSTA/2004/8,
paragraph 7. 38 - 50*

LULUCF sources and sinks

Additional inventory requirements apply for the LULUCF sector. Each Party is required to prepare a full LULUCF inventory as required by the Convention, using methods consistent with the IPCC *Good Practice Guidance for Land Use, Land-use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF). The LULUCF inventory must be submitted in the CRF tables, and corresponding methodological information must be included in the Party's NIR.

Decision 14/CP.11

*Decision 17/CMP.1,
paragraph 1*

*Decision 15/CP.10,
paragraph 5 and annex*

In addition, each Party must submit additional information specific to activities under Article 3, paragraphs 3 and 4, of the Protocol (see section 7 for more information).

4.2.2 Reporting

Different inventory reporting requirements apply before and during the commitment period.

Initial report

Each Party must submit a complete national inventory, or reference to a recent complete national inventory, in its initial report. This inventory must include data for all years from the Party's base year up to and including the most recent year available, and cover all the Convention sectors (i.e. Annex A sources and LULUCF). The Party must also include information on parameters related to its definition of forest (see section 6). Emissions and removals from lands subject to activities under Article 3, paragraphs 3 and 4, are not required in the initial report.

*Decision 13/CMP.1,
annex, paragraph 7(a)*

Annual report

Submission of the annual inventory is mandatory under the Kyoto Protocol beginning in 2010. However, because submission of the most recent annual inventory is a criterion for eligibility to participate in the Kyoto mechanisms, a Party may voluntarily submit an annual inventory in the years 2007, 2008 and 2009, in order to maintain full eligibility. The annual inventory is due by 15 April of each year.

*Decision 15/CMP.1,
paragraph 2*

*Decision 15/CMP.1,
annex, paragraphs
5-9*

From 2010 onwards, each Party must include in its annual inventory additional information on emissions and removals from Article 3, paragraphs 3 and 4, activities. Each Party must include annual information for each year of the commitment period on emissions and removals for each Article 3, paragraph 3, activity, and for each activity elected under Article 3, paragraph 4, regardless of whether the Party has chosen annual or commitment-period accounting for that activity. If a Party has elected to account cropland management, grazing land management or revegetation, it must also provide the relevant parts of the CRF tables for the base year for each elected activity.

4.2.3 Review and compliance

Each inventory submitted under the Kyoto Protocol will be subject to a thorough technical review by an expert review team to assess whether the inventory has been prepared in conformity with the IPCC good practice guidance and reporting requirements. The review will cover both the CRF tables and the NIR. It will take place in-country during the initial review. Annual inventory reviews will normally occur as desk or centralized reviews; however, each Party will be subject to at least one in-country review of its inventory during the commitment period.

*Decision 22/CMP.1,
annex, paragraphs 12,
14, 50, 51 and 55*

The inventory review has two stages – the initial check stage and the individual review stage. During the initial check stage, the inventory will be assessed for timeliness and completeness, and a draft status report prepared and sent to the Party for comment. Any comments or additional information received from the Party within six weeks of the deadline for submission will be considered in the final status report. Upon finalization, the status report will be forwarded to the Compliance Committee for its consideration.

During the individual review stage, the ERT will examine the emissions and removals estimates and the methodologies used in order to determine whether the IPCC good practice guidance has been applied. It will prepare a draft review report, which will be provided to the Party concerned for comment. The Party will have a specific time period in which to respond to the draft reports and/or provide additional information prior to finalization of the report. Once the reports have been finalized, they will be forwarded to the Compliance Committee. Questions of implementation relating to national inventories are considered by the enforcement branch.

4.2.3.1 Adjustments

The ERT may also recommend an adjustment to an inventory estimate during the individual review stage. An adjustment shall be applied only when the inventory data submitted by Parties are incomplete or have been prepared in a manner which is not consistent with the IPCC good practice guidance. An adjustment may be recommended by an ERT, but it is applied only when the Party accepts the adjustment or the enforcement branch applies the adjustment.

*Article 5, paragraph 2
Decision 20/CMP.1,
and annex,
Decision 27/CMP.1,
annex, chapter V,
paragraph 5*

Adjustments may be applied to emissions and removals for the calculation of the assigned amount, to Annex A sources for years of the commitment period, and for emissions and removals for activities under Article 3, paragraphs 3 and 4. For activities under Article 3, paragraphs 3 and 4, for which a Party has chosen to account for the entire commitment period (rather than annually), adjustments can be considered only during the annual review for the last year of the commitment period.

*Decision 20/CMP.1,
annex, paragraphs
10 -13*

Expert review teams must follow strict procedures for adjustments. In particular, an ERT must alert the Party concerned to the particular inventory problem in question, and provide the Party with the opportunity to submit additional information or correct the problem. If a Party recalculates an inventory estimate during the review in order to correct a problem identified by the ERT, the Party must re-submit the complete CRF with the recalculated estimates.

*Decision 22/CMP.1,
Annex, paragraphs
79 - 82*

The ERT may proceed with the calculation of an adjustment only if the Party is unable to correct the problem or to demonstrate that the estimate has been calculated correctly, within the specified time frame. The ERT will then calculate and document the adjustment, according to specific technical guidance, and recommend the application of the adjustment to the Party.

The Party must decide whether it accepts or rejects the adjustment. If the Party accepts the adjustment, it will be applied. If it rejects the adjustment, then the Compliance Committee will determine whether to apply the adjustment. Any adjustments that are applied, either by acceptance by the Party or by the enforcement branch, will be recorded in the CAD.

*Decision 22/CMP.1,
annex, paragraph
80(e)*

*Decision 27/CMP.1,
annex, chapter V,
paragraph 5*

With the exception of adjustments applied to emissions used in the calculation of the assigned amount, any adjustment may be removed if the Party is able to recalculate the estimate correctly prior to the submission of the last inventory for the commitment period. Adjustments applied to emissions used in the calculation of the assigned amount may not be removed because a Party's assigned amount cannot be changed after it is recorded in the CAD.

4.2.3.2 Eligibility to participate in the mechanisms

Gaps in a Party's inventory or adjustments to Annex A emission estimates can affect a Party's eligibility to participate in the Kyoto mechanisms. If the Compliance Committee determines that a Party fails to meet the requirements for submission of the most recent national inventory, it will suspend the Party's eligibility to participate in the mechanisms (see section 3).

*Decision 15/CMP.1,
paragraph 3*

4.2.3.3 Eligibility to issue RMUs

Instead of affecting eligibility to participate in the Kyoto mechanisms, problems with the inventory of emissions and removals for activities under Article 3, paragraphs 3 and 4, can affect a Party's ability to issue RMUs. If the magnitude of adjustments applied to emissions and removals from a single activity in a single year of the commitment period exceeds 9 per cent, the Party cannot issue RMUs for that activity for that year. For this determination, the magnitude of the adjustments is calculated as the absolute value of the 'adjusted net estimate for that activity minus the submitted net estimate for the activity', divided by the sum of the absolute values of all submitted components for that activity, multiplied by 0.18.

*Decision 13/CMP.1,
annex, paragraph 26*

*Decision 18/CMP.1,
paragraph 1*

Problems with a Party's inventory for activities under Article 3, paragraphs 3 and 4, do not affect a Party's obligation to cancel (i.e. net source cancellation: see section 5.4.3.1) units for net removals from these activities. Regardless of the magnitude of adjustments applied, a Party will always be required to cancel units for net emissions from an Article 3, paragraph 3, activity or an elected Article 3, paragraph 4, activity.

5. Assigned amount-related requirements

5.1 Calculation of the assigned amount

The exact quantity of each Party's initial assigned amount in tonnes of CO₂ equivalent must be calculated prior to the commitment period or within one year of the entry into force of the Protocol for that Party.

Decision 13/CMP.1, paragraph 2

5.1.1 Requirements

In general, a Party's initial assigned amount should be calculated by multiplying its Annex A emissions in the base year by its emissions target in Annex B and then by 5.⁵ However, the Protocol has several special provisions that may alter the way in which a particular Party's assigned amount is calculated. These special provisions are discussed below.

Article 3, paragraph 7

5.1.1.1 Alternative base year or period

For most Parties, 1990 is the base year for the national GHG inventory and the calculation of the assigned amount. However, five Parties – Bulgaria, Hungary, Poland, Romania and Slovenia – are allowed under a decision by the COP to use an alternative base year. The base year for each these Parties is as follows:

Article 3, paragraph 5

Decision 13/CMP.1, annex, paragraph 5 (a)

- Bulgaria: 1988;
- Hungary: the average of the three years 1985–1987;
- Poland: 1988;
- Romania: 1989;
- Slovenia: 1986.

Decision 9/CP.2, paragraph 5

For these Parties, the assigned amount should be calculated using the Annex A emissions in its specified base year or period, rather than 1990.

5.1.1.2 Base year for HFCs, PFCs and SF₆

In addition, any Party may choose to use the 1995 values of emissions from HFCs, PFCs and SF₆ in the calculation of the assigned amount, rather than its base year values for these gases. This choice must be indicated clearly in the initial report. If a Party chooses to use 1995, then it must do so *collectively* for all fluorinated gases. For example, a Party cannot choose to use 1990 as the base year for HFCs and 1995 for PFCs.

Article 3, paragraph 8

Decision 13/CMP.1, annex paragraph 5 (a)

In order to use 1995 values in the calculation of the assigned amount, a Party should simply deduct the total emissions of HFCs, PFCs and SF₆

⁵ The value of an individual Party's total Annex A emissions can be found at the bottom of CRF table Summary 2: 'Total CO₂ equivalent emissions without land use, land-use change and forestry'.

reported for 1990 (or other specified base year) from the Annex A totals, and add the total emissions of HFCs, PFCs and SF₆ reported for 1995.

5.1.1.3 Article 4 arrangement

Article 4 of the Kyoto Protocol allows Parties to form agreements to fulfil their Article 3 commitment jointly. At the end of the commitment period, the Parties to the agreement will be considered to be in compliance if their total combined emissions are less than or equal to their total combined assigned amounts. The Parties to the agreement may determine their respective emission levels among themselves, which must be recorded in the agreement.

Article 4

To date, only the European Community and its member States have notified the secretariat of such an agreement. Under the terms of their agreement, each member State has an individual emissions target which is different from that established under Annex B to the Kyoto Protocol. For the first commitment period, the agreement applies only to the 15 Parties that were members of the EC when the Kyoto Protocol was adopted.

Any Party that is part of an arrangement under Article 4 should use the percentage listed for it in that agreement to calculate its assigned amount, instead of the target listed in Annex B to the Kyoto Protocol.

*Decision 13/CMP.1,
annex,
paragraph 5(c)*

5.1.1.4 Emissions from the conversion of forests

For most Parties, the calculation of the assigned amount is based on Annex A emissions only. However, if a Party has net emissions from the land-use change and forestry sector as a whole in its base year or period, then it should add the net emissions from the conversion of forests to other land uses (deforestation) to its base year emissions from Annex A for the calculation of its assigned amount.

Article 3, paragraph 7

*Decision 13/CMP.1,
annex,
paragraph 5(b)*

In order to determine whether emissions from deforestation should be included in the calculation of the assigned amount, a Party should first determine whether it has net emissions from the land-use change and forestry sector as a whole in its base year. This value is reported in CRF summary table 2, under category 5 (LULUCF). If the value reported for the total of category 5 is positive (net emissions), the Party should next determine whether it has net emissions from forest conversion.

Forest conversion emissions are reported as an information item in CRF table 5 under 'Forest land converted to other land-use categories'. These cells show the sum of all net emissions from forest land converted to any other land category (e.g. forest land converted to cropland, forest land converted to grassland, etc.). If the value reported here is also positive, then the Party should add the emissions from forest conversion in its base year to its total emissions from Annex A for the calculation of its assigned amount.

5.1.2 Reporting

Each Annex I Party must report its calculation of its assigned amount in its initial report, along with its selected base year for HFCs, PFCs and SF₆. If the Party is part of an arrangement under Article 4, the Party must also include that agreement in its initial report.

Decision 13/CMP.1, annex, paragraph 7(b-d)

5.1.3 Review and compliance

The Party's calculation of its assigned amount in the initial report will be reviewed by an ERT to assess whether it has been calculated correctly and to ensure that it is based on reliable inventory estimates. Any questions of implementation regarding this calculation will be resolved by the enforcement branch of the Compliance Committee. If any adjustments are applied to the Party's emissions for the calculation of the assigned amount, then the assigned amount will be corrected based on the adjusted estimates of emissions.

After completion of the review and compliance procedures, the Party's initial assigned amount will be recorded in the secretariat's CAD and forwarded to the ITL. Once the ITL has this information, the Party can initiate issuance of AAUs, up to the level of its recorded assigned amount. Once the initial assigned amount is recorded, it is permanent for the commitment period and cannot be changed.

Decision 13/CMP.1, annex, paragraph 52(a)

5.2 The commitment period reserve

5.2.1 Requirements

Each Party is required to maintain a minimum quantity of Kyoto Protocol units in its national registry at all times. This minimum quantity is called the Party's commitment period reserve. The level of the CPR must equal the lower of *either* 90 per cent of its initial assigned amount *or* 100 per cent of its Annex A emissions in its most recently reviewed inventory, multiplied by 5. Each Party should ensure that it calculates its CPR by using the approach that yields the lowest value. For most Parties, 90 per cent of the initial assigned amount will yield a lower number than the calculation based on the inventory. However, for some Parties, notably economies in transition, the calculation based on the most recent inventory will yield a lower value.

Decision 11/CMP.1, annex, paragraphs 6 and 8

Each Party's CPR will be recorded in the CAD and made available to the ITL. The ITL will check each external transfer by a Party to ensure that the Party's registry contains a sufficient quantity of units. The first transfer by the host Party of ERUs verified under track two is exempt from the CPR requirement. Only Kyoto Protocol units in a registry's retirement or holding accounts count towards the Party's CPR; units in cancellation accounts do not. If a Party attempts to make an external transfer that would result in the registry holdings dropping below the required level of the CPR, the ITL will

Decision 13/CMP.1, annex, paragraph 57

Decision 11/CMP.1, annex, paragraphs 7 and 10

identify the transaction as a discrepancy and notify the Party to terminate the transaction.

In addition, if the required level of the CPR changes based on the annual inventory submission, or if a cancellation of units by the Party results in an infringement upon the CPR, the ITL will notify the Party that it must bring its holdings up to the required level within 30 days.

*Decision 11/CMP.1,
annex, paragraph 9*

5.2.2 Reporting

Each Party must report the calculation of its CPR in its initial report and in each annual report submitted under the Kyoto Protocol.

*Decision 13/CMP.1,
annex, paragraph 8(a)*

Parties that calculate the CPR on the basis of the inventory should also ensure that they use the most recently submitted inventory (i.e. that in the current submission) in the calculation, as this will become the most recently reviewed inventory by the time the CPR is recorded in the CAD. For example, in the 2010 submission of the annual report, the CPR should be calculated using the 2008 inventory data.

*Decision 15/CMP.1,
annex, paragraph 18*

If a Party has received a notification regarding an infringement upon its CPR from the ITL, it should include information on the situation in the next annual report. This information should indicate whether the transaction was terminated and, if it was not terminated, the transaction number and serial numbers involved and an explanation of why the transaction was not terminated.

*Decision 15/CMP.1,
annex, paragraph 12*

5.2.3 Review and compliance

During the initial and annual reviews, the ERT will check that the Party has reported the CPR, and that it has correctly calculated the CPR on the basis of the approach that yields the lowest value. If the CPR is inventory-based and adjustments have been applied to Annex A emissions, the CPR will be recalculated based on the adjusted emissions.

