

POLICY BRIEF

UNFCCC Accounting for Forests: “What’s in and what’s out” of NDCs and REDD+



Contents

What is the difference among and how are forests included in:

- National GHG inventories (GHGIs)
- Nationally Determined Contributions (NDCs) and
- REDD+ reference levels

How are forests accounted for within Nationally Determined Contributions?

- How comprehensive is coverage of forests?
- How transparent is the accounting?

How are forest accounted when measuring REDD+ performance?

- What forest fluxes are covered in REDD+ reference levels?
- What are the implications?

Forests in UNFCCC Reporting and Accounting

What is the difference between **reporting** and **accounting** under the UNFCCC?

What is Reporting?

Providing estimates of national GHG emissions and removals, typically in a GHG inventory that may be within:

- **National Communications**
(all countries, every 4 years)
- **National Inventory Reports**
(Annex I only, annual submission)
- **Biennial Reports**
(Annex I only)
- **Biennial Update Reports**
(non-Annex I)

Reporting should be based on **IPCC Guidelines** for national GHG Inventories.

What is Accounting?

Quantification of whether, and how a country achieved a quantitative commitment or target.

Examples of accounting include:

- **Kyoto Protocol “targets”**
(developed country KP Parties only)
- **Nationally Determined Contributions**
(all countries, except LDCs and SIDs)
- **Measuring REDD+ results**
(developing countries only)

Accounting is based on reported estimates but **requires a baseline or reference level** against which to measure performance.

What are the different purposes of national GHG inventories, NDCs and REDD+?



	UNFCCC concept	Objective
REPORTING	National GHG inventories (GHGIs)	<p>National GHG inventories provide the basis for measuring countries' mitigation efforts. As such, they are focused on reporting <i>anthropogenic</i> emissions and removals.</p> <p>GHGIs will be critical for tracking progress for the successive stocktaking under the Paris Agreement.</p>
ACCOUNTING	Nationally Determined Contributions (NDCs)	Each country that ratifies the Paris Agreement puts forward a mitigation contribution; those with quantified contributions (all countries except LDCs and SIDs) must clarify a baseline in order to account for its future "target". NDCs should provide a clear understanding of climate change action, build mutual trust and confidence, and promote effective implementation.
	REDD+	Most country's, when submitting a REDD+ reference level state that they do so "in the context of accessing results-based payments".



What forest fluxes are “covered” (included) in GHG inventories, NDCs and REDD+?



