

Conclusions and recommendations from the 18th meeting of greenhouse gas inventory lead reviewers

I. Introduction

1. The 18th meeting of greenhouse gas (GHG) inventory lead reviewers (LRs) took place from 22 to 26 March 2021 as a virtual meeting owing to the circumstances related to the coronavirus disease 2019 (COVID-19). A total of 53 experts from Parties not included in Annex I to the Convention and 68 experts from Parties included in Annex I to the Convention were invited to the meeting. Of the 106 experts who registered for the meeting, 87 attended, of whom 33 were from Parties not included in Annex I to the Convention and 54 were from Parties included in Annex I to the Convention.

2. One member of the facilitative branch of the Compliance Committee, one representative of the International Energy Agency (IEA), two representatives of the Food and Agriculture Organization of the United Nations (FAO) and one representative of the European Environment Agency attended the meeting as observers. The LRs noted with appreciation the presentations made by the representative of IEA, on using IEA data to support GHG inventory reviews for the energy sector; and the representatives of FAO, on using FAO data platforms for the agriculture and land use to support GHG inventory reviews. The LRs highlighted the usefulness of these data sources for supporting GHG inventory reviews, encouraged expert review teams (ERTs) to continue using IEA data in reviews, and requested the secretariat to explore ways of incorporating the FAO data resources as an authoritative supporting data source for reviews in the 2021 cycle and beyond.

3. In accordance with the annex to decision 13/CP.20, the annex to decision 22/CMP.1 in conjunction with decision 4/CMP.11, and annex II to decision 24/CMP.1, the meeting helped to facilitate the work of LRs in fulfilling their task to ensure consistency of GHG inventory reviews across Parties and the quality and objectivity of the technical examinations therein, and in providing suggestions on how to improve the quality, efficiency and consistency of the reviews.¹ In addition, at the meeting the LRs provided guidance on matters such as review tools, materials and templates.² These conclusions and recommendations will be reported to the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its session to be convened in conjunction with the twenty-sixth session of the Conference of the Parties (COP) (November 2021).³ Such reports provide the SBSTA with inputs for providing further guidance to the secretariat on selecting experts and coordinating the ERTs and the GHG inventory review process.

II. Coordination and planning of the 2021 review cycle

4. The LRs took note of the information provided by the secretariat on the plan for organizing the 2021 GHG inventory review cycle. The LRs noted the challenges related to organizing and conducting the 2020 review cycle resulting from the COVID-19 pandemic and associated travel restrictions. These challenges included difficulties encountered in conducting remote reviews, in particular barriers to conducting remote working impacted the workload of ERTs and Parties for several reasons (e.g. lack of reliable Internet connection, difficulties in focusing on review tasks while working from home, and time zone differences); fewer experts being available, making it more difficult to ensure balanced ERTs in terms of gender and region; and experts being in different time zones. In spite of those challenges, the objectives of the revised plan for 2020 were achieved, with the resulting review reports complete and of good quality, and the timing of the publication of the reports has not been significantly affected. The LRs noted that some practices developed by the secretariat and the ERTs during the 2020 review cycle, such as expanding the time dedicated to the reviews

¹ As per decision 13/CP.20, annex, paras. 42 and 44.

² See decision 13/CP.20, annex, para. 48.

³ As per decisions 13/CP.20, annex, para. 44; and 22/CMP.1, annex, para. 40(a).

and prioritizing specific review tasks, contributed to minimizing the impacts of the pandemic, travel restrictions and collaboration across different time zones on the review process.

5. The LRs considered that, once the situation has normalized, the mandated format of the reviews should resume. In the meantime, the LRs invited the secretariat to continue implementing and further refining its approach to organizing remote reviews in 2021 to minimize the impacts of working remotely on the review process. The LRs requested the secretariat to proceed with the remaining steps in organizing the 2021 review cycle taking into consideration the conclusions and recommendations outlined in paragraph 20 below.

6. The LRs noted that the Doha Amendment entered into force on 31 December 2020, with 2021 representing the penultimate review cycle during the second commitment period of the Kyoto Protocol. Considering that a number of Parties may have pending issues related to activities under Article 3, paragraphs 3–4, of the Kyoto Protocol (KP-LULUCF), and that 2021 is the last opportunity for ERTs to review those issues before the final review in 2022, at which time all review practices (e.g. adjustments) will apply to the entire inventory, including KP-LULUCF, it may be crucial for due consideration to be given during the 2021 review cycle to KP-LULUCF issues for Parties that have selected commitment period accounting in preparation for the 2022 review cycle. However, availability of resources and experts and the timing of reviews may limit the possibility of conducting individual reviews for all Parties with commitment period accounting in 2021. Therefore, the LRs encouraged the secretariat, during the early stages of the reviews (e.g. preparation of status and assessment reports), to focus in particular on ensuring that issues related to KP-LULUCF are identified in a timely manner and communicated to ERTs at an early stage. The LRs stressed the importance of Parties continuing to work on addressing pending issues for KP-LULUCF when preparing their annual submissions for 2022.

