

Guidance for using NDC tracking and Corresponding Adjustment (NDC-CAT) Tool

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List of Abbreviations

Abbreviation	Definition
AEF	Agreed Electronic Format
BAU	Business as Usual
BTR	Biennial Transparency Report
CA	Corresponding Adjustment
CBIT	Capacity-building Initiative for Transparency
CTF	Common Tabular Format
ETF	Enhanced Transparency Framework
GEF	Global Environment Facility
GHG	Greenhouse Gas
GSP	Global Support Programme
ITMO	Internationally Transferred Mitigation Outcome
NDC-CAT	NDC Tracking and Corresponding Adjustment Tool
NDC	Nationally Determined Contribution
PA	Paris Agreement
UNEP	United Nations Environment Programme
UNEP-CCC	UNEP Copenhagen Climate Centre
UNFCCC	United Nations Framework Convention on Climate Change

List of Definitions

The table below provides definitions for all key terms used in NDC-CAT. These definitions are drawn from UNFCCC official documents, CMA decisions and the Paris Agreement. Some terms are defined for the purposes of explaining the functionality of NDC-CAT.

Term	Definition
NDC implementation period	The years covered by the country's NDC, from the start year to the end (target) year. Both start and end years are included in the period.
Reference point	The baseline against which NDC progress is measured. Either a base year (a historical emissions level) or a BAU scenario (a projected future emissions level in the absence of new climate policies).
Target year	The year for which the NDC target is defined and in which achievement is assessed. For a single-year NDC, the target applies to emissions in the target year only. For a multi-year NDC, the term "target period" is used instead, referring to the years over which the target trajectory or budget applies.
Absolute emission reduction target	A target expressed as absolute reduction in total GHG emissions relative to the level in a historical base year (e.g., 55% below 1990 levels by the target year), or relative to projected BAU scenario).
Percentage reduction target	A target expressed numerically as a percentage change relative to the reference indicator, for example, a percentage reduction below base-year emissions, below a projected business-as-usual level.
GHG inventory year	The most recent year for which official national GHG inventory data are available. Under the ETF, the inventory year is typically two years behind the reporting year (three years for developing countries with flexibility – see MPGs paragraph 58).
ITMO first transferred	An internationally transferred mitigation outcome that has been exported (transferred out) to another Party, reducing the exporting country's adjusted emissions balance.
ITMO authorized	A mitigation outcome for which the host Party has granted authorization for transfer under Article 6.2 of the Paris Agreement.
ITMO used toward NDC	An ITMO that has been imported and applied toward achieving the importing country's NDC target, increasing that country's adjusted emissions balance.
Corresponding Adjustment	An adjustment applied to a Party's emissions balance to account for ITMOs transferred or used, ensuring no double-counting of mitigation outcomes across countries. Applied in the year of transfer or, for Averaging method, at the end of the NDC period.

Adjusted emissions balance	Gross GHG emissions (from the national inventory) adjusted for corresponding adjustments from Article 6 ITMO transactions. This is the value used to assess NDC achievement.
Averaging method	A CA methodology applicable to single-year NDCs, in which the cumulative ITMO volume over the NDC period is averaged across all years. The adjustment is calculated across the elapsed years of the NDC period and applied to each year. As per Decision 2/CMA.3, Parties with single-year NDCs participating in cooperative approaches must apply corresponding adjustments using either an averaging approach or an indicative multi-year emissions trajectory or budget, applied consistently throughout the NDC implementation period.
Intermediary progress	A comparison of the most recent adjusted emissions level against the base-year or BAU level, indicating whether the country is on a trajectory consistent with its NDC.
Final achievement	A comparison of the adjusted emissions level in the NDC target year against the target-year emissions level, determining whether the NDC commitment has been met.
First transferring Party	The Party that authorises a mitigation outcome and first transfers it. Referred to in paragraph 23(j) of the annex to decision 2/CMA.3 as the transferring Party. It applies a positive corresponding adjustment, which raises its adjusted emissions balance. The tool may use the term "exporter" in some cases for clarity. Both First transferring Party and exporter are interchangeable in this case.
Using Party	The Party that applies an ITMO towards achieving its own NDC. Referred to in paragraph 23(j) of the annex to decision 2/CMA.3 as the using Party. It applies a negative corresponding adjustment, which lowers its adjusted emissions balance. Note that a Party can acquire an ITMO without using it, so "using Party" is narrower than "acquiring Party". The tool may use the term "importer" in some cases for clarity. Both Using Party and exporter are interchangeable in this case.

1. Context

1.1. NDC accounting, Article 6 and the BTR under the Paris Agreement

Nationally Determined Contributions (NDCs) are at the heart of the Paris Agreement as they embody each country's self-defined commitments to reduce greenhouse gas emissions and adapt to the impacts of climate change, and tracking progress in their implementation and achievement is essential for understanding collective progress under the Paris Agreement, including through the global stocktake. To track progress made in the implementation of their NDCs Parties identify or select relevant indicators to reflect the type and scope of their NDC targets, against which progress can be tracked over time.

Under the Enhanced Transparency Framework (ETF) of the Paris Agreement, Parties are required to regularly provide information necessary to track progress made in implementing and achieving its NDC. This information is reported as part of the Parties Biennial Transparency Reports (BTRs). As per Decision 5/CMA.3 adopted during COP26 in Glasgow, countries must use Common Tabular Formats (CTFs) for the electronic reporting of information necessary to track progress made in implementing and achieving NDCs..¹ CTF Table 4 provides a structured Summary of this information in particular should include the following information:

- Selected indicators to track progress
- Reference point (base year or BAU scenario)
- Target value and target year
- Historical and latest available values for each indicator
- Article 6 information and “adjusted emissions balance”
- Assessment of progress toward achieving the NDC target: intermediary when the GHG inventory data for target year is not available and final achievement of progress when GHG inventory data for target year becomes available.

Thus, CTF Table 4 provides a framework for tracking changes over time to assess progress toward the NDC target: both intermediary progress during implementation period and final achievement of progress when the GHG inventory data for target year will be available. During the NDC implementation period, progress is tracked by comparing the most recent information for each selected indicator with the relevant reference information. Once information for the end year or end of the NDC period becomes available, the Party provides an assessment of whether it has achieved its NDC target(s). CTF Table 4 tracks progress toward NDC achievement by comparing actual reported indicator values (e.g. from the latest GHG inventory) against the NDC reference point (for intermediary progress) and target level (for final achievement of progress).

As part of the BTR, Parties conduct a self-assessment of progress towards implementation and achievement of their NDC through the completion of CTF Table 4 (Structured Summary:

¹ UNFCCC (2021). Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework. Decision 5/CMA.3. Available at: <https://unfccc.int/documents/310499>

Tracking Progress Made in Implementing and Achieving the NDC under Article 4 of the Paris Agreement). The information reported by the Party is subsequently reviewed by the Technical Expert Review Team (TERT), which considers how the Party's has provided the information required under the MPGs, including the transparency, completeness and consistency of the information reported, in accordance with the relevant reporting requirements. When information for the end of the NDC implementation period becomes available, the Party provides an assessment of whether it has achieved its NDC target(s). For example, achievement of the 2030 NDC target can be assessed in BTR5 (submitted in 2032 and covering 2029-2030 emissions data). In the case where a Party participates in cooperative approaches under article 6 this assessment must consider the corresponding adjustments and the resulting emission balance as applicable.

For countries that do not participate in Article 6 cooperative approaches, the CTF table 4 is relatively straightforward and focuses on tracking progress against the NDC target using indicators and emissions data. For countries that participate in Article 6, additional rows are included to report information on ITMOs, corresponding adjustments, and emissions balances before and after these adjustments. These additional elements ensure that the effects of article 6 participation are taken into account when tracking progress toward the NDC, and avoid double counting of emission reductions.