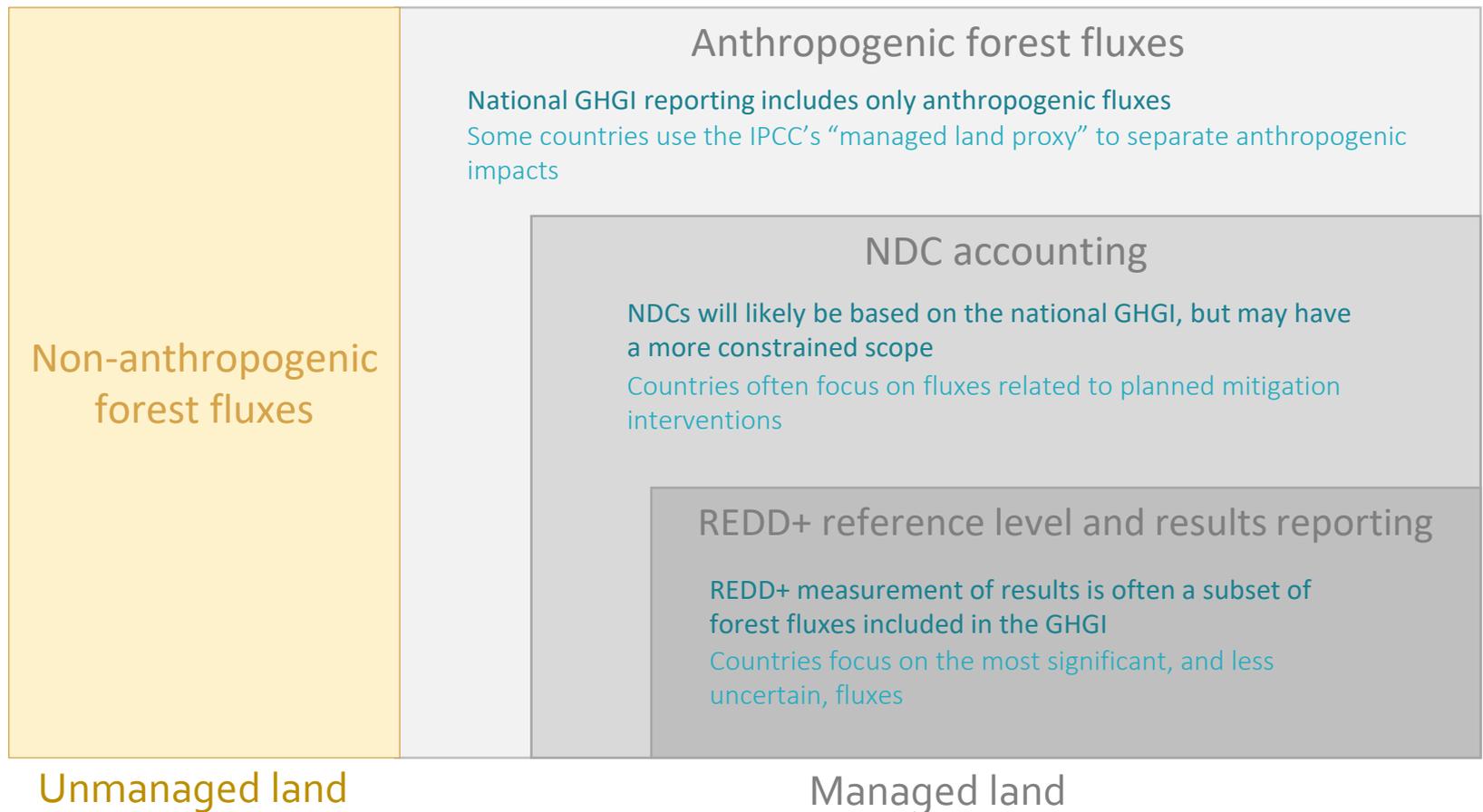
		Scope of forest fluxes	Limitations, in practice
ACCOUNTING	REDD+	Significant** anthropogenic forest-related emissions/removals	Countries often choose only the most significant emissions (e.g. from deforestation) and exclude degradation and regrowth; currently not all REDD+ baselines are national in coverage
		NDCs	In addition to limitations above, many NDCs are unclear as to the comprehensiveness, or accounting methods that will be used, for the land sector (including forests)
REPORTING	GHGI	Anthropogenic emissions/removals, i.e. fluxes that occur on managed lands*	National capacities or lack of scientific methods may limit full reporting of forest fluxes



* For information on the managed land proxy, see *GHG Fluxes from Forests: An assessment of national GHG estimates and independent research in the context of the Paris Agreement*

** COP decisions state that countries should not omit significant fluxes, but do not define “significant”

The scope of coverage narrows moving from GHGI reporting to NDC and REDD+ accounting



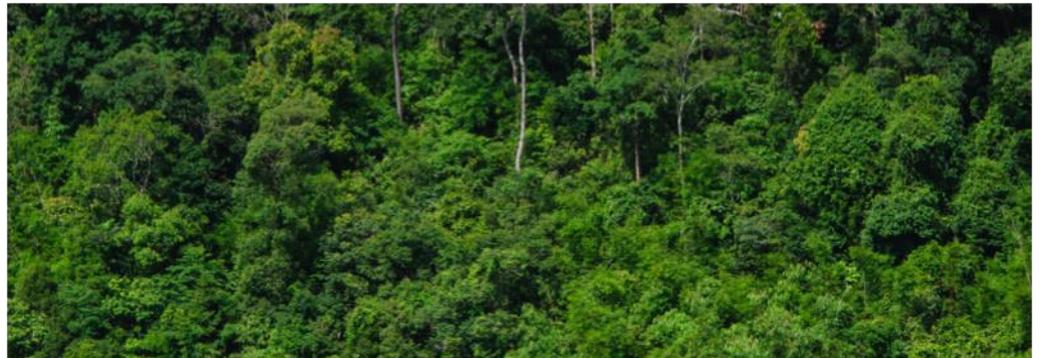
Forests in Nationally Determined Contributions (NDCs)

What is the requirement for countries to include forest fluxes in NDCs?

