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**Subsidiary Body for Scientific and  
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Item 18(b) of the provisional agenda

**Annual reports on technical reviews**

**Technical review of greenhouse gas inventories of Parties**

**included in Annex I to the Convention**

**Technical review of greenhouse gas inventories of Parties  
included in Annex I to the Convention**

**Report by the secretariat**

*Summary*

This report provides information on the greenhouse gas inventory reviews conducted in the 2020 and 2021 review cycles, including the selection of experts and lead reviewers and the composition of the expert review teams, and on plans for the 2022 review cycle. It also provides information on review training activities under the Convention, the 18<sup>th</sup> meeting of greenhouse gas inventory lead reviewers, and progress in updating the UNFCCC roster of experts and the tools and other materials used in the reviews.



## Abbreviations and acronyms

2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
2019 Refinement to the 2006 IPCC Guidelines	<i>2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
Annex I Party	Party included in Annex I to the Convention
ARR	annual review report
COP	Conference of the Parties
COVID-19	coronavirus disease 2019
CR*	centralized review
CRF	common reporting format
DR*	desk review
ERT	expert review team
ETF	enhanced transparency framework under the Paris Agreement
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GHG	greenhouse gas
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
iVTR	inventory virtual team room
KP-LULUCF	activities under Article 3, paragraphs 3–4, of the Kyoto Protocol
LR	lead reviewer
NA	not applicable
NIR	national inventory report
non-Annex I Party	Party not included in Annex I to the Convention
QA/QC	quality assurance/quality control
SBSTA	Subsidiary Body for Scientific and Technological Advice
UNFCCC Annex I inventory reporting guidelines	“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”
UNFCCC Annex I inventory review guidelines	“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, Part III: UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention”

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\* Used only in tables 1 and 2.

## I. Introduction

### A. Mandate

1. COP 9 requested the secretariat to prepare an annual report on GHG inventory review activities, including any recommendations resulting from the meetings of inventory LRs participating in the technical review of GHG inventories of Annex I Parties, for consideration by the SBSTA.<sup>1</sup> COP 20 requested the secretariat to report annually to the SBSTA on the composition of ERTs, including the selection of experts and LRs, and on the actions taken to ensure the application of the selection criteria for ERTs.<sup>2</sup> The annual report to the SBSTA prepared by the LRs collectively at their 18<sup>th</sup> meeting, containing suggestions on how to improve the quality, efficiency and consistency of the GHG inventory reviews,<sup>3</sup> is contained in the annex.

2. COP 20 also requested the secretariat to include in the LR report referred to in paragraph 1 above any revised set of the standardized data comparisons, for consideration by the SBSTA, as well as information on the development of new and revised review tools and materials that support the tasks of the ERTs.<sup>4</sup>

3. Furthermore, COP 20 requested the secretariat to include in its report information on the training programme for review experts for the technical review of GHG inventories of Annex I Parties, in particular on examination procedures and the selection of trainees and instructors, to allow Parties to assess the effectiveness of the programme.<sup>5</sup> In addition, SBSTA 24 requested the secretariat to include in the report information on progress in updating the UNFCCC roster of experts.<sup>6</sup>

### B. Scope of the report

4. This report provides information on activities relating to GHG inventory reviews conducted in the 2020 and 2021 review cycles<sup>7</sup> and plans for the 2022 review cycle.

5. The report focuses on the elements of the GHG inventory review process that are specific to the Convention and should be read in conjunction with the report on the technical review of GHG inventories and other information reported by Parties included in Annex I as defined in Article 1, paragraph 7, of the Kyoto Protocol.<sup>8</sup> The lessons learned and challenges in the review processes under the Convention and its Kyoto Protocol have many elements in common.

### C. Possible action by the Subsidiary Body for Scientific and Technological Advice

6. The SBSTA will be invited to take note of this report.

## II. Submissions and review of information from Annex I Parties

7. GHG inventory review activities, along with some training of review experts and the organization of LR meetings, are funded from the UNFCCC core budget. Some related activities, such as refresher seminars for experienced reviewers, strengthening the secretariat's capacity to support review and training activities and developing the GHG

<sup>1</sup> Decision 12/CP.9, para. 10.

<sup>2</sup> Decision 13/CP.20, annex, para. 40.

<sup>3</sup> Prepared in accordance with decision 13/CP.20, annex, paras. 44 and 78.

<sup>4</sup> Decision 13/CP.20, para. 6, and annex, para. 78.

<sup>5</sup> Decision 14/CP.20, para. 3.

<sup>6</sup> FCCC/SBSTA/2006/5, para. 95.

<sup>7</sup> For the 2021 review cycle, information as at 11 October 2021 has been provided.

<sup>8</sup> FCCC/SBSTA/2021/INF.5.

information system, continue to be funded by voluntary contributions to supplementary funds.

