



Revised additional tool under item 5 of the agenda: Section B

Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement

Informal document by the co-facilitators

First iteration

1. This note captures the progress of Parties' work under agenda item 5, "Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement" at the sixth part of the first session of the Ad Hoc Working Group on the Paris Agreement. The note was prepared, under the responsibility and guidance of the APA Co-Chairs, by the co-facilitators of the negotiations on this item, Mr. Xiang Gao (China) and Mr. Andrew Rakestraw (United States of America).
2. The content of the note is without prejudice to the further negotiations by Parties on these matters. It is understood that Parties may express their views thereon at any time, including through submissions to be considered in the further deliberations under this agenda item.

B. National inventory report on anthropogenic emissions by sources and removals by sinks of greenhouse gases

[

[Option 1: All Parties continue with current UNFCCC monitoring, reporting and verification (MRV) requirements to fulfill Article 13 obligations.]

[Option 2: All Parties continue with current UNFCCC MRV requirements as a starting point, and move to option 4 below at a later point in time.]

[Option 3: Those provisions in option 4 below that apply to “developed country Parties” and “developing country Parties” should be placed under separate headings within separate documents. Further, certain provisions in option 4 that apply to each Party will be placed under both sections.]

[Option 4:

B.1. Objectives and principles

[Option 1.1: Objectives and principles to be covered in an overarching section of the MPGs.]

[Option 1.2:

[Objectives]

[Option 1.2.1.1: No objectives section necessary in the MPGs.]

[Option 1.2.1.2: **[Article 13.5]**

1. The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties’ individual nationally determined contributions under Article 4, and Parties’ adaptation actions under Article 7, including good practices, priorities, needs and gaps, to inform the global stocktake under Article 14.]

[Option 1.2.1.3:

1. The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties’ individual nationally determined contributions under Article 4, and Parties’ adaptation actions under Article 7, including good practices, priorities, needs and gaps, to inform the global stocktake under Article 14.
2. The objectives of these MPGs for preparing a national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gas emissions are to:
 - a. Assist Parties in meeting their commitments under Article 13.7(a) and applicable paragraphs of decision 1/CP.21;
 - b. [For developed country Parties] Provide a clear understanding of GHG emission levels and trends, underlying data, methodologies and good practices applied [and information on climate change actions, including mitigation and adaptation and social and economic consequences of these actions];
 - c. Assist Parties in ensuring and improving the quality, coverage and transparency of their national inventory report over time[, contingent on the availability of support for developing country parties,] and mindful of domestic constraints, national circumstances, and other issues;
 - d. Promote national inventory reports that are transparent, accurate, complete, consistent and comparable;
 - e. Facilitate technical expert review and facilitative, multilateral consideration of progress, consistent with Article 13, paragraphs 11 and 12 of the Paris Agreement;
 - f. [Assist Parties in tracking progress made in implementing and achieving Parties’ individual NDCs under Article. 4 of the Paris Agreement;]
 - g. Serve as input to the global stocktake under Article 14 of the Paris Agreement to facilitate the assessment of collective progress towards achieving the purpose and long-term goal of the Paris Agreement;

h. [Facilitate the identification and prioritization of domestic mitigation measures.]

[Principles]

[Option 1.2.2.1: No principles section is necessary in the MPGs.]

[Option 1.2.2.2:

3. The principles guiding these MPGs for preparing a national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gas emissions are to:
 - a. Provide flexibility to those developing country Parties that need it in the light of their capacities;
 - b. Avoid duplication of reporting as well as undue burden on Parties and the secretariat;
 - c. Ensure environmental integrity and avoidance of double counting.]

B.2. Definitions

[Option 2.1: No definitions section is necessary in the MPGs.]

[Option 2.2:

[Definitions as provided in the IPCC Guidelines]

1. **[Option 2.2.1:** Definitions of the terms used shall be as provided in the [IPCC Guidelines identified in B.4.a] and any supplementary guidance provided by IPCC for GHG inventories and agreed upon by the CMA.]

[Option 2.2.2: Definitions of the terms used shall be as provided in the [IPCC Guidelines identified in B.4.a] and any supplementary guidance provided by IPCC for GHG inventories and agreed upon by the CMA, except that developing country Parties may use definitions provided in older sets of IPCC guidelines.]

[Defining TACCC]

2. The principles of transparency, accuracy, completeness, consistency, and comparability shall be defined as follows:
 - a. Transparency: data sources, assumptions and methodologies used for an inventory should be clearly explained, in order to facilitate the replication and assessment of the inventory by users of the reported information;
 - b. Accuracy: emission and removal estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, as far as can be judged, and that uncertainties are reduced as far as practicable;
 - c. Completeness: coverage of all sources and sinks, as well as all gases, which occur in a country and for which methodologies are provided in [IPCC Guidelines identified in B.4.a] for the full geographic coverage of the country;
 - d. Consistency: inventory should be internally consistent in all its elements over a period of years. An inventory is consistent if the same methodologies are used for the base year and all subsequent years and if consistent data sets are used;
 - e. Comparability: estimates of emissions and removals reported by countries in inventories should be comparable among countries. Countries should use agreed methodologies and formats for estimating and reporting inventories.]