For countries participating in Article 6 (and having ITMO transferred or acquired), the CTF table 4 includes additional rows to fill in, including information on:

- Annual quantity of ITMOs first transferred (para. 23(c), annex to decision 2/CMA.3) (para. 77(d)(ii) of the MPGs)
- Annual quantity of mitigation outcome authorized for use for other mitigation purposes and entities authorized to use such mitigation outcomes, as appropriate (para. 23(d), annex to decision 2/CMA.3)
- Annual quantity of ITMOs used towards achievement of the NDC (para. 23(e), annex to decision 2/CMA.3) (para. 77(d)(ii) of the MPGs)
- Net annual quantity of ITMOs resulting from paras. 23(c)-(e), annex to decision 2/CMA.3 (para. 23(f), annex to decision 2/CMA.3)
- If applicable, the cumulative amount of ITMOs, divided by the number of elapsed years in the NDC implementation period (para. 7(a)(ii), annex to decision 2/CMA.3)
- Total quantitative corresponding adjustments used to calculate the emissions balance referred to in para. 23(k)(i), annex to decision 2/CMA.3 (para. 23(g), annex to decision 2/CMA.3)
- The cumulative information in respect of the annual information in para. 23(f), annex to decision 2/CMA.3, as applicable (para. 23(h), annex to decision 2/CMA.3).
- For metrics in tonnes of CO₂ eq. or non-GHG, an annual emissions balance consistent with chapter III.B (Application of corresponding adjustments), annex, decision 2/CMA.3 (para. 23(k)(i), annex to decision 2/CMA.3)

For countries participating in Article 6 cooperative approaches additional accounting and reporting apply. Article 6.2 of the Paris Agreement provides a framework for Parties engaging in cooperative approaches that involves the transfer of Internationally Transferred Mitigation Outcomes (ITMOs) to one another in support of their NDC implementation. When ITMOs are transferred, both the transferring and acquiring Party must apply Corresponding Adjustments (CAs) to their emissions balances to ensure that the same mitigation outcome is not counted twice. Relevant information on ITMOs and corresponding adjustments is reported under the Article 6 reporting framework and, as applicable, these adjustments must be reflected in the structured summary of BTR (CTF Table 4) in accordance with the guidance adopted under Article 6 and the Agreed Electronic Format (AEF) for reporting ITMO transactions.²

Tracking NDC progress made in implementing and achieving NDCs while accounting for Article 6 activities can present methodological, accounting and data challenges. Key issues include:

- **Visibility of NDC status and the implications of Article 6 participation:** Parties may lack a clear and up-to-date understanding of their progress toward NDC targets and of how participation in Article 6 cooperative approaches, including the transfer or acquisition of ITMOs, affects their emissions balance and target attainment.
- **Linking GHG inventories with corresponding adjustments in NDC accounting:** Parties participating in Article 6 need to understand how national GHG inventory information relates to the application of corresponding adjustments, and how those adjustments are reflected in the emissions balance used for NDC tracking, without altering the inventory itself (Decision 2/CMA.3, annex, chapter III).
- **Risk of over-transferring mitigation outcomes:** Without a clear understanding of NDC accounting and the effects of corresponding adjustments, countries, particularly ITMO exporters, may authorize and transfer more mitigation outcomes than can be accommodated within their NDC trajectory, potentially compromising target achievement.

The schematic below shows the steps for the progress assessment of an NDC target (target expressed as % reduction from a reference emissions level such as base year emissions level or BAU scenario). First, the target emissions level is calculated by applying the target reduction percentage to the reference emissions (e.g., BAU emissions or a base-year emissions level). During the NDC implementation period, the most recent emission levels is compared with the reference emissions level to support tracking of progress. The assessment of the NDC achievement is then determined by comparing actual target year emissions with the NDC target level; the target is achieved when actual emissions are equal to or lower than the NDC target emissions.

² UNFCCC (2021). Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. Decision 2/CMA.3. Available at: <https://unfccc.int/documents/310497>

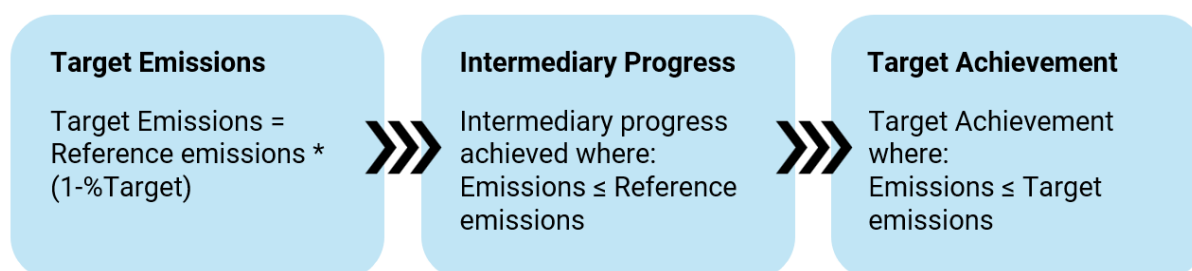


Figure 1: Approach used for assessing progress for an NDC target

Where a Party participates in Article 6 and engages in ITMO transfers, acquisitions, or cancellations, the overall approach to NDC tracking remains the same. However, actual emissions must first be adjusted using corresponding adjustments to calculate the adjusted emissions balance, and it is this adjusted balance that is compared against the target level and reference emissions when assessing NDC achievement and interim progress.

NDC-CAT is aligned with the requirements of the Enhanced Transparency Framework (ETF) as operationalized through Decision 5/CMA.3³ and the Article 6 reporting guidance adopted under the Paris Agreement.⁴ It focuses specifically on the information required for CTF Table 4 of the BTR.

1.2 What is NDC-CAT

The NDC Tracking and Corresponding Adjustment Tool (NDC-CAT) is an Excel-based tool designed to support tracking progress of NDC article 6 accounting, and BTR reporting. It provides a structured, step-by-step approach for integrating NDC information, GHG emissions data and information on ITMOs and corresponding adjustment. The tool supports Parties in tracking progress made in implementing and achieving their NDCs and in understanding the potential implications of participation in article 6 cooperative approaches with calculations, enabling countries to make informed decisions about implementing their NDCs and participating in Article 6 carbon markets.

The tool guides users through a sequential six-step workflow, each corresponding to a dedicated worksheet in the workbook, bringing together information on the Party's NDC target, GHG emissions and removals, and where applicable Article 6 ITMO transaction records. Based on this record the tool performs relevant calculations including corresponding adjustments where applicable and generates outputs that can support the population of CTF Table 4.

NDC-CAT can be used in two settings: ex post and ex ante. In the ex-post setting, the tool uses reported GHG inventory information, NDC target information and actual Article 6 information, where applicable, to support NDC progress tracking and the preparation of relevant information for CTF Table 4. In the ex-ante setting, the tool uses GHG emissions

³ UNFCCC (2021). Decision 5/CMA.3. Available at: <https://unfccc.int/documents/310499>

⁴ UNFCCC (2021). Decision 2/CMA.3. Available at: <https://unfccc.int/documents/310497>

projections and assumed or planned Article 6 transactions to explore different scenarios and their potential implications for NDC achievement.

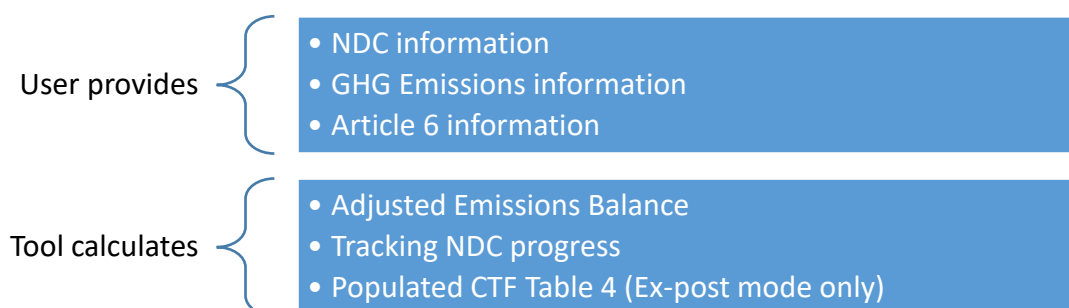


Figure 2: Overview of NDC-CAT inputs and outputs

1.3. What the NDC-CAT can be used for

NDC-CAT is designed to support government officials, national experts and practitioners involved in tracking, and reporting progress in implementing and achieving NDCs including Parties participating in or considering participation in Article 6 cooperative approaches.

NDC-CAT enables countries to:

- Integrate GHG inventory data, NDC targets and, where applicable, Article 6 ITMO transactions in a single, structured workflow (refer to section 1.5 for scope and applicability);
- Calculate corresponding adjustments using the averaging method⁵ and determine the resulting emissions balance;
- Support the tracking of progress made in implementing and achieving the NDC by comparing relevant indicator information with the applicable reference and target information;
- Generate automatically outputs for CTF Table 4 of the BTR; and
- Where the country is participating in Article 6, monitor the adjusted emissions balance throughout the NDC implementation period
- Support forward-looking analysis of the potential implications of planned ITMO transfers or use for NDC achievement

NDC-CAT can also be used by Parties that do not participate in Article 6 cooperative approaches. In such cases, Article 6-related inputs and calculations are not applicable, and

⁵ UNFCCC (2025). Article 6.2 reference manual for the accounting, reporting and review of cooperative approaches. Available at: <https://unfccc.int/documents/634354>

the tool can be used to support NDC progress tracking based on the Party's NDC and relevant GHG information.