### A. 2020 cycle of individual greenhouse gas inventory reviews

8. Between 18 March and 22 September 2020, the secretariat received original submissions of annual GHG inventories for 2020 from all 43 Annex I Parties under the Convention.<sup>9</sup> The secretariat organized the 2020 review cycle taking into consideration the secretariat's programme budget for the biennium 2020–2021.<sup>10</sup> In accordance with this programme, while Parties continued to submit inventories on an annual basis, the core budget provided for the individual inventory reviews to be supported only once per biennium for each Party. Additional individual reviews could be carried out if supported through supplementary funding.

9. For the 2020 review cycle, as at 30 April 2020 the available supplementary funding was insufficient to complement the resources from the core budget, and therefore the secretariat organized individual reviews of 25 of the submissions referred to in paragraph 8 above. Of the individual reviews, 21 were organized in eight centralized reviews conducted remotely (between 2 September and 27 November 2020) and 4 in two desk reviews (between 31 August and 14 November 2020). Most of the review reports had been published by 2 September 2021.<sup>11</sup> Table 1 provides information on the 2020 review cycle and the publication date of each review report.

Table 1

**2020 review cycle for greenhouse gas inventory submissions**

<i>Party</i>	<i>Review dates (review type)<sup>a</sup></i>	<i>Review report publication date</i>
Australia	16–21 November 2020 (CR)	16 March 2021
Austria	21–26 September 2020 (CR)	1 April 2021
Belarus	No individual review of the 2020 inventory submission	NA
Belgium	26–31 October 2020 (CR)	19 August 2021
Bulgaria	26–31 October 2020 (CR)	26 August 2021
Canada	No individual review of the 2020 inventory submission	NA
Croatia	26–31 October 2020 (CR)	21 June 2021
Cyprus	2–7 November 2020 (CR)	13 April 2021
Czechia	No individual review of the 2020 inventory submission	NA
Denmark	2–7 November 2020 (CR)	5 May 2021
Estonia	2–7 November 2020 (CR)	14 April 2021
EU	9–14 November 2020 (DR)	Not yet published
Finland	31 August to 5 September 2020 (DR)	19 January 2021
France	No individual review of the 2020 inventory submission	NA
Germany	2–7 November 2020 (CR)	29 April 2021
Greece	No individual review of the 2020 inventory submission	NA
Hungary	26–31 October 2020 (CR)	16 April 2021

<sup>9</sup> Kazakhstan is considered to be a Party included in Annex I for the purpose of the Kyoto Protocol while remaining a non-Annex I Party for the purpose of the Convention (see document FCCC/KP/CMP/2009/21, para. 91).

<sup>10</sup> FCCC/SBI/2019/4.

<sup>11</sup> Available at <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/inventory-review-reports-2020>.

<i>Party</i>	<i>Review dates (review type)<sup>a</sup></i>	<i>Review report publication date</i>
Iceland	No individual review of the 2020 inventory submission	NA
Ireland	12–17 October 2020 (CR)	17 February 2021
Italy	No individual review of the 2020 inventory submission	NA
Japan	7–12 September 2020 (CR)	17 March 2021
Kazakhstan <sup>b</sup>	No individual review of the 2020 inventory submission	NA
Latvia	12–17 October 2020 (CR)	2 March 2021
Liechtenstein	7–12 September 2020 (CR)	Not yet published
Lithuania	No individual review of the 2020 inventory submission	NA
Luxembourg	9–14 November 2020 (DR)	13 September 2021
Malta	No individual review of the 2020 inventory submission	NA
Monaco	No individual review of the 2020 inventory submission	NA
Netherlands	No individual review of the 2020 inventory submission	NA
New Zealand	No individual review of the 2020 inventory submission	NA
Norway	31 August to 5 September 2020 (DR)	20 January 2021
Poland	23–27 November 2020 (CR)	5 July 2021
Portugal	26–31 October 2020 (CR)	5 May 2021
Romania	2–7 November 2020 (CR)	30 June 2021
Russian Federation	26–31 October 2020 (CR)	20 May 2021
Slovakia	No individual review of the 2020 inventory submission	NA
Slovenia	12–17 October 2020 (CR)	14 May 2021
Spain	No individual review of the 2020 inventory submission	NA
Sweden	21–26 September 2020 (CR)	23 April 2021
Switzerland	No individual review of the 2020 inventory submission	NA
Turkey	No individual review of the 2020 inventory submission	NA
Ukraine	No individual review of the 2020 inventory submission	NA
United Kingdom	No individual review of the 2020 inventory submission	NA
United States	2–7 November 2020 (CR)	27 August 2021

<sup>a</sup> In the secretariat's programme budget for the biennium 2020–2021, the core budget provided for the individual inventory reviews to be supported only once per biennium for each Party. Additional individual reviews could be carried out if supported through supplementary funding.

<sup>b</sup> See footnote 9.

## **B. 2021 cycle of individual greenhouse gas inventory reviews**

### **1. Greenhouse gas inventory submissions**

10. Between 15 March and 28 May 2021, the secretariat received original submissions of annual GHG inventories for 2021 from all 43 Annex I Parties under the Convention (see table 2).

11. The secretariat organized the 2021 review cycle taking into consideration the secretariat's programme budget for the biennium 2020–2021.

