

# Training on preparation and reporting of results of national GHG inventories under the ETF of the Paris Agreement

Tokyo, Japan 22-24 May 2024

**Presentation:** Introduction to the new requirements for reporting national GHG inventories under the Paris Agreement (MPGs) and associated flexibility provisions.

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# Structure of the MPGs

Introduction, purpose, principles of MPGs, clarifications on flexibility, improved reporting over time and reporting format



- I. National inventory report (NIR) of greenhouse gases (GHGs)
- II. Information necessary to track progress made in implementing and achieving NDCs
- III. Information related to climate change impacts and adaptation
- IV. Information support provided and mobilized (Developed countries)
- V. Information on support needed and received
- VI. MPG for technical expert review
- VII. MPG for the facilitative, multilateral consideration of progress (FMCP)

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# 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 a BTR**
- The submission includes the National Inventory **Document (NID)** and the common reporting tables (**CRTs**) for the electronic reporting of the 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
- For those developing country parties that need **flexibility** in the light of their capacities, specific flexibility provisions may be applied. In this case you may use the "**flex summary table**" in the CRTs

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# National Inventory Report (NIR) contents

Contents to be included in the NIR according to the MPGs	Topics covered
Inventory reporting and information to be reported	Submission requirements Reporting form Inclusion of national circumstances and institutional arrangements
Methods to be used: <b>methodologies, parameters, and data</b>	IPCC guidelines, nationally appropriate methodologies, tiers and country specific EF and AD, KC analysis, time-series consistency and recalculations, uncertainty assessment, metrics, insignificant categories, QA/QC
Information to be reported: <b>methods and cross-cutting elements</b>	Information on methods and data, assessment of completeness
Information to be reported: time-series, sectors and gases	time-series, sectors and gases

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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<b>Inventory reporting and information to be reported: MPG: 38, 12, 17, 18, 19, 47, 58</b>		
<b>Submission requirements</b>	<ul style="list-style-type: none"> <li>Developing countries should submit updates of national GHG inventories including a national inventory report</li> </ul>	<ul style="list-style-type: none"> <li>Each Party shall provide a national inventory report</li> <li>Latest reporting year shall be no more than 2 years prior to the submission of the NIR (<b>3 years prior to the submission if flexibility is needed</b>)</li> </ul>
<b>Reporting form</b>	<ul style="list-style-type: none"> <li>Reporting</li> <li>GHG Inventory</li> </ul>	<ul style="list-style-type: none"> <li>National Inventory Document (NID)</li> <li>Common Reporting Tables (CRT)</li> </ul>
<b>National circumstances</b>	<ul style="list-style-type: none"> <li>Describe procedures and arrangements to collect data and information on the role of the institutions involved</li> </ul>	<p>Provide information on national circumstances and institutional, legal and procedural arrangements:</p> <ul style="list-style-type: none"> <li>National entity or national focal point</li> <li>The inventory preparation process</li> <li>The archiving of all information for the reported time-series</li> <li>The processes in place for the official consideration and approval of the inventory</li> </ul>

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

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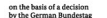