7. The LRs reiterated the need for Parties to continue encouraging, supporting and facilitating the participation of their experts in GHG inventory reviews, particularly in remote reviews, in order to ensure completeness of ERTs, an appropriate balance of expertise in ERTs and the high quality of review reports.

III. Training of review experts and perspectives for training of experts for the review of biennial transparency reports

8. The LRs welcomed the information on training activities undertaken by the secretariat in 2020 and on ongoing and planned training activities in 2021, as well as the perspectives for training of experts for the review of biennial transparency reports. The LRs also welcomed the secretariat's efforts to continue offering the instructed training course for GHG inventory reviewers and its mandatory final examinations, thus maintaining the elements required for in-person training, such as seminars and final examinations, in spite of the challenges of providing all training activities fully online owing to travel restrictions related to COVID-19.

9. The LRs stressed the importance of Parties nominating experts with GHG inventory experience and robust sectoral technical expertise to the UNFCCC roster of experts, regularly updating their nominations and supporting experts in completing the required training activities and examinations.

IV. Development and improvement of review tools

10. The LRs welcomed the information provided by the secretariat on the development and deployment of the new review issues database (RID) module of the GHG inventory virtual team room (iVTR), which contains all relevant information on review issues since 2015. The LRs also welcomed the plan to use the RID module during the 2021 review cycle. They noted the secretariat's plan to consider improvements to this tool, if necessary, on the basis of feedback from experts during the 2021 review cycle.

11. The LRs further welcomed the information provided by the secretariat on the improved version of the statistical outlier detection tool (SODT), which is used by the

secretariat in preparing the initial assessment defined in paragraph 69 of the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”. The LRs noted that the improved SODT could be used by review experts to analyse outliers in GHG inventory data submitted by Parties, and requested the secretariat to include it among the review tools (e.g. locator and comparison tool) available for use by ERTs during reviews and to make the SODT user manual available in the iVTR reference library.

V. Improvements to the quality, efficiency and consistency of reviews in accordance with decisions 13/CP.20 and 4/CMP.11

A. Improvements to the consistency of reviews

12. The LRs discussed specific ways of improving the consistency of the GHG inventory review process on the basis of experience from the 2020 review cycle and the background paper prepared by the secretariat on consistency issues identified during that cycle. In particular, the LRs recommended that LRs promote the following guidance and procedures:

(a) Possible treatment of the Intergovernmental Panel on Climate Change (IPCC) *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* (2019 Refinement) in the review process, including country-specific approaches based on or consistent with the 2019 Refinement: The LRs noted that the 2019 Refinement has not yet been adopted for use under the Convention, but acknowledged that methodologies from the 2019 Refinement can be used for new categories or subcategories that are not covered by the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (2006 IPCC Guidelines). In these cases, the ERT should recognize in the annual review report (ARR) the estimates for such new categories, when such estimates enhance the completeness of the GHG inventory. The LRs also noted that for categories and subcategories covered by the 2006 IPCC Guidelines, the ERT should review whether (1) the methodologies, emission factors (EFs) and/or assumptions taken from the 2019 Refinement or a country-specific approach based on or consistent with the 2019 Refinement are well documented, (2) the Party demonstrated that they better represent the national circumstances and justified their use in its NIR, and (3) emission and removal estimates are accurate and time-series consistency has been maintained in accordance with the 2006 IPCC Guidelines. The LRs further noted that, if a Party uses new emission allocation rules following the 2019 Refinement or a country-specific approach based on or consistent with the 2019 Refinement, the ERT should recommend that the Party revise such allocations in accordance with the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”. The ERT should also check that emissions and removals have not been double counted or omitted, and, if double counting or an omission is identified, raise an issue in the ARR accordingly;

(b) Review of the use of a method from previous IPCC methodological guidance: Considering that the 2006 IPCC Guidelines provide solid methodological basis for performing emission estimates, the LRs noted that, if Parties use methods, EFs or parameters from the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, the *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry* or the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, the ERT should review whether such methods, EFs or parameters are well documented, the Party demonstrated that they better represent the national circumstances and justified their use in its NIR, as well as review whether emission and removal estimates are accurate and time-series consistency has been maintained in accordance with the 2006 IPCC Guidelines;