12. For the 2021 review cycle, as at 30 April 2021 the available supplementary funding was insufficient to complement the resources from the core budget, and therefore the secretariat organized individual reviews of 21 of the submissions referred to in paragraph 10

above.<sup>12</sup> Of the individual reviews, 15 were organized in five centralized reviews conducted remotely (between 6 September and 23 October 2021) and 6 in three desk reviews (between 30 August and 2 October 2021). Table 2 shows the review dates and type of review for each Party.

Table 2

**Submission and review of greenhouse gas inventories in 2021**

<i>Party</i>	<i>Original submission date</i>		<i>Review dates (review type)<sup>a</sup></i>
	<i>NIR</i>	<i>CRF tables</i>	
Australia	15 April 2021	15 April 2021	6–11 September 2021 (CR)
Austria	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission
Belarus	19 April 2021	14 April 2021	18–23 October 2021 (CR)
Belgium	14 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Bulgaria	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission
Canada	12 April 2021	12 April 2021	18–23 October 2021 (CR)
Croatia	14 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Cyprus	13 April 2021	9 April 2021	No individual review of the 2021 inventory submission
Czechia	14 April 2021	14 April 2021	6–11 September 2021 (CR)
Denmark	15 April 2021	15 April 2021	6–11 September 2021 (CR)
Estonia	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission
EU	15 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Finland	14 April 2021	13 April 2021	No individual review of the 2021 inventory submission
France	13 April 2021	15 April 2021	20–25 September 2021 (CR)
Germany	15 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Greece	15 April 2021	15 April 2021	27 September to 2 October 2021 (DR)
Hungary	15 April 2021	15 April 2021	6–11 September 2021 (CR)
Iceland	15 April 2021	15 April 2021	4–9 October 2021 (CR)
Ireland	13 April 2021	13 April 2021	No individual review of the 2021 inventory submission
Italy	12 April 2021	12 April 2021	20–25 September 2021 (CR)
Japan	13 April 2021	13 April 2021	No individual review of the 2021 inventory submission
Kazakhstan	28 May 2021	16 April 2021	18–23 October 2021 (CR)
Latvia	13 April 2021	13 April 2021	No individual review of the 2021 inventory submission

<sup>12</sup> Australia, Belarus, Canada, Czechia, Denmark, France, Greece, Hungary, Iceland, Italy, Lithuania, Malta, Monaco, Netherlands, New Zealand, Slovakia, Spain, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland and Ukraine. In addition, the secretariat organized the review of Kazakhstan, which is a non-Annex I Party to the Convention but it is considered an Annex I Party for the purposes of the Kyoto Protocol (see footnote 9 above).

<i>Party</i>	<i>Original submission date</i>		<i>Review dates (review type)<sup>a</sup></i>
	<i>NIR</i>	<i>CRF tables</i>	
Liechtenstein	15 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Lithuania	15 April 2021	15 April 2021	4–9 October 2021 (CR)
Luxembourg	14 April 2021	13 April 2021	No individual review of the 2021 inventory submission
Malta	15 April 2021	15 April 2021	4–9 October 2021 (CR)
Monaco	13 April 2021	14 April 2021	27 September to 2 October 2021 (DR)
Netherlands	15 April 2021	15 April 2021	27 September to 2 October 2021 (DR)
New Zealand	15 April 2021	14 April 2021	6–11 September 2021 (CR)
Norway	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission
Poland	14 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Portugal	13 April 2021	13 April 2021	No individual review of the 2021 inventory submission
Romania	13 April 2021	13 April 2021	No individual review of the 2021 inventory submission
Russian Federation	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission
Slovakia	15 April 2021	14 April 2021	20–25 September 2021 (CR)
Slovenia	15 April 2021	12 April 2021	No individual review of the 2021 inventory submission
Spain	15 March 2021	15 March 2021	27 September to 2 October 2021 (DR)
Sweden	14 April 2021	14 April 2021	No individual review of the 2021 inventory submission
Switzerland	12 April 2021	12 April 2021	6–11 September 2021 (CR)
Turkey	13 April 2021	13 April 2021	4–9 October 2021 (CR)
Ukraine	23 April 2021	15 April 2021	30 August to 4 September 2021 (DR)
United Kingdom	15 April 2020	15 April 2020	30 August to 4 September 2021 (DR)
United States	15 April 2021	15 April 2021	No individual review of the 2021 inventory submission

<sup>a</sup> In the secretariat's programme budget for the biennium 2020–2021, the core budget provided for the individual inventory reviews to be supported only once per biennium for each Party. Additional individual reviews could be carried out if supported through supplementary funding.

## 2. Organization of reviews and composition of expert review teams

13. In accordance with the UNFCCC Annex I inventory review guidelines, the GHG inventory review process is conducted in two stages: initial assessment by the secretariat, which results in status reports and assessment reports, and individual review by ERTs, which results in review reports.

