

**REFRESHER SEMINAR  
FOR EXPERIENCED GHG REVIEWERS**  
*- Reviewing KP-LULUCF accounting issues:  
Support material for non-LULUCF experts – Part II*

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## Outline - Part II

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- ✓ Reporting and accounting carbon pools under KP-LULUCF activities
  - ✓ Key category analysis for KP-LULUCF activities
  - ✓ Accounting rules for individual activities
    - Afforestation/Reforestation and Deforestation (ARD activities – Article 3.3)
    - Forest Management (FM - Article 3.4)
    - Natural disturbances (ND)
    - Cropland Management & Grazing land Management (CM/GM - Article 3.4)
    - Revegetation (RV – Article 3.4)
    - Wetlands drainage and rewetting (WDR – Article 3.4)
  - ✓ Treatment of emissions in agricultural land: Agriculture vs KP-LULUCF
  - ✓ Consistency of reporting: Convention vs KP-LULUCF
  - ✓ KP-LULUCF activities under KP mechanisms
  - ✓ Requirements for any Parties without the second commitment period target
  - ✓ Article 3, paragraph 7, of the Kyoto Protocol
  - ✓ Issues that might trigger an adjustment
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## Reporting and accounting C pools under KP-LULUCF activities

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- ✓ A Party shall report/account changes in each carbon pool separately (comparability):
  - Above-ground biomass (AB),
  - below-ground biomass (BB), *this can be excluded if not a source*
  - Litter (L), *this can be excluded if not a source*
  - Deadwood (DW), *this can be excluded if not a source*
  - Soil organic matter/carbon (SOM/SOC), *this can be excluded if not a source*
  - Harvested Wood Products (HWP) under AR and D, and under FM
- ✓ HWP may be accounted on the basis of instantaneous oxidation when not included in a 'business as usual' projected reference level for FM;
- ✓ HWP shall be accounted with the production approach when included in a 'business as usual' projected reference level for FM.
- ✓ A box to explain “instantaneous oxidation” and “production approach” is included.



## Key category analysis for KP-LULUCF activities

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- ✓ A KP-LULUCF category is a key category if it completely overlaps a land-use category that is key under the Convention;
- ✓ If the sum of emissions and removals from an activity under the Kyoto Protocol exceeds that of the smallest key category under the Convention (including LULUCF), it is good practice to identify the activity as key
- ✓ If, when using quantitative methods, an activity is not identified as key for the present year but its emissions are anticipated to increase strongly in the future, it is good practice to identify it as key;



## **Afforestation/Reforestation and Deforestation (ARD activities – Art.3.3)**

- ✓ ARD activities are accounted against a reference value of 0 (zero)
- ✓ Parties must report cumulated area of land subject to D activities since 1 January 1990,
- ✓ Party must report cumulated area of land subject to AR activities since 1 January 1990, with the exclusion of those subsequently deforested (D)
- ✓ Parties must report and account emissions and removals occurring during CP2 on ARD area;
- ✓ AR and D must be distinguished from temporary loss of forest cover, including those caused by disturbances. A Party must report information on how it distinguishes permanent changes from temporary forest cover changes;
- ✓ AR and D are direct human-induced activities. Therefore, any land converted to or from forest through natural processes in managed land may be excluded from accounting under AR and D activities.



## Forest Management (FM - Article 3.4)

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- ✓ The definitions of managed forest and of FM may or may not coincide since FM practices may be a subset of the managed forest concept. Information shall be reported to clarify it.
- ✓ FM includes all land subject to FM practices since 1990 that is not reported under AR or D.
- ✓ “Since 1990” may be interpreted:
  - **narrowly**, which means land that has been affected by specific FM practices since 1990 (minus any deforested area), or
  - **broadly**, which means all land that was subject to FM in 1990 plus, if any, any unmanaged forest that was subsequently subject to FM after 1990 (minus any deforested area).



