



Unfolding the reporting requirements for Developing Countries under the Paris Agreement's: Enhanced Transparency Framework

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Publication date:
2019

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Dal Maso, M., & Canu, F. A. (2019). Unfolding the reporting requirements for Developing Countries under the Paris Agreement's: Enhanced Transparency Framework.

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Unfolding the reporting requirements for Developing Countries under the Paris Agreement's **Enhanced Transparency Framework**



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SEPTEMBER 2019

ISBN: 978-87-93458-70-3

Design and layout: kowsky.dk

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PREPARED UNDER:

- Initiative for Climate Action Transparency (ICAT) project funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Children's Investment Fund Foundation (CIFF), the Italian Ministry for Environment, Land and Sea Protection, and ClimateWorks

The ICAT project is managed by the United Nations Office for Project Services (UNOPS)



- This publication has been made in collaboration with the CBIT Global Coordination Platform funded by the GEF

The CBIT Global Coordination Platform is implemented by UN Environment and United Nations Development Programme



Acknowledgements

We would like to express our gratitude to the staff of UNEP DTU Partnership, Denis DR Desgain, Fatima-Zahra Taibi, Frederik Staun, Susanne Konrad, Olivier Bois von Kursk, Henry Neufeldt and Fatemeh Bakhtiari, for their valuable contribution and insights, and to Merete Villum Pedersen for the coordination. Our special gratitude goes to the external reviewers, Henning Wuester (UNOPS), Marina Vitullo (ISPRA), Ruta Bubniene (UNFCCC), Oscar Zarzo and Klaus Wenzel (GIZ), who provided insightful and valuable comments that strengthened the content of the publication. Finally, we wish to express our appreciation to Miriam Hinostroza (UNEP DTU Partnership), who provided content input and conceptual direction at various stages in the writing of this report.

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List of Abbreviations

AC	Adaptation Communication
BAU	Business As Usual
BTR	Biennial Transparency Report
BUR	Biennial Updated Report
CBIT	Capacity Building Initiative for Transparency
	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMA	to the Paris Agreement
CO ₂	Carbon Dioxide
COP	Conference of Parties
CRT	Common Reporting Tables
DTU	Danmarks Tekniske Universitet
ETF	Enhanced Transparency Framework
FMCP	Facilitative Multilateral Consideration of Progress
GDP	Gross Domestic Product
GHG	Greenhouse Gas(es)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GPG	Good Practice Guidance
GST	Global Stocktake
ICAT	Initiative for Climate Action Transparency
IPCC	Intergovernmental Panel on Climate Change
ISPRA	Istituto Superiore per la Protezione e la Ricerca Ambientale
ITMOs	Internationally Transferred Mitigation Outcomes
LDCs	Least Developed Countries
LTS	Long-term Strategies
LULUCF	Land Use, Land-Use Change and Forestry
MPGs	Modalities, Procedures and Guidelines
MRV	Measurement, Reporting and Verification
NAP	National Adaptation Plan
NC	National Communication
NDC	Nationally Determined Contribution
NID	National Inventory Document
NIR	National Inventory Report
SIDS	Small Islands Developing States
TER	Technical Expert Review
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

Introduction

The aim of the Paris Agreement is to limit the increase in global average temperatures to well below 2°C relative to pre-industrial levels and to pursue efforts to limit warming to 1.5°C. This will require efforts by each country to reduce its national GHG emissions while also adapting to the impacts of climate change. The main framework and driver for national climate policies are the Nationally Determined Contributions (NDCs) of each country. Each Party is called upon to prepare, communicate and maintain successive NDCs, and on this basis establish domestic mitigation actions and adaptation measures to achieve the targets in its NDC. Meanwhile, current NDCs are projected to lead to global greenhouse gas emissions in the range of 52–58 GtCO₂e by 2030. These emission levels would very likely lead to much more than 1.5°C of warming by mid-century. Revising and raising the ambition of NDCs is the key to reaching the Paris Agreement’s goal. At the same time, accounting for every single effort leading to GHG emissions reductions is crucial and should be monitored.

Article 13 of the Paris Agreement established an Enhanced Transparency Framework (ETF) for action and support in order to build mutual trust and confidence among the Parties and to promote the effective implementation of the Paris Agreement. The ETF is designed with built-in flexibility, which takes into account Parties’ different capacities and builds upon the collective experience of transparency under the Convention (UNFCCC). Its implementation is pursued in a facilitative, non-intrusive, non-punitive manner that is respectful of national sovereignty and is designed to avoid placing an undue burden on the Parties.

The purpose of the ETF for transparency of action is to:

- Provide a clear understanding of climate change actions in light of the objective to limit global warming to well below 2°C and to pursue efforts to limit warming to 1.5°C, including
- clarity and tracking of progress towards achieving Parties’ NDCs (Article 4) and Parties’ adaptation actions (Article 7) in order to inform the global stocktake (GST)¹ (Article 14).

The purpose of the ETF for transparency of support is to:

- provide clarity on support provided and received by relevant individual Parties in the context of actions to achieve the NDCs (Article 4), adaptation actions (Article

¹ The periodical assessment of the collective progress towards achieving the purposes of the Paris Agreement and its long-term goals.

7), financial support (Article 9), technology development and transfer (Article 10) and capacity-building (Article 11)

- to the extent possible, to provide a full overview of aggregate financial support provided in order to inform the global stocktake (Article 14).

By demonstrating that all countries are contributing to the implementation of the Paris Agreement through their NDCs, the ETF will ultimately raise ambitions to meet the Paris Agreement and build trust between the Parties.

At COP24 in Katowice in December 2018, the Parties adopted the “Katowice Climate Package”, which provides details for making the Paris Agreement operational. The Katowice Climate Package provides, among other things, the Modalities, Procedures and Guidelines (MPGs) for the ETF (UNFCCC, 2019). After two years of intensive technical dialogue on the content and principles, the MPGs provide operational details on the functioning of the ETF, including what information should be reported in relation to Article 13, as well as on the ETF’s timing and processes, including a review and consideration of progress.

All countries are guided by the same set of MPGs, with flexibility for those developing country Parties that need it in light of their capacities. Flexibility is to be self-determined by each country and in cases of the application of a flexibility provision, the country concerned will have to explain in which area and why it has applied the flexibility provision, concisely clarifying the capacity constraints. Furthermore, the country must report and follow up on the areas for improvement identified, providing information on any progress made in addressing the issues and needs, including a timeframe to show how it plans to meet the full requirements. Flexibility accommodates countries with lower capacities to participate in the ETF and allows them to continuously improve over time in key ETF areas.

The MPGs are divided into the following chapters:

- I. Introduction, including purpose, principles and other clarifications on flexibility, improved reporting over time and reporting format
- II. National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs)
- III. Information necessary to track progress made in implementing and achieving NDCs under Article 4 of the Paris Agreement
- IV. Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement
- V. Information on financial, technology development and transfer, and capacity-building support provided and mobilized under Articles 9–11 of the Paris Agreement

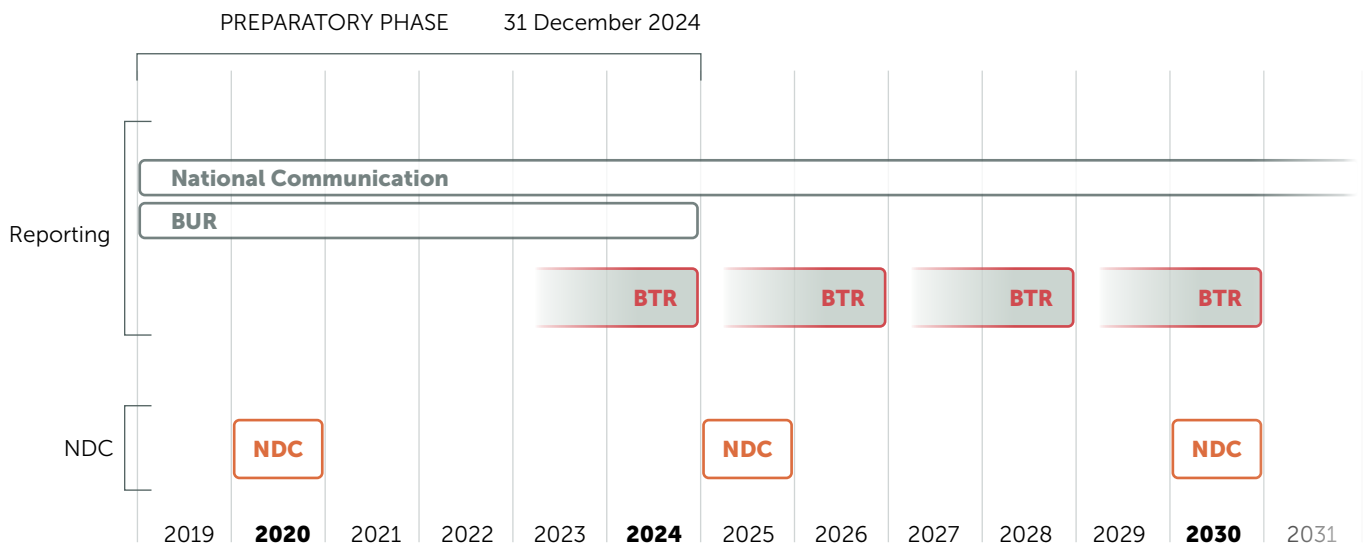
- VI. Information on financial, technology development and transfer and capacity-building support needed and received under Articles 9–11 of the Paris Agreement
- VII. Technical expert review
- VIII. Facilitative, multilateral consideration of progress (FMCP).

Information from Chapters II to VI is gathered in the Biennial Transparency Report (BTR), the key ETF reporting element. For countries that are Parties to the Paris Agreement, the first BTR should be submitted at the latest by 31st December 2024. At the same time, for countries that are Parties to both the Convention and the Paris Agreement, the latest Biennial Update Report (BUR), which is the reporting element under the Convention, should also be submitted at the latest by 31st December 2024. In this way, for Parties to the Paris Agreement, the BTR will supersede the BUR at the latest by end of 2024. Furthermore, countries should submit their revised NDCs by 2020.²

The MPG also apply to Least Developed Countries (LDCs) and Small Island Developing States (SIDS), which, however, may submit a BTR at their discretion.

As shown in Figure 1, countries have the opportunity to treat the period from 2019 to 2024 as a “preparatory phase”. In this period, it will be crucial for countries to start familiarizing themselves with the MPGs in order to be ready for the first submission of the BTR. The MPGs outline the reporting requirements for the BTR; nevertheless, the topics that they cover – which include reporting for GHG invento-

Figure 1. Timeline for the introduction of the BTR, with the deadlines for BTR and NDC submissions.



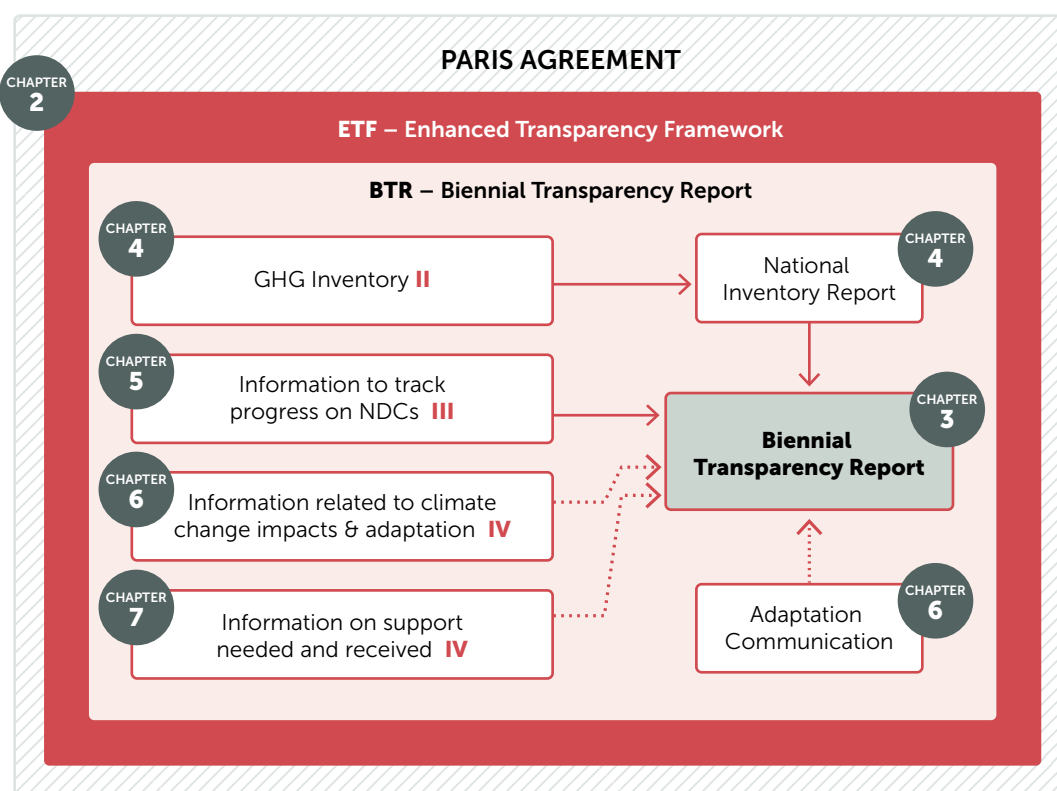
² At least 9 to 12 months before COP in 2020 (UNFCCC, 2016b).

ries, tracking of NDCs, climate change impacts and adaptation, and support provided and received – are of relevance to other submissions under the Convention, such as NDC, National Communication (NC), BUR, GHG Inventory and Adaptation Communication (AC). As discussed later in this publication, countries could already take into account the future requirements for the BTR outlined in the MPGs in the preparation of the incoming reporting work streams on the NDC³, NC, BUR, GHG Inventory and AC, thus enhancing readiness for the reporting under the Paris Agreement, as well as the quality of the current reporting.

The present publication is aimed at policy-makers, climate negotiators and MRV practitioners in developing countries. It focuses on the reporting requirements for developing countries and intends to inform these countries on how to prepare for the new reporting requirements set out in MPGs for the ETF, referred to in Article 13 of the Paris Agreement. This publication does not include discussions of the guidelines for technical expert review or facilitative multilateral consideration of progress, which are part of the ETF, nor on long-term strategies or the global stocktake.

Figure 2 provides an overview of how the publication is structured.

Figure 2. Overview of the publication's structure. In roman numerals, the sections of the MPGs providing relevant guidance on each topic.



I, II etc.: Chapters of the MPGs for Transparency from Katowice

3 For the NDC update, countries should take into account Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21 (UNFCCC, 2018a).

Chapter 2 targets all readers and aims to provide an overview of the ETF and of the new transparency guidelines issued as part of the Katowice Climate Package. It describes the links between Article 13, the ETF and the other articles of the Paris Agreement, explaining how the MPGs affect the ETF. Furthermore, it presents the timeline for reporting before and after the introduction of the ETF.

Chapters 3 to 7 are directed at MRV practitioners. Chapter 3 focuses on the BTR and explains its main features, including its links with other reporting vehicles such as the National Communication (NC) and Biennial Update Report (BUR), its time frame, and the main information to be reported within it. Chapters 4 to 7 take a closer look at the information which will be part of the BTR, including the Adaptation Communication (AC). These chapters discuss the requirements set out by the MPGs, drawing links with other elements of the Convention and Paris Agreement, such as the NDC, BUR and NC.

Overview of the Enhanced Transparency Framework

The Katowice Climate Package includes the MPGs for the ETF for action and support referred to in Article 13 of the Paris Agreement, applicable to all Parties. This second chapter aims to provide an overview of the ETF and how it relates to the other articles of the Paris Agreement.

2.1. Links between the Paris Agreement and the Enhanced Transparency Framework

The adopted MPGs provide guidance for reporting on five main groups of information: a national inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases; information necessary to track progress made in implementing and achieving the NDCs; information related to climate change impacts and adaptation; information on support provided; and information on support needed and received.

Figure 3 captures the information and flow of information within the ETF and the links between the ETF and the Articles of the Paris Agreement.

