United Nations Framework Convention on Climate Change

CGE SUPPLEMENTARY TRAINING MATERIAL FOR THE TEAM OF TECHNICAL EXPERTS

Module 3

Technical analysis of biennial update reports: thematic elements

Technical annex on results-based actions relating to REDD-plus

Version	Date	Changes
Version 1.0	April 2015	
Version 1.1	June 2015	Adding clarifications section 2.4

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ABBREVIATIONS

BUR	biennial update report
CG	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
COP	Conference of the Parties
FREL/FRL	forest reference emission level/forest reference level
GHG	greenhouse gas
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NAMA	nationally appropriate mitigation action
NFMS	national forest monitoring system
REDD	reducing emissions from deforestation and forest degradation in developing countries
TTE	team of technical experts

1. INTRODUCTION

The Conference of the Parties (COP), by decision 1/CP.16, decided that developing countries would submit biennial update reports (BURs) (paragraph 60) and conduct international consultation and analysis (ICA) of the BURs (paragraph 63), through technical analysis by a team of technical experts (TTE) and facilitative sharing of views. The BUR reporting guidelines for Parties not included in Annex I to the Convention (non-Annex I Parties) as well as the modalities and guidelines for ICA were adopted at the seventeenth session of the Conference of the Parties (COP 17), by decision 2/CP.17 in annexes III and IV respectively.

Decision 1/CP.16, paragraph 70 also encouraged developing country Parties, supported by adequate and predictable financial and technology support, including support for capacity-building, to contribute to mitigation actions in the forest sector by undertaking the following activities (otherwise known as REDD-plus), as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- Reducing emissions from deforestation;
- Reducing emissions from forest degradation;
- Conservation of forest carbon stocks;
- Sustainable management of forests;
- Enhancement of forest carbon stocks.

At COP 19 seven decisions were adopted, known as the Warsaw Framework for REDD-plus. The Warsaw Framework included decision 14/CP.19 on the modalities for measuring, reporting and verifying REDD-plus activities. This decision outlined that a technical annex to a BUR voluntarily submitted by a developing country in the context of results-based payments is subject to the ICA process.

By this decision, upon the request of the developing country Party seeking to obtain and receive payments for results-based actions, two experts in land use, land-use change and forestry (LULUCF) from the UNFCCC roster of experts are to be included among the members selected for the TTE, who will conduct a technical analysis of the BUR, in particular, the technical annex.

By decision 20/CP.19, the COP requested the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) to develop and organize appropriate training programmes for nominated technical experts, and only those nominated experts who successfully complete the CGE training programme shall be eligible to serve in the TTE.

The CGE, as mandated, developed at its first meeting in 2014, a work programme for 2014–2018. In defining its detailed work programme for 2014, the group decided to develop and conduct a training programme for nominated technical experts, inclusive of two main modules:

- Module 1: Technical analysis of biennial update reports: an overview;

- Module 2: Technical analysis of biennial update reports: thematic elements, comprising of 4 modules.

This set of training materials are supplementary to module 2.2: National greenhouse gas inventories. They target those LULUCF experts wishing to become eligible to participate in the technical analysis of the REDD-plus technical annex to the BURs. Therefore, the objective of this module is to enhance the proficiency of experts nominated to the UNFCCC roster of experts in undertaking the technical analysis of the of the technical annex to the BUR, in particular, on the guidelines, procedures and modalities involved as contained in decision 14/CP.19.

This module describes in detail the scope, process and outcome of the technical analysis of the technical annex on results-based actions relating to REDD-plus as defined in decision 14/CP.19. It lists the specific elements of the technical annex, explains how the TTE should conduct a technical analysis of the technical annex which may be included in a BUR, and the report to be drafted on the technical analysis by the LULUCF experts following the completion of the technical analysis.

2. TECHNICAL ANALYSIS OF THE REDD-PLUS ANNEX – SCOPE, PROCESSES AND OUTCOME

2.1. REDD-PLUS MEASUREMENT, REPORTING AND VERIFICATION

MRV of REDD-plus involves estimating anthropogenic (human-caused) forest-related emissions by sources and removals by sinks, forest carbon stocks and changes in forest carbon stock and forest areas. Estimation relies on field data and satellite monitoring. The data and information can then be reported to the UNFCCC for technical analysis through the submission of a REDD-plus technical annex to the BUR. Submission of a technical annex to the BUR on results-based actions relating to REDD-plus is voluntary and in the context of results-based payments.

Decision 4/CP.15, paragraph 1 describes the following guidance on measurement and reporting in relation to REDD-plus activities:

a) To identify drivers of deforestation and forest degradation resulting in emissions and also the means to address these;

b) To identify activities within the country that result in reduced emissions and increased removals, and stabilization of forest carbon stocks;

c) To use the most recent Intergovernmental Panel on Climate Change guidance and guidelines, as adopted or encouraged by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;

d) To establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that:

   i) Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;

   ii) Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;

   iii) Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties;

These elements are equally important in national land use, land-use change and forestry greenhouse gas (LULUCF GHG) inventories and for measurement of REDD-plus (see box 1). Module 1, covers the general ICA process and guidelines involved in preparing national communications and BURs, including coverage of GHG inventories.

