Training on the preparation of GHG Inventories - Tanzania in country support

New GHG inventory Reporting requirements

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Relevance of GHG inventories under the ETF

The two key elements of information crucial to evaluating progress towards achieving Parties' individual nationally determined contributions (NDCs) and making the necessary course corrections are:

1) National GHG emissions inventories, providing an overview of the current status of the emissions of a given country; and,
2) Projected GHG emissions as communicated by Parties.

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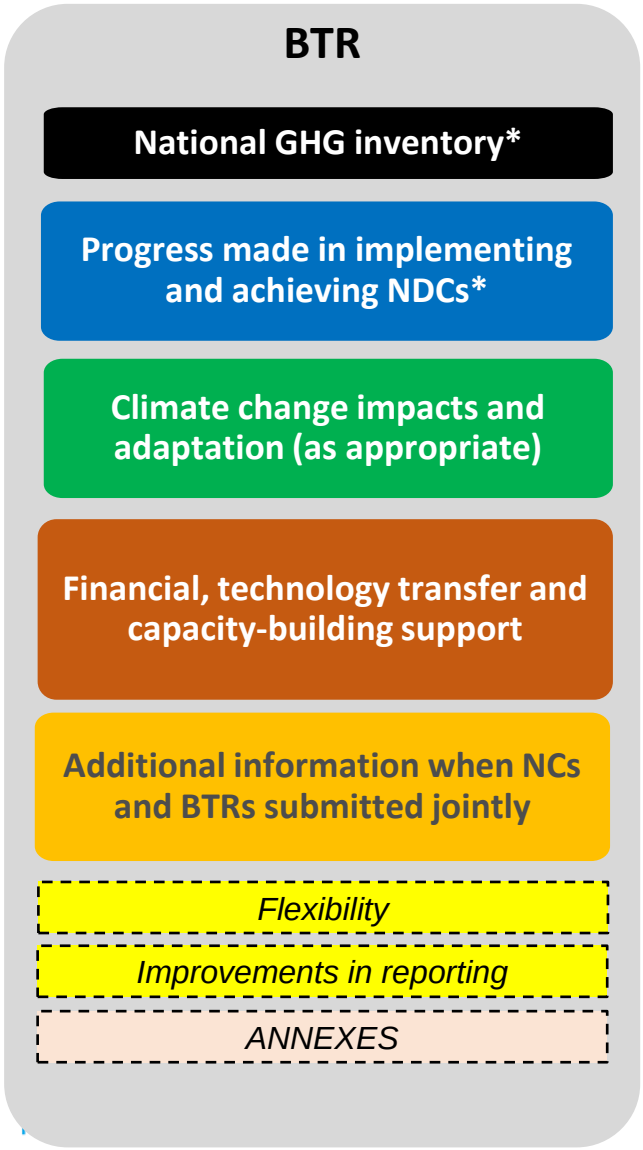
Outline of the BTR (Decision 5/CMA.3, Annex IV)



Overview of chapters

I. National **inventory** report of anthropogenic emissions by sources and removals by sinks of GHGs **(MPGs, para. 17-58)**

II. Information necessary to **track progress made in implementing and achieving NDCs** under Article 4 of the Paris Agreement **(MPGs, para. 59-103)**

III. Information related to **climate change impacts and adaptation** under Article 7 of the Paris Agreement **(MPGs, para. 104-117)**

IV. Information on financial, technology development and transfer and capacity-building support **provided and mobilized** under Articles 9–11 of the Paris Agreement **(MPGs, para. 118-129)**

V. Information on financial, technology development and transfer and capacity-building **support needed and received** under Articles 9–11 of the Paris Agreement **(MPGs, para. 130-145)**

VI. Information to be reported **when NCs and BTRs are submitted joi**ntly every four years **(1/CP.24, para. 43)** *(vulnerability assessment, cc impacts and adaptation measures-if not reported in section III; RSO; education, training and public awareness)*