B.3. National circumstances and institutional arrangements (inventory planning, preparation and management)

[Option 3.1: One section on national circumstances and institutional arrangements that applies to the MPGs as a whole.]

[Option 3.2:

[Requirements for institutional arrangements]

[Option 3.2.1:

1. Each Party [shall][should] establish and maintain national inventory arrangements, including institutional, legal and procedural arrangements for the continued estimation, compilation and timely reporting of national GHG inventory reports in accordance with the reporting provisions defined in these modalities, procedures, and guidelines. National inventory arrangements for each Party can vary depending on national circumstances and preferences, and change over time.
2. Each Party [should] implement the following functions relating to inventory planning, preparation and management:

- a. Designate a single national entity/national focal point with overall responsibility for the national inventory;
- b. Plan, establish and maintain the inventory preparation process, including division of specific responsibilities of institutions participating in the inventory preparation to ensure that sufficient activity data collection, choice/development of methods, emission factors and other parameters are in accordance with the IPCC and reporting guidelines;
- c. Prepare emission and removal estimates and document them transparently, in accordance with the latest IPCC guidelines and reporting guidelines;
- d. Perform recalculations, in accordance with the IPCC and reporting guidelines, where needed;
- e. Perform uncertainty assessment and key category analysis and use them in identifying needs for inventory improvements and their prioritization;
- f. Elaborate an inventory QA/QC plan and implement QA/QC measures;
- g. Prepare national annual GHG inventories by compiling the NIR and common tabular format/CRF, and establish a process for the inventory consideration and approval/submission;
- h. [Archive all information for the reported time series, including all disaggregated emission factors and activity data, and all documentation about generating and aggregating data, including QA/QC. Archive review results and planned inventory improvements;]
- i. Provide technical expert review teams with timely access to all archived information used to prepare the inventory;
- j. Establish processes for the official consideration and approval of the inventory;
- k. Facilitate the conduct of the technical expert review process of the national inventory and participation in the FMCP;
- l. Prepare improvement plans to respond to recommendations from the technical expert review process and strengthen the institutional arrangements.

[Option 3.2.2:

1. Developed country Parties [shall] follow the requirements related to national inventory arrangements established in decision 24/CP.19. [Developing country Parties] [Those developing country Parties that need flexibility in the light of their capacities] [are encouraged to] follow the requirements related to national inventory arrangements established in decision 24/CP.19.]

[Reporting on institutional arrangements]

3. Each Party [shall] provide [summary] information on national inventory arrangements, including those for collecting and archiving data and for mitigation actions that inform the GHG inventory, in the first national inventory report under the Paris Agreement, and report any changes to those national inventory arrangements in subsequent reports, as well as efforts to make this a continuous process, including information on the role of the institutions involved.

B.4. Methods:

a. Methodologies, parameters and data

[Use of IPCC guidelines]

1. **[Option 4.1.1.1:** Each Party [shall][should] use the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and any supplementary/further methodological guidance from the IPCC, including the 2013 supplements and any additional refinements, as agreed upon by the CMA]

[Option 4.1.1.2: Each Party [shall][should] use the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and any supplementary/further methodological guidance from the IPCC, including the 2013 supplements, as agreed upon by the CMA, except those developing country Parties that need flexibility in the light of their capacities that [may] use the older sets of IPCC guidelines (e.g. Revised 1996 IPCC Guidelines in conjunction with IPCC GPG, IPCC LULUCF GPG), [recognizing the important role of capacity-building initiatives such as CBIT and the CGE in developing country Parties in transitioning to the use of the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA]]. Those developing country Parties that need flexibility in the light of their capacities [are encouraged] to apply the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] to the extent possible to improve their GHG inventories

over time, in accordance with national capacities [and [shall] provide information on the barriers and constraints in fully using the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and a timeline for the future application in the improvement plan].]

[Option 4.1.1.3: Developed country Parties [shall][may] use the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and any supplementary/further methodological guidance from the IPCC, including the 2013 supplements, as agreed upon by the CMA. Developing country Parties [are [strongly] encouraged] to use the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and any supplementary/further methodological guidance from the IPCC, including the 2013 supplements, as agreed upon by the CMA[, taking into account capacity-building needs]. [If a developing country Party is not using the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA], it [shall] [may] provide information on the barriers and constraints in fully using the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and include a timeline for the future application in the improvement plan].]

[Methodological choice]

2. **[Option 4.1.2.1:** Each Party [shall] use methods (tiers) contained in the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and [may] use national methodologies which could reflect better the national situation, and produce the most accurate estimates.]

[Option 4.1.2.2: Each Party [shall] use methods (tiers) contained in the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and [may] use national methodologies which could reflect better the national situation, and produce the most accurate estimates, except those developing country Parties that need flexibility in the light of their capacities that [may] apply a lower tier approach (methodological tier in the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA]) for key categories, if justified due to limitations of time and data availability. [In those cases, where national circumstances prohibit use of a recommended method, those developing country Parties that need flexibility in the light of their capacities [shall][should][provide explanations][clearly document] in the national inventory report, and identify the gap as part of reporting on constraints and inventory improvement planning[, as a priority for future improvements].]

