



United Nations

FCCC/SBSTA/2019/INF.4



Framework Convention on
Climate Change

Distr.: General
6 November 2019

English only

Subsidiary Body for Scientific and Technological Advice

Fifty-first session

Madrid, 2–9 December 2019

Item 13(b) of the provisional agenda

Annual reports on technical reviews

**Technical review on 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 2018 and 2019 review cycles, including the selection of experts and lead reviewers and the composition of the expert review teams, and on plans for the 2020 review cycle. It also provides information on review training activities under the Convention, the 16th meeting of greenhouse gas inventory lead reviewers, and progress made in updating the UNFCCC roster of experts and revising the standardized data comparisons, tools and other materials used in the reviews.

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Abbreviations and acronyms

Annex I Party	Party included in Annex I to the Convention
ARR	annual review report
CC	Bureau of the Compliance Committee
COP	Conference of the Parties
CO ₂	carbon dioxide
CR	centralized review
CRF	common reporting format
DR	desk review
EF	emission factor
ERT	expert review team
EU	European Union
GHG	greenhouse gas
ICR	in-country review
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
iVTR	inventory virtual team room
KP-LULUCF activities	activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
LR	lead reviewer
LULUCF	land use, land-use change and forestry
NA	not applicable
NE	not estimated
NFP	national focal point
NIR	national inventory report
non-Annex I Party	Party not included in Annex I to the Convention
N ₂ O	nitrous oxide
QA/QC	quality assurance/quality control
RITS	review issues tracking system
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”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

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.¹ 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.² The collective annual report to the SBSTA prepared by the LRs at their 16th meeting, containing suggestions on how to improve the quality, efficiency and consistency of the reviews,³ 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.⁴

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, in order to allow Parties to assess the effectiveness of the programme.⁵ In addition, the SBSTA requested the secretariat to include in that report information on progress made in updating the UNFCCC roster of experts.⁶

B. Scope of the report

4. This report provides information on activities relating to GHG inventory reviews conducted in the 2018 and 2019 review cycles and plans for the 2020 review cycle.⁷

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 annual 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.⁸ The lessons learned from and problems encountered in the review process under the Convention have many elements in common with those in relation to the reviews under the Kyoto Protocol.

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

6. The SBSTA will be invited to take note of this report.⁹

II. Review activities

7. The GHG inventory review activities, along with some activities for the training of review experts and the organization of the meetings of LRs, are funded from the UNFCCC core budget. Some other related activities, such as refresher seminars for experienced

¹ Decision 12/CP.9, para. 10.

² Decision 13/CP.20, annex, para. 40.

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

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

⁵ Decision 14/CP.20, para. 3.

⁶ FCCC/SBSTA/2006/5, para. 95.

⁷ For the 2019 review cycle, information as at 31 October 2019 has been provided.

⁸ FCCC/SBSTA/2019/INF.5.

⁹ In accordance with decision 13/CP.20, annex, para. 53.

reviewers, the strengthening of the secretariat's capacity to support review and training activities and the development of the GHG information system, continue to be funded by voluntary contributions to supplementary funds.

A. The 2018 cycle of individual greenhouse gas inventory reviews

8. Between 6 April and 31 October 2017, the secretariat received submissions of annual GHG inventories for 2018 from all 44 Annex I Parties. The secretariat organized the 2018 review cycle taking into consideration the secretariat's programme budget for the biennium 2018–2019.¹⁰ In accordance with this work programme, while Parties continue to submit inventories on an annual basis, the core budget contains a provision to support the individual reviews of these inventories only once per biennium for each Party. Additional individual reviews can be carried out if supported through supplementary funding.

9. For the 2018 review cycle, as at 2 April 2018 the available support in terms of supplementary funding was insufficient to complement the resources from the core budget, and therefore the secretariat organized individual reviews of 23 of the submissions referred to in paragraph 8 above.¹¹ Ten of the individual reviews were organized as ICRs (between 10 September and 10 November 2018), nine as three CRs (in Bonn, between 17 September and 13 October 2018) and four as two DRs (between 10 September and 6 October 2018). As at 31 October 2019, all review reports except two (those of Poland and the United States of America) had been published.¹² Table 1 provides information on the 2018 review cycle and the publication dates of each review report.

Table 1

2018 review cycle of the greenhouse gas inventory submissions, including publication dates of annual review reports

<i>Party</i>	<i>Review week dates (review type)</i>	<i>ARR 2018 publication date</i>
Australia	No individual review of the 2018 inventory submission	NA
Austria	10–15 September 2018 (DR)	16 January 2019
Belarus	No individual review of the 2018 inventory submission	NA
Belgium	24–29 September 2018 (ICR)	7 August 2019
Bulgaria	8–13 October 2018 (CR)	18 September 2019
Canada	No individual review of the 2018 inventory submission	NA
Croatia	17–22 September 2018 (ICR)	3 May 2019
Cyprus	No individual review of the 2018 inventory submission	NA

¹⁰ FCCC/SBI/2017/4.

¹¹ For the 2018 review cycle, the secretariat planned to organize individual reviews for the 2018 submissions of the 22 Annex I Parties whose 2017 submissions had not been reviewed. The 2017 GHG inventory submission of the Russian Federation was subject to individual review. During the organization of the 2018 reviews, the Russian Federation invited the secretariat to organize the ICR of its GHG submission in 2018 (instead of in 2019, as the secretariat had planned) to facilitate domestic arrangements, as the GHG ICR would then take place the week after the ICR of the Russian Federation's seventh national communication and third biennial report.

¹² 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/inventory-review-reports-2018>.