COP Decision (1/CP.21) countries states that countries should “*strive to include all categories of anthropogenic emissions or removals in their nationally determined contributions and ... provide an explanation of why any categories of anthropogenic emissions or removals are excluded*”.

This implies that **countries should include all forest fluxes in their NDCs, particularly if they represent significant emissions or removals.**

Forests sequester around one-third of the world’s emissions—and must be protected and expanded in order to meet Paris Agreement goals.



What is the current coverage of forests in the Paris Agreement (NDCs)?

Among the top 50 countries by forest area, 12 have not yet ratified the Paris Agreement—**leaving nearly a billion hectares of forest “outside” of potential country contributions.** Russia is the most important among these with over half a billion hectares of forests.

Countries that have not ratified the PA	Forest Area* (million hectares)
Russia	522.4
Colombia	58.5
Angola	57.9
Venezuela	46.7
Tanzania	46.1
Mozambique	37.9
Myanmar	29.0
Sudan	19.2
Suriname	15.3
Zimbabwe	14.1
Ecuador	12.5
Turkey	11.7
TOTAL	871 million ha

*Based on 2015 FAO Forest Resources Assessment

What is the current coverage of emissions from forests in NDCs?

Forests are also responsible for around 10% of total global emissions.

Among the top 50 countries by net forest loss, 14 have not yet ratified the Paris Agreement—**leaving over 1.1 GtCO₂ currently “outside” of potential country contributions.**

Countries that have not ratified the PA	Forest emissions* (MtCO ₂ eq/yr)
Tanzania	237.0
Dem. Rep. of the Congo	197.5
Myanmar	173.6
Venezuela	118.4
Sudan	91.2
Zimbabwe	67.3
Ecuador	58.4
Mozambique	55.7
Angola	45.9
Colombia	30.0
Russia	29.6
Liberia	20.0
South Sudan	17.6
Togo	11.0
TOTAL	1,153 MtCO₂

*Estimates of emissions from net forest change derived from country report to FAO's Forest Resources Assessment

How countries *account* for forests within their NDCs can make a substantial difference...

Baselines

Few countries specified what baseline they will apply for the land sector:

- Is the baseline used the same as other sectors (e.g. emissions in a base year)?
- Has a business-as-usual baseline been calculated, and if so, how?
- Will other accounting methods be used (e.g. Kyoto Protocol methods)?

Coverage

Countries should clarify the scope of coverage in their NDC, including:

- Category coverage
- Pools
- Gases

HWPs

IPCC Guidelines provides multiple approaches for countries to report on harvested wood products:

- Production approach
- Stock change approach
- Atmospheric-flow approach
- Simple decay

Natural disturbances

Countries should specify if (and how) they may intend to exclude natural disturbances from NDC accounting:

- For example, if a country intends to employ the methods used under the Kyoto Protocol to avoid risks of disturbances beyond human control.

To date, very few countries have specified how they intend to *account* for forests within their NDCs

Australia, Canada and the United States provided the clearest accounting methods...

Country	Baseline	HWPs	Natural Disturbances
Russia	Unclear (gross-net approach implied)	Not specified	Not specified
Brazil	2005 base year	Not specified	Not specified
Canada	2005 base year	Production approach	Will exclude ND
United States	2005 base year	Production approach	May exclude ND
China	Unclear (gross-net approach implied)	Not specified	Not specified
EU	Not specified	Not specified	Not specified
DRC	Quantified BAU	Not specified	Not specified
Australia	2005 base year	Not specified	Will exclude ND
Indonesia	Quantified BAU	Not specified	Not specified
Peru	Not specified	Not specified	Not specified

There are other issues regarding forests in NDCs, particularly in developing country submissions...