Users can leverage the tool in two modes:

- **Ex-post setting** which uses reported GHG inventory data and actual Article 6 transactions to track and report progress towards the NDC based on observed results and provides relevant information for CTF Table 4.
- **Ex-ante setting** for a forward-looking scenario analysis that users provide projected GHG emissions and planned/potential Article 6 transactions to explore different scenarios and their potential implications for NDC achievement. The ex-ante setting is intended for forward-looking scenario analysis and does not generate information for BTR reporting.

1.4. NDC types covered by this tool

The first version of the tool is designed specifically for countries that have **NDCs with quantified GHG emissions reduction targets**. The tool only supports NDCs that include: GHG emissions % reduction targets, absolute emission reduction target (economy-wide or sector-specific), base-year or BAU scenario reference points, single-year quantified targets.

It does not apply in cases where a country's NDC uses other types of targets, such as non-GHG targets (e.g. renewable energy shares, forest cover, or adaptation-focused targets), GHG intensity targets (e.g., emissions per unit of GDP), policies and measures-based NDCs.

Moreover, the Tool does not cover **Multi-year targets** – where the NDC specifies a trajectory or cumulative budget covering the entire implementation period.

Future updates of the tool may be designed to cover additional NDC target types.

Users who intend to use this tool should first identify which type of NDC their country has submitted and see whether their NDC type is covered by NDC-CAT.

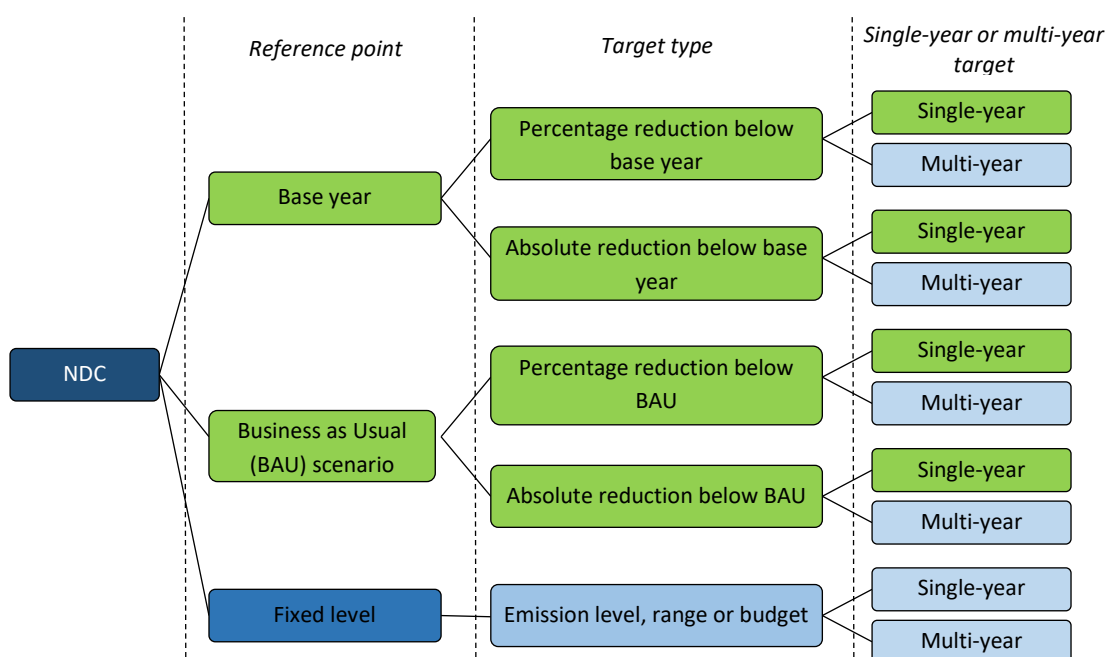


Figure 3: Type of NDCs covered within the scope of this tool (highlighted in green)

Note: Terminology follows decision 18/CMA.1, annex, paragraph 64 (target type(s); target year(s) or period(s) and whether single-year or multi-year; reference point(s), level(s), baselines, base years or starting points). Fixed-level targets, including emission ranges, carbon budgets and net zero targets, are expressed directly as an emission level and do not use a separate reference point. Peaking targets and NDCs consisting only of policies and measures are not depicted; NDCs may combine several target types.

NDC with base year as the reference point:

A base year target may be expressed as a percentage reduction or as an absolute reduction. Either may constitute an economy-wide absolute emission reduction target as referred to in Article 4, paragraph 4, of the Paris Agreement, which concerns the type of target a Party undertakes rather than how it is expressed. Neither of this target is necessarily economy-wide, since base year target in any case may only cover specific sectors.

- **Percentage reduction in emissions:** commitment to reduce total GHG emissions in the target year or period by a specified percentage below the emission level of the base year.
- **Absolute emissions reduction:** A commitment to reduce GHG emissions in the target year by a specified absolute quantity (in tonnes of CO₂ equivalent) below the base year emissions level.

NDC with baseline (BAU) scenario as the reference point:

A BAU target may be expressed as a percentage reduction or as an absolute reduction below the projected baseline. Unlike a base year target, a BAU target is measured against a projected level rather than an observed historical one, so the reference point itself depends on the assumptions in the scenario. Neither form is necessarily economy-wide, since a BAU target of either kind may cover only specific sectors.

- **Percentage reduction below BAU:** A commitment to keep GHG emissions in the target year or period a specified percentage below the level projected under the BAU scenario.
- **Absolute reduction below BAU:** A commitment to reduce GHG emissions by a specified absolute quantity (in tonnes of CO₂ equivalent) below the level projected under the baseline scenario for the target year or period.

NDC with a single-year target:

- **Single-year target:** The NDC specifies a target for one specific year (e.g. 2030 in second NDCs and 2035 in NDCs communicated in 2025). Progress is assessed by comparing the emissions balance – emissions after corresponding adjustments – in the target year against the target level.

In the current version of NDC-CAT, only single-year targets are supported. Countries with multi-year targets should refer to section 1.5 for further guidance.

1.5 Scope and applicability

In its current version (September 2026), the tool has the following coverage and scope of applicability that users should be aware of before proceeding:

- **NDC type:** The tool supports NDC types covering either economy-wide or sectoral GHG emissions, as well as either with or without the inclusion of LULUCF (see 1.4 for detailed description of NDC types covered by the tool).
- **Ex-ante and ex-post mode:** The tool can draw on projected emissions data and historical inventory data, enabling both ex-post and ex-ante assessments. Countries can thereby assess whether a planned volume of ITMO transfers would remain compatible with achieving the NDC target.
- **Unconditional and conditional target:** Countries with both unconditional and conditional targets must run the tool separately for each. The Step 6 (CTF Table 4) output will therefore need to be either manually combined before submission, or two CTF Tables should be created for tracking two NDC targets separately: conditional or unconditional targets.
- **Corresponding Adjustment methodology:** Decision 2/CMA.3, annex, paragraph 7(a) gives Parties with a single-year NDC a choice between providing an indicative trajectory or budget with annual adjustments and the averaging method and requires Parties with a multi-year NDC to use a multi-year trajectory or budget. Only the averaging method is currently operational in the tool. Other methodologies are planned for future versions. Countries required to apply one of the others should refer to the UNFCCC Article 6.2 Reference Manual for methodological guidance in the interim.
- **Policies and measures:** NDC-CAT does not track progress of individual impact of domestic mitigation policies and measures (CTF Table 5). It tracks the overall progress of NDC implementation and achievement NDC by comparing the actual

emissions (or adjusted emissions balance) with the target value. This tool would not suggest what type of Article 6 activities a country should select, for such an analysis the users can refer to the [GACMO tool](#).

- **Adaptation actions and/or economic diversification plans resulting in mitigation co-benefits:** The tool does not cover NDC with adaptation actions and/or economic diversification plans resulting in mitigation co-benefits.

Future versions of NDC-CAT are planned to expand the scope of the tool progressively. Users are encouraged to check the UNEP-CCC website for updates.

2. NDC-CAT Overview

This section provides a brief orientation to NDC-CAT before users begin entering data. It covers the workbook layout, the colour-coding system used throughout the tool, and a summary of how the six steps connect to produce the final BTR output.

2.1 Layout and colour-coding system

NDC-CAT follows a linear seven-step (including Step 0) workflow. **Steps must be completed in order**, as earlier steps determine the structure and content of later ones. The most important dependency is Step 0 where users select their relevant NDC type and whether they want to perform the analysis in “Ex ante” or “Ex post” mode – these variables will affect the input tables and outputs in the following Steps. The user will have **to insert data in Steps 0 through 3**, while Steps 4, 5 and 6 are auto calculated and require no manual input.

When the **“Ex post” mode is selected in Step 0**, the **final output** of the tool is a **prepopulated CTF Table 4** in Step 6 structured to align directly with the electronic reporting requirements under Decision 5/CMA.3.⁶

The table below lists each sheet and its purpose.