<i>Party</i>	<i>Review week dates (review type)</i>	<i>ARR 2018 publication date</i>
Czechia	No individual review of the 2018 inventory submission	NA
Denmark	1–6 October 2018 (DR)	5 February 2019
Estonia	24–29 September 2018 (ICR)	16 January 2019
EU	24–29 September 2018 (CR)	24 April 2019
Finland	10–15 September 2018 (ICR)	28 January 2019
France	No individual review of the 2018 inventory submission	NA
Germany	10–15 September 2018 (DR)	5 April 2019
Greece	No individual review of the 2018 inventory submission	NA
Hungary	No individual review of the 2018 inventory submission	NA
Iceland	No individual review of the 2018 inventory submission	NA
Ireland	17–22 September 2018 (CR)	6 August 2019
Italy	1–6 October 2018 (DR)	29 January 2019
Japan	8–13 October 2019 (CR)	27 September 2019
Kazakhstan	No individual review of the 2018 inventory submission	NA
Latvia	17–22 September 2018 (CR)	3 April 2019
Liechtenstein	17–22 September 2018 (CR)	27 May 2019
Lithuania	No individual review of the 2018 inventory submission	NA
Luxembourg	1–6 October 2018 (ICR)	15 April 2019
Malta	No individual review of the 2018 inventory submission	NA
Monaco	No individual review of the 2018 inventory submission	NA
Netherlands	No individual review of the 2018 inventory submission	NA
New Zealand	No individual review of the 2018 inventory submission	NA
Norway	17–22 September 2018 (ICR)	18 July 2019
Poland	8–13 October 2018 (CR)	In preparation
Portugal	10–15 September 2018 (ICR)	1 April 2019
Romania	1–6 October 2018 (ICR)	17 April 2019
Russian Federation	8–13 October 2018 (ICR)	19 July 2019

<i>Party</i>	<i>Review week dates (review type)</i>	<i>ARR 2018 publication date</i>
Slovakia	No individual review of the 2018 inventory submission	NA
Slovenia	24–29 September 2018 (CR)	15 April 2019
Spain	No individual review of the 2018 inventory submission	NA
Sweden	No individual review of the 2018 inventory submission	NA
Switzerland	No individual review of the 2018 inventory submission	NA
Turkey	24–29 September 2018 (CR)	2 May 2019
Ukraine	No individual review of the 2018 inventory submission	NA
United Kingdom	No individual review of the 2018 inventory submission	NA
United States	5–10 November 2018 (ICR)	In preparation

B. The 2019 cycle of individual greenhouse gas inventory reviews

1. Greenhouse gas inventory submissions

10. Between 2 April and 24 May 2018, the secretariat received submissions of annual GHG inventories for 2019 from all 44 Annex I Parties (see table 2).

11. The secretariat organized the 2019 review cycle taking into consideration the secretariat's work programme for the biennium 2018–2019 (see para. 8 above).

12. For the 2019 review cycle, as at 30 April 2019 the available support in terms of supplementary funding was insufficient to complement the resources from the core budget, and therefore the secretariat organized individual reviews of 24 of the submissions referred to in paragraph 10 above. Six of the individual reviews were organized as ICRs (between 2 September and 12 October 2019), 14 as five CRs (in Bonn, between 2 September and 12 October 2019) and 4 as two DRs (between 16 and 28 September 2019). The reports of these reviews are in preparation.

Table 2

Submission of greenhouse gas inventories in 2019 and review dates and types during the 2019 review cycle

<i>Party</i>	<i>Original submission date</i>		<i>Review dates (review type)</i>
	<i>NIR</i>	<i>CRF tables</i>	
Australia	24 May 2019	24 May 2019	2–7 September 2019 (CR)
Austria	15 April 2019	15 April 2019	Not subject to individual review
Belarus	12 April 2019	12 April 2019	23–28 September 2019 (CR)
Belgium	15 April 2019	15 April 2019	Not subject to individual review
Bulgaria	12 April 2019	15 April 2019	Not subject to individual review
Canada	15 April 2019	15 April 2019	23–28 September 2019 (CR)
Croatia	15 April 2019	11 April 2019	Not subject to individual review

<i>Party</i>	<i>Original submission date</i>		
	<i>NIR</i>	<i>CRF tables</i>	<i>Review dates (review type)</i>
Cyprus	16 April 2019	16 April 2019	2–7 September 2019 (CR)
Czechia	12 April 2019	12 April 2019	16–21 September 2019 (DR)
Denmark	12 April 2019	12 April 2019	Not subject to individual review
Estonia	11 April 2019	12 April 2019	Not subject to individual review
EU	15 April 2019	15 April 2019	Not subject to individual review
Finland	10 April 2019	10 April 2019	Not subject to individual review
France	2 April 2019	3 April 2019	9–14 September 2019 (CR)
Germany	15 April 2019	12 April 2019	Not subject to individual review
Greece	15 April 2019	15 April 2019	30 September to 5 October 2019 (ICR)
Hungary	15 April 2019	15 April 2019	2–7 September 2019 (CR)
Iceland	14 April 2019	14 April 2019	16–21 September 2019 (DR)
Ireland	10 April 2019	10 April 2019	Not subject to individual review
Italy	15 April 2019	5 April 2019	7–12 October 2019 (ICR)
Japan	15 April 2019	15 April 2019	Not subject to individual review
Kazakhstan	19 July 2019	15 April 2019	23–28 September 2019 (CR)
Latvia	12 April 2019	12 April 2019	Not subject to individual review
Liechtenstein	15 April 2019	15 April 2019	Not subject to individual review
Lithuania	12 April 2019	16 April 2019	2–7 September 2019 (ICR)
Luxembourg	15 April 2019	4 April 2019	Not subject to individual review
Malta	17 April 2019	10 May 2019	9–14 September 2019 (CR)
Monaco	15 April 2019	15 April 2019	9–14 September 2019 (ICR)
Netherlands	15 April 2019	15 April 2019	16–21 September 2019 (CR)
New Zealand	11 April 2019	10 April 2019	7–12 October 2019 (ICR)
Norway	12 April 2019	12 April 2019	Not subject to individual review
Poland	9 April 2019	9 April 2019	Not subject to individual review
Portugal	2 April 2019	2 April 2019	Not subject to individual review
Romania	15 April 2019	15 April 2019	Not subject to individual review
Russian Federation	14 April 2019	13 April 2019	Not subject to individual review
Slovakia	11 April 2019	11 April 2019	23–28 September 2019 (DR)
Slovenia	15 April 2019	10 April 2019	Not subject to individual review
Spain	2 April 2019	2 April 2019	16–21 September 2019 (CR)
Sweden	12 April 2019	12 April 2019	23–28 September 2019 (DR)
Switzerland	15 April 2019	15 April 2019	9–14 September 2019 (CR)