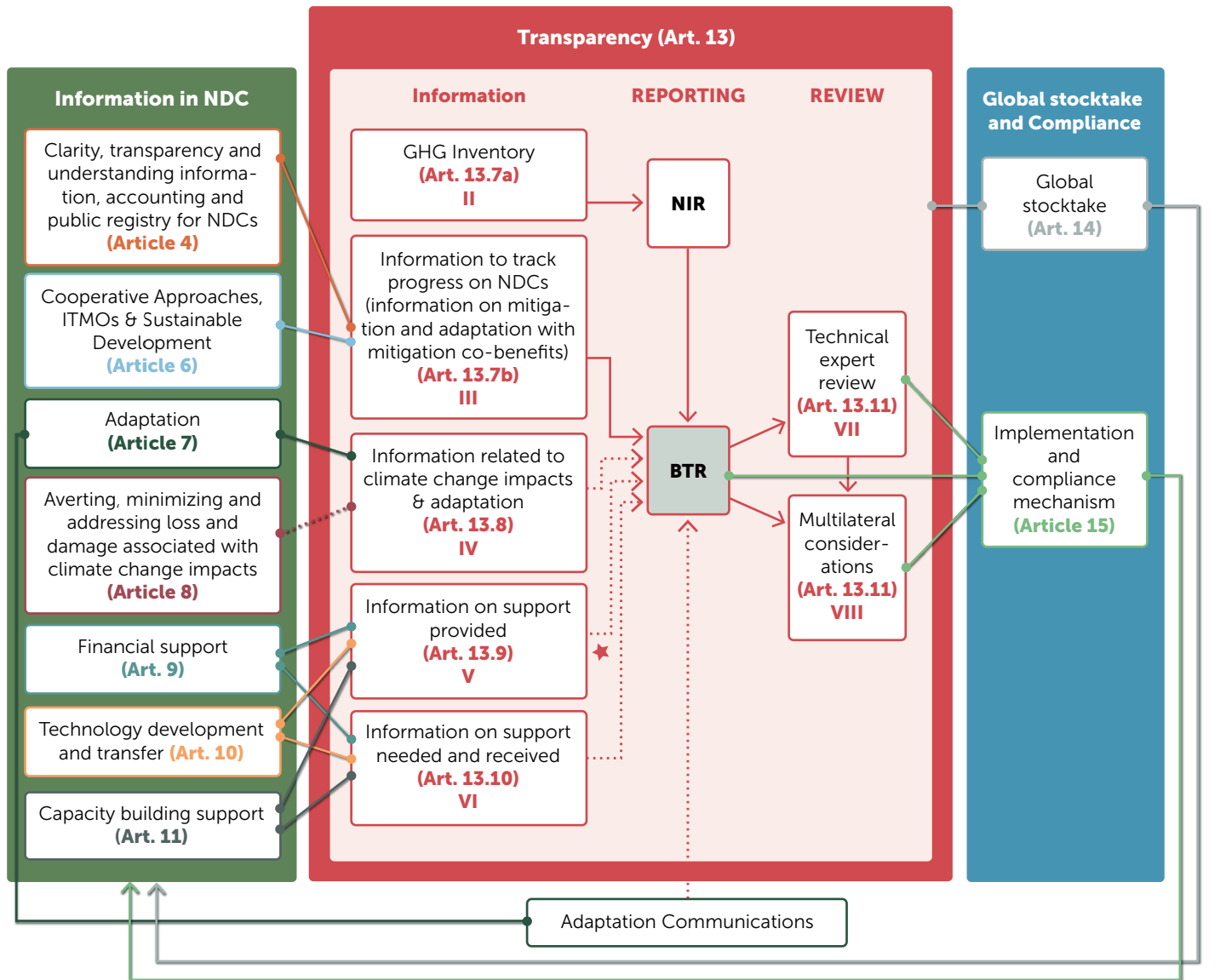
The central element of the figure is the red area representing Article 13 of the Paris Agreement, which establishes the ETF. The figure shows the information flows into specific reporting elements and how, from here, they feed into the review process.

The green area on the left captures the information that countries have included or will include in their NDCs, in accordance with Articles 4 and 6-11 of the Paris Agreement. This information is linked to the information covered by Article 13 (red area), which feeds into the different reports of the ETF identified under the figure's "reporting" column.

The central report is the BTR, which acts as a reporting vehicle for the elements listed under the column "Information", as depicted in Figure 3. Other key reports are the National Inventory Report (NIR)⁴ of GHGs, and the Adaptation Communication (AC). The NIR is a mandatory deliverable under Article 13 and a component of the BTR, although it can be submitted as a stand-alone document (hence the dashed frame). The AC, on the other hand, is not a mandatory submission and may be submitted with the BTR or through other reporting vehicles, such as the NDC, NC or National Adaptation Plan (NAP).

⁴ The national inventory report (NIR) consists of a national inventory document (NID) and the common reporting tables.

Figure 3. Overview of the flow of information in the Transparency Framework and links with other articles of the Paris Agreement.



Elements of Transparency to track implementation of Paris Agreement
 ★ Mandatory only for developed countries

I, II etc.: Chapters of the MPGs for Transparency from Katowice
 ●—● Explicit link between Articles of Paris Agreement and ETF
●⋯⋯● Implicit link between Articles of Paris Agreement and ETF
→ Mandatory under Transparency
⋯⋯→ Non-mandatory under Transparency

The BTR and the NIR (if not included in the BTR) are the key inputs for the two elements under the “review” column in Figure 3, consisting of the Technical Expert Review and the Multilateral Considerations.

Finally, the blue area on the right represents the global stocktake and compliance provisions, which consist of the Global Stocktake (GST)⁵ and the Implementation

⁵ The Global Stocktake (Art. 14 of the Paris Agreement) is a periodical stocktake of the implementation of this Paris Agreement undertaken to assess collective progress towards achieving the purpose of this Agreement and its long-term goals (referred to as the “global stocktake”).

Table 1. Explanation of the links between the articles of the Paris Agreement and the information to be reported under the ETF.

From Articles of the Paris Agreement to Information under Transparency	
Link	Explanation
Article 4 (NDCs) – Information necessary to track progress on NDCs	The "Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement" is described in Chapter III of the Modalities Procedures and Guidelines for the ETF. The information needed to track progress on NDCs includes a description of the NDC and information necessary to track progress made in implementing and achieving the NDC, mitigation policies and measures, actions and plans, and a summary and projections of GHG emissions and removals.
Article 6 (Cooperative Approaches and SDM) – Information necessary to track progress on NDCs	Information to be reported in respect of Article 6 is described under Chapter III Section C (paragraph 77.d) of the MPGs. This information, which is to be included in the reporting on tracking progress, covers how countries plan to make use of cooperative approaches that involve the use of internationally transferred mitigation outcomes towards NDCs, as well as a description of how the double-counting of GHG emission reductions has been avoided.
Article 7 (Adaptation) – Information related to climate change impacts and adaptation	The information related to climate change impacts and adaptation to be provided under Article 7 is explained in section IV of the MPGs. This includes information on national circumstances and institutional arrangements, impacts, risks and vulnerabilities, adaptation priorities and barriers, adaptation strategies, policies and goals, progress on implementation, monitoring and evaluation of adaptation actions and processes, and experience and lessons learned.
Article 8 (Loss and Damage) – Information related to climate change impacts and adaptation	Article 8 is not mentioned in either Article 13 or in MPGs. However, section G of chapter IV of the MPGs guides reporting under the BTR in terms of "Information related to averting, minimizing and addressing loss and damage associated with climate change impacts", which covers the elements of Article 8, stating that this information may be reported.
Article 9, 10, 11 (Finance, Tech trans and CB) – Information on support provided and mobilized	(Mandatory only for developed country Parties, but may be reported by other Parties providing support.) Information on financial, technology development and transfer and capacity-building support provided and mobilized under Articles 9, 10 and 11, to be included in the BTR, is described in chapter V of the MPG.
Article 9, 10, 11 (Finance, Tech trans and CB) – Information on support needed and received	Information on financial, technology development and transfer and capacity-building needed and received under Articles 9, 10 and 11, to be included in the BTR, is described in chapter VI of the MPG.

and Compliance Mechanism.⁶ The BTR feeds information into the GST and informs the Compliance Committee, which facilitates implementation of and promotes compliance with the provisions of the Paris Agreement.

Following the colour coding used in Figure 3, the following tables provide a detailed explanation for each link presented. Table 1 serves as a preamble to Chapters 3 to 7,

⁶ A mechanism to facilitate implementation of and promote compliance with the provisions of this Agreement under Art. 15 of the Paris Agreement.

Table 2. Links between the information to be included under the ETF and the different reports.

From Information to Reporting				
Link	Explanation	Mandatory	Voluntary	
GHG Inventory – NIR	A national inventory of GHGs emissions shall be provided as part of the NIR, according to the guidelines presented in section II of the MPGs.	Yes		
Information necessary to track progress on NDCs – BTR	This information shall be reported as part of the BTR.	Yes		
Information related to climate change impacts and adaptation – BTR	This information should be provided as part of the BTR. Although it is not mandatory, however, it can facilitate recognition of developing countries' climate risks, impacts, adaptation efforts, priorities, barriers, etc.		Yes	
Information on support provided and mobilized – BTR	This information shall be provided by developed country Parties in accordance with the MPGs. Other Parties that provide support should provide such information and, when doing so, are encouraged to use the MPGs.	Only for developed countries	Yes (for developing countries)	
Information on support needed and received – BTR	This information should be provided in the BTR submitted by developing country Parties.		Yes	

allowing quick snapshot of the information that needs to be reported under the ETF in accordance with the different articles.

Summing up the links in the central area of Figure 1, tables 2, 3 and 4 provide an overview of the links between the key information to be reported under the ETF and the reports (NIR, BTR, and AC), the link between the BTR and the other reports (NIR and AC), and the link between the BTR and the review processes.

Increasing the ambition of NDCs in a transparent way is key to achieving the long-term temperature goal set out in Article 2 and is needed to build trust among the Parties. On this basis, the Paris Agreement includes a provision that requires each Party's NDC to represent a progression from the previous NDC that reflects the country's highest possible ambition. To support this progression of ambition, the Parties can draw on the GST and the Implementation and Compliance Mechanism. At the global level, the GST aims to assess countries' collective progress with respect to the Paris Agreement. This assessment will inform Parties so that they can update and enhance their actions and support in order to drive ambition. The first GST will

Table 3. Links between the BTR, NIR and AC

Under Reporting	
Link	Explanation
NIR – BTR	The NIR is a mandatory element of the BTR, although it can be submitted in conjunction with the BTR or as a separate document.
Adaptation Communications – BTR	As outlined in the MPGs, Parties may submit and update their adaptation communication either as a component of or in conjunction with the reports on impacts and adaptation as stipulated in Article 13.8. When they submit an adaptation communication as part of the BTR, they should clearly identify which part of the report is the adaptation communication.

Table 4. Links between the BTR and the review process.

From Reporting to Review	
Link	Explanation
BTR – Technical review	The Technical review process, as described in Chapter VII of the MPGs, shall take into consideration the information submitted under Article 13, paragraphs 7 and 9, of the Paris Agreement, which include the NIR, the information necessary to track progress on NDC, and information on financial, technology development and transfer, and capacity-building support provided and mobilized to developing country Parties.
BTR – Multilateral considerations	Multilateral considerations (Facilitative, Multilateral Consideration of Progress, or FMCP) concern Parties' efforts under Article 9 and the Parties' respective implementation and achievement of NDCs. Information to be considered includes NIR, information necessary to track progress on NDC and information on support provided and received.
Technical review – Multilateral considerations	The FMCP will also consider the Party's technical expert review report.

Table 5. Links between the ETF and global stocktake and compliance.

From transparency to global stocktake and compliance	
Link	Explanation
Transparency Framework – Article 14 (Global Stocktake)	The BTRs inform the global stocktake on Parties' progress towards achieving NDCs, Parties' adaptation actions, including good practices, priorities, needs and gaps, and support provided and received in order to assess collective progress towards achieving the objectives of the Paris Agreement.
BTR, Technical review and Multilateral considerations – Article 15 (Mechanism for Compliance)	Decision 20/CMA.1, "Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance referred to in Article 15 (paragraph 2 ^a) states that the mechanism for implementation and compliance (the Committee) "will initiate the consideration of issues in case, among others, a Party does not submit the BTR, or participate in the facilitative, multilateral consideration of progress." Moreover, the Committee "may, with the consent of the Party concerned, engage in a facilitative consideration of issues in cases of significant and persistent inconsistencies of the information submitted by a Party pursuant to Article 13, paragraphs 7 and 9, of the Paris Agreement with the modalities, procedures and guidelines referred to in Article 13, paragraph 13, of the Paris Agreement. This consideration will be based on the recommendations made in the final technical expert review reports, prepared under Article 13, paragraphs 11 and 12, of the Agreement, together with any written comments provided by the Party during the review."

^a Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance referred to in Article 15 (UNFCCC, 2018d).

Table 6. Links between collective progress and compliance and the information in NDCs.

From global stocktake and compliance to NDC	
Link	Explanation
Article 14 (Global Stocktake) – NDC	As explained in the decision –/CMA 1. "Matters relating to Article 14 of the Paris Agreement and paragraphs 99–101 of decision 1/CP.21" ^b from COP24, the Global Stocktake will assess countries progress with respect to the Paris Agreement and use these findings to inform Parties in updating and enhancing their NDCs.
Article 15 (Mechanism for compliance) – NDC	The Committee can, if it initiates a consideration of issues, engage in a dialogue with the Party concerned with the purpose of identifying challenges, making recommendations and sharing information, including in relation to accessing finance, technology and capacity-building support, as appropriate. These recommendations and information can be taken into consideration by the Party when preparing new reports or communications.

^b Matters relating to Article 14 of the Paris Agreement and paragraphs 99–101 of decision 1/CP.21 (UNFCCC, 2018c).

be undertaken in 2023, followed by others every five years thereafter. The Implementation and Compliance Mechanism will facilitate implementation and promote compliance to the Paris Agreement, including the reporting requirements under Article 13, for individual Parties. Tables 5 and 6 present an overview of the links between the ETF and collective progress and compliance.

Table 7. Reports and their frequency under the Convention and the Paris Agreement.

Framework	Communications/Reports	Before 2024	After 2024
		Frequency	Frequency
Convention	National Communications incl. GHG inventory	Every four years from submission of the first NC ^a	Every four years
	Biennial Update Report incl. National Inventory Report	Every two years ^b	Discontinued
Paris Agreement	Nationally Determined Contribution	Every five years from 2020 ^c	Every five years
	Biennial Transparency Report incl. National Inventory Report	N/A	Every two years

^a First NC should be submitted within three years of entering the Convention

^b First BUR had to be submitted by December 2014

^c NDCs should be submitted 9-12 months before COP

2.2. Reporting from the Convention to the Paris Agreement

Under the Convention, one of the key reports is the National Communication (NC), including the national GHG inventory, which started in 1997 for non-Annex I Parties. Biennial Update Reports (BURs) were introduced as an additional requirement for non-Annex I Parties following the Cancun Agreements in COP 16, 2010 and the Durban decisions at COP 17 in 2011. The first BURs from non-Annex I Parties were to be submitted by December 2014. The BUR contains updates of information on national circumstances and institutional arrangements relevant to the preparation of the national communications, national GHG inventories, including a NIR, information on mitigation actions, needs and support received, and information on domestic measurement reporting and verification.

With the introduction of the ETF by the Paris Agreement, the key report becomes the BTR, including the NIR, to be submitted every two years starting from the first submission, no later than 31st December 2024.

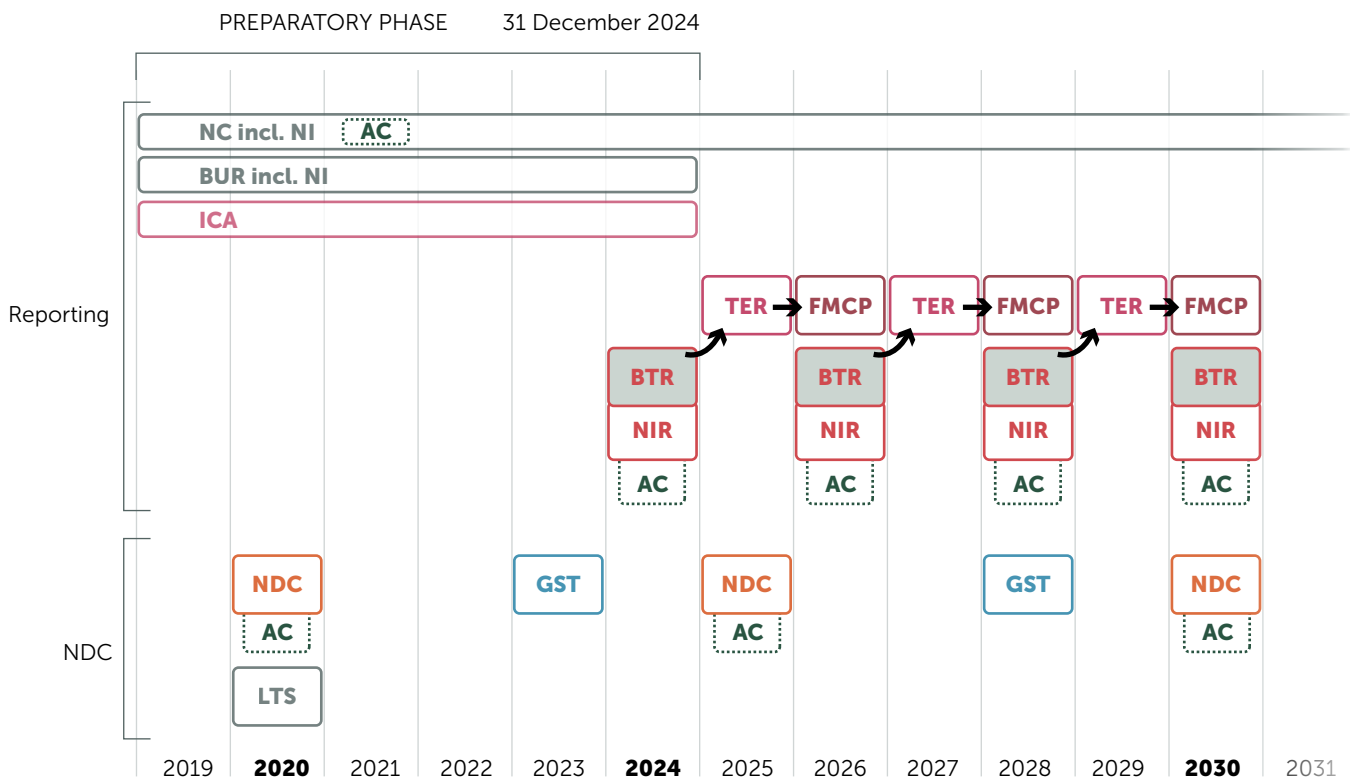
Table 7 compares the reports under the Convention and under the Paris Agreement. The table shows which reports have to be produced before and after 2024. It should be noted that the new reporting requirements defined by the ETF will supersede the requirements under the current reporting framework. However, if a country which is part of the Convention has not ratified the Paris Agreement, this country will continue to follow the reporting requirements under the Convention.

