



PLANT

Paris Agreement LULUCF Assessment & NDC Tool

Reference Manual

- Methodological assumptions and premises used to fill in the database and calculation for PLANT.
- Reference documents used as sources of information.
- Methodological limitations and future improvements for PLANT.





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INTRODUCTION

The Paris Agreement LULUCF Assessment & NDC Tool (PLANT) was created by the UNDP Climate & Forests Programme as an agile database to consolidate country data on GHG emissions and removals from the land use, land use change and forestry (LULUCF) sector. By systematizing and illustrating publicly available data, the tool allows countries to assess key elements for the implementation of the Paris Agreement from the perspective of the LULUCF sector. PLANT has been populated with data from 56 REDD+ countries and 16 subnational jurisdictions and is used by UNDP climate and forests experts to evaluate options and support developing countries' decisions for the implementation of their Nationally Determined Contributions (NDC).

PLANT is constantly updated and improved through the cross-referencing of data and its validation by international LULUCF experts, consultations, and review of the information by government representatives and national experts, and collaboration with other international and national organizations.

This reference manual contains detailed information on methodological assumptions and premises used to fill in the database for PLANT, the documents used as sources of information as well as the methodological limitations and future improvements needed.

This document was divided into the same sections contained in the PLANT Power BI.

Global page

PLANT's Global page gathers information on global GHG emissions and removals from forest countries that have already submitted a reference level to the UNFCCC.

It also shows the accumulated REDD+¹ results and a quantitative summary of the information that these countries have submitted to the UNFCCC or that is relevant to be considered in the context of the implementation of the Paris Agreement.

The following categories have been included: the Nationally Determined Contribution (NDC) to the Paris Agreement, the Warsaw Framework for REDD+ (WFR), the Biennial Update Reports (BURs), the Enhanced Transparency Framework (ETF), as well as an estimate of Carbon Market Potential, based on two voluntary carbon market standards for jurisdictional REDD+.

¹ Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable forest management or forests and enhancement of forest carbon stocks in developing countries.



Global GHG emissions

Sources & references

Global GHG emissions per sector: 2019 IPCC report on Climate Change and Land (Chapter 2).

Methodological assumptions, basis for data, and premises

These figures should be updated once any new IPCC report containing GHG data for the LULUCF sector in a global context is released.

of countries in PLANT

Sources & references

A country is included in PLANT if it has submitted a REDD+ reference level to the UNFCCC. This criterion was defined as a proxy to indicate the likelihood of having at least the minimum amount of country-based information to populate the database.

REDD+ countries have been working for more than 10 years in the development of their national forest monitoring systems and their measurement, reporting and verification (MRV) systems to inform policies and measures to mitigate and adapt to climate change. PLANT is supportive of these sovereign processes understanding that countries' willingness to set up climate targets and frequently report to the UNFCCC is likely to be greater using national data.

Methodologies

N/A

Methodological assumptions, basis for data, and premises

The submission of a REDD+ reference level is the trigger for the inclusion of a new country into PLANT. PLANT information will be updated when countries make a new REDD+ submission to the UNFCCC REDD+ portal or other forest climate finance initiatives.

Limitations

The tracking of new submissions on the various portals is a challenge, so the team is tasked to check the various websites periodically. Since REDD+ reference level and REDD+ results submissions go through either a technical assessment or technical analysis process, the information is only updated when the submission is considered final. Reference levels can be modified during the assessment process, while the REDD+ technical annex is not. In some cases, upon the request of a government representative or UNDP country office, preliminary information may be included in the PLANT database as a means to run assessments and define



the final submission. While PLANT was under construction, the updating of the information experienced some delays.

Future improvements

New information should be included in the PLANT database no later than one week after it is made public. The team continues to explore ways and means to generate alerts when new information becomes available.

LULUCF emissions time series from countries in PLANT

Sources & references

The most recent GHG Inventories submitted to the UNFCCC by the countries included in PLANT, which can be found on GHGI, NC, or BUR:

1. [Greenhouse gas inventory submissions from non-Annex I Parties | UNFCCC](#)
2. National Communications (NC): <https://unfccc.int/non-annex-I-NCs>
3. BUR: <https://unfccc.int/BURs> (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

For the estimation of countries' total emissions, LULUCF net emissions are used. Developing countries typically report net emissions from the AFOLU sector, so in some cases, net emissions from the LULUCF are estimated. Net emissions are generally calculated by taking the emissions from the land category (3. B according to the 2006 IPCC guidelines) and others (3.D according to the 2006 IPCC category) where emissions and removals from harvested wood products are included. On the other hand, some countries report the net emissions of the LULUCF sector but not the gross emissions, in this case, gross emissions are calculated if disaggregated information on emissions and removals is available.

In some cases, disaggregated information is available to estimate net and gross emissions, but the countries do not report emissions in CO₂-e. For the countries where CO₂-e is not available, but there are detailed data on the gases, the CO₂-e is calculated based on the GWP reported by the countries. If no GWP values are found, emissions are estimated using GWP from the IPCC AR5.

Methodological assumptions, basis for data, and premises

The gross emission in the graph is based on annual CO₂-e emissions from the country's latest GHG inventory. The net emissions in the graph are based on annual CO₂-e emissions and removals from the country's latest GHG inventory. Not all countries have both emission and



removal data in their GHG inventory reports. In some cases, this information is not consistently reported by countries.

Limitations

It must be noted that the variations between the years showcased in the graphs do not represent GHG emissions global trends. There are a different number of countries reporting GHG emissions and removals for different years. Not all countries have consistently reported their annual GHG emissions through their national inventories submitted to the UNFCCC. In addition to that, there are inconsistencies across countries regarding their national GHG inventory methodologies.

Some countries do not report disaggregated information on emissions and removals, so it is not possible to calculate gross emissions unless negative numbers are assumed to be removals (which generally correspond to net emissions, not removals) and are not included in the sum for the estimation of gross emissions. In other cases, internal inconsistencies in the reports are observed, making the understanding of LULUCF emissions and their consistency with national or AFOLU totals difficult.

Nevertheless, despite these limitations, it is still valuable to visualize the data from countries and compare reported emissions from the LULUCF sector among them.

Future improvements

As countries begin ETF implementation in 2024 and beyond this information is likely to become more consistent across countries. These improvements will be incorporated into PLANT.

Including in the tool specific sources of information and methodology applied for the estimates from the countries' documents (tables, pages, and sections) are on the radar for future improvements.

Accumulated REDD+ Results

Sources & references

Technical Annexes on REDD+, which are submitted in conjunction with the BURs (<https://unfccc.int/BURs>).