<i>Party</i>	<i>Original submission date</i>		
	<i>NIR</i>	<i>CRF tables</i>	<i>Review dates (review type)</i>
Turkey	13 April 2019	13 April 2019	7–12 October 2019 (CR)
Ukraine	16 May 2019	16 May 2019	16–21 September 2019 (CR)
United Kingdom	15 April 2019	15 April 2019	30 September to 5 October 2019 (ICR)
United States	13 April 2019	13 April 2019	7–12 October 2019 (CR)

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 ARRs.

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 24 GHG inventory submissions received were prepared and published on the UNFCCC website.¹³ 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 2019 review cycle.

15. In the 2019 review cycle, the secretariat coordinated the review of the GHG inventories of 24 Parties (see para. 12 above). Table 2 shows the review dates and type of review for each Party. The reports on the reviews are in preparation.

16. In accordance with annex I to decision 12/CP.9 and the annex to decision 14/CP.20, new experts who have taken the training courses for reviews under the Convention and have passed the corresponding examinations can participate in an ERT.¹⁴ In 2019, the secretariat invited 219 experts to participate in the GHG inventory reviews, 58 of whom declined on account of being unavailable owing to previous commitments, a heavy workload, a lack of financial resources or other reasons. In addition, 24 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 2019 review cycle, a total of 134 individuals from 61 Parties served as inventory experts on review teams. Of those experts, 57 were from non-Annex I Parties, 19 from Annex I Parties with economies in transition and 58 from other Annex I Parties.

18. Between 2000, when individual reviews of GHG inventory submissions were first conducted during the trial period, and 2019, 513 individual experts from 100 Parties (41 Annex I Parties and 59 non-Annex I Parties) participated in GHG inventory review activities.¹⁵

19. Table 3 provides a breakdown of the participation of experts by nominating Party in the 2019 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 2019: Belarus, Croatia, Cyprus, Czechia, Iceland,

¹³ <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2019>.

¹⁴ For more information on the training of review experts, see document FCCC/SBSTA/2019/INF.4, chapter V.

¹⁵ These totals do not include 12 observers that participated in the reviews between 2000 and 2008.

Liechtenstein, Luxembourg, Malta, Monaco, Portugal and Slovakia. In general, there were several reasons for experts not participating in the 2019 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; (4) some experts had a heavy workload and other job obligations during the review period; and (5) some Annex I Parties were experiencing a shortage of financial resources for supporting their nominated experts' participation in the reviews; for example, in the course of the preparations for the 2019 review cycle, the secretariat received 13 requests from experts nominated by Annex I Parties for exceptional funding. 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 2018: Australia (4), Brazil (13), China (7), Japan (9), New Zealand (5), Romania (5), United Kingdom of Great Britain and Northern Ireland (4) and Zimbabwe (4). Such strong support is a key factor in the success of the reviews.

Table 3

Number of experts participating in the 2019 greenhouse gas inventory review cycle, by nominating Party

<i>Party</i>				
<i>Annex I Parties</i>		<i>Annex I Parties with economies in transition</i>	<i>Non-Annex I Parties</i>	
Australia – 4	Japan – 9	Bulgaria – 2	Algeria – 1	Ghana – 1
Austria – 1	Kazakhstan ^a – 1	Estonia – 1	Argentina – 3	Lebanon – 1
Belgium – 3	Netherlands – 2	Hungary – 1	Armenia – 1	Mongolia – 1
Canada – 2	New Zealand – 5	Latvia – 1	Benin – 1	Mozambique – 1
Denmark – 2	Norway – 1	Lithuania – 2	Bhutan – 2	Pakistan – 1
EU – 1	Spain – 1	Poland – 1	Brazil – 13	Peru – 2
Finland – 3	Sweden – 2	Romania – 5	Chile – 1	Republic of Moldova – 2
France – 1	Switzerland – 2	Russian Federation – 3	China – 7	San Marino – 1
Germany – 3	Turkey – 2	Slovenia – 1	Colombia – 1	South Africa – 3
Greece – 1	United Kingdom – 4	Ukraine – 3	Costa Rica – 1	Thailand – 3
Ireland – 3	United States – 3		Cuba – 1	Viet Nam – 1
Italy – 3			Egypt – 1	Zambia – 1
			Eswatini – 1	Zimbabwe – 4
			Gambia – 1	

^a Kazakhstan is a Party included in Annex I for the purpose of the Kyoto Protocol.

20. When inviting experts to participate as LRs, the secretariat seeks to ensure an overall geographical balance in the number of experts from Annex I Parties and non-Annex I Parties. It also takes into consideration the experts' experience in the preparation and management of GHG inventories, previous participation in reviews, technical expertise in the GHG inventory sectors and successful completion of the training courses. In 2019, a total of 26 individuals from 18 Parties served as inventory LRs. Of those experts, 13 were from non-Annex I Parties and 13 from Annex I Parties (of which none was an Annex I Party with an economy in transition).

