

# Module 3.3 Guidance on reporting REDD+ performance using IPCC guidelines and guidance

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## *After the course the participants should be able to:*

- Understand the general reporting and review principles
- Perform reporting of GHG emissions using the existing IPCC reporting tables
- Implement the conservative approach as a possible way to address potential overestimation of achieved mitigation



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# Outline of lecture

1. Reporting and accounting REDD+ performance: UNFCCC reporting requirements
2. Guidance and modalities on reporting REDD+ performance from UNFCCC
3. Reporting principles under the UNFCCC: transparency, consistency, comparability, completeness, and accuracy
4. Structure of a GHG inventory (reporting tables, additional tables, inventory report)
5. Major challenges for reporting REDD+ by developing countries
6. Conservativeness as a possible way to address potential incompleteness and potential overestimation of achieved mitigation of REDD+ estimates



# Outline of lecture

- 1. Reporting and accounting REDD+ performance: UNFCCC reporting requirements**



# In summary (1/2)

- **Non-Annex I** countries should report REDD+ performance through **national communications** (NCs – every 4 years) and **biennial update reports** (BURs – every 2 years); *both include national GHG inventories*
  - NCs: information on national circumstances, the national GHG inventory, and information on strategies for mitigation
  - BURs: updated information on national circumstances, institutional arrangements, national GHG estimates (including GHG inventory), & information on mitigation actions (i.e. NAMAs, REDD+);
- Five principles guide the estimation and the reporting of GHG under the UNFCCC, as well as the process of review or technical assessment of estimates: *Transparency, Consistency, Comparability, Completeness, and Accuracy*



# In summary (2/2)

- REDD+ estimates should be accurate. If one can't be accurate, be conservative.
- The conservativeness principle may be useful:
  - To justify the omission of pools
  - Through the application of discount factors, to increase the acceptability of those REDD+ estimates judged to be a likely overestimate of achieved mitigation (e.g., also in case Tier 1 EF are used)
- In the initial REDD+ phases, conservativeness may help broaden participation, allowing those countries with limited forest-monitoring capacity to join while maintaining strong incentives for further increasing the accuracy of the estimates, i.e., to move to higher tiers



# Reporting: Basis to assess performance in REDD+

## **Reporting:**

Requires preparation and publication of information on anthropogenic GHG estimates (emissions and removals), and on mitigation actions, in a GHG inventory, composed of estimates in common reporting format (CRF) tables + information on methods in a national inventory report (or similar)

## **Accounting:**

Requires use of the reported information to assess a party's performance as compared to its commitments (e.g., under Kyoto Protocol, KP) or reference levels (e.g., in REDD+) → basis for possible payments for results-based actions

Quality of GHG inventories relies on (1) **credibility of estimates AND** (2) **way the information is presented**



# UNFCCC reporting requirements (1/5)

Reporting requirements differ for Annex I and non-Annex I:

- **Annex I:** National communications (NC, every 4yrs), GHG inventories (annual), biennial reports (BRs, 2yrs), all subject to *review*
  - + Forest management reference level (FMRL, under the KP)
- **Non-Annex I:** National Communications (NC, 4yrs), and biennial update reports (BURs, 2yrs)\*
  - + Forest reference emissions levels (FREL) and/or Forest reference levels (FRL) (voluntary, in the context of REDD+)

Guidelines on requirements are detailed for Annex I (especially for GHG inventories), but are more generic for non-Annex I parties.

\* Least developed/small island developing parties may submit NC and BUR at their discretion.



# UNFCCC reporting requirements (4/5)

**For REDD+ activities,** information to be reported include:

- **Forest Reference Emissions Levels (FREL)** and/or **Forest Reference Levels (FRL)**, prepared on the basis of agreed guidelines (Dec. 12/CP.17\*) and IPCC methodologies (including 2003 GPG for LULUCF)
- The information is subject to assessment according to Dec. 13/CP.19

\* Information in country submissions should be transparent, complete (i.e. allowing to reproduce FREL/FRL), accurate, consistent, and include:

- (a) Information used in constructing FREL/FRL, including historical data
- (b) Information on methods, data sets, approaches, models and assumptions used, and descriptions of relevant policies and plans
- (c) Pools/gases, and activities included in FREL and/or FRL and the reasons for any omission, noting that *significant* pools and/or activities cannot be excluded





# UNFCCC reporting requirements (5/5)

**For REDD+ activities**, information to be reported includes *(continued)*:

- **Information on safeguards** (decision 1/CP.16)
- For receiving payments for results-based actions, information on **forest-related emissions/removals resulting from REDD+** activities (prepared following agreed guidelines (see Dec. 12/CP.17 and Dec. 13/CP.19 and IPCC methodologies) is to be reported as annex to the BUR