REDD+ reference level (referred to in PLANT as "FREL"):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)



3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Methodologies

REDD+ Results for countries are included in PLANT as presented in the TA.

Methodological assumptions, basis for data, and premises

A country may have more than one reference level included in PLANT, results for each reference level are included as presented in the TA.

Limitations

Not applicable.

Future improvements

Not applicable.

Countries categorization by percentage & Country summary per category

This section presents a quantitative summary of the information that countries in PLANT have submitted to the UNFCCC or that is relevant to be considered in the context of the implementation of the Paris Agreement. For more details, see “Country summary per category”.

Sources & references

NDC

Source: Most recent NDC submitted to the UNFCCC by the countries in PLANT. Available at: <https://unfccc.int/NDCREG>

WFR

Source: Most recent FREL/FRL, Summary of Information on Safeguards (Sol), and National REDD+ Strategy submitted to the UNFCCC by the countries in PLANT. Available at: <https://redd.unfccc.int/info-hub>

BUR

Source: Most recent BUR submitted to the UNFCCC by the countries in PLANT. Available at: <https://unfccc.int/BURs>

ETF



Source: Most recent NDC and BUR submitted to the UNFCCC by the countries in PLANT. Available at: <https://unfccc.int/BURs> and <https://unfccc.int/non-annex-I-NCs>

Market Potential

Source: Most recent NDC submitted to the UNFCCC by the countries in PLANT. Available at: <https://redd.unfccc.int/info-hub>

Methodologies

For the NDC summary, the information was included as presented in each country's most recent NDC submitted to the UNFCCC (which corresponds to the first NDC, first updated NDC, or second NDC).

Methodological assumptions, basis for data, and premises

Not applicable.

Limitations

In some cases, it is tough to understand and interpret the targets that countries present under the NDCs, especially when it comes to NDCs based on policies and actions. In some cases, it is not clear how the target is defined (for instance, when the country presents a reduction percentage against the BAU scenario in 2030 and the maximum level of emissions that must be reached in that year), how the baseline or reference point is defined, what are the indicators used to follow the goal, whether the goal is binding or not (when complementary goals in the LULUCF sector or focused on the reduction of black carbon are presented), if the target is conditional or not, or the contribution of the LULUCF sector to the NDC.

This may have implications on how the target is tracked and how the country's participation in carbon markets will be tracked toward the achievement of the NDCs.

The information presented in PLANT is interpreted to be the best knowledge of the professionals involved to deliver the most reliable information possible.

Future improvements

Not applicable.

Overview page

PLANT's Overview page shows country-specific information. Among them, GHGI annual historical time series, REDD+ reference level (which includes FREL - emissions only, and FRL -



emissions and removals, referred to in PLANT just as “FREL”), REDD+ results, and summary of TREES and JNR potential results.

GHGI annual historical time series

Sources & references

The most recent GHG Inventory submitted to the UNFCCC by the country, which can be found in the Greenhouse gas inventory (GHGI), National Communication (NC), or BUR:

1. [Greenhouse gas inventory submissions from non-Annex I Parties | UNFCCC](#)
2. National Communications (NC): <https://unfccc.int/non-annex-I-NCs>
3. BUR: <https://unfccc.int/BURs>

Methodologies

When detailed information on emissions by gas and categories is presented but is not expressed in terms of CO₂-e. In these cases, emissions are converted using GWP values referred to in national reports. Otherwise, if no GWP values are found, emissions are estimated using GWP from the IPCC AR5 to keep consistency with the Modalities, Procedures and Guidelines adopted under the transparency framework of the Paris Agreement.

Methodological assumptions, basis for data, and premises

For the LULUCF sector historical time series, net emission data is adopted when available. When not available, gross emission data is adopted.

If the information on the time series of all sectors is incomplete but the information on the LULUCF sector time series is complete, emissions of the LULUCF sector are presented, but not the national totals.

Limitations

There are limitations if countries report annual emissions by gases and not by categories or sectors, or emissions by gases without converting to CO₂-e and not including the GWP used to estimate emissions in terms of CO₂-e.

Another limitation is found when countries report time series for some sectors but not for all emissions, resulting in gaps in the time series.

Future improvements

Including in the tool specific sources of information and methodology applied for the estimates from the countries' documents (tables, pages, and sections) are on the radar for future improvements.

GHGI vs FREL | FREL vs actual emissions

Sources & references

The most recent GHG Inventory submitted to the UNFCCC by the country, which can be found in the GHGI, NC, or BUR:

1. [Greenhouse gas inventory submissions from non-Annex I Parties | UNFCCC](#)
2. National Communications (NC): <https://unfccc.int/non-annex-I-NCs>
3. BUR: <https://unfccc.int/BURs>

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Actual emissions: same sources as FREL, and emissions and removals reported in the Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

Not applicable.

Methodological assumptions, basis for data, and premises

For the LULUCF sector historical time series, net emissions information is adopted when available. When not available, gross emissions information is adopted.

For the “FREL vs. Actual Emissions” chart, “Mean” represents the average of the annual values of emissions and removals reported in the FREL/FRL, “FREL” represents the forest reference level for the results period, and “Actual Emissions” represent the emissions and removals reported annually.

Limitations

Not applicable.

Future improvements

Not applicable.

REDD+ results

Sources & references

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>).

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

REDD+ Results for countries are included in PLANT as presented in the TA.

Methodological assumptions, basis for data, and premises

A country may have more than one reference level included in PLANT, results for each reference level are included as presented in the TA. If no specific FREL is selected as a filter in the tool, the graph will show all results across the different reference levels.

Limitations

Not applicable.

Future improvements

Not applicable.

RBP & VCS/ PLAN VIVO

REDD+ jurisdictional level carbon markets standards such as ART/TREES and JNR/Verra require that the carbon credits issued and registered by forest carbon projects within the same area are discounted from the potential results for which the jurisdiction is seeking certification. This means that private-sector voluntary carbon projects reduce the total amount of credits eligible to be issued, and therefore the associated resources that national governments can potentially accrue using these standards.



RBP (Results-based Payments) graph gathers ERs results for which the countries in PLANT have received (or will receive) payment, VCS (Verified Carbon Standard) & Plan Vivo gathers financed ERs from voluntary projects within the country or jurisdictions.

Sources & references

REDD+ results paid for:

- a) Quantities for which payments were received (Available at: <https://redd.unfccc.int/info-hub>)
- b) FCPF platform (<https://www.forestcarbonpartnership.org/country/>)

Verra Search Page (Available at [Verra Search Page](#)).

Plan Vivo Issuances (Available at [Plan Vivo Issuances](#)).

Methodologies

Not applicable.