[Option 4.1.2.3: Developed country Parties [shall] use methods (tiers) contained in the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and [may] use national methodologies which could reflect better the national situation, and produce the most accurate estimates. Developing country Parties [are encouraged] to use methods (tiers) contained in the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] and [may] use national methodologies which could reflect better the national situation, and produce the most accurate estimates. [In those cases, where national circumstances prohibit use of a recommended method, developing country Parties [may use the Revised 1996 IPCC Guidelines] [may][shall] provide explanations in the national inventory report, and identify the gap as part of reporting on constraints and inventory improvement planning.]]

3. **[Option 4.1.3.1:** Each Party [shall] use a recommended method (tier level) for key categories in accordance with the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA], including for refining estimates in the LULUCF sector, [and follow IPCC good practice guidance and other good practice guidance relevant to key categories].]

[Option 4.1.3.2: Developed country Parties [should] apply higher tier methods for key categories and for refining estimates in LULUCF sector.]

4. Each Party [may] use default emission factors and activity data in the absence of more robust methods and/or data, but is encouraged to use country-specific and regional emission factors and activity data, where available, [or, propose plans to develop them [in a scientifically sound and transparent manner] consistent with the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA]].
5. Each Party [shall][should] use alternative methods from the [2006 IPCC Guidelines][the most recent IPCC Guidelines agreed upon by CMA] to estimate the missing values, due to lack of activity data, emissions factors or other parameters, in order to ensure consistent time series.

b. Key category analysis

1. **[Option 4.2.1.1:** Each Party [shall][should] identify key categories, using key category analysis consistent with [IPCC Guidelines identified in B.4.a] with and without Land Use, Land Use Change and Forestry (LULUCF) categories.]

[Option 4.2.1.2: Each Party [shall][should] identify key categories, using key category analysis consistent with the [IPCC Guidelines identified in B.4.a] with and without Land Use, Land Use Change and Forestry (LULUCF) categories. Those

developing country Parties that need flexibility in the light of their capacities [may] use a [XX%] threshold for key category assessment, allowing a focus on improving a fewer categories and prioritizing resources.]

[Option 4.2.1.3: Developed country Parties [shall][should] identify key categories, using key category analysis consistent with the [IPCC Guidelines identified in B.4.a] with and without Land Use, Land Use Change and Forestry (LULUCF) categories. Developing country Parties [shall][should][may] undertake a key category analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances, and [are encouraged] to identify key categories, using key category analysis consistent with the [IPCC Guidelines identified in B.4.a] with and without Land Use, Land Use Change and Forestry (LULUCF) categories.]

2. **[Option 4.2.2.1:** Each Party [shall][should] identify key categories using approach 1, both level and trend assessments, including and excluding LULUCF, in accordance with the [IPCC Guidelines identified in B.4.a] and is encouraged to use approach 2.]

[Option 4.2.2.2: Developed country Parties [shall] identify key categories using approach 1, both level and trend assessments, including and excluding LULUCF, in accordance with the [IPCC Guidelines identified in B.4.a] and are encouraged to use approach 2. Developing country Parties [are encouraged] to identify key categories using approach 1, both level and trend assessments, including and excluding LULUCF, in accordance with the [IPCC Guidelines identified in B.4.a].]

[Option 4.2.2.3: Developed country Parties [should] identify key categories using approach 2, both level and trend assessments, including and excluding LULUCF, in accordance with the [IPCC Guidelines identified in B.4.a] and add additional key categories to the result of approach 1. Developing country Parties [are encouraged] to identify key categories using approach 2 both level and trend assessments, including and excluding LULUCF, in accordance with the [IPCC Guidelines identified in B.4.a] and add additional key categories to the result of approach 1.]

c. Time series consistency and recalculations

1. When performing recalculations, each Party [shall][should] use the same methods and a consistent approach to underlying activity data and emissions factors for each year reported.
2. **[Option 4.3.1.1:** Each Party [shall][should] perform recalculations in accordance with the [IPCC Guidelines identified in B.4.a], ensuring that changes in emission trends are not introduced as a result of changes in methods or assumptions across the time series.]

[Option 4.3.1.2: Developed country Parties [shall] perform recalculations in accordance with the [IPCC Guidelines identified in B.4.a], ensuring that changes in emission trends are not introduced as a result of changes in methods or assumptions across the time series. [Developing country Parties [are encouraged to] perform recalculations in accordance with the [IPCC Guidelines identified in B.4.a], ensuring that changes in emission trends are not introduced as a result of changes in methods or assumptions across the time series.]]

3. **[Option 4.3.2.1:** Each Party [shall] perform recalculations in a transparent manner, including when new information is introduced, to ensure consistency of time series and improve accuracy and/or completeness.]