The information is assessed as part of the ICA process



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- 2. Guidance and modalities on reporting REDD+ performance from UNFCCC**



# Guidance from the Carbon Fund Methodological Framework

Publically available

## Methodological steps

Forest definition

Definition of forest classes

Choice of Activity Data and (pre-)processing methods

Choice of emission factors and description of their development

Estimation of emissions and removals, including accounting approach

Disaggregation of emissions by Sources and removals by Sinks

Estimation of accuracy, precision, and/or confidence level

Discussion of key uncertainties

Rationale for adjusting emissions

Methods and assumptions associated with adjusting emissions

## Maps and/or synthesized data

Accounting area

Activity data

Emission factors

Average annual emissions over the Reference Period

Adjusted emissions

Any spatial data used to adjust emissions

Explain how derived

Source: World Bank FCPF 2013.

# Overview of the latest guidance and modalities on reporting REDD+ performance (4/5)

- In order to obtain and receive payments for results-based actions, the results need to be **verified by a technical team of experts**
- The technical team consists of two UNFCCC LULUCF experts, from a developing and developed country party, and will analyse the submitted data and information on the extent to which:
  - There is **consistency** in methodologies, definitions, comprehensiveness, and information provided between the assessed reference level and the results of the implementation of the activities
  - The data and information provided in the technical annex is **transparent, consistent, complete and accurate, and consistent with the guidelines**
  - The results are **accurate**, to the extent possible



# Overview of the latest guidance and modalities on reporting REDD+ performance (5/5)

- The party that submitted the technical annex and the technical team of experts may **interact** with each other to seek / provide **clarifications and additional information on the technical annex** to facilitate the analysis by the technical team
- The technical team will develop a **technical report** (published on the UNFCCC web platform), containing:
  - Technical annex submitted by the party
  - Analysis of the technical annex
  - Areas for technical improvement (on data, methodologies)
  - Any comments and/or responses by the party, including areas for further improvement and capacity-building needs



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# UNFCCC reporting principles

- Five general principles **guide the estimation and the reporting of GHG** under UNFCCC
- *Transparency, Consistency, Comparability, Completeness and Accuracy*
- These principles guide also the process of review or technical assessment of the estimates



# Transparency

- All the assumptions and the methodologies used in the inventory should be **clearly explained** and **documented**, so anyone can verify its correctness
- GHG estimates are reported at a level of disaggregation which allows **verifying calculations**
- Most relevant background data are provided in the report





# Consistency

- The **same definitions and methodologies** should be used in different years
- Ensures **differences** between years and categories **reflect real differences in emissions**
- Under certain circumstances, estimates using different methodologies for different years can be considered consistent if they have been calculated in a transparent manner
- Recalculations of previously submitted estimates are possible to improve accuracy and/or completeness, providing that all the relevant information is properly documented



# Comparability

- **Across countries**
- For this purpose, parties should follow the **methodologies** and **standard formats** (including the allocation of different source/sink categories) provided by the IPCC and agreed within the UNFCCC
- Comparability not mentioned in REDD+ related COP decisions – however, if estimates are **transparent, consistent, complete and accurate, and follow IPCC guidance**, they can be **considered methodologically comparable**



# Completeness

- Estimates should include—for all the relevant geographical coverage—all the agreed\* categories, gases, and pools
- When gaps exist, all the relevant information and justification on these gaps should be documented in a transparent manner

\* In REDD+ context, all *significant* pools/gases and activities should be included (see Module 2.7)



# Accuracy

- Estimates should be systematically **neither over nor under the true value**, so far as can be judged, and **uncertainties should be reduced so far as is practicable**
- **Appropriate methodologies** should be used, in accordance with the IPCC, **to promote accuracy** in inventories and to **quantify the uncertainties in order to improve future inventories**



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4. **Structure of a GHG inventory (reporting tables, additional tables, inventory report)**



# Structure of a GHG inventory

A national inventory of GHG anthropogenic emissions and removals is typically divided into two parts:

- **Reporting tables:** A series of standardized data tables that contain mainly quantitative information (i.e., numerical estimates of emissions and removals)
- **Inventory report:** Comprehensive and transparent information about how estimates have been calculated