VII. Information on **flexibility (MPGs, para. 6)** *(Indication of (1) reporting provisions to which self-determined flexibility is applied, (2) capacity constraints in relation to the application of flexibility and (3) self-determined estimated time frames for improvements in relation to those capacity constraints)*

VIII. Improvements in reporting over time **(MPGs, para. 7-8)** *(areas of improvement, how these will be addressed, which areas are related to flexibility provisions, reporting-related CB support needs)*

IX. Any other information the Party considers relevant to the achievement of the objective of the Paris Agreement, and suitable for inclusion in its BTR

Annexes: (i) **Technical annexes for REDD+,** as applicable; (ii) **CRTs for electronic reporting of NIR**; (iii) **CTFs for electronic reporting of tracking progress in NDCs**, **FTC support** provided/mobilized and/or needed and received; (iv) Information in relation to the Party's **participation in cooperative approaches**, as applicable

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Current Reporting and Review Framework

Annex I Parties (Developed Countries)

- **National Communications** (NCs)
- **Biennial Reports** (BRs)
- **Annual GHG Inventories** (GHGIs)
- Technical Expert Review of all reports, **Multilateral Assessment** (MA) for BRs

Non-Annex I Parties (Developing Countries)

- **National Communications**
- **Biennial Update Reports** (BURs)
  - National GHGIs (chapter in BUR/NC, 1996 IPPC Guidelines/IPCC GPG, summary tables)
  - International Consultation and Analysis (ICA)

Enhanced Transparency Framework (2024 Onwards)

All Parties*

- Reporting requirements under **Modalities**, **Procedures**, and **Guidelines** (MPGs)
- **Biennial Transparency Reports** (BTRs)
  - National GHGIs (standalone or BTR chapter, 2006 IPCC Guidelines, detailed reporting tables)
  - Progress toward Nationally Determined Contributions (NDCs)
- **Areas of Improvement**
- **Technical Expert Review**
- **Facilitative Multilateral Consideration**

*With **flexibility** to developing country parties that need it in light of their capacities.

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New Reporting requirements – What has changed

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BUR

- Use of 1996 IPCC Guidelines
- Cover inventory year T-4
- Activity data should be updated
- Reporting at a summary level
- Key category analysis should be done
- Limited reporting on institutional arrangements (e.g. archiving, inventory as a continuous process).
- No specific requirements on QA/QC
- Shall report CO_2, CH_4 and N_2O (using SAR values); encouraged to report other gases
- Should quantitively estimate uncertainty

BTR

- Use of the 2006 IPCC Guidelines
- Cover year T-2 **(T-3 with flexibility*)**
- Recalculations of previous data required
- Reporting with NIR+CRTs (as adopted at CMA3)
- Key category analysis required **(with flexibility*)**
- Reporting on institutional arrangements required (e.g. planning, preparation and management).
- Shall develop a QA/QC plan **(with flexibility*)**
- Shall report basket of 7 gases **(with flexibility*)**, using AR5 GWP values
- Shall quantitatively estimate uncertainty **(with flexibility*)**

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NATIONAL INVENTORY REPORT OF ANTHROPOGENIC EMISSIONS BY SOURCES AND REMOVALS BY SINKS OF GREENHOUSE GASES – 18/CMA.1

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A. Definition of Principles - IPCC 2006 Guidelines TACCC

B. National Circumstances and institutional arrangements

C. Methods

- Methodologies, parameters and data
- Key category analysis
- Time-series consistency and recalculations
- Uncertainty assessment
- Assessment of completeness
- Quality assurance/quality control

D. Metrics

E. Reporting guidance

- Information on methods and cross-cutting elements
- Sectors and gases
- Time series