During the annual review, the ERT will also consider any information regarding infringement upon the CPR reported by the Party. The ERT will also consider the ITL discrepancy and notification reports for the Party to determine whether a transaction has been terminated, or the issue has since been resolved, for example, through the Party's acquisition of additional Kyoto Protocol units. Questions of implementation regarding the correct level of the CPR will be resolved by the enforcement branch.

5.3 The national registry

At the end of the commitment period, the determination of each Party's compliance with its emissions target will be made by comparing the Party's total Annex A emissions during the commitment period with their holdings of Kyoto Protocol units. These holdings, as well as transfers and acquisitions, will be tracked and recorded through a computerized system of registries.

Each Party is required to establish and maintain a national registry to track its holdings of and transactions of Kyoto Protocol units. Each national registry must comply with detailed technical requirements under Article 7, paragraph 4, and the Kyoto Protocol accounting rules. Implementation of a national registry is a criterion for eligibility to participate in the Kyoto mechanisms.

*Decision 13/CMP.1,
annex, paragraph 17*

Annex I Parties may establish supplementary transaction logs (STLs) to monitor and verify the validity of transactions proposed by their national registries, where such transactions are subject to the rules of national or regional trading schemes which operate in a manner consistent with the accounting of Kyoto Protocol units. The Community Independent Transaction Log (CITL), maintained by the European Commission to support the EU ETS, is an example of an STL.

5.3.1 Requirements

Detailed technical requirements for national registries are laid out in the data exchange standards (DES). These standards have been developed by the secretariat, in consultation with registry developers and Parties, to ensure that the registries and the ITL use common procedures and technical specifications for communicating and exchanging data. The DES also apply to the CDM registry and to STLs. They will be revised over time to reflect registry change procedures agreed by the Registry System Administrators (RSA) forum, and the evolving state of the art in data management and security procedures. References in this manual are to version 1.1 of the DES, which was current at the time of writing. Parties are encouraged to refer to the most recent version of the DES for relevant registry requirements.

*Decision 24/CP.8,
paragraph 2*

*Decision 16/CP.10,
paragraph 2*

The DES provide detailed technical specifications for:

- Data security;
- Internet communications;
- The sequence of steps a registry must undertake to initiate and proceed with a transaction;
- Processes and procedures for reconciling data inconsistencies between the registry and the ITL;
- Explicit formats for messages to/from the ITL and other registries, covering transaction types, accounts and units involved in the transaction, and possible error codes;
- Procedures for connecting the registry to the ITL (called initialization), testing the communications and transaction functions of the registry.

Each registry must also meet specific requirements for seven types of transaction recognized by the Kyoto Protocol and the DES. These are: issuance, external transfer, cancellation, replacement, retirement, carry-over and expiry date change. As these seven transaction types affect a Party's holdings of units available for use towards meeting its Article 3, paragraph 1, commitment, they must be checked and approved by the ITL. Transfers between two holding accounts within a Party's national registry are not covered by the Kyoto Protocol and do not affect the Party's holdings for compliance purposes. Therefore these internal transactions are not subject to ITL checking.

Decision13/CMP.1, annex, paragraph 38

DES, section 4.6

Each transaction must be initiated by the national registry or the CDM registry, and must follow a specific sequence of steps, during which the transaction is checked by the ITL. In some cases, a registry is notified by the ITL that it must undertake a specific transaction. Both the regular sequence of registry transactions and related ITL checks and ITL notifications are described in section 5.4.1.

5.3.1.1 Types of account

Each registry must contain several specific types of account. Most of these account types are explicitly required under Article 7, paragraph 4. However, some additional account types (e.g. separate accounts for ICER replacement types) are included in the DES to facilitate the tracking of units and registry transaction obligations by the ITL. These mandatory account types for each national registry are:

Decision13/CMP.1, annex, paragraph 21

DES, appendix F, section 5

Holding account(s). Each registry must contain at least one account for holding the Party's Kyoto Protocol units. If the Party has authorized legal entities to participate in the Kyoto mechanisms, then the registry must also contain a separate holding account for each legal entity.

A **retirement account** into which the Party must transfer units that it intends to use to meet its Article 3, paragraph 1, commitment. Units transferred to a Party's retirement account may not be further transferred.

Cancellation accounts. Each registry must contain four distinct types of cancellation account:

- A **net source cancellation account** that is reserved for units that the Party cancels to account for net emissions for activities under Article 3, paragraphs 3 and 4;
- A **non-compliance cancellation account** reserved for transfer of units when the Compliance Committee determines that the Party is in non-compliance with its Article 3, paragraph 1, commitment;

- A **voluntary cancellation** account for voluntary cancellation of units not required by the Kyoto Protocol rules; and
- A **mandatory cancellation account** for cancellation of invalid units (e.g. expired tCERs).

Replacement accounts. Each registry must also contain at least four replacement accounts:

- A **tCER replacement account** for expiry reserved for transfer of units to replaced expired tCERs;
- An **ICER replacement account** for expiry reserved for transfer of units to replaced expired ICERs;
- An **ICER replacement account** for reversal of storage for transfer of units if an ICER has been subject to a reversal of storage;
- An **LCER replacement account** for non-submission of a CDM certification report for replacement of ICERs for which a required certification report has not been submitted.

Before a national registry can be connected to the ITL, it will be subject to thorough testing of its functions and communications to ensure that it conforms to requirements. Called initialization, this process will test registry functions against the technical standards to ensure that all electronic communication, transaction and reconciliation processes are working correctly.

*Decision 16/CP.10,
paragraph 6(k)*

DES, section 9

Once a registry has been initialized, the ITL will be able to continue to monitor the functions of the registry during normal operation and through its periodic reconciliation (see section 5.4.1.4). If technical problems are identified during operation, the ITL will be able to temporarily suspend its link to the registry until the problems are resolved. Re-initialization testing may be undertaken to ensure that the problem has been successfully resolved.

The functional testing during initialization of national registries, as well as the ongoing testing and verification, will be conducted through an **independent assessment** process which uses standardized testing methods and procedures developed by the ITL administrator in cooperation with the RSA forum. The results of this process will be reflected in independent assessment reports on each national registry, which will be provided to review teams under Article 8.

*Decision 16/CP.10,
paragraph 6(k)*

5.3.2 Reporting

Each Party must also include a description of its national registry in its initial report and in each national communication submitted under the Kyoto Protocol, and explain how the registry meets the registry requirements and DES. The description must include the following information:

*Decision 15/CMP.1,
annex, paragraph 32*

- (a) The name and contact information for the registry administrator;
- (b) The names of any other Parties with which the Party cooperates by maintaining their national registries in a consolidated system;
- (c) A description of the database structure and capacity of the national registry;
- (d) A description of how the national registry conforms to the technical standards for data exchange;
- (e) A description of the procedures employed in the national registry to minimize discrepancies and of the steps taken to terminate transactions where a discrepancy is notified and to correct problems in the event of a failure to terminate a transaction;
- (f) An overview of security measures employed in the national registry;
- (g) A list of the information publicly accessible by means of the user interface to the national registry;
- (h) The Internet address of the interface to its national registry;
- (i) A description of measures taken to safeguard, maintain and recover data in order to ensure the integrity of data storage and the recovery of registry services in the event of a disaster;
- (j) The results of any test procedures.

In addition, each Party must include in the annual report information on any significant changes in its national registry.

*Decision 15/CMP.1,
annex, part I,
paragraph 22*

5.3.3 Review and compliance

Each Party's national registry will be subject to a thorough review during the initial review. The initialization and independent assessment procedures will be critical in this regard, as they will thoroughly test the functioning of each individual registry and its conformity with the registry requirements and the DES.

The national registry will be subject to ongoing testing and monitoring through the independent assessment and reconciliation processes. Any unresolved problems with functioning will be reflected in annual

independent assessment reports, which will be available for consideration by the ERTs.

Questions of implementation regarding a Party's national registry will be resolved by the enforcement branch of the Compliance Committee. If the enforcement branch determines that a Party fails to meet the requirements for implementation of the national registry, it will suspend the Party's eligibility to participate in the Kyoto mechanisms.

5.4 Registry Transactions

This section gives an overview of the technical procedures for registry transactions and describes the reporting and review of transactions. Individual transaction types and the corresponding Kyoto accounting rules are described in chapter 6.

Decision13/CMP.1, annex, paragraphs 23-37

5.4.1 Requirements

5.4.1.1 Sequence of registry transactions

All transactions requiring ITL approval must follow a specific sequence of steps, outlined below and shown in figure 8. More detailed information on message sequences and response codes is provided in the DES. Transactions are normally conducted as blocks of units, rather than on a unit-by-unit basis. Discontinuous unit blocks can be processed in one transaction.

Decision13/CMP.1, annex, paragraphs 41 - 43

DES, sections 4.3 and 4.4

Step 1 – Proposal. The registry sends a proposal for the transaction to the ITL. The proposal must contain the transaction type, the units involved, the appropriate transferring and acquiring registry and account information, and the appropriate notification ID information, if available.

Step 2 – ITL review. The ITL receives the proposal and validates the transaction against the technical and business rules for the appropriate transaction type. If a discrepancy is found, the ITL notifies the registry of the requirement(s) the transaction proposal did not meet. The units involved in the transaction cannot be used in another transaction until the registry sends a termination request.

If the transaction meets all requirements, the ITL records the transaction as pending and marks the units involved in the transaction as unavailable to any other transaction.

For transactions which must also pass through an STL, the ITL then forwards the transaction proposal to the STL.

Step 2 (a) – STL review The STL evaluates the proposal against STL rules and requirements and informs the ITL of its acceptance or rejection.

If the STL identifies one or more discrepancies, the ITL will notify the registry and indicate the type of discrepancy found. If the transaction is an external transfer of units (e.g. a transfer of units to another registry under the Kyoto mechanism), then the ITL forwards the transaction proposal and the results of its review to the acquiring registry.

Step 2 (b)– Registry review. The acquiring registry evaluates the proposal, accepts or rejects it and informs the ITL accordingly.

Step 2 (c) – ITL relay. The ITL updates the transaction status with the result of the acquiring registry evaluation and notification and forwards the evaluation result to the initiating registry.

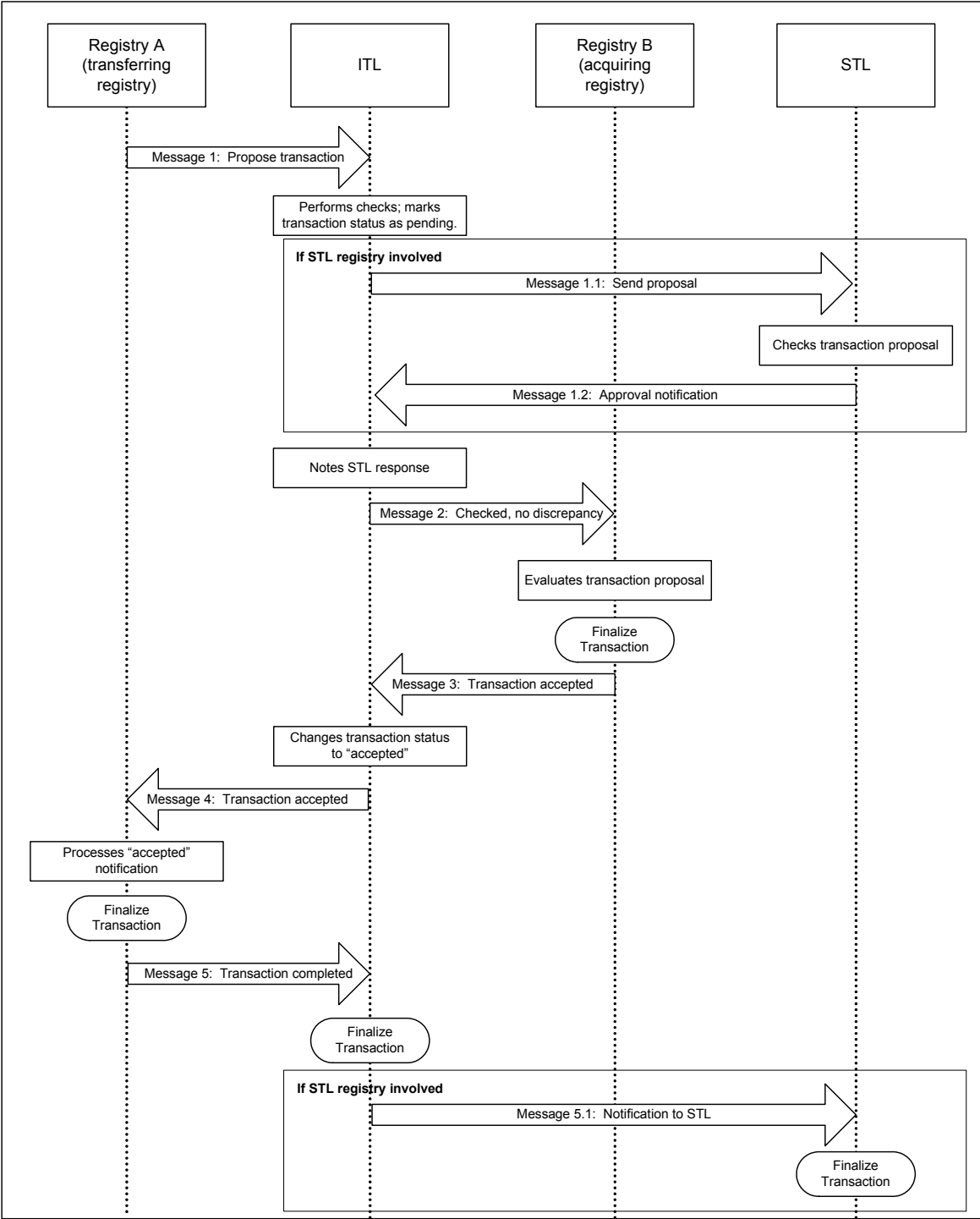
Step 3 – Registry complete. Once the registry has processed the ITL notification, it must complete the transaction, either by finalizing it (if no discrepancy is found) or by terminating it.

Step 4 – ITL complete. If the registry, or both registries in the case of an external transfer, requested the ITL to finalize the transaction, the ITL updates its records for the units in the transaction as appropriate for the type of transaction. The units are now free to be used in any other transaction. If the registry requested the ITL to terminate the transaction, the ITL will mark the transaction as terminated. The units that had been part of the transaction are now free to be used in another transaction. The completed transaction is logged by the ITL.

A unit will be considered valid in a particular registry, and a particular account, only if all transactions relating to that unit have been approved by the ITL. If any transaction involving a particular unit is rejected by the ITL and the initiating registry does not terminate the transaction, then an inconsistency between the registry data and the ITL data will be identified during future reconciliation processes, and any further proposed transactions involving that unit will be rejected by the ITL until the registry corrects the problem.

*Decision13/CMP.1,
annex, paragraph
43(b)*

Figure 8: Sequence of Registry transactions



5.4.1.2 ITL Transaction checks

During the ITL review stage of a transaction sequence, the ITL executes numerous checks on each transaction to ensure that the message is authentic, that the format and sequence of the message are correct, and that the unit and transaction in question are valid. Although most of these checks are technical in nature, the ITL also checks each transaction for conformity with the Kyoto accounting rules. The DES also encourages national registries to implement similar checks to reduce the number of discrepancies that occur.