21. For each ICR, the secretariat invited one review expert for each sector and one generalist to cover cross-cutting issues. For each DR, the secretariat invited two review experts for each sector and two generalists to cover cross-cutting issues. For each CR, the secretariat invited between two and four review experts to cover each sector and two

generalists to cover cross-cutting issues. In accordance with the conclusions of the 11th meeting of inventory LRs, the secretariat ensured that no LULUCF experts acted as an LR.¹⁶

22. The secretariat continues to reinforce ERTs undertaking CRs with new review experts. In 2019, 10 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 LRs and experienced reviewers.

23. The secretariat is making efforts to further improve the timeliness of the publication of the review reports during the 2019 review cycle while maintaining the required quality level, in particular by increasing the number of experts per team and updating the review materials (see chap. VI below).

3. 2020 review cycle

24. Annex I Parties will submit their 2020 GHG inventory submissions in accordance with the UNFCCC Annex I inventory reporting guidelines by 15 April 2020. The inventories will be reviewed in accordance with the UNFCCC Annex I inventory review guidelines and taking into consideration the secretariat's work programme for the biennium 2020–2021.¹⁷ The secretariat will organize the review of the 2020 GHG inventory submissions under the Convention so that the individual reviews take place in the third quarter of 2020.

III. Meeting of inventory lead reviewers

25. The 16th meeting of GHG inventory LRs was held in Bonn on 13 and 14 March 2019. A total of 52 experts from non-Annex I Parties and 82 experts from Annex I Parties were invited to the meeting. Of the 74 experts who attended, 36 were from non-Annex I Parties and 38 were from Annex I Parties. Fourteen members of the CC, two representatives of IEA and one representative of the European Commission attended the meeting as observers. In the morning of 13 March, before the LRs meeting, the secretariat held a refresher seminar for LRs and experienced reviewers, which was attended by 73 experts (36 from non-Annex I Parties and 37 from Annex I Parties) (see para. 35 below).

26. In accordance with decisions 13/CP.20, 22/CMP.1 and 24/CMP.1, the meeting facilitated the work of LRs in fulfilling their task to ensure the consistency of reviews across all Parties and provided suggestions on how to improve the quality and efficiency of the reviews. These conclusions and recommendations will be reported to the SBSTA, in accordance with the annexes to decisions 13/CP.20 and 22/CMP.1 in conjunction with decision 4/CMP.11. Such reports provide the SBSTA with inputs to its provision of further guidance to the secretariat on the selection of experts and the coordination of the ERTs and the expert review process. In addition, COP 20 invited LRs to provide guidance on such matters as review tools, materials and templates,¹⁸ and to provide suggestions on how to improve the quality, efficiency and consistency of the reviews.¹⁹

IV. UNFCCC roster of experts and availability of nominated experts

27. As at 31 October 2019, the UNFCCC roster of experts contained 1,478 GHG inventory experts, 921 from non-Annex I Parties and 557 from Annex I Parties. Among those experts, 528 have passed all mandatory examinations to act as reviewers of the annual

¹⁶ See para. 24 of the conclusions, which are available at <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/review-process>.

¹⁷ The Subsidiary Body for Implementation, at its fiftieth session, forwarded a draft decision on the programme budget for the biennium 2020–2021 to COP 25 for consideration and adoption (FCCC/SBI/2019/9, para. 152). The draft decision is contained in document FCCC/SBI/2019/9/Add.1.

¹⁸ Decision 13/CP.20, annex, para. 48.

¹⁹ Decision 13/CP.20, annex, para. 44.

reviews under Article 8 of the Kyoto Protocol and could be invited to participate in GHG reviews for Annex I Parties.

28. Many of the qualified experts on the roster have not actively participated in the reviews in recent years. In addition, significant workloads of the nominated experts at their respective offices prohibit them from devoting sufficient time to the online training programmes and subsequently 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 decision 5/CMP.11 requires experienced experts to take the updated courses and pass the examinations to become new LRs, generalist reviewers and reviewers for KP-LULUCF activities for the second commitment period. Each year, a request to nominate more GHG inventory experts to the roster is made to the NFPs. 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 May 2019, as in previous years, the secretariat called for nominations of new experts who can actively participate in the review of GHG inventories, biennial reports and national communications submitted by Annex I Parties and in the analysis of biennial update reports submitted by non-Annex I Parties. The letter sent to all NFPs on this matter also invited them to regularly update the information on experts included in the roster and remove the experts who are no longer available for the reviews. The secretariat informed NFPs that the experts nominated to the UNFCCC roster of experts are eligible to participate in the various training programmes the secretariat offers to national experts who are interested and able to participate in UNFCCC reviews and analyses. The letter contained links to the training programme websites, which include schedules of upcoming training activities.

30. In 2019, the secretariat continued to make an online form available on the UNFCCC website to facilitate the self-nomination of experts to the roster and approval by NFPs. This form also facilitates the direct, therefore timely, updating of the list of nominees and their details by individual experts. Some cases were observed in which self-nomination or update of information by experts was not completed owing to the lack of subsequent approval of the nomination or the changes by the NFP. The secretariat continues to assist NFPs and experts to ensure they benefit from the self-nomination function, and requests cooperation from all Parties and experts in keeping the roster up to date. The secretariat also continuously improves the accessibility and user-friendliness of the information on the training programmes on the UNFCCC website,²⁰ and updates the content to reflect the latest developments.

V. Training of experts

A. Training programme for experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention

31. The COP requested the secretariat to implement the training programme for review experts for the technical review of GHG inventories of Annex I Parties, including the examination of experts, and to give priority to organizing an annual training seminar for the basic course and an annual refresher seminar for experienced GHG inventory review experts, subject to the availability of resources.²¹ It encouraged Annex I Parties in a position to do so to provide financial support for the implementation of the training programme. The training programme consists of the basic course, a course on improving communication and facilitating consensus within ERTs and a course on the review of complex models and higher-tier methods. The basic course of the training programme 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

²⁰ <http://unfccc.int/2763>.