Methodological assumptions, basis for data, and premises

The voluntary projects considered in PLANT are the ones registered on the VCS and Plan Vivo standards.

The Verra projects accounted for in PLANT are the ones within the scope of the agriculture, forestry, and other land use (AFOLU) sector and that adopt one or more of the methodologies listed below:

- i. A/R:
 - a. AR-ACM0003 ([Link](#)) - Afforestation and reforestation of lands except for wetlands, v2.0.
- ii. Improved Forest Management (IMF):
 - a. VM0003 ([Link](#)) - methodology for improved forest management through the extension of rotation age, v1.2.
 - b. VM0010 ([Link](#)) - methodology for improved forest management through the extension of rotation age, v1.3.
 - c. VM0035 ([Link](#)) - methodology for improved forest management through reduced impact logging v1.0.
- iii. REDD+:
 - a. VM0006 ([Link](#)) - methodology for carbon accounting for mosaic and landscape-scale REDD projects, v2.2.



- b. VM0007 ([Link](#)) - REDD+ methodology framework (REDD+MF), v1.6.
- c. VM0009 ([Link](#)) - methodology for avoided ecosystem conversion, v3.0.
- d. VM0011 ([Link](#)) - methodology for calculating GHG benefits from preventing planned degradation, v1.0.
- iv. VM0015 ([Link](#)) - methodology for avoided unplanned deforestation, v1.1.
- v. VM0029 ([Link](#)) - methodology for avoided forest degradation through fire management, v1.0.
- vi. VM0037 ([Link](#)) - methodology for implementation of REDD+ activities in landscapes affected by mosaic deforestation and degradation, v1.0.

The Plan Vivo projects accounted for in PLANT are selected manually according to their scope to coincide with REDD+ activities.

Standards other than VCS and Plan Vivo for voluntary projects were not included in PLANT due to the low coverage of Nature-based Solutions (NbS) projects.

Limitations

Not applicable.

Future improvements

Not applicable.

Summary

The Summary page has as its main component the: timeline table. The timeline table gathers international milestones regarding the Paris Agreement, as well as countries' key milestones, including submissions of NDC, NC, FREL, BUR, Technical annexes, and Sols to the UNFCCC.

Moreover, the page shows a summary of the country information regarding NDC, WFR, BUR, ETF, and Market Potential assessments. It also has an ETF Requirements Assessment chart to display the number of compliant / non-compliant requirements for the Enhanced Transparency Framework, as well as the full table with ETF requirements, compliance answers and comments.



Countries' summary of information per category

This table shows a summary of the country information regarding NDC, WFR, BUR, ETF, and Market Potential assessments, also shown on the Global page. For more details, see “Country summary per category”.

Timeline table

Sources & references

The timeline table gathers all submissions from countries in PLANT to the UNFCCC. Sources:

1. NDC: <https://unfccc.int/NDCREG>
2. InfoHub (FREL/FRL, TA, Sol, REDD+ Strategy): <https://redd.unfccc.int/info-hub>.
3. GHGI: <https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/data-sources/greenhouse-gas-inventory-submissions-from-non-annex-i-parties>
4. National Communications (NC): <https://unfccc.int/non-annex-I-NCs>
5. BUR: <https://unfccc.int/BURs>

Methodologies

Not applicable.

Methodological assumptions, basis for data, and premises

The timeline table gathers International Milestones regarding the Paris Agreement, as well as countries' key milestones, including submissions of NDC, NC, FREL, BUR, Technical annexes, REDD+ Strategy, and Sol to the UNFCCC.

Limitations

Not applicable.

Future improvements

Not applicable.



ETF

Sources & references

Most recent NDC, BUR, NIR and NC submitted to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

The existing NDC information was used as a basis to assess the ETF requirements. This is complemented by national information available in BUR, NIR and NC.

The main objective of conducting and presenting the results of this preliminary assessment is to help the countries understand what their starting point is to fulfill the information requirements under the Enhanced Transparency Framework (ETF) of the Paris Agreement, which will begin to be fully implemented as of 2024, the year in which the countries will present their first BTR.

Some developing countries are prepared to meet many new reporting requirements thanks to the experience gained during the preparation and submission of the national reports to the UNFCCC. However, this preliminary assessment also reflects the enormous challenge these countries must face to fulfill these requirements. Consequently, the assessment allows countries to identify the most critical information gaps that must be covered and capacities that must be installed to implement the transparency framework adequately.

In this line, the most up-to-date information reported by the country is used to assess how the country is prepared to fulfill each one of the provisions of the Modalities, Procedures and Guidelines (MPGs) of the ETF.

Methodological assumptions, basis for data, and premises

To conduct these preliminary assessments the following premises and assumptions were followed:

- 1) The basis for the assessment is the most up-to-date national report as well as the updated NDCs. In some cases, a combination of the latest BUR and NC is used as a basis for the assessment.
- 2) The status of the requirement is “partially” when the information reported by the country is partially reported or incomplete.
- 3) The status of the requirement is “not applicable” when due to the principle of flexibility, the country is not mandated to comply.
- 4) Areas of improvement are generally found in the improvement plans included in National Inventory Reports or the sectorial sections of those reports.

- 5) Reporting of the structured summary² is a new requirement under the ETF that all countries need to fulfill from 2024 onwards. Therefore, structured summaries are currently unavailable in the reports submitted in the context of the current MRV system under the UNFCCC. However, it is possible to preliminary assess if the country could report specific elements of information required in paragraph 77 of the MPGs (when the structured summary is mandated).
- 6) It is not possible to assess the implementation of article 6 of the Paris Agreement until the countries start their participation in cooperative approaches or the Article 6.4 mechanism.

In the context of the reporting of projections, according to the MPGs:

1. 'With measures' scenario encompasses currently implemented and adopted policies and measures. For the preliminary assessment, this is equivalent to the mitigation scenario under the NDC, or other mitigation scenario reported in any of the national reports.
2. 'With additional measures' scenario encompasses implemented, adopted and planned policies and measures that could enhance ambition. For the preliminary assessment, this could be the conditional target scenario under the NDC.
3. 'Without measures' projections exclude all policies and measures implemented, adopted and planned after the year chosen as the starting point for the projections. For the preliminary assessment, this is equivalent to the BAU scenario under the NDC, or other mitigation goals set.