Sheet name	Manual input?	Brief description
Introduction	No	Overview of the tool, its purpose and how to navigate the workbook.
Instructions	No	Summary guidance on the colour-coding system and general data entry conventions.
Step 0 – NDC Selection	Yes	Country and NDC configuration, choice between “Ex ante” and “Ex post” mode. Drives which tables appear in later steps.
Step 1 – NDC target Information	Yes	NDC target entry: target type, reference point, and implementation period.

⁶ UNFCCC (2021). Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework. Decision 5/CMA.3. Available at: <https://unfccc.int/documents/310499>

Sheet name	Manual input?	Brief description
Step 2 – GHG Inventory Data	Yes	Ex post mode: Annual GHG inventory data entry for all sectors covered by the NDC Ex ante mode: GHG emissions data/projections
Step 3 – Article 6 Information	Yes	Ex post mode: ITMO transaction data entry, sourced from the Agreed Electronic Format (AEF) Ex ante mode: planned/potential ITMO transactions
Step 4 – Calculating Corresponding Adjustment	No	Auto-calculated corresponding adjustment and adjusted emissions balance table based on Steps 3 and 4.
Step 5 – Tracking NDC Progress	No	NDC progress assessment based on the adjusted emissions balance.
Step 6 –CTF Table 4 of the BTR	No	Auto-populated CTF Table 4 output for BTR submission.

Table 1: NDC-CAT layout and description of each sheet

Throughout the tool, cells are colour-coded to indicate what type of input is required (if any). Users should follow the colour-coding system consistently to avoid entering data in the wrong format.

Colour	Cell type	What to do
Blue	Dropdown selection	Click the cell and select a value from the dropdown list. Do not type directly.
Yellow	Manual data entry	Type the required information directly into the cell.
Purple	Auto-calculated (locked)	These cells are calculated automatically. Do not edit.

Table 2: NDC-CAT color schema

Important for data input:

- Sequential data entry:** Complete the steps in chronological order. Certain validation rules only trigger when the previous section is fully filled out—for example, Steps 0 and 1 must be completed before entering data in Step 2.
- Manual entry or “Paste Values” Only:** When bringing in data from an external document, enter it manually or use “Paste Values” (Right-click > Paste Special > Values). Standard copy-pasting will overwrite and break the template's built-in conditional formatting and validation rules. The same should be done if values are copy-pasted from within the excel. Moreover, if a value is repeated throughout adjacent cells, do not drag a cell over through other cells.
- Use numeric values where required:** When entering quantitative data, ensure that values are entered in a numeric format rather than as text (e.g. if the value requested is emissions in ktCO₂, insert only the number “10.5” and not “10.5 ktCO₂”). Entering text in cells intended for numerical inputs may result in calculation errors and affect the accuracy of the tool's outputs. Note: the excel recognizes “.” as decimal separator (e.g. 10500 tCO₂ would be written 10.5 ktCO₂)

2.2. Methods for applying corresponding adjustments:

Table 3 below summarizes the methods of applying Corresponding Adjustments (CA) as described in **UNFCCC Article 6.2 Reference Manual**⁷. Each method defines how annual and cumulative adjustments are calculated over the NDC period.

NDC Type	CA method	Description
Single-year NDC	Averaging (para. 7(a)(ii), annex to decision 2/CMA.3)	The Party tracks the cumulative volume of all ITMOs first transferred and used across the entire implementation period, divides that cumulative total by the number of elapsed years, and applies the resulting average to each year.
	Indicative trajectory or budget, with annual adjustment against indicative trajectory, (para. 7(a)(i))	The Party calculate and provide an indicative multi-year emissions trajectory, trajectories, or budget spanning the implementation period. The Party then applies corresponding adjustments annually against this indicative line, exactly as described for multi-year targets
Multi-year NDC	Multi-year trajectory or budget with annual adjustment based on actual emissions, (para. 7(b))	The Party applies corresponding adjustments for the total volume of ITMOs first transferred and used in the exact calendar year those transactions occur.

Table 3: Methods for applying corresponding adjustments

In the current version of NDC-CAT, only the **Averaging method** (highlighted in green) is used for calculating corresponding adjustments (Step 4). Countries required to apply the Trajectory or Multi-Year methods should refer to the UNFCCC Article 6.2 Reference Manual for methodological guidance while these methods are being incorporated into future versions of the NDC-CAT.

For a full explanation of how NDC-CAT uses the data points in the corresponding adjustment calculation, see section 4.4 (Step 3).

⁷ UNFCCC (2025). Article 6.2 reference manual for the accounting, reporting and review of cooperative approaches. Version 3, April 2025. Available at: https://unfccc.int/sites/default/files/resource/Article_6.2_Reference_Manual.pdf

3. Step-by-step Guidance

NDC-CAT operates through a structured, seven-step workflow (Steps 0-6). Each step corresponds to a dedicated worksheet in the Excel workbook. The colour-coding system is described in Section 2.1 of this guidance. Users should complete each step in order, as later steps depend on inputs from earlier ones.

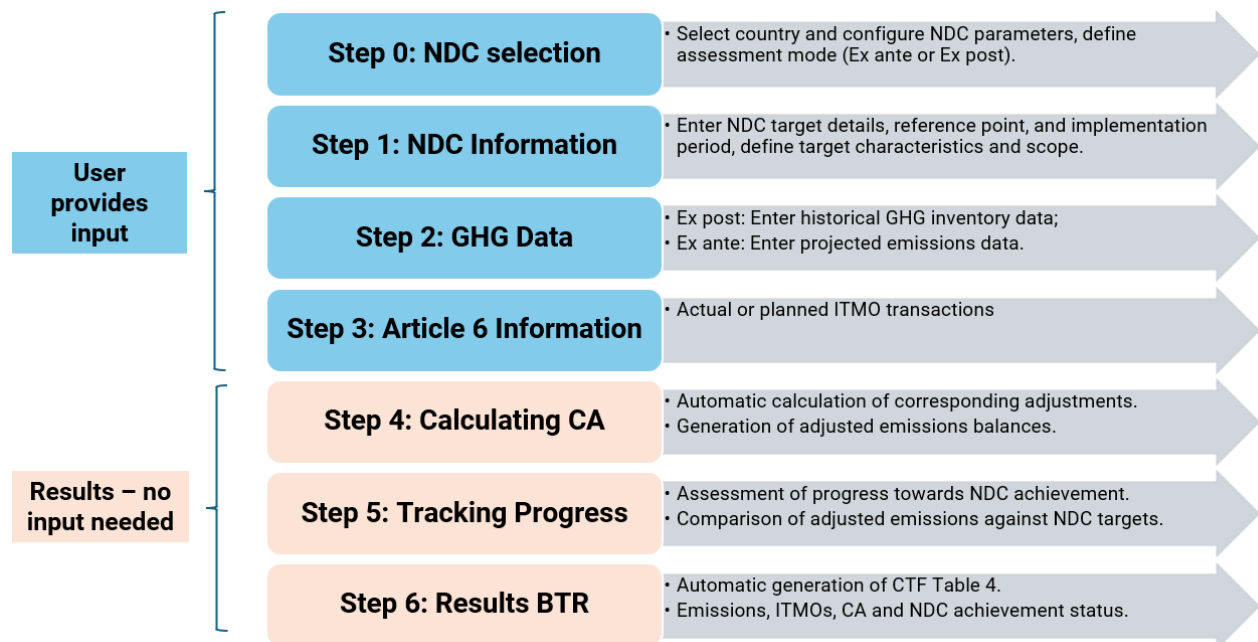


Figure 4: NDC-CAT workflow

The document is currently locked for editing. However, if a user would like to access an editable version to make changes or review the underlying formulas in the Excel file, they can unlock it using the following password: `unepcccarticle6`.

Step 0: NDC Selection

For more information on data inputs necessary for this step, see Annex I.a: NDC Document

In the Step 0 (see Figure 5 below), users provide key information describing their NDC and the context for its assessment. The users have to provide data through dropdown selection or manual input for text/year information.

Step 0: Information on your NDC Type
Use the dropdown below to describe your NDC

Country	
Ex ante or ex post model	
NDC type	
Year of NDC submission	
NDC Implementation Period (Start year)	
NDC Implementation Period (End year)	
Latest inventory year	
Name of the selected indicator for NDC tracking	
Reference Point	BAU
Target type: single year or multi-year	Single Year
LULUCF included in NDC	
Is the Target Economy Wide	

Figure 5: Step 0 of NDC-CAT

These inputs determine the methodological pathway in the following steps, so users should select the correct values but should not modify the preset dropdown structure.

The Table 4 below summarises each field, its input types and key notes.