14. The initial assessment stage provides an immediate quality assessment aiming to verify that the GHG inventory submission is consistent, complete and timely and that its format is correct. Status reports for 21 GHG inventory submissions subject to an individual review under the Convention were prepared and published on the UNFCCC website.<sup>13</sup>

<sup>13</sup> <https://unfccc.int/ghg-inventories-annex-i-parties/2021>. Aside from the 21 status reports prepared for Parties subject to individual reviews under the Convention in 2021, the secretariat prepared status reports for another 20 Parties.

Assessment reports provide a preliminary assessment of the inventory of an individual Party and identify any potential inventory problems, which are then assessed during the individual review stage. Assessment reports are not published but are provided to the respective Party and to the ERTs for further assessment. Assessment reports were prepared for all Parties that were subject to individual review during the 2021 review cycle.

15. In the 2021 review cycle, the secretariat coordinated the review of the GHG inventories of 21 Parties (see para. 12 above). The reports on the reviews were in preparation at the time of issuance of this document.

16. New experts who have taken the training courses for reviews under the Convention and have passed the corresponding examinations can participate in an ERT.<sup>14</sup> In 2021, the secretariat invited 182 experts to participate in the GHG inventory reviews, 63 of whom declined on account of previous commitments, a heavy workload, lack of financial resources or other reasons. Another 11 experts informed the secretariat of their availability on dates other than the scheduled review dates on which they were invited to participate or of their availability only on particular dates, which introduced additional challenges when planning the reviews.

17. In selecting members of ERTs, the secretariat seeks to ensure an overall geographical balance in the number of experts from Annex I and non-Annex I Parties. In the 2021 review cycle, 119 individuals from 55 Parties served as inventory experts on review teams, of which 51 were from non-Annex I Parties, 10 from Annex I Parties with economies in transition and 58 from other Annex I Parties (see table 3).

18. Between 2000, when individual reviews of GHG inventory submissions were first conducted during the trial period, and 2021, 523 individual experts from 100 Parties (41 Annex I Parties and 59 non-Annex I Parties) participated in GHG inventory review activities.

19. Table 3 provides a breakdown of the participation of experts by nominating Party in the 2021 review cycle (an expert participating in multiple reviews is counted as a different expert for each review). The table shows that experts from the following Annex I Parties were not involved in the review process in 2021: Austria, Croatia, Cyprus, EU, Iceland, Liechtenstein, Luxembourg, Malta, Monaco, Norway, Slovenia and Spain. In general, there were several reasons for experts not participating in the 2021 review cycle: (1) some Annex I Parties, namely Cyprus, Iceland and Monaco, had not nominated any experts; (2) some Parties had nominated experts but those experts had not yet taken the training courses and passed the relevant examinations; (3) some Parties had not fully updated their nominations to the UNFCCC roster of experts and some nominated experts included in the roster were not available for the reviews; and (4) some experts had a heavy workload or other obligations during the review period. Table 3 also shows that many Parties continued to strongly support the review process by providing multiple experts, and that experts from the following Parties participated in four or more reviews in 2021: Australia (7), Brazil (7), Japan (11), New Zealand (5) and United Kingdom of Great Britain and Northern Ireland (10). Such strong support is a key factor for the success of the reviews.

Table 3

**Number of experts participating in the 2021 greenhouse gas inventory review cycle, by nominating Party**

<i>Annex I Parties</i>		<i>Annex I Parties with economies in transition</i>		<i>Non-Annex I Parties</i>
Australia – 7	Japan – 11	Belarus – 1	Algeria – 1	Mongolia – 2
Belgium – 2	Kazakhstan – 2	Bulgaria – 2	Argentina – 2	Mozambique – 1
Canada – 2	Netherlands – 2	Estonia – 1	Azerbaijan – 1	North Macedonia – 2
Denmark – 2	New Zealand – 5	Georgia – 4	Benin – 1	Republic of Korea – 1
Finland – 1	Portugal – 1	Romania – 2	Brazil – 7	Republic of Moldova – 2
France – 2	Sweden – 3	Russian Federation – 1	Cabo Verde – 1	San Marino – 1

<sup>14</sup> As per decisions 12/CP.9, annex I, and 14/CP.20, annex. For more information on the training of review experts, see document FCCC/SBSTA/2020/INF.4, chap. V.



<i>Annex I Parties</i>		<i>Annex I Parties with economies in transition</i>	<i>Non-Annex I Parties</i>	
Germany – 1	Switzerland – 2	Ukraine – 2	Chile – 3	South Africa – 2
Greece – 1	Turkey – 2		China – 2	Sudan – 1
Hungary – 1	United Kingdom – 10		Colombia – 1	Thailand – 2
Ireland – 1			Costa Rica – 1	Uruguay – 2
Italy – 1	United States – 3		Egypt – 2	Venezuela – 1
			El Salvador – 1	Zambia – 1
			Eswatini – 1	Zimbabwe – 1
			Malawi – 1	

20. When inviting experts to participate as LR, the secretariat seeks to ensure an overall geographical balance in the number of experts from Annex I and non-Annex I Parties. It also takes into consideration the experts' experience in preparing and managing GHG inventories, previous participation in reviews, technical expertise in the GHG inventory sectors and successful completion of the training courses. In 2021, 16 experts from 15 Parties served as LR, of which 8 were from non-Annex I Parties and 8 from Annex I Parties (of which one was an Annex I Party with an economy in transition).