Unrealistic targets. Some countries appear to put forward quantified contributions that will be extremely difficult to achieve, for example, an ambition to reforest millions of hectares of land without strong precedent of success in restoration efforts.

Unrealistic costs. Countries indicated abatement costs for forest-related mitigation ranging from less than \$1 to over \$800 per ton.

Forest removals. Some countries suggested unrealistic estimates of their forest sink—illustrating the value of future reviews to enhance the credibility of NDCs.

Accounting for REDD+ results

What forest fluxes are included within REDD+?

The “Cancun decision” on REDD+ defined five forest-related activities that together suggest comprehensive coverage of all GHG fluxes from forests:

IPCC category	REDD+ activity
Forest converted to non-forest (F→NF)	Reducing emissions from deforestation
Forest remaining forest (F→F)	Reducing emissions from forest degradation , Sustainable Management of Forests and/or Conservation of forest carbon stocks
Non-forest to forest (NF→F)	Enhancement of forest carbon stocks

COP guidance states that countries can select activities provided that “**significant pools or activities should not be omitted**”, suggesting that countries should be comprehensive in their coverage of forest fluxes.

What area coverage have countries chosen when developing REDD+ reference levels?

To date, 25 countries have submitted REDD+ reference levels.

While most countries have submitted national FREL/FRLs, five countries have opted to submit subnational reference levels, which is acceptable per COP guidance that this may be done as an interim measure.

	BRAZIL	BRAZIL (II)	CAMBODIA	CHILE	COLOMBIA	COSTA RICA	ECUADOR	ETHIOPIA	HONDURAS	GUYANA	GHANA	INDONESIA	IVORY COAST	MADAGASCAR	MALAYSIA	MEXICO	NEPAL	PARAGUAY	PERU	PNG	REP. CONGO	SRI LANKA	TANZANIA	UGANDA	VIETNAM	ZAMBIA	
National															*												
Subnational (administrative)				22%																							
Subnational (biome)	49%	24%			40%														61%								

*Malaysia only includes production forest areas gazetted as Permanent Reserved Forest (PRF) lands, whose areas change annually and comprised 20 to 34% of forests from 1990 to 2012.

What is the current **activity coverage** in REDD+ reference levels?

Most countries include deforestation, but many lack data on degradation and regrowth—even though in some cases estimates are provided in GHGs. Some include forest degradation but have partially included such estimates—for example, using logging data to estimate forest degradation, but not degradation caused by fuelwood harvesting or fire.