In relation to REDD-plus activities, the modalities for MRV of "anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes resulting from the implementation of the activities referred to decision 1/CP.16, paragraph 70, taking into consideration paragraph 71(b) and (c) of that decision"[1] were adopted at COP 19, specifically decision 14/CP.19, which states that the COP:

- Decides that measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes is to be consistent with the methodological guidance provided in decision 4/CP.15, and any guidance on the measurement, reporting and verification of nationally appropriate mitigation actions by developing country Parties as agreed by the COP;
- Decides that the data and information used by Parties in the estimation of anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes, as appropriate to the activities referred to in decision 1/CP.16, paragraph 70, undertaken by Parties, should be transparent, and consistent over time and with the established forest reference emission levels and/or forest reference levels in accordance with decision 1/CP.16, paragraph 71(b) and (c) and chapter II of decision 12/CP.17;
- Agrees that, consistent with decision 12/CP.17, paragraph 7, the results of the implementation by Parties of the activities referred to in decision 1/CP.16, paragraph 70, measured against the forest reference emission levels and/or forest reference levels should be expressed in tonnes of carbon dioxide equivalent per year;
- Encourages Parties to improve the data and methodologies used over time, while maintaining consistency with the established or, as appropriate, updated, forest reference emission levels and/or forest reference levels in accordance with decision 1/CP.16, paragraph 71(b) and (c);
- Decides that data and information should be provided through a technical annex to the biennial update reports, underlining that the submission of the technical annex is voluntary and in the context of results-based payments;
- Also agrees that results-based actions that may be eligible to appropriate market-based approaches that could be developed by the COP may be subject to any further specific modalities for verification.

Upon the request of the developing country Party seeking to obtain and receive payments for results-based actions, two LULUCF experts from the UNFCCC roster of experts, one each from a developing country and a developed country Party, will be included among the members selected for the TTE for the technical analysis of results-based REDD-plus actions reported in the technical annex to the BUR. These LULUCF experts will develop a technical report on their technical analysis of the technical annex, which will note identified areas for technical improvement.

The technical report produced by the two LULUCF experts will be made available on the UNFCCC REDD web platform (14/CP.19, paragraph 14).

[1] Decision 14/CP.19, paragraph 1.

Box 1
The relationship between the technical analysis of the biennial update report and the REDD-plus technical annex

Estimates presented in the REDD-plus technical annex may differ from estimates relating to the land use, land-use change and forestry (LULUCF) sector presented in a Party's biennial update report (BUR) and nationally appropriate mitigation actions (NAMAs).

Differences in estimates between these reports may arise as a result of (among other things) variations in the scope of activities, carbon pools and the geographical extent of activities reported (i.e. national versus subnational). Such variations are acceptable, however for transparency, the Party should communicate in the technical annex how reported estimates vary between, for example, the BUR and the REDD-plus technical annex. The LULUCF experts should assess such transparency in the communication of any differences during their technical analysis of the REDD-plus technical annex.

The scope of activities, carbon pools and geographical extent of activities must be consistent between the forest reference emission levels and/or forest reference levels (FREL/FRL) and the REDD-plus technical annex. The COP encouraged Parties to improve data and methodologies used over time, while maintaining consistency with the established FREL/FRL.

Although they are part of the same process, the analysis of the BUR and the REDD-plus annex shall be separate. The technical report produced by the LULUCF experts of the TTE following the technical analysis of the REDD-plus technical annex shall not be mistaken with the summary report, which results from the technical analysis of the other components or sections of the BUR as established in the guidelines contained in annex III of decision 2/CP.17 (national greenhouse gas inventories, mitigation actions and their effects, and crosscutting issues, such as institutional arrangements for the preparation of the BUR and support needed and received).

Summary of key points:

- Submission of a technical annex to the BUR on results-based actions relating to REDD-plus is voluntary and in the context of results-based payments;
- Data and information on REDD-plus can be reported to the UNFCCC for technical analysis in the context of results-based payments through the voluntary submission of a REDD-plus technical annex to the BUR;
- MRV of anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes is to be consistent with the methodological guidance provided in decision 4/CP.15, and any guidance on the MRV of nationally appropriate mitigation actions (NAMAs) by developing country Parties as agreed by the COP;
- The data and information used by Parties should be transparent, and consistent over time and with the established forest reference emission levels and/or forest reference levels (FREL/FRL);

- The figures and approaches presented in the REDD-plus technical annex may differ from those used in the GHG inventory or NAMAs, such as in scope and geographical extent. For transparency these differences should be described in the REDD-plus technical annex;
- Two LULUCF experts from the UNFCCC roster of experts, one each from a developing country and a developed country Party, will be included among the members selected for the TTE for the technical analysis of results-based actions reported in the technical annex to the BUR;
- The technical report produced by the two LULUCF experts will be made available on the UNFCCC REDD web platform.