²¹ Decisions 12/CP.9, 10/CP.15 and 14/CP.20.

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 IPCC inventory sectors. In accordance with the annex to decision 14/CP.20, the updated basic course of the training programme, with updated information to meet the requirements of the revised UNFCCC Annex I inventory reporting guidelines, the UNFCCC Annex I inventory review guidelines and the 2006 IPCC Guidelines, was formally launched online in September 2015.

B. Implementation of the training programme

32. In 2019, two cycles of the basic course facilitated by instructors (instructed course) were offered. Each cycle comprised an online study period of seven to eight weeks, followed by an in-person three-day regional training seminar and examinations. The first cycle focused on non-LULUCF experts in the Asia-Pacific region. After the online study period (between 19 August and 7 October 2019), the training seminar was held from 8 to 10 October 2019 in Siem Reap. It was hosted by the Government of Cambodia, represented by the General Secretariat of the National Council for Sustainable Development and the Ministry of Environment. The second cycle of the basic course focused on LULUCF and other sectoral experts from all regions. The online study period commenced on 22 September 2019 and will continue to 18 November 2019. It will be followed by a training seminar to be held in Bonn from 19 to 21 November 2019.

33. At the training seminars, the trainees participate over two and a half days in a simulated CR using a real annual GHG inventory submission. Highly experienced LRs, who are recognized for their knowledge and extensive experience in such training activities, act as instructors throughout the online study period and during the seminars, and provide guidance to, and respond to questions from, the trainees. To complete the basic course, trainees take the written examinations for the overview course in the morning of the second day, and the examinations for the corresponding sectoral course that they completed online in the afternoon of the final day. The examinations are timed, with a maximum of two hours for the overview course and three hours for the sectoral courses. Reflecting suggestions raised during the 16th LRs meeting in 2019, an open-book approach is applied to the final examinations for the sectoral courses. A total of 23 inventory experts nominated by their NFPs were invited to take the basic course, of which 21 experts from non-Annex I Parties and 2 from Annex I Parties took the online course. Of these, 18 experts (16 from non-Annex I Parties and 2 from Annex I Parties) participated in the training seminar.

34. For the experts who have sufficient experience of national GHG inventories, the secretariat offers an online course for a six-week period without the support of instructors (non-instructed course). Since the launch of the updated basic course in 2015, the secretariat has sent 522 invitations to experienced inventory reviewers, including LRs, to take the non-instructed online course, as encouraged in the annex to decision 14/CP.20, in order to update their skills and knowledge, and to take the relevant examinations. In-person examinations are organized, making use of existing opportunities where secretariat staff can be present, such as during the ICRs of third biennial reports and sixth national communications, sessions of the COP and the subsidiary bodies, and the 16th LRs meeting. A total of 12 experts participated in the non-instructed courses and took the examinations between 1 January and 30 September 2019. This resulted in three new experts, who took the examinations to fulfil the mandatory requirements for becoming a review expert under the Convention. Eight experienced review experts took the opportunity to take the examinations of the updated course; four of them expanded their expertise by taking courses that were different from their original expertise.

35. In 2019, the secretariat organized a half-day refresher seminar for experienced GHG inventory reviewers on 13 February in conjunction with the 16th meeting of GHG inventory LRs. Three topics were covered by the seminar: the supporting training material for experts of sectors other than LULUCF for reviewing accounting information on KP-LULUCF activities; the review of the QA/QC and verification systems of Annex I Parties; and the *Handbook for the Review of National Greenhouse Gas Inventories* (hereinafter referred to as

the review handbook).²² Two LULUCF reviewers presented key points on the review of KP-LULUCF activities during the second commitment period. One of the LRs presented a technical paper on the review of QA/QC and verification systems, prepared for the seminar; the presentation was followed by a discussion among the participants in the meeting. The secretariat made a presentation on the review handbook with the aim of promoting its use by experienced reviewers during the reviews.

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

37. The training of experts for the review of GHG inventory submissions from Annex I Parties dates back to December 2002, when the first pilot training session was held in Geneva. Since then, the secretariat, together with review experts, has been working on the development, enhancement and implementation of the training programme in order to increase the number of experts who are qualified to take part in the reviews – in particular, to increase the number of experts from non-Annex I Parties in order to realise ERTs with geographical balance. Today, the importance of training review experts for ensuring the required quality and consistency of the review process is widely recognized among Parties and experts. However, there is a decreasing trend in the number of participants in the basic course passing the final examinations, which has become particularly evident since the basic course was updated in 2015.

38. At the 16th LRs meeting (see para. 25 above), the LRs discussed options for enhancing the effectiveness of the training activities and then provided the secretariat with suggestions, which included (1) introducing the latest information technology and communications practices into the online courses and the final examinations, (2) providing experts with more flexibility as to when they can take the courses and (3) focusing more on evaluating the ability of experts to identify potential review issues and analyse data than on testing their knowledge.

39. The secretariat continues its efforts to encourage all available experts listed on the UNFCCC roster of experts nominated for GHG inventory review activities to take the relevant training courses and examinations. The secretariat facilitates the access of experts to the relevant training programmes, periodically invites Parties to nominate new experts for the training programmes and provides relevant information on the training courses on the UNFCCC website²³ and by other electronic means, such as the secretariat's newsletter.

VI. Review tools and materials

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

A. Greenhouse gas data warehouse and review tools

41. In order to fulfil its mandates, the secretariat developed and put in place a data warehouse to manage the storage and management of data related to GHG inventories and submissions. Such a complex software and database system is needed to enable the processing of extensive sets of GHG data reported by Annex I Parties, and it allows the generation of key reports and review tools as well as feeding the GHG data interface. The upgrade of the data warehouse addressing the revised reporting and review inventory guidelines and technology obsolescence issues is intended to be completed by the end of 2019.