Field	Input type	Notes
Country name	Text	To be filled manually
Ex-ante and ex-post mode	Dropdown selection	In ex-ante mode, user should provide projected emissions and planned ITMOs usage. In ex-post mode, historical data on GHG inventory data should be used together with actual Article 6 transactions In Step 6, the tool generates BTR CTF Table 4 (only for ex-post mode).
NDC type	Dropdown selection	Select from the predefined list. This field is for information only and doesn't affect the calculations.
Year of NDC submissions	Dropdown selection	Select from the predefined list. This field is for information only and doesn't affect the calculations.

Field	Input type	Notes
NDC implementation period - start year	Number (year)	First year of the NDC implementation period. To be filled manually.
NDC implementation period - end year	Number (year)	End year of the NDC implementation period. To be filled manually. NDC implementation period also affects other steps, as the tool will show only columns within the NDC implementation period
Latest GHG inventory year available	Number (year)	Most recent year for which inventory data are available. Typically, 2 years behind the reporting year (see Section 3.2).
Name of the selected indicator for NDC tracking	Text	Define the indicator used for tracking NDC progress. e.g. total net greenhouse gas emissions and removals. This will be cited in the populated CTF Table 4 in Step 6
Reference point	Dropdown selection	Base year or BAU scenario. Determines which input table appears in Step 1.
NDC target type	Pre-set	Single-year or multi-year. For this version of the tool, this is pre-set to Single-year. Determines which CA methodology options are available in Step 4.
LULUCF included in NDC scope	Dropdown selection	Yes or No. Must match the NDC document. Affects gross emissions value taken from Step 2. If the answer is "no", the output will take into consideration "Total emissions (without LULUCF)" (Row 17) in Step 2, if the answer is "Yes" the output will take into consideration "Total emissions (with LULUCF)" (Row 16) in step 2.
Is the Target Economy Wide	Dropdown selection	Yes or No. Determines whether the sector rows in Step 2 are shaded and it feeds the achievement statement in Step 6. It does not determine which total row is used for gross emissions

Table 4: Field summary table for Step 0

Important:

The selections made in Step 0 the reference point and NDC target type control which input tables appear in Steps 1 and 5. If the wrong values are selected, the tool will read the incorrect input table. Always verify Step 0 selections against the NDC document before proceeding.

Step 1: NDC target information

For more information on data inputs necessary for this step, see Annex I.a: NDC Document

Step 1 “NDC target information” is used to capture basic information required for NDC progress tracking and target assessment – and it starts where the user needs to select whether the NDC target is a % reduction or absolute emissions reduction.

Step 1: NDC Target Information

Please fill in the relevant base year or reference point information and NDC target level

NDC Implementation Period (Start year)	
NDC Implementation Period (End year)	
Latest Inventory Year	
Target type	

Is the table empty (i.e. without any data)?	Yes
---	-----

Figure 6: Step 1 of NDC-CAT

Depending on the selected reference point in Step 0, one of two input tables will appear in Step 1: **Base year NDC** data input table or **BAU scenario NDC** data input table.

As presented in section 1.5, countries with **both unconditional and conditional targets** should **run the tool twice** and record the target-year emissions level produced in each run. The tool can **generate two separate versions of CTF Table 4**: one for conditional NDC targets and another for unconditional NDC targets.

Important:

All emissions values in Step 1 must be entered in ktCO₂e. If the NDC document expresses values in MtCO₂e, multiply by 1,000 before entry. See Section 3.4 for unit conversion guidance.

Important:

When using the file multiple times e.g. for conditional and unconditional targets, the user must ensure the Step 1 tab returns blank before inserting any new data. A field checker is provided (see below) as shown at the bottom of Figure 6. Before entering any data, verify that the "Is the table empty?" field is set to Yes. This ensures that when the file is reused for different analyses (ex-post vs. ex-ante), the user start from a blank slate without carrying over previous data. This can be especially relevant when some fields might not be visible/out of scope with new validation fields.

Is the table empty (i.e. without any data)?	Yes
---	-----

Base year NDC data input

For NDCs that use a base year as the reference point, users must provide the base year (e.g., 2010) and the corresponding emissions value in kt CO₂e, as shown in the table below. Target year emissions level will be calculated by the tool based on base year and emission reduction target. According to the input on Target type (% reduction or Absolute emissions reduction) the user will be able to insert either the percentage reduction (%) or the absolute emissions reduction amount (in ktCO₂e).

NDC with Base Year	
NDC Information	Input
Base Year	
Base Year Value (ktCO ₂ e)	
Target year	
Target Year Level (ktCO ₂ e)	

Figure 7: Required information in Step 1 for NDCs with base year as the reference point

BAU NDC data input

For NDCs that use a BAU scenario as the reference point, users should ensure that the BAU scenario entered in NDC-CAT is the same as that used to calculate the NDC target during its preparation. To enable tracking of interim progress toward NDC implementation, users should provide BAU scenario values for each year during the NDC implementation period, rather than only for the target year, as shown in the table below. According to the input on Target type (% reduction or Absolute emissions reduction) the user will be able to insert either the percentage reduction (%) or the absolute emissions reduction amount (in ktCO₂e). The tool will use these values to calculate interim progress and assess whether emissions remain below the BAU scenario values throughout the NDC implementation period.

NDC with BAU scenario	
NDC Information	Input
NDC Target year	
BAU scenario emissions, ktCO₂e	
2021	
2022	
2023	
2024	
2025	
2026	
2027	
2028	
2029	
2030	
2031	
2032	
2033	
2034	
2035	
Target Year Level (ktCO ₂ e)	

Figure 8: Required information in Step 1 for NDC with BAU as reference point

The BAU scenario values for intermediate years (e.g. 2021-2029) are used only to track intermediary progress during the NDC implementation period. They are not used to calculate the NDC target level. For the assessment of final NDC achievement, only the BAU scenario value for the target year (e.g., 2030) is used by the tool. Therefore, BAU scenario values for intermediate years are not used in calculating the final target level. However, they are still required as they populate the reference point row of CTF Table 4 in Step 6 and the trajectory comparison in Step 5, so BAU values should be entered for every year of the NDC implementation period.

Step 2: GHG Inventory Data & GHG emissions projections

For more information on data inputs necessary for this step, see Annex I.b: National GHG inventory data (ex-post) or projections (ex-ante)

Step 2 requires users to enter GHG emissions data, and the nature of the data will change according to whether the user has selected Ex post setting or Ex ante setting. In both cases, the user must note the following guidelines:

- **All values must be entered in ktCO₂e** (see Section 3.4 for unit conversion guidance)
- The values should be **numbers, either typed in manually or inserted through “Paste Value” only** (see reference in section 2.1)
- Data can be entered for all sectors included in the country's NDC. If the NDC does not cover all sectors (i.e. it is not economy-wide), cells for excluded sectors should be left blank. The **only values** that the tool will take into consideration for future calculations are **the rows 16 and 17 (Total (with LULUCF) and Total (without LULUCF))**. This means that, if the user has sectoral targets, they can insert the sectoral values for reference, but they ultimately have to input the sum of the total emissions covered by the NDC, with and without LULUCF, in Row 16 and Row 17
 - If the user selected “Yes” to the question “LULUCF included in the NDC”, the tool will take into account the data in row 16 for gross emissions (Total (with LULUCF))
 - If the user selected “No” to the question “LULUCF included in the NDC”, the tool will take into account the data in row 17 for gross emissions (Total (without LULUCF))

Ex post setting: national GHG emissions data

The user needs to provide national GHG emissions data for all years of the **NDC implementation period up to the most recent available inventory year**. In most cases, these data should be sourced from the official national GHG inventory. However, some countries apply accounting approaches in their NDCs that differ from those used in the national GHG inventory. In such cases, the emissions data reported in Step 2 should be consistent with the NDC accounting framework. This includes the accounting approach, sectoral coverage, greenhouse gases, categories, exclusions, and any other methodological elements specified in the NDC. Users should therefore enter emissions values in Step 2 that are appropriate for tracking progress towards the NDC target. Where the NDC accounting approach differs from the inventory methodology, the values reported in Step 2 should reflect the NDC approach and not necessarily the inventory totals.

Possible suitable sources are described in Section 3.2 of this guidance and include **CTF Table 6 from the BTR submission** or **CRT Table 10 from the national inventory submission**. These entries form the historical emissions trajectory used to assess progress toward the NDC target and to calculate the adjusted emissions balance in Steps 5 and 6.

Note – in ex post mode the user must:

- Leave cells blank for years beyond the latest available inventory year and/or outside the NDC implementation period (the cells out of scope will be greyed out by the tool).
- **Not enter projected or estimated values for future years.** The Ex post mode of NDC-CAT is designed to work with official inventory data only.

Step 2: GHG Inventory

Please insert the values for your GHG inventory, up to your most recent inventory year. If your NDC target is non-economy wide, please leave the relevant sectoral row blank.