Limitations

Some requirements could not be assessed and were marked as "to be evaluated" due to the following reasons:

- 1) If the country decides to apply the principle of flexibility when preparing its BTR.
- 2) When the specific requirement only applies once the country submits the second and subsequent NDC and there has not yet been sufficient time to make the necessary updates (i.e., the report of the fulfillment with the accounting guidance of the NDCs adopted by decision 4/CMA.1).
- 3) The information will not be available until the country starts its participation in the market mechanisms of Article 6 of the Paris Agreement.
- 4) When there is no precedent of a specific requirement for developing countries under the current MRV framework and a country has not voluntarily reported a non-mandated element of information (under the current MRV framework) in its national reports (i.e., emissions projections).

² The structure summary is a new requirement derived from paragraph 77 of the Annex of Decision 18/CMA.1 (better known as the MPGs) created with the objective of summarizing the information used to track progress made in implementing and achieving NDCs.



Future improvements

Not applicable.

For the sake of clarity and transparency, the requirements of the MPGs of the transparency framework, are related: to 1) estimation and reporting of GHG inventories (paragraphs 30, 31) and 2) methodological approaches followed by the country to set targets, baselines and indicators such as those included in paragraphs 73, 74, 75 and 76 of the MPGs, may be included in the future.

ART/TREES

The ART/TREES page includes a tool to calculate potential ERs results based on this voluntary carbon market independent standard, as well as preliminary compliance assessments against ART/TREES technical requirements.

PLANT TREES assessments are preliminary and carried out based on the existing information that countries submit to the UNFCCC and other REDD+ initiatives, such as the Forest Carbon Partnership Facility (FCPF) and the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition. The compliance assessment to ART/TREES requirements is detailed in the chapter TREES requirements.

TREES potential

For the ER potential results, it should be noted that, in many cases, the existing data that countries have for REDD+ (reference levels submitted to the UNFCCC or FCPF) does not currently meet the requirements of the TREES standard. This implies that ERs estimates can only be considered as preliminary/indicative potentials and will likely change once the country invests in addressing the gaps in technical requirements.

Lastly, some methodological assumptions are adopted for the potential ERs results estimates. The methodological assumptions include adapting the calculations to incomplete data series, simplifying the discount method of other REDD+ initiatives, and excluding some parameters for which countries do not have data, among others. Most countries did not do uncertainty assessments using the Monte Carlo simulation. For the countries that had other methods to estimate uncertainty, their result was used to apply the discount. For the countries that did not undertake uncertainty assessment, no discount has been applied.

Sources & references

The REDD+ Environmental Excellence Standard (TREES) - Version 2.0 (Available at <https://www.artredd.org/trees/standard-and-templates/>)

TREES-Calculation-Template-Jun-2022 (Available at <https://www.artredd.org/trees/standard-and-templates/?sub=templates>)

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

The ART/TREES accounting follows The REDD+ Environmental Excellence Standard (TREES) - Version 2.0 (available at <https://www.artredd.org/trees/standard-and-templates/>).

In the ART/TREES page in PLANT, there are filters to select the desired jurisdiction and to modify the default submission and crediting periods. Date options available are based on REDD+ program guidelines. Therefore, all dates presented in the filters are configured as possible options.

Following TREES methodology, other REDD+ initiatives results are required to be discounted from the TREES potential estimates. These REDD+ results were grouped into two types of initiatives: Payment for REDD+ results and Voluntary Carbon projects. For more information about the initiatives accounted in PLANT, see RBP & VCS chapter.

Methodological assumptions, basis for data, and premises

Premises:

- 1) Separation of different FRELS (in other words, a set of data from different FRELS are distinctly applied and not included in generating the same potential results estimates).
- 2) The ART/TREES default submission and crediting periods adopted are:
 - a) Submission Year = 2022
 - b) Crediting Period Start Year = 2018
- 3) VCS projects discount:



- a) REDD+ and Improved Forest Management (IFM) projects are always discounted. IFM projects are required to be discounted when degradation is included in the jurisdictional program. Since degradation is mandatory if not considered “the minimis”, this category of projects is always discounted in PLANT.
- b) Afforestation, Reforestation and Restoration (ARR) projects are discounted when the jurisdiction accounts for carbon enhancement activities.

Methodology deviations:

- 1) The potential results are estimated with a minimum of 3 years of data in the historical series to calculate the baseline/crediting level.
- 2) Simple average of emission reported in the FREL for crediting level/baseline calculations.
- 3) For the TREES potential estimation for HFLD candidates, the penalty deduction is considered to be zero when HFLD crediting level emission reductions (HFLD CL ER) are zero.
- 4) The VCS project results are discounted annually based on the Issuance date of the carbon credits generated by the projects.
- 5) For countries that applied a method other than Monte Carlo to estimate uncertainties, its results were used to apply the discount in the same way.
- 6) When the country did not undertake an uncertainty assessment for emissions, the uncertainty is considered to be 0% (no discount is applied).
- 7) The uncertainties reported for emissions are adopted for removals.
- 8) Lack of information on degradation/ emission from forests that remain as forests in most countries, which is a key requirement and may change current estimates.

Limitations

Most countries in PLANT have not published enough necessary data to estimate TREES potential to generate ERs results with removals (commercial and natural forest removals details) or to ascertain whether that county is eligible to apply the optional High Forest Low Deforestation (HFLD) crediting level (Standing Forest Carbon Stock, stratified forest area and deforestation rate).

Most countries do not report emissions from forest degradation, so the assessment is carried out without certainty of eligibility for TREES.

Most countries did not estimate uncertainty assessments using the Monte Carlo simulation. Some countries do not report uncertainties.

Future improvements

The preliminary assessment needs to be validated by the countries in PLANT.



The possibility of saving different scenarios using different years baseline and choosing the one that produces the most results. Currently, users are able to export the scenarios to Excel or PowerPoint, however, the scenario will reset once the user leaves the tool.

Actual emissions vs crediting level

Sources & references

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

Methodologies to calculate crediting level for crediting period and ERs potential follows ART-TREES Standard V2.0.

Methodological assumptions, basis for data, and premises

For the “Actual Emissions vs Crediting Level” chart, “Actual Emissions” represent the emissions and removals reported annually and “Crediting level for crediting period” represents the baseline for the crediting period built with the emission values from the reference period.

Limitations

Not applicable.

Future improvements

Not applicable.

TREES requirements

Sources & references

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).



REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

The most recent NDC submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

Most recent Sol submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

The most recent National REDD+ Strategy submitted to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

Methodologies

The requirements are evaluated with the following responses:

- Yes - The jurisdiction fully complies with the ART TREES requirement.
- Partially - The jurisdiction partially complies with the ART TREES requirement.
- No - The jurisdiction does not comply with the ART TREES requirement.
- To be evaluated - It is not possible to evaluate the ART TREES requirement with current information.
- Informational requirement - TREES general information that does not need to be assessed and needs to be followed by a submission to ART.