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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<b>Information to be reported: sectors and gases. MPG: 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58</b>		
<b>Time series</b>	<ul style="list-style-type: none"> <li>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)</li> </ul>	<ul style="list-style-type: none"> <li>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)</li> </ul>
<b>Gases</b>	<ul style="list-style-type: none"> <li>CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O</li> <li>HFCs, PFCs, SF<sub>6</sub>, CO, NO<sub>x</sub>, NMVOC, and SO<sub>x</sub>.</li> <li>Provide emissions and removals on a gas-by-gas basis and in units of mass</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub> (flexibility to report at least first three and not the gases in blue)</li> <li>CO, NMVOCs, SO<sub>x</sub>, NO<sub>x</sub>, indirect CO<sub>2</sub> from atmospheric oxidation of CH<sub>4</sub>, CO and NMVOCs (should)</li> </ul>
<b>Sectors</b>	<ul style="list-style-type: none"> <li>Energy</li> <li>Industrial Processes and Solvent and Other Product Use</li> <li>Agriculture</li> <li>LULUCF</li> <li>Waste (IPCC 1996)</li> </ul>	<ul style="list-style-type: none"> <li>Energy</li> <li>Industrial Processes and Product Use</li> <li>Agriculture</li> <li>LULUCF</li> <li>Waste (IPCC 2006)</li> </ul>
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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<b>Methods to be used: methodologies, parameters and data</b> <b>MPG: 20, 22, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37</b>		
IPCC guidelines	<ul style="list-style-type: none"> <li>Use IPCC revised guidelines 1996, IPCC GPG 2000 and IPCC 2003 GPG for LULUCF</li> </ul>	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		<ul style="list-style-type: none"> <li>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</li> <li>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</li> </ul>
KC Analysis		<ul style="list-style-type: none"> <li>Identify key categories with threshold at 95% (<b>85% if flexibility is needed</b>)</li> <li>Describe KC including information on the approach used for their identification</li> <li>Report individual and cumulative % contributions (level and trend)</li> </ul>

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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<b>Methods to be used: methodologies, parameters and data</b> <b>MPG: 20, 22, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 43, 45</b>		
QA/QC	<ul style="list-style-type: none"> <li>Encouraged to apply the IPCC Good Practice Guidance</li> </ul>	<ul style="list-style-type: none"> <li>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 <b>(If flexibility is needed this provision is only encouraged)</b>.</li> <li>Report QA/QC procedures already implemented or to be implemented in the future</li> </ul>
Metrics	<ul style="list-style-type: none"> <li>should use the GWP using the 100-year time horizon and CO<sub>2</sub>e for aggregated</li> </ul>	<ul style="list-style-type: none"> <li>Use the 100-year time-horizon GWP to report aggregate emissions and removals of GHGs, expressed in CO<sub>2</sub>e</li> </ul>

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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<p><b>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</b></p>		
<p><b>Consistency and recalculations</b></p>		<ul style="list-style-type: none"> <li>• The same methods and approach to underlying AD and EF should be used consistently for each reported year</li> <li>• If missing emission values resulting from a lack of AD, EF or other parameters, IPCC splicing techniques should be used</li> <li>• If changes in the methods/assumptions, important to recalculate the complete time-series to not affect emission trends</li> </ul>
<p><b>Uncertainty assessment</b></p>	<ul style="list-style-type: none"> <li>• <i>Encouraged to provide information on the level of uncertainty, and to describe the methodologies used, if any, for estimating these uncertainties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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. <b>(Qualitative analysis where quantitative data is unavailable if flexibility is needed)</b></li> </ul>
<p><b>Insignificant categories</b></p>	<ul style="list-style-type: none"> <li>• <i>Encouraged to apply the IPCC Good Practice Guidance</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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 CO<sub>2</sub> 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. <b>(If flexibility is needed all numbers x2)</b></li> </ul>
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# National Inventory Report (NIR)

Detail	NIR (part of BUR)	NIR (part of BTR or stand alone)
<p><b>Information to be reported: methods and cross-cutting elements</b>  <b>MPG: 39, 40, 41, 42, 44, 46</b></p> <p style="text-align: right;"><b>a</b></p>		
<p><b>Information on methods</b></p>		<ul style="list-style-type: none"> <li>• Report on methods used, including rationale for selection of these methods</li> <li>• Information on EF and AD used at the most disaggregated level, to the extent possible</li> </ul>
<p><b>Lack of completeness</b></p>		<ul style="list-style-type: none"> <li>• If some IPCC sources/sinks are not considered, the Party should clearly indicate the main explain reasons for exclusion</li> <li>• Notation Keys must be used where numerical data are not available</li> <li>• Once emissions have been estimated for a category, these must be reported in subsequent submissions if they continue to occur</li> <li>• Report information on reasons for a lack of completeness, including information on any methodological or data gaps</li> </ul>
<p><b>QA/QC</b></p>		<ul style="list-style-type: none"> <li>• Report QA/QC procedures already implemented or to be implemented in the future</li> </ul>

