

# **GLOSSARY**

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**Accounting**

The rules for comparing emissions and removals as reported with commitments.

**Approach**

The way in which areas are represented and reported for land-use categories, and conversions between land-use categories, so that they are applied as appropriately and consistently as possible in inventory calculations. The Intergovernmental Panel on Climate Change (IPCC) identifies Approaches 1, 2 and 3 of increasing geographic specificity.

**Background level**

Under default assumptions, in forests this is the mean annual level of emissions from natural disturbances, excluding statistical outliers, during a period before the second commitment period, called the calibration period. The intention of using such a background level is to exclude, under specific conditions set by Decision 2/CMP.7<sup>1</sup>, emissions from natural disturbances in forests that exceed the background level plus a margin from accounting during the commitment period. Providing the expectation of net credits or debits is avoided, countries may develop other types of background levels using their country-specific methods for excluding natural disturbance emissions from accounting.

**Base year**

A year with a historical level of anthropogenic emissions or removals of greenhouse gases not controlled by the Montreal Protocol, that is used as a reference under the United Nations Framework Convention on Climate Change or the Kyoto Protocol.

**Carbon Equivalent Forest Conversion (CEFC)**

The conversion of forest plantation to non-forest while simultaneously establishing a “Carbon Equivalent Forest” on non-forest land elsewhere, under the terms of Decision 2/CMP.7<sup>2</sup>. The “Carbon Equivalent Forest” must be of at least equal area and at least equal stock at the end of the normal harvesting cycle of the plantation forest cleared, or a debit will be incurred under Article 3.4.

**CEF-ne land:** Land on which a Carbon Equivalent Forest is newly established as part of a Carbon Equivalent Forest Conversion under the terms of Decision 2/CMP.7.

**CEF-hc land:** Land on which a forest plantation is harvested and converted to non-forest as part of a Carbon Equivalent Forest Conversion under the terms of Decision 2/CMP.7.

**Cropland**

Arable and tillage land, and agro-forestry systems where vegetation falls below the threshold used for the Forest Land category, consistent with the selection and application of national definitions.

**Cropland Management**<sup>3</sup>

The system of practices on land on which agricultural crops are grown and on land that is set aside or temporarily not used for crop production.

**Elective activities**

Article 3.4 activities that are not mandatory, but can be elected by a country for a commitment period. For the second commitment period, these are Cropland Management, Grazing Land Management, Revegetation, and Wetland Drainage and Rewetting. Any 3.4 activities elected in the first commitment period are mandatory in the second commitment period.

**Estimation**

**Inventory definition:** The process of calculating emissions.

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<sup>1</sup> Paragraphs 33-36 of the Annex to Decision 2/CMP.7 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2011/10/Add.1, p. 17-18.

<sup>2</sup> Paragraphs 37-39 of the Annex to Decision 2/CMP.7 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2011/10/Add.1, p. 19.

<sup>3</sup> In the context of the Kyoto Protocol, as stipulated by Decision 16/CMP.1 (Land use, land-use change and forestry), cf. paragraph 1 of the Annex to Decision 16/CMP.1 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2005/8/Add.3, p.5.

**Statistical definition:** Estimation is the assessment of the value of a quantity or its uncertainty through the assignment of numerical observation values in an estimation formula, or estimator. The results of estimation can be expressed as follows:

- a point estimation which provide a number which can be used as an approximation to a parameter (such as the sample standard deviation which estimates the population standard deviation), or
- an interval estimate specifying a confidence level.

Example: A statement like ‘The total emission is estimated to be 100 kt and its coefficient of variation is 5%’ is based upon point estimates of the sample mean and standard deviation, whereas a statement such as ‘The total emission lies between 90 and 110 kt with probability 95%’ expresses the results of estimation as a confidence interval.

### **Forest cover**

Tree cover that meets or exceeds the country-specific thresholds for defining forest, consistent with Decisions 16/CMP.1 and 2/CMP.7<sup>4</sup>.

### **Forested land**

Land containing forest according to the country-specific definition of forest, consistent with Decisions 16/CMP and 2/CMP.7<sup>5</sup>.

### **Forest Management Reference Level (FMRL)**

The value of annual net emissions and removals from Forest Management against which the net emissions and removals reported for Forest Management will be compared for accounting purposes during the second commitment period.