The timeline for the reporting and review processes for both the pre- and post-2024 periods is shown in Figure 4.

In the period up to 2024, referred in this publication as the “preparatory phase”, developing countries are required to submit an NC as well as a BUR, including a NIR, as part of their requirements under the UNFCCC. BURs submitted before 2024 are subject to the International Consultation and Analysis process.

All countries that have ratified the Paris Agreement will continue submitting an NC every four years, while the requirement for the submission of a BUR will be discontinued. Instead, all countries that have ratified the Paris Agreement⁷ are required to submit a BTR including a NIR. Countries can also submit an AC as part of their BTR. The BTR will undergo a Technical Expert Review⁸ (TER) process of a maximum of one year, followed by the Facilitative, Multilateral Consideration of Progress

Figure 4. Timeline for reporting and review before and after the entry into force of the ETF.



- NC:** National Communication
- NI:** National Inventory
- ICA:** International Consultation and Analysis
- TER:** Technical Expert Review
- FMCP:** Facilitative, Multilateral Consideration of Progress
- BTR:** Biennial Transparency Report
- NIR:** National Inventory Report
- NDC:** Nationally Determined Contribution
- LTS:** Long-term Strategies
- GST:** Global Stocktake
- AC:** Adaptation Communication

⁷ DCs and SIDS may submit this at their discretion.

⁸ The Technical Expert Review can be conducted in different ways, namely as a centralized, in-country, desk-based or simplified review.

(FMCP). If the TER is not made available within twelve months of the submission of the Party's BTR, the Secretariat will make arrangements for the Party to participate in an FMCP at the next available opportunity.

Figure 4 shows that the process for reporting and review, both pre- and post-2024, takes place in parallel to the process of NDC submission (every five years, starting from 2020), and to the process of the GST (every five years, starting from 2023). Parties are also invited to communicate mid-century, long-term low greenhouse gas emission development strategies or “long-term strategies” (LTS), by 2020.⁹

⁹ By COP decision 1/CP.21, paragraph 35 (UNFCCC, 2016b).

Overview and content of the Biennial Transparency Report

This chapter focuses on the BTR and explains the links between the BTR and current reports such as the NC and BUR, their time-frame, and the main information to be reported within it.

3.1. The Biennial Transparency Report under the Paris Agreement Framework

According to the reporting requirements under the Convention, developing countries have to report NCs every four years,¹⁰ including GHG inventories. In addition to NCs, following the Cancun Agreements countries have had to move towards biennial reporting through BURs, starting from December 2014,¹¹ taking into account national capabilities and circumstances. Even though developing countries were requested to prepare BURs biennially, only a few countries had the capacity to meet the 2014 deadline and continue submitting BURs biennially. With the adoption of the Paris Agreement, countries agreed to provide their NDCs every five years, thus communicating their expected mitigation and adaptation efforts¹² together with their means of implementation. In addition, for countries that have ratified the Paris Agreement, the BUR will be discontinued and replaced by the BTR.

The MPGs provide greater clarity on how the ETF implementation process will unfold, scheduling the submission of the first BTR (and NIR) at the latest by 2024. BTRs and NIRs will then be submitted every two years.

The NC will continue as a reporting vehicle under the Convention. In years when the NC and BTR coincide, Parties may submit both as a single report,¹³ following the MPGs for that information that is also covered by the NC guidelines.¹⁴ However, for NC purposes, Parties should include additional chapters on research and systematic observations on education, training and public awareness.¹⁵ If a Party decides to not report information related to climate change impacts and adaptation as part of the BTR, the single reporting should also include an additional chapter on adapta-

¹⁰ With flexibility for LDCs in light of their capacities.

¹¹ Only a limited number of developing countries managed to adhere to the requested timing and frequency.

¹² Adaptation reporting under the NDCs is voluntary.

¹³ According to Decision 1/CP.24 paragraph 43 (UNFCCC, 2018e).

¹⁴ Decisions 4/CP.5 (UNFCCC, 2000) and 17/CP.8 (UNFCCC, 2003).

¹⁵ In accordance with the guidelines contained in Decisions 4/CP.5 (UNFCCC, 2000) and 17/CP.8 (UNFCCC, 2003).

tion.¹⁶ Finally, Parties to the Convention that have not ratified the Paris Agreement are not required to follow the MPGs, but may do so in order to prepare their NCs, including, however, the above-mentioned information.¹⁷

The MPGs' section on tracking progress of NDC implementation and achievement is inevitably linked to the content of the NDC. Even though the first BTR is scheduled for submission by the end of 2024, countries currently working on updating or producing a new NDC for 2020 could benefit from already taking the future NDC-related BTR requirements into consideration at this stage in drawing up their NDCs.

Apart from the NDC, some of the information to be reported in the BTR is linked to the information included in current deliverables such as the NC, BUR, GHG Inventory and AC. Gaining a better understanding of these links can help countries identify areas of reporting where they might already have some information and where, on the other hand, the MPGs introduces new requirements in terms of data collection. For those areas for which new information will need to be produced, countries should make use of the preparatory phase (2019-2024) to start gathering such data. Furthermore, as some of this information may be relevant or (as in the case of NDCs) connected to current work streams on the NDC, NC, BUR, GHG Inventory and AC, countries can take these connections into consideration when preparing such reports in order not to duplicate efforts, to improve comparability across reporting, and ultimately to be ready when the ETF becomes effective. To underline these interlinkages, Chapters 4 to 7 present, in a tabular format, the current reporting requirements for the NDC, BUR, NC, and GHG inventory alongside the ETF reporting requirements (i.e. the BTR and GHG inventory).

¹⁶ In accordance with Decisions 4/CP.5 (UNFCCC, 2000) and 17/CP.8 (UNFCCC, 2003).

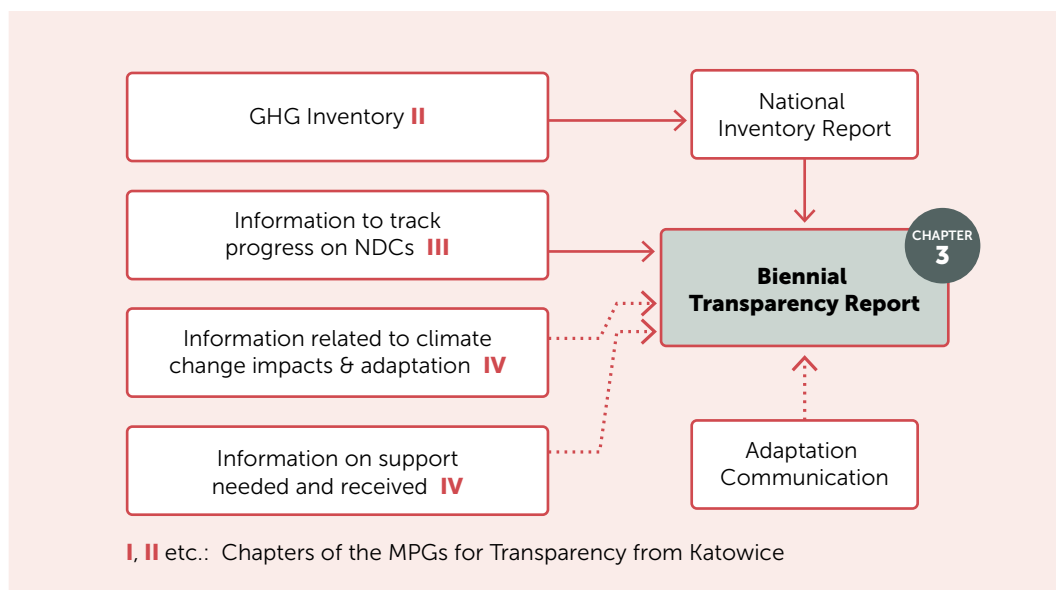
¹⁷ In accordance with Decision 1/CP.24 paragraph 44 (UNFCCC, 2018e).

3.2. Overall requirements for the Biennial Transparency Report

As shown in Figure 5, the BTR contains a number of items of information that shall (mandatory) or should (non-mandatory) be submitted. These are:

- the NIR of anthropogenic emissions by sources and removals by sinks of greenhouse gases, which may be submitted as a stand-alone report or as a component of the BTR
- Information necessary to track progress made in implementing and achieving Nationally Determined Contributions under Article 4 of the Paris Agreement (*shall*)
- Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement (*should*)
- Information on financial, technology development and transfer and capacity-building support needed and received under Articles 9–11 of the Paris Agreement (*should, for developing countries*)
- Information on financial, technology development and transfer and capacity-building support provided and mobilized under Articles 9–11 of the Paris Agreement (*shall, but only for developed countries. Should for other countries providing support*)

Figure 5. Information and reports included in the BTR.



Moreover, another report can form part of the BTR submission:

- the AC, which can be submitted as part of the BTR. In this case, it should be clearly identifiable in the BTR as such. The AC can also be submitted through other channels, such as NDCs and NCs. Therefore, countries are encouraged to number their submitted ACs sequentially.¹⁸

The outline of the BTR and NIR, together with the common reporting tables to be used for the NIR, as well as the common reporting tables for the electronic reporting of the information necessary to track progress made in implementing and achieving NDCs, financial, technology development and transfer and capacity-building support provided and mobilized (developed countries) and support needed and received (developing countries) will be made available by November 2020.

The following chapters will take a closer look at the other elements of Figure 5, which include all the information and other reports that can be submitted as part of the BTR. For each of these, the requirements as set out by the MPGs will be outlined, and links with other elements of the Convention and Paris Agreement, such as the NDC, BUR and NC will be drawn.

¹⁸ In accordance with Decision 9/CMA.1 (UNFCCC, 2018b).

National Inventory Report

As illustrated in Figure 6, this section focuses on the information related to the GHG inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases, i.e. the reporting element called the NIR. The next sections will elaborate on the links between the NIR under the ETF and the current reporting requirements for developing countries related to the GHG inventories and inventory reports, the requirements for future NIRs set out by the MPGs, the IPCC guidelines to be used to compile the inventory, and any future considerations to be taken into account in this respect.

4.1. Links between existing arrangements and ETF requirements for national inventories

The NIR consists of a national inventory document (NID) and the common reporting tables (CRT) containing the inventory of national anthropogenic GHG emissions and removals prepared in accordance with the IPCC guidelines. The structures of the NID and the CRT are currently being negotiated under the UNFCCC.

Figure 6. Information and reports included in the BTR.

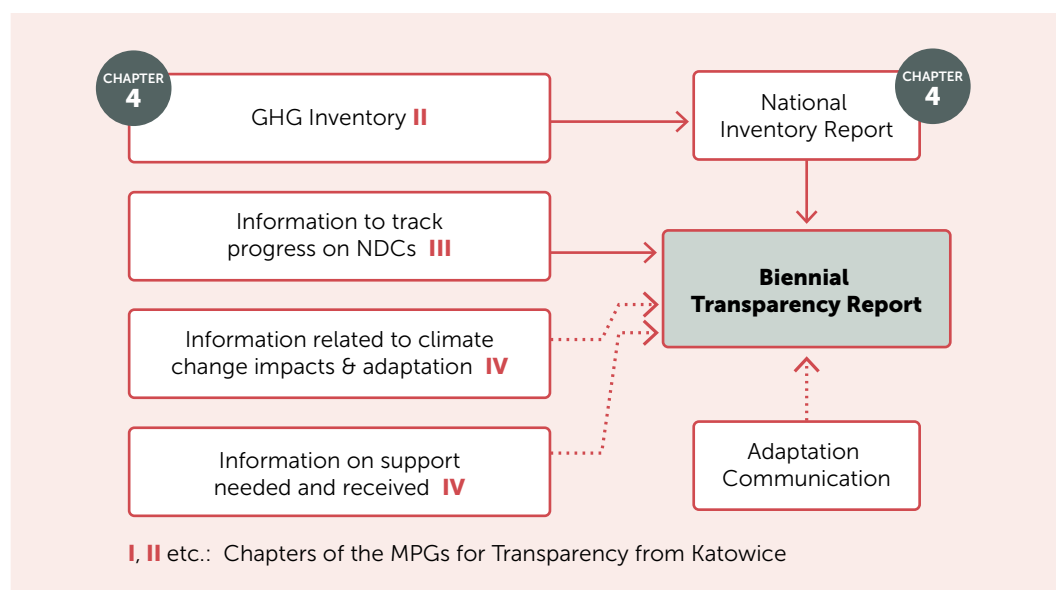
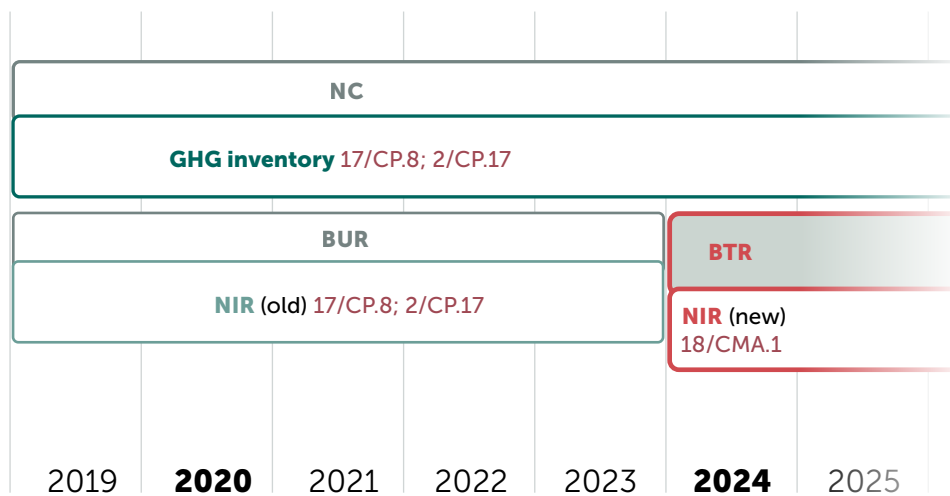


Figure 7. Link between national inventories included in different submissions under the Convention and Paris Agreement.



Under the ETF, each country is requested to submit an NIR,¹⁹ starting from 31st December 2024 and the latest, followed by other submissions every two years. NIRs can be submitted either as a component of the BTR or as a stand-alone report, and shall be submitted through the online portal maintained by the UNFCCC Secretariat.

As shown in Figure 7, the NIR is already part of the reporting under the Convention, being currently submitted as part of the BUR. The main changes to be highlighted comparing current and future requirements for NIRs are that:

1. the “should” requirement for NIR submission under the Convention has become a “shall” under the Paris Agreement’s ETF.
2. the NIR shall, under the Paris Agreement’s ETF, follow the IPCC guiding principles (Transparency, Accuracy, Completeness, Consistency and Comparability – TACCC), which will also guide the technical expert review of the reported information.
3. the mandatory use of the 2006 IPCC Guidelines for developing countries as well under the ETF, instead of the 1996 IPCC Guidelines under the Convention.

A National GHG Inventory is currently also included in the NCs under the Convention.

The new requirements for NIRs must be fulfilled by 2024 with the first submission of the BTR. However, countries could prepare to meet the ETF’s requirements by implementing elements of the new NIR in the current reporting framework, starting with the use of the 2006 IPCC Guidelines.

¹⁹ This submission shall comprise all the elements that are mentioned to be reported in the MPGs (section II “National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases”).

Table 8. Comparison of information, requirements and methodologies for preparing NIR and national GHG inventory between as part of BTR, NC and BUR. In italics, “should”, “encouraged” and “may” requirements. In blue, requirements where flexibility applies.