# Common Reporting Tables (CRT)

The CRT include 61 tables to fill:

- Summary report tables
- Sectoral report tables
- Sectoral background data tables
- Cross-cutting tables
- Other tables

<a href="#">Abbreviations and acronyms</a>
<a href="#">Table1</a>
<a href="#">Table1.A(a)s1</a>
<a href="#">Table1.A(a)s2</a>
<a href="#">Table1.A(a)s3</a>
<a href="#">Table1.A(a)s4</a>
<a href="#">Table1.A(b)</a>
<a href="#">Table1.A(c)</a>
<a href="#">Table1.A(d)</a>
<a href="#">Table1.B.1</a>
<a href="#">Table1.B.2</a>
<a href="#">Table1.C</a>
<a href="#">Table1.D</a>
<a href="#">Table2(I)</a>
<a href="#">Table2(I).A-H</a>
<a href="#">Table2(II)</a>
<a href="#">Table2(II)B-Hs1</a>
<a href="#">Table2(II)B-Hs2</a>

<a href="#">Table3</a>
<a href="#">Table3.A</a>
<a href="#">Table3.B(a)</a>
<a href="#">Table3.B(b)</a>
<a href="#">Table3.C</a>
<a href="#">Table3.D</a>
<a href="#">Table3.E</a>
<a href="#">Table3.F</a>
<a href="#">Table3.G-J</a>
<a href="#">Table4</a>
<a href="#">Table4.1</a>
<a href="#">Table4.A</a>
<a href="#">Table4.B</a>
<a href="#">Table4.C</a>
<a href="#">Table4.D</a>
<a href="#">Table4.E</a>
<a href="#">Table4.F</a>
<a href="#">Table4(I)</a>
<a href="#">Table4(II)</a>
<a href="#">Table4(III)</a>
<a href="#">Table4(IV)</a>
<a href="#">Table4.Gs1</a>
<a href="#">Table4.Gs2</a>
<a href="#">Table5</a>
<a href="#">Table5.A</a>
<a href="#">Table5.B</a>
<a href="#">Table5.C</a>
<a href="#">Table5.D</a>

<a href="#">Summary1</a>
<a href="#">Summary2</a>
<a href="#">Summary3</a>
<a href="#">Table6</a>
<a href="#">Table7</a>
<a href="#">Table8s1</a>
<a href="#">Table8s2</a>
<a href="#">Table9</a>
<a href="#">Table10s1</a>
<a href="#">Table10s2</a>
<a href="#">Table10s3</a>
<a href="#">Table10s4</a>
<a href="#">Table10s5</a>
<a href="#">Table10s6</a>
<a href="#">Flex_Summary</a>