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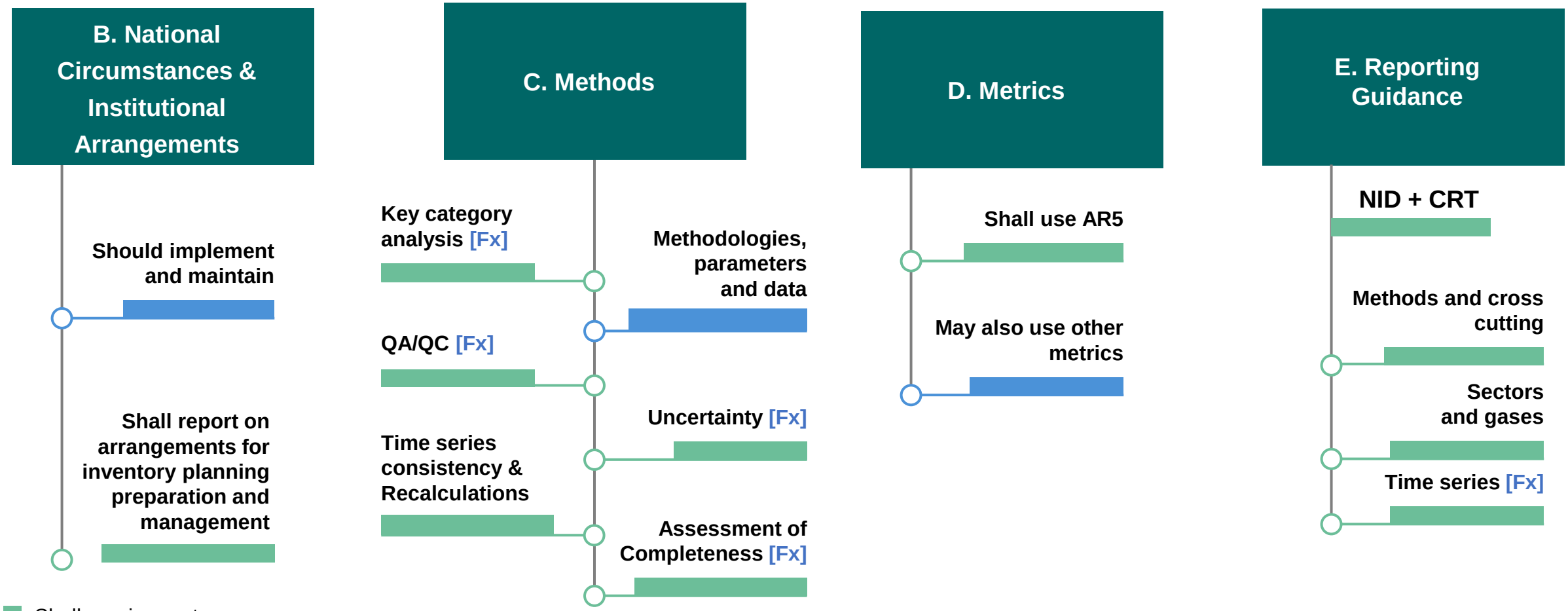
GHG inventory reporting elements



Shall requirements

Should/May requirements

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GHG inventory reporting elements

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Methodologies, parameters and data	Time series consistency & Recalculations	Assessment of Completeness	Key category analysis	Uncertainty	QA/QC
Shall use 2006 IPCC GL	Shall perform recalculations	Shall report previously reported categories	Shall apply 95% threshold for level and trend for base and most recent year	Shall quantitatively and qualitatively assess uncertainty for level for starting and latest year, and trend	Shall elaborate QA/QC plan and implement approach 1 QA/QC checks
Should use same methods and consistent AD and EF over time series, splicing technique	Should elaborate categories not reported and notation keys	May use 'NE" for insignificant categories to a threshold			Should apply category specific checks; a peer review, and reference approach

- Requirements with flexibility provisions
- Mandatory "shall" requirements
- Non-mandatory "Should"/ "may" requirements

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Outline of a National Inventory Document: Main contents