21. For each desk review, the secretariat invited one or two review experts for each sector and one or two generalists to cover cross-cutting issues. For each centralized review conducted remotely, the secretariat invited two to four review experts for each sector and two generalists to cover cross-cutting issues. In accordance with the conclusions and recommendations from the 11<sup>th</sup> meeting of inventory LR, the secretariat sought to ensure that no land use, land-use change and forestry experts acted as LR.<sup>15</sup>

22. The secretariat continues to reinforce ERTs undertaking centralized reviews with new review experts. In 2021, nine new experts who had taken the training courses and passed the examinations participated in reviews, assuming full responsibility as reviewers with some support from the LR and experienced reviewers.

23. The secretariat is making efforts to further improve the timeliness of the publication of the review reports during the 2021 review cycle while maintaining the required quality, in particular by increasing the number of experts per team and updating the review materials (see chap. VI below).

### C. 2022 cycle of individual greenhouse gas inventory reviews

24. Annex I Parties are to submit their 2022 GHG inventory submissions in accordance with the UNFCCC Annex I inventory reporting guidelines by 15 April 2022. The inventories will be reviewed in accordance with the UNFCCC Annex I inventory review guidelines and taking into consideration the decisions to be adopted on the secretariat's programme budget for the biennium 2022–2023. The secretariat will organize the review of the 2022 GHG inventory submissions under the Convention so that the individual reviews take place in the third quarter of 2022.

## III. Meeting of greenhouse gas inventory lead reviewers

25. The 18<sup>th</sup> meeting of GHG inventory LR took place from 22 to 26 March 2021, held as a virtual meeting owing to the circumstances related to COVID-19. Of the 53 experts from non-Annex I Parties invited to the meeting, 33 attended, including one acting as a representative of the IPCC Task Force on National Greenhouse Gas Inventories. In the case of experts from Annex I Parties, 68 were invited and 54 attended. In addition, one member of the facilitative branch of the Compliance Committee, one representative of IEA, two

<sup>15</sup> See para. 45 of the conclusions, included in document FCCC/SBSTA/2014/INF.17.

representatives of FAO and one representative of the European Environment Agency attended the meeting as observers.

26. The meeting facilitated the work of the LRs in fulfilling their task of ensuring the consistency of reviews across Parties and in providing suggestions on how to improve the quality, efficiency and consistency of the reviews.<sup>16</sup> Such reports provide the SBSTA with input for its guidance to the secretariat on selecting experts and coordinating ERTs and the review process. LRs were also invited to provide guidance on matters such as review tools and materials and review report templates.<sup>17</sup> The conclusions and recommendations from the meeting, for consideration by the SBSTA,<sup>18</sup> can be found in the annex.

#### **IV. UNFCCC roster of experts and availability of nominated experts**

27. As at 12 September 2021, the UNFCCC roster of experts included 1,853 GHG inventory experts: 1,233 from non-Annex I Parties, 617 from Annex I Parties and 3 from international organizations.<sup>19</sup> Among them, 643 have passed all mandatory examinations to participate in the annual reviews of GHG inventory submissions by Annex I Parties.

28. Many of the qualified experts on the roster have not actively participated in the reviews in recent years. In addition, the significant workloads of the nominated experts at their respective offices prohibit them from devoting sufficient time to the online training programmes and consequently from taking part in annual GHG inventory reviews under the Convention and its Kyoto Protocol. This is particularly problematic for reviews under the Kyoto Protocol, for which experienced experts are required to take the updated courses and pass the examinations to become new LRs, generalist reviewers and reviewers for KP-LULUCF for the second commitment period.<sup>20</sup> Each year, national focal points are requested to nominate more GHG inventory experts to the roster. Simultaneously, the secretariat continues its efforts to invite nominated experts to the respective training programmes and encourage them to successfully complete the mandatory training courses for reviews under the Convention and its Kyoto Protocol by passing all the relevant examinations.

29. In April 2021, as in previous years, the secretariat called for nominations of new experts who can actively participate in the reviews of GHG inventories, biennial reports and national communications submitted by Annex I Parties and the analysis of biennial update reports submitted by non-Annex I Parties. In the letter sent to all national focal points on this matter, they were also invited to regularly update the information on experts included in the roster and to remove the experts who are no longer available for the reviews. The secretariat informed national focal points that the experts nominated to the roster are eligible to participate in the various training programmes the secretariat offers to those interested and able to participate in UNFCCC reviews and analyses. The letter contained a link to the training programme web page,<sup>21</sup> which includes schedules of upcoming training activities.

30. In 2021, the secretariat continued to make an online form available on the UNFCCC website to facilitate experts' self-nomination to the roster and approval by the national focal points. The form also facilitates the direct, and therefore timely, updating of the list of nominees and their details by individual experts. Some cases were observed of self-nomination or update of information not being subsequently approved by the national focal point and therefore not being completed. Attachments containing information on areas of expertise, including in the form of curricula vitae, are included with many of the nominations.