The existing information in the reference documents is used as a basis for the assessment. Each evaluation is justified in the column “Information Available”.

Methodological assumptions, basis for data, and premises

Rules:

1. Requirements related to subnational submission are evaluated as "Not applicable" for the case of national assessments.
2. Safeguards requirements are evaluated based on the Sol. When Sol is not available, the requirements are evaluated as “To be evaluated” when the Sol is published.
3. The TREES Requirements pie chart (Figure 1) is built with the “Yes”, “No”, “Partially”, and “To be evaluated” answer categories. This means that “Not applicable” or “Informational requirements” are not accounted for in the final percentages.

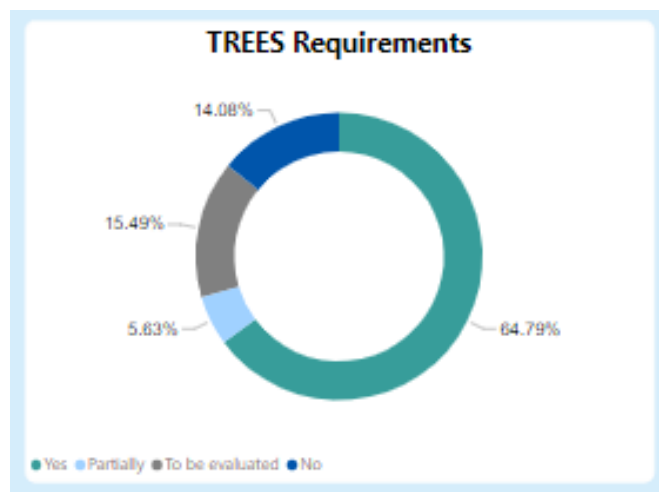


Figure 1 - TREES Requirements chart

Premises:

1. TREES requirements that demand the evaluation of documents that have not yet been released or information that will be provided upon or after the submission to ART TREES are marked as “To be evaluated”. The justification for the absence of evaluation is provided in the column "Information Available" on the right.
2. TREES requirements that refer to ART TREES general information, that does not need to be assessed, are marked as "Informational requirements".
3. In order to maintain the consistency of the countries’ assessments, in discussion between the PLANT team and LULUCF experts, this template [here](#) was adopted and includes standardized assessment for some of the TREES criteria that will be evaluated in the future and/ or are informational only.

Limitations

It should be noticed that the evaluation of compliance with the TREES requirements is preliminary and based on official and public information.

Some requirements could not be assessed and are marked as “To be evaluated” due to the following reasons:

- a) At present, the experts do not have the information needed to evaluate compliance (e.g., demonstration of interannual variability of less than 15% in annual forest emissions over the prior 10 years used in TREES Reporting).
- b) The requirement demands future documentation (e.g., submission of TREES Registration Document and TREES Monitoring Report).



Future improvements

Assessment in greater depth and detail. The preliminary assessment needs to be validated by the countries in PLANT.

Total hectares of forest & % of national forest covered by accounting area

The Total Forest Hectares (ha) card shows the area of forest cover, in hectares, in the last year of the Reference Level period.

The % National Forest Covered by Accounting Area shows the percentage of forest cover in relation to the accounting area.

Sources & references

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Methodologies

Not applicable.

Methodological assumptions, basis for data, and premises

In cases where the Reference Level document does not report the historical series of annual forest cover, the forest cover area of the last year of the FREL is estimated.

The estimate is based on the most recent forest cover data available in the FREL and the annual deforestation rate presented in the same document.

With this, the annual deforestation rate is applied for years with gaps in values, based on the latest forest cover data.

Limitations

Most countries do not report the historical series of annual forest cover on the Reference Level document.



Future improvements

Not applicable.

JNR

The JNR page includes a tool to calculate potential ER results based on the JNR standard, as well as preliminary compliance assessments against JNR technical requirements.

PLANT JNR assessments are preliminary and carried out based on the existing information that countries submit to the UNFCCC and other REDD+ initiatives, such as the Forest Carbon Partnership Facility (FCPF) and the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition. The compliance assessment to JNR requirements is detailed in the chapter JNR requirements.

JNR potential

For the ERs potential results, it should be noted that in many cases country data do not currently meet the requirements of the JNR standard. This implies that ERs estimates can only be considered as preliminary/indicative potentials and will likely change once the country invests in addressing the gaps in technical requirements.

Lastly, some methodological assumptions are adopted for the potential ERs results estimates. Methodological assumptions include adapting the calculations to incomplete data series, simplifying the discounting method of other REDD+ initiatives (instead of nesting other initiatives with the JNR allocation tool), and excluding some parameters for which the countries do not have data/have not assessed (such as the ones associated to the permanence risk tool). Most countries did not do uncertainty assessments using the Monte Carlo simulation. For the countries that had other methods to estimate uncertainty, their result was used to apply the discount. For the countries that did not undertake uncertainty assessment, no discount has been applied.

Sources & references

VCS-JNR-Program-Description-v3.2 (Available at: <https://verra.org/project/jurisdictional-and-nested-redd-framework/rules-requirements/>).

REDD+ reference level (referred to in PLANT as “FREL”):



1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

The JNR accounting follows the VCS-JNR-Program-Description-v3.2 (available at <https://verra.org/project/jurisdictional-and-nested-redd-framework/rules-requirements/>).

On the JNR page in PLANT, there are filters to select the simulation jurisdiction and to modify the default submission and crediting periods. Date options available are based on REDD+ program guidelines. Therefore, all dates presented in the filters are configured as possible options.

Following JNR methodology, carbon projects and lower-level jurisdictional programs should be nested into the Higher-Level Jurisdiction, according to the jurisdiction’s FREL. Once nested, their results should be discounted from the higher-level jurisdictional program results. As the nesting of other REDD+ initiatives into the Higher-Level Jurisdiction FREL requires deeper and more integrated evaluations, PLANT adopts a simplification to exclude the results of other REDD+ initiatives from its calculations. The results from other REDD+ initiatives are discounted from the JNR potential results without the nesting process. This is applied to voluntary carbon projects. Furthermore, Payment for REDD+ results is also discounted from the JNR potential results. For more information about the initiatives accounted in PLANT, see RBP & VCSVCS chapter.