(c) Assessment of the application of the insignificance criteria for gaps in the time series (specific years): The LRs noted that the insignificance criteria apply to a given category for the whole time series (category–gas combination). Therefore, if a Party reports “NE” (not estimated) only for some years of the time series, even if it demonstrates that estimates for

those years fall below the significance threshold, the ERT should identify this as an issue of completeness for the years identified and affecting the time-series consistency, and recommend that the Party report emission estimates for that category for all years of the time series;

(d) Assessment of the reporting of key category analysis: The LRs concluded that, if a Party does not report in the NIR how it performed the key category analysis for the base year and the latest reported inventory year, using approach 1 from the 2006 IPCC Guidelines, level and trend assessment, and including and excluding land use, land-use change and forestry, when it used a different level of disaggregation of categories than that recommended in the 2006 IPCC Guidelines, the ERT should recommend that the Party report this information in the NIR. The LRs also concluded that, if a Party to the Kyoto Protocol does not include in the NIR information on the identified KP-LULUCF key categories and describe how each category was identified as key in accordance with the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*, the ERT should recommend that the Party include this information in the NIR;

(e) Assessment of the completeness of the reporting of fluorinated gases (F-gases) as substitutes for ozone-depleting substances (ODS): The LRs requested the secretariat, with the aim of improving the consistency and operationalization of the assessment of the completeness of F-gas reporting under category 2.F product uses as substitutes for ODS, to form a working group of reviewers with experience in F-gases with the task of contributing with materials and further guidance on how to ensure consistency in such assessments, to be included in the Review Handbook.

13. The LRs noted that they could not complete their consideration and agree conclusions and recommendations on three issues during the meeting, namely review of technical corrections to the forest management reference level (FMRL) during years of annual accounting or year of commitment period accounting, assessment of the application of the insignificance criteria within a category, and the scope of and approach to the review of the European Union's GHG inventory. The LRs requested the secretariat to include consideration of these issues at the next meeting of LRs, taking into account the discussions at their 18th meeting and the background paper prepared by the secretariat for that meeting on consistency issues identified during the 2020 GHG inventory review cycle.

B. Operationalization of reviews

14. The LRs considered the relevant background papers and presentations prepared by the secretariat and the information provided during the meeting, particularly the background paper prepared in response to the request from the LRs at their 17th meeting⁴ and the discussion paper on the LRs' experience of remote centralized reviews in the 2020 review cycle.

15. The LRs considered the requests in paragraph 11(a), (b) and (e) of the conclusions and recommendations from the 17th meeting of LRs⁵ and concluded that no such changes are needed at this time. The LRs invited the secretariat to take note of all relevant comments received on the background paper referred to in paragraph 14 above and other lessons

⁴ See para. 11 of the conclusions and recommendations from the 17th meeting. Available at https://unfccc.int/sites/default/files/resource/conclusions-GHG_LRs-2020.pdf.

⁵ As footnote 4 above. Para. 11(a) reads "Explore the possibility of including in the annual review report template an additional or separate short summary on the overall assessment of the inventory, summarizing the information in the current table 2, or revise and enhance table 2". Para. 11(b) reads "Develop decision trees for defining the type and extent of the review taking into account the quality of the inventory and the findings from the initial assessment by the secretariat, and evaluate the possibility of implementing the review process following a stepwise approach". Para. 11(e) reads "Explore options for improving the readability and reducing the length of the review reports, for instance by reducing the quantity of text and enabling use of figures, tables and annexes, where feasible, taking into consideration that ERTs should make every effort to keep the reports from exceeding 30 pages".

learned, along with decision 18/CMA.1 and any related conclusions reached at COP 26, and use them as background information for discussion on the transition to the enhanced transparency framework under the Paris Agreement (ETF) at subsequent LR meetings.

16. The LRs reiterated their conclusions from their 15th meeting,⁶ emphasizing their role in communicating to the ERT the priorities for desk reviews as specified in decision 13/CP.20, annex, paragraph 76, to make maximum use of ERT, Party and secretariat resources.