2.2. SCOPE OF THE TECHNICAL ANNEX ON RESULTS-BASED ACTION RELATING TO REDD-PLUS

If a Party choses to voluntarily submit a REDD-plus technical annex to the BUR in the context of results-based payments, the Party is required to present the data and information used in the estimation of anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes compared (consistently) with the established and assessed FREL/FRL.

Data and information provided in the REDD-plus technical annex should include the following (decision 14/CP.19, annex):

a) Summary information from the final assessment report of each FREL/FRL, which includes:
   i) The assessed FREL/FRL expressed in tonnes of carbon dioxide equivalent (CO_2 eq) per year;
   ii) The REDD-plus activity or activities included in the FREL/FRL;
   iii) The territorial forest area covered;
   iv) The date of the FREL/FRL submission and the date of the final technical assessment report;
   v) The period (in years) of the assessed FREL/FRL;
b) Results in tonnes of CO_2 eq per year, consistent with the assessed FREL/FRL;
c) Demonstration that the methodologies used to produce the results are consistent with those used to establish the assessed FREL/FRL (i.e. methodologies, data sources and assumptions submitted to the technical analysis should be the same as those submitted to the technical assessment);
d) A description of the national forest monitoring system (NFMS) and the institutional roles and responsibilities for MRV of the results;
e) Necessary information that allows for the reconstruction of the results;

f) A description of how the elements contained in decision 4/CP.15, paragraph 1 (c)[2] and (d)[3], have been taken into account.

The methodologies, definitions, comprehensiveness and the information submitted to the technical analysis should be consistent with that submitted to the technical assessment of the FREL/FRL, as per decision 14/CP.19, paragraph 11a.

The REDD-plus technical annex includes information on the assessed FREL/FRL and the NFMS.

It does not include any reporting on safeguards or national strategies and action plans, and as such these elements are not subject to technical analysis by the LULUCF experts of the TTE.

Summary of key points

- Submission of a technical annex on results-based actions relating to REDD-plus is voluntary and in the context of results-based payments;
- The results presented in the technical annex on results-based actions relating to REDD-plus must include an already assessed FREL/FRL;
- The technical annex should be fully measured, reported and verified if developing country Parties seek to obtain results-based payments (decision 14/CP.19, para 7 and decision 9/CP.19, para 3);
- Measurement is conducted through the NFMS and should be done so in accordance with the guidance presented in decision 11/CP.19;
- Reporting on results-based actions relating to REDD-plus is through the provision of a technical annex to the BUR;
- Verification of the results is via technical analysis of the technical annex conducted by the LULUCF experts of the TTE;
- More details on the general ICA process and measurement approaches involved in preparing national communications and BURs, including coverage of the LULUCF section of GHG inventories can be found in modules 1 and 2.2, including, module 2.2 (d), of the training materials.

[2] To use the most recent Intergovernmental Panel on Climate Change guidance and guidelines, as adopted or encouraged by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes.

[3] To establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that:
i) Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;
ii) Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;
iii) Are transparent and their results are available and suitable for review as agreed by the COP.

2.3. CONDUCTING THE TECHNICAL ANALYSIS OF THE BIENNIAL UPDATE REPORT

Developing country Parties voluntarily reporting REDD-plus activities in the context of results-based payments must do so through the submission of a technical annex to their BUR, which is subject to the ICA process and the modalities for MRV of REDD-plus activities (decision 14/CP.19).

The modalities and guidelines for conducting ICA were adopted in Durban (annex IV to decision 2/CP.17) and outline the requirements of the ICA process of the BURs (and any annexes). These requirements state that the ICA process:

- Is non-intrusive, non-punitive, and respectful of national sovereignty;
- Aims to facilitate the universal participation of developing country Parties in the international consultation and analysis process;
- Aims to increase the transparency of mitigation actions and their effects;
- Is a consultative approach through a facilitative sharing of views between the team of technical experts and the Party;
- Does not include discussion on the appropriateness of domestic policies and measures;
- Will result in a summary report.

Furthermore, as set out in decision 20/CP.19, annex, paragraph 15, in conducting the technical analysis of the BUR, the TTE shall:

a) Identify the extent to which the elements of information listed in paragraph 3(a) of the guidelines contained in decision 2/CP.17, annex IV, are included in the BUR of the Party concerned;

b) Undertake a technical analysis of information contained in the BUR as outlined in the "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention" contained in annex III to decision 2/CP.17, and any additional technical information that may be provided by the Party concerned;

c) In consultation with the Party concerned, identify capacity-building needs in order to facilitate reporting in accordance with annex III to decision 2/CP.17, and participating in international consultation and analysis in accordance with annex IV to decision 2/CP.17, taking into account Article 4, paragraph 3, of the Convention.