### **Georeferencing**

Georeferencing is the process of identifying the physical location of a particular area of land (e.g. that subject to Article 3.3 or 3.4 activities) in terms of map projections or coordinate systems. It determines the spatial location of geographical features in terms of size and configuration.

### **Good practice**

*Good Practice* is a set of procedures intended to ensure that greenhouse gas inventories are accurate in the sense that they are systematically neither over- nor underestimates so far as can be judged, and that uncertainties are reduced so far as practicable.

*Good Practice* covers choice of estimation methods appropriate to national circumstances, quality assurance and quality control at the national level, quantification of uncertainties and data archiving, and reporting to promote transparency.

### **Grassland**

This category includes rangeland and pasture land that is not considered as Cropland. It also includes systems with vegetation that fall below the threshold used in the Forest Land category and is not expected to exceed, without human intervention, these thresholds. This category also includes all grasslands from wild land to recreational areas as well as agricultural and silvo-pastoral systems, which are subdivided into managed and unmanaged land, consistent with national definitions.

### **Grazing Land Management<sup>6</sup>**

The system of practices on land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced.

<sup>4</sup> Paragraph 1 (a) of the Annex to Decision 16/CMP.1 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2005/8/Add.3, p.5.

<sup>5</sup> Paragraph 1 (a) of the Annex to Decision 16/CMP.1 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2005/8/Add.3, p.5.

<sup>6</sup> In the context of the Kyoto Protocol, as stipulated by Decision 16/CMP.1 (Land use, land-use change and forestry), cf. paragraph 1 of the Annex to Decision 16/CMP.1 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2005/8/Add.3, p.5.

**Gross-net accounting**

Accounting based on greenhouse gas emissions or removals in the reporting year, without subtracting base year emissions or removals. This is the accounting method used for Afforestation, Reforestation, and Deforestation activities under Article 3.3.

**Half-life**

The number of years it takes to lose one-half of the material currently in the carbon pool.

**Hierarchical order**

See Reporting Hierarchy.

**Indirect effects**

The effects on emissions by sources and removals by sinks caused by climate change, raised CO<sub>2</sub> concentrations, age legacy, and atmospheric nitrogen deposition. According to Decision 16/CMP.1 removal resulting from indirect effects are to be excluded from accounting of LULUCF activities under Articles 3.3 and 3.4 of the Kyoto Protocol<sup>7</sup>.

**Interannual variability**

The variation of GHG emissions by sources and removals by sinks, or a shift from being a net sink to a net source from year to year, caused by significant fluctuations or abrupt changes in environmental conditions due to natural disturbances and climatic abnormality, such as wild fire, pest and pathogen attacks, drought, flooding, and extreme temperatures. Interannual variability in emissions and removals can also be caused by fluctuations in human activities such as timber harvesting or land-use change.

**Land**<sup>8</sup>

The areas subject to the activities defined under Article 3.4, namely Forest Management, Cropland Management, Grazing Land Management, Revegetation, and Wetland Drainage and Rewetting. The methodological treatment of land identification in Chapter 4 of the *GPG-LULUCF* is the same for units of land (see below) and land. This *KP Supplement* unites the concepts to simplify the text.

**Land rehabilitation**

The process of returning land back to the state it was prior to a natural disturbance. This process can, but not necessarily must, involve active management, planning or legal processes, or abstention from activities.

**Management practice**

An action or set of actions that affect the land, the stocks of pools associated with it or otherwise affect the exchange of greenhouse gases with the atmosphere.

**Mandatory activities**

The activities defined under Article 3.3, namely Afforestation, Reforestation, and Deforestation, as well as (for the second commitment period) Forest Management, and those Article 3.4 activities that were elected by a country in the previous commitment period.

**Margin (for background level under Decision 2/CMP.7)**

This is a specific value that is to be used, when needed, in combination with the background level to identify years during the commitment period in which a country may exclude emissions from natural disturbances in forests from accounting, under specific conditions set by the Decision 2/CMP.7. Such years are those in which emissions from natural disturbances in forests are larger than the background level plus the margin.

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<sup>7</sup> Paragraph 1(h) of Decision 16/CMP.1 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2005/8/Add.3, p.3.

<sup>8</sup> In the context of the Kyoto Protocol, as stipulated by Decision 15/CMP.1, cf. paragraph 6 of the Annex to Decision 15/CMP.1 contained in document FCCC/KP/CMP/2005/8/Add.2, p.57.