Unit: kt CO₂ eq.

Sectors	2021	2022	2023	2024	2025
1. Energy					
2. Industrial processes and product use					
3. Agriculture					
4. Land use, land-use change and forestry					
5. Waste					
6. Other					
Total (with LULUCF)					
Total (without LULUCF)					

Is the table empty (i.e. without any data)? ☒ Yes

Figure 9: Required information in Step 2 on GHG inventory (in ex-post mode)

Important:

The LULUCF treatment and sectoral coverage of the data entered here must match the scope selected in Step 0 and the scope of the NDC itself. Entering data with a different scope will produce an incorrect adjusted emissions balance in Steps 5 and 6

Ex ante setting: emissions projections

Step 2 is used to enter emissions projections when the tool is operating in the ex-ante mode. Users can insert emissions projection data (in kt CO₂ eq.) for their desired timeframe.

For NDCs that use a BAU scenario as the reference point, users should ensure that the BAU scenario applied in NDC-CAT is consistent with the BAU projection underlying the current NDC, specifically the BAU scenario used to calculate the NDC target emissions level during NDC preparation

Important:

When using the file multiple times between ex post/ex ante, the user must ensure the emissions tab returns blank before inserting any new data. A field checker is provided (see below) as shown on Step 2. This check applies in both ex-post and ex-ante mode. Before entering any data, verify that the "Is the table empty?" field is set to Yes. This ensures that when the file is reused for different analyses (ex-post vs. ex-ante), the user start from a blank slate without carrying over previous data. This can be especially relevant when some fields might not be visible/out of scope in the Ex post mode.

Is the table empty (i.e. without any data)? ☒ Yes

Step 3: Article 6 information

For more information on data inputs necessary for this step, see Annex I.c: Article 6 information from Agreed Electronic Format (AEF) or other sources

Step 3 requires users to report Article 6–related activities, including ITMOs first transferred, mitigation outcomes authorized, and ITMOs used toward achieving the NDC. It starts with the following questions and grey-out non-applicable data field in the subsequent table:

1. Are you acquiring/importing ITMOs from a host party?
2. Are you providing/exporting ITMOs to other parties?

If the answer to both questions is no, the table will be entirely greyed out, as the user will not need to input any data. If only one of the questions is answered positively, the table will showcase only the data fields that are relevant to the importing/exporting activities.

Vintage/implementation period considerations: user should insert ITMO data according to the vintage year, and in the year where the ITMO transfer will be accounted for in the NDC implementation period – even if the year is after the latest inventory year (ex post).

Important:

In this Step, data must be entered directly in **tCO₂e without converting to ktCO₂**. The file will automatically convert them for future calculations to ensure consistency with other data points. Entering pre-converted ktCO₂e values in the upper table will result in calculations that are off by a factor of 1,000

AEF data is reported in tCO₂e, hence values from the AEF can be entered directly in the table without any conversion.

Important:

When using the file multiple times between ex post/ex ante, the user must ensure the Step 3 tab returns blank before inserting any new data. A field checker is provided (see below). Before entering any data, verify that the "Is the table empty?" field is set to Yes. This ensures that when the file is reused for different analyses (ex-post vs. ex-ante), the user start from a blank slate without carrying over previous data. This can be especially relevant when some fields might not be visible/out of scope in the Ex post mode.

Is the table empty (i.e. without any data)?	Yes
---	-----

Ex post setting: AEF data

For each year, enter the quantities of ITMOs exported (first transferred) and imported (used toward the NDC), using information from the AEF: Table 3 for actions, Table 2 for authorizations, and Table 5 for authorized entities.⁸

The table below summarises each field, its input types, AEF sources and key notes.

Field	Input type	Using Party/ first transferring Party	AEF source	Notes
Annual quantity of ITMOs first transferred	Number (in tCO ₂)	First transferring Party	AEF Table 3 (Action type = First transfer)	Sum by the vintage year of the ITMOs. Enter the gross quantity transferred out of the country in tCO ₂ e.
Annual quantity of mitigation outcomes authorised	Number (in tCO ₂)	First transferring Party	AEF Table 2 (Purposes = OIMP or NDC+OIMP)	Sum authorised quantities by year. If multi-year authorisations do not specify per-year breakdown, the Party decides how to distribute the quantity across years and should state the method used in its BTR.
Annual quantity of ITMOs used towards achievement of the NDC	Number (in tCO ₂)	Using Party	AEF Table 3 (Action type = Use toward NDC)	Sum by calendar year for which ITMOs are used (not the action date). Enter the quantity applied toward the NDC in tCO ₂ e.
Net annual quantity of ITMOs	Auto-calculated	Using Party/ First transferring Party	N/A	Difference between annual quantity of ITMOs first transferred and annual quantity of ITMOs used towards NDC achievement
Total quantitative corresponding adjustment used	Auto-calculated	Using Party/ First transferring Party	N/A	NDC-CAT calculates this value in Step 4 using averaging method of corresponding adjustment
Annual quantity of mitigation outcomes authorised for use for other international mitigation purposed	Number (in tCO ₂)	First transferring Party	AEF Table 2 (Purposes = OIMP)	The quantity of mitigation outcomes the Party has authorised for use towards other international mitigation purposes, such as CORSIA, rather than towards any Party's NDC. Reported under paragraph 23(d) of the annex to decision 2/CMA.3 and shown in row 24 of CTF Table

⁸ UNFCCC (2021). Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. Decision 2/CMA.3. Available at: <https://unfccc.int/documents/310497>

Field	Input type	Using Party/ first transferring Party	AEF source	Notes
				4 in Step 6. Because these outcomes are not used towards an NDC, they do not enter the net ITMO figure or the corresponding adjustment. Note that paragraph 23(d) also requires the entities authorised to use the outcomes. This information is reported separately and is not captured in NDC-CAT

Table 5: Field summary table for Step 3

The tool will automatically calculate the net annual quantity of ITMOs and the cumulative corresponding adjustments. If a country authorizes mitigation outcomes for multiple years without specifying annual amounts, apply the allocation rule disclosed in the draft AEF. Ensure that data are entered consistently per metric (GHG vs. non-GHG units) and only report values that correspond to the NDC period and authorisation scope.

Step 3: Article 6 and ITMO use or transfer

Describe Article 6 and ITMO use or transfers

Are you Acquiring ITMOs (importing) from a Host Party?	No
Are you providing ITMOs (exporting) to other Parties?	Yes
Is the table empty (i.e. without any data)?	Yes

INSERT DATA HERE DIRECTLY FROM AEF (tCO₂)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual quantity of ITMOs first transferred										
Annual quantity of mitigation outcomes authorized										
Net annual quantity of ITMOs	0	0	0	0	0	0	0	0	0	0
Total quantitative corresponding adjustments used	0	0	0	0	0	0	0	0	0	0

Figure 10: Required information in Step 3 on Article 6

Ex ante setting

In this setting the user can explore different projections/scenarios where the country exports/imports different amounts of ITMOs.

Field	Input type	Using Party/ First transferring Party	Notes
Annual quantity of ITMOs first transferred	Number (in tCO ₂)	First transferring Party	Quantity of ITMOs transferred out of the country
Annual quantity of mitigation outcomes authorised	Number (in tCO ₂)	First transferring Party	Total mitigation outcomes authorized – they should not be lower than ITMOs.
Annual quantity of ITMOs used towards achievement of the NDC	Number (in tCO ₂)	Using Party	Acquired ITMOs (imported from another Host Party)
Net annual quantity of ITMOs	Auto-calculated	Using Party	Difference between annual quantity of ITMOs first transferred and their use towards NDC achievement
Total quantitative corresponding adjustment used	Auto-calculated	Using Party/ First transferring Party	NDC-CAT calculates this value in Step 4 using averaging method of corresponding adjustment
Annual quantity of mitigation outcomes authorised for use for other international mitigation purposed	Number (in tCO ₂)	First transferring Party	The quantity of mitigation outcomes the Party has authorised for use towards other international mitigation purposes, such as CORSIA, rather than towards any Party's NDC. Reported under paragraph 23(d) of the annex to decision 2/CMA.3 and shown in row 24 of CTF Table 4 in Step 6. It does not enter the net ITMO figure or the corresponding adjustment.