Detail	NIR (part of BTR or stand alone) ^a	GHG Inventory (part of NC) ^b	NIR (part of BUR) ^{c,d}
Reporting form	<ul style="list-style-type: none"> • National Inventory Document (NID) • Common Reporting Tables (CRT) 	<ul style="list-style-type: none"> • GHG Inventory • Only for Annex I = Common Reporting Tables + National Inventory Report 	<ul style="list-style-type: none"> • GHG Inventory: GHG inventory according to guidelines for the preparation of NCs • Reporting: Consisting of a summary of GHG inventory and tables reporting gases
Submission requirements	<ul style="list-style-type: none"> • Each Party shall provide a national inventory report 	<ul style="list-style-type: none"> • Non-Annex I Party shall communicate a national inventory of GHG emissions to the extent of its capacities 	<ul style="list-style-type: none"> • Developing countries, according to their capabilities, should submit, as part of their BURs, updates of national GHG inventories, including a national inventory report
IPCC guidelines	<ul style="list-style-type: none"> • Use IPCC Guidelines 2006, and any subsequent version or refinement 	<ul style="list-style-type: none"> • Use the IPCC revised guidelines 1996; <i>encouraged to use the IPCC GPG 2000 and IPCC 2003 GPG for LULUCF</i> 	<ul style="list-style-type: none"> • Use IPCC revised guidelines 1996, IPCC GPG 2000 and IPCC 2003 GPG for LULUCF
Key categories	<ul style="list-style-type: none"> • Identify key categories with threshold at 95% (85% if flexibility is needed) • Provide individual and cumulative percentage contributions per category • For each category, both level and trend shall be reported at least for first and last reporting year of the time series 	<ul style="list-style-type: none"> • Encouraged to undertake any key source analysis as indicated in the IPCC good practice guidance 	<ul style="list-style-type: none"> • n.a.
Gases	<ul style="list-style-type: none"> • CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃ (flexibility to report at least CO₂, CH₄, N₂O, and any additional gas of the following: HFCs, PFCs, SF₆ and NF₃) • CO, NMVOCs, SO_x, NO_x, indirect CO₂ from atmospheric oxidation of CH₄, CO and NMVOCs (should) • Use the 100-year time-horizon GWP, provided in the IPCC Fifth Assessment Report, to report aggregate emissions and removals of GHGs, expressed in CO₂e 	<ul style="list-style-type: none"> • CO₂, CH₄ and N₂O • HFCs, PFCs, SF₆, CO, NO_x, NMVOC and SO_x. • Provide emissions and removals on a gas-by-gas basis and in units of mass • Non-Annex I Parties wishing to report on aggregated GHG expressed in CO₂ equivalents should use the GWP using the 100-year time horizon provided in the IPCC Second Assessment Report 	<ul style="list-style-type: none"> • Same as in GHG inventory from NC

^a In accordance with Decision 18/CMA.1 (UNFCCC, 2019).

^b In accordance with 17/CP.8 (UNFCCC, 2003).

^c In accordance with 1/CP.16 (UNFCCC, 2011).

^d In accordance with 1/CP.17 (UNFCCC, 2012).

Table 8 takes a closer look at the different elements to be considered in GHG inventory reporting in relation to the different reporting frameworks.

Table 8 shows that the information to be included in the NIR under the ETF, as defined by the MPGs, has similarities with the information already included in the NIR

Detail	NIR (part of BTR or stand alone) ^a	GHG Inventory (part of NC) ^b	NIR (part of BUR) ^{c,d}
Time series	<ul style="list-style-type: none"> The latest reporting year shall be no more than 2 years prior to the submission of the NIR (or 3 years prior to the submission if flexibility is needed) Time series shall start from 1990 (if flexibility is needed, they should cover as a minimum the reference years for the respective NDC and a consistent annual time series from at least 2020 onwards) 	<ul style="list-style-type: none"> No time series but inventories for the year 1994 for the initial NC or alternatively may provide data for the year 1990. For the second national communication, for the year 2000 	<ul style="list-style-type: none"> Each non-Annex I Party is encouraged to provide time series back to the years reported in the previous national communications.
Uncertainty	<ul style="list-style-type: none"> Uncertainty for all source and sink categories, shall be quantitatively estimated and qualitatively discussed, at least for the starting year and the latest reporting year of the inventory time series. (Qualitative analysis where quantitative data is unavailable if flexibility is needed.) 	<ul style="list-style-type: none"> Encouraged to provide information on the level of uncertainty, and to describe the methodologies used, if any, for estimating these uncertainties. 	<ul style="list-style-type: none"> Same as in GHG inventory from NC
Completeness	<ul style="list-style-type: none"> Emissions from a category should be considered insignificant if the likely level of emissions is below 0.05% of the national total GHG emissions, excluding LULUCF and 500 kt CO₂ eq, whichever is lower. Total national aggregate of estimated emissions for all gases from categories considered insignificant shall remain below 0.1% of the national total GHG emissions, excluding LULUCF. (If flexibility, to consider instead emissions insignificant if the likely level of emissions is below 0.1% of the national total GHG emissions, excluding LULUCF, and 1,000 kt CO₂ eq, whichever is lower. The total national aggregate of estimated emissions for all gases from categories considered insignificant, in this case, shall remain below 0.2% of the national total GHG emissions, excluding LULUCF) 	<ul style="list-style-type: none"> Encouraged to apply the IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (hereinafter referred to as the IPCC good practice guidance), taking into account the need to improve transparency, consistency, comparability, completeness and accuracy in inventories 	<ul style="list-style-type: none"> n.a.
QA/QC	<ul style="list-style-type: none"> Each Party shall elaborate an inventory of quality assurance/ quality control (QA/QC) and provide information on general inventory QC procedures in accordance with the IPCC guidelines. (If flexibility is needed, this provision is only encouraged). 	<ul style="list-style-type: none"> n.a. 	<ul style="list-style-type: none"> n.a.

Detail	NIR (part of BTR or stand alone) ^a	GHG Inventory (part of NC) ^b	NIR (part of BUR) ^{c-d}
National circumstances	<ul style="list-style-type: none"> Information on national circumstances and institutional arrangements: national entity/focal point, inventory preparation process, archiving of information for reported time series, process for approval of inventory 	<ul style="list-style-type: none"> <i>Describe procedures and arrangements to collect data and information on the role of the institutions involved</i> 	<ul style="list-style-type: none"> Same as in GHG inventory from NC

and the national GHG inventories included in the BURs and the NCs. Nevertheless some of these requirements have changed and, in some cases, become stricter, as explained in the next section.

4.2. Requirements for the National Inventory Report under the ETF

4.2.1. Methods and Metrics

In this section, a more in-depth analysis of the ETF's requirements related to the NIR is provided, highlighting the changes compared to the previous reporting frameworks and the key implications for the preparatory phase.

To compile the NIR, countries shall use the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and any subsequent version or refinement of the IPCC guidelines agreed upon. This includes also the use of the 2013 Supplement to the 2006 IPCC Guidelines for National GHG inventories of wetlands. In this regard, it should be noted that in May 2019 the IPCC adopted the 2019 Refinement to the 2006 Guidelines for National Greenhouse Gas Inventories. Since the requirement in the current reporting framework is to use the Revised 1996 IPCC guidelines in preparing the GHG inventories, it is of the utmost importance that countries start familiarizing themselves with the 2006 IPCC guidelines for the preparation of their next GHG Inventories, especially in relation to categories, gases and methodologies, if they have not already done so for the submission of their BUR.

Under the ETF, Parties shall report seven gases (carbon dioxide (CO₂), methane (CH₄), (nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃)). Nevertheless, flexibility is permitted to developing country Parties to report at least three gases (CO₂, CH₄ and N₂O), as well as any of the additional four gases (HFCs, PFCs, SF₆ and NF₃) that are included in the Party's NDC, are covered by an activity under Article 6 of the Paris Agreement, or have been previously reported. Finally, Parties should provide information on carbon monoxide (CO), nitrogen oxides (NO_x) and non-methane volatile organic compounds (NMVOCs), as well as sulphur oxides (SO_x), and may report indirect CO₂ from the atmospheric oxidation of CH₄, CO and NMVOCs.

Compared to the previous GHG inventories, the key changes are the introduction of an additional mandatory gas, NF_3 , and the mandatory nature of reporting for HFCs, PFCs, SF_6 , for which, however, flexibility can be permitted if needed. Additionally, countries may now report indirect CO_2 emissions from the atmospheric oxidation of CH_4 , CO and NMVOCs.

All Parties shall report on the following IPCC sectors, following the 2006 IPCC Guidelines: energy, industrial processes and product use, agriculture, LULUCF and waste.

Under the ETF, use of the hundred-year time-horizon global warming potential (GWP) from the last IPCC Fifth Assessment Report in reporting aggregate emissions and removals of GHG, expressed in CO_2 equivalents (CO_2e), is mandatory.

Identification of the key categories shall be carried out on the basis of the methodology outlined by the IPCC guidelines. Key categories shall be identified, including and excluding land use, land-use change and forestry (LULUCF) categories using approach 1 for both level and trend assessment. Flexibility is permitted to those developing countries that need it by means of a threshold no lower than 85 per cent, in place of the 95 per cent threshold recommended. The individual and cumulative percentage contributions from key categories for both level and trend shall be reported at least for the first and last reporting year of the time series.

More stringent requirements regarding uncertainty will also be in place. Uncertainties over the emission and removal estimates for all source and sink categories, shall be quantitatively estimated and qualitatively discussed, at least for the starting year and the latest reporting year of the inventory time series. However, flexibility may be granted, and developing countries can perform a qualitative analysis where quantitative data is unavailable.

Stringent requirements regarding the time series are included in the MPGs for the ETF. The latest reporting year shall be no more than two years prior to the submission of the national inventory report or three years prior to the submission if flexibility is needed. Time series shall start from 1990, or if flexibility is needed, they shall cover as a minimum the reference year(s) for the respective NDC and a consistent annual time series from at least 2020 onwards. Since the inventories under the NC were to be reported for 1994 or 1990 in the case of the initial NC, some countries might already possess this information for one or both of these years.

4.2.2. National circumstances and institutional arrangements

Under the ETF, countries have to implement and maintain national GHG inventory arrangements, including institutional, legal and procedural arrangements, for the continued assessment, compilation and timely reporting of national inventory reports. While this is not a compulsory requirement under the Convention, under the ETF countries shall report on functions related to inventory planning, preparation and management, such as:

- National entity or national focal point responsible for the national inventory
- Inventory preparation process, including the division of the specific responsibilities of institutions participating in inventory preparation
- Archiving of all information for the reported time series, including all disaggregated emission factors and activity data, all documentation on generating and aggregating data, including quality assurance/quality control (QA/QC), review results and planned inventory improvements
- Processes for the official consideration and approval of the inventory.

In the preparatory phase, countries should start preparing for these new requirements by gathering information to answer the requirements listed above, such as information on the inventory preparation process and the archiving all information for the reported time series.

4.3. IPCC guidelines: from 1996 to 2006

The IPCC 2006 Guidelines basically retain the methodological approach of the 1996 guidelines, but integrate the 2000 Good Practice Guidance (GPG) and the 2003 IPCC Good Practice Guidance (GPG) for LULUCF and update the emission factors and parameters to be used in calculating GHG emissions and removals.

The main changes affect:

- Accuracy, with improved methods and estimates, and the shift from “potential emissions” to estimated annual emissions
- Completeness, with methodologies for more categories and sinks available, and more comprehensive guidance on the land-use sector
- Improved guidance on indirect emissions of CO₂ and N₂O.

Four sectors are covered in the 2006 guidelines, namely Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Use (AFOLU), and Waste. Table 9 outlines the main changes regarding the emissions to be reported in each sector.

Table 9. Changes in sectors covered in the 2006 IPCC guidelines compared to the 1996 IPCC guidelines (IPCC, n.d.; IPCC TFI, 2016).

Sector	Changes
Energy	<p>Added:</p> <ul style="list-style-type: none"> • Treatment of CO₂ capture and storage (CCS) • CH₄ from abandoned coal mines • Catalytic converters using urea • Uncontrolled combustion and burning of coal deposits
IPPU	<p>Added:</p> <ul style="list-style-type: none"> • new categories (i.e. production of lead, zinc, titanium dioxide and liquid crystal display (LCD) manufacturing; caprolactam, glyoxal and glyoxylic acid production; petrochemical and carbon black production • new gases: nitrogen trifluoride (NF₃), trifluoromethyl sulphur pentafluoride (SF₅CF₃), halogenated ethers, sulphur hexafluoride and per-fluorocarbons from other product use
AFOLU	<ul style="list-style-type: none"> • Integration of agriculture and land use, land-use change and forestry • Managed land is used in these guidelines as a proxy for identifying anthropogenic emissions by sources and removals by sinks • LULUCF: all carbon pools are considered; assessment methods for all land use categories • Methods regarding harvested wood products (HWP) • Guidance on emissions from managed wetlands • Increased coverage of fires <p>Added:</p> <ul style="list-style-type: none"> • Indirect NO₂ from manure management • Carbon dioxide emissions from urea application • Nitrous oxide from nitrogen mineralization associated with loss of soil and organic matter resulting from change of land use or management of mineral soils (subcategory of direct N₂O emissions from managed soils)
Waste	<ul style="list-style-type: none"> • Revised methodology for methane from landfills, guidance on carbon accumulation in landfills, guidance on biological treatment and open burning of waste • The "tier 0" methodology is no longer in use <p>Added:</p> <ul style="list-style-type: none"> • Uncategorized waste disposal sites, biological treatment of solid waste

RELEVANT RESOURCES AND TOOLS

TOOLS AND GUIDES:

IPCC Guidelines: IPCC 2006 Guidelines for National Inventories

IPCC Software: IPCC Inventory Software and User Manual

UNFCCC: Training Materials on National GHG Inventories, updated for 2006 IPCC Guidelines

UNFCCC: UNFCCC resource guide for preparing the national communications of non-annex I Parties; Module 3 National greenhouse gas inventories

UNFCCC DECISIONS INFORMING UPDATED GHG INVENTORY REQUIREMENTS:

Decision -/18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement

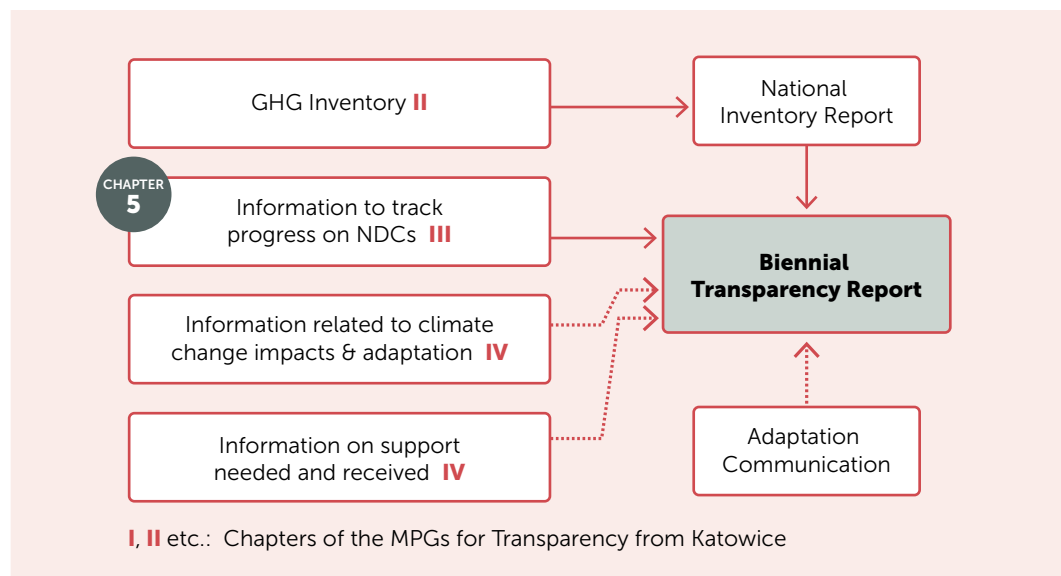
Information to track progress of Nationally Determined Contributions

This chapter focuses on information used to track progress of NDCs, another central and mandatory element of the BTR. This information is of key importance in the ETF, since it is crucial to be able to analyse whether countries are on track to meet the objectives of their national targets. The MPGs provide guidance on the relevant information to be reported to describe the NDC, track the progress of its implementation and assess its achievement. This information allows the aggregated NDCs to be assessed in the global stocktake, informing countries of the subsequent NDC revision process.

As highlighted in Figure 8, the next sections explore the reporting requirements in terms of information on:

- National circumstances and institutional arrangements
- Description of a Party’s NDC under Article 4 of the Paris Agreement, including updates
- Information necessary to track progress made in implementing and achieving NDCs under Article 4 of the Paris Agreement

Figure 8. Information and reports included in the BTR.



- Summary of GHG emissions and removals
- Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement
- Projections of greenhouse gas emissions and removals, as applicable

5.1. Information on national circumstances and institutional arrangements

The MPGs for transparency require information on national circumstances, and how these national circumstances affect GHG emissions and removals over time. This information includes:

- a) Government structure
- b) Population profile
- c) Geographical profile
- d) Economic profile
- e) Climate profile
- f) Sector details

In addition, under Decision 4/CMA.1 related to the NDC, countries shall report on the sustainable development and poverty eradication aspects of their NDCs if applicable.²⁰ This information, although not mandatory, might be included in the BTR if the country has placed it in its NDC.

Countries are also requested to provide information on the institutional arrangements they have put in place to track progress made in implementing and achieving their NDCs. When describing these institutional arrangements, countries shall provide information on the legal, institutional, administrative and procedural arrangements for the domestic implementation, monitoring, reporting and archiving of information and stakeholder engagement related to the implementation and achievement of their NDCs.

In addition, countries should describe their institutional arrangements for tracking internationally transferred mitigation outcomes (ITMO), if applicable. Future changes in institutional arrangements should be reported in the BTR, while unchanged information can be provided by referring to previous reports.

Table 10 summarizes the information to be reported under national circumstances and institutional arrangements.

²⁰ Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21 (UNFCCC, 2018a) (UNFCCC, 2018a).

Table 10. Information to be provided in BTR on national circumstances and institutional arrangements and similar information to be provided in other reports.