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<sup>16</sup> As per decision 13/CP.20, annex; decision 22/CMP.1, annex, in conjunction with decision 4/CMP.11; and decision 24/CMP.1, annex II.

<sup>17</sup> See decision 13/CP.20, annex, para. 48.

<sup>18</sup> As per decisions 13/CP.20, annex, para. 44, and 22/CMP.1, annex, para. 40(a).

<sup>19</sup> The roster is available at <https://www4.unfccc.int/sites/roestaging/Pages/Home.aspx>.

<sup>20</sup> As per decision 5/CMP.11, annex.

<sup>21</sup> <https://unfccc.int/process/transparency-and-reporting/training-of-review-experts/training-programmes-for-experts>.

Such detailed information is essential to matching experts with training programmes that best suit their experience and interests.

31. The secretariat continues to assist national focal points and experts to ensure that they benefit from the self-nomination function and requests cooperation from all Parties and experts in keeping the roster up-to-date. The secretariat is also continuously improving the accessibility and user-friendliness of the information on the training programmes on the UNFCCC website<sup>21</sup> and continues to update the content to reflect the latest developments.

## **V. Training programme for experts for the technical review of greenhouse gas inventories of Annex I Parties**

32. The basic course of the training programme for review experts for the technical review of GHG inventories of Annex I Parties, mandated by the COP and implemented by the secretariat<sup>22</sup>, provides a comprehensive introduction to the UNFCCC Annex I inventory review guidelines, an overview of the UNFCCC Annex I inventory reporting guidelines, guidance on procedures and approaches for the technical review of GHG inventories based on the methodological guidance provided by the IPCC and detailed information on the specific aspects of the review of the five GHG inventory sectors. The basic course is offered as an instructed course facilitated by instructors or, for experts with sufficient experience of national GHG inventories, the secretariat offers online courses without the support of instructors.

33. In 2021, two cycles of the basic course facilitated by instructors (18 January to 17 March and 2 August to 7 October) were held virtually. In order to maintain the rigour and effectiveness of the in-person training seminars which were an essential component of the instructed basic course before the COVID-19 pandemic, the instructors enhanced the curriculum of the instructed basic course, extended the online study period from eight to nine weeks and organized a series of sector-specific webinars, followed by a review simulation exercise for three days facilitated by instructors online.

34. In addition, a four-week refresher study period (8 February to 7 March 2021) was offered to those who took part in the instructed basic course in 2020, which focused on experts from Latin America and the Caribbean. In 2020, the in-person training seminar that would typically follow the online study period was postponed owing to the circumstances related to COVID-19. During the 2021 refresher period, 23 of the original 27 participants resumed their online study and took part in an intensive three-day hands-on review simulation exercise (8–10 March).

35. The final examinations for the basic course were held in person before the COVID-19 pandemic. However, to continue efforts to increase the number of experts eligible to take part in the review of Annex I Parties' GHG inventories, an online examination platform with remote invigilation provided by a private company was introduced in 2021. In total, 22 participants from the first cycle in 2021 and 19 participants from the instructed training course in 2020 for experts from Latin America and the Caribbean took the final examinations on 18 and 19 March 2021. As a result, 16 experts (13 from non-Annex I Parties and 3 from Annex I Parties) became eligible to take part in the reviews.

36. Further, GHG inventory experts who had participated in the basic course in recent years but failed one of the two mandatory examinations were invited to take part in the online non-instructed course and examinations with a view to becoming eligible to be invited to the review of the GHG inventories of Annex I Parties. The secretariat noted that the option of online examinations with remote invigilation will enable more experts from developing country Parties to retake the examinations.

37. In 2021, a refresher seminar for experienced GHG inventory reviewers, scheduled to be held in conjunction with the 18<sup>th</sup> meeting of GHG inventory LRs, was postponed again owing to that meeting being held virtually and the limited time slots in which participants from different time zones can meet.

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<sup>22</sup> Decision 14/CP.20.

38. Since June 2012, the secretariat has offered an online course on the review of complex models and higher-tier methods to both experienced and new experts. In this reporting cycle, no experts took the course.

39. Since the first pilot training session in 2002, the secretariat, together with review experts, has been working on developing, enhancing and implementing the training programme for experts for the review of GHG inventory submissions of Annex I Parties in order to increase the number of experts who are qualified to take part in the reviews, and in particular to increase the number of experts from non-Annex I Parties with a view to realizing geographical balance in ERTs. Although the number of nominated experts is increasing, nominations of further GHG inventory experts and experts with sufficient technical expertise to successfully complete the training courses are needed.

40. The secretariat continues its efforts to facilitate the access of experts to the relevant training programmes, periodically invite national focal points to nominate technical experts for the training programmes and provide information on the training courses on the UNFCCC website and by other means of outreach.