Step 4: Calculating Corresponding Adjustments

In this step, user can view the calculated corresponding adjustment and resulting adjustment emissions balance. **Users do not need to manually enter any information as all the values are either automatically calculated or imported from the previous steps.** If there is no data in the Step 3 i.e., if a country is not participating in Article 6 and there is no information about the use or transfer of ITMOs, Step 4 will be a blank sheet. This step will present either the BAU or the Base Year table, depending on the NDC reference point selected in Step 0. The tables are structured in the same way with the variables listed below (potential reference to confirm the auto-calculated values):

Variable	Description (all units expressed as ktCO ₂ e)
Net ITMO transfer for each year	Difference between annual quantity of ITMOs first transferred and annual quantity of ITMOs used towards NDC achievement
Cumulative ITMO transfers	Calculated as the aggregate sum of annual ITMOs over the elapsed years of the NDC period
Calculated corresponding adjustments	In case of averaging CA method, calculated as cumulative amount of ITMOs (for ex-post, limited to years of NDC implementation period, until latest available GHG inventory year), divided by number of elapsed years of NDC period; the corresponding adjustment remains constant throughout the years; • If the country has transferred ITMOs (export): the corresponding adjustment will be a positive value (+) • If the country has received ITMOs (import): the corresponding adjustment will be a negative value (-) • [Exports] > [Imports] à the corresponding adjustment will be a positive value (+) • [Imports] > [Exports] à the corresponding adjustment will be a negative value (-)
Gross GHG emissions by year	Annual anthropogenic emissions by sources and removals by sinks covered by the NDC. It should be consistent with the national GHG inventory, it is the same as Total emissions (with LULUCF) [Row 16 of Step 2] if LULUCF is included in the NDC scope; it is the same as Total emissions (without LULUCF) [Row 17 of Step 2] if LULUCF is not included in the NDC scope (see Step 0)
Adjusted emissions balance	Calculated as: [Gross Emissions] + [Corresponding adjustments]

Unit: kt CO ₂ eq.									
Calculating CA for NDC with BAU Scenario (Method for CA: Averaging Approach)									
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029
A. Year Count									
B. ITMO Transfers for each year									
C. Cumulated ITMO Transferred									
D. Corresponding Adjustment Made									
E. Gross Emissions									
F. Adjusted emission balance									

Figure 11: Calculated corresponding adjustment and adjustment emissions balance in Step 4

Step 5: Tracking NDC Progress

This sheet assesses the **country's progress toward achieving its NDC** by comparing adjusted emissions balance with both the base-year (or BAU) level and the NDC target level. The step is divided into **two sections**:

- **Intermediary progress:** Progress made towards achieving the NDC as determined by comparing the most recent adjusted emissions balance with the reference level.
 - Base year: [% reduction from base year level] = $1 - ([\text{Adjusted Emissions Balance}] / [\text{Base year emissions reference level}])$
 - BAU: [% reduction from BAU level] = $1 - ([\text{Adjusted Emissions Balance}] / [\text{BAU emissions reference level}])$
- **Final achievement of progress:** Progress made towards achieving the NDC, as determined by comparing the most recent adjusted emissions balance with the target-year level.
 - Base year & BAU: [% reduction from the target level] = $1 - [\text{Adjusted Emissions Balance}] / [\text{NDC target level}]$

Interpreting the data: when there has been a reduction, the variable “% reduction from base year/BAU level” will showcase as a positive value (e.g. from 10 ktCO₂ to 7 ktCO₂ we would have 30% reduction). Where there has been a reduction, the percentage will always show as a positive value. If instead, the emissions have increased or are above the base year/target year, the percentage will be shown as a negative value.

Variable	Value	Interpretation
% reduction from base year level	50%	There was a 50% reduction from the base year level , which means that the emissions have halved
% reduction from base year level	-30%	The % reduction is a negative number, which means that there was a 30% increase in emissions from base year level

Users do not need to manually enter any information in this step, as all values are either calculated by the tool or imported from previous steps. Users should review these results to understand whether current mitigation actions and ITMO adjustments support or hinder progress toward the NDC achievement.

Step 5: Tracking Progress

This sheet assesses a Party's progress toward achieving its NDC by comparing adjusted emissions balance with both the base year level and the NDC target level. Users do not need to manually enter any information in this step.

Assessment of achievement: NDC with Base Year														
NDC information														
Base Year														
Base Year level, ktCO ₂ e														
NDC Target year														
NDC Target level, ktCO ₂ e														
Tracking progress														
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
Adjusted emissions balance, kt CO ₂ e														
Intermediary progress:														
Progress made towards the NDC, as determined by comparing the most recent information for each selected indicator with the Base Year level														
% reduction from the base year level														
Below base year level?														
Final achievement of progress:														
Progress made towards the NDC, as determined by comparing the most recent information for each selected indicator with the target year level														
% reduction from the target level														
Below target level?														

Assessment of achievement: NDC with BAU scenario														
NDC information														
NDC Target year														
BAU level in Target Year, kt CO ₂ e														
NDC Target level, kt CO ₂ e														
Tracking progress														
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
Adjusted emissions balance, kt CO ₂ e														
BAU scenario emissions, kt CO ₂ e														
Intermediary progress:														
Progress made towards the NDC, as determined by comparing the most recent information for each selected indicator with the BAU scenario level. During the implementation period before the target year is reached, we track intermediary progress														
% reduction from the BAU level														
Below BAU level?														
Final achievement of progress:														
Progress made towards the NDC, as determined by comparing the most recent information for each selected indicator with the target year level														
% reduction from the target level														
Below target level?														

Figure 12: Progress made towards achieving the NDCs (auto-calculated) in Step 5

Step 6: Results for CTF Table 4 of the BTR

If the tool is used in **ex-post mode**, Step 6 generates the pre-populated **CTF Table 4 of the Biennial Transparency Report (BTR)**, titled “Structured summary: Tracking progress made in implementing and achieving the NDC under Article 4 of the Paris Agreement.”

Based on all inputs provided in steps 0 to 3 steps, the tool auto-populates CTF Table 4 with:

- Reference points (base year or BAU emissions level);
- Annual GHG emissions and removals from the inventory;
- ITMO transfer and use quantities by year;
- Corresponding adjustments by year; and
- Adjusted emissions balance;
- When GHG inventory data for target year emissions is not yet available, intermediary NDC implementation assessment: Progress made towards the NDC, as determined by comparing the most recent information for each selected indicator, including for the end year or end of period, with the reference point(s), level(s), baseline(s), base year(s) or starting point(s) (paras. 69–70 of the MPGs)
- When GHG inventory data for target year becomes available: Assessment of the achievement of the Party’s NDC under Article 4 of the Paris Agreement (para. 70 of the MPGs).

Thus, Step 6 automatically compiles the information provided in the previous steps and generates the BTR CTF Table 4, presenting the reference point, emissions data, Article 6 transactions, corresponding adjustments, and progress towards NDC achievement in the format required under the Enhanced Transparency Framework of the Paris Agreement.

No manual data entry is required in this step. Users should review the auto-populated table for completeness and consistency with the country’s NDC and Article 6 reporting obligations before exporting to the BTR submission.

Step 6: Results BTR												
CTF Table 4 of the Biennial Transparency Report (BTR)												
Users do not need to manually enter any information in this step												
4. Structured summary: Tracking progress made in implementing and achieving the NDC under Article 4 of the Paris Agreement ^a												
Indicator(s) selected to track progress of the NDC or portion of NDC under Article 4 of the Paris Agreement (paras. 63 and 77(a)(i)-(iii) of the MPGs)	Unit, as applicable	Reference point(s), level(s), baseline(s), base year(s) or starting point(s), as appropriate (paras. 67 and 77(a)(i) of the MPGs)	Implementation period of the NDC covering information for previous reporting years, as applicable, and the most recent year, including the end year or end of period (paras. 63 and 77(a)(i)-(iii) of the MPGs)									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030

Figure 13: Auto-calculated results for CTF Table 4 of the BTR in Step 6

Important:

1. When there is no information related to Article 6 participation and ITMO use or transfer (Step 3), ITMO-related fields in this step (CTF table 4) will not be applicable and excluded.
2. The final achievement of progress can be fully assessed only when inventory data of NDC target year is available

References

UNFCCC. 2015. Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015. Addendum. Part two: Action taken by the Conference of the Parties at its twenty-first session. <https://unfccc.int/documents/9097>

UNFCCC. 2018. Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (Decision 18/CMA.1). <https://unfccc.int/documents/184700>

UNFCCC. 2021. Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. Decision 2/CMA.3. <https://unfccc.int/documents/310497>

UNFCCC. 2021a. Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework referred to in Article 13 of the Paris Agreement (Decision 5/CMA.3). <https://unfccc.int/documents/310499>

UNFCCC. 2021b. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement (Decision 3/CMA.3). <https://unfccc.int/documents/310497>

UNFCCC. 2021c. Work programme under the framework for non-market approaches referred to in Article 6, paragraph 8, of the Paris Agreement (Decision 4/CMA.3). <https://unfccc.int/documents/310497>

Annex I: Data Requirements and possible data Sources

Before opening NDC-CAT, users could gather the three data sources listed in the table below (in case if the tool is used ex-post). Having these ready before starting will allow the workflow to be completed without interruption. Sections 3.1 to 3.4 describe each data source in detail, explain what specific information is needed, and indicate where to find it. If the tool is used ex-ante, user will use GHG emission projections in Step 2 and planned ITMO transactions in Step 3. In ex-post mode, user could use actual annual GHG inventory data and ITMOs reported in AEF in the respective steps.