2.4. CONDUCTING THE TECHNICAL ANALYSIS OF THE REDD-PLUS TECHNICAL ANNEX

Completion of the technical analysis of the technical annex by the LULUCF experts of the TTE is a requirement for a developing country Party to obtain and receive results-based finance. The technical analysis of the technical annex is a facilitative process. The LULUCF experts can seek clarifications on the technical annex and the developing country Party should provide clarifications to the extent possible, in accordance with national circumstances and taking into account national capabilities.

It is the responsibility of the two LULUCF experts included in the TTE to analyse the extent to which (decision 14/CP.19, paragraph 11):

a) There is consistency in methodologies, definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities;

b) The data and information provided in the technical annex is transparent, consistent, complete and accurate; noting that complete means the provision of information that allows for the reconstruction of the results;

c) The data and information provided in the technical annex is consistent with the requirements outlined in decision 14/CP.19 and listed in section 2.2 above;

d) The results are accurate, to the extent possible.

The scope of the technical analysis cannot go beyond the items which shall be presented in the technical annex as by the provisions contained in decision 14/CP.19 (see also summary in section 2.2 above). In particular, a developing country Party's national strategy and action plan or safeguards summary are not subject to the technical analysis.

Table 1 presents a checklist of elements that should be included in the technical annex to the BUR and subject to technical analysis by the two LULUCF experts of the TTE. The checklist has been developed by drawing on the requirements detailed in decision 14/CP.19 and its annex. The checklist also presents guidance on how to conduct the technical analysis in relation to the responsibilities of the two LULUCF experts of the TTE as stated in decision 14/CP.19, paragraph 11.

This checklist could be used as a support tool for the technical analysis by the LULUCF experts. It should be considered a guide and may be extended as experience in technical analysis of the technical annex grows.

Table 1
Checklist of important elements to be considered in the technical analysis of the technical annex

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
Is summary information on the FREL/FRL presented in the technical annex consistent with methodologies contained in the final FREL/FRL assessment report for each corresponding assessed FREL/FRL?			Refer to the final technical assessment report of the FREL/FRL and compare with information presented on methodologies applied in the technical annex. As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether the information provided on the methodological approach used is consistent between the assessed reference level and the results of the implementation of REDD-plus activities presented in the technical annex. See box 1 for definition of 'consistent'.
Is summary information on the FREL/FRL presented in the technical annex consistent with the **scope** contained in the final FREL/FRL assessment report for each corresponding assessed FREL/FRL?			As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether there is consistency in methodologies, definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities. See box 1 for definition of 'consistent'.
Is summary information on the FREL/FRL presented in the technical annex consistent with data sources contained in the final FREL/FRL assessment report for each corresponding assessed FREL/FRL?			Refer to the final technical assessment report of the FREL/FRL and compare with information presented on data sources (i.e. emission factors, remote sensing data use to generate activity data) applied in the technical annex. As specified in decision 14/CP.19, paragraph 11b, the data and information provided in the technical annex should be transparent, consistent, complete and accurate; noting that: • 'transparent' means that the assumptions and methodologies used should be clearly explained to facilitate replication and assessment of estimates by users of the reported information; • 'consistent' means that estimates should be internally consistent in all elements over a period of years (see also box 1); • 'complete' means the provision of information that allows for

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
			the reconstruction of the results; • 'accurate' means estimates are systematically neither over nor under true emissions or removals, so far as can be judged, and that uncertainties are reduced so far as is practicable.
Is summary information on the FREL/FRL presented in the technical annex consistent with **assumptions** contained in the final FREL/FRL assessment report for each corresponding assessed FREL/FRL?			As specified in decision 14/CP.19, paragraph 11b, the data and information provided in the technical annex should be transparent, consistent, complete and accurate; noting that: 'transparent' means that the assumptions and methodologies used should be clearly explained to facilitate replication and assessment of estimates by users of the reported information; 'consistent' means that estimates should be internally consistent in all elements over a period of years (see also box 1); 'complete' means the provision of information that allows for the reconstruction of the results; 'accurate' means estimates are systematically neither over nor under true emissions or removals, so far as can be judged, and that uncertainties are reduced so far as is practicable. The LULUCF experts should refer to the final technical assessment report of the FREL/FRL and compare it for consistency with information presented on assumptions made in the technical annex.
Are there any discrepancies in values, methodologies, starting or ending years or any other substantial change between the most recent, final assessment report of the FREL/FRL and the summary information on the FREL/FRL presented in the REDD-plus technical annex?			In accordance with decision 14/CP.19, paragraphs 11a and 11c, summary information on the FREL should be provided within the technical annex. The information provided should cover a summary of the values, methodologies applied, start and end date of the historical period. This summary information should be consistent with that reported in the final assessment report of the FREL/FRL. If there have been any changes between the final assessment report and this technical annex they should be explained.