Information to report in the BTR	BTR requirements ^a	NDC requirements ^b	NC requirements ^c	BUR requirements ^d
National circumstances, and how they affect GHG emissions and removals over time	Government structure	Sustainable development	National and regional development priorities, objectives and circumstances, on the basis of which they will address climate change and its adverse impacts (should)	Information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis
	Population profile	Poverty eradication		
	Geographical profile	Geography		
	Economic profile	Economy		
	Climate profile	Climate		
	Sector details	Best practices and experience with preparing the NDC	Information on features of their geography, climate and economy which may affect their ability to deal with mitigating and adapting to climate change (may)	
		Aspirations and priorities acknowledged when joining the Paris Agreement		
How the Party's preparation of its NDC has been informed by the outcomes of the global stocktake				
How the NDC is fair and ambitious				
	How the NDC contributes towards achieving the objective (2°C/1.5°C)			
Institutional arrangements for domestic implementation, monitoring, reporting, archiving of information and stakeholder	Legal arrangements	Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples in a gender-responsive manner	Institutional arrangements relevant to the preparation of the NC on a continuous basis (may)	Domestic measurement, reporting and verification arrangements
	Institutional arrangements			
	Administrative arrangements			

^a Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (UNFCCC, 2019)

^b Information to facilitate clarity, transparency and understanding of NDC, required starting from the second NDC submission, and strongly encouraged for the first NDC submission, including when communicating or updating it by 2020. Described in Annex I of Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21 (UNFCCC, 2018a)

^c Decision 17/CP.8 Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention (UNFCCC, 2003)

^d Decision 2/CP.17 Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention and its Annex III “UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention” (UNFCCC, 2012)

Table 11. Information to be provided in the BTR on the description of the NDC and similar information to be provided in the NDC.

BTR ^a requirements	Related NDC requirements ^b
Target(s) and description (see examples in Table 12)	General description of the target
	Target relative to the reference indicator, expressed numerically (e.g. in % or amount)
Target year(s) or period(s), and whether they are single-year or multi-year target(s)	Whether it is a single-year or multi-year target
Reference point(s), level(s), baseline(s), base year(s) or starting point(s) and their respective value(s)	Reference year(s), base year(s), reference period(s) or other starting point(s)
Time frame(s) and/or periods for implementation	Time frame and/or period for implementation, including start and end dates
Scope and coverage, including, as relevant, sectors, categories, activities, sources and sinks, pools and gases	Sectors, gases, categories and pools covered by the NDC
	Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans
Intention to use cooperative approaches that involve the use of ITMOs in relation to the NDC	Intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable
Any updates or clarifications of previously reported information	Information on the circumstances under which the Party may update the values of the reference indicators

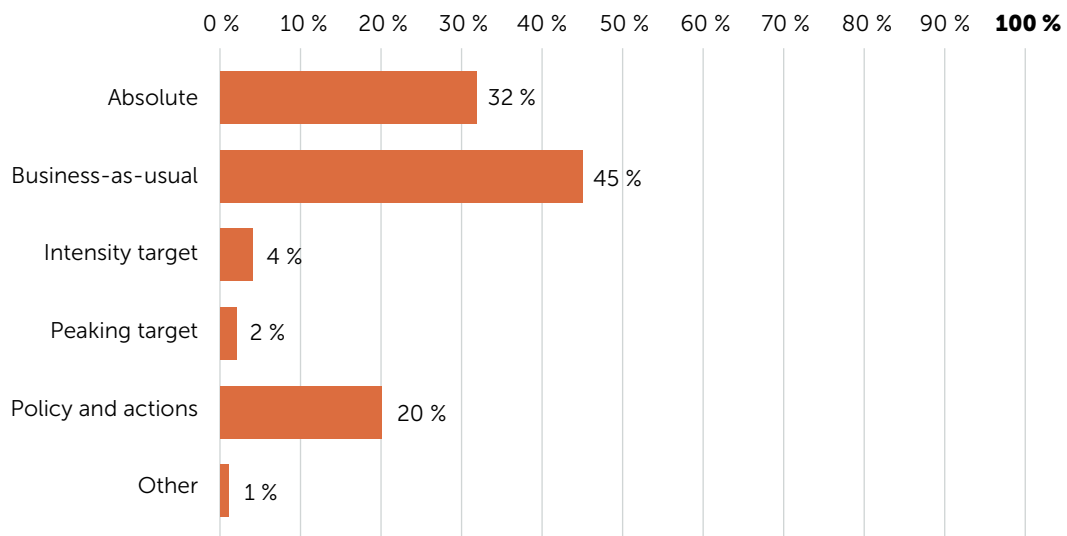
^a Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (UNFCCC, 2019)

^b Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21 (UNFCCC, 2018a)

5.2. Description of NDC

The MPGs provide guidance on the relevant information to be reported to describe the NDC in the BTR. As shown in Table 11, the description of the NDC should include a description of the target, target type, reference point(s) and period of implementation, the target's scope and coverage (e.g. sectors, categories, activities, sources and sinks, pools and gases), the intention to use ITMOs, and updates or clarifications on previously reported information, if relevant.

Figure 9. Types of mitigation target communicated in the intended nationally determined contributions (UNFCCC, 2016a).



5.3. Targets and indicators

NDC targets and indicators are at the core of the NDC description and tracking. Countries shall describe their NDC targets and reference points in the BTR and report on how they are performing, with respect to these targets, in order to keep track of their progress in implementing and achieving their NDCs. When developing indicators and reporting on NDC targets, countries can provide information on them divided into sectors. Different types of targets and indicators can be used, on the basis of the NDC types; as Figure 9 shows, most of INDCs/NDCs include targets such as reductions of net GHG emissions and removals (absolute targets), percentage reductions of GHG intensity (intensity targets), emissions reductions below a projected baseline (business as usual), qualitative indicators for a specific policy or measure (policy and actions) or peaking targets. Table 12 provides an overview of the types of targets and indicators included in submitted NDCs. In addition, the table provides a brief description of the target and summarizes what the specific requirements are when reporting this information in the BTR.

Table 12. Potential indicators to keep track of progress in implementing and achieving NDCs with different types of NDC targets.

Target	Indicator(s) to track NDC progress (examples provided in the MPGs)	Target description	Target tracking
Absolute emissions reductions ^a	Net GHG emissions and removals	<ul style="list-style-type: none"> • Target year(s) or period(s) and whether they are single-year or multi-year target(s) • Time frame(s) and/or periods for implementation • Scope and coverage, including, as relevant, sectors, categories, activities, sources and sinks, pools and gases • Reference point(s), level(s), baseline(s), base year(s) or starting point(s), and their respective value(s) 	<ul style="list-style-type: none"> • Reference point(s), level(s), baseline(s), base year(s) or starting point(s) and their respective value(s) • Most recent information on each indicator and on the construction of the baseline • For quantitative targets, the relationship between reference, target and most recent information (e.g. percentage)
Emissions intensity reductions ^b	Percentage reduction of GHG emissions per unit of GDP		
Emissions reductions below a projected baseline (e.g. BAU) ^c	Net GHG emissions and removals		
Strategies, plans and actions ^d	Relevant qualitative indicators		
Mitigation co-benefits of adaptation actions or economic diversification plans, policies and measures ^e	Net GHG emissions and removals		
	Quantitative and qualitative mitigation indicators (e.g. hectares of reforestation, percentage of renewable energy use or production, carbon neutrality, share of non-fossil fuel in primary energy consumption and non-GHG-related indicators)		

^a National GHG emissions targets for a future year (2025/2030) expressed in relation to a base year/period (1990/2005).

^b The target is expressed as national GHG intensity (GHG emissions per unit of GDP or per person, etc.).

^c Projected national GHG emissions (2025/2030), expressed with respect to projected GHG emissions in that year (2025/2030) if no actions additional to those already being implemented are taken to limit GHG emissions.

^d Targets are expressed as specific strategy, policy and mitigation actions. Thus, the target is to adopt and implement these policies and actions: there is no requirement to have a specific GHG emissions reduction goal.

^e The “economic diversification plan” in the context of climate change refers to two concepts: (1) strategies aimed at increasing economic resilience by moving away from vulnerable products, markets and jobs towards low-emission and climate-resilient sources of income; and (2) measures aimed at reducing the adverse impacts of the implementation of climate change mitigation policies that have cross-border effects. This is especially relevant for countries whose economies are concentrated on a few products, services and/or sectors, and those where the products, services and/or sectors they rely on are expected to experience a drop in consumption as a result of mitigation measures in other countries.

5.4. Information to track progress of NDC implementation and achievement

For tracking progress on NDC implementation and achievement, countries will be required to provide the information for each selected indicator in the BTR for the reference points,²¹ update the information if any recalculation of the GHG inventory provides new revised values, and compare the reference values with the most recent information for each indicator at the time of reporting. For example, if a country has provided a target as a percentage or amount of GHG emissions reductions compared to a BAU, it should report on the current value of emissions reductions as percentage or as tCO₂e at the time of reporting.

For BTRs that provide information on the end year or end of the period of its NDC, countries will also have to provide an assessment of whether they have achieved the target set out in their NDC.

In addition to the target and indicator values, countries shall describe each methodology and/or accounting approach used to define the targets, construction of baselines and each indicator, including key parameters, assumptions, definitions, data sources and models used, IPCC guidelines and metrics used. Information on applied methodologies is also requested for countries whose targets include the implementation of policies and measures, and the use of cooperative approaches that involve the use of ITMOs. Countries shall also to explain how the methodology in each reporting year is consistent with the methodology or methodologies used when communicating the NDC, explain any methodological inconsistencies with the Party's most recent NIR, if applicable, and describe how the double-counting of net GHG emissions reductions has been avoided.

All the information requested above shall also be provided in a structured summary, including contributions from the LULUCF sector for each year of the target period or target year if not included in the inventory time series of total net GHG emissions and removals. The summary is to be provided in a narrative and tabular form, the structure of which will be provided in November 2020, after COP26.

As part of this summary, countries participating in cooperative approaches that involve ITMOs are also required to provide their annual emissions by sources and removals by sinks covered by the NDC, an emissions balance reflecting the level of emissions adding transferred ITMOs and/or subtracting ITMOs used/acquired. Matters related to Article 6 of the Paris Agreement and the use of ITMOs are still under negotiation. Further guidance on Article 6 on cooperative approaches will be provided by the UNFCCC and might define additional information to be provided in the BTR. Nevertheless, some preliminary information can be deduced based on the information provided in the MPGs. See Text Box 1 for preliminary information on the transparency requirements related to Article 6.

²¹ I.e. Reference point(s), level(s), baseline(s), base year(s) or starting point(s).

Text Box 1. Information to be provided in the BTR related to the application of Article 6 and the transfer of ITMOs to meet NDC targets.

The MPGs do not provide extensive details of the transparency requirements related to Article 6, as the relevant decisions related to this article are expected to be adopted at COP25, in 2019. Nevertheless, some requirements are mentioned.

The first mention of Article 6 in the MPGs is in section II (NIR), where it is stated that countries shall report on gases covered by an activity under Article 6. This implies that if a country has put in place activities under Article 6 involving the reduction of HFCs, PFCs, SF6 and/or NF6, the assessment of the relevant gases and the methodological information has to be provided in the NIR (the flexibility provision cannot be used in this context).

The MPGs further require countries to provide information on their intentions to use internationally transferred mitigation outcomes (ITMO) by providing information on the institutional arrangements in place to track progress made in implementing and achieving its NDC in the BTR, including those used for tracking ITMOs.

Countries shall also describe the methodologies associated with cooperative approaches that involve ITMOs and describe how the double-counting of net GHG emissions reductions has been avoided.

In addition countries shall provide:

- The annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis
- An emissions balance adjusted by adding ITMOs transferred and/or subtracting ITMOs used or acquired
- Information on how each cooperative approach promotes sustainable development; ensures environmental integrity and transparency, including in governance; applies robust accounting to ensure the avoidance of double-counting; and
- Any other information consistent with the future decisions adopted on Article 6.

Table 13 summarizes the information to be reported in the BTR with regard to targets and indicators for tracking NDC implementation and achievement.

Table 13. Information to be provided in the BTR on tracking progress of NDC implementation and achievement and similar information to be provided in the NDC.

Information to report in the BTR	BTR requirements ^a	NDC requirements ^b
Indicator(s) to track NDC progress	Describe for each indicator how it is related to the target	Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year
	Provide the information/value for each indicator for the reference point(s), level(s), baseline(s), base year(s) or starting point(s), and update the information with any recalculation of the GHG inventory	
	Provide the most recent information for each indicator for each reporting year during the implementation period of the NDC	
	Compare the most recent information for each selected indicator to track progress made in implementing the NDC	
Describe each methodology and/or accounting approach used for target(s), the construction of baselines and each indicator identified	Key parameters, assumptions, definitions, data sources and models used	Information on sources of data used in quantifying the reference point(s)
		Assumptions and methodological approaches used for accounting for anthropogenic GHG emissions and removals corresponding to the Party's NDC
	IPCC guidelines used	IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals
	Metrics used	
	Any sector, category or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance	Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance
	Methodologies used to estimate mitigation co-benefits of adaptation actions and/or economic diversification plans	How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used
	Methodologies associated with any cooperative approaches that involve the use of ITMOs	
	Methodologies used to track progress arising from the implementation of policies and measures	For Parties with NDCs that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components
Any other methodologies related to the NDC, and conditions and assumptions relevant to the achievement of the NDCs	For climate forcers included in NDCs not covered by IPCC guidelines, information on how the climate forcers are estimated	

^a Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (UNFCCC, 2019)

^b Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21 (UNFCCC, 2018a)

Information to report in the BTR	BTR requirements ^a	NDC requirements ^b
	How the methodology in each reporting year is consistent with the methodology or methodologies used when communicating the NDC	Other assumptions and methodological approaches used for understanding the NDC
	Methodological inconsistencies with the Party's most recent NIR, if applicable	
	How double-counting of net GHG emissions reductions has been avoided	

5.5. Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans

Countries are requested to provide information on actions, policies and measures that support the implementation and achievement of their NDCs, including estimates of expected and achieved GHG emissions reductions for its actions, policies and measures, and the methodologies and assumptions used to estimate the GHG emissions reductions or removals by each action, policy and measure. These policies, measures, actions and plans also include adaptation actions and economic diversification plans with mitigation co-benefits. This information is also requested by NC and BUR, although not to the same level of detail.

Flexibility is permitted to countries with limited capacity. Countries currently working on or planning to produce a new or revised NDC, NC or BUR before 2024 should consider gradually enhancing and/or aligning their reporting requirements on mitigation policies and measures to BTR requirements in order to facilitate future reporting from 2024.

The reporting of information on policies, measures, actions and plans should be organized by sector (energy, transport, industrial processes and product use, agriculture, LULUCF, waste management or other).

In future BTRs, countries should also identify actions, policies and measures that are no longer in place compared to previous BTRs, and explain the reason why. Actions, policies and measures that affect GHG emissions from international transport should also be identified. Countries should also provide information on how their actions, policies and measures are modifying longer-term trends in GHG emissions and removals. The information on mitigation actions is also required by the BUR and NC.

Table 14. Information to be provided in the BTR on mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, and similar information to be provided in other reports. In italics, “should”, “encouraged” and “may” requirements. In blue, requirements where flexibility applies.

Information to report in the BTR	BTR requirements ^a	NDC requirements	NC requirements	BUR requirements
Information on actions, policies and measures ^b (tabular format in BTR)	<ul style="list-style-type: none"> • Name • Description • Objectives • Type of instrument (regulatory, economic instrument or other) • Status (planned, adopted or implemented) • Sector(s) affected • Gases affected • Start year of implementation • Implementing entity or entities 		<ul style="list-style-type: none"> • <i>Information on programmes containing measures to mitigate climate change (may)</i> • <i>Information on programmes and measures implemented or planned which contribute to mitigation, including, as appropriate, relevant information by key sectors on methodologies, scenarios, results, measures and institutional arrangements (encouraged)</i> 	<ul style="list-style-type: none"> • Name • <i>Information on programmes and measures implemented or planned which contribute to mitigation, including, as appropriate, relevant information by key sectors on methodologies, scenarios, results, measures and institutional arrangements (encouraged)</i> • Quantitative goals • <i>Objectives of the action and steps taken or envisaged to achieve that action</i> • <i>Progress of implementation of the mitigation actions, steps taken or envisaged</i> • Sector • Gases • Progress indicators • <i>Information on international market mechanisms</i>
	<ul style="list-style-type: none"> • <i>Estimates of expected and achieved GHG emissions reductions (encouraged, if flexibility is needed)</i> 			<ul style="list-style-type: none"> • <i>Results achieved, such as estimated outcomes and estimated emission reductions</i>
	<ul style="list-style-type: none"> • <i>Costs (may)</i> • <i>Non-GHG mitigation benefits (may)</i> • <i>How the mitigation actions interact with each other (may report)</i> 			

^a For relevant guidance on methodologies to provide the requested information, see the ICAT Toolboxes at the end of this chapter.

^b Including adaptation actions and economic diversification plans with mitigation co-benefits.