For the JNR page, consider that:

NERY = Net GHG emission reductions and/or removals in year y

JBEY = Jurisdictional baseline emission reductions and/or removals in year y

JPEy = Jurisdictional program emission reductions and/or removals in year y

JLEy = Jurisdictional leakage emissions in year y

Methodological assumptions, basis for data, and premises

Premises:

- 1) The JNR default submission and crediting periods adopted are:



- a) Starting Year = 2016
 - b) End Year Reference Period = 2014
 - c) Start Year Reference Period = 2009
- 2) Separation of different FRELS (in other words, data from different FRELS are not included in the same potential results estimates).
 - 3) VCS projects discount:
 - a) REDD+ and Improved Forest Management (IFM) projects are always discounted. IFM projects are required to be discounted when degradation is included in the jurisdictional program. Since degradation is mandatory if not considered “the minimis”, this category of projects is always discounted in PLANT.
 - b) Afforestation, Reforestation and Restoration (ARR) projects are discounted when the jurisdiction accounts for carbon enhancement activities.

Methodology deviations:

- 1) The **Emission Baseline (JBEY)** is calculated with an average of the available data of net emissions of the activities included in the jurisdiction’s FREL/FRL for the reference period selected in the PLANT filters. The calculation requires a minimum of 3 years of data in the historical series to calculate the JBEY.
- 2) The **JNR Potential (NERy)** is calculated for the years with available emission data for the crediting period selected in the PLANT filters. Thus, when the crediting period has information gaps, the missing years are not included in the final results.
- 3) The **JNR Tools**, with the Leakage Tool and the Non-permanence Risk Tool, are used with JNR default values that result in 0 Leakage and 0 non-permanence risks. Thus, it can be considered that leakage and non-permanence risk are not included in the JNR Potential estimates in PLANT. The parameters required in the JNR Tools can be changed with the input of the information by the jurisdictions.
- 4) PLANT uses a simplification of JNR methodologies for the nesting of VCS projects and lower-level jurisdictional programs.
 - a) Voluntary AFOLU projects within the same scope of activities accounted for in the jurisdiction are discounted from ERs results.
 - b) The VCS project results are discounted annually based on the Issuance date of the carbon credits generated by the projects.
 - c) Payment for REDD+ results is discounted.

Limitations

1. The JNR Tools, with the Leakage Tool and the Non-permanence risk Tool, are used with JNR default values that result in 0 Leakage and 0 non-permanence risks. Thus, it can be



considered that leakage and non-permanence risk are not included in the JNR Potential estimates in PLANT.

2. PLANT uses a simplification of the JNR methodology for the nesting of VCS projects and lower-level jurisdictional programs.
3. The JNR requires that the program start date is from which policies or activities that are expected to lead to the generation of GHG emission reductions are adopted and implemented. In PLANT, the default start year is 2009, and some countries did not have such policies and activities implemented at the time.

Future improvements

1. The preliminary assessment needs to be validated by the countries in PLANT.
2. Collect country data required to run the JNR Tools.

Actual emissions vs crediting level

Sources & references

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

Methodologies

Not applicable.

Methodological assumptions, basis for data, and premises

For the “Actual Emissions vs Crediting Level” chart, “Actual Emissions” represent the emissions and removals verified annually and “Crediting level for crediting period” represents the baseline for the crediting period built with the emission values from the reference period.

Limitations

Not applicable.

Future improvements

Not applicable.

JNR requirements

Sources & references

Technical Annexes on REDD+ (Available at: <https://redd.unfccc.int/info-hub>).

REDD+ reference level (referred to in PLANT as “FREL”):

1. FREL/FRL documents submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)
2. Reference level documents submitted by the country to the FCPF (Available at: <https://www.forestcarbonpartnership.org/countries>)
3. Crediting level documents submitted by the country to the LEAF/ART TREES (Available at: <https://art.apx.com/myModule/rpt/myrpt.asp?r=111>)

The most recent NDC submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

Most recent Sol submitted by the country to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

The most recent National REDD+ Strategy submitted to the UNFCCC (Available at: <https://redd.unfccc.int/info-hub>)

Methodologies

The requirements are evaluated with the following responses:

- Yes - The jurisdiction fully complies with the JNR requirement.
- Partially - The jurisdiction partially complies with the JNR requirement.
- No - The jurisdiction does not comply with the JNR requirement.
- To be evaluated - It is not possible to evaluate the JNR requirement with current information.
- Informational requirement - JNR general information that does not need to be assessed and needs to be followed by a submission to JNR.

The existing information in the reference documents is used as a basis for the assessment. Each evaluation is justified in the column “Information Available”.

Methodological assumptions, basis for data, and premises

Rules:

1. Requirements related to d Subnational submission are evaluated as "Not applicable" for the case of national assessments.
2. Safeguards requirements are evaluated based on the Sol. When Sol is not available, the requirements are evaluated as "To be evaluated" when the Sol is published.
3. The JNR Requirements pie chart (Figure 2) is built with the "Yes", "No", "Partially", and "To be evaluated" answer categories.

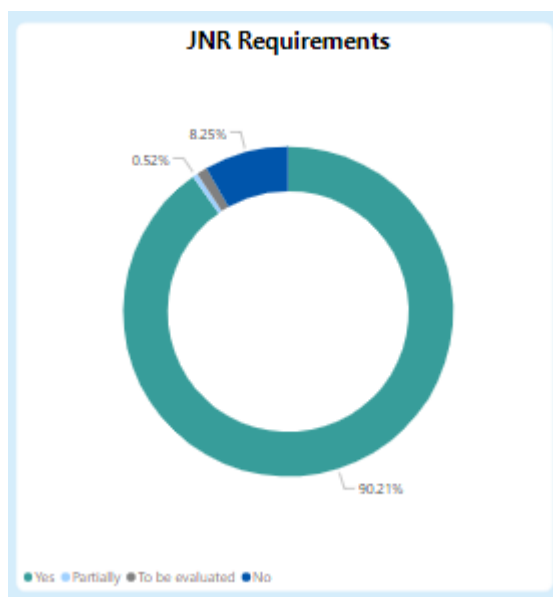


Figure 2 - JNR Requirements chart

Premises:

1. JNR requirements that demand the evaluation of documents that have not yet been released or information that will be provided upon or after the submission to JNR are marked as "To be evaluated". The justification for the absence of evaluation is provided in the column "Information Available" on the right.
2. JNR requirements that refer to JNR general information that does not need to be assessed are marked as "Informational requirements".

Limitations

It should be noticed that the JNR requirement compliance evaluation is preliminary and based on official and public information submitted for other purposes (UNFCCC, FCPF, LEAF).

Some requirements could not be assessed and are marked as "To be evaluated" due to the following reasons:



- a) At present, the experts do not have the information needed to evaluate compliance (e.g., the start date of the FREL shall be set on the earliest date at which nested projects and jurisdictional programs may start crediting using the FREL and allocated baselines).
- b) The requirement demands future documentation (e.g., the jurisdictional proponent shall provide documentary evidence establishing authority over the FREL (see the VCS Program document Program Definitions for the definition of program authority) in order to complete registration).