Executive Summary

Chapter 1. National circumstances, institutional arrangements, and cross-cutting information

Chapter 2. Trends in greenhouse gas emissions and removals

Chapter 3. Energy (crt sector 1)

Chapter 4. Industrial processes and product use (crt sector 2)

Chapter 5. Agriculture (crt sector 3)

Chapter 6. Land use, land-use change and forestry (crt sector 4)

Chapter 7. Waste (crt sector 5)

Chapter 8. Other sector (crt sector 6)

Chapter 9. Indirect CO2 and N2O emissions

Chapter 10. Recalculations and improvements

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Outline of a National Inventory Document: Annexes

- Annex i: key categories
- Annex ii: uncertainty assessment
- Annex iii: detailed description of the reference approach (energy sector)
- Annex iv: quality assurance and quality control plan
- Annex v: any additional information, as applicable, including detailed methodological description of source or sink categories and the national emission balance
- Annex vi: common reporting tables: Energy, Industrial processes and product use, Agriculture, Land use, land-use change and forestry, Waste, Other substances that affect the climate.
- References

Source: Decision 5/CMA.3 annex V

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Common Reporting Tables (CRT)

The CRT include 61 tables to fill:

- Summary report tables
- Sectoral report tables
- Background data tables
- Cross-sectoral tables
- Other tables

Abbreviations and acronyms	Table3	Summary1
Table1	Table3.A	Summary2
Table1.A(a)s1	Table3.B(a)	Summary3
Table1.A(a)s2	Table3.B(b)	Table6
Table1.A(a)s3	Table3.C	Table7
Table1.A(a)s4	Table3.D	Table8s1
Table1.A(b)	Table3.E	Table8s2
Table1.A(c)	Table3.F	Table9
Table1.A(d)	Table3.G-J	Table10s1
Table1.B.1	Table4	Table10s2
Table1.B.2	Table4.1	Table10s3
Table1.C	Table4.A	Table10s4
Table1.D	Table4.B	Table10s5
Table2(I)	Table4.C	Table10s6
Table2(I).A-H	Table4.D	Flex_Summary
Table2(II)	Table4.E	
Table2(II)B-Hs1	Table4.F	
Table2(II)B-Hs2	Table4(I)	
	Table4(II)	
	Table4(III)	
	Table4(IV)	
	Table4.Gs1	
	Table4.Gs2	
	Table5	
	Table5.A	
	Table5.B	
	Table5.C	
	Table5.D	