The following categories of checks are performed by the ITL.

Version and authentication checks are performed upon receipt of a transaction request to ensure that the initiating registry is authentic and that the appropriate version of the DES has been used. If the transaction request passes these checks, the request is placed in the message queue for processing. Failure to pass these checks will prevent the transaction from being further processed.

DES, section 4.6.1

Message viability checks are further differentiated by transaction type, such that only relevant checks are applied to a particular transaction. These transaction-specific checks are the stage at which the Kyoto Protocol accounting rules are **checks** determine whether the message from the queue is still viable and can be processed, in particular, messages lapse in the ITL if they are not processed within 24 hours of receipt.

DES, section 4.6.2

Registry validation checks determine if the registry has the technical status to undertake the proposed transaction. For instance, the registry may be off-line for the transaction. It should be noted that this check does not include eligibility to participate in the Kyoto mechanisms.

DES, section 4.6.3

Data integrity checks determine if an incoming message meets basic data integrity requirements. If any data in a message fail these checks, the message is returned to the sender with an appropriate response code and is not processed further by the ITL.

DES, section 4.6.4

Message sequence checks ensure that the messages on the proposed transaction are communicated to the ITL in the appropriate sequence.

DES, section 4.6.5

General transaction checks are performed on all proposal messages relating to all types of transaction except for issuance. The checks ensure that the units are held by the registry initiating the transaction.

DES, section 4.6.6

Transaction-specific implemented. The ITL checks that the Party concerned is eligible to perform the specific transaction (i.e. the Party meets the appropriate eligibility criteria for participation in the mechanisms), and that the specific unit types and quantities are consistent with the Kyoto rules.

DES, section 4.6.7

Information on the specific accounting rules for each transaction and unit type is provided in section 5.4.

If the transaction proposal meets all checks, the ITL returns a positive message (approved) to the initiating registry, and the transaction continues. However, if a transaction proposal fails a critical check (including the transaction-specific checks), the ITL returns a negative message (disapproved), indicating the nature of the failure. Upon receipt of a negative message, the registry must terminate the transaction. If a registry fails to terminate a transaction, an inconsistency in that registry's holdings will be identified during the next scheduled registry reconciliation with the ITL.

*Decision 13/CMP.1,
annex, paragraph 43*

5.4.1.3 Notifications

On occasion, the ITL will notify a registry of a specific transaction that the registry should undertake. The conditions for these notifications are explained below.

Net source cancellation. If the review and Compliance Committee procedures under the Kyoto Protocol find that the LULUCF activities of a Party have resulted in a net source of emissions, the ITL will notify the Party of the quantity of units the registry is required to cancel. These units must be cancelled into a net source cancellation account. The registry must initiate the cancellation within 30 days and provide a reference to the relevant notification ID, so that the ITL can track when the registry has completed the required cancellation.

DES, section 6.2.1

Non-compliance cancellation. If the Compliance Committee determines that a Party is in non-compliance with its Article 3, paragraph 1, commitment, the ITL will notify the Party of the quantity of units valid for the subsequent commitment period that it is required to cancel. These units must be cancelled into the non-compliance cancellation account. The registry must initiate the cancellation within 30 days and provide a reference to the relevant notification ID, so that the ITL can track when the registry has completed the required cancellation.

DES, section 6.2.2

Impending tCER or ICER expiry. The ITL will notify each national registry of the unit blocks of any tCERs held in retirement and tCER replacement accounts or ICERs held in retirement accounts that are due to expire within 30 days. The notification indicates that the specified tCERs or ICERs are to be replaced before their expiry dates. The registry must initiate the replacement within 30 days and provide a reference to the relevant notification ID, so that the ITL can track when the registry has completed the required retirement. Units used to replace tCERs and ICERs must be transferred to the replacement accounts.

DES, section 6.2.3

Reversal of storage for CDM projects. If a reversal of storage of emission removals has occurred for a CDM project, then, at the request of the CDM

DES, section 6.2.4

Executive Board, the ITL will temporarily suspend transfers of all ICERs generated by the project (except to cancellation or replacement accounts). The ITL will then calculate how many units each registry must replace, on the basis of their holdings (excluding cancelled or previously replaced units) of the affected ICERs and the amount of the storage reversal that occurred, and notify each affected registry of the requirement to replace this quantity of ICERs within 30 days. The registry must then initiate replacement transactions, providing reference to the identifier of the notification sent by the ITL so that the ITL can track when the registry has completed the required replacement. Once the required replacement has been completed, the ITL will restore the eligibility of the ICERs to be transferred.

Non-submission of certification report for CDM projects. If the participants in a CDM project have not submitted a certification report for the project, then, at the request of the CDM Executive Board, the ITL will make ICERs generated by the project ineligible for transfer (except to ICER replacement and the mandatory cancellation accounts). The ITL will notify each affected registry that these ICERs must be replaced or cancelled within 30 days. The registry must then initiate replacement transactions, providing reference to the identifier of the notification sent by the ITL so that the ITL can track when the registry has completed the required replacement.

DES, section 6.2.5

Notification regarding excess issuance for CDM projects. If the CDM Executive Board requires a designated operational entity (DOE) to transfer units to a cancellation account, within 30 days, as a result of excess CERs, tCERs or ICERs having been issued for a CDM project, it will inform the DOE of this requirement and provide it with a notification ID. The ITL will notify registries of the required cancellation to be undertaken by the DOE, using the same notification ID provided to the DOE by the CDM Executive Board. The units must be cancelled into the Excess Issuance Cancellation Account (Account Type Code 240) at the CDM Registry. The entity will then initiate transactions, via registries, providing reference to the relevant notification ID so that the ITL can track when the required cancellation has been completed.

DES, section 6.2.6

Commitment period reserve violation. If the ITL determines that the total holdings in a national registry are lower than the CPR, because of cancellation or replacement of units or an increase in the required level of the Party's CPR, the ITL will send a notification to the registry directing the Party to increase the level of its unit holdings within 30 days. The registry must then acquire sufficient units from other registries to meet this requirement. Since transactions are submitted by the transferring, not acquiring, registry, these transactions will not reference any notification ID.

DES, section 6.2.7

Unit carry-over. At the end of the true-up period and after the Compliance Committee has completed its consideration of all information reviewed under Article 8, Parties will be able to initiate carry-over of units, so that they can be used in the subsequent commitment period. The ITL will only approve carry-over of units if the registry has undertaken all necessary

DES, section 6.2.8

transactions for the current commitment period, including retirement of units, cancellation, replacement and any corrections applied by the Compliance Committee. The ITL will notify each registry of:

- All units of each type within that registry for that commitment period that have not been retired, cancelled or used in replacement;
- The number of units which the registry may carry over within 30 days. The registry will then initiate carry-over transactions, up to the limits specified in the notifications, within 30 days. For all carry-over transactions, the transaction must contain the notification ID. The registry will also cancel, within 30 days, any units specified in the notifications which are not carried over.

5.4.1.4 Reconciliation

Each registry's information on its unit and account holdings will be compared periodically with the ITL information on the holdings in that registry. If any differences are identified (e.g. due to failure of a registry to terminate a discrepant transaction), these differences will be flagged as an inconsistency. The inconsistency will be logged, and the registry administrator will be informed and requested to work with the ITL administrator to resolve the inconsistency. This process is known as reconciliation.

*Decision 24/CP.8,
annex, paragraph 25*

The reconciliation process will compare the data on unit holdings in the registry to the data on unit holdings for that registry in the ITL on the basis of 'snapshots' taken at specific points in time. If any inconsistencies are identified between the registry data and the ITL data, the ITL will freeze the units in question, so that the units may not be involved in subsequent transactions until the inconsistency is resolved. The registry is required to provide the transaction history of the unit in question, in order to identify the cause of the inconsistency. Once the cause of the inconsistency has been identified, the registry and/or the ITL will take steps to resolve the inconsistency manually.

DES, section 5

A reconciliation action is completed when no inconsistencies are discovered or when any inconsistencies discovered have been resolved.

5.4.2 Reporting

5.4.2.1 Annual reports

Each Party must include information on its aggregate holdings of and transactions of Kyoto Protocol units in its annual report. Each Party is required to begin submitting this information the year after it first transfers or acquires units. It is expected that many Parties will begin reporting this information in their 2009 annual reports.

*Decision 15/CMP.1,
annex, part I, section E*

The information must be reported in a special report, the Standard Electronic Format for Reporting Kyoto Protocol Units (SEF), which is due in conjunction with the annual inventory on 15 April of the reporting year. The information in the SEF should come directly from the national registry and should cover holdings of and transactions of units for the previous calendar year. The SEF should be submitted to the secretariat by 15 April of each calendar year. The exception is the SEF for the final year of the commitment period (2014 in the case of the first commitment period); the SEF for that year should be submitted in conjunction with the report upon expiry of the additional period for fulfilment of commitments (the true-up period; see section 5.4.2.2). The ITL administrator, in cooperation with the RSA forum, will develop additional reporting guidance, including procedures for submission of the SEF via the ITL.

*Decision 14/CMP.1,
paragraph 2 and annex*

*Decision 15/CMP.1,
annex, paragraph 20*

*Decision 16/CP.10,
paragraph 6 (j)*

The information contained in the SEF is determined by the reporting guidelines under Article 7, paragraph 1. It is structured around six sets of tables.

- A summary of the holdings of Kyoto Protocol units in the Party's national registry is provided in two tables, one prepared at the beginning of the previous calendar year and the other at the end. These holdings are aggregated by unit type and account type. The account types match those required by the data exchange standards for national registries. It should be noted that Parties are not required to report holdings for individual entities; they are only required to report combined holdings of all entity accounts.
- An interim set of tables provides a summary of registry transactions during the previous calendar year – both internal transactions that did not involve transfers to or acquisitions from another registry and external transactions involving transfer or acquisition. Transactions that result in additions to assigned amount are reported under 'additions'. Transactions that would result in subtractions from the assigned amount are reported under 'subtractions'.
- A separate table provides detailed information on the expiry and replacement of tCERs and ICERs.
- A summary table shows the cumulative additions and subtractions, and retirements and replacements of units to date for the commitment period.
- Any corrective transactions that a Party undertakes to implement a correction applied by the Compliance Committee should be reported in a separate table to ensure that the transaction is not double counted in the CAD.

Discrepancies and inconsistencies

In addition to the SEF, each Party is also required to include information on discrepancies and notifications from the ITL in its annual report. A

*Decision
15/CMP.1, annex,
paragraph 12*

discrepancy will arise whenever a national registry initiates a transaction that is not allowed under the Kyoto Protocol rules. In this event, the ITL will direct the registry or registries concerned to terminate the transaction. If the registry fails to terminate the transaction, then an inconsistency between the records of holdings in the registry and in the ITL will be identified for that national registry at the next scheduled registry reconciliation process.

Decision 13/CMP.1, annex, paragraph 43(b)

The ITL–registry reconciliation process is expected to resolve the vast majority of discrepancies and resulting inconsistencies identified. If the reconciliation process does not resolve an inconsistency, then the inconsistent units will be invalid for any further transaction. In this case, the Party concerned must report on the serial numbers and quantities of invalid units.

Decision 15/CMP.1, annex, paragraph 16

Notifications for replacement

Each Party must also include information in its annual report on any notifications that it has received from the ITL regarding replacement of ICERs for non-submission of the certification report or reversal of storage.

Decision 15/CMP.1, paragraphs 13 and 14

The ITL Administrator has been requested to develop a standard format for reporting of discrepancies and notifications. Parties are encouraged to use this format for submission of this information under Article 7, paragraph 1.

Decision 14/CMP.1, paragraph 2

Decision 16/CP.10.

5.4.2.2 The true-up period report

Each Party is required to submit a final report on its holdings of and transactions of Kyoto Protocol units upon expiration of the true-up period. It is anticipated that the true-up period report for the first commitment period will be due at some time in 2015. The exact date of the submission will be determined by the COP/MOP on the basis of the date agreed for the expiry of the true-up period.

Decision 27/CMP.1, section XIII

Decision 13/CMP.1, annex paragraph 49

Decision 14/CMP.1, annex, paragraph 3

This report must contain the Party's final SEF, covering holdings of and transactions of Kyoto Protocol units for both the calendar year 2014 and the true-up period. In addition, each Party must provide the serial numbers of all units in its retirement account, and the total quantity and serial numbers, by type, of the units that the Party wishes to carry over to the subsequent commitment period.

5.4.3 Review and compliance

The information reported by each Party on its holdings and transactions of Kyoto Protocol units will be subject to review and compliance procedures annually and at the end of the true-up period. Once the Party's holdings and transactions have been reviewed and any questions of implementation resolved, additions to and subtractions from the Party's assigned amount will be recorded in the CAD.

Decision 22/CMP.1, paragraph 5, and annex, part III

During the review, the ERT will assess the Party's reported information in the SEF for completeness and for consistency with the information maintained by the ITL for that Party. If differences are identified, the ERT will be able to access additional information from the ITL to help the ERT identify the nature of the difference (i.e. the underlying discrepancy, transaction type, date, and quantity of units involved).

The ERT will also review any unfulfilled notification reports from the ITL, indicating that the Party has not undertaken a transaction required by the Kyoto Protocol rules. The ERT will consult with the Party concerned and with the ITL Administrator to determine whether the Party has undertaken the required transaction.

If an ERT identifies a question of implementation with a particular transaction, it may recommend that the enforcement branch apply a correction to the Party's accounting of assigned amount. For instance, if a Party has failed to cancel units for emissions under an Article 3, paragraph 3, activity (net source cancellation), it can recommend that the required cancellation be recorded as a correction in the CAD. Once the Party has undertaken the cancellation, the correction will be removed. However, if the Party fails to undertake the cancellation prior to the end of the true-up period, then the equivalent quantity will be subtracted from the Party's assigned amount for the determination of its compliance with its Article 3, paragraph 1, commitment.

*Decision 22/CMP.1,
annex, paragraph
93(a)*

*Decision 14/CMP.1,
paragraph 3*

If the enforcement branch determines that a Party has failed to account for and report its assigned amount correctly, it will suspend the Party's eligibility to participate in the Kyoto mechanisms.

6. Transaction Rules

This chapter explains the rules for individual transaction types and explains how the ITL will check the transactions for conformity with the Kyoto accounting rules.

Decision13/CMP.1, annex, paragraphs 23-37

6.1 Issuance

Issuance is the term used to refer to the creation of an individual Kyoto Protocol unit. The ITL must have official data from the CAD regarding the quantity of units to be issued by a Party concerned before it will approve an issuance transaction.

Decision13/CMP.1, annex, part II, section B

When a unit is issued, the issuing registry must assign a unique serial number to that unit. The serial number must include:

DES, appendix F, section 4

- (a) The commitment period for which the unit is issued;
- (b) The Party of origin, identified with the two-letter International Organization for Standardization (ISO) country code;
- (c) The type of unit;
- (d) The unit number.

Additional information must be included in the serial number for specific unit types. Detailed requirements for serial numbers are contained in the DES.

6.1.1 Assigned amount units

AAUs must be issued pursuant to each Party's initial assigned amount under Article 3, paragraphs 7 and 8. Each Party must issue one AAU for each tonne of CO₂ equivalent of its assigned amount, up to the level of its assigned amount. Each Party shall issue AAUs for the full quantity of its assigned amount, prior to undertaking other types of transaction. The ITL will check that this requirement has been met whenever the registry initiates other types of transactions.