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
If so, have sound explanations on possible discrepancies been provided?			Consistent with decision 14/CP.19, paragraphs 11a and 11b, for transparency reasons, an explanation of any discrepancies should be provided with the technical annex or provided as additional supporting material.
Is the assessed FREL/FRL expressed in tonnes of CO_2 equivalent per year?			Consistent with decision 14/CP.19, paragraph 11c, the FREL/FRL estimates provided in the technical annex should be expressed in tonnes of CO_2 equivalent per year to be consistent in reporting of figures.
Are the REDD-plus activities or activities for which results have been reported in the technical annex included in the assessed FREL/FRL?			As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether there is consistency in methodologies, definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities. See box 1 for definition of 'consistent'. The REDD-plus activities covered by the assessed FREL/FRL should be consistent with the activities reported by the technical annex. This consistency will enable a robust and complete comparison between the FREL/FRL and reported emission reductions.
Is the territorial forest area covered clearly identified in the technical annex?			Decision 14/CP.19, paragraph 11c requires the LULUCF experts to analyse the extent to which summary information, including the territorial forest area covered is included in the technical annex. FREL/FRL and REDD-plus reporting can be at the national or subnational level. To enable consistent comparison and assessment of the reported emission reductions the territorial forest area and/or geographical extent covered by the technical annex should be clearly described and be consistent with that reported in the final technical assessment report of the FREL/FRL.
Is the definition of forest used in constructing the reference level defined and consistent with the			As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether there is consistency in methodologies,

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
definition of forest used by the Party in the BUR?			definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities. The forest definition applied should be disclosed and be consistent between both the final technical assessment report of the FREL/FRL and the REDD-plus technical annex.
Is the date of the FREL/FRL submission and the date of its final technical assessment report included in the technical annex?			As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether there is consistency in methodologies, definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities. The date of the FREL/FRL submission and the date of its final technical assessment report should be checked for consistency with disclosure of the same in the technical annex.
Is the period (in years) of the assessed FREL/FRL included in the technical annex?			As specified in decision 14/CP.19, paragraph 11a, the LULUCF experts should analyse whether there is consistency in methodologies, definitions, comprehensiveness and the information provided between the assessed reference level and the results of the implementation of the REDD-plus activities. The period of the assessed FREL/FRL reported in the final technical assessment report of the FREL/FRL should be consistently reported in the REDD-plus technical annex.
Are the units of reported emission reductions in tonnes of CO_2 equivalent per year?			In accordance with decision 14/CP.19, paragraph 11c, the emission reduction estimates listed in the technical annex should be expressed in tonnes of CO_2 equivalent per year to be consistent with FREL/FRL estimates.
Are the methodologies used to produce the results reported in the technical annex consistent with those used to establish the assessed FREL/FRL?			In accordance with decision 14/CP.19, paragraph 11c, the methodologies used in both the FREL/FRL and the technical annex must be consistent. An inventory is consistent if the same methodologies are used for the base year and all subsequent years and if consistent data sets are used to

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
			estimate emissions or removals from sources or sinks. Parties are encouraged to improve the data and methodologies used over time, while maintaining consistency with the established or, as appropriate, updated FREL/FRL in accordance with decision 1/CP.16, paragraph 71(b) and (c). The technical assessors should identify the text in the technical annex that communicates and/or demonstrates this consistency.
Does the technical annex include a description of NFMS?			In accordance with decision 14/CP.19, paragraph 11c, a description of the data and information used in the NFMS should be provided in the technical annex. This description could include data collection processes and any relationships between the national LULUCF greenhouse gas inventory and related NAMAs (if any, as appropriate). It could also include a description of how the NFMS produces estimates that are transparent, consistent over time, and are suitable for measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes resulting from the implementation of the reported REDD-plus activities.
Does the technical annex include a description of the institutional roles and responsibilities for measuring, reporting and verifying the results?			In accordance with decision 14/CP.19, paragraph 11c, institutional roles and responsibilities for measuring, reporting and verifying the results by the Party concerned should be described in the technical annex.
Is a description provided of how the IPCC guidance and guidelines, have been used as the basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes?			The Revised 1996 IPCC Guidelines in conjunction with the GPG 2000 and the GPG LULUCF should be used by developing countries for estimating and reporting anthropogenic emissions and removals (See decision 4/CP.15 and decision 2/CP.17,annex III, paragraphs 3–10). The 2006 IPCC Guidelines use the same methodological framework as the GPG 2000 and GPG LULUCF. Parties may also choose to apply scientific updates reported in the 2006 IPCC Guidelines and other guidance and guidelines as adopted