## Reporting tables

**Reporting tables** typically include columns for:

- The ***initial and final land-use category***: Additional stratification is encouraged (subdivisions) according to criteria such as climate zone, soil type, vegetation type, ecological zones, etc.
- The ***activity data*** (AD, [see Modules 2.1 and 2.2](#)): area of land (in kha) subject, e.g., to gross deforestation, degradation, or forest management
- The ***emission factors*** (EF, [see Module 2.3](#)): The C stock changes per unit area, separated for each carbon pool
- ***The total change in C stock***:  $AD \times EF$  ([see Module 2.5](#))
- ***The total emissions*** (expressed as CO<sub>2</sub>)

Documentation box: references to relevant sections of the inventory report if additional information is needed



# Example of reporting table

Example of a table reporting emissions from deforestation (modified from KP LULUCF tables for illustrative purposes only)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED CARBON STOCK CHANGE FACTORS <sup>(2)</sup>					IMPLIED EMISSION/REMOVAL FACTOR PER AREA <sup>(4)</sup>	CHANGE IN CARBON STOCK <sup>(3)</sup>					Net CO <sub>2</sub> emissions/removals <sup>(3)</sup>
			Net carbon stock change per unit area in:						Net carbon stock change in:					
Land-Use Category	Sub-division <sup>(1)</sup>	Total area (kha)	biomass		dead org. matter		soils	Biomass		Dead org. matter		soils	Net CO <sub>2</sub> emissions/removals <sup>(3)</sup>	
			above-ground	below-ground	dead wood	litter		above-ground	below-ground	dead wood	litter			
			(Mg C/ha)					(Mg CO <sub>2</sub> /ha)	(Gg C)					(Gg CO <sub>2</sub> )
A. Total Deforestation														
1. Forest Land converted to Cropland	(specify)													
	(specify)													
2. Forest Land converted to Grassland	(specify)													
	(specify)													

(1) Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zones, national land classification or other criteria.

(2) The signs for estimates of increases in C stocks are positive (+) and of decreases in C stocks are negative (-).

(3) According to IPCC, changes in C stocks are converted to CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+).



# Notation keys reporting tables

- To ensure completeness, it is *good practice* to fill all cells of the table. Even if pools are excluded due to effort required to collect – include justification?
- If emissions/removals have not been estimated or cannot be reported, the following qualitative “notation keys” should be used, along with supporting documentation

<b>Notation key</b>	<b>Explanation</b>
NE (not estimated)	Emissions / removals occur but have not been estimated or reported.
IE (included elsewhere)	Emissions / removals for this activity or category are estimated but included elsewhere (indicate where).
C (confidential information)	Emissions / removals are aggregated and included elsewhere in the inventory because reporting at a disaggregated level could lead to the disclosure of confidential information.
NA (not applicable)	The activity or category exists but relevant emissions and removals are considered never to occur.
NO (not occurring)	An activity or process does not exist within a country.

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# Challenges in relation to reporting principles

*What difficulties can be expected by developing countries when reporting REDD+ following the five principles outlined above?*

- **Transparency, consistency, and comparability:**
  - Achievable by most countries (after adequate capacity building if needed)
- **Completeness:**
  - From official reports (NC, FAO FRA) only a few countries currently report data on soil carbon, although these emissions following deforestation are likely to be “significant”
- **Accuracy:**
  - According to IPCC, *key categories* and *significant pools* should be estimated with higher tiers (2 or 3), i.e., country-specific data stratified by climate, forest, soil, and conversion type at a fine/medium spatial scale → big challenge



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# Addressing incomplete estimates

- Likely cause of incomplete estimates: Lack of reliable data for the soil pool
- Here, what is important is not providing evidence for “soil not being a source” (difficult in many cases) but rather that “emission reductions are not overestimated”
- In many cases (e.g., when soil is a source of emissions from deforestation and the deforested area **decreases** as compared to the reference level), not reporting means being conservative\*

\* Not valid if area deforested increased from reference level to assessment period (source must be estimated and reported)



# Estimates not following IPCC

- Likely case of estimate not following the good practice by IPCC: When Tier 1 EF (e.g., values of carbon stock per unit of deforested area) are used for a key category/significant pool
- In this case the justification for being conservative is when the Tier 1 estimates are judged to likely be an overestimate of emission reductions—and thus the likelihood of receiving significant payments not associated to real emission reductions—is expected to be high
- As for the Kyoto Protocol, conservativeness factors tabulated based on 50% confidence interval could be applied



# Country examples and exercises

## Country examples

- Annex 1 country example of GHG inventory reporting (LULUCF)
- Applying the conservativeness approach to the DRC example (matrix approach)  
(See Module 2.7 Country Example)

## Exercises

- Reporting GHG emissions and removals using IPCC reporting tables
  1. Land transition matrix
  2. Emissions from deforestation