## **VI. Review tools and materials**

41. Providing support for the UNFCCC reporting and review processes requires a number of information technology systems and tools that differ in purpose, scope, size and degree of support. They vary from extensive, complex databases, such as the data warehouse and the GHG Locator tool, to smaller, focused review tools serving particular analytical purposes in the review process such as the Statistical Outlier Detection Tool.

### **A. Greenhouse gas data warehouse and review tools**

42. In order to fulfil its mandates, the secretariat established a data warehouse for storing and managing data related to GHG inventories and other submissions. Such a complex database is needed to process the extensive sets of GHG data reported by Annex I Parties, and it enables key reports and review tools to be generated and information in the GHG data interface to be updated. The upgrade of the data warehouse addressing the revised UNFCCC Annex I inventory reporting guidelines and the UNFCCC Annex I inventory review guidelines and technology obsolescence issues was completed in 2019.

### **B. Aggregate information on greenhouse gas emissions by sources and removals by sinks**

43. COP 20 requested the secretariat to compile and tabulate aggregate information and trends concerning GHG emissions by sources and removals by sinks from the latest available GHG inventory submissions of Annex I Parties, and any other inventory information, and to publish that information on the UNFCCC website and in a stand-alone document.<sup>23</sup> The latest aggregate GHG information was published on 30 June 2021.<sup>24</sup>

### **C. Greenhouse gas data interface**

44. The GHG data interface is a portal on the UNFCCC website<sup>25</sup> that provides public access to GHG data reported by Parties under the Convention and its Kyoto Protocol. The upgrade of all modules of the data interface, following the mandate received at SBSTA 38,<sup>26</sup> was completed in 2019. Moreover, the data in the interface were updated in June 2021 to include information from the GHG inventory submissions that had been received as at 27

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<sup>23</sup> Decision 13/CP.20, para. 8.

<sup>24</sup> Available at <https://unfccc.int/documents/279343>.

<sup>25</sup> <https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc>.

<sup>26</sup> FCCC/SBSTA/2013/3, para. 121.

May 2021. A new update is anticipated to take place in October 2021, to include information as at 1 October 2021.

#### **D. Standardized set of data comparisons**

45. COP 20 requested the secretariat to develop and implement a standardized set of data comparisons and to include information on those data comparisons in its annual report to the SBSTA.<sup>27</sup> A total of 41 status reports were generated for the 2021 review cycle.<sup>28</sup>

#### **E. GHG Locator and other review tools**

46. The GHG Locator tool presents the time-series data from submitted CRF tables of all Annex I Parties in a user-friendly format.<sup>29</sup> It shows quantitative information (e.g. emission estimates, implied emission factors and activity data) and qualitative information (e.g. notation keys) reported by all Annex I Parties. The Comparison tool compares submissions and parameters in a user-friendly format.<sup>30</sup> Other review tools, such as the Statistical Outlier Detection tool,<sup>31</sup> are mostly used internally by review officers to prepare necessary outputs throughout different stages of the review process.

47. The LRs noted with appreciation the information provided by the secretariat at their 18<sup>th</sup> meeting on its recent work in updating the review tools, especially with regard to the improved version of the Statistical Outlier Detection tool. The LRs were interested to hear that the overall functionality and performance of the review tools had been enhanced, enabling more accurate and user-friendly information on GHG inventory data. Following the recommendations from the 16<sup>th</sup> and 17<sup>th</sup> meetings of LRs, the secretariat continued to maintain and update the review tools for the 2021 and 2022 annual review cycles.<sup>32</sup>

48. The supplementary contributions of several Parties enabled the secretariat to continue developing the Statistical Outlier Detection tool and integrating it into existing processes for preparing assessment reports. The LRs expressed their interest in the development of this tool, which enables assessment reports to be prepared in an integrated manner. The first version of the new tool was presented to LRs at their 18<sup>th</sup> meeting. On the basis of comments received, the tool was improved further and finalized in order to make it available for use during the 2021 review cycle.

#### **F. Inventory virtual team room**

49. The GHG iVTR is an online application facilitating the review of GHG inventories of Annex I Parties. It supports the consistency, timeliness and efficiency of the review process by providing a collaborative environment for the work of ERTs, Parties and the secretariat before, during and after the review week. The iVTR is a platform where users can share and store documents, raise and clarify issues identified during reviews, ask technical questions, exchange information, and prepare and monitor the progress of the review reports.

50. At their 18<sup>th</sup> meeting, the LRs noted with appreciation the information provided by the secretariat on its recent work updating the iVTR. The LRs welcomed the development of the review issues database as a new module of the iVTR, which contains all relevant information on review issues since 2015, and welcomed the plans to use it during the 2021 review cycle. The LRs noted the secretariat's plan to consider improvements to this tool, if necessary, on the basis of feedback received from experts during the 2021 review cycle.

<sup>27</sup> Decision 13/CP.20, paras. 4 and 6.

<sup>28</sup> See para. 14 and footnote 13 above.

<sup>29</sup> Available at <http://rt.unfccc.int/locator>.

<sup>30</sup> Available at <http://rt.unfccc.int/comparison>.