## Forest Management (accounting)

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- ✓ FM is accounted against a Forest Management Reference Level (FMRL)
- ✓ For each year accounted, all cumulated emissions and removals occurring from the start of the CP up to the accounting year from FM land minus the FMRL multiplied by the number of years since the beginning of the CP, are accounted.
- ✓ The resulting quantity is subject to a cap on accounted credits, which means that Parties are allowed to credit up to the equivalent of 3.5 per cent of the base-year national total emissions excluding LULUCF multiplied by the eight years of CP2.
- ✓ No CAP is applied to debits



## Forest Management (accounting)

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Must be reported information on

- ✓ The main factors, such as reduced harvesting rate or increased net increment rate, responsible for a higher (or lower) sink (i.e. net removal) during the CP, compared with the FMRL,
- ✓ A demonstration that the accounted quantity can be explained as deviations in policy assumptions compared with the assumptions included in the calculation of the FMRL, rather than as differences in the factors/parameters, including increments, used in the calculation of the FMRL and in the actual GHG emissions and removals;
- ✓ Methodological consistency among estimates of actual GHG emissions and removals in the commitment period and historical data used to calculate the FMRL





## Forest Management (FMRL)

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- ✓ The FMRL values were calculated by either projecting emissions and removals expected under a 'business as usual' scenario using historical data, or simply by using a historical level:
  - 'Business as usual' projections: The FMRL is the projection of GHG emissions and removals that would occur in absence of any further change in policies and measure from the year 2010 onward;
  - Base year: The FMRL is the historical value of GHG emissions and removals that occurred in a historical year (e.g. 1990);
  - Zero at 1 January 2013: The FMRL is zero under the application of a sustainable forest management.
- ✓ FMRL values inscribed in decision 2/CMP.7 have already been reviewed, so that these cannot be subject to any annual review or be changed.



## Forest Management (FMRL<sub>corr</sub>)

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- ✓ To ensure methodological consistency with estimates of actual GHG emissions and removals, the FMRL may be subject to a technical correction in:
  - C pools, included the treatment of HWP (*very likely to occur*), and GHG sources;
  - any methodological element (equations, parameters, data and ancillary information) that a Party uses to estimate FM GHG emissions and removals;
  - treatment of emissions and removals associated with natural disturbances (ND) (*very likely to occur*);
- ✓ A technical correction must not be applied in the case of changes to the policy assumptions embedded in the construction of the FMRL.
- ✓ Although the technical correction is applied only in the accounting years, information on the technical correction must be reported in each reporting year
- ✓ While the FMRL cannot be adjusted a technical correction can be adjusted, although only in case historical data have been recalculated.



## Natural Disturbances (ND)

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- ✓ Disturbances can occur anthropogenically and/or naturally,
- ✓ ND is defined as 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, and exclude harvesting, prescribed burning, and any fire followed by deforestation.
- ✓ For example, in a country that does not use fire as a management practice and has an advanced national fire management system for fire prevention, fire monitoring and fire suppression on all land including forest land, all emissions from wildfires are considered not materially influenced by the country's land-use and management practices.



## Natural Disturbances (ND)

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- ✓ The default methodology identifies statistically the occurrences of ND among disturbances, so that a ND is an outlier in the distribution of disturbances. Consequently:
    - Outliers are those values in emissions from disturbances that exceed the 95% CI, accordingly the margin used to identify ND is twice the standard deviation of the distribution of disturbances;
    - Consequently the background level of emissions historically associated with disturbances (BL) is the average of the time series of historical annual emissions from disturbances excluding all years where ND occurred
  - ✓ When accounting for the CP, any outliers i.e. a value of emissions from disturbances that exceeds the BL+margin is considered an ND and the emissions that exceed the BL value are excluded from accounting
  - ✓ Symmetrically, also subsequent removals associated with ND are excluded from accounting.
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## **Cropland Management & Grazing land Management (CM/GM - Article 3.4)**

- ✓ All land subject to the two activities may be reported together under one of the activities according to the hierarchical order assigned,
- ✓ The reference value to be used in the accounting is the sum of all emissions and removals from land subject to CM or GM in the base year.
- ✓ The area to be accounted is that under CM or GM since:
  - ✓ either when the activity has been elected
  - ✓ or the base yearin both case: plus land subsequently subject to, minus land converted to forest (AR)
- ✓ Emissions and removals to be accounted are the cumulated emissions and removals from CM or GM land that occurred from the start of the CP to the accounting year minus the reference value multiplied by the number of years since the beginning of the CP.



## Revegetation (RV - Article 3.4)

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- ✓ The reference value to be used in the accounting is the sum of all emissions and removals from land subject to RV in the base year.
- ✓ The area to be accounted is that under RV:
  - ✓ either since the base year
  - ✓ or at the base year

in both case: plus land subsequently subject to, minus land converted to forest (AR) or another activity higher in the hierarchy
- ✓ Emissions and removals to be accounted are the cumulated emissions and removals from RV land that occurred from the start of the CP to the accounting year minus the reference value multiplied by the number of years since the beginning of the CP.