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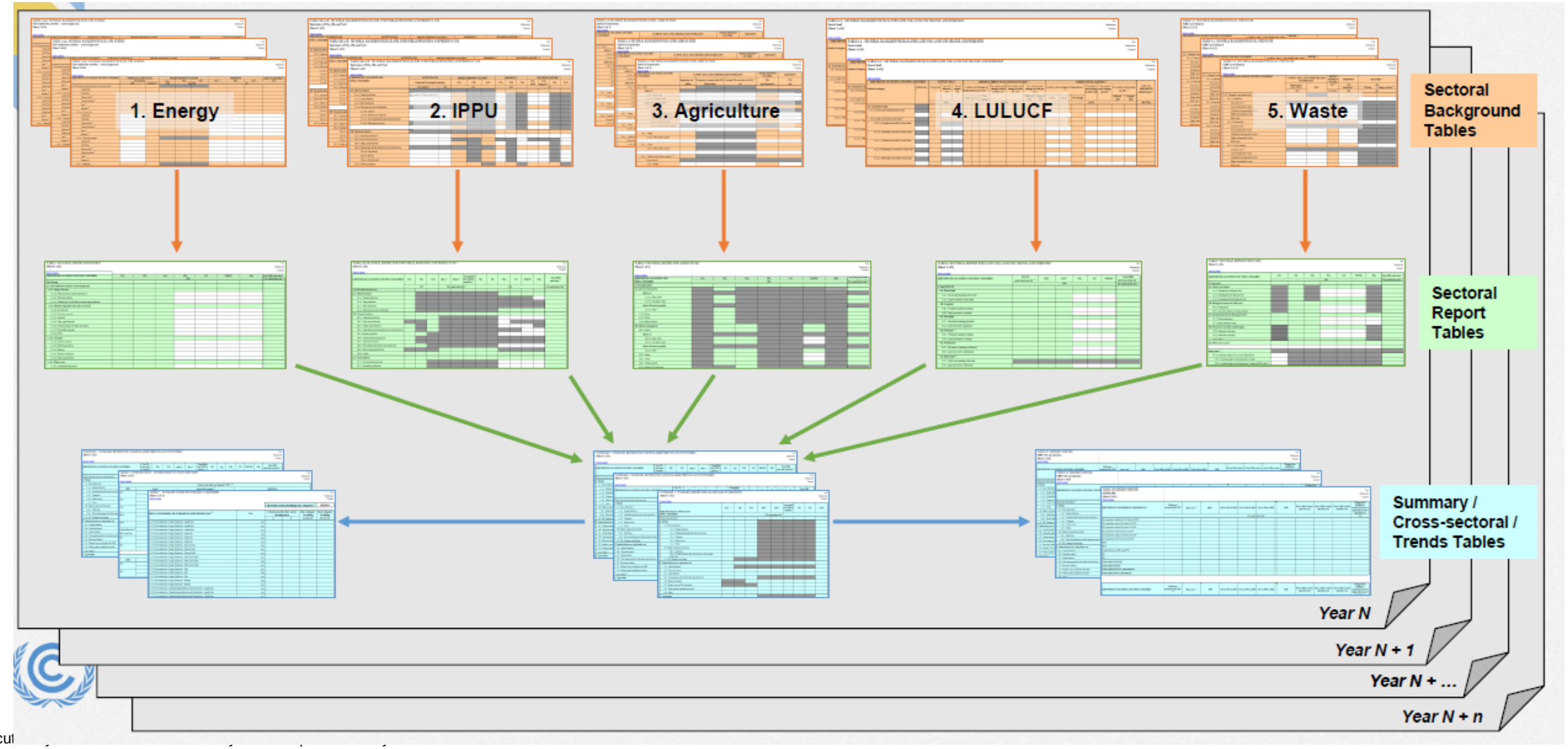
CRT Worksheets



National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Inventory reporting and information to be reported: 18/CMA 1 - MPG: 38, 12, 17, 18, 19, 47, 58
Submission requirements	• Developing countries should submit updates of national GHG inventories including a national inventory report	• Each Party shall provide a national inventory report • Latest reporting year shall be no more than 2 years prior to the submission of the NIR (3 years prior to the submission if flexibility is needed)
Reporting form	• GHG Inventory chapter • NIR (encouraged)	• National Inventory Document (NID) • Common Reporting Tables (CRT)
National circumstances	• *Describe procedures and arrangements to collect data and information on the role of the institutions involved*	Provide information on national circumstances and institutional, legal and procedural arrangements: • National entity or national focal point • The inventory preparation process • The archiving of all information for the reported time-series • The processes in place for the official consideration and approval of the inventory

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Information to be reported: sectors and gases based on decision 18/CMA 1. MPG: 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
Time series	• *Encouraged to provide time series back to the years reported in the previous NC.(in NC, no time series but inventories for the year 1994/1990, for first NC, and 2000 for second NC*)	• Time series shall start from 1990 (as a minimum the reference years for the respective NDC and a consistent annual time series from at least 2020 onwards, if flexibility is needed)
Gases	• CO2, CH4, and N2O • *HFCs, PFCs, SF6, CO, NOx, NMVOC, and SOx.* • Provide emissions and removals on a gas-by-gas basis and in units of mass	• CO2, CH4, N2O, HFCs, PFCs, SF6 and NF3 (flexibility to report at least first three and not the gases in blue) • *CO, NMVOCs, SOx, NOx, indirect CO2 from atmospheric oxidation of CH4, CO and NMVOCs (should)*
Sectors	• Energy • Industrial Processes and Solvent and Other Product Use • Agriculture • LULUCF • Waste (IPCC 1996)	• Energy • Industrial Processes and Product Use • Agriculture • LULUCF • Waste (IPCC 2006)