## **Natural disturbances<sup>9</sup>**

The non-anthropogenic events or non-anthropogenic circumstances that cause significant emissions in forests and are beyond the control of, and not materially influenced by, a Party. These may include wildfires, insect and disease infestations, extreme weather events, and/or geological disturbances.

## **Net-net accounting**

The greenhouse gas emissions or removals in the reporting year minus the greenhouse gas emissions or removals in the base year. This is the accounting method for Grazing Land Management, Cropland Management, Revegetation, and Wetland Drainage and Rewetting under Article 3.4.

## **Other Land**

This category includes bare soil, rock, ice, and all unmanaged land areas that do not fall into any of the other five categories. It allows the total of identified land areas to match the national area, where data are available.

## **Pasture**

Grassland planted and/or managed for grazing.

## **Planted forest**

Land meeting the country definition of planted forest, which include forest plantations as defined in the *2006 IPCC Guidelines* (Annex 4A.1, Chapter 4, Volume 4).

## **Remote sensing**

The practice of acquiring and using data from satellites and aerial photography to infer or measure land cover or infer land use. It may be used in combination with ground surveys for estimation, or to check the accuracy of interpretation.

## **Reporting**

The process of providing estimates to the UNFCCC.

## **Reporting hierarchy**

An ordered assignment of all activities under Article 3.3 and 3.4 and land subject to those activities. According to Decision 2/CMP.6<sup>10</sup> and Decision 2/CMP.7, for reporting consistency and transparency, mandatory activities take precedence over elective activities, Afforestation, Reforestation, and/or Deforestation activities take precedence over Forest Management activity. Parties determine the hierarchy among elected Article 3.4 activities. (See Section 1.2 for further explanation).

## **Reporting Method 1**

The method of reporting information on geographical boundaries of areas encompassing lands subject to Article 3.3 and 3.4 activities that entails delineating areas that can include multiple lands subject to Article 3.3 and 3.4 activities by using legal, administrative, or ecosystem boundaries. This stratification is based on sampling techniques, administrative data, or grids on images produced by remote sensing techniques. The identified geographic boundaries must be georeferenced.

## **Reporting Method 2**

The method of reporting information on geographical boundaries of areas encompassing lands subject to Article 3.3 and 3.4 activities that is based on the spatially-explicit and complete geographical identification of all lands subject to Article 3.3 activities and all lands subject to Article 3.4 activities.

## **Salvage logging**

The practice of harvesting and removing trees or parts of trees (living or dead) from disturbed areas. This management activity is also known as salvage cutting, salvage harvesting, sanitation cutting, and other designations. If it is conducted on areas which are not subject to the application of the natural disturbance provisions, it can be part of the regular forest management emissions and removals estimation and accounting

<sup>9</sup> In the context of the Kyoto Protocol, as stipulated by Decision 2/CMP.7 (Land use, land-use change and forestry), cf. paragraph 1 (a) of the Annex to Decision 2/CMP.7 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2011/10/Add.1, p 13.

<sup>10</sup> Decision 2/CMP.6 (The Cancun Agreements: Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2010/12/Add.1.

framework, i.e. salvage logging would then be treated as harvest. In the case the Party chooses to exclude emissions due to natural disturbances, *it shall account for emissions associated with salvage logging*<sup>11</sup>.

### **Technical Correction**

The value of net emissions and removals, which is added, at the time of accounting, to the original Forest Management Reference Level to ensure that accounted emissions and removals will not reflect the impact of methodological inconsistencies. Information on Technical Correction and methodological consistency shall be reported as part of the annual GHG inventories and inventory reports.

### **Units of land**<sup>12</sup>

The areas subject to the activities defined under Article 3.3, namely Afforestation, Reforestation, and Deforestation. The methodological treatment of land identification in Chapter 4 of the *GPG-LULUCF* is the same for units of land and land. This *KP Supplement* unites the concepts to simplify the text.

### **Wall-to-wall mapping**

The complete spatial coverage of a land area, e.g. by satellite data.

### **wetland**

‘wetland’ is used to refer to land with a wet soil.