[Option 4.3.2.2: Each Party [shall] perform recalculations in a transparent manner, including when new information [on methods, AD and EFs] is introduced, to ensure consistency of time series and improve accuracy and/or completeness, except those developing country Parties that need flexibility in the light of their capacities that [shall] perform recalculations for the base year or reference years of the NDC and the latest reported year due to capacity constraints and/or data availability [and [shall] provide explanations for which categories the IPCC guidance on recalculation of time series could not be implemented and with respect to recalculating estimates for years that are earlier than relevant base years for NDCs].]

d. Uncertainty assessment

1. **[Option 4.4.1.1:** Each Party [shall] quantitatively estimate the uncertainty for all relevant source and sink categories, GHGs, inventory totals and their trends, using the [IPCC Guidelines identified in B.4.a][for at least the base year and the latest inventory year].]

[Option 4.4.1.2: Each Party [shall] quantitatively estimate the uncertainty for all relevant source and sink categories, GHGs, inventory totals and their trends, using [IPCC Guidelines identified in B.4.a], except [those developing country Parties that need flexibility in the light of their capacities][developing country Parties] that [shall] provide a qualitative discussion of uncertainty for key categories and [are encouraged] to quantitatively estimate the uncertainty for all relevant source and sink categories, GHGs, inventory totals and their trends, using the [IPCC Guidelines identified in B.4.a].]

[Option 4.4.1.3: Developed country Parties [shall] quantitatively estimate the uncertainty for all relevant source and sink categories, GHGs, inventory totals and their trends, using the [IPCC Guidelines identified in B.4.a][for at least the base year and the latest inventory year]. [Developing country Parties [are encouraged] to quantitatively estimate the uncertainty for all relevant source and sink categories, GHGs, inventory totals and their trends, using the [IPCC Guidelines identified in B.4.a][for at least the base year and the latest inventory year].] [Developing country Parties [shall] provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and describe the methodologies used, if any, for estimating these uncertainties.]

2. **[Option 4.4.2.1:** Each Party [shall] elaborate/explain errors due to sampling methods, data entry, calculation, data formulation.]

[Option 4.4.2.2: Developed country Parties [shall] elaborate/explain errors due to sampling methods, data entry, calculation, data formulation Developing country Parties [are encouraged] to elaborate/explain errors due to sampling methods, data entry, calculation, data formulation.]

e. Assessment of completeness

1. **[Option 4.5.1.1:** Each Party [shall] indicate the parts of their geographical area covered and provide an explanation for any exclusion and clearly indicate the sources and sinks (categories, pools and gases), which are not considered in the inventories but for which estimation methods are included in the [IPCC Guidelines identified in B.4.a] and explain the reasons for such exclusion.]

[Option 4.5.1.2: Developed country Parties [shall] indicate the parts of their geographical area covered and provide an explanation for any exclusion and clearly indicate the sources and sinks (categories, pools and gases), which are not considered in the inventories but for which estimation methods are included in the [IPCC Guidelines identified in B.4.a] and explain the reasons for such exclusion. Developing country Parties [shall] strive to present information which is as complete as possible and [are encouraged] to indicate the parts of their geographical area covered and provide an explanation for any exclusion and clearly indicate the sources and sinks (categories, pools and gases), which are not considered in the inventories but for which estimation methods are included in the [IPCC Guidelines identified in B.4.a] and explain the reasons for such exclusion.]

2. Each Party [shall] use notation keys [referred to below] for cells where numerical data are not available [, when completing common reporting tables indicating the reasons for data for specific sectors, categories, and subcategories or gases not being available]:

- a. “NO” (not occurring) for categories or processes, including recovery, under a particular source or sink category that do not occur within a Party;
- b. “NE” (not estimated) for AD and/or emissions by sources and removals by sinks of GHGs which have not been estimated but for which a corresponding activity may occur within a Party;
- c. “NA” (not applicable) for activities under a given source/sink category that do occur within the Party but do not result in emissions or removals of a specific gas;
- d. “IE” (included elsewhere) for emissions by sources and removals by sinks of GHGs estimated but included elsewhere in the inventory instead of under the expected source/sink category;
- e. “C” (confidential) for emissions by sources and removals by sinks of GHGs of which the reporting could lead to the disclosure of confidential information.]

3. **[Option 4.5.2.1:** Each Party [may] use the notation key “NE” (not estimated) when [data is unavailable or] the estimates would be insignificant in terms of level and trend according to the defined thresholds [see Annex II (if needed)] and where a disproportionate amount of effort would be required to collect data for a gas from a specific activity.]

[Option 4.5.2.2: Each Party [should] be allowed to use the notation key “NE” (not estimated) when the estimates would be insignificant in terms of level and trend according to the defined thresholds [see Annex II (if needed)] and where a disproportionate amount of effort would be required to collect data for a gas from a specific activity. Those developing country Parties that need flexibility in the light of their capacities [may] use a [XX%] of national total GHG emissions excluding LULUCF as threshold for defining insignificant categories.]