Information to report in the BTR	BTR requirements ^a	NDC requirements	NC requirements	BUR requirements
Information on actions, policies and measures ^c (in narrative format or as an annex to the BTR)	<ul style="list-style-type: none"> Methodologies and assumptions used to estimate the GHG emissions reductions or removals by each action, policy and measure Those actions, policies and measures that are no longer in place compared with the most recent BTR, and why they are no longer in place (should report) Actions, policies and measures that influence GHG emissions from international transport (should report) How the actions, policies and measures are modifying longer-term trends in GHG emissions and removals (should report) 	<ul style="list-style-type: none"> Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the NDC 	<ul style="list-style-type: none"> Use whatever methods are available and appropriate to formulate and prioritize programmes containing measures to mitigate climate change; this should be done within the framework of sustainable development (encouraged) Use the appropriate technical resources to assess mitigation programmes^d (may) 	<ul style="list-style-type: none"> Information on methodologies and assumptions
	<ul style="list-style-type: none"> Assessment of economic and social impacts of response measures (encouraged to provide detailed information) 		<ul style="list-style-type: none"> Information on any steps taken to integrate climate change into relevant social, economic and environmental policies and actions (encouraged) 	
Adaptation actions and/or economic diversification plans resulting in mitigation co-benefits	<ul style="list-style-type: none"> Sectors and activities associated with response measures 	<ul style="list-style-type: none"> Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits 		
	<ul style="list-style-type: none"> Social and economic consequences from the response measures' actions 	<ul style="list-style-type: none"> How the economic and social consequences of response measures have been considered in developing the NDC 		
	<ul style="list-style-type: none"> Challenges and barriers to address the consequences Actions to address the consequences 			

^c Including adaptation actions and economic diversification plans with mitigation co-benefits.

^d Such as Technologies, Policies and Measures for Mitigating Climate Change (IPCC Technical Paper I); Greenhouse Gas Mitigation Assessment: A Guidebook by the U.S. Country Studies Program; and Climate Change 2001: Mitigation (Contribution of Working Group III to the Third Assessment Report of the IPCC).

Finally, for adaptation actions and economic diversification plans resulting in mitigation co-benefits included in the NDC, countries are also requested to provide information to track their progress in terms of non-GHG related impacts, including a description of the sectors and activities, social and economic impacts, challenges and barriers, and related actions taken to address these challenges and barriers.

Table 14 summarizes the information to be reported in the BTR with regard to mitigation policies and measures.

5.6. Summary of GHG emissions and removals

If the NIR is submitted as a stand-alone report, the BTR shall include a summary in a tabular format of its GHG emissions and removals for the year corresponding to the country's most recent NIR. This reporting element is currently under negotiation, and the proposed format will be known by the end of 2020.

5.7. Projections of GHG emissions and removals

Compared to the previous UNFCCC reporting framework, where this was a requirement only for developed countries, under the ETF all countries are required to provide projections of GHG emissions and removals, although developing countries that need flexibility are only encouraged to report these projections. When reported in the BTR, the projections must begin from the year used in the most recent NIR and extend at least 15 years after the next year ending with zero or five; for example, if the most recent NIR is that presenting values for 2024, the projections in the BTR must reach a further sixteen years into 2040; for an NIR with values for 2026, the projections presented in the BTR shall reach a further nineteen years into 2045. Developing countries that need flexibility are only encouraged to provide projections, as well as being allowed to limit projections until the end point of their NDC and to report using less detailed methodologies or coverage.

Projections of GHG emissions and removals will provide quantitative information of the impact of mitigation policies and measures. When reporting projections, countries shall report a “with measures” projection of all GHG emissions and removals, including currently implemented and adopted policies and measures. Countries may report a “with additional measures” projection including implemented, adopted and planned policies and measures, and a “without measures” projection excluding all policies and measures implemented, adopted and planned.

These projections must be presented in graphical and tabular formats, be provided with and without LULUCF, and include projections by sectors and gas, as well as cumulative projections at the national level, using a common metric consistent with that used in assessing the GHG inventory. In addition, projections of key indicators to determine progress towards the country's NDC needs to be provided.

Countries should also include a description of the methodology used to generate the projections, including models, approaches and key underlying assumptions and parameters used, eventual methodological changes from the previous BTR, and a sensitivity analysis.

Table 15. Information to be provided in the BTR on projections of GHG emissions and removals. In italics, “should”, “encouraged” and “may” requirements. In blue, requirements where flexibility applies.

Information to report in the BTR	BTR requirements ^{a b}
Time coverage	From the latest NIR, and covering at least 15 years beyond the next year ending in zero or five. (Extend their projections at least to the end point of their NDC, if flexibility is needed)
Time coverage with flexibility	At least to the end point of the NDC
Structure (flexibility to report less detailed information)	Graphical and tabular formats
	On a sectoral basis and by gas, as well as for the national total
	With and without LULUCF
	“With measures” projection
	“With additional measures” projection and “without measures” projection, if relevant
	Presented relative to actual inventory data for the preceding years
NDC Indicators	Projections of key indicators to determine progress towards the country’s NDC are also to be provided
Methodologies	<i>Models and/or approaches used and key underlying assumptions and parameters used for projections (e.g. gross domestic product growth rate/level, population growth rate/level)</i>
	<i>Changes in the methodology since the most recent BTR</i>
	<i>Assumptions on policies and measures included in the “with measures” projection and “with additional measures” projection, if included</i>
	<i>Sensitivity analysis for any of the projections, together with a brief explanation of the methodologies and parameters used</i>

^a For relevant guidance on methodologies to provide the requested information, see the ICAT Toolboxes at the end of this chapter

^b Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (UNFCCC, 2019)

RELEVANT RESOURCES AND TOOLS

INSTITUTIONAL ARRANGEMENTS:

UNFCCC: Toolkit for non-Annex I Parties on establishing and maintaining institutional arrangements for preparing national communications and biennial update reports
 UNFCCC: UNFCCC Resource guide for preparing the national communications of non-annex I Parties; Module 1: The process of national communications from non-annex I Parties
 UNFCCC: CGE training materials, biennial update reports, Institutional Arrangements
 UNEP DTU Partnership: Institutional aspects of NAMA development and implementation
 ICAT Guidance: Stakeholder Participation
 ICAT Guidance: Technical Review

MITIGATION ACTION ASSESSMENT:

UNFCCC: UNFCCC Resource guide for preparing the national communications of non-annex I Parties; Module 4: Measures to mitigate climate change
 ICAT Guidance: ICAT guidance series for the assessment of the GHG reduction, sustainable development and transformational change impacts of policies and actions
 UNFCCC: Training material for the preparation of biennial update reports from non-annex I parties: Reporting mitigation actions and their effects
 UNFCCC: Training Materials on Mitigation Assessment

EMISSION PROJECTIONS:

UNEP DTU Partnership: Greenhouse gas Abatement Cost Model GACMO
 UNFCCC: Handbook – Technical and Capacity Building Needs and Support Received

UNFCCC DECISIONS INFORMING CONTENT FOR BTR, NDC, NC AND BUR:

BTR content: Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
 NDC content: Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21
 NC Content: Decision 17/CP.8 Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention
 BUR Content: Decision 2/CP.17 Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention and its Annex III “UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”

ICAT, which was founded to respond to the need to support improved transparency and capacity-building under the Paris Agreement, has developed a series of guidance for countries to use in transparently measuring and assessing the impacts of climate policies and actions. The following toolboxes provide an overview of the methodologies that countries could use to comply with the information requested by the MPGs when reporting on policies and actions.

ICAT TOOLBOX RELEVANT FOR INFORMATION PRESENTED IN SECTION 5.5

(All methodologies can be downloaded [here](#))

ESTIMATE MITIGATION CO-BENEFITS OF ADAPTATION ACTIONS AND ECONOMIC DIVERSIFICATION PLANS

- **Agriculture methodology.** This methodology helps users assess the GHG impacts of agriculture policies in both a backward- and forward-looking perspective. It can be used to assess a range of mitigation actions in the agricultural sector that reduce emissions or enhance removals from enteric fermentation or soil carbon pools.
- **Forest methodology.** This methodology helps users assess the GHG impacts of forest policies in both a backward- and forward-looking perspective. It can be used to assess a range of mitigation actions in the forest sector that increase carbon sequestration and reduce GHG emissions from afforestation or reforestation, sustainable forest management, and avoided deforestation or degradation.

DESCRIPTION OF ON-GHG MITIGATION BENEFITS AND ASSESSMENT OF ECONOMIC AND SOCIAL IMPACTS OF RESPONSE MEASURES

- **Sustainable Development methodology.** This methodology helps users assess the sustainable development impacts of policies and actions across environmental, social and economic dimensions. It is applicable to all types of policies and actions, all sectors, and all types of sustainable development impacts, and it may be used before, during and after policy implementation.

HOW THE ACTIONS, POLICIES AND MEASURES ARE MODIFYING LONGER-TERM TRENDS IN GHG EMISSIONS AND REMOVALS

All the following methodologies provide guidance on how to assess the long-term GHG impact of policies and actions. They differ in sectoral scope as described below.

- **Agriculture methodology.** Mitigation actions in the agriculture sector that reduce emissions or enhance removals from enteric fermentation or soil carbon pools.
- **Forest methodology.** Mitigation actions in the forest sector that increase carbon sequestration and reduce GHG emissions from afforestation or reforestation, sustainable forest management, and avoided deforestation or degradation.
- **Transport pricing methodology.** Fuel subsidy removal, increased fuel tax or levy, road-pricing, vehicle purchase incentives for more efficient vehicles.
- **Building efficiency methodology.** Regulatory policies for new buildings (mandatory building codes, voluntary building codes, minimum energy performance standards for appliances, mandatory labelling, certification and energy audits), financial support policies (for new and existing buildings) such as direct financial incentives, and fiscal measures.
- **Renewable energy methodology** – Feed-in tariffs and feed-in premiums, auction and tender policies, tax incentive policies.
- **Sustainable Development methodology** – all types of policies and actions, all sectors.

ICAT TOOLBOX RELEVANT FOR INFORMATION PRESENTED IN SECTION 5.7

(All methodologies can be downloaded [here](#))

PROJECTIONS WITHOUT MEASURES, WITH MEASURES AND WITH ADDITIONAL MEASURES

All the following methodologies provide guidance on how to develop ex-ante and ex-post projections on GHG impact of policies and actions. They differ in sectoral scope as described below.

- **Agriculture methodology.** Mitigation actions in the agriculture sector that reduce emissions or enhance removals from enteric fermentation or soil carbon pools (Soil C pool is reported and accounted under LULUCF, not in Agriculture)
- **Forest methodology.** Mitigation actions in the forest sector that increase carbon sequestration and reduce GHG emissions from afforestation or reforestation, sustainable forest management, and avoided deforestation or degradation.
- **Transport pricing methodology.** Fuel subsidy removal, increased fuel tax or levy, road-pricing, vehicle purchase incentives for more efficient vehicles.
- **Building efficiency methodology.** Regulatory policies for new buildings (mandatory building codes, voluntary building codes, minimum energy performance standards for appliances, mandatory labelling, certification and energy audits), financial support policies (for new and existing buildings) such as direct financial incentives, and fiscal measures.
- **Renewable energy methodology.** Feed-in tariffs and feed-in premiums, auction and tender policies, tax incentive policies.
- **Sustainable Development methodology.** All types of policies and actions, all sectors.

SENSITIVITY ANALYSIS

- **Sustainable Development methodology.** This methodology provides guidance on how to perform qualitative and quantitative sensitivity analyses. This is based on the Greenhouse Gas Protocol Policy and Action Standard developed by the World Resources Institute.

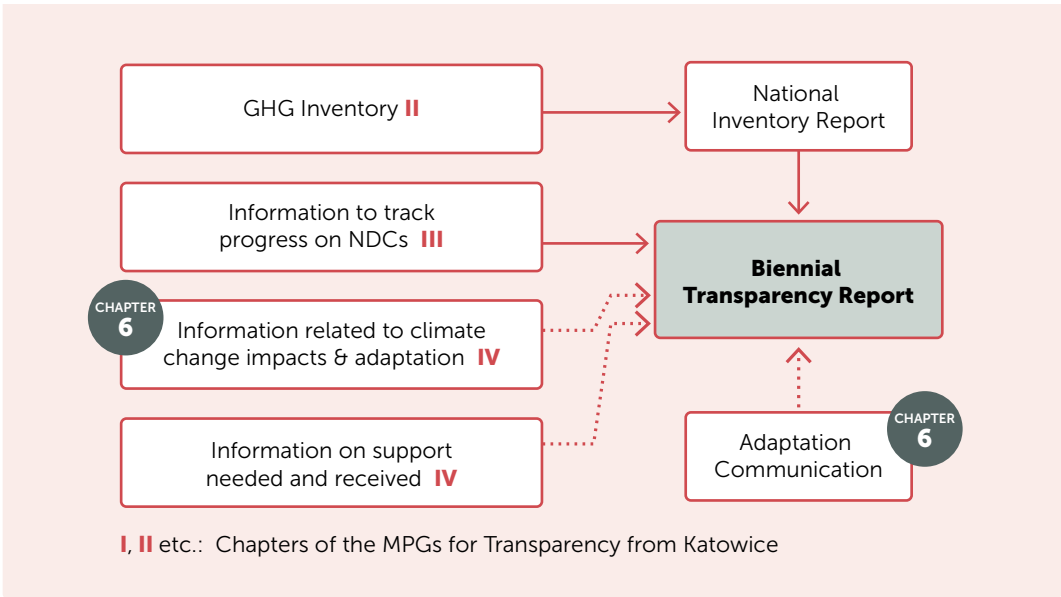
Adaptation Communication and information on adaptation as part of the BTR

As highlighted in Figure 10, this chapter will analyse the requirements concerning 1) AC and 2) information related to climate change impacts and adaptation under Article 7 of the Paris Agreement, which should be submitted as part of the BTR. It is worth mentioning again that neither the AC, nor the information are to be reviewed under the Technical Expert Review, which, as explained in Chapter 2, will only consider NIR, information necessary to track progress of NDC, and information on financial, technology development and transfer, and capacity-building support provided to and mobilized for developing country Parties.

6.1. Adaptation communication

Under Paragraphs 10 and 11 of Article 7 of the Paris Agreement, Adaptation Communications are described as reports which may include information on adaptation priorities, implementation and support needs, and adaptation plans and actions. ACs should be submitted and updated periodically, as appropriate and without creating additional burdens for developing countries. Under the Paris Agreement, parties can

Figure 10. Information and reports included in the BTR.



submit ACs as components of or in conjunction with other communications or documents, including a national adaptation plan, a nationally determined contribution and/or a national communication.

In addition, the MPGs adopted at COP24 state that the Parties have now the choice to submit their AC as part of or in conjunction with the BTR. In the former case, the Party submitting the information should clearly identify which part of the report is the AC.

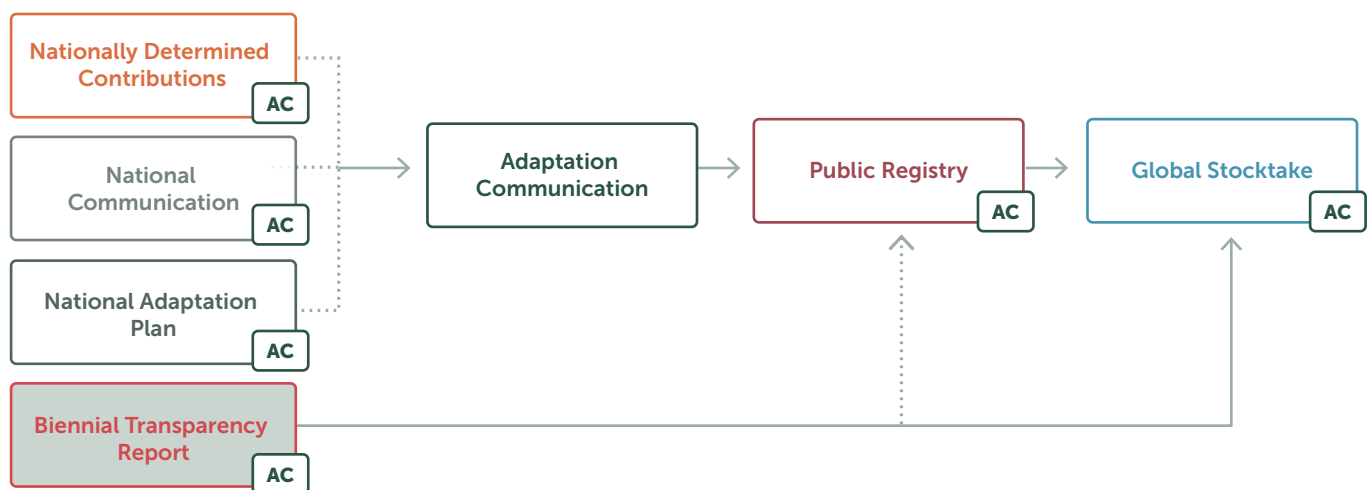
The purpose of the AC is to:

- Increase the visibility and profile of adaptation and its balance with mitigation
- Strengthen adaptation action and support for developing countries
- Provide input to the global stocktake
- Enhance learning and understanding of adaptation needs and actions.

Once the AC has been reported through the Party’s vehicle of choice, it will then serve as an input to the public registry maintained by the Secretariat²² and thus inform the GST. Figure 11 illustrates the different vehicles by which Parties may decide to publish their ACs and how they feed into the global stocktake.

The MPGs do not provide any guidance on the information to be included in the AC. Such information is to be found instead in the text of Decision 9/CMA.1 from COP24 on ACs (UNFCCC, 2018b), which provides a list of the information which may be included, namely:

Figure 11. The different vehicles through which adaptation communications can be published and how they feed into the global stocktake.



²² The adaptation public registry, as referred to in Article 7 paragraph 12 of the Paris Agreement, was adopted to mirror the discussion on the NDC Registry, in response to Parties’ views on observing the delicate balance between mitigation and adaptation.