Decision13/CMP.1, annex, paragraphs 23 and 24

A national registry cannot issue AAUs until the value of the Party's initial assigned amount has been recorded in the CAD and provided to the ITL. When the CAD releases the assigned amount value to the ITL, it will also notify the Party. At this time, the registry may initiate the issuance of blocks of AAUs. For each proposed issuance, the ITL will compare the quantity of AAUs proposed, the value of the Party's initial assigned amount, and the total quantity of AAUs issued previously by the Party. If an issuance proposal results in AAUs in excess of the Party's initial assigned

DES, appendix E

amount, the ITL will reject the proposal. In this case, the registry must re-propose issuance of a smaller quantity of AAUs.

6.1.2 Emission reduction units

An ERU (see also section 1.1.3.2) is generated by converting an existing AAU or RMU into an ERU, and adding a JI project identifier to the serial number for the original unit. For an emission reduction project, an ERU must be converted from an existing AAU. For LULUCF projects, an ERU must be converted from an existing RMU. The AAUs or RMUs must have been issued by the JI host Party.

*Decision 13/CMP.1,
annex, paragraph 29*

DES, appendix E

If a JI host Party is operating under track one, the Party may propose the conversion of an AAU or RMU to an ERU at any time, provided that the Party holds a sufficient quantity of valid AAUs or RMUs. The ITL will check that the AAUs or RMUs proposed for the transaction are valid, and that the Party meets all the individual eligibility requirements for track one JI.

If a JI host Party is operating under track two, the ITL will require information from the JI information system on the type of the project (emission reduction or LULUCF), the project ID, and the quantity of JISC-verified emission reductions or removals associated with the project. The ITL will check that the Party meets the eligibility requirements for issuance under track two JI and that the unit type for conversion (AAU or RMU) matches the project type. If these conditions are met, the ITL will approve the issuance of ERUs up to the level of verified emission reductions or removals.

6.1.3 Removal units

Each Party must issue RMUs on the basis of net removals from activities under Article 3, paragraphs 3 and 4. RMUs must be issued on an activity-by-activity basis, and may be issued only after the accounting quantity for that particular activity has been recorded in the CAD. A Party will not be allowed to issue RMUs for a particular activity if the magnitude of adjustments applied to its estimates of emissions and removals for that activity in that year exceeds a specific threshold (see also section 4.2.3.3).

*Decision 13/CMP.1,
annex, paragraphs
25 – 27*

*Decision 18/CMP.1,
paragraph 1*

For each activity for which a Party has chosen annual accounting, the accounting quantity will be recorded annually, and the Party must issue RMUs for any net removals each year. For each activity for which a Party has chosen commitment-period accounting, the accounting quantity will not be recorded until the beginning of the true-up period, and the Party may not issue RMUs for net removals until this time.

For each issuance transaction, the ITL will compare the quantity of RMUs proposed to the total accounting quantity, and any units previously issued or units cancelled by the Party for that activity. If this value reflects a net

DES, appendix E

removal, the Party's national registry may then propose the issuance of RMUs up to this level. The registry must include the specific activity in the serial number of the proposed RMUs (see section 7 for additional information).

6.1.4 Certified emission reductions, temporary certified emission reductions, and long-term certified emission reductions

CERs, tCERs and ICERs may be issued only by the CDM registry. The Executive Board will direct the CDM registry to issue CERs, ICERs or tCERs on the basis of certified emission reductions or removals from a CDM project. The serial number of these units will include a project ID. In the case of tCERs and ICERs, the units will also be issued with an expiry date.

*Decision 3/CMP.1,
annex,
paragraph 66*

*Decision 5/CMP.1,
annex,
paragraph 37*

The issuance of these units will be monitored and validated by the ITL against the quantity of CERs, ICERs or tCERs specified by the Executive Board. If the acquiring registry has been initialized and is operational at the time of issuance, the units will be forwarded to the acquiring registry on the basis of the forwarding request submitted by the project participants. If not, the units will be held in a pending account in the CDM registry until they are forwarded to the national registry. If the units are to be held by project participants from non-Annex I Parties, they will be forwarded to the holding account established within the CDM registry in accordance with the forwarding request.

6.2 External transactions

6.2.1 Transfer

A Party that meets the eligibility requirements for emissions trading may transfer valid Kyoto Protocol units to another national registry at any time, provided that it maintains its appropriate CPR level. Similarly, a Party may transfer ERUs under JI provided that it meets the appropriate eligibility requirements for track one or track two, and maintains its CPR.

*Decision 13/CMP.1,
annex, paragraph 30*

*Decision 9/CMP.1,
annex, paragraph 41*

Whenever a registry initiates an external transfer of units, the ITL will verify that the Party meets the eligibility criteria for the particular mechanism and that the proposed units are valid. The ITL will reject the transfer if any of these requirements are not met.

*Decision 13/CMP.1,
annex, paragraph
42(b)*

The ITL will then check whether the proposed transaction in Kyoto units would cause a Party's registry holdings to drop below the level of its CPR. It should be noted that the first transfer by the issuing Party of an ERU verified under the JISC procedures (track two) is exempt from the CPR requirement.

DES, appendix E

*Decision 11/CMP.1,
annex, paragraphs
5 - 10*

If the transfer of units would result in an infringement on the CPR, the ITL will reject the entire transaction and direct the registry to terminate the transfer. For instance, if a registry initiates a transfer of 50 units and the last 10 would result in an infringement on the CPR, the ITL will reject all 50 units. The transfer will not be approved unless the total quantity proposed is 40 units or less.

6.2.2 Acquisition

In general, a Party must meet all the eligibility criteria for the Kyoto mechanisms to acquire AAUs, ERUs, RMUs, CERs or tCERs from another Party. The exception is the acquisition of CERs, tCERs or ICERs from the CDM registry. Such acquisition is considered to be a forwarding of units from the CDM registry rather than a transfer, and is exempt from the eligibility criteria. (Instead, a Party must meet the eligibility criteria in order to retire CERs, tCERs or ICERs.)

Decision 3/CMP.1, annex, paragraph 31

Decision 9/CMP.1, annex, paragraph 21

Decision 11/CMP.1, annex, paragraph 2

As explained above, CERs, tCERs and ICERs issued will be held in a pending account of the CDM registry until the acquiring Party's registry is ready to receive the units. Once a Party's registry has been initialized, and has passed the independent assessment, the ITL will authorize the forwarding of CERs from the CDM registry to the Party's registry.

Decision 13/CMP.1, annex, paragraph 40

An acquiring registry cannot initiate a transfer; the transfer must be initiated by the transferring Party's registry.

6.3 Cancellation

Cancellation refers to the internal transfer by a registry of a unit to a cancellation account. Units transferred to a cancellation account cannot be further transferred and are invalid for use towards meeting a Party's Article 3, paragraph 1, commitment.

Decision 13/CMP.1, annex, paragraph 35

DES, section 4.1.4

There are four different types of cancellation recognized by the Kyoto Protocol and by the registry-ITL systems. Each type results in a transfer of units to the corresponding cancellation account in a Party's national registry.

6.3.1 Net source cancellation

The first type of cancellation is called net source cancellation. It is undertaken by a Party to account for net emissions for a LULUCF activity under Article 3, paragraph 3 or 4.

Decision 13/CMP.1, annex, paragraphs 12(d) and 32

The process of net source cancellation is initiated by the ITL. When the ITL receives updated information from the CAD on a Party's accounting quantity to date for an activity, it will determine whether the Party is required to issue or cancel units for that particular activity at that point in time. If the Party is required to cancel units, the ITL will send notification of a net source cancellation to the Party's registry. This notification will

DES, section 6.2.1

indicate the specific activity type, the number of units to be cancelled and the notification ID.

Upon receipt of the notification from the ITL, the registry is required to transfer the appropriate number of AAUs, RMUs, ERUs or CERs to its net source cancellation account. tCERs and ICERs cannot be transferred to a net source cancellation account. The notification ID must be submitted with the cancellation transaction in order to enable the ITL to track the Party's cancellation against the total accounting quantity for that activity.

*Decision 5/CMP.1,
annex, paragraph 52*

The ITL will periodically send a notification update to the Party until the required cancellation is completed. If the Party fails to transfer the required quantity of units to the net source cancellation account, the ITL will send an 'unfulfilled notification' report to the expert review team for the next annual review. The ERT can recommend that the Compliance Committee apply a correction, in the amount of the outstanding cancellation, to the Party's holding of units in the CAD.

6.3.2 Non-compliance cancellation

A second type of cancellation must be undertaken if the Compliance Committee determines at the end of the commitment period that a Party is in non-compliance with its Article 3, paragraph 1, commitment. In this case, the Compliance Committee will deduct a quantity of units equal to 1.3 times the quantity of the Party's excess emissions from the Party's unit holdings for the subsequent commitment period (e.g. for non-compliance in the first commitment period, the deduction will be made against unit holdings for the second commitment period). The deduction of units will be recorded in the CAD, and provided to the ITL.

*Decision 27/CMP.1,
annex, section XV,
paragraph 5(a)*

*Decision 13/CMP.1,
annex, paragraphs 12
(e) and 37*

The ITL will send a non-compliance cancellation notification to the Party's registry directing the Party to transfer the appropriate quantity of units into its non-compliance cancellation account within 30 days. Only AAUs, ERUs, CERs and RMUs may be used for non-compliance cancellation. The registry must include the notification ID with the cancellation transaction. Failure to undertake the transaction within 30 days will result in an unfulfilled notification report being sent to the ERT.

DES, section 6.2.2

6.3.3 Voluntary cancellation

The Kyoto Protocol also allows for voluntary cancellation of units. This would occur when a Party or legal entity voluntarily undertakes a cancellation that is not required by the Kyoto Protocol accounting rules. In this case, the ITL does not send a notification to cancel. Instead, the national registry initiates the transfer of units to its voluntary cancellation account. The ITL checks to ensure that the units in question are valid but performs no additional transaction checks.

*Decision 13/CMP.1,
annex, paragraphs
12 (f) and 33*

DES, section 6.2.3

6.3.4 Mandatory cancellation

This type of cancellation is not covered in the Kyoto Protocol accounting rules but is necessary to clear invalid units from a national registry. Circumstances under which invalid units can arise include:

- Non-submission of a certification report for ICERs;
- After carry-over of units, units from the previous commitment period remain in holding accounts.

In each case, the ITL will notify the national registry that it must cancel the units concerned. The registry must then transfer the units to its mandatory cancellation account.

DES, appendix F, section 3

Decision 5/CMP.1, annex, paragraph 53 and appendix D, paragraph 3

Decision 14/CMP.1, annex, paragraph 36

6.4 Replacement of tCERs or ICERs

Replacement refers to the internal transfer by a national registry of a Kyoto Protocol unit to a replacement account to replace a tCER or ICER. tCERs and ICERs held in a Party's retirement or replacement account must be replaced by another unit before they expire. ICERs held in retirement or holding accounts must also be replaced upon 'reversal of storage' (see section 5.4.4.2) of the CDM project that generated the ICERs, or when the certification report for that project has not been submitted (see section 5.4.4.3). Replacement is similar to cancellation in that the replacing unit (the unit transferred to a replacement account) cannot be further transferred. The different types of replacement are explained below.

Decision 5/CMP.1, annex, paragraphs 42, 43 and 46 - 50

DES, section 4.1.5

6.4.1 Expiry

The emission removals associated with CDM LULUCF projects are considered to be non-permanent in that removals achieved by these projects are at risk of being re-emitted into the atmosphere at a future date. For this reason, tCERs and ICERs are valid only for a specific period of time. At the end of this period, the units expire and must be cancelled. Any Party holding one of these units is required to replace the tCER or ICER with another unit prior to the expiry date. The rules for expiry are different for tCERs and ICERs.

Decision 5/CMP.1, annex, paragraphs 43, 44 and 47

DES, appendix F

tCERs

tCERs expire at the end of the commitment period subsequent to the commitment period for which they were issued. For example, a tCER that is issued during the first commitment period will expire at the end of the second commitment period. A tCER can be transferred and retired only in the commitment period in which it was issued.

Decision 5/CMP.1, annex, paragraphs 42 - 44

Any tCER that has been retired or used to replace another expired tCER must be replaced before it expires. The Party holding the tCER must

transfer an AAU, ERU, CER, RMU or tCER to the tCER replacement account.

ICERs

The date at which an ICER expires is determined by the project crediting period chosen by the project participants. The participants have two options for the project crediting period: a maximum of 20 years, which can be renewed twice, and a maximum of 30 years with no renewal. ICERs expire at the end of the crediting period or, where a renewable crediting period is chosen, at the end of the last crediting period of the project activity.

Decision 5/CMP.1, annex, paragraphs 23 and 46

Any ICER that has been transferred to a Party's retirement account or ICER replacement account must be replaced before its expiry date. For this purpose, the Party concerned must transfer one AAU, CER, ERU, RMU or ICER to the ICER replacement account for the current commitment period.

The ITL will track expiry and replacement for each tCER and ICER. When a unit is due to expire, the ITL will notify the registry holding the unit 30 days prior to that date. The registry must transfer the appropriate quantity and type of units to the relevant replacement account within 30 days. The replacement transaction proposal must reference the notification ID received from the ITL.

DES, section 6.2.3

A Party may voluntarily replace tCERs or tCERs earlier than 30 days prior to expiry by directing its registry to transfer units to the appropriate replacement account. In such a case it is not necessary for the transaction to reference a notification ID in the transaction proposal. The ITL will count any early replacement towards the next impending expiry date. For example, if a Party holds some ICERs that are due to expire in the third year of a commitment period, and other ICERs that are due to expire later, any early replacement of ICERs in year one will be counted towards the earlier expiry date first. Once a Party has transferred a sufficient quantity of units to the replacement account to replace the ICERs that expire first, the ITL will treat any subsequent transfer towards the later expiry.

6.4.2 Reversal of storage

Because ICERs are valid for long periods, the projects that generate them must be re-certified every five years to demonstrate that the emission removals have occurred. When a certification report indicates that the GHG removals achieved by a project have been reversed since the last certification (reversal of storage), replacement of the affected ICERs is required.

Decision 5/CMP.1, annex, paragraph 49

Each national registry must maintain a separate account for replacement of ICERs upon reversal of storage of CDM LULUCF projects. If the CDM Executive Board determines that a reversal of storage has occurred, it will request the ITL Administrator to identify the quantity of ICERs involved.

Decision 5/CMP.1, annex, paragraph 49

DES, section 6.2.4

The ITL will send a reversal of storage notification to each registry that has affected ICERs in holding accounts or the retirement account. ICERs in holding accounts will be invalid for transfer to holding or retirement accounts until the Party has replaced the appropriate quantity of units.

When a national registry receives a reversal of storage notification from the ITL, the registry must transfer a quantity of units equivalent to the total quantity of affected ICERs from its holding accounts and retirement account to its replacement account for reversal of storage. For a given reversal of storage notification, only AAUs, ERUs, RMUs, CERs or ICERs from the same project activity may be transferred to the replacement account for reversal of storage. Each replacement for a reversal of storage transaction should contain a reference to the notification ID to enable the ITL to track the replacement against the reversal of storage. Once the registry has replaced the requisite quantity of units, the ICERs affected will again be valid for transfer.

6.4.3 Non-certification

If the CDM Executive Board determines that the required certification report for an ICER-generating project has not been submitted, replacement of the ICERs is required.