4. **[Option 4.5.3.1:** Each Party [shall] report in subsequent submissions, emissions and removals estimated once for a category, if they continue to occur.]

[Option 4.5.3.2: Developed country Parties [shall] report in subsequent submissions, emissions and removals estimated once for a category, if they continue to occur. Developing country Parties [are encouraged] to report in subsequent submissions, emissions and removals estimated once for a category, if they continue to occur.]

f. Quality assurance/quality control

1. **[Option 4.6.1.1:** Each Party [shall] elaborate an inventory quality assurance/quality control (QA/QC) plan [in accordance with the [IPCC Guidelines identified in B.4.a]]; including information on the inventory agency responsible for conducting QA/QC.]

[Option 4.6.1.2: Developed country Parties [shall] elaborate an inventory quality assurance/quality control (QA/QC) plan [in accordance with the [IPCC Guidelines identified in B.4.a]]; including information on the inventory agency responsible for conducting QA/QC. [[Developing country Parties][Those developing country Parties that need flexibility in the light of their capacities] [are encouraged to] elaborate an inventory quality assurance/quality control (QA/QC) plan [in accordance with the [IPCC Guidelines identified in B.4.a]]; including information on the inventory agency responsible for conducting QA/QC.]]

2. **[Option 4.6.2.1:** Each Party [shall] implement and give information on general inventory QC procedures and QA procedures (e.g. basic peer review) in accordance with its QA/QC plan and the [IPCC Guidelines identified in B.4.a].]

[Option 4.6.2.2: Developed country Parties [shall] implement and give information on general inventory QC procedures and QA procedures (e.g. basic peer review) in accordance with its QA/QC plan and the [IPCC Guidelines identified in B.4.a]. Developing country Parties [are encouraged] to implement and give information on general inventory QA/QC procedures in accordance with its QA/QC plan and the [IPCC Guidelines identified in B.4.a].]

3. **[Option 4.6.3.1:** Each Party [shall][should] compare the national estimates of CO₂ emissions from fuel combustion with those estimates obtained using the reference approach, as contained in the [IPCC Guidelines identified in B.4.a], and report the results of this comparison in the NIR.]

[Option 4.6.3.2: Developed country Parties [shall][should] compare the national estimates of CO₂ emissions from fuel combustion with those estimates obtained using the reference approach, as contained in the [IPCC Guidelines identified in B.4.a], and report the results of this comparison in the NIR. Developing country Parties [are encouraged] to compare the national estimates of CO₂ emissions from fuel combustion with those estimates obtained using the reference approach, as contained in the [IPCC Guidelines identified in B.4.a].]

B.5. Metrics

1. **[Option 5.1.1:** Placeholder for outputs of APA agenda item 3(c) on further guidance in relation to the mitigation section of decision 1/CP.21 on accounting for Parties' nationally determined contributions, as specified in paragraph 31, of the Paris Agreement to be incorporated into the MPGs. See < <http://unfccc.int/10128.php>>.]

2. **[Option 5.2.1:** Each Party [shall] use common metrics as agreed by CMA to report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq).]

[Option 5.2.2: Each Party [shall] use the 100-year time horizon global warming potential (GWP) values from the IPCC [fourth][fifth] assessment report to report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq). Each Party [may] use other metrics to report aggregate emissions and removals of GHGs.]]

[Option 5.2.3: Developed country Parties [shall] use the 100-year time horizon global warming potential (GWP) values from the IPCC [forth][fifth] assessment report to report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq). Developing country Parties [shall] use the 100-year GWPs values from the IPCC second assessment report and [are encouraged to] use the 100-year time horizon global warming potential (GWP) values from the IPCC [forth][fifth] assessment report to report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq).]

3. **[Option 5.3.1:** Each Party [shall] report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq).]

[Option 5.3.2: Each Party [shall] report all estimates of emissions and removals in the mass of each GHG.]

4. Each Party [shall] report, as appropriate, supplemental information on aggregated GHG emissions and removals, if other metrics applicable to national circumstances are used.

5. Each Party [shall] provide in the NIR information on the values of the metrics used and, in the case of GWP or GTP being used, the IPCC assessment report they were sourced from.

B.6. Reporting guidance

a. Information on methods and cross-cutting elements

[Reporting on methods]

1. **[Option 6.1.1:** Each Party [shall] report all methods, including their choice and rationale in the context of IPCC good practice, sources of emission factors and activity data used to compile the GHG inventory including descriptions, assumptions, references and sources of information used.]

[Option 6.1.2: Developed country Parties [shall] report all methods, including their choice and rationale in the context of IPCC good practice, sources of emission factors and activity data used to compile the GHG inventory including descriptions, assumptions, references and sources of information used. [Developing country Parties [are encouraged to] report all methods, including their choice and rationale in the context of IPCC good practice, sources of emission factors and activity data used to compile the GHG inventory including descriptions, assumptions, references and sources of information used.]]