## Wetlands drainage and rewetting (WDR - Article 3.4)

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- ✓ The reference value to be used in the accounting is the sum of all emissions and removals from land subject to WDR in 1990.
- ✓ The area to be accounted is that under WDR:
  - ✓ either since 1990 base year
  - ✓ or at 1990

in both case: plus land subsequently subject to, minus land converted to forest (AR) or any other activity
- ✓ Emissions and removals to be accounted are the cumulated emissions and removals from WDR land that occurred from the start of the CP to the accounting year minus the reference value multiplied by the number of years since the beginning of the CP.



## Treatment of emissions in Agricultural land: Agriculture vs KP-LULUCF

Activity	Agriculture	KP-LULUCF
Fertilization Including liming and urea	N <sub>2</sub> O and CO <sub>2</sub> emissions	None
Drainage histosols	N <sub>2</sub> O	CO <sub>2</sub> , (CH <sub>4</sub> )
Rewetting histosols	-	N <sub>2</sub> O, CO <sub>2</sub> , (CH <sub>4</sub> )
N mineralization/ immobilization	N <sub>2</sub> O emissions/avoidance but in deforested land	N <sub>2</sub> O emissions/avoidance in deforested land
Biomass burning	N <sub>2</sub> O, CH <sub>4</sub> from Agricultural practices: - residues burning, - grazing land burning	CO <sub>2</sub> from woody biomass from Agricultural practices  All GHG from wildfires





## Consistency of reporting: Convention vs KP-LULUCF

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- ✓ Managed forest vs forest management  
(KP activity land may be a subset of the corresponding land use category)
- ✓ Anthropogenic vs direct human induced  
(KP activity emissions/removals may be a subset of those of the corresponding land use category; although symmetry must be ensured)
- ✓ “within 20 years” vs “since 1990”  
(differences in cumulated areas)
- ✓ Hierarchy in land use categories vs Hierarchy in KP-LULUCF activities  
(the first applies in case of concurrent use on the same land, the second applies always)



## KP-LULUCF activities under KP mechanisms

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- ✓ The FM cap of 3.5 per cent is applied including the emissions and removals from FM projects implemented in the country under Article 6 (JI)
- ✓ The total addition to a Party's assigned amount resulting from eligible KP-LULUCF project activities under the CDM shall not exceed 1 per cent of the base-year emissions of that Party multiplied by eight.



## Requirements for Parties without the second commitment period target

- ✓ Such Parties are subject to same reporting obligations of all KP Parties.
- ✓ However, those Parties without a 2<sup>nd</sup> CP target do not account for KP-LULUCF activities; consequently, adjustment procedures do not apply to these Parties.



## Article 3, paragraph 7, of the Kyoto Protocol

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- ✓ Any Parties for which the land use sector is a net source in 1990 includes GHG emissions and removals from deforestation in its Assigned Amount;
- ✓ Consistently, it must account for deforestation during the 2<sup>nd</sup> CP.



## Issues that might trigger an adjustment

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- ✓ If a Party's GHG estimates resulted in an overestimation of accounted net credits under a KP-LULUCF activity, this will trigger an adjustment procedure.
- ✓ An adjustment for a KP-LULUCF activity is only implemented for the year(s) of accounting;
- ✓ Otherwise, the issue(s) is(are) treated as GHG inventory problem(s) and not treated as issues of the implementation of the Kyoto Protocol..



## Issues that might trigger an adjustment

A table in Appendix 3 provides a summary table.

Issue		Trigger of adjustment	
		Year with accounting	Year without accounting
<b>CP year (for all accounting approaches)</b>	<b>Removals overestimation</b>	<b>Yes</b>	No
	Removals underestimation	No	
	Emissions overestimation	No	
	<b>Emissions underestimation</b>	<b>Yes</b>	
<b>Base year/FMRL (for net-net accounting to base year and FMRL)</b>	Removals overestimation	No	
	<b>Removals underestimation</b>	Yes	
	<b>Emissions overestimation</b>	Yes	
	Emissions underestimation	No	

With an explanation why underestimation of removals/overestimation of emissions for base year or FMRL will increase the amount of credits and trigger an adjustment for net-net accounting.



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Thank you very much!