Each national registry must maintain a separate account for replacement of ICERs upon non-submission of the CDM certification report. If the CDM Executive Board determines that a required certification report has not been submitted, it will request the ITL Administrator to identify the quantity of ICERs involved. The ITL will send a non-submission notification to each registry that has affected ICERs in holding accounts or the retirement account. All affected ICERs in holding accounts will be permanently invalid for transfer to holding and retirement accounts.

*Decision 5/CMP.1,
annex, paragraph 50*

DES, section 6.2.5

In the event of the registry receiving such a notification from the ITL, the registry must transfer the equivalent number of units to the replacement account for non-submission of certification and include a reference to the notification ID. For a given non-certification notification, only AAUs, ERUs, RMUs, CERs or ICERs from the same project activity may be transferred to the replacement account for non-certification. The registry must reference the notification ID with each transaction.

6.5 Retirement

Retirement refers to the internal transfer of units from a holding account in a national registry to the retirement account. The assessment of compliance with its Article 3, paragraph 1, commitment will be made by comparing the total quantity of units in a Party's retirement account to the Party's total Annex A emissions for the commitment period. Therefore, by the end of the true-up period, each Party must ensure that it has transferred to its retirement

*Decision 13/CMP.1,
annex, paragraphs 13,
14 and 34*

DES, section 4.1.6

account a quantity of units equal to its total Annex A emissions for the commitment period.

AAUs, ERUs and RMUs can be retired without limitation. However, restrictions apply to the retirement of CERs, tCERs and ICERs.

- Unlike the other Kyoto mechanisms, the eligibility criteria for participation in the CDM apply to the retirement of CERs rather than their transfer and acquisition. Therefore the ITL will approve retirement of CERs, tCERs and ICERs only when the Party concerned meets all the eligibility criteria for participation in the mechanisms. For a Party that meets these eligibility criteria, there is no limit to the quantity of CERs that may be retired.
- tCERs and ICERs may be retired in total only up to the level of 1 per cent of a Party's initial assigned amount.

*Decision 3/CMP.1,
annex, paragraph 33*

*Decision 5/CMP.1,
annex, paragraph 51*

*Decision 16/CMP.1,
annex, paragraph 14*

6.6 Carry-over

Carry-over refers to the process by which a unit that was issued and valid for one commitment period becomes valid for transactions during the subsequent commitment period. Carry-over cannot be performed until after the true-up period, or until compliance assessment for all Parties has been completed.

*Decision 13/CMP.1,
annex, paragraph 36*

DES, section 4.1.7

For a carry-over transaction to occur, a Party must have discharged all mandatory transactions for the previous commitment period.

- The Party must have retired sufficient units to cover its total Annex A emissions, and must not have been found to be in non-compliance with its Article 3, paragraph 1, commitment.
- The Party must have replaced all tCERs and ICERs that expired during the previous commitment period, and all ICERs that were subject to replacement for reversal of storage or non-certification in that commitment period.
- The Party must have undertaken any transactions necessary to reflect a correction applied by the Compliance Committee, including any outstanding retirement.

The type and quantity of units for which carry-over is requested must comply with the rules and limitations for carry-over.

*Decision 13/CMP.1,
annex, paragraphs 15,
16 and 49*

- AAUs can be carried over without limitation.
- CERs and ERUs from emission reduction projects may each be carried over up to a quantity equal to 2.5 per cent of the Party's

initial assigned amount (the total combined carry-over may not exceed 5 per cent of the initial assigned amount).

- RMUs, tCERs, ICERs and ERUs from LULUCF projects may not be carried over.

The quantities requested by a Party for carry-over will be reviewed by the ERT to ensure that the Party has undertaken all necessary mandatory transactions and that the unit types and quantities requested are consistent with the carry-over rules. Following the review and compliance procedures for the true-up period, the total quantity of units available and eligible for carry over for each Party will be recorded in the CAD and provided to the ITL.

Decision 22/CMP.1, annex, paragraph 90

Upon receipt of these data, the ITL will send a notification to each registry, indicating the serial number of each unit that the registry may carry over. The registry must then initiate a series of carry-over transactions (e.g. a separate transaction for each unit type), referencing the notification ID. The units remain in the same account and the serial numbers remain unchanged, except for the applicable commitment period identifier. The transactions must be initiated and completed within a specific time frame, which will be determined by the COP/MOP prior to the end of the commitment period. Any units remaining in holding accounts (i.e. those that are not carried over) must be transferred to the mandatory cancellation account.

DES, section 6.2.8

6.7 Change of expiry date

Expiry dates of tCERs and ICERs need to be changed in the following situations.

- (a) tCER expiry dates need to be changed if the end-date of the second commitment period is defined as a date other than that used, for technical reasons, during issuance.⁶
- (b) ICER expiry dates need to be changed when the crediting period of a CDM afforestation and reforestation project activity is renewed.

DES, section 4.1.8

In either of these situations, the ITL will send a notification to the registry to inform it of the new expiry date and the tCERs or ICERs for which the expiry dates are to be changed. The registry must initiate a change of expiry-date transaction for these units within 30 days, referencing the notification ID received from the ITL.

⁶ The end date of the second commitment period has not yet been determined.

7. Land Use, Land-use Change and Forestry

The treatment of LULUCF in the Kyoto Protocol was the subject of lengthy and contentious negotiations. As a result of the concerns of some Parties regarding the uncertainties and technical difficulties of estimating emissions and removals from LULUCF, this sector is treated differently than Annex A sectors. The Kyoto Protocol limits the accounting of emissions and removals from LULUCF by Annex I Parties to those activities defined under Article 3, paragraphs 3 and 4.

7.1 Article 3, paragraphs 3 and 4, activities

Article 3, paragraphs 3 and 4, activities are defined on the basis of land use. Article 3, paragraph 3, activities encompass land which has been subject to direct, human-induced conversion from a forested to a non-forested state, or vice versa. The land conversion must have occurred after 31 December 1989, and must be consistent with the Party's parameters for the definition of a forest, as reported in its initial report. Article 3, paragraph 3, activities are as follows.

KP 3.3

*Decision 16/CMP.1,
annex, paragraph 1*

- **Afforestation and reforestation** (AR) activities refer to the conversion of non-forested land to a forested state. Afforestation means the human-induced conversion to forest of land that has been non-forested for at least 50 years at the time of conversion; reforestation refers to the conversion to forest of land that has been non-forested for a shorter period of time. Since the methodologies for estimating emissions and removals from afforestation and reforestation are identical, the two activities are treated as one for reporting and accounting purposes under the Kyoto Protocol.
- **Deforestation** (D) refers to the conversion of forested land to a non-forested state. (Article 3, paragraph 3, does not cover harvest and replanting of forested land, as these are considered forest management and are therefore covered under Article 3, paragraph 4.)

*LULUCF GPG,
section 4.2.5.1*

*LULUCF GPG,
section 4.1.1*

Conversely, Article 3, paragraph 4, activities encompass lands that have not undergone conversion since 1990, but are otherwise subject to a specific land use. These activities are as follows.

- **Forest management** (FM) refers to a system of practices for stewardship and use of forest land. Land classified under forest management may contain both natural forests and plantations, but must meet the definition of forest as determined by the Party's selected forest parameters.
- **Cropland management** (CM) refers to the system of practices on land on which agricultural crops are grown, and on land that is set aside or temporarily not being used for crop production.

*LULUCF GPG,
section 4.2.7.1*

*LULUCF GPG,
section 4.2.8.1*

- **Grazing land management** (GM) refers to the system of practices of land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced.
- **Revegetation** (RV) is defined as a direct, human-induced activity to increase carbon stocks on sites through the establishment of vegetation that covers a minimum area of 0.05 hectares and does not meet the definitions of afforestation and reforestation.

*LULUCF GPG,
section 4.2.9.1*

*LULUCF GPG,
section 4.2.10.1*

Because accounting of Article 3, paragraph 3, activities is mandatory, the classification of a land area as AR or D takes precedence over classification as an Article 3, paragraph 4, activity. Once a land area is classified as AR or D, it cannot be later classified as an Article 3, paragraph 4, activity, regardless of any land management practices that occur on that land. Thus, while it is possible, for example, that A&R land is later subject to FM, or that D land is later subject to CM, the land must remain classified under Article 3, paragraph 3 for the entire commitment period. However, a land area can change classification from AR to D if land that was afforested or reforested after 1989 is later deforested prior to the end of the commitment period. The classification of a land area as D is permanent for the commitment period.

*LULUCF GPG,
section 4.1.2*

Parties must ensure that a land area is only classified as one particular land use at any point in time, so that double counting of the emissions and removals from that land do not occur. Once a land area is classified and accounted under the Kyoto Protocol, it must continue to be accounted for the remainder of the commitment period and for subsequent commitment periods.

*Decision 16/CMP.1,
annex, paragraph 19*

7.2 Accounting approach

Each Party must indicate which, if any, of the activities under Article 3, paragraph 4, it wishes to account for in its initial report. In addition, the Party must choose the accounting frequency for each Article 3, paragraph 3, activity and each elected Article 3, paragraph 4, activity. It must account for net emissions and removals for each activity during the commitment period by issuing RMUs or cancelling Kyoto Protocol units based on the corresponding removals and emissions, and according to the specific rules for that activity and the accounting frequency chosen in its initial report.

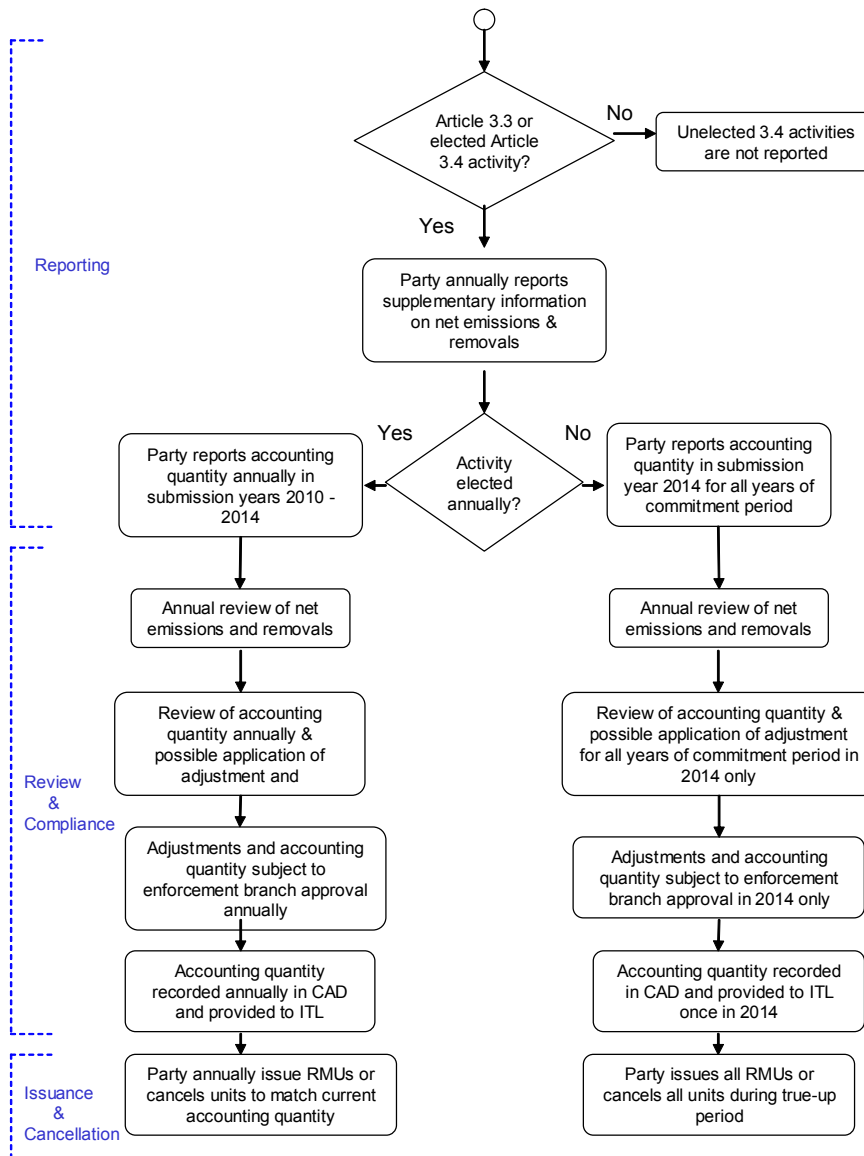
*Decision 13/CMP.1,
annex, paragraph 8*

If a Party chooses annual accounting for an activity, then it must issue or cancel units for that activity on an annual basis following the review and compliance procedures for the inventory for the first year of the commitment period, which (in the case of the first commitment period) will be submitted in 2010. Conversely, for activities for which a Party has chosen commitment-period accounting, the Party must issue or cancel units for the entire commitment period following the review and compliance procedures for the inventory for the last year of the commitment period, which will be submitted in 2014.

Decision 13/CMP.1, annex, paragraphs 25 and 32

For both annually accounted activities and commitment-period accounted activities, a Party may not issue or cancel units until its reported net emissions and removals and its calculation of the quantity of units to be added to or subtracted from its assigned amount for that activity (the ‘accounting quantity’; see section 6.1.1.1 below) have been subject to review and compliance procedures. Following the review and compliance procedures, the accounting quantity will be recorded in the CAD and provided to the ITL. The Party can then issue or cancel units to account for the activity. These stages are shown in figure 9 and described in more detail below.

Figure 9. Overview of accounting for Article 3, paragraph 3 and 4, activities



Accounting quantity

The accounting quantity for an activity represents the cumulative addition to or subtraction from a Party's assigned amount for a given year of the commitment period. A negative accounting quantity corresponds to net removals and indicates that the Party has a cumulative obligation to add to its assigned amount by issuing an equivalent quantity of RMUs for that activity. A positive accounting quantity corresponds to net emissions, and indicates that the Party must subtract from its assigned amount by cancelling⁷ the corresponding quantity of units.

*Decision 16/CMP.1,
annex, paragraph 17*

For an activity for which the Party has chosen commitment-period accounting, the Party will calculate and report the accounting quantity only once in its 2014 submission. This accounting quantity will capture all emissions and removals from the activity for all five years of the commitment period.

For an activity that is accounted annually, the accounting quantity must be calculated and reported annually based on the net emissions and removals for all years of the commitment period that have been reported in that submission. Thus, in the submission for year 2010, the accounting quantity will be based on emissions and removals for the year 2008 only. In the year 2011 submission, the accounting quantity will be based on emissions and removals for the years 2008 and 2009. Because the accounting quantity is calculated on cumulative emissions and removals, using most recent inventory data, any recalculations of emissions and removals for previous years will be incorporated automatically into the accounting quantity for the currently reported year.

7.2.1 Issuance and cancellation of units

Following the completion of the review and compliance procedures, the Party's accounting quantity for an activity will be recorded in the CAD and provided to the ITL. Once the ITL has the accounting quantity, the Party must then issue or cancel units for the activity.

*Decision 13/CMP.1,
annex, paragraphs 25,
26, 32 and 42*

For the first accounting year (or for commitment-period accounted activities) the quantity of units to be issued or cancelled will equal the accounting quantity. However, for subsequent years, the exact quantity of units that a Party must issue or cancel must be calculated by the registry based on the accounting quantity and the number of units previously issued or cancelled for that activity. Specifically, the quantity of units to be issued or cancelled will equal the accounting quantity, plus the quantity of RMUs already issued for that activity, minus the quantity of units cancelled for net source cancellation for that activity. Where the result is negative, the Party

*DES, section 6.2.1 and
appendix E*

⁷ In the context of accounting for Article 3, paragraphs 3 and 4 activities, cancellation means net source cancellation, as described in section 6.3.1 .

must issue the equivalent number of RMUs. Where the result is positive, the Party must cancel the equivalent quantity.