<sup>31</sup> Available at <http://rt.unfccc.int/sodt>.

<sup>32</sup> See paras. 18, 19, 23 and 24 of the conclusions and recommendations in the annex to document FCCC/SBSTA/2019/INF.4 and para. 10 of the conclusions and recommendations in the annex to document FCCC/SBSTA/2020/INF.3.

51. As per the request of the LRs at their 16<sup>th</sup> meeting,<sup>33</sup> the secretariat resolved the connectivity problems that occurred when the iVTR report preparation module was used with different software platforms and made the revised iVTR available for the 2021 review cycle.

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<sup>33</sup> See para. 24 of the conclusions and recommendations in the annex to document FCCC/SBSTA/2019/INF.4.

## Annex

### Conclusions and recommendations from the 18<sup>th</sup> meeting of greenhouse gas inventory lead reviewers

#### I. Introduction

1. The 18<sup>th</sup> meeting of GHG inventory LRs took place from 22 to 26 March 2021 as a virtual meeting owing to the circumstances related to COVID-19. A total of 53 experts from non-Annex I Parties and 68 experts from Annex I Parties were invited to the meeting. Of the 106 experts who registered for the meeting, 87 attended, of whom 33 were from non-Annex I Parties and 54 were from Annex I Parties.

2. One member of the facilitative branch of the Compliance Committee, one representative of IEA, two representatives of 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 agriculture and land use to support GHG inventory reviews. The LRs highlighted the usefulness of these data sources for supporting GHG inventory reviews, encouraged 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.<sup>1</sup> In addition, at the meeting the LRs provided guidance on matters such as review tools, materials and templates.<sup>2</sup> These conclusions and recommendations will be reported to the SBSTA at its session to be convened in conjunction with COP 26 (November 2021).<sup>3</sup> 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 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.

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

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

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

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 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 module of the GHG iVTR, which contains all relevant information on review issues since 2015. The LRs also welcomed the plan to use the review issues database 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, 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 tool 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 Statistical Outlier Detection Tool 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 2019 Refinement to the 2006 IPCC Guidelines in the review process, including country-specific approaches based on or consistent therewith: the LRs noted that the 2019 Refinement to the 2006 IPCC Guidelines has not yet been adopted for use under the Convention, but acknowledged that methodologies therefrom can be used for new categories or subcategories that are not covered by the 2006 IPCC Guidelines. In these cases, the ERT should recognize in the 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 and/or assumptions taken from the 2019 Refinement to the 2006 IPCC Guidelines or a country-specific approach based on or consistent with the 2019 Refinement to the 2006 IPCC Guidelines 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 to the 2006 IPCC Guidelines, the ERT should recommend that the Party revise such allocations in accordance with the UNFCCC Annex I inventory reporting guidelines. 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, emission factors 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, emission factors or parameters are well documented, whether the Party demonstrated that they better represent the national circumstances and justified their use in its NIR, and 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 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 as substitutes for ozone-depleting substances: the LRs requested the secretariat, with the aim of improving the consistency and operationalization of the assessment of the completeness of fluorinated gas reporting under category 2.F product uses as substitutes for ozone depleting substances, to form a working group of reviewers with experience in fluorinated 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 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 GHG inventory of the EU. The LRs requested the secretariat to include consideration of these issues at the next meeting of LRs, taking into account the discussions at their 18<sup>th</sup> 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 17<sup>th</sup> meeting<sup>4</sup> 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 17<sup>th</sup> meeting of LRs<sup>5</sup> 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 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 ETF at subsequent LR meetings.

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<sup>4</sup> See para. 11 of the conclusions and recommendations from the 17<sup>th</sup> meeting. Available at [https://unfccc.int/sites/default/files/resource/conclusions-GHG\\_LRs-2020.pdf](https://unfccc.int/sites/default/files/resource/conclusions-GHG_LRs-2020.pdf).

<sup>5</sup> As footnote 37 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".

16. The LRs reiterated their conclusions from their 15<sup>th</sup> meeting,<sup>6</sup> 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.<sup>7</sup> 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 reports on the technical assessment of forest management reference level submissions not addressed in previous reviews, and persistent major issues in the Kyoto Protocol reporting based on the most recently published ARRs. 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 17<sup>th</sup> meeting<sup>8</sup> 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 17<sup>th</sup> meeting<sup>9</sup> 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, along with decision 18/CMA.1 and any related conclusions reached at COP 26, and to use

<sup>6</sup> See para. 11 of the conclusions and recommendations from the 15<sup>th</sup> meeting. Available at [http://unfccc.int/files/national\\_reports/annex\\_i\\_ghg\\_inventories/review\\_process/application/pdf/ghg-lrs-2018-conclusions\\_recommendations.pdf](http://unfccc.int/files/national_reports/annex_i_ghg_inventories/review_process/application/pdf/ghg-lrs-2018-conclusions_recommendations.pdf).

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

<sup>8</sup> 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”.

<sup>9</sup> Para. 11(f) reads “Consider the importance of focusing 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”.

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.

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