Future improvements

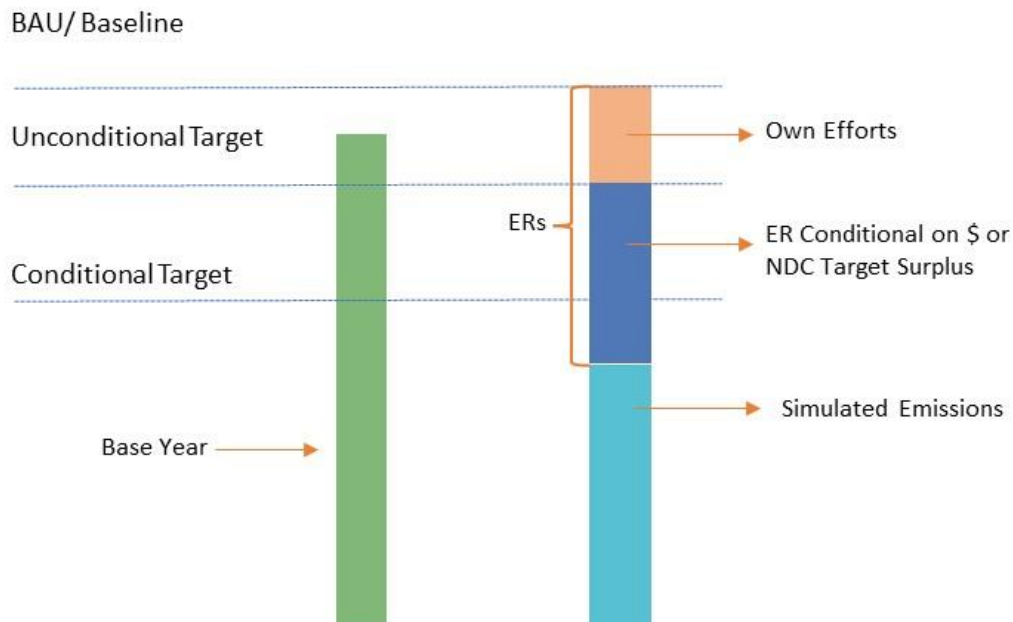
Assessment in greater depth and detail. The preliminary assessment needs to be validated by the countries in PLANT.

NDC trajectory

The NDC trajectory page gathers information on current emissions, trend emissions for 2030, as well as NDC targets for the same year, for the countries in PLANT.

The page allows the user to simulate other possible emission goals for 2030, based on simulated emissions from the Agriculture, Energy, IPPU, LULUCF, and Waste sectors. Since the detailed guidance for the establishment of NDC trajectories has not yet been defined under the UNFCCC, with PLANT, a simple linear projection was done for countries that had sufficient granular information in their NDCs and GHGIs. The objective is to give an opportunity to countries to visualize the pathways for the implementation of their NDCs and run simulations to anticipate the contribution of the different sectors.

Furthermore, the page shows countries' structured summary of its NDC information, ERs conditional on international investment (which is assumed to be the difference between the conditional and the unconditional NDC targets plus additional reductions), possible NDC target surplus (which is assumed to be the emission reductions above and beyond the NDC unconditional target). More details about these concepts are in the schematic drawing and text below.



NDC trajectory & Simulation Panel

Sources & references

Most recent NDC submitted to the UNFCCC (Available at: <https://unfccc.int/NDCREG>).

The most recent GHG Inventory submitted to the UNFCCC by the country, which can be found in the Greenhouse gas inventory (GHGI), National Communication (NC), or BUR:

1. [Greenhouse gas inventory submissions from non-Annex I Parties | UNFCCC](#)
2. National Communications (NC): <https://unfccc.int/non-annex-I-NCs>
3. BUR: <https://unfccc.int/BURs>

Methodologies

The methodology for the NDC trajectory graph and simulator is divided into data collection and trajectory projection up to 2030.

1. Data collection

The GHG historical time series provided in the country's NDC is used for the annual GHG emissions/ actual emissions. When the NDC does not include the GHG time series information or does not mention the GHG Inventory for reference, the latest GHG inventory available was adopted.

The emissions in 2030 for BAU/ baseline, conditional target, and unconditional target scenarios and the base year are collected by sectors: Agriculture, Energy, IPPU, LULUCF, and Waste sectors.

When the NDC does not provide the emissions breakdown by sectors, the relative contribution of the different sectors in the latest GHGI is used as a proxy to estimate the sectoral contribution of the different sectors for BAU/baseline and conditional, and unconditional targets, to provide an indication of the sectoral contributions.

2. Trajectory projection up to 2030

A linear trajectory is plotted for 4 scenarios in 2030: BAU/ baseline, conditional target, unconditional target, and user's interactive simulation.

- The linear trajectory consists of a first-degree function.
- The linear trajectory to the BAU/ baseline scenario emissions in 2030 starts in the base year indicated in the country's NDC.
- The linear trajectory to the conditional and the unconditional target emissions in 2030 starts in the last year of reported emissions in the country's NDC/ GHGI.

Methodological assumptions, basis for data, and premises

1. Linear trajectory

- a. Emissions in 2030 for BAU are estimated by countries using different methodologies which can lead to a wide variety of trajectories. This trajectory is not part of most countries' NDCs. To make it consistent throughout and allow for countries to do simple simulations, in PLANT the NDC trajectory is a linear projection (a first-degree function)
- b. This is of course not representative of the scenarios done by the countries to develop their NDCs. It also does not represent the actual implementation, which may vary a lot in different years. This is just a simple representation to allow for understanding the close circuit of the NDC, i.e., when it comes to absolute targets, if emissions go up in one sector, emission reductions will need to be enhanced in another sector to compensate for it and allow the country to still achieve its targets.
- c. The unconditional and conditional NDC targets are also represented by a linear trajectory.

2. Scenarios for simulation

Four ERs scenarios for 2030 are provided:

- BAU
- NDC Conditional target



- NDC Unconditional target
 - Simulation (scenario for free simulation by the user of additional 2030 targets)
3. NDC indicators adopted

Countries adopt different indicators in their NDCs. Among them, we selected the most adopted indicators to standardize this initial analysis.

- Emission break-down per sector: Agriculture, Energy, IPPU, LULUCF, and Waste
- Unit: tCO₂-e
- Base year for the BAU/ baseline scenario varies according to the NDC. This value will be the BAU for countries that adopt a projected scenario, or a historical baseline/ historical year.
- The initial year for the trajectory of the conditional and unconditional scenarios varies according to the last year of the reported emissions in the country's GHG Inventory

In cases where the country's NDC does not present a conditionality to its NDC target, the emission reductions are estimated as a single NDC target.