2. Each Party, when preparing estimates using higher tier methods and models, [shall] provide transparent information on the methods, data and assumptions in line with IPCC good practice.
3. [Each Party][Developed country Parties] [shall][should] provide information on the category and gas, and the methodologies, emissions factors and activity data used [at the most disaggregated level], including related data references for reported emission and removal estimates for any country-specific category and gas that is not included in the [IPCC Guidelines identified in B.4.a]]
4. Each Party [shall] describe the national key categories, including information on the approach used for their identification, and information on the level of disaggregation used.
5. [Each Party][Developed country Parties] [shall] report the individual and cumulative percentage contributions from key categories, for both level and trend, consistent with the [IPCC Guidelines identified in B.4.a].
6. [Each Party][Developed country Parties] [shall] report the QA/QC plan and information on QA/QC procedures already implemented or to be implemented in the future.
7. [Each Party][Developed country Parties] [shall] report the results of uncertainty analysis as well as methods used and underlying assumptions; at least for base year and the latest inventory year.
8. [Each Party][Developed country Parties] [shall] report recalculations for the base year and all subsequent years of the time series, together with explanatory information and justifications for recalculations with an indication of relevant changes and their impact on the emissions trends.
9. [Each Party][Developed country Parties] [shall] report information on the reasons for lack of completeness, including explanations on any methodological or data gaps.
10. [Developing country Parties][Those developing country Parties that need flexibility in the light of their capacities] [may] simplify the reporting format in accordance with their national circumstances.
11. Each Party [shall] report on methodological consistency between the GHG inventory and the communication and implementation of NDCs.

b. Sectors and gases

[General]

1. [Each Party][Developed country Parties] [shall] report emissions and removals on a gas-by-gas basis in units of mass, with emissions by sources listed separately from removals by sinks, except in cases where it may be technically impossible to separate information on emissions and removals in the land sector.
2. [Each Party][Developed country Parties] [shall] report emissions and removals at the most disaggregated level of each source/sink category, providing that a minimum level of aggregation is needed to protect confidential business and military information.
3. **[Option 6.2.1:** Each Party [shall] report estimates of emissions and removals for all IPCC categories, gases and carbon pools considered in the GHG inventory throughout the reported period including a descriptive summary and figures underlying emission trends.]

[Option 6.2.2: Developed country Parties [shall] report estimates of emissions and removals for all IPCC categories, gases and carbon pools considered in the GHG inventory throughout the reported period including a descriptive summary and

figures underlying emission trends. Developing country Parties [are encouraged to] report such information and [shall][as applicable, and to the extent possible] report at the minimum the summary of GHG emissions and removals, including the information expressed in CO₂ eq. in emission trend tables provided in the [common tabular format][CRF]. Developing country Parties [may] exclude, if necessary, emission sources/removals categories and/or gases/pools if the necessary information to estimate the emissions/removals is not available according to national circumstances.]

4. Each Party [shall] include all categories of anthropogenic emissions or removals in the NDC and, once a source, sink or activity is included, continue to include it.

[Gases]

5. **[Option 6.3.1:** Each Party [shall] report all 7 gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃).]

[Option 6.3.2: Each Party [shall] report 7 gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃), except those developing country Parties that need flexibility in the light of their capacities that [shall] report at least 3 gases (CO₂, CH₄ and N₂O) and [are encouraged to] report [7 gases][PFCs, HFCs, SF₆ and NF₃ subject to certain conditions (e.g. previously reported; included in NDCs; covered by an Article 6 activity; or significant contributor in national emissions).]

[Option 6.3.3: Developed country Parties [shall] report all 7 gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃). Developing country Parties [[should] report at least 3 gases (CO₂, CH₄, and N₂O)][as appropriate, and to the extent possible][are encouraged to] report PFCs, HFCs, SF₆ and NF₃ subject to certain conditions (e.g. previously reported; included in NDCs; covered by an Article 6 activity; or significant contributor in national emissions))[[may] report gases according to national circumstances].]

6. If reporting HFCs, PFCs, SF₆ and NF₃, [each Party][developed country Parties] [shall] report actual emissions of these gases, providing disaggregated data by chemical (e.g. HFC-134a) and category in units of mass and in CO₂ eq.

[Sectors]

7. Each Party [shall] report the following sectors: Energy, Industrial Processes and Product Use, Agriculture, Land use, land-use change and forestry, and Waste, according to the [IPCC Guidelines identified in B.4.a].

[Precursor gases]

8. Each Party [should] provide information on the following precursor gases: carbon monoxide (CO), nitrogen oxides (NO_x) and non-methane volatile organic compounds (NMVOCs), as well as sulphur oxides (SO_x). [Developing country Parties are encouraged to provide estimates for precursor gases, if data is available.]

[Indirect emissions]

9. **[Option 6.4.1:** Each Party [should][may] report indirect CO₂ from the atmospheric oxidation of CH₄, carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs). For Parties that decide to report indirect CO₂, the national totals are presented with and without indirect CO₂. [Developing country Parties are encouraged to provide estimates for indirect emissions, if data is available.]]