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Methods to be used: methodologies, parameters and data – 18/CMA. 1 MPG: 20, 22, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37
Methodology	• Use IPCC revised guidelines 1996, IPCC GPG 2000 and IPCC 2003 GPG for LULUCF	• Use IPCC Guidelines 2006, and any subsequent version or refinement
Nationally appropriate methodologies		• A Party should use nationally appropriate methodologies if they better reflect its national circumstances and are consistent with the IPCC guidelines
Tiers and country-specific EF and AD		• Each Party should make every effort to use a recommended method (tier level) for key categories, otherwise may use a Tier 1 approach, but shall clearly document it • Parties are encouraged to use country-specific and regional EF and AD, where available, or to propose plans to develop such EF and AD in accordance with the IPCC guidelines
KC Analysis		• Identify key categories with threshold at 95% (85% if flexibility is needed) • Describe KC including information on the approach used for their identification • Report individual and cumulative % contributions (level and trend)

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Methods to be used: methodologies, parameters and data – 18/CMA. 1 MPG: 20, 22, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 43, 45
QA/QC	• *Encouraged to apply the IPCC Good Practice Guidance*	• Each Party shall elaborate an inventory quality assurance/quality control (QA/QC) plan and shall implement and provide info on QC procedures following IPCC guidelines (If flexibility is needed this provision is only encouraged). • Report QA/QC procedures already implemented or to be implemented in the future
Metrics	• *should use the GWP using the 100-year time horizon and CO2e for aggregated*	• Use the 100-year time-horizon GWP to report aggregate emissions and removals of GHGs, expressed in CO2e

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Reference: Methods to be used: methodologies, parameters and data. MPG: 20, 22, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 43, 45
Consistency and recalculations		• The same methods and approach to underlying AD and EF should be used onsistently for each reported year • If missing emission values resulting from a lack of AD, EF or other parameters, IPCC splicing techniques should be used • If changes in the methods/assumptions, important to recalculate the complete time-series to not affect emission trends
Uncertainty assessment	• *Encouraged to provide information on the level of uncertainty, and to describe the methodologies used, if any, for estimating these uncertainties.*	• Uncertainty for all source and sink categories shall be quantitatively estimated and qualitatively discussed, at least the starting year and the latest reporting year of the inventory time series. (Qualitative analysis where quantitative data is unavailable if flexibility is needed)
Insignificant categories	• *Encouraged to apply the IPCC Good Practice Guidance*	• NE (Not Estimated) if emissions from a is considered insignificant: 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 is needed all numbers x2)

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
		Information to be reported: methods and cross-cutting elements - 18/CMA.1 - MPG: 39, 40, 41, 42, 44, 46 a
Information on methods		• Report on methods used, including rationale for selection of these methods • Information on EF and AD used at the most dissagregated level, to the extent possible
Lack of completeness		• If some IPCC sources/sinks are not considered, the Party should clearly indicate the main explain reasons for exclusion • Notation Keys must be used where numerical data are not available • Once emissions have been estiomated for a category, these must be reported in subsequent submissions if they continue to occur • Report information on reasons for a lack of completeness, including information on any methodological or data gaps
QA/QC		• Report QA/QC procedures already implemented or to be implemented in the future

In italics: "should", "encouraged" and "may" requirements. In blue: requirements where flexibility applies.