- (a) National circumstances, institutional arrangements and legal frameworks
- (b) Impacts, risks and vulnerabilities, as appropriate
- (c) National adaptation priorities, strategies, policies, plans, goals and actions
- (d) Implementation and support needs of, and provision of support to, developing country Parties
- (e) Implementation of adaptation actions and plans, including:
 - (i) Progress and results achieved
 - (ii) Adaptation efforts of developing countries for recognition
 - (iii) Cooperation on enhancing adaptation at the national, regional and international levels, as appropriate
 - (iv) Barriers, challenges and gaps related to the implementation of adaptation
 - (v) Good practices, lessons learned and information-sharing
 - (vi) Monitoring and evaluation
- (f) Adaptation actions and/or economic diversification plans, including those that result in mitigation co-benefits
- (g) How adaptation actions contribute to other international frameworks and/or conventions
- (h) Gender-responsive adaptation action and traditional knowledge, knowledge of indigenous peoples and local knowledge systems related to adaptation, where appropriate
- (i) Any other information related to adaptation.

It should be noted that Decision 9/CMA.1 states that this information may be used when submitting the AC as part of the NDC, but nothing is explicitly said on specific requirements for the submissions as part of the BTR or NC. Finally, Decision 9/CMA.1 acknowledges that “Parties that choose to submit their adaptation communication as part of a national communication or a national adaptation plan may provide information taking into consideration the guidelines contained in document FCCC/CP/1999/7 and decisions 17/CP.8 and 5/CP.17”.

In accordance with the list of information provided above, draft supplementary guidance to be used voluntarily when compiling an adaptation communication should become available by June 2022, as it is being drawn up by the Adaptation Committee in cooperation with IPCC Working Group II, for consideration by the subsidiary bodies at their fifty-seventh sessions (November 2022).

While, in respect of adaptation-related information, the FCCC/CP/1999/7 (UN-FCCC, 1999) covers “guidelines for the preparation of national communications by

Parties included in Annex I”, meaning that it is not relevant for developing countries (and thus, for this publication), the other two documents cover information that is also relevant for non-Annex I Parties.

Decision 17/CP.8 (UNFCCC, 2003) states that, in their NCs, countries may provide information on measures to mitigate climate change and measures to facilitate adequate adaptation to climate change. Regarding what counts as relevant information, the guidelines mention:

- Information on vulnerability to the adverse effects of climate change and on adaptation measures being taken
- Information on the scope of countries’ vulnerability and adaptation assessments, including identification of the vulnerable areas that are most critical
- Description of approaches, methodologies and tools used to assess the impacts of, and vulnerability and adaptation to, climate change, as well as any uncertainties inherent in these methodologies
- Information on their vulnerability to the impacts of, and their adaptation to, climate change in key vulnerable areas

Decision 5/CP.17 (UNFCCC, 2012) covers NAPs. According to the text in the document, Parties are invited to “provide information, through their national communications, on what measures they have undertaken and on support provided or received relevant to the national adaptation plan process”. LDCs are also encouraged to provide information on their NAP processes through their NCs, as well as through other channels.

6.2. Information on climate change impacts and adaptation as part of the BTR

In addition to the option of submitting the AC as a component of the BTR, Chapter IV of the MPGs also states that each Party should provide information related to climate change impacts and adaptation in the BTR. This information is not mandatory, but it can facilitate recognition of developing countries’ adaptation efforts.

The information relating to climate change impacts and adaptation that should be reported in the BTR in accordance with the MPGs is summarized in Table 16.

Due to the lack of requirements regarding information to be included in the AC, the authors suggest that countries may, in addition to the existing requirements for ACs, make use of the guidance given by the MPGs in terms of information on adaptation to be included in the BTR when compiling their ACs. Adopting this approach when preparing an AC can help countries be ready to submit information related to climate change impacts and adaptation as part of the BTR and thus ensure consistencies between both items of information.

Table 16. Information to be provided in the BTR on climate-change impacts and adaptation. The table compares this information with the information already provided in other reports. In italics, “should”, “encouraged” and “may” requirements. In blue, requirements where flexibility applies.

Information to report on <i>climate change impacts and adaptation</i> as part of the BTR (by group)	Requirements on information related to <i>climate change impacts and adaptation</i> as part of the BTR (in detail)	Requirements on information related to <i>adaptation communications</i> as a component of the NDC Decision 9/CMA.1 (UNFCCC, 2018b)	Requirements on information related to <i>national communication, relevant for adaptation communication</i> Decision 17/CP.8 (UNFCCC, 2003)
National circumstances, institutional arrangements and legal frameworks relevant to adaptation	<i>Institutional arrangements and governance for assessing and addressing impacts of climate change</i> <i>Legal and policy frameworks and regulations</i> <i>Biogeophysical characteristics</i> <i>Demographics</i> <i>Economy</i> <i>Infrastructure</i> <i>Information on adaptive capacity (should)</i>	<i>National circumstances, institutional arrangements and legal frameworks</i>	<i>information on features of geography, climate and economy which may affect the ability to deal with mitigating and adapting to climate change (may)</i>
Impacts, risks and vulnerabilities	<i>Current and projected climate trends and hazards (should)</i>	<i>Impacts, risks and vulnerabilities</i>	<i>Information on vulnerability to climate change, and on adaptation measures taken (should)</i>
	<i>Observed and potential impacts of climate change, including sectoral, economic, social and/or environmental vulnerabilities (should)</i>		<i>Information on vulnerability and adaptation to climate change in key vulnerable areas, including key findings, and direct and indirect climate change impacts (encouraged)</i>
			<i>Use appropriate methodologies and guidelines^a to assess vulnerability and adaptation to reflect their national situation (May)</i>
	<i>Approaches, methodologies and tools used, and associated uncertainties and challenges (should)</i>		<i>A description of approaches, methodologies and tools used, including scenarios for the assessment of impacts and vulnerability, as well as any uncertainties inherent in these methodologies (encouraged)</i>
Adaptation priorities and barriers	<i>Domestic priorities and progress towards these priorities</i> <i>Adaptation challenges and gaps and barriers to adaptation (should)</i>	<i>National adaptation priorities, strategies, policies, plans, goals and actions</i>	
Adaptation strategies, policies, plans, goals and actions to integrate adaptation into national policies and strategies	<i>Implementation of adaptation actions in accordance with the global goal for adaptation (should)</i>		Programmes containing measures to facilitate adequate adaptation to climate change
	<i>Adaptation goals, actions, objectives, undertakings, efforts, plans, strategies, policies, programmes and efforts to build resilience (should)</i>		
	<i>How the best available science, gender perspectives and indigenous, traditional and local knowledge are integrated into adaptation (should)</i>	<i>Gender-responsive adaptation actions and traditional knowledge, knowledge of indigenous peoples and local knowledge systems related to adaptation</i>	

^a Such as the guidance provided by (Benioff, Guill and Lee, 1996; Carter, Parry, Harasawa and Nishioka, 1994; Feenstra, Burton, Smith and Tol, 1998).

Information to report on climate change impacts and adaptation as part of the BTR (by group)	Requirements on information related to climate change impacts and adaptation as part of the BTR (in detail)	Requirements on information related to adaptation communications as a component of the NDC Decision 9/CMA.1 (UNFCCC, 2018b)	Requirements on information related to national communication, relevant for adaptation communication Decision 17/CP.8 (UNFCCC, 2003)
	<i>Development priorities related to climate change adaptation and impacts (should)</i>		
	<i>Adaptation actions and/or economic diversification plans leading to mitigation co-benefits (should)</i>	Adaptation actions and/or economic diversification plans, including those that result in mitigation co-benefits	
	<i>Efforts to integrate climate change into development efforts, plans, policies and programming, including related capacity-building activities (should)</i>		
	<i>Nature-based solutions to climate change adaptation (should)</i>		
	<i>Stakeholder involvement (should)</i>		
Progress on implementation of adaptation	<i>Implementation of actions identified (should)</i>	<i>Progress and results achieved in the implementation of adaptation actions and plans Adaptation efforts of developing countries for recognition</i>	<i>Information on and an evaluation of strategies and measures for adapting to climate change in key areas (encouraged)</i>
	<i>Steps taken to formulate, implement, publish and update national and regional programmes; strategies and measures, policy frameworks and other relevant information (should)</i>		
	<i>Implementation of adaptation actions identified in current and past adaptation communications, including efforts to meet adaptation needs (should)</i>		<i>Information regarding specific needs and concerns arising from the adverse effects of climate change and/or the impact of the implementation of response measures (may)</i>
	<i>Implementation of adaptation actions identified in the adaptation component of NDCs (should)</i>		
	<i>Coordination activities and changes in regulation, policies and planning (should)</i>		
	<i>Information on implementation of supported adaptation actions, and the effectiveness of already implemented adaptation measures (may)</i>		
Monitoring and evaluation of adaptation actions and processes	<i>Approaches and systems for monitoring and evaluation (should)</i>	<i>Monitoring and evaluation of implementation of adaptation actions and plans</i>	<i>Use appropriate methodologies for the evaluation of adaptation strategies and measures. Countries considered able to reflect their national situation, provided that these methodologies are consistent, transparent and well documented (Encouraged)</i>
	<i>Achievements, impacts, resilience, review, effectiveness and results (should)</i>		
	<i>Approaches and systems used, and their outputs (should)</i>		

Information to report on climate change impacts and adaptation as part of the BTR (by group)	Requirements on information related to climate change impacts and adaptation as part of the BTR (in detail)	Requirements on information related to adaptation communications as a component of the NDC Decision 9/CMA.1 (UNFCCC, 2018b)	Requirements on information related to national communication, relevant for adaptation communication Decision 17/CP.8 (UNFCCC, 2003)
	<p><i>Assessment of and indicators for how adaptation increased resilience and reduced impacts; when adaptation is not sufficient to avert impacts; and how effective implemented adaptation measures are (should)</i></p> <p><i>Implementation on transparency of planning and implementation; how support programmes meet specific vulnerabilities and adaptation needs; how adaptation actions influence other development goals; and good practices, experience and lessons learned from policy and regulatory changes, actions and coordination mechanisms (should)</i></p> <p><i>Information related to the effectiveness and sustainability of adaptation actions, including ownership, stakeholder engagement, alignment of adaptation actions to national and subnational policies, and replicability; and the results of adaptation actions and the sustainability of those results (should)</i></p>		
Information related to averting, minimizing and addressing loss and damage associated with climate change impacts	<p><i>Observed and potential climate change impacts, including those related to extreme weather events and slow onset events, drawing upon the best available science (should)</i></p> <p><i>Activities related to averting, minimizing and addressing loss and damage associated with the adverse effects of climate change (should)</i></p> <p><i>Institutional arrangements to facilitate the implementation of activities related to averting, minimizing and addressing loss and damage (should)</i></p>		
Cooperation, good practice, experience and lessons learned	<p><i>Science, planning and policies (should)</i></p> <p><i>Policy, innovation and pilot/demonstration projects (should)</i></p> <p><i>Integration of adaptation actions into planning at different levels (should)</i></p> <p><i>Cooperation to share information and to strengthen science, institutions and adaptation (should)</i></p>	<p><i>Cooperation on enhancing adaptation at the national, regional and international levels</i></p> <p><i>Good practice, lessons learned and information-sharing</i></p>	

Information to report on climate change impacts and adaptation as part of the BTR (by group)	Requirements on information related to climate change impacts and adaptation as part of the BTR (in detail)	Requirements on information related to adaptation communications as a component of the NDC Decision 9/CMA.1 (UNFCCC, 2018b)	Requirements on information related to national communication, relevant for adaptation communication Decision 17/CP.8 (UNFCCC, 2003)
	<p><i>Area, scale and types of cooperation and good practices (should)</i> <i>Improving durability and effectiveness of adaptation actions (should)</i></p>		
	<p><i>Helping developing countries identify effective adaptation practices, needs, priorities, and challenges and gaps in a way that is consistent with encouraging good practice (should)</i></p>	<p><i>Barriers, challenges and gaps related to the implementation of adaptation</i></p>	
	<p><i>Strengthening scientific research and knowledge related to climate, including research and systematic observation and early warning systems; vulnerability and adaptation; monitoring and evaluation (should)</i></p>		
		<p><i>How adaptation actions contribute to other international frameworks and/or conventions</i></p>	
		<p><i>Implementation and support needs of, and provision of support to, developing country Parties</i></p>	

RELEVANT RESOURCES AND TOOLS

UNFCCC TOOLS AND GUIDES

UNFCCC: UNFCCC resource guide module 2: vulnerability and adaptation to climate change for preparing the national communications of non-annex I Parties; Module 2 vulnerability and adaptation to climate change

UNFCCC: Updated Training Materials on Vulnerability and Adaptation Assessment

METHODS AND TOOLS FOR VULNERABILITY AND ADAPTATION ASSESSMENTS

UNEP (Feenstra, J.F., I. Burton, J.B. Smith, R.S.J. Tol, 1998): The UNEP Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies

UNDP-GEF (2000): An Adaptation Policy Framework: Capacity Building for Stage II Adaptation

IIED: Tracking adaptation and measuring development (TAMD) – adaptation M+E framework

Notre Dame Global Adaptation Initiative: Adaptation M+E framework

Earth-Eval: Climate-Eval

UNEP (2017): Adaptation Gap Report

CLIMATE CHANGE SCENARIOS AND RISK IDENTIFICATION TOOLS

Climatic Research Unit and the Tyndall Centre for Climate Change Research, University of East Anglia: High-resolution Climate Grids

IPCC Data Distribution Centre: Climate observations and model data

GermanWatch: Global Climate Risk Index

Marin-Ferrer et al. (2017): INFORM Index for Risk Management

Bündnis Entwicklung Hilft, United Nations University (2017): World Risk Report 2017

UNFCCC DECISIONS INFORMING CONTENT FOR BTR, NDC, NC AND BUR

Draft decision 9/CMA.1 Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement

Decision 5/CP.17 National adaptation plans

Information on support needed and received

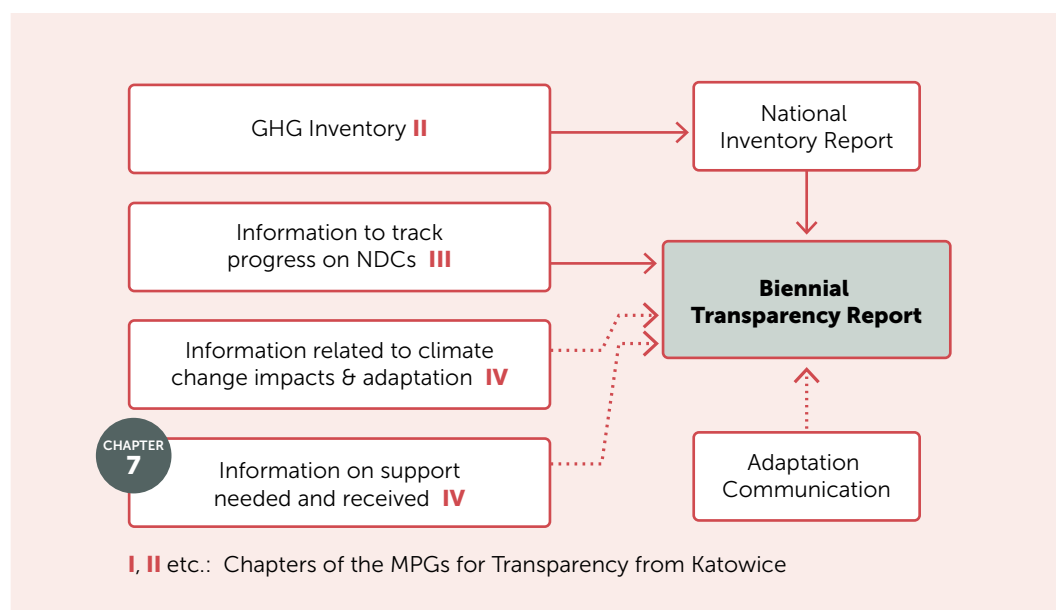
This chapter discusses the information on financial, technology development and transfer and capacity-building support needed and received under Articles 9–11 of the Paris Agreement (Figure 12).

Reporting this information in the BTR is a “should” requirement for developing countries Parties – that is, it is not mandatory. It should be noted that the MPGs also provide guidance on the “Information on support provided and mobilized under Articles 9–11” which shall be provided by developed countries. Nevertheless, any developing country providing support is encouraged to report on this information. Readers interested in this topic can refer to Section V of the MPGs for further guidance.

7.1. Information on financial, technology development and transfer and capacity-building support needed and received

According to the MPGs, in their BTRs developing countries should provide information on financial, technology development and transfer and capacity-building support needed and received. In doing so, countries should provide information on their national circumstances and institutional arrangements, that is, on the systems

Figure 12. Information and reports included in the BTR.



and processes used to identify, track and report support needed and received, including a description of the challenges and limitations. Countries should also provide information on their priorities and strategies, and support needed for them to fulfil their NDCs.

The different capacities of countries to respond to challenges of climate change and reporting on support needed and received under the UNFCCC has already been acknowledged. In the current reporting system, developing countries should provide information on their constraints and gaps, as well as their financial, technical and capacity-building needs. Moreover, developing countries should also provide updated information on financial resources, technology transfer, capacity-building and technical support received through their NCs and BURs. Under the MPG for Article 13, the requested information becomes more detailed and streamlined.