[Option 6.4.2: Each Party [should][may] report indirect CO₂ from the atmospheric oxidation of CH₄. For Parties that decide to report indirect CO₂, the national totals are presented with and without indirect CO₂. [Developing country Parties are encouraged to provide estimates for indirect emissions, if data is available.]]

10. Each Party [should] report indirect N₂O emissions from other than the agriculture and LULUCF sources as a memo item. These estimates of indirect N₂O shall not be included in national totals. Parties may provide information on other substances that have an impact on climate.

[Bunker fuel emissions]

11. Each Party [shall] report international aviation and marine bunker fuel emissions as two separate entries and not include in national totals but reported distinctly, if disaggregated data are available, making every effort to both apply and report according to the method contained in the [IPCC Guidelines identified in B.4.a] for separating domestic and international emissions. [Developing country Parties should, to the extent possible, provide estimates for aviation and marine bunker fuel emissions, if data is available.]

[Feedstocks]

12. [Each Party][Developed country Parties] [shall] clearly indicate how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or industrial processes sector, in accordance with the [IPCC Guidelines identified in B.4.a]. [Developing country Parties are encouraged to clearly indicate how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or industrial processes sector, in accordance with the [IPCC Guidelines identified in B.4.a].]

[Natural disturbances]

13. Each Party [shall] report information on approach taken, if any, to ensure identification of natural disturbances and corresponding emissions and removals, in accordance with [IPCC Guidelines identified in B.4.a], and [shall] indicate if these estimates are included in national totals. [Developing country Parties are encouraged to report information on approach taken, if any, to ensure identification of natural disturbances and corresponding emissions and removals, in accordance with [IPCC Guidelines identified in B.4.a], and [shall] indicate if these estimates are included in national totals.]

c. Time series

1. **[Option 6.5.1:** Each Party [shall] report a consistent time series from 1990 [or other base years] to X-2 (X= submission year).]

[Option 6.5.2: Each Party [shall] report a consistent time series from 1990 or other base years, [if reported in the past], to X-2 (X= submission year).]

[Option 6.5.3: Each Party [shall] report a consistent time series from 1990 or other base years, [if reported in the past], to X-2, except those developing country Parties that need flexibility in the light of their capacities that [shall] report a consistent time series from [1990][2020] or other base years, [if reported in the past], to X-4 [and provide an explanation and a timeline for moving to more recent data in the improvement plan] (X= submission year).]

[Option 6.5.4: Each Party [shall] report a consistent time series from 1990 or other base years, [if reported in the past] to X-2 except those developing country Parties that need flexibility in the light of their capacities that [shall] report a consistent time series from [a later year, but as far back as allowed by data availability (e.g. the latest year reported in the NC/BUR or base year in the NDC)][2010 at a minimum] to [X-4][X-3] in transition to X-2, depending on data availability (X= submission year).]

[Option 6.5.5: Each Party [shall] report in the NIR information covering the base year, the most recent 10 years and any previous years since the base year ending with 0 or 5. If the information required has not been reported in previous reports and/or is not available, each Party [shall] provide information of the years available, including the base year and NDC reference year.]

[Option 6.5.6: Developed country Parties [shall] report a consistent time series from 1990 or other base years to X-2 (X= submission year). Developing country Parties [are encouraged to] provide [a consistent time series back to the years reported in the previous national communications under the Convention [(1990 and 1994) to X-4][before 2020 and/or reported under the Paris Agreement, or use 2010 as the base year]][estimates for the inventory year (X-4) and for years included in previous NCs or BURs e.g. 1990, 2005, 2010.]

B.7. Constraints and capacity-building needs

[Option 7.1.1: A subheading on constraints and capacity-building needs is not necessary in this part of MPGs.]

[Option 7.1.2:

1. [Developing country Parties][Those developing country Parties that need flexibility in the light of their capacities] [shall][should] identify and provide transparent updated information related to the planning, preparation, management compilation and report of the inventory, including what would be needed to improve transparency, accuracy completeness, comparability and consistency of future reports, on constraints and gaps (both domestic and external) based on national circumstances and related financial, technical and capacity-building needs in the NIR or in the outcome of the process for the consideration of the support needed under Article 13, paragraph 10.
2. [Developing country Parties][Those developing country Parties that need flexibility in the light of their capacities] [shall][should] provide information on the expected improvements to the GHG inventory for which capacity-building is requested, prioritizing the proposed improvements.
3. Developing country Parties [shall][should] report in the [NIR][improvement plan] challenges experienced in using the [IPCC Guidelines identified in B.4.a].]

B.8. [Improvement plan][Future areas of improvement]

[Preparing an improvement plan]

1. **[Option 8.1.1:** Each Party [shall] prepare and periodically update an improvement plan that includes improvements related to: TACCC; methodologies; activity data collection; preparation of emission factors; key category analysis and uncertainty estimation; QA/QC plan and procedures; and inventory management and include timelines and funding needs.]