The relationship between the accounting quantity and units previously issued or cancelled can be seen in figure 10, which shows a hypothetical example of annual accounting for an activity over the five years of the first commitment period. After the submission for the first year of the commitment period (2008), the accounting quantity equals -15. The Party must therefore issue 15 RMUs. After the following year, the accounting quantity equals -30. However, the Party may issue only 15 RMUs, because it has already issued 15 the previous year. The same occurs in the next two years. In the submission for the fifth year, the Party recalculates its net emissions and removals for all previous years, which results in a lower estimate of net removals from the activity. Although the accounting quantity is still negative, the Party must now cancel 10 Kyoto Protocol units because it has already issued more RMUs than the new accounting quantity. After cancellation of 10 units, the Party's net issuance over the commitment period (60 issued minus 10 cancelled) is equal to the final accounting quantity.

Figure 10. Determination of the quantity of units to be issued or cancelled

Submission Year	Inventory Year	Net Emissions & Removals	Accounting Quantity	Action
2010	2008	-15	-15	Issue 15 RMUs
	2009	-15		
2011	2008	-15		
	2009	-15	-30	Issue 15 RMUs
2012	2008	-15		
	2009	-15		
	2010	-15	-45	Issue 15 RMUs
2013	2008	-15		
	2009	-15		
	2010	-15		
	2011	-15	-60	Issue 15 RMUs
2014	2008	-10		
	2009	-10		
	2010	-10		
	2011	-10		
	2012	-10	-50	Cancel 10 units

7.3 Accounting rules

Each activity under Article 3, paragraphs 3 and 4, is subject to different accounting rules. This section provides an overview of these accounting rules, and the calculation of the corresponding accounting quantities for each activity. Figures 11 and 12 give quantitative examples.

7.3.1 Afforestation and reforestation

Afforestation and reforestation (AR) is subject to a specific accounting rule: ‘debits resulting from harvesting during the first commitment period following afforestation and reforestation since 1990 shall not be greater than credits accounted for on that unit of land’.⁸ In other words, whenever emissions are larger than removals in a given unit of land, a net balance of zero should be assumed for that unit of land.

*Decision 16/CMP.1,
annex, paragraph 4*

This rule has two implications for the calculation of the accounting quantity for AR. First, it requires that the accounting quantities be separately calculated for harvested land and non-harvested land, because the rule only applies to harvested land. Second, for harvested land, the accounting quantity must be calculated based on emissions and removals from each individual ‘unit of land’ rather than aggregated GHG emissions and removals from all units of harvested land.

Each Party should calculate the accounting quantity for AR according to the following steps. If the Party has chosen annual accounting for AR, it should calculate the accounting quantity every year and include the calculation in its annual report. If it has chosen commitment-period accounting, it should calculate the accounting quantity and report it only once in the annual report which contains the inventory for the last year of the commitment period (2014 in the case of the first commitment period).

These steps are explained below and shown diagrammatically in figure 9. A Party should:

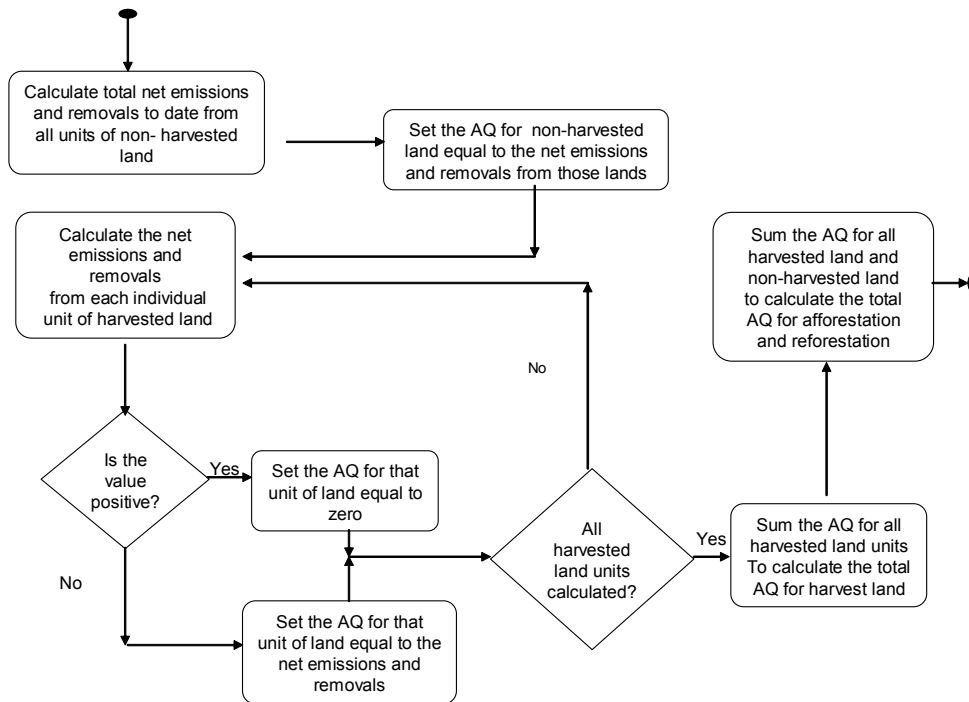
1. Calculate the cumulative net emissions or removals to date on all areas of non-harvested lands in tonnes of CO₂ equivalent;⁹
2. Set the accounting quantity for non-harvested lands equal to the total net emissions and removals calculated in step 1;

⁸ It should be noted that, while the provision refers to ‘units of land’, the CRF is reported according to geographical location. Therefore, this provision should be implemented at the level of detail provided by the Party in the CRF, i.e. at geographical locations.

⁹ All Kyoto Protocol units are denominated in tonnes of CO₂ equivalent. The accounting quantity must therefore be calculated in the same units.

3. Calculate the total net emissions or removals to date for each individual area of harvested land in tonnes of CO₂ equivalent;
4. Calculate the accounting quantity for each individual area of harvested land. If a land area yields total net emissions, then the accounting quantity for that area of land equals zero; otherwise set the accounting quantity equal to the total net removals to date calculated in step 3 above;
5. Calculate the accounting quantity for all harvested lands collectively by summing the accounting quantities for each individual area of land; and, finally,
6. Sum the accounting quantities for non-harvested land (step 2) and harvested land (step 5) to calculate the accounting quantity for afforestation and reforestation.

Figure 11. Calculation of the accounting quantity for afforestation and reforestation



7.3.2 Deforestation

For deforestation, the calculation of the accounting quantity is more straightforward.

Decision 16/CMP.1

1. The Party should first calculate the cumulative net emissions or removals for all deforested land areas for all years of the commitment period to date.
2. The accounting quantity for deforestation is equal to the cumulative net emissions or removals for deforestation to date for the commitment period.

Note that it is possible for removals to occur on deforested land and thus for a Party to issue RMUs for this activity. This is because classification of land under deforestation is permanent for the commitment period, regardless of the activities that subsequently occur on that land.

7.3.3 Forest management

Two specific accounting rules apply to forest management.

- Each Party is subject to a ‘forest management cap’ equal to the limit established for that Party in the annex to decision 16/CMP.1¹⁰ converted to million tonnes of CO₂ equivalent and multiplied by 5. The FM cap applies to both additions to and subtractions from its assigned amount; thus, both the quantity of RMUs that the Party may issue due to net removals and the quantity of units that the Party must cancel for net emissions are limited by the cap.
- If a Party has net removals beyond the level of the cap, it may issue additional RMUs to offset any net emissions under Article 3, paragraph 3. The quantity of RMUs that the Party may issue to offset activities under Article 3, paragraph 3, is equal to the net cancellation for emissions under these activities, up to a limit of 165 Mt CO₂ equivalent for the commitment period.

*Decision 16/CMP.1,
annex, paragraph 11
Decision 8/CMP.2*

*Decision 16/CMP.1,
annex, paragraph 10*

To calculate the accounting quantity for forest management, a Party must first calculate the accounting quantity up to the level of its forest management cap, and then calculate any accounting quantity to offset net emissions under Article 3, paragraph 3. It should be noted that the calculation of the accounting quantity for the offset represents the allowable offset after accounting for AR and D. The ITL will approve the issuance of additional RMUs under FM for the offset only up to the level of the Party’s actual net cancellation for Article 3, paragraph 3, activities. Thus it is important that the Party’s registry undertake any necessary issuance and

¹⁰ The FM cap for Italy was modified by *decision 8/CMP.2 Forest management under Article 3, paragraph 4, of the Kyoto Protocol: Italy*

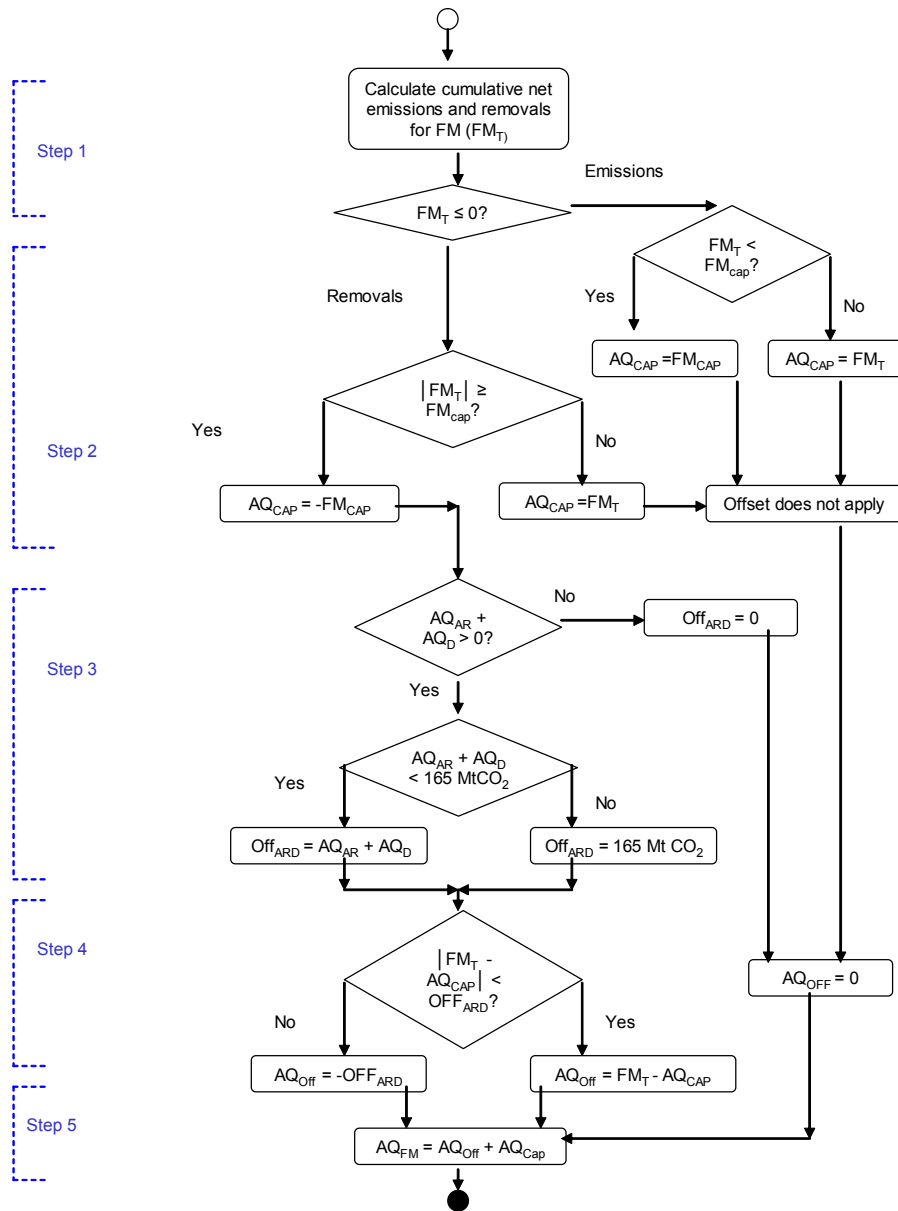
cancellation for AR and D before attempting to issue additional RMUs for this offset from FM.

These steps for calculation of the accounting quantity for FM by the Party are described below and shown in diagrammatic form in figure 12.

1. Calculate the cumulative net emissions or removals from forest management in tonnes of CO₂ equivalent (FM_T in figure 10).
2. Calculate the accounting quantity up to the limit of the Party's forest management cap (AQ_{CAP}). The value of AQ_{CAP} equals the cumulative net emissions or removals for FM up to the level at which the absolute value equals the Party's forest management cap (FM_{CAP}):
 - (a) For net emissions, if the net emissions are less than or equal to FM_{CAP}, then AQ_{CAP} is equal to the net emissions. Otherwise, the accounting quantity is equal to FM_{CAP}.
 - (b) For net removals, if the absolute value of the net removals is less than or equal to the Party's FM_{CAP}, then AQ_{CAP} is equal to the net removals. Otherwise, AQ_{CAP} is equal to the negative of FM_{CAP}.
3. Determine the allowable offset for cancellation due to emissions under Article 3, paragraph 3 (OFF_{ARD}), by summing the accounting quantity for afforestation and reforestation (AQAR) and the accounting quantity for deforestation (AQD). (It should be noted that, if the Party is accounting for AR and D over the commitment period instead of annually, the accounting quantities for AR and D will be zero until the submission for the final year of the commitment period.)
 - (c) If this sum of the accounting quantities is less than or equal to zero, then the Party does not qualify for an offset in the current year; OFF_{ARD} equals zero.
 - (d) If the sum is greater than zero, but less than 165 Mt CO₂ equivalent, then OFF_{ARD} is equal to the sum. Otherwise, OFF_{ARD} is equal to 165 Mt CO₂ equivalent.
4. Calculate the accounting quantity for forest management to compensate cancellation of units for Article 3, paragraph 3 (AQ_{OFF}):
 - (e) For FM net emissions, AQ_{OFF} equals zero.
 - (f) If the absolute value of FM net removals is less than OFF_{ARD}, then AQ_{OFF} is equal to the net removals. Otherwise, AQ_{OFF} is equal to OFF_{ARD}.

- Calculate the total accounting quantity for FM (AQ_{FM}). This is equal to the sum of AQ_{CAP} and AQ_{OFF}.

Figure 12. Calculation of the accounting quantity for forest management



7.3.4 Cropland management, grazing land management, revegetation

The remaining activities under Article 3, paragraph 4, are subject to a net-net accounting rule. This means that the accounting quantity is equal to the

net emissions or removals from the activity over the commitment period minus five times the net emissions and removals from the activity in the Party's base year. When a Party recalculates its emissions and removals for the base year, its accounting quantity will also change accordingly.

The accounting quantity for CM, GM or RV is calculated in three steps, as follows.

1. Calculate the cumulative net emissions and removals for the activity for all years of the commitment period to date.
2. Calculate the net emissions and removals for the activity in its base year.
3. Calculate the accounting quantity for that activity. To do this, the Party must multiply the net emissions and removals in its base year by the number of years of the commitment period for which it is reporting, and subtract this value from the cumulative emissions and removals for the activity. For example, in its 2012 submission a Party is reporting on inventory year 2010, which is year three of the commitment period. Therefore the Party must subtract three times the net emissions or removals from that activity in the base year from the cumulative net emissions or removals from that activity in the years 2008–2010.