In providing detailed information of support needed and received, developing countries should also provide information on the underlying assumptions, definitions and methodologies used to provide information, including the following:

- j) Convert domestic currency into US dollars
- k) Estimate the amount of support needed
- l) Give the reporting year or time frame
- m) Identify support as coming from specific sources
- n) Identify support as committed, received or needed
- o) Identify and report the status of the supported activity (planned, ongoing or completed)
- p) Identify and report the channel (bilateral, regional or multilateral)
- q) Identify and report the type of support (mitigation, adaptation or cross-cutting)
- r) Identify and report the financial instrument (grant, concessional loan, non-concessional loan, equity, guarantee or other)
- s) Identify and report sectors and subsectors
- t) Report on the use, impact and estimated results of the support needed and received
- u) Identify and report support as contributing to technology development and transfer and/or capacity-building
- v) Identify and report support as anchored in a national strategy and/or NDC
- w) Avoid double-counting in reporting information on support needed and received to implement Article 13 of the Paris Agreement and transparency-related activities, including transparency-related capacity-building, when reporting such information separately from other information on support needed and received.

The requested information should be reported in a combination of textual and tabular formats, and divided between financial support needed and received, technology development and transfer support needed and received, capacity-building support needed and received, and support needed and received to implement Article 13 of the Paris Agreement and transparency activities.

Regarding the financial support needed, countries should provide information in textual form on the sectors for which they wish to attract international finance, the existing barriers to doing so, and a description of how the support will contribute to the NDC and to the long-term goals of the Paris Agreement.

When providing information on technology development and transfer support needed in textual form, countries should report on plans, needs and priorities related to technology development and transfer, including those identified in technology needs assessments (TNAs), and technology development and transfer related needs for the enhancement of endogenous capacities and technologies.

On capacity-building support needed, countries should describe the approach it will take to enhance capacity-building support, its capacity-building needs, constraints and gaps in communicating needs – including an explanation of how the support needed would improve the provision of such information – and the processes for enhancing public awareness, public participation and access to information in relation to capacity-building.

On technology development and transfer support received and capacity-building support received, countries should provide information in textual form on existing case studies, including stories of key successes and failures. On technology support received, countries should also report on how the support contributes to technology development and transfer, endogenous capacities and know-how, and the stage of the technology cycle needing support, including research and development, demonstration, deployment, diffusion and technology transfers. For capacity-building support received, countries should also report on how the support has enhanced the country's capacities, if the support was received at the national, sub-regional or regional level, and the priorities, participation and involvement of stakeholders.

Finally, when reporting information on support needed and received for the implementation of Article 13 and transparency activities, countries should provide information in textual form on support needed and received to prepare reports to the UNFCCC, and to address the areas for improvement identified by the technical expert review teams as part of the UNFCCC review process.

Table 17 lists the requested information that countries should provide in a common tabular format on each relevant activity, programme or project needed or received.

Table 18 summarizes the information on support needed and received to be provided in the BTR, compared to the related requirements for the NC and BUR.

Table 17. Information to report in the BTR on support needed and received, in common tabular format.

	FN	FR	TDTN	TDTR	CBN	CBR	ST
Title	X	X	X	X	X	X	X
Programme/project description	X	X	X	X	X	X	X
Channel		X					X
Recipient entity		X		X		X	X
Implementing entity		X		X		X	
Type of technology			X	X			
Estimated or actual amount (domestic currency and USD)	X	X					X
Expected or actual time-frame	X	X	X	X	X	X	X
Expected or utilized financial instrument (e.g. grant, concessional or non-concessional loan, equity, guarantee)	X	X					
Status (committed or received)		X					
Type of support (mitigation, adaptation or cross-cutting)	X	X	X	X	X	X	
Sector and subsector	X	X	X	X			
Whether the activity will contribute to technology development and transfer and/or capacity-building	X	X					
Status of activity (planned, ongoing or completed)		X		X		X	X
Whether the activity is anchored in a national strategy and/or an NDC	X						
Expected and achieved use, impact and estimated results	X	X	X	X	X	X	X

FN= Financial support needed; FR= financial support received;
 TDTN= technology development and transfer support needed;
 TDTR= Technology development and transfer support received;
 CBN= Capacity-building support needed;

CBR= Capacity-building support received;
 ST= Support needed and received to implement Article 13 of the Paris Agreement and transparency activities.

Table 18. Information to be provided in the BTR on support needed and received. The table compares this information with the information already provided in other reports. In italics, “should”, “encouraged” and “may” requirements. In blue, requirements where flexibility applies.

Information to report in the BTR	BTR requirements	NC requirements	BUR requirements
National circumstances, institutional arrangements and country-driven strategies	<i>The systems and processes used to identify, track and report support needed and received</i>		
	<i>A description of the challenges and limitations in identifying, tracking and reporting support needed and received</i>		
	<i>Information on country priorities and strategies and on any aspects of the Party's NDC under Article 4 of the Paris Agreement that need support</i>		
Underlying assumptions, definitions and methodologies used to:	<ul style="list-style-type: none"> (a) Convert domestic currency into US dollars (b) Estimate the amount of support needed (c) Determine the reporting year or time frame (d) Identify support as coming from specific sources (e) Determine support as committed, received or needed (f) Identify and report status of the supported activity (planned, ongoing or completed) (g) Identify and report the channel (bilateral, regional or multilateral) (h) Identify and report the type of support (mitigation, adaptation or cross-cutting) (i) Identify and report the financial instrument (grant, concessional loan, non-concessional loan, equity, guarantee or other) (j) Identify and report sectors and subsectors (k) Report on the use, impact and estimated results of the support needed and received (l) Identify and report support as contributing to technology development and transfer and capacity-building (m) Avoid double counting in reporting information on support needed and received to implement Article 13 of the Paris Agreement and transparency-related activities, including transparency-related capacity-building, when reporting such information separately from other information on support needed and received. 		

Information to report in the BTR	BTR requirements	NC requirements	BUR re-quirements
Information on financial support needed, including information requested in Table 17	<i>Sectors for which the Party wishes to attract international finance, including existing barriers to attracting international finance</i>	<i>Encouraged to provide, to the extent their capacities permit, a list of projects proposed for financing</i>	<i>Should provide updated information on constraints and gaps, and related financial, technical and capacity-building needs.</i>
	<i>Description of how the support will contribute to the Party's NDC and to the long-term goals of the Paris Agreement</i>	<i>May include information on opportunities for the implementation of adaptation measures, including pilot and/or demonstration adaptation projects, being undertaken or proposed.</i>	
Information on financial support received	<i>Information requested in Table 17</i>	<i>Should also provide information on financial resources provided by Parties themselves and by the GEF, Annex II Parties or bilateral and multilateral institutions, for activities relating to climate change</i>	<i>Should also provide updated information on financial resources, technology transfer, capacity-building and technical support received</i>
		<i>May include information on how support programmes from Parties included in Annex II to the Convention are meeting their specific needs and concerns relating to vulnerability and adaptation to climate change</i>	
Information on technology development and transfer support needed, including information requested in Table 17	<i>Plans, needs and priorities related to technology development and transfer, including those identified in Technology Needs Assessments, where applicable</i>	<i>Encouraged to provide information on country-specific technology needs and assistance received from developed-country Parties and the financial mechanism of the Convention and, as appropriate, on how they have utilized this assistance in support of the development and enhancement of endogenous capacities, technologies and know-how. May include information on opportunities for the implementation of adaptation measures, including pilot and/or demonstration adaptation projects, being undertaken or proposed.</i>	
	<i>Technology development and transfer related needs for the enhancement of endogenous capacities and technologies</i>		
Information on technology development and transfer support received, including information requested in Table 17	<i>Case studies, including key success and failure stories</i>		<i>Should provide information on technical support provided by Parties themselves and by the GEF, Annex II Parties or bilateral and multilateral institutions, for activities relating to climate change</i>
	<i>How the support contributes to technology development and transfer, endogenous capacities and know-how</i>		
	<i>The stage of the technology cycle supported, including research and development, demonstration, deployment, diffusion and transfer of technology</i>		

Information to report in the BTR	BTR requirements	NC requirements	BUR requirements
Information on capacity-building support needed, including information requested in Table 17	<i>The approach a Party will take to enhance capacity-building support</i>		<i>Should provide updated information on constraints and gaps, and related financial, technical and capacity-building needs.</i>
	<i>Country-specific capacity-building needs, constraints and gaps in communicating those needs, and an explanation of how the capacity-building support needed would improve the provision of such information</i>		
	<i>Processes for enhancing public awareness, public participation and access to information in relation to capacity-building</i>		
Information on capacity-building support received, including information requested in Table 17	<i>Case studies, including key success and failure stories</i>		<i>Should also provide updated information on financial resources, technology transfer, capacity-building and technical support received</i>
	<i>How support received has enhanced a Party's capacity</i>		
	<i>Capacity-building support received at the national and, where appropriate, sub-regional and regional levels, including priorities, participation and the involvement of stakeholders</i>		
Information on support needed and received for the implementation of Article 13 and transparency-related activities, including for transparency-related capacity-building and information requested in Table 17	<i>Support needed and received for preparing reports pursuant to Article 13</i>	<i>Should provide information on financial resources and technical support for the preparation of their NC provided by themselves, as well as those received from the Global Environment Facility (GEF), Annex II Parties or bilateral and multilateral institutions</i>	
	<i>Support needed and received for addressing the areas for improvement identified by the technical expert review teams</i>		

RELEVANT RESOURCES AND TOOLS

UNFCCC: Handbook - Technical and Capacity Building Needs and Support Received

UNFCCC DECISIONS INFORMING CONTENT FOR BTR, NDC, NC AND BUR

BTR content: Decision -/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement

NDC content: Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21

NC Content: Decision 17/CP.8 Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention

BUR Content: Decision 2/CP.17 Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention and its Annex III "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention"

Conclusions and considerations for the prioritization of transparency activities

With the Paris Agreement, almost all countries have committed themselves to achieving the NDCs to limit the rise in global temperatures and adapt to climate change. The goal of the ETF is to gather the information necessary to keep track of these efforts to inform the Global Stocktake and thus increase efforts over time.

With the adopted MPGs on Transparency, countries have now detailed information on the requirements, timing and processes concerning the ETF.

Under the ETF, all countries are guided by the same MPGs. The present publication underlines how a lot of the information requested under the ETF has already been provided by countries in different reports under the Convention such as their BURs and NCs. However, compared to the current reporting framework requirements, the MPGs provide more detailed guidance on the information to report. At the international level this translates into more streamlined processes, improved quantity and quality of data, and enhanced comparability of the information reported, which can only be expected to provide better inputs for the future global stocktake and to increase the ambition to reach the global 1.5°C - 2°C target.

The BTR will be the transparency report under the ETF and will replace the BUR, which was the transparency report under the Convention. The BTR shall contain the information necessary to track progress made in implementing and achieving NDCs should contain information related to climate change impacts and adaptation, as well as information on financial, technology development and transfer and capacity-building support needed and received. Furthermore, in concurrence with the BTR, countries will have to submit an NIR containing an inventory of the anthropogenic emissions of greenhouse gases, which shall be submitted either as a stand-alone report or as a component of the BTR. Finally, ACs can also be submitted as part of the BTR, as well as through other channels, such as the NDC or NC.

The information provided in the BTR will be analysed by the technical review process. This process will take into consideration, as a minimum, the NIR, the information necessary to track progress of NDC implementation and achievement, and information on financial, technology development and transfer and capacity-building support provided to developing-country Parties.

Even though the first BTR will be submitted in 2024, the MPGs provide some information linked to NDC requirements and other current submissions. Future BTR requirements on NDC tracking will provide information that countries should take into consideration in the design of the NDC to be submitted between the end of 2019 and the start of 2020.²³ Preparing NDCs while taking into account the information to be reported in the BTR will help countries to identify gaps, thus ensuring that the necessary information will be available by the time the ETF becomes effective.

Under the ETF, NCs will still be a reporting requirement. In those years when the NC and BTR coincide, Parties may submit both as a single report. In this case, NCs may be submitted following the MPGs for transparency for information that is also covered by the NC guidelines. However, Parties should include, in addition, supplementary chapters on research and systematic observation, education, training and public awareness. Furthermore, if a Party decides not to report information related to climate change impacts and adaptation in the BTR, the merged reporting shall also include an additional chapter on adaptation. Integrating NC and BUR reporting requirements with the more detailed guidance provided by the MPGs will help countries ensure that information is standardized across reporting elements, thus minimizing effort and maximizing countries' preparedness for the ETF.

The NIR that will be submitted together with the BTR builds on the national GHG inventories and inventories that have been the backbone of GHG emissions reporting from the start of the Convention. Compared to previous GHG inventory products, the NIR will introduce changes. Countries can benefit from starting to adhere to these changes by implementing the new methodological requirements, for example, by training staff in using the IPCC 2006 methodology and identifying what data they may lack in order to comply with the requirements outlined by the MPGs.

Finally, countries with priorities on adaptation who intend to include, update or revise their ACs in the upcoming NDC submission can benefit from considering incorporating the current UNFCCC guidance on ACs²⁴ with the BTR information on climate change impacts and adaptation.

The exception made for LDCs and SIDs with respect to BTR submissions and the flexibility provisions for developing countries still give countries needing less stringent requirements the option to omit certain information or details in light of their own capacities. Nevertheless, the self-determined need for flexibility will need to be explained, and plans to improve reporting over time will need to be drawn up. In this way, together with the emphasis on the creation, maintenance and continuous improvement of national frameworks and/or systems of transparency, the MPGs

²³ At least 9 to 12 months before COP in 2020 (UNFCCC, 2016b).

²⁴ Decision 9/CMA.1 Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement (UNFCCC, 2018b)

also provide the framework for moving towards common and improved modes of reporting for all Parties.

References

- Benioff, R., Guill, S. and Lee, J. (eds.). (1996). *Vulnerability and Adaptation Assessments* (Vol. 7). Dordrecht: Springer Netherlands. <https://doi.org/10.1007/978-94-009-0303-6>
- Carter, T. R., Parry, M. L., Harasawa, H. and Nishioka, S. (1994). *IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations*. Retrieved from <https://www.ipcc.ch/site/assets/uploads/2018/03/ipcc-technical-guidelines-1994n-1.pdf>
- Feenstra, J. F., Burton, I., Smith, J. B. and Tol, R. S. J. (1998). Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies. Retrieved from <http://lib.icimod.org/record/13767/files/7157.pdf>
- IPCC. (n.d.). The IPCC 2006 Guidelines and their Evolution from the Revised 1996 Guidelines, 25. Retrieved from https://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/sb28_ipcc_simon.pdf
- IPCC TFI. (2016). Transition from Revised 1996 IPCC Guidelines to 2006 IPCC Guidelines. Retrieved from https://unfccc.int/sites/default/files/1_1996_to_2006_lesotho_march_2016_final_kt.pdf
- Puig, D., Calliari, E., Hossain, F., Bakhtiari, F., Rahman, F. and Huq, S. (2019). Loss and damage in the context of the Paris Agreement's transparency framework. Technical University of Denmark, University College London, and International Centre for Climate Change and Development. Copenhagen, London and Dhaka.
- UNFCCC. (1999). Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications. *UNFCCC Guidelines on Reporting and Review*. Retrieved from <http://unfccc.int/resource/docs/cop5/07.pdf>
- UNFCCC. (2000). *Decision 4/CP.5 Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications. Addendum-Part two: action taken by the Conference of the Parties*. Retrieved from <https://unfccc.int/resource/docs/cop5/06a01.pdf#page=8>
- UNFCCC. (2003). Decision 17/CP.8 Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention. Retrieved from <https://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>
- UNFCCC. (2011). Cancun Agreement. *Conference of the Parties on Its Sixteenth Session*, (March), 1–31. Retrieved from <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>
- UNFCCC. (2012). *Report of the Conference of the Parties on its seventeenth session*. Durban. Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2011/cop17/eng/09a01.pdf>

- UNFCCC. (2016a). *Aggregate effect of the intended nationally determined contributions: an update. Synthesis report by the secretariat Summary*. Retrieved from <https://unfccc.int/resource/docs/2016/cop22/eng/02.pdf>
- UNFCCC. (2016b). Decision 1/CP.21 Adoption of the Paris Agreement, 01194(January), 36. Retrieved from <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>
- UNFCCC. (2018a). *Decision 4/CMA.1 Further guidance in relation to the mitigation section of decision 1/CP.21*. Katowice. https://unfccc.int/sites/default/files/resource/cma2018_3_add1_advance.pdf
- UNFCCC. (2018b). *Decision 9/CMA.1 Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement*. Retrieved from https://unfccc.int/sites/default/files/resource/cma2018_3_add1_advance.pdf
- UNFCCC. (2018c). *Matters relating to Article 14 of the Paris Agreement and paragraphs 99–101 of decision 1/CP.21*. Retrieved from https://unfccc.int/sites/default/files/resource/FCCC_CP_2018_L.16.pdf
- UNFCCC. (2018d). *Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance referred to in Article 15, paragraph 2, of the Paris Agreement*. Katowice. Retrieved from https://unfccc.int/sites/default/files/resource/CMA2018_03a02E.pdf
- UNFCCC. (2018e). *Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement*. Katowice. Retrieved from https://unfccc.int/sites/default/files/resource/cp24_auv_1cp24_final.pdf
- UNFCCC. (2019). Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement, (March), 1–65. Retrieved from https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf#page%3D18

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CITATION: ICAT (2019). Unfolding the reporting requirements for Developing Countries under the Paris Agreement's Enhanced Transparency Framework. Initiative for Climate Action Transparency (ICAT), UNEP DTU Partnership, Copenhagen



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