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
			by the COP, such as the IPCC Wetlands Supplement, as the basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes. Consistent with the requirements of decision 14/CP.19, paragraph 11c, a description of how such guidelines have been adhered to should be provided in the REDD-plus technical annex.
Does the description of the NFMS include a description of data collection processes?			Decision 14/CP.19, paragraph 11c requires Parties to use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes (see also decision 4/CP.15).
If forest reference emission level and the reported results cover a sub-national area: **Does the description of the NFMS** address **emissions displac**ement at the national level, **and on the means to integrate subnational monitoring systems**?			Decision 1/CP.16, paragraph 71, footnote 7, requests Parties to include in their NFMS monitoring and reporting of emissions displacement at the national level, if appropriate, and reporting on how displacement of emissions is being addressed, and on the means to integrate subnational monitoring systems into a national monitoring system
Does the description of the NFMS include a description of any relationships between the national LULUCF greenhouse gas inventory and related NAMAs (if any)?			Decision 14/CP.19, paragraph 11c and its annex requires a description of the NFMS, including relationships and any subsequent variation in, for example, scope, geographical extent, activities, methodologies and approaches, between the national LULUCF greenhouse gas inventory, related NAMAs and the REDD-plus technical annex.
Does the NFMS build upon existing systems, as appropriate?			Decision 14/CP.19, paragraph 11c requires a description of the NFMS including any existing forest reporting systems, data and information built on by the Party to be explained in the technical annex.
Does the NFMS enable the assessment of different types of forest in the country, including natural			IPCC methods require forest classification and associated stratification and the area of each stratum. A description of the forest

Technical annex elements	Y/N	Comments/explanation	Supporting guidance
forest as defined by the Party?			stratification, inclusive of natural forest, should be provided as part of the description of the NFMS.
Is the presentation of estimates transparent, consistent, accurate to the extent possible, and are uncertainties reduced, taking into account national capabilities and capacities?			In accordance with decision 14/CP.19, paragraph 11b and 11d, the core IPCC principles of developing estimates should be addressed by the technical annex, namely: 'transparency' means that the assumptions and methodologies used should be clearly explained to facilitate replication and assessment of estimates by users of the reported information; 'consistency' means that estimates should be internally consistent in all elements over a period of years (see also box 1); 'completeness' means the provision of information that allows for the reconstruction of the results; 'accuracy' means estimates are systematically neither over nor under true emissions or removals, so far as can be judged, and that uncertainties are reduced so far as is practicable.
Are the results available, suitable and presented completely to allow their reconstruction?			In accordance with decision 14/CP.19, paragraph 11b and 11c, the technical annex should present the necessary information that allows for the reconstruction of results. This requirement does not necessarily require the LULUCF experts to reproduce the results but rather assess whether enough information has been provided to allow for their reconstruction.

Abbreviations: GHG = greenhouse gas, FREL/FRL = forest reference emission level/forest reference level , LULUCF = land use, land-use change and forestry, REDD = reducing emissions from deforestation and forest degradation in developing countries, BUR = biennial update reports , CO2 = carbon dioxide, NFMS = national forest monitoring system, NAMAs = nationally appropriate mitigation actions, IPCC = Intergovernmental Panel on Climate Change, GPG 2000 = Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, GPG LULUCF = Good Practice Guidance for Land Use, Land-Use Change and Forestry

2.5. OUTPUT OF THE TECHNICAL ANALYSIS OF THE REDD-PLUS TECHNICAL ANNEX

In general, the TTE will, in consultation with the Party concerned, produce a summary report capturing the outcome of the technical analysis of the BUR. For those BURs that contain a technical annex containing data and information on

REDD-plus, the two LULUCF experts undertaking the technical analysis of the technical annex, will produce a technical report.

In accordance with decision 14/CP.19, paragraph 14, the LULUCF experts, under their collective responsibility, will develop a technical report following the technical analysis of the technical annex and it will contain:

- the technical annex submitted by the Party;
- analysis of the technical annex by the LULUCF experts;
- areas for technical improvement such as improvements to data and methodologies;
- any comments or responses by the Party concerned, including areas for further improvement and capacity-building needs.

This report, containing all the elements listed above, will be published by the secretariat on the UNFCCC REDD web platform.[4]

Below is a checklist of the requirements to be included in the technical analysis technical report completed by the LULUCF experts following the technical analysis process. This checklist could be used as a support tool for the completion of the technical analysis report by the LULUCF experts (table 2).