Reporting the National GHG Inventory under the ETF

- Each Party shall provide a national inventory report (NIR) of anthropogenic emissions by sources and removals by sinks of GHGs
- NIR may be submitted as a **stand-alone report** or as a **component of BTR**
- The submission includes the National Inventory Document **(NID)** and the common reporting tables **(CRTs)** for the electronic reporting of th national inventory report
- The CRT are submitted electronically and considered part of the submission, so tables do not need to be reproduced in the BTR itself
- Parties are encouraged to follow the **NID outline** (Decision 5/CMA.3, annex IV), but it is not mandatory

NATIONAL INVENTORY REPORT OF ANTHROPOGENIC EMISSIONS BY SOURCES AND REMOVALS BY SINKS OF GREENHOUSE GASES

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- National Circumstances A.
- Trends in greenhouse gas emissions and removals
- Energy
- Industrial Processes and Product Use
- Agriculture
- Land Use, Land Use Change and Forestry
- Waste
- Agriculture
- Land Use, Land Use Change and Forestry
- Waste

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Area of flexibility (An. D.18/CMA.1)	Flexibility provisions for those developing country Parties that need flexibility in the light of their capacities
Key categories (p. 25)	Identify key categories using a **threshold no lower than 85 per cent** (instead of 95 per cent)
Uncertainty assessment (p. 29)	Provide **qualitative discussion of uncertainty for key categories both latest inventory year/trend**, instead of quantitatively estimating and qualitatively discussing uncertainty for all categories for at least the starting year and the latest reporting year and the trend.
Completeness (p. 32)	Consider emissions **insignificant** if the likely level of emissions is **below 0.1 per cent of total GHG emissions, excluding LULUCF, or 1,000 kt CO_2 eq,** whichever lower (as opposed to 0.05 per cent or 500 kt CO_2 eq). Total emissions for all gases from categories considered insignificant shall remain below **0.2 % total GHG emissions, excluding LULUCF**, as opposed to 0.1 per cent.
QA/QC (p. 34 & 35)	**Encouraged to elaborate an inventory QA/QC plan** including information on the inventory agency responsible for implementing QA/QC (as opposed to a requirement to develop a QA/QC plan).
	Encouraged to implement and provide information on general inventory QC procedures in accordance with their QA/QC plan (as opposed to required to implement and provide information).
Gases (p. 48)	**Report at least 3 gases (CO_2, CH_4 and N_2O)**. Also any of the 4 gases (HFCs, PFCs, SF_6 and NF_3) included in NDC under Art. 4 or that are covered by an activity under Art. 6, or have been previously reported (as opposed to reporting all 7 gases)
Time series (p. 57 & 58)	Report data covering the **reference year/period for the NDC** and, in addition, **a consistent annual time series from at least 2020 onward** (as opposed to reporting a continuous time series from 1990 onwards).
	The **latest reporting year shall be no more than 3 years prior to submission** of the inventory (as opposed to no more than 2 years for all other Parties)

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The Climate Transparency Platform

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CLIMATE TRANSPARENCY

One-stop-shop for climate transparency

Main features:

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CLIMATE TRANSPARENCY PLATFORM

The Climate Transparency Platform

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CLIMATE TRANSPARENCY

One-stop-shop for climate transparency

Main features:

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Colors

Primary colors

RGB
34-176-151

RGB
34-176-151 (50%)

RGB
0-112-115

RGB
0-112-115 (50%)

RGB
0-69-90

RGB
0-69-90 (50%)

Secondary colors

RGB
141-34-42

RGB
0-0-0

RGB
232-129-116

RGB
0-0-0 (50%)

RGB
253-222-135

RGB
0-0-0 (30%)

RGB
0-163-218

This slide is only for information. Remember to delete it from your presentation when its finalized

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Secondary colors are a subliment that can be used for details, splash or in cases where the primary colors isn't enough, but not more that 20% of the design

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Thank you for your attention!

For more information:
https://climate-transparency-platform.org

Khetsiwe Khumalo
Advisor – Climate Transparency
UNEP-CopenhagenClimate Centre

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