Limitations

The major limitation is the lack of guidance from UNFCCC decisions on how the NDC trajectories should be set for single-year targets, which encompasses most NDCs included in PLANT. To overcome this limitation a simple linear projection was adopted for PLANT, as it is the most suitable method to apply to all NDCs.

This methodology could only be applied to NDCs that use tCO₂ as their metrics. It is not possible to do the same linear trajectory for the NDCs that have intensity targets (based on GDP or per capita) or policy milestones as these require specific information from countries which is not publicly available and cannot be standardized to work for all. No other indicators can be added to the tool, such as budget, tCO₂e per capita and others.

Another limitation is the lack of details on sectoral contribution and references/ data used for the definition of the BAU scenario in NDCs.

Currently, there is only one trajectory available in PLANT which is the linear, and no annual or sectorial variations can be included in the trajectories.

Future improvements

Other types of trajectories will be implemented in the future, such as budget/ financial. Also, different indicators will be included to adapt to countries' needs.



In the future, trajectory simulations with annual variations may be included for specific countries.

ER Conditional on \$

Accumulated ERs results conditional on international climate finance investment up to 2030.

Sources & references

Most recent NDC submitted to the UNFCCC (Available at: <https://unfccc.int/NDCREG>).

Methodologies

The accumulated ERs results conditioned to international support/ climate finance, from 2021 to 2030 are estimated by subtracting the conditional target from the unconditional target, or the simulation target from the unconditional target, whichever presents the greater reduction target.

Methodological assumptions, basis for data, and premises

It is assumed that ERs conditioned to international climate finance are the emission reductions above and beyond the unconditional target which will be achieved by the country's own effort and budget. The NDC target surplus is estimated to be the emission reductions that are above and beyond those achieved for the conditional target.

Limitations

Not applicable.

Future improvements

Not applicable.

NDC Target Surplus

The surplus in relation to the country's NDC.

Sources & references

Most recent NDC submitted to the UNFCCC (Available at: <https://unfccc.int/NDCREG>).



Methodologies

Accumulated results are calculated by subtracting the simulation target from the unconditional target, from 2021 to 2030. If emissions from the simulated scenario are higher than the unconditional target, there will be no NDC target surplus.

Methodological assumptions, basis for data, and premises

The NDC surplus calculation on PLANT makes a distinction between ERs that are conditional on finance (from all sources, including VCM) and NDC target surplus. The NDC surplus may become an ITMO if and when the government authorizes the transfer of the mitigation outcome internationally. Countries can sell ITMOs independently from them being above their conditional targets. In the end, all ITMOs will be discounted from the NDC. This assumption was done in PLANT to address the risk of countries potentially overselling ITMOs and not being able to achieve their own NDC targets.

Limitations

Not applicable.

Future improvements

Not applicable.



ANNEX I – PLANT DATA SOURCE SUMMARY

Please, see below details on the sources for PLANT and how the information dialogues between the dataset in Excel and the tool in Power Bi.

PLANT PAGE	ITEM	INFORMATION SOURCE
Global page	Accumulated REDD+ results	Technical Annexes on REDD+
Global page	- PLANT countries' LULUCF emissions - LULUCF emissions time series graph	NIR or NC
Global page	Country Summary per Category	UNFCCC submissions (NDC , BUR , FREL)
Overview	GHGI graph	NIR or NC
Overview	GHGI vs FREL graph	NIR or NC, and FREL or modified FREL submissions and other available sources (FCPF , LEAF , etc.)
Overview	FREL vs Actual Emissions graph	FREL or modified FREL submissions and other available sources (FCPF , LEAF , etc.)
Overview	REDD+ Results Graph	Technical Annexes on REDD+
Summary	Timeline table	UNFCCC submissions, FCPF , LEAF and other available sources.
Summary	ETF table	BUR , NDC , NIR , FCPF , LEAF and other sources as needed
ART-TREES	Actual emissions vs Crediting Level	FREL or modified FREL submissions and other available sources (FCPF , LEAF , etc.)



ART-TREES	TREES Potential table	Mainly from FREL, but may vary
ART-TREES	Total hectares of forests	FREL
ART-TREES	ART-TREES Requirements	All available sources
JNR	Actual emissions vs Crediting Level	FREL or modified FREL submissions and other available sources (FCPF, LEAF, etc.)
JNR	JNR Potential table	Mainly from FREL, but may vary
JNR	JNR Requirements	All available sources



ANNEX II – GLOSSARY

Please, see below the abbreviations and acronyms found in PLANT and source documents.

AFOLU	Agriculture, Forestry, and Other Land Use
ART/TREES	Architecture for REDD+ Transactions/ The REDD+ Environmental Excellence Standard
AT	UNFCCC Assessment Team
BAU	Business as Usual
BTR	Biennial Transparency Report
BUR	Biennial Update Report
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties to the UNFCCC
ETF	Enhanced Transparency Framework
FREL	Forest Reference Emission Levels
FRL	Forest Reference Level
Gg CO₂e	Gigagram of carbon dioxide equivalent (equivalent to 1000 tonnes)
GHG	Greenhouse Gas
GHGI	Greenhouse Gas Inventory
GST	Global Stocktake of the Paris Agreement
GWP	Global Warming Potential
HFLD	High-Forest/Low-Deforestation
IPCC	Intergovernmental Panel on Climate Change
IPCC GL	IPCC Guidelines
JNR/VERRA	Jurisdictional and Nested REDD+
LULUCF	Land Use, Land-Use Change and Forestry
MPGs	Modalities, Procedures and Guidelines
MRV	Measuring, Reporting and Verifying anthropogenic GHG emissions by sources and removals by sinks
Mt CO₂e	Metric tons of carbon dioxide equivalent
NC	National Communication
NDC	Nationally Determined Contribution referred to in Article 4 of the Paris Agreement
NFMS	National Forest Monitoring Systems
NIR	National Inventory Report
PAMs	Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans



PLANT	Paris Agreement LULUCF Assessment & NDC Tool
QA	Quality Assurance
QC	Quality Control
RBP	Results-based Payment
REDD+	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
SIS	Safeguards Information System
SMF	Sustainable Management of Forests
Sol	Summary of Information on Safeguards
TA	Technical Analysis of BURs
TAR	Technical Assessment Report of the proposed forest reference level
tCO₂e	tonnes of carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
WFR	The Warsaw Framework for REDD+
2006 IPCC Guidelines	2006 IPCC Guidelines for National Greenhouse Gas Inventories