²² 2018 draft available at https://unfccc.int/sites/default/files/resource/ReviewHandbook%20GHG%20Inventories%202018_clean_0.pdf.

²³ <http://unfccc.int/2763>.

42. The data warehouse upgrade is necessary not only for the GHG data interface and the production of streamlined aggregate GHG information, but also for the redesign of the existing review tools. The update covers all the existing review tools, especially the GHG Locator and the Comparison Tool.

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

43. The COP 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 as well as in a stand-alone document.²⁴ The latest aggregate GHG information was published on 27 June 2019.²⁵

C. Greenhouse gas data interface

44. The GHG data interface is an online portal on the UNFCCC website²⁶ that allows public access to GHG data reported by Parties under the Convention and its Kyoto Protocol. The interface is currently being upgraded, as mandated at SBSTA 38,²⁷ following the adoption of the revised UNFCCC Annex I inventory reporting guidelines. The upgrade is intended to be completed by the end of 2019.

D. Standardized set of data comparisons

45. The COP 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.²⁸

46. The GHG inventory LRs, at their 16th meeting, noted that the secretariat had completed the implementation of the changes agreed at their 15th meeting, including the new template for the status report. The new template was used for generating the status reports in the 2019 review cycle.

E. GHG Locator and other review tools

47. The GHG Locator tool is an application that provides ERTs with the time-series data from submitted CRF tables of all Annex I Parties in a user-friendly format. It shows quantitative information (e.g. emissions, implied EFs and activity data) and qualitative information (e.g. notation keys) reported by all Annex I Parties. The Comparison Tool is an application used by ERTs to compare submissions and parameters in a user-friendly format similar to that of the GHG Locator tool. These tools are used mostly by ERTs during the review process and by review officers in preparing the reviews. Other review tools, such as the Statistical Outlier Detection Tool and the Key Category Analysis Tool, are exclusively used internally by review officers to prepare necessary outputs throughout different stages of the review process.

48. The GHG inventory LRs noted during their 16th meeting that the online and offline versions of GHG Locator as well as the Comparison Tool had been improved following the recommendations of the 15th meeting of LRs. The improved review tools were widely used during the 2018 review cycle. The LRs also noted that the overall functionality and performance of these tools had been enhanced, allowing more experts to use them, and

²⁴ Decision 13/CP.20, para. 8.

²⁵ FCCC/WEB/AGI/2019.

²⁶ <https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc>.

²⁷ FCCC/SBSTA/2013/3, para. 121.

²⁸ Decision 13/CP.20, paras. 4 and 6.

recommended that the secretariat further enhance the review tools. The LRs expressed their support for developing the Statistical Outlier Detection Tool into a new internal tool that would enable the preparation of assessment reports in an integrated manner.

49. Following the recommendations of the 15th meeting of LRs, the secretariat has continued to maintain and update the review tools for the 2019 annual review cycle. In addition, considering the supplementary contributions of several Parties, the secretariat started developing the new Statistical Outlier Detection Tool and integrating it into the existing tools and processes for preparing assessment reports. The first version of the new tool is expected to be presented during the 17th meeting of GHG inventory LRs.

F. Virtual team room

50. The GHG iVTR is an online application facilitating the reviews of GHG inventories of Annex I Parties by providing a collaborative and shared environment. The iVTR supports enhancing the consistency, timeliness and efficiency of the review process by facilitating the work and the exchange of information between ERTs, Parties and the secretariat before, during and after the review week. The iVTR provides a platform where all users can share and store documents and issues identified in reviews, raise technical questions to clarify issues and exchange information and documents between ERTs and Parties, and collaboratively prepare the review reports (including monitoring the progress of report preparation).

51. During their 16th meeting, the GHG inventory LRs again recognized the benefits of using the iVTR during the review process, and welcomed the new features of the iVTR that were made available for the 2018 review cycle. The LRs noted the pilot experience with a Party in preparing the assessment report using the iVTR and welcomed the progress made by the secretariat in enhancing the issues database module of RITS. The LRs requested the secretariat to provide a mock-up version of the enhanced RITS to a small group of LRs during the development phase and to strive to have the new issues database module ready in time for the 2020 review cycle. The LRs also expressed their support of the efforts the secretariat has made in further integrating the iVTR modules and further improving the user-friendliness of the application.

Annex

Conclusions and recommendations from the 16th meeting of greenhouse gas inventory lead reviewers

I. Introduction

1. The 16th meeting of GHG inventory LRs was held in Bonn on 13 and 14 March 2019. A total of 52 experts from non-Annex I Parties and 82 experts from Annex I Parties were invited to the meeting. Of the 74 experts who attended, 36 were from non-Annex I Parties and 38 were from Annex I Parties. In addition, 14 members of the CC, two representatives of IEA and one representative of the European Commission attended the meeting as observers.

2. The secretariat held a refresher seminar for LRs and experienced reviewers on the morning of 13 March, before the LRs meeting, which was attended by 73 experts (36 from non-Annex I Parties and 37 from Annex I Parties). The refresher seminar focused on the supporting training material for experts of sectors other than LULUCF for reviewing accounting information on KP-LULUCF activities; the review of the QA/QC and verification systems of Annex I Parties; and the review handbook.

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 contributed to facilitating the work of LRs in fulfilling their task to ensure the consistency of reviews across all Parties and the quality and objectivity of the technical examinations of the reviews,¹ and to providing suggestions on how to improve the quality, efficiency and consistency of the reviews.² In addition, the LRs meeting provided guidance on such matters as review tools, materials and templates.³ These conclusions and recommendations will be reported to SBSTA 51.⁴ Such reports provide the SBSTA with inputs for providing further guidance to the secretariat on the selection of experts and the coordination of the ERTs and the expert review process.