<https://unfccc.int/documents/311076>

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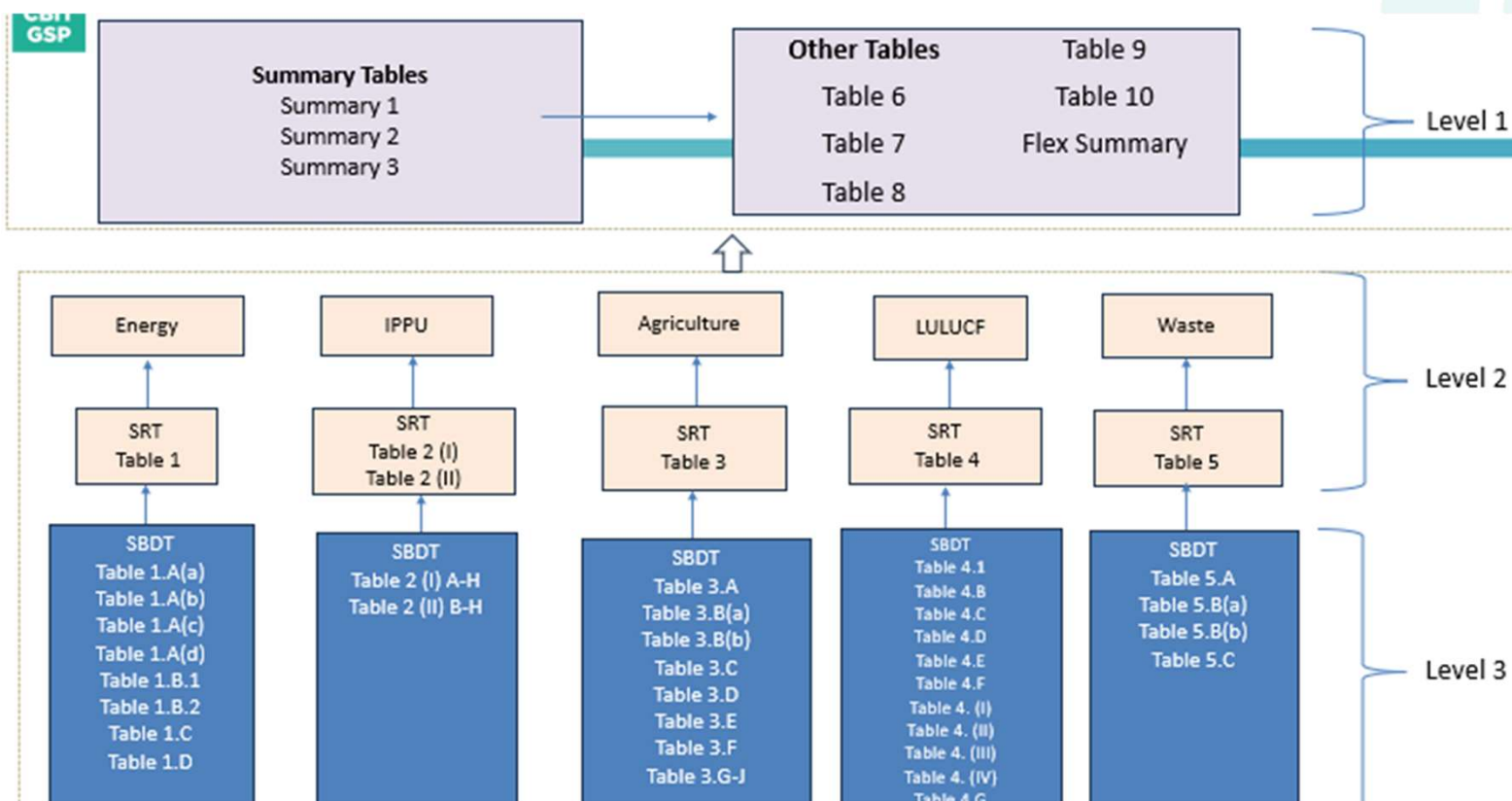
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# Structure of CRT



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# Flexibility in the presentation of GHG inventories

Flexibility for developing countries:

- Self-determined
- Need for flexibility shall be specifically explained
- Plans and time frames for how to meet the full requirements shall be drawn up
- Aiming for a continuous enhancement of the quality over time

The GHG Inventory is the area of the MPGs with more flexibility provisions:

Topics with flexibility:

- Key category analysis (para.25)
- Uncertainty assessment (para.29)
- Use of the notation key “NE” for insignificant categories (para.32)
- QA/QC (para.34 and 35)
- Gases (para.48)
- Time-series (para.57)
- Reporting year (para.58)

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# Flexibility in the presentation of GHG inventories