### **Wetland Drainage and Rewetting**<sup>13</sup>

A system of practices for draining and rewetting on land with organic soil that covers a minimum area of 1 hectare. The activity applies to all lands that have been drained since 1990 and to all lands that have been rewetted since 1990 and that are not accounted for under any other activity as defined in Annex to Decision 2/CMP.7, where drainage is the direct human-induced lowering of the soil water table and rewetting is the direct human-induced partial or total reversal of drainage.

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<sup>11</sup> Paragraph 33 (c) of the Annex to Decision 2/CMP.7 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2011/10/Add.1, p.17.

<sup>12</sup> In the context of the Kyoto Protocol, as stipulated by Decision 15/CMP.1, cf. paragraph 6 of the Annex to Decision 15/CMP.1 contained in document FCCC/KP/CMP/2005/8/Add.2, p.57.

<sup>13</sup> In the context of the Kyoto Protocol, as stipulated by Decision 2/CMP.7 (Land use, land-use change and forestry), cf. paragraph 1 (a) of the Annex to Decision 2/CMP.7 (Land use, land-use change and forestry) contained in document FCCC/KP/CMP/2011/10/Add.1, p 13.

# **ABBREVIATIONS AND ACRONYMS**

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<b>AR</b>	Afforestation and Reforestation
<b>C</b>	Carbon
<b>CDM</b>	Clean Development Mechanism
<b>CEF</b>	Carbon Equivalent Forest
<b>CEFC</b>	Carbon Equivalent Forest Conversion
<b>CEF-hc</b>	Carbon Equivalent Forest (harvested and converted)
<b>CEF-ne</b>	Carbon Equivalent Forest (newly established)
<b>CER</b>	Certified Emission Reduction
<b>CH<sub>4</sub></b>	Methane
<b>CM</b>	Cropland Management
<b>CMP</b>	Conference of the Parties serving as the Meeting of the Parties
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CP</b>	Commitment Period
<b>CRF</b>	Common Reporting Format
<b>D</b>	Deforestation
<b>DOM</b>	Dead Organic Matter
<b>EFI</b>	European Forest Institute
<b>EIT</b>	Economies-in-Transition
<b>ERU</b>	Emission Reduction Unit
<b>ESL</b>	Estimated Service Life
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FAOSTAT</b>	Database produced by the Statistics Division of the FAO
<b>FL-FL</b>	Forest Land Remaining Forest Land
<b>FM</b>	Forest Management
<b>FMRL</b>	Forest Management Reference Level
<b>FMRL<sub>corr</sub></b>	Recalculated Forest Management Reference Level
<b>FOD</b>	First-Order Decay
<b>FT</b>	Full Tillage
<b>GHG</b>	Greenhouse Gas
<b>GM</b>	Grazing Land Management
<b>GPG2000</b>	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories
<b>GPG-LULUCF</b>	Good Practice Guidance for Land Use, Land-Use Change and Forestry
<b>HS</b>	Harmonized Commodity Description and Coding System
<b>HWP</b>	Harvested Wood Products
<b>IASA</b>	International Institute for Applied Systems Analysis
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>JFSQ</b>	Joint Forest Sector Questionnaire
<b>JRC</b>	Joint Research Centre
<b>KP</b>	Kyoto Protocol

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<b>LULUCF</b>	Land Use, Land-Use Change and Forestry
<b>N</b>	Nitrogen
<b>N<sub>2</sub>O</b>	Nitrous Oxide
<b>ND</b>	Natural Disturbance
<b>NFI</b>	National Forest Inventory
<b>NH<sub>3</sub></b>	Ammonia
<b>NIR</b>	National Inventory Report
<b>NO<sub>x</sub></b>	Nitrogen Oxides (NO and NO <sub>2</sub> )
<b>NPP</b>	Net Primary Production
<b>NT</b>	No-till
<b>QA/QC</b>	Quality Assurance and Quality Control
<b>R<sub>h</sub></b>	Heterotrophic Respiration
<b>RMU</b>	Removal Unit
<b>RSL</b>	Reference Service Life
<b>RV</b>	Revegetation
<b>SBSTA</b>	Subsidiary Body for Scientific and Technological Advice
<b>SD</b>	Standard Deviation
<b>SOC</b>	Soil Organic Carbon
<b>SWDS</b>	Solid Waste Disposal Sites
<b>UNECE</b>	United Nations Economic Commission for Europe
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WCO</b>	World Customs Organization
<b>WDR</b>	Wetland Drainage and Rewetting