4. Furthermore, in accordance with the invitation of SBSTA 48, the LRs, at their 16th meeting, continued their consideration of the experience in conducting DRs and provided suggestions on how to improve the operationalization of the reviews.⁵

5. The LRs noted that the organization during the meeting of the dialogue on the complementary roles of ERTs and the CC in facilitating the implementation of the Kyoto Protocol proved to be a useful platform for the exchange of views; in particular, it enabled a face-to-face discussion with CC members that led to a better understanding of the respective mandates and roles, as well as the challenges faced by ERTs in the review process.

II. Coordination and planning of the 2019 review cycle

6. The LRs noted the secretariat's plan to organize the 2019 review cycle, and noted with appreciation that the planning of the reviews has started earlier than in previous years (March in 2019 compared with April in 2018 and May in 2017). The plan covers the review of the submissions of 22 Annex I Parties, in accordance with the budget approved by Parties for the secretariat's work programme for 2018–2019.⁶ The secretariat will expand the plan to cover the review of the submissions of the remaining 22 Annex I Parties, fully in accordance with the mandate to organize the review of all 44 submissions from Annex I Parties, if sufficient

¹ Decision 13/CP.20, annex, para. 42.

² Decision 13/CP.20, annex, para. 44.

³ Decision 13/CP.20, annex, para. 48.

⁴ Decision 13/CP.20, annex, para. 44, and decision 22/CMP.1, annex, para. 40(a).

⁵ FCCC/SBSTA/2018/4, para. 90.

⁶ FCCC/SBI/2017/4, para. 50(c).

resources are available in the Trust Fund for Supplementary Activities in time for the organization of reviews.

7. The LRs reiterated the request to the secretariat to remind Parties in a position to do so of the need to provide support in terms of supplementary funding for projects related to the reviews of the GHG inventories of Annex I Parties by the end of April 2019 at the latest, in order to enable the secretariat to organize the review of all 44 submissions from Annex I Parties and to facilitate the efficient organization of the 2019 review cycle.

8. The LRs requested the secretariat to progress swiftly with the remaining steps of the organization of the 2019 review cycle in accordance with the plan to organize the 2019 reviews by enquiring as to the availability of experts as soon as possible and no later than by 30 April 2019, and to send invitations to experts no later than by 31 May 2019.

III. Training and availability of review experts

9. The LRs welcomed the information on training activities undertaken by the secretariat in 2018 and planned training activities in 2019, and recalled the need for new and experienced experts and new LRs to fulfil the mandatory requirements of the relevant training courses under the Convention and its Kyoto Protocol with a view to taking part in the reviews. The LRs also welcomed the organization of the refresher seminar held prior to the 16th meeting on the supporting training material for reviewing accounting information on KP-LULUCF activities, the review of the QA/QC and verification systems of Annex I Parties, and the review handbook, and noted the need to explore more opportunities for experienced reviewers to enhance their knowledge and skills for the review of GHG inventories.

10. The LRs noted that the document “Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the second commitment period” and its examination are helpful for LRs whose technical expertise is not in the LULUCF sector.

11. The LRs noted the need for all new experts and new LRs who have not undertaken the relevant courses and examinations to fulfil the mandatory requirements of the updated training programme for members of ERTs participating in annual reviews under Article 8 of the Kyoto Protocol to pass the relevant examinations before the start of the 2019 review cycle.

12. The LRs welcomed the ongoing efforts of the secretariat to improve the user-friendliness of the online courses under the Convention by making them available for download and accessible throughout the year.

13. The LRs noted the importance of nominating new experts with technical potential and interest to the UNFCCC roster of experts and of updating the information on experts contained in the roster.

14. The LRs noted the need for the secretariat to explore various approaches to increase the number of review experts, in particular experts from non-Annex I Parties, and to report on this matter at the next LRs meeting.

15. The LRs requested the secretariat to enhance the clarity of the questions for the examinations of the training courses and evaluate the possibility of updating or developing ‘open-book’ examinations for the current training courses.

16. The LRs noted the resource constraints, both human and financial, in the secretariat and encouraged Parties to continue to support the training activities by providing sufficient resources to continue and strengthen the implementation and further enhancement of these key activities in order to achieve the level of transparency required both now and in the future.

IV. Guidance on the development of review tools and materials

A. Review tools and materials

17. The LRs noted the progress made by the secretariat in further developing the GHG data interface. They also noted that the functioning of the GHG data interface, as well as the completion of the work on the remaining two modules,⁷ continue to be affected owing to insufficient funding.

18. The LRs noted that the review tools (the online GHG Locator, the Comparison Tool and the offline version of the GHG Locator) were developed and improved following the recommendations of the 15th meeting of LRs and were widely used during the 2018 review cycle. The LRs also noted that the overall functionality and performance of these tools were enhanced, allowing more experts to use them before, during and after the review week. The LRs expressed support for the enhancement of the Statistical Outlier Detection Tool under a new internal tool to support the preparation of assessment reports in an integrated manner.

19. The LRs noted the secretariat's plan to further enhance the user-friendliness of the review tools based on the feedback received from experts during the 2018 review cycle. The LRs also noted that additional financial resources are needed to implement all planned improvements. The LRs recommended that the secretariat prioritize such improvements.

B. Status report

20. The LRs noted that the secretariat has completed the implementation of changes to the status report following the conclusions of the 15th meeting of LRs, including the new template of the status report, which will be used for the generation of status reports for the 2019 review cycle.