[4] http://unfccc.int/methods/redd/redd_web_platform/items/4531.php

Table 2
Elements to be included in the technical analysis report developed by the two land use, land-use change and forestry experts of the team of technical experts

Technical analysis report	Y/N	Guidance
Is the technical annex submitted by the Party included in the report?		The technical annex submitted by the Party should be part of the technical analysis report developed by the two LULUCF experts of the TTE.
Is an analysis of the technical annex presented?		The analysis provided by the LULUCF experts could include information on how the technical analysis was conducted, the material presented by the Party and how that material addressed the elements listed in the analysis checklist (table 1).
Are areas for technical improvement explained?		The LULUCF experts are able to suggest areas where technical improvements could be made. These technical improvements could relate to the list of elements presented in the checklist. The suggested improvements should be limited to technical aspects of the data and information presented in the REDD-plus annex.
Are any comments and responses by the Party concerned, including areas for further improvement and capacity building needs if noted by the Party concerned, as appropriate, documented?		The Party submitting the REDD-plus technical annex can note areas for further improvement and capacity-building which the LULUCF experts should document in their technical analysis report. It is not the role of the LULUCF experts to suggest non-technical improvements such as capacity-building needs.

Abbreviations: LULUCF = land use, land-use change and forestry, REDD = reducing emissions from deforestation and forest degradation in developing countries, TTE = team of technical experts

The workflow of the technical analysis of the technical annex is presented in figure 1. The large blue arrows represent the path related to the submission of the annex in the context of the four REDD-plus elements, noting that the technical annex includes the assessed FREL/FRL, descriptions of relevant sections of the NFMS and the results from implementation of REDD-plus activities compared against the assessed FREL/FRL and reported in tonnes of CO_2 equivalent per year. The report produced by the LULUCF experts is made available on the UNFCCC REDD web platform.

Summary of key points:

- The technical analysis of the technical annex is to be conducted by the TTE, which will include two LULUCF experts;
- The elements included in the technical annex submission are:

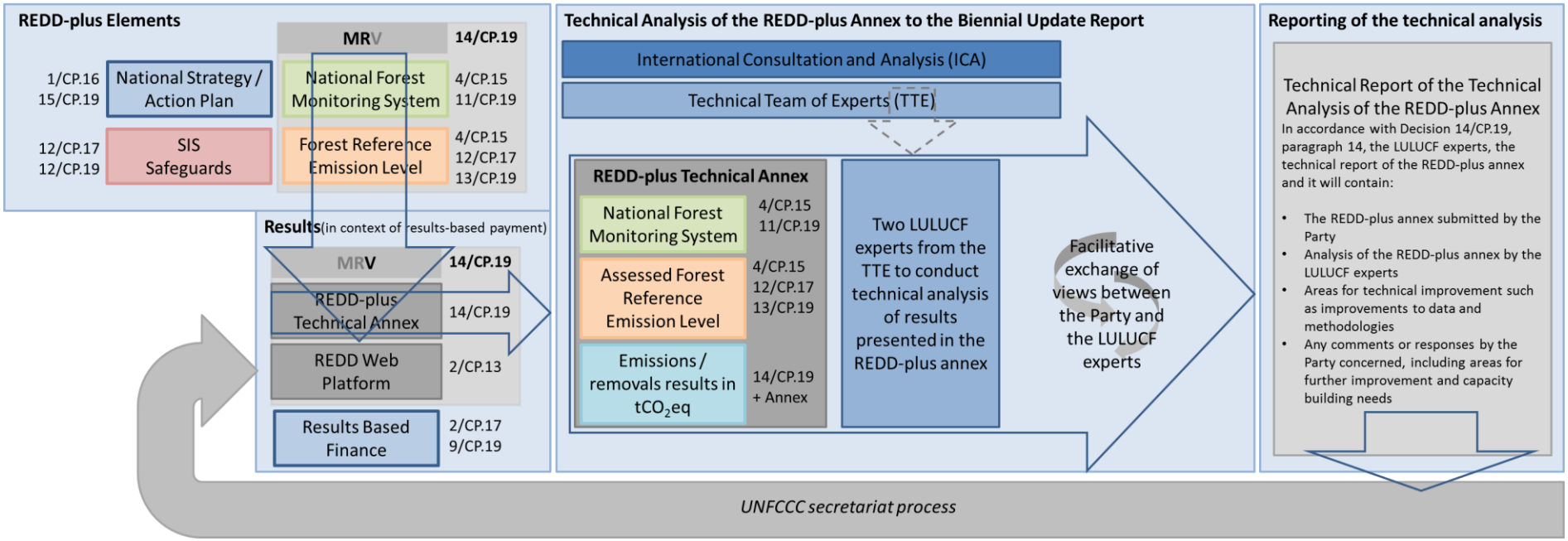
a) the assessed FREL/FRL;

b) a description of the NFMS, which could include data collection processes and any relationships between the national LULUCF greenhouse gas inventory, the REDD-plus safeguard information system, and related NAMAs (if any, as appropriate);

c) realized emission reductions resulting from the implementation of REDD-plus activities.

- National strategy and action plans and safeguards are excluded from the technical analysis;
- The LULUCF experts must submit a report on the technical annex that will be published on the UNFCCC REDD web platform.