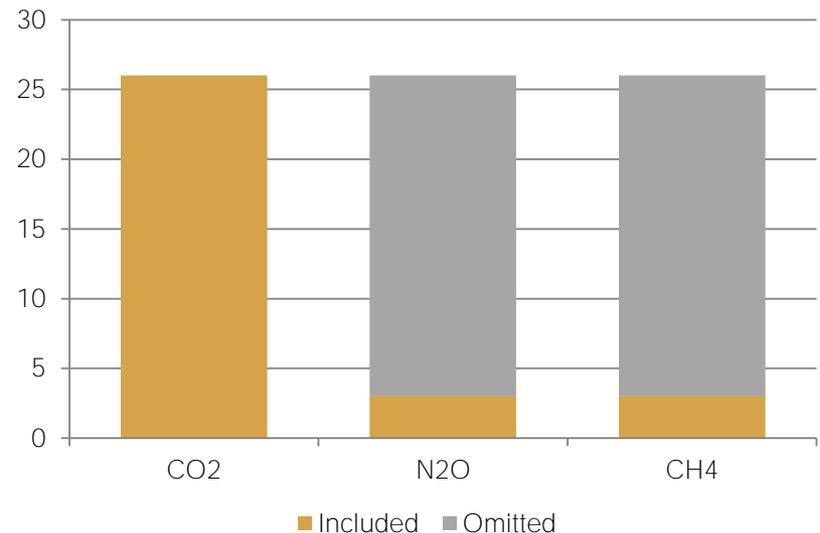
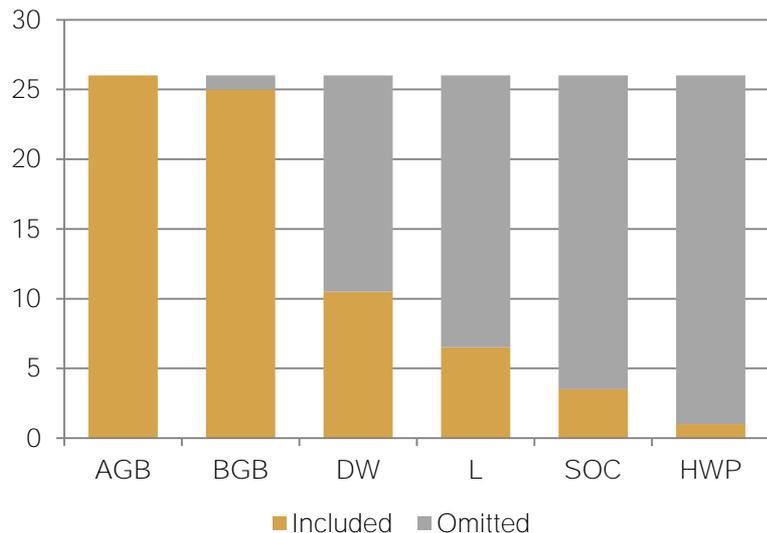
	BRAZIL	BRAZIL (II)	CAMBODIA	CHILE	COLOMBIA	COSTA RICA	ECUADOR	ETHIOPIA	HONDURAS	GUYANA	GHANA	INDONESIA	IVORY COAST	MADAGASCAR	MALAYSIA	MEXICO	NEPAL	PARAGUAY	PERU	PNG	REP. CONGO	SRI LANKA	TANZANIA	UGANDA	VIETNAM	ZAMBIA
Deforestation																										
Degradation																										
Enhancement			**	**		**		*			*		*				**			**		*			*	
SMF																										
Conservation																										

*Conversion from non-forest to forest; **Conversion from non-forest to forest and enhancements in forest remaining forest

What is the current coverage of pools & gases in REDD+ reference levels?

Above and belowground biomass represent the most significant source of emissions for countries, and most include these pools in their FREL/FRLs but do not include deadwood, litter, or soil due to a lack of data.

Generally, only higher capacity countries are able to include N₂O and CH₄ from forest fire.



How do REDD+ reference levels relate to payments?

REDD+ reference levels are constructed “in the context of receiving results-based payments” following general guidance provided by the UNFCCC decisions

Showing results...

Countries are submitting reference levels to the UNFCCC using the data and information they have available at this stage.

The UNFCCC states that countries can make stepwise improvements when developing REDD+ reference levels. The Technical Assessment process, designed to be “non-intrusive”, is instrumental in helping developing countries improve GHG forest flux estimates.

...and receiving finance?

Experiences with results-based finance are only now emerging. In some of these cases, where baselines are established to measure results for payments, there is further guidance—often linked to the nature of the payment (e.g. funds that pilot carbon market transactions have tighter constraints).

The Green Climate Fund—the official financial entity of the UNFCCC—has not yet developed the modalities to link results with final payments.

Conclusions

Data is improving. While both NDCs and REDD+ reference levels are often incomplete, they represent additional—and often new and improved—sources of data on countries' forest fluxes.

Assessment and review processes build capacity. UNFCCC technical assessments and analyses have been instrumental in improving developed country GHG forest flux estimates; the start of BUR analyses and REDD+ reference level assessments will help to build developing countries' capacities to better measure forest fluxes.

Transparency is critical. Countries must provide clear information on the scope of forest fluxes in their mitigation contribution, and also details on how they intend to account for forest-related emissions and removals—to build confidence in NDCs.

REDD+ results-based finance is only just emerging. Donors and forest countries are starting to pilot payments for positive performance—much will be learned in the coming years on how such incentives may operate.