7.4 Reporting

Parties must provide information related to their accounting of activities under Article 3, paragraphs 3 and 4, in their initial report and their annual reports.

7.4.1 The initial report

Forest parameters

Each Party is required to include information in its initial report on specific parameters related to the definition of a forest under the Kyoto Protocol. These parameters will be used by future ERTs to verify that the Party has correctly and consistently estimated its emissions and removals for LULUCF activities under Article 3, paragraphs 3 and 4. These parameters are:

*Decision 16/CMP.1,
annex, paragraph 16*

- A value for minimum tree crown cover: must be between 10 and 30 per cent;
- A value for minimum land area: must be between 0.05 and 1 hectare; and
- A value for minimum tree height: must be between 2 and 5 metres.

The Party should also explain how these parameters are consistent with the values that it has previously reported to the Food and Agriculture

Organization of the United Nations (FAO). If these values differ from those reported to the FAO, the Party should explain why the values were chosen.

Activities elected under Article 3, paragraph 4

Each Party must also indicate the activities it has elected under Article 3, paragraph 4 – forest management, cropland management and revegetation – in its initial report. Each Party can choose to account for any, all or none of the activities according to its national circumstances. However, each Party must indicate its decision to account for Article 3, paragraph 4, activities in its initial report. Any Article 3, paragraph 4, activity elected by the Party in its initial report becomes mandatory for that Party for the first commitment period.

Decision 16/CMP.1, annex, paragraphs 6 and 7

Accounting frequency

The final item of information required in the initial report is the frequency of accounting chosen by the Party. For each activity under Article 3, paragraph 3, and each elected activity under Article 3, paragraph 4, a Party may choose either to account annually during the commitment period or to account only once at the end of the commitment period. This choice determines when it may issue RMUs or be required to cancel other units. If a Party chooses to account annually for an activity, it must issue and cancel units each year, following the review of its emissions and removals for that activity. Conversely, if it chooses commitment-period accounting, it may not issue RMUs or cancel other units for emissions and removals for that activity, until after the review of the inventory for the final year of the commitment period.

Decision 13/CMP.1, annex, paragraphs 25 and 32

A Party is not required to choose the same accounting frequency for each activity; it may choose to account for some activities annually and others only at the end of the commitment period.

7.4.2 Annual reports

Parties must report two types of supplementary information related to activities under Article 3, paragraphs 3 and 4, in their annual reports. The first type is greenhouse gas inventory information, that is emissions and removals from these activities, and related methodological information. The second is the calculation of the accounting quantity for each activity.

Decision 15/CMP.1, annex, paragraphs 5 - 9

Greenhouse gas inventory information

Beginning in 2010, each Party must begin reporting supplementary information on its emissions and removals from activities under Article 3, paragraphs 3 and 4, in its annual report. Each Party must report annually emissions and removals for each activity under Article 3, paragraph 3, and each elected activity under Article 3, paragraph 4, regardless of whether it

Decision 15/CMP.1, paragraph 2, and annex, paragraphs 5-8

has chosen to account for the activity on an annual or a commitment-period basis.

Emissions and removals data must be estimated using methods that are consistent with the IPCC good practice guidance for LULUCF and reported in the CRF tables according to agreed guidelines. Special CRF tables have been developed for reporting emissions and removals from Article 3, paragraphs 3 and 4, activities. These tables must be submitted along with the complete set of LULUCF tables under the Convention. The tables are expected to be revised, as necessary, and adopted at the third session of the COP/MOP.

*Decision 17/CMP.1,
paragraphs 1 and 2*

Decision 15/CP.10

The Party must report the full set of CRF tables for activities under Article 3, paragraphs 3 and 4, for each year of the commitment period. For cropland management, grazing land management and revegetation, the Party must also report the relevant parts of the CRF table for the base year to enable calculation of the net-net accounting quantity. Although it is not mandatory, Parties are encouraged to report the full time-series of CRF tables (i.e. 1990 through the relevant commitment period year) for Article 3, paragraph 3 and 4 activities to promote transparency, and to facilitate the review of these activities. In addition, it must submit a full set of CRF tables for all year for LULUCF under the Convention.

The IPCC good practice guidance for LULUCF includes specific guidance on estimating emissions and removals for activities under Article 3, paragraphs 3 and 4. Parties should ensure that the IPCC good practice guidance is applied in the development of these inventories.

Accounting quantity

Each Party must calculate and report the accounting quantity for an activity with the same frequency it has chosen to account for that activity. If a Party has chosen to account for an activity annually it must calculate and report the accounting quantity for that activity each year beginning in 2010. If it has elected commitment-period accounting for an activity, it must calculate and report the accounting quantity for that activity only once, in the annual report submitted for the inventory for the last year of the commitment period (2014).

The specific format for reporting the accounting quantity has not yet been determined. A possible format, developed by the secretariat, is provided for illustrative purposes in appendix II. At its third session, the COP/MOP is expected to adopt a format for reporting the calculation of the accounting quantities for activities under Article 3, paragraphs 3 and 4. Once this format is available, Parties should refer to the relevant decision for guidance on reporting the calculation of the accounting quantity.

7.5 Review and compliance

Each year, the reported emissions and removals for each Article 3, paragraph 3, activity and each elected Article 3, paragraph 4, activity will be subject to review by an ERT. As with Annex A emissions, the ERT may recommend an adjustment to the net emissions and removals for an activity. However, the ERT may recommend adjustments to emissions and removals for an activity only when the Party is accounting for that activity. Thus, if a Party has chosen commitment-period accounting for forest management, an ERT will review the Party's reported emissions and removals annually but it cannot recommend an adjustment until the annual review for the last year of the commitment period, at which time the Party will also report its calculation of the accounting quantity for FM.

*Decision 22/CMP.1,
Annex, paragraph 15 (b)*

*Decision 20/CMP.1,
annex, paragraph 13*

For activities that are accounted in a particular submission year, the ERT will also review the Party's calculation of the accounting quantity. When an adjustment is applied, either by the Party concerned or by the Compliance Committee, the calculation of the accounting quantity for that activity will also be modified to reflect the adjusted emissions and removals.

*Decision 18/CMP.1,
paragraph 1 and annex*

If the magnitude of adjustments applied to a Party's reported net removals for an activity in a particular year exceeds a threshold of 9 per cent, the Party will not be allowed to issue any RMUs for that activity for that year. For this determination, the magnitude the adjustments is calculated as the absolute value of the adjusted net estimate for that activity minus the submitted net estimate for the activity, divided by the sum of the absolute values of all submitted components for that activity, multiplied by 0.18.

*Decision 13/CMP.1,
annex, paragraph 26*

*Decision 18/CMP.1,
paragraph 1*

7.6 Article 6 projects

LULUCF projects under Article 6 must conform to the definitions and rules as activities under Articles 3, paragraphs 3 and 4, of the Kyoto Protocol. Thus, eligible activities under Article 6 are afforestation and reforestation, forest management, cropland management, grazing land management and revegetation, and these are subject to the same limits over the commitment period.

*Decision 9/CMP.1,
paragraph 4*

In order to issue an ERU from a LULUCF project under Article 6, a Party must convert an existing RMU. Thus, a Party that wishes to generate ERUs from LULUCF projects during the commitment period should ensure that it chooses to account for at least one activity, for which it expects net removals, on an annual basis. If the Party has chosen to account for all Article 3, paragraph 3 or 4, activities on a commitment-period basis, the Party will not be able to issue RMUs, and thus not able to issue ERUs from LULUCF projects, until the true-up period.

Because emissions and removals from Article 3, paragraphs 3 and 4, activities and the corresponding calculation of the accounting quantities will be reviewed by an ERT for conformity with the LULUCF accounting rules before the Party is allowed to issue RMUs, any ERUs converted from those RMUs will also be in conformity with those rules. In addition, because a LULUCF project does not create a new unit, but instead converts an RMU, there is no possibility of double counting or double crediting of the removals from the project.

Appendices

Appendix I

Annex A emissions and sources

Greenhouse gases

Carbon dioxide (CO₂)

Methane (CH₄)

Nitrous oxide (N₂O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF₆)

Sectors/source categories

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

Solvent and other product use

Agriculture

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

Other

Waste

Solid waste disposal on land

Wastewater handling

Waste incineration

Other

Appendix II

Calculation of the accounting quantity for activities under Article 3, paragraphs 3 and 4

Figure 13 shows in a tabular format the calculation of the accounting quantity for each of the activities under Article 3, paragraph 3 and 4, for the first commitment period, based on the rules outlined in this manual. Symbols and formulae used in the table are explained on the following pages.

Figure 14 contains a numerical example, also for the first commitment period, which shows the calculation of the accounting quantity for each activity under annual accounting after the fourth year of the commitment period. For commitment period accounting, the steps would be identical, but the calculation would not be made or reported until after year five of the commitment period.

Figure 13. Calculation of accounting quantities for activities under Article 3, paragraphs 3 and 4

GREENHOUSE GAS SOURCE AND SINK ACTIVITIES	Net emissions/removals ⁽¹⁾							Accounting limits	Accounting Quantity ⁽²⁾
	BY	2008	2009	2010	2011	2012	Total		
	(Mt CO ₂ equivalent)								
A. Article 3.3 activities									
A.1. Afforestation & Reforestation									AQAR _T
A.1.1. Units of land not harvested since the beginning of the commitment period		AR ^{nh} _t	AR ^{nh} _t	AR ^{nh} _t	AR ^{nh} _t	AR ^{nh} _t	AR ^{nh} _T		AQAR ^{nh} _T
A.1.2. Units of land harvested since the beginning of the commitment period									AQAR ^h _T
<i>[specify identification code]</i>		AR ^{h1} _t	AR ^{h1} _t	AR ^{h1} _t	AR ^{h1} _t	AR ^{h1} _t	AR ^{h1} _T		AQAR ^{h1} _T
<i>[specify identification code]</i>		AR ^{h2} _t	AR ^{h2} ₂₀₀₉	AR ^{h2} ₂₀₁₀	AR ^{h2} ₂₀₁₁	AR ^{h2} ₂₀₁₂	AR ^{h2} _T		AQAR ^{h2} _T
		AR ^{h3} _t	AR ^{h3} _t	AR ^{h3} _t	AR ^{h3} _t	AR ^{h3} _t	AR ^{h3} _T		AQAR ^{h3} _T
		AR ^{h4} _t	AR ^{h4} _t	AR ^{h4} _t	AR ^{h4} _t	AR ^{h4} _t	AR ^{h4} _T		AQAR ^{h4} _T
		AR ^{h5} _t	AR ^{h5} _t	AR ^{h5} _t	AR ^{h5} _t	AR ^{h5} _t	AR ^{h5} _T		AQAR ^{h5} _T
A.2. Deforestation		D _t	D _t	D _t	D _t	D _t	D _T		AQD _T
B. Article 3.4 activities									
B.1. Forest Management (if elected)		FM _t	FM _t	FM _t	FM _t	FM _t	FM _T		AQ _{FM}
FM cap								CAP	AQ _{CAP}
3.3 offset								OFF _{ARD}	AQ _{OFF}
B.2. Cropland Management (if elected)	CM _{BY}	CM _t	CM _t	CM _t	CM _t	CM _t	CM _T	CM _{net}	AQCM _T
B.3. Grazing Land Management (if elected)	GLM _{BY}	GLM _t	GLM _t	GLM _t	GLM _t	GLM _t	GLM _T	GLM _{net}	AQGLM _T
B.4. Revegetation (if elected)	RV _{BY}	RV _t	RV _t	RV _t	RV _t	RV _t	RV _T	RV _{net}	AQRV _T

Key to symbols used in figure 13***Afforestation and reforestation***

AR_t^{nh} = net emissions and removals for category A.1.1 for commitment year t, in Mt CO₂ eq.

$$AR_T^{nh} = \sum_{t=2008}^N (AR_t^{nh}),$$

where N is the most recently reported year of the commitment period

$$AQAR_T^{nh} = AR_T^{nh}$$

AR_t^{hx} = net emissions and removals for a particular land unit in category A.1.2 for commitment year t, in Mt CO₂ eq.

$$AR_T^{hx} = \sum_{t=2008}^N (AR_t^{hx}) \text{ for a particular land unit (x),}$$

where N is the most recently reported year of the commitment period

$AQAR_T^{hx}$: If $AR_T^{hx} \geq 0$, then $AQAR_T^{hx} = 0$, else $AQAR_T^{hx} = AR_T^{hx}$

$$AQAR_T^h = \sum_{x=1}^N AQAR_T^{hx},$$

where N is the last unit of land harvested

$$AQAR_T = AQAR_T^{nh} + AQAR_T^h$$

Deforestation

D_t = net emissions and removals for category A.2 for commitment year t, in Mt CO₂ eq.

$$D_T = \sum_{t=2008}^N (D_t), \text{ where N is the most recently reported year of the commitment period}$$

$$AQD_T = D_T$$

Forest management

CAP = Value inscribed for Party in annex to decision 16/CMP.1, converted to CO₂ equivalent and multiplied by 5

$AQAR_T$ = Total accounting quantity for afforestation and reforestation

AQD_T = Total accounting quantity for deforestation

OFF_{ARD} :

If $\sum (AQAR_T + AQD_T) \leq 0$, then $OFF_{ARD} = 0$; else

If $(AQAR_T + AQD_T) < 165$, then $OFF_{ARD} = (AQAR_T + AQD_T)$; else $OFF_{ARD} = 165$

FM_t = net emissions and removals) for category B.1 for commitment year t, in Mt CO₂ eq.

$$FM_T = \sum_{t=2008}^N (FM_t), \text{ where } N \text{ is the most recently reported year of the commitment period}$$

AQ_{CAP} :

If $|FM_T| \leq CAP$, then $AQ_{CAP} = FM_T$, else

If $FM_T < 0$, then $AQ_{CAP} = -CAP$; else $AQ_{CAP} = CAP$

AQ_{OFF} :

If $OFF_{ARD} = 0$, then $AQ_{OFF} = 0$; else

If $FM_T \geq 0$, then $AQ_{OFF} = 0$; else

If $(|FM_T| - |AQ_{CAP}|) \leq 0$, then $AQ_{OFF} = 0$; else

If $(|FM_T| - |AQ_{CAP}|) \leq OFF_{ARD}$, then $AQ_{OFF} = (FM_T - AQ_{CAP})$, else

$$AQ_{OFF} = -OFF_{ARD}$$

$$AQ_{FM} = AQ_{CAP} + AQ_{OFF}$$

Cropland management

CM_{BY} = net emissions and removals for category B.2 for the Party's base year, in Mt CO₂ eq.

CM_t = net emissions and removals for category B.2 for commitment period year t in Mt CO₂eq.

$$CM_T = \sum_{t=2008}^N (CM_t), \text{ where } N \text{ is the most recently reported year of the commitment period}$$

CP_t :

If t = 2008, $CP_t = 1$; if t=2009, $CP_t = 2$, etc

$$CM_{net} = CM_{BY} * CP_t$$

$$AQ_{CM_T} = CM_T - CM_{net}$$

Grazing land management

GLM_{BY} = net emissions and removals for category B.3 for the Party's base year, in MtCO₂eq

GLM_t = net emissions and removals for category B.3 for commitment period year t in Mt CO₂ eq.