17. The LRs invited the secretariat to review, and update, as necessary, sector-level checklists in the Review Handbook, for use by sector experts during the review week.⁷ The LRs identified short- and longer-term improvements:

(a) In preparation for the 2021 review cycle, to enable ERTs to signal to Parties any problematic areas before the final year of the second commitment period, the LRs requested the secretariat to work with a small group of LRs to develop a list for KP-LULUCF of key checks that ERTs are encouraged to follow to ensure Kyoto Protocol reporting adherence in the second commitment period. The checklist could contain checks already set out in the Review Handbook, recommendations in the FMRL technical assessment reports not addressed in previous reviews, and persistent major issues in the Kyoto Protocol reporting based on the most recently published ARR. It could guide ERTs through assessment of all information required by decision 2/CMP.8, annex II, to help focus on the most important elements to be assessed. The checklist could remind ERTs to review implementation of previous recommendations before focusing on new issues or problems;

(b) In the longer term, for implementation after the end of the second commitment period, the LRs requested the secretariat to explore options for providing support to ERTs, with the aim of ensuring further consistency and efficiency in the review process, and to report back at the LR meeting in 2023. For example, the secretariat should consider:

(i) Converting the Review Handbook to a more easily searchable tool, including sectoral checklists, integrated into the iVTR, which could be updated annually;

(ii) Developing videos or pocket guides to assist reviewers (e.g. on review good practice or use of review tools, or as refreshers for ERTs regarding the tasks and timing of different outputs throughout the review).

18. The LRs considered the request in paragraph 11(d) of the conclusions and recommendations from the 17th meeting⁸ and agreed that small correction issues (i.e. those that do not have an impact on estimates or the transparency of the submission) should be included in the iVTR only. They could be communicated through the question and answer function, designated as editorial issues, and no response would be expected from the Party in the iVTR.

19. The LRs considered the request in paragraph 11(f) of the conclusions and recommendations from the 17th meeting⁹ and requested the secretariat to explore options for minimizing the time taken to submit the draft reports to Parties, including by shortening the time taken to submit the reports for editing and reviewing the procedures for editing and QA to prioritize resources for substantive issues that add value to the ARRs. The LRs concluded that no further changes are needed at this time. The LRs invited the secretariat to take note of all relevant comments received on the background paper referred to in paragraph 14 above,

⁶ See para. 11 of the conclusions and recommendations from the 15th meeting. Available at http://unfccc.int/files/national_reports/annex_i_ghg_inventories/review_process/application/pdf/ghg-lrs-2018-conclusions_recommendations.pdf.

⁷ See para. 11(c) of the conclusions and recommendations from the 17th meeting.

⁸ Para. 11(d) reads “Explore the feasibility of implementing an option in the iVTR for providing information to the Party on small correction issues, complementing the review reports and provisional main findings”.

⁹ Para. 11(f) reads “Consider the importance of focusing quality assurance/quality control (QA/QC) procedures performed by the secretariat on substantive issues and consistency across Parties; analyse the bottlenecks related to the QA/QC process affecting the timeliness of report preparation; and analyse what barriers and bottlenecks are preventing the report cut-off dates from being met, and suggest ways to mitigate those challenges”.

along with decision 18/CMA.1 and any related conclusions reached at COP 26, and to use them as background information for discussion, including on the transition to the ETF, at subsequent LR meetings.

20. The LRs recognized the additional challenges associated with reviews conducted in a remote centralized format for ERTs, LRs, Parties and the secretariat, including that less coaching can be given by LRs and experienced experts to new experts. Recognizing the possibility that further reviews may be conducted in this format in 2021, the LRs requested the secretariat to consider acting on the findings of the LRs in relation to their experience of remote centralized reviews during the 2020 review cycle. In particular, the LRs requested the secretariat to consider undertaking the following in operationalizing remote centralized reviews:

(a) Exploring ways of facilitating coaching of new experts and testing new ways of building skill sets across the reviewer pool;

(b) Exploring ways of helping to manage the additional burden on LRs, ERTs and review officers during remote centralized reviews, including by:

(i) Where possible, ensuring an appropriate balance between experienced and inexperienced reviewers in ERTs;

(ii) Developing and establishing guidance for efficiently holding remote meetings between ERTs and Parties, including for assessing software options for communication among ERT members and with Parties at an early stage;

(iii) Establishing clear deadlines by which the recommendations from the previous review reflected in ARR table 3 are to be assessed ahead of the review week, to be clearly communicated by the review officers and LRs to the ERTs, and specifying time frames for activities (e.g. first emails, first calls), while noting that the assessment will depend on Parties' responses and that, since usually fewer experts are available during July and August, remote centralized reviews during early September may be subject to greater delay.

VI. Other matters

21. The LRs took note of the information provided by the secretariat on activities undertaken during the UNFCCC Climate Dialogues 2020 related to the ongoing deliberations under the SBSTA on future GHG inventory reporting and review processes under the ETF, and the expectations for COP 26. The LRs also took note of the information provided by the secretariat on the latest activities and developments related to GHG inventories that the secretariat has organized and is planning within the framework of the implementation of the ETF.