Figure 1
Scope and process of technical analysis of the REDD-plus technical annex



Abbreviations: ICA = international consultation and analysis, LULUCF = land use, land-use change and forestry, REDD = reducing emissions from deforestation and forest degradation in developing countries, MRV = measurement, reporting and verification, SIS = Safeguards Information System, TTE = team of technical experts, tCO2e = tonnes of carbon dioxide equivalent,

GLOSSARY

Accuracy: Accuracy is a relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, so far as can be judged, and that uncertainties are reduced so far as is practicable.

Adaptation: Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.

Annex I Parties: Parties included in Annex I to the Convention that were members of the Organisation for Economic Co-operation and Development in 1992, plus countries with economies in transition, including the Russian Federation, the Baltic States, and several Central and Eastern European States.

Capacity-building: In the context of climate change, the process of developing the technical skills and institutional capability in developing countries and economies in transition to enable them to address and report effectively on the implementation of the Convention.

Completeness: Completeness means that the estimates include all sources and sinks for the full geographic coverage, as well as all gases included in the Intergovernmental Panel on Climate Change guidelines.

Conference of the Parties (COP): The supreme body of the Convention. It currently meets once a year to review the Convention's progress. The word ‘conference’ is not used here in the sense of ‘meeting’ but rather of ‘association’. The ‘Conference’ meets in sessional periods, for example, the ‘fourth session of the Conference of the Parties’.

Consistency: Consistency means that estimates should be internally consistent in all their elements over a period of years. Estimates are consistent if the same methodologies are used for the base year and all subsequent years and if consistent data sets are used to estimate emissions or removals from sources or sinks. Parties are encouraged to improve the data and methodologies used over time, while maintaining consistency with the established or, as appropriate, updated reference levels.

Deforestation: Conversion of forest to non-forest.

Greenhouse gases (GHGs): The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_20). Less prevalent – but very powerful – GHGs are hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride (SF_6).

Implementation: Actions (legislation or regulations, judicial decrees, or other actions) that governments take to translate international accords into domestic law and policy.

Intergovernmental Panel on Climate Change (IPCC): Established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, the IPCC surveys worldwide scientific and technical literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the Convention's subsidiary bodies. The IPCC is independent of the Convention.

International Consultation and Analysis (ICA): A process under the Convention, whereby the biennial update reports from developing country Parties are considered, through a technical analysis and a facilitative sharing of views, in manner that is non-intrusive, non-punitive and respectful of national sovereignty. It aims to increase transparency of mitigation actions and their effects.

Land use, land-use change and forestry (LULUCF): A greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities.

Measurement, reporting and verification (MRV): A process/concept that entails reporting by Parties on their actions to implement the Convention, which are subjected to international verification, with a view to facilitate discussions on such implementation. The reporting and verification are undertaken on the basis of relevant guidelines adopted by the Conference of the Parties.

National communication: A document submitted in accordance with the Convention (and the Protocol) by which a Party informs the Conference of the Parties of activities undertaken to address climate change. Most developed countries have now submitted their fifth national communications; most developing countries have completed their second national communication and are in the process of preparing their third.

Nationally appropriate mitigation actions (NAMAs): At COP 16 in Cancun in 2010, it was agreed that developing countries will undertake nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity-building, aimed at achieving a deviation in greenhouse gas emissions relative to ‘business as usual’ emissions in 2020.

Party: A state (or regional economic integration organization such as the European Union) that agrees to be bound by a treaty and for which the treaty has entered into force.

Policies and measures (PAMs): A frequently used phrase – sometimes abbreviated as PAMs – referring to the steps taken or to be taken by countries to reduce greenhouse gas emissions under the UNFCCC and the Kyoto Protocol. Some possible policies and measures are listed in the Protocol and could offer opportunities for intergovernmental cooperation.

REDD-plus: REDD-plus refers to reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries.

Technical analysis: The process undertaken to analyse the results of the biennial update report submitted by Parties not included in Annex I to the Convention,

including REDD-plus actions reported in the voluntarily submitted technical annex to the biennial update report. The initiation of the technical analysis is part of the international consultation and analysis and where a technical annex forms part of the biennial update report, the technical analysis by the team of technical experts is subsequent to the completion of a technical assessment of the forest reference emission levels and/or forest reference levels and the submission of a technical annex on results-based actions relating to REDD-plus.

Technical annex: The technical annex to the biennial update report that contains data and information on REDD-plus actions voluntarily submitted by developing country Parties seeking to receive payments for results-based actions.

Technical assessment: The process undertaken to assess the submitted REDD-plus forest reference emission levels and/or forest reference levels. This process is separate to and conducted in advance of the technical analysis of the technical annex.

Transparency: Transparency means that the assumptions and methodologies used should be clearly explained to facilitate replication and assessment of the inventory by users of the reported information. The transparency of inventories is fundamental to the success of the process for the communication and consideration of information.