$GLM_T = \sum_{t=2008}^N (GLM_t)$, where N is the most recently reported year of the commitment period.

$$GLM_{net} = GLM_{BY} * CP_t$$

$$AQGLM_T = GLM_T - GLM_{net}$$

Revegetation

RV_{BY} = net emissions and removals for category B.4 for the Party's base year, in Mt CO₂ eq

RV_t = net emissions and removals for category B.4 for commitment period year t in Mt CO₂ eq.

$RV_T = \sum_{t=2008}^N (RV_t)$, where N is the most recently reported year of the commitment period

$$RV_{net} = RV_{BY} * CP_t$$

$$AQRV_T = RV_T - RV_{net}$$

Figure 14. Calculation of accounting quantities for activities under Article 3, paragraphs 3 and 4: an example

GREENHOUSE GAS SOURCE AND SINK ACTIVITIES	Net emissions/removals ⁽¹⁾							Accounting limits	Accounting Quantity ⁽²⁾
	BY	2008	2009	2010	2011	2012	Total		
	(Mt CO ₂ equivalent)								
A. Article 3.3 activities									
A.1. Afforestation & Reforestation									-75
A.1.1. Units of land not harvested since the beginning of the commitment period		-10	-10	-10	-10		-40		-40
A.1.2. Units of land harvested since the beginning of the commitment period									-35
<i>Unit A</i>		-2	-2	-5	-3		-12		-12
<i>Unit B</i>		-4	10	-3	-6		-3		-3
<i>Unit C</i>		-4	-3	-2	15		6		0
<i>Unit D</i>		-3	10	0	-4		3		0
<i>Unit E</i>		-5	-5	-5	-5		-20		-20
A.2. Deforestation		-30	200	0	-10		160		160
B. Article 3.4 activities									
B.1. Forest Management (if elected)		-60	-80	-60	-40		-240		-150
FM cap								65	-65
3.3 offset								85	-85
B.2. Cropland Management (if elected)	-2	-10	-10	-10	-6		-36	-8	-28
B.3. Grazing Land Management (if elected)	5	-2	-3	-3	-4		-12	20	-32
B.4. Revegetation (if elected)	0	-3	-3	-5	-5		-16	0	-16

Appendix III

List of references

The Kyoto Protocol to the Framework Convention on Climate Change, 1997. Available at <http://unfccc.int/essential_background/kyoto_protocol/background/items/1351.php>

The United Nations Framework Convention on Climate Change, 1992. Available at <http://unfccc.int/essential_background/convention/background/items/2853.php>

Intergovernmental Panel on Climate Change, *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (the IPCC good practice guidance). Available at <<http://www.ipcc-nggip.iges.or.jp/public/gp/english/>>

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Decisions of the Conference of the Parties to the UNFCCC

Decision 2/CP.3 *Methodological issues related to the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)

Decision 14/C.P.7 *Impact of single projects on emissions during the commitment period* (FCCC/CP/2001/13/Add.1)

Decision 18/CP.8 *Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, part I: UNFCCC reporting guidelines on annual inventories* (FCCC/CP/2002/7/Add.2)

Decision 24/CP.8 *Technical standards for data exchange between registry systems under the Kyoto Protocol* (FCCC/CP/2002/7/Add.3)

Decision 13/CP.9 *Good practice guidance for land use, land-use change and forestry in the preparation of national greenhouse gas inventories under the Convention* (FCCC/CP/2003/6/Add.1)

Decision 15/CP.10 *Good practice guidance for land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol* (FCCC/CP/2004/10/Add.2)

Decision 16/CP.10 *Issues relating to registry systems under Article 7, paragraph 4, of the Kyoto Protocol*, (FCCC/CP/2004/10/Add.2)

Decision 14/CP.11 *Tables of the common reporting format for land use, land-use change and forestry* (FCCC/CP/2005/5/Add.2)

Decisions of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol

Decision 2/CMP.1 *Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.1)

- Decision 3/CMP.1 *Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.1)
- Decision 5/CMP.1 *Modalities and procedures for afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.1)
- Decision 6/CMP.1 *Simplified modalities and procedures for small-scale afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol and measures to facilitate their implementation* (FCCC/KP/CMP/2005/8/Add.1)
- Decision 9/CMP.1 *Guidelines for the implementation of Article 6 of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)
- Decision 10/CMP.1 *Implementation of Article 6 of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)
- Decision 11/CMP.1 *Modalities, rules and guidelines for emissions trading under Article 17 of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)
- Decision 12/CMP.1 *Guidance relating to registry systems under Article 7, paragraph 4, of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)
- Decision 13/CMP.1 *Modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.2)
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- Decision 22/CMP.1 *Guidelines for review under Article 8 of the Kyoto Protocol*
- Decisions 27/CMP.1 *Procedures and mechanisms relating to compliance under the Kyoto Protocol* (FCCC/KP/CMP/2005/8/Add.3)

Other references

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DES, Data exchange standards for registry systems under the Kyoto Protocol technical specifications (version 1.1). Available at <http://unfccc.int/files/kyoto_mechanisms/registry_systems/application/pdf/des_tech_spec_ver_1_final.pdf>

Appendix IV

Glossary of terms

Accounting quantity: The cumulative quantity of units that a Party must issue for removals or cancel for emissions from an Article 3, paragraph 3 or 4, activity, for a given year of the commitment period. A negative accounting quantity corresponds to net removals and indicates that the Party has a cumulative obligation to add to its assigned amount by issuing an equivalent quantity of RMUs for that activity. A positive accounting quantity corresponds to net emissions, and indicates that the Party must subtract from its assigned amount by cancelling the corresponding quantity of units.

Adjustment: A change to a Party's inventory estimates, which may be applied by an expert review team if the inventory information reported by the Party is incomplete or has been not prepared in a manner consistent with IPCC methodologies and good practice guidance. Adjustments are applied with the agreement of the Party concerned, or by the enforcement branch, and are recorded in the CAD.

Annex I: The annex to the United Nations Framework Convention on Climate Change specifying which developed country and other Parties to the Convention have committed themselves to limit human-induced emissions and enhance their GHG sinks and reservoirs.

Annex A: An annex to the Kyoto Protocol that specifies the inventory sources and sectors that are counted toward a Party's emission limitation and reduction commitment.

Annex B: An annex to the Kyoto Protocol that specifies each Annex I Party's emission limitation and reduction commitment as a percentage of that Party's emissions in its base year or period.

Assigned amount: The total quantity of valid emissions allowances (Kyoto Protocol units) held by a Party within its national registry. The initial assigned amount of a Party is determined by its base year emissions, and its emission limitation and reduction objective contained in Annex B of the Protocol. Any Kyoto Protocol units that the Party acquires through the Kyoto mechanisms, or issues for removals from LULUCF activities under Article 3, paragraphs 3 and 4, are added to the Party's assigned amount; any units that the Party transfers, or cancels for emissions from LULUCF activities under Article 3, paragraphs 3 and 4, are subtracted from the Party's assigned amount. At the end of the commitment period, each Party must ensure that its total Annex A emissions over the commitment period are less than or equal to its total assigned amount.

Assigned amount unit (AAU): A Kyoto Protocol unit representing an allowance to emit 1 metric tonne of CO₂ equivalent. AAUs are created (issued) up to the level of a Party's initial assigned amount.

Cancellation: The transfer of a unit to a cancellation account. Units in a cancellation account may not be further transferred, and may not be used towards meeting a Party's Article 3, paragraph 1, commitment. There are four types of cancellation: net source, non-compliance, voluntary and mandatory.

Carry-over: The authorization for a unit that was issued in one commitment period to be used in a subsequent commitment period. Individual unit types are subject to different rules for carry-over.

Certified emission reduction (CER): A Kyoto Protocol unit representing an allowance to emit 1 metric tonne of CO₂ equivalent. CERs are issued for emission reductions from CDM project

activities. Two special types of CERs called temporary certified emission reductions (tCERs) and long-term certified emission reductions (lCERs) are issued for emission removals from afforestation and reforestation CDM projects.

Clean development mechanism (CDM): A Kyoto Protocol mechanism that allows Annex I Parties to purchase emission allowances from projects in non-Annex I Parties that reduce or remove emissions. The emission allowances from CDM projects are called certified emission reductions (CERs).

Commitment period: The time frame over which the Kyoto Protocol's emission limitation and reduction commitments apply. The first commitment period is 2008–2012.

Commitment period reserve (CPR): A requirement for each Annex I Party to maintain a minimum quantity of valid Kyoto Protocol units in its national registry at all times. The CPR is intended to prevent Parties from over-transferring units and thus jeopardizing their ability to meet their Article 3, paragraph 1, commitment.

Compilation and accounting database (CAD): The official repository of information related to each Party's accounting of emissions and assigned amount under the Kyoto Protocol. The CAD also maintains information on each Party's eligibility to participate in the Kyoto mechanisms and other information necessary for accounting of emissions and assigned amount (such as elections of LULUCF activities under Article 3, paragraph 4). It is maintained by the UNFCCC secretariat.

Correction: A change to a Party's reported holdings of Kyoto Protocol units. A correction may be recommended by an expert review team if a Party's transactions of Kyoto Protocol units is not in conformity with the Kyoto accounting rules. Corrections are applied by the enforcement branch and recorded in the CAD.

Discrepancy: A violation of the Kyoto Protocol transaction rules. A discrepancy will arise if a national registry initiates a transaction that is not allowed by the Kyoto Protocol rules.

Emission reduction unit (ERU): A Kyoto Protocol unit representing an allowance to emit 1 metric tonne of CO₂ equivalent. ERUs are generated for emission reductions or emission removals from joint implementation project activities by converting an equivalent quantity of the Party's existing AAUs or RMUs.

Emissions trading: One of the three Kyoto emissions trading mechanisms, by which an Annex I Party may transfer Kyoto Protocol units to or acquire units from another Annex I Party. A Party must meet specific eligibility requirements to participate in emissions trading.

Enforcement branch: One of two branches of the Compliance Committee, responsible for addressing questions of implementation regarding a Party's implementation of methodological and reporting requirements related to its accounting of emissions and assigned amount, and for determining and applying consequences for non-compliance with its Article 3, paragraph 1, commitments.

Expedited review: A review, conducted by an ERT under Article 8, that focuses on a matter that led to the suspension of a Party's eligibility to participate in the Kyoto mechanisms. An expedited review is conducted within a much shorter time frame than a normal review.

Expert review team (ERT): An international team of experts, nominated by Parties, that is responsible for conducting reviews under Article 8 of the Kyoto Protocol.

Expiry: The point in time at which a tCER or lCER becomes invalid. Each tCER and lCER must be replaced by another unit prior to its expiry.

Facilitative branch: A branch of the Compliance Committee mandated to provide advice and facilitation to Parties in implementing the Protocol and to promote compliance by Parties with their Kyoto commitments.

Holding account: A type of account in a national (or the CDM) registry, where valid Kyoto Protocol units are recorded. Each national registry must contain at least one holding account for the Party.

Inconsistency: A difference between a national registry's records of holdings and the ITL's records of holdings for that registry at a particular point in time, as identified through the reconciliation procedures of the ITL.

International Transaction Log (ITL): An electronic data system, administered by the UNFCCC secretariat, that monitors and tracks transactions by Parties in Kyoto Protocol units.

Issuance: The term used to refer to the creation of an individual Kyoto Protocol unit.

Joint implementation (JI): A Kyoto Protocol mechanism that allows Annex I Parties to purchase emission allowances from projects in other Annex I Parties that reduce or remove emissions. The emission allowances from JI projects are called emission reduction units (ERUs).

Kyoto mechanisms: The three mechanisms for transferring and acquiring emission allowances between Parties under the Kyoto Protocol. They are emissions trading, joint implementation and the clean development mechanism.

Land use, land-use change and forestry (LULUCF): A greenhouse gas inventory sector subject to different accounting rules from other inventory sectors'.

Long-term certified emission reduction (ICER): A Kyoto Protocol unit representing an allowance to emit one metric tonne of CO₂ equivalent. ICERs are issued for emission removals from CDM afforestation and reforestation project activities that have a long, renewable, crediting period.

National system: A Party's institutions and procedures for planning, preparation and archiving of greenhouse gas inventory data.

National registry: An electronic database maintained by a Party, or group of Parties, for the transfer and tracking of units in accordance with the Kyoto rules.

Question of implementation: A problem with a Party's implementation of a particular commitment identified by an expert review team which, if unresolved, is brought to the attention of the Compliance Committee. Only an ERT or a Party can raise a question of implementation.

Removal unit (RMU): A Kyoto Protocol unit representing an allowance to emit 1 metric tonne of CO₂ equivalent. RMUs are issued for emission removals from LULUCF activities under Article 3, paragraphs 3 and 4.

Replacement: The transfer of a Kyoto unit to a replacement account in order to replace a tCER or ICER that has expired, or an ICER that has been subject to reversal of storage or non-certification.

Retirement: The transfer of a unit to a retirement account to be used towards meeting a Party's Article 3, paragraph 1, commitment.

Standardized electronic format (SEF): An agreed format, embodied in a special report, for reporting Kyoto Protocol units.

Supplementary Transaction Log (STL): An electronic data system, administered by a Party or group of Party, that monitors and tracks transactions of units under a national or regional trading system. Such transaction logs are supplementary to the ITL.

Temporary certified emission reduction (tCER): A Kyoto Protocol unit representing an allowance to emit 1 metric tonne of CO₂ equivalent. tCERs are issued for emission removals from CDM afforestation and reforestation project activities that have a short, non-renewable, crediting period.

Track one: One of two approaches for verifying emission reductions under joint implementation, whereby the Party concerned may verify its own emission reductions according to its national procedures.

Track two: One of two approaches for verifying emission reductions under joint implementation, whereby each JI project is subject to verification procedures established under the supervision of the Joint Implementation Supervisory Committee (JISC). Track two procedures require that each project be reviewed by an accredited independent entity to determine whether the project meets the requirements established under Article 6.

True-up period: A 100-day period after final emissions have been reported for the commitment period during which Parties have the opportunity to undertake final transactions necessary to achieve compliance with their Article 3, paragraph 1, commitments.

Appendix V

Acronyms and abbreviations

AAU	Assigned amount unit	JISC	Joint Implementation Supervisory Committee
AR	afforestation and reforestation		
CAD	compilation and accounting database	ICER	long-term certified emission reduction
CDM	Clean Development Mechanism	LULUCF	land use, land-use change and forestry
CER	certified emission reduction	N ₂ O	nitrous oxide
CH ₄	methane	NIR	national inventory report
CITL	(European) Community Independent Transaction Log	PFCs	perfluorocarbons
CM	cropland management	QA/QC	quality assurance/quality control
CO ₂	carbon dioxide	RMU	removal unit
COP	Conference of the Parties	RSA	Registry System Administrators (forum)
COP/MOP	Conference of the Parties serving as the meeting of the Protocol	RV	revegetation
CPR	commitment period reserve	SEF	standard electronic format for reporting Kyoto Protocol units
CRF	common reporting format		
D	deforestation	SF ₆	sulphur hexafluoride
DES	data exchange standards	STL	supplementary transaction log
DOE	designated operational entity	tCER	temporary certified emission reduction
EC	European Community		
ERT	expert review team	UNFCCC	United Nations Framework Convention on Climate Change
ERU	emission reduction unit		
ETS	emissions trading scheme (European Union)		
F-gases	fluorinated gases		
FAO	Food and Agriculture Organization of the United Nations		
FM	forest management		
GHG	greenhouse gas		
GM	grassland management		
HFCs	hydrofluorocarbons		
IPCC	Intergovernmental Panel on Climate Change		
ITL	International Transaction Log		
JI	joint implementation		

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