Data source	What you need	Where to find it
NDC document	Information on NDC: Reference point type (base year or BAU), reference year/level, target year, % reduction/absolute emissions reduction, sector/gas coverage, LULUCF inclusion,	UNFCCC NDC Registry: https://unfccc.int/NDCREG
National GHG inventory	Annual GHG emissions sectoral or total, depending on NDC coverage (ktCO ₂ e) for all years of the NDC implementation period	BTR: CTF Table 6; or NIR submission: CRT Table 10
Agreed Electronic Format (AEF)	AEF Table 2 (authorisations), AEF Table 3 (first transfers and use toward NDC), AEF Table 5 (authorized entities)	UNFCCC Article 6.2 reporting portal or national registry system

Table 6: Potential data sources to use NDC-CAT

Annex I.a: NDC document

The NDC document is the primary reference for Steps 0 and 1 of NDC-CAT. The tool can be used for different NDC types as described in Section 1.4. All NDC submissions are publicly available on the UNFCCC NDC Registry.⁹ The following information should be extracted from the NDC document before beginning data entry:

Item	Where it is used in NDC-CAT
Reference point type (base year or BAU)	Step 0 – NDC Selection (dropdown)
Reference year (for base year NDCs) or reference level year (for BAU)	Step 1 – NDC Information
Reference year or BAU emissions level (ktCO ₂ e)	Step 1 – NDC Information
NDC target year	Step 0 – NDC Selection
Unconditional % reduction target	Step 1 – NDC Information
Conditional % reduction target (if applicable)	Step 1 – NDC Information
Sectors and gases covered by the NDC	Step 0 – NDC Selection; Step 2 – GHG Inventory Data
LULUCF inclusion (yes/no)	Step 0 – NDC Selection (dropdown)
NDC implementation period (start and end year)	Step 0 – NDC Selection
Whether the country participates in Article 6	Step 3 – Article 6 Information

Table 7: Information from NDC document and use in NDC-CAT

For further guidance on NDC types and reference point concepts, see Section 1.4 of this guidance and the ETF Reference Manual (UNFCCC, 2022), which provides detailed explanations of the information required for CTF Table 4 reporting.¹⁰

⁹ UNFCCC NDC Registry. Available at: <https://unfccc.int/NDCREG>

¹⁰ UNFCCC (2022). Enhanced Transparency Framework Reference Manual. Version 2. Available at: https://unfccc.int/sites/default/files/resource/v2_ETFReferencemanual.pdf

Annex I.b: National GHG inventory data (ex-post) or projections (ex-ante)

Ex post setting

Step 2 of NDC-CAT requires annual GHG emissions data (in case if the tool is used in ex-post mode based on the selection in the Step 0), sectoral or total depending on NDC coverage for each year of the NDC implementation period. The content of the GHG inventory table is automatically aligned with the scope of the NDC target. For economy-wide NDCs, only total emissions should be reported. Where the NDC excludes LULUCF, totals should be presented without LULUCF; where it includes LULUCF, totals should be presented including LULUCF. For sectoral NDCs, emissions should be reported only for the sectors covered by the NDC. Accordingly, the structure of the GHG inventory table depends on the scope and coverage of the NDC, including whether the NDC is economy wide or sectoral. All data must be entered in **kilotonnes of CO₂ equivalent (ktCO₂e)**.

The recommended sources for this data, in order of preference, are:

- **National GHG inventory report.** The most recent national GHG inventory report can be used, provided it uses IPCC 2006 methodologies and covers all sectors and gases included in the NDC.
- **BTR submission CTF Table 6.** The most recent BTR submitted to the UNFCCC contains a structured summary of national GHG emissions and removals in CTF Table 6. This is the preferred source as it is the most up to date and has been formally submitted under the ETF.

Users must ensure that the scope and coverage of the inventory data entered in Step 2 is consistent with the scope and coverage specified in the NDC.

Note that the GHG inventory year is typically two to three years behind the reporting year, as specified in paragraph 58 of the MPGs (Decision 18/CMA.1).¹¹ Users should enter data for all available inventory years within the implementation period and leave future years blank.

Where NDC reference or target values are expressed in megatonnes (MtCO₂e) in the NDC document, these should be converted to ktCO₂e. The tool does not perform this conversion automatically.

Ex ante setting

Users can go beyond the emissions reported up to the latest available inventory year and insert projections. Data should always be provided in ktCO₂e

Important:

1. For NDCs that use a BAU scenario as the reference point, users should ensure that the BAU scenario applied in NDC-CAT is consistent with the BAU projection underlying the current NDC, specifically the BAU scenario used to calculate the

¹¹ UNFCCC (2018). Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement. Decision 18/CMA.1. Available at: <https://unfccc.int/documents/184700>

NDC target emissions level during NDC preparation. The country's Biennial Transparency Report (BTR) may serve as a useful source of BAU scenario data, provided that the reported BAU projections are the same as those used for determining the NDC target. National Communications and Biennial Update Reports (BURs) may also contain BAU scenarios in their mitigation sections that correspond to those used in the calculation of the NDC target.

2. The scope and methodology of the inventory data (or projected emissions) entered in Step 2 must be consistent with those used in the NDC. Entering inventory or projections data with a different LULUCF treatment or sectoral coverage than the NDC will produce incorrect progress assessments in Steps 5 and 6

Annex I.C. Article 6 information from Agreed Electronic Format (AEF) or other sources

Step 3 of NDC-CAT requires data on the country's ITMO transactions, sourced from the Agreed Electronic Format (AEF) in case of ex-post mode and planned ITMO transactions in case of ex-ante mode.

Ex post setting

The AEF is the standardised reporting format used by Parties to provide annual information on Article 6.2 cooperative approaches, as established under Decision 2/CMA.3 and further elaborated in the UNFCCC Article 6.2 Reference Manual.^{12,13} It is submitted through the UNFCCC submission portal and published on the Centralised Accounting and Reporting Platform (CARP).

The AEF contains several tables covering different aspects of ITMO transactions. NDC-CAT uses data from three of these tables. The table below specifies which AEF table each data point in Step 3 comes from, and how to interpret it

AEF table	Data point	How it is used in NDC-CAT (Step 3)
Table 3 (Action type = First transfer)	Annual quantity of ITMOs first transferred	ITMOs leaving the country (exports). Summed by action date (year) and metric. Applied as a negative in the CA calculation (CA-).
Table 2 (Purposes = OIMP or NDC+OIMP)	Annual quantity of mitigation outcomes authorised	Total authorisations by year and metric. If multi-year authorisations do not specify per-year amounts, a disclosed allocation rule must be applied before entry.
Table 3 (Action type = Use toward NDC)	Annual quantity of ITMOs used toward achievement of NDC	ITMOs received from other countries and applied toward the country's own NDC (imports). Summed by the specified calendar year for which the ITMOs are used (not the action date). Applied as a positive in the CA calculation (CA+).
Table 5	Authorized entities	Supporting reference for verifying the authorisation entries in Table 2. Not directly entered in NDC-CAT but used for cross-checking.

Table 8: Information from AEF

A few important points to note when extracting data from the AEF:

¹² UNFCCC (2021). Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. Decision 2/CMA.3. Available at: <https://unfccc.int/documents/310497>

¹³ UNFCCC (2023). Article 6.2 Reference Manual. Available at: https://unfccc.int/sites/default/files/resource/Article_6.2_Reference_Manual.pdf

- Action date or calendar year – For first transfers (AEF Table 3, Action type = First transfer), data should be summed by the vintage year of the ITMOs. For ITMOs used toward the NDC (AEF Table 3, Action type = Use), data should be summed by the “calendar year for which the ITMOs are used” - this is a separate field from the action date and may differ from it.
- Multi-year authorisations – Some authorisations in AEF Table 2 may cover multiple years without specifying a per-year breakdown. In these cases, a disclosed allocation rule must be applied to distribute the authorised quantity across years before entering the data in NDC-CAT. The allocation method used should be documented in the tool’s notes field for transparency.
- Metric consistency – Net quantities should not mix GHG and non-GHG metrics. Where a country has ITMO transactions in multiple metrics, each metric should be handled separately, and totals should only be summed within the same metric type.
- Unit conversion – AEF data is reported in tCO₂e. NDC-CAT Step 3 requires data in tCO₂e for the upper input table (rows 13-21), which the tool then converts automatically to ktCO₂e in the lower working table (rows 28-35).