Reference in the MPGs (annex to Decision 18/CMA.1)	Provision in the MPGs	Flexibility provision for those developing country parties that need it in the light of their capacities
<b>Key Category analysis</b> (Paragraph 25)	Parties shall implement the key category analysis consistent with the IPCC guidelines (i.e. apply the 95 per cent threshold defined in the IPCC guidelines).	Identify key categories using a threshold no lower than 85 per cent in place of the 95 per cent threshold defined in the IPCC guidelines.
<b>Uncertainty assessment</b> (Paragraph 29)	Parties shall quantitatively estimate and qualitatively discuss the uncertainty of the emission and removal estimates for all categories, including inventory totals, for at least the starting year and the latest reporting year of the inventory time series, and shall also estimate the trend uncertainty for these same categories/inventory totals for the entire time series.	Provide, at a minimum, a qualitative discussion of uncertainty for key categories, using the IPCC guidelines where quantitative input data are unavailable to quantitatively estimate uncertainties. Parties are also encouraged to provide a quantitative estimate of uncertainty for all source and sink categories of the GHG inventory
Source: Technical Handbook for developing country Parties on preparing for implementation of the ETF		

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# Flexibility in the presentation of GHG inventories

Reference in the MPGs (annex to Decision 18/CMA.1)	Provision in the MPGs	Flexibility provision for those developing country parties that need it in the light of their capacities
<b>Use of the notation key “NE” (not estimated)</b> (Paragraph 32)	A category should only be considered insignificant if the likely level of emissions is below 0.05 per cent of the national total GHG emissions, excluding LULUCF, or 500 kt CO <sub>2</sub> eq, whichever is lower. The total national aggregate of estimated emissions for all gases from categories considered insignificant shall remain below 0.1 per cent of the national total GHG emissions, excluding LULUCF.	Consider emissions to be insignificant if the likely level of emissions is below 0.1 per cent of the national total GHG emissions, excluding LULUCF, or 1,000 kt CO <sub>2</sub> 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 per cent of the national total GHG emissions, excluding LULUCF.
<b>QA/QC I</b> (Paragraph 34)	Parties shall elaborate an inventory QA/QC plan in accordance with the IPCC guidelines, including information on the inventory agency responsible for implementing QA/QC.	Encouraged to elaborate an inventory QA/QC plan in accordance with the IPCC guidelines, including information on the inventory agency responsible for implementing QA/QC.
<b>QA/QC II</b> (Paragraph 35)	Parties shall implement and provide information on general inventory QC procedures in accordance with the QA/QC plan and the IPCC guidelines.	Encouraged to implement and provide information on general inventory QC procedures in accordance with the QA/QC plan and the IPCC guidelines.

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# Flexibility in the presentation of GHG inventories

Reference in the MPGs (annex to Decision 18/CMA.1)	Provision in the MPGs	Flexibility provision for those developing country parties that need it in the light of their capacities
<b>Gases</b> (Paragraph 48)	Parties shall report on seven gases: CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub> .	Report at least three gases (CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O) as well as any of the additional four gases (HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub> ) that are included in the Party's NDC under Article 4 of the Paris Agreement, are covered by an activity under Article 6 of the Paris Agreement or have been previously reported.
<b>Time series</b> (Paragraph 57)	Parties shall report a consistent annual time series starting from 1990.	Parties may report data covering, at a minimum, the reference year/period for their NDC under Article 4 of the Paris Agreement and, in addition, a consistent annual time series from at least 2020 onward.
<b>Reporting year</b> (Paragraph 58)	The latest reporting year shall be no more than two years prior to the submission of the national inventory report.	The latest reporting year shall be no more than three years prior to the submission of the national inventory report.

Source: Technical Handbook for developing country Parties on preparing for implementation of the ETF

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# Flexibility in the presentation of GHG inventories

## Cross-Cutting table on Flexibility

Summary table on flexibility provisions

This table is used on a voluntary basis.

MPG flexibility provision	Year	Sector	Category	Gas	Description of the application of flexibility	Clarification of capacity constraint	Time frame for improvement	Progress made in addressing areas of improvement

Source: Technical Handbook for developing country Parties on preparing for implementation of the ETF

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