[Option 8.1.2: Each Party [shall] prepare and periodically update an improvement plan that includes improvements related to: TACCC; methodologies; activity data collection; preparation of emission factors; key category analysis and uncertainty estimation; QA/QC plan and procedures; and inventory management and include timelines and funding needs. [Developing country Parties][Those developing country Parties that need flexibility in the light of their capacities] [should][are encouraged to]prepare and periodically update an improvement plan that includes improvements related to: completeness; methodologies; activity data collection; preparation of emission factors; key category analysis; uncertainty estimation; QA/QC plan and procedures; inventory management, including timelines and funding needs.]

[Option 8.1.3: Developed country Parties [shall] report improvement plans related to the national inventory following the requirements established in decision 24/CP.19.]

2. Each Party [should] strive to reduce the extent of the improvement plans as reporting improves over time.

[Reporting on planned improvements]

3. Each Party [shall] report in the NIR [a summary of] the improvement plan. [Developing country Parties are encouraged to report in the NIR [a summary of] the improvement plan.]
4. Each Party [shall] report on implemented and planned inventory improvements based on the recommendations from the technical expert review. [Developing country Parties are encouraged to report on implemented and planned inventory improvements based on the recommendations from the technical expert review.]
5. Those developing country Parties that need flexibility in the light of their capacities [shall] [are encouraged to] explain the application of flexibility and identify planned activities to improve data quality and the TACCC of reporting, towards the full implementation of the MPGs over time. [Developing country Parties are encouraged to explain the application of flexibility and identify planned activities to improve data quality and the TACCC of reporting, towards the full implementation of the MPGs over time.]

B.9. Submission process, frequency, and reporting formats and tables

[Form of national inventory report submission]

1. **[Option 9.1.1:** Each Party [shall] submit a national inventory report, comprising:
 - a. An NIR in one of the official UN languages including an English translation, if possible, to facilitate TER. The NIR [shall] include detailed and complete information on inventories [and any additional information provided by the respective Party during TER];
 - b. Detailed information by sector, category and gas, in metric tonnes, and CO₂ equivalence in the [common tabular format][CRF] submitted through an electronic reporting system maintained by the secretariat [as part of the biennial transparency reports].]

[Option 9.1.2: Developed country Parties [shall] submit a national inventory report, comprising:

- a. An NIR in one of the official UN languages including an English translation, if possible, to facilitate TER. The NIR [shall] include detailed and complete information on inventories [and any additional information provided by the respective Party during TER];
- b. Detailed information by sector, category and gas, in metric tonnes, and CO₂ equivalence in the [common tabular format][CRF] submitted through an electronic reporting system maintained by the secretariat [as part of the biennial transparency reports].

Developing country Parties [shall] provide:

- a. An NIR in one of the official UN languages including an English translation, if possible, to facilitate TER. The NIR [shall] include detailed and complete information on inventories [and any additional information provided by the respective Party during TER];
- b. [Summary information tables for the years previously reported in the GHG inventories in their NCs][Tables 1 and 2 of 17/CP.8 in reporting its national GHG inventory][Inventory sectoral tables and worksheets of the IPCC].]

[Frequency]

- 2. **[Option 9.2.1:** Each Party [shall] submit the national inventory report annually.]

[Option 9.2.2: Each Party [shall] submit the national inventory report annually, [except those developing country Parties that need flexibility in the light of their capacities][developing country Parties] that [may] submit the national inventory report on a biennial basis and [are encouraged to] move to annual submission over time.]

[Option 9.2.3: Developed country Parties [shall] submit the national inventory report annually. Developing country Parties [shall] submit the national inventory report on a biennial basis [with no specific deadline for the submission within this timeframe, taking into account paragraph 90 of decision 1/CP.21 and Article 13 paragraphs 2, 14 and 15]. LDCs and SIDS [may] submit at their discretion.]

[NIR submission vehicle/format]

- 3. **[Option 9.3.1:** Each Party [shall] submit the national inventory report under the Paris Agreement in conjunction with the inventory under the Convention/Kyoto Protocol.]

[Option 9.3.2: Each Party [shall] submit the national inventory report as a stand-alone report [separated from][or as part of] the biennial transparency report, consistent with paragraph 7(a) of Article 13 of the Agreement.]

[Option 9.3.3: Each Party [shall] submit the national inventory report as part of a comprehensive report, in the years when other information requested by Article 13 of the Paris Agreement is reported.]

[Option 9.3.4: Developed country Parties [shall] submit the national inventory report under the Paris Agreement as a stand-alone report. Developing country Parties [may] submit the national inventory report under the Paris Agreement alongside the biennial transparency report under Article 13 and [are encouraged to] move to a stand-alone report over time.]

[Option 9.3.5: Developed country Parties [shall] submit the national inventory report under the Paris Agreement as a stand-alone report. Developing country Parties [shall] provide a summary or an update of the information contained in chapter III (national GHG inventories) of the annex to decision 17/CP.8 and include additional or supporting information, as well as sector-specific information, in a technical annex [, with flexibility on the level of detail].]

Annex I

An annotated outline for the NIR contents [based on the annotated outline of the NIR for developed country Parties in the annex to decision 24/CP.19]

Annex II

The thresholds for insignificance of categories

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