C. GHG inventory virtual team room

21. The LRs noted that around 200 users, including LRs, review officers and Party representatives, used the GHG inventory iVTR during the 2018 review cycle. As a result of a survey conducted in November–December 2018, iVTR users indicated that the iVTR has been enhanced and continues to support the improvement of efficiency in conducting the reviews.

22. The LRs noted the benefits of continuing the use of the iVTR and welcomed the new features of the iVTR that were made available for the 2018 review cycle, in particular read-only access to historical review materials, the simplified RITS module, and integration between the RITS module and the questions and answers module. The LRs also noted the pilot experience with a Party in preparing the assessment report using the questions and answers module of the iVTR.

23. The LRs welcomed the progress made by the secretariat in enhancing the RITS (issues database module) following the conclusions of the 15th meeting of LRs. The LRs requested the secretariat to provide a mock-up version of the enhanced RITS (issues database module) to a small group of LRs, who will provide support to the secretariat in designing the final product. The LRs noted that the enhanced RITS (issues database module) is expected to be available for the 2020 review cycle. The LRs expressed support for further integration of the iVTR modules and for further improving the user-friendliness of the tool. The LRs noted that additional financial resources are needed to implement all planned improvements.

24. The LRs also noted that the secretariat is working on resolving the connectivity problems when using the iVTR report preparation module with different software platforms.

⁷ The two remaining modules are (1) user-defined indicators and (2) compilation and accounting data.

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

25. The LRs reaffirmed their role in leading ERTs and the review process, ensuring the quality and consistency of the reviews and supporting new experts taking part in ERTs. The LRs noted that ensuring and improving consistency in the review process is a collective and constant effort by ERTs, LRs and the secretariat. The LRs reiterated their previous conclusions and recommendations for enhancing the consistency of the review process, particularly those conclusions and recommendations agreed since the 13th meeting of LRs, where the LRs started the consideration of reviews undertaken pursuant to the revised UNFCCC Annex I inventory reporting guidelines and the UNFCCC Annex I inventory review guidelines. In addition, the LRs encouraged the secretariat to explore opportunities for the more active involvement of the sector expert groups⁸ before, during and after the review week (e.g. through electronic forums, and by identifying frequently asked questions), while recognizing that the final decisions are those of the ERT. The LRs further encouraged experts to carefully consult the review handbook prior to the review week. The LRs also requested the secretariat to identify options for including standardized text for more common ERT findings in the ARR template to help improve the structure of the reports and facilitate subsequent reviews.

A. International Energy Agency data comparison

26. The LRs noted with appreciation the work of the group of LRs and energy experts on the further elaboration and development of IEA data comparison following the conclusions of the 15th meeting of LRs. The LRs considered the guidance developed by the group on improving the usefulness of this data comparison⁹ and requested the secretariat and IEA to implement it for the 2020 review cycle, subject to the availability of resources. The LRs emphasized that the cooperation and communication of stakeholders regarding energy statistics at the national level were identified as key factors in improving data consistency between the energy balances used in GHG inventories and reported to IEA.

B. Improving the consistency of reviews

27. As a central part of the meeting, the LRs discussed specific ways to improve the consistency and efficiency of the review process on the basis of experience from the 2018 review cycle and the background paper on consistency issues identified during the 2018 GHG inventory review cycle prepared by the secretariat. In particular, the LRs recommended that LRs promote the following procedures:

(a) Decision tree on significance threshold: the LRs thanked the small group of LRs and the secretariat for their work on developing a decision tree following the conclusions of the 15th meeting of LRs. In particular, the output of such work clarifies how the threshold defined in paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines should be applied when considering issues for inclusion in a list of potential problems and further questions raised by the ERT for reviews under the Kyoto Protocol (the Saturday Paper). The LRs requested the secretariat to include the agreed decision tree in the review handbook and present it to the ERTs prior to the 2019 review cycle;

(b) Confidentiality: the LRs acknowledged that the reporting of information by a Party as confidential is consistent with the UNFCCC Annex I inventory reporting guidelines. Where a Party reports information as confidential, the LRs noted that ERTs should assess whether the Party transparently describes in the CRF tables and the NIR where these

⁸ The LULUCF advisory group was established at the 7th meeting of LRs; other sector expert groups were established by the conclusions and recommendations of the LRs at their 11th meeting.

⁹ The guidance is contained in the background paper on improving the usefulness of IEA data comparison, prepared for the 16th meeting of GHG inventory LRs.

emissions are reported, and may encourage the Party to provide in the NIR the specific basis for protecting the confidentiality of such information, including any domestic law. Parties should be encouraged to provide, on a confidential basis in response to a request made by the ERT, the confidential data or information on relative indicators or indices or other well-defined alternative means to consider the emission estimates reported by Parties based on the confidential information. The LRs noted the existing “Code of practice on the treatment of confidential information in the technical review of GHG inventories from Parties included in Annex I to the Convention” and the UNFCCC procedures to implement the code of practice;

(c) Reviewing the GHG inventory of the EU: the LRs noted that the review of the EU submission is unique in that it is the direct sum of emissions and removals from the national inventories compiled by the EU member States as well as Iceland, and that individual member States as well as Iceland are also subject to an inventory review. The LRs further noted that the focus of the EU review should be on ensuring that the EU submission accurately reflects the summation of the emissions and removals of its member States as well as Iceland and that information is transparently reported in the EU NIR, particularly for key categories identified at the level of the EU. Recommendations directed at specific member States as well as Iceland are beyond the scope for inclusion in the ARR of the EU. The LRs encouraged the secretariat to conduct the review of the EU submission after the submissions from individual EU member States and Iceland have been reviewed;

(d) Use of the COPERT model EFs: the LRs discussed the issue of the use of EFs from the COPERT model for estimating CO₂ emissions from road transportation and concluded that ERTs should recommend that Parties transparently document how any EFs applied are appropriate to the national circumstances, particularly when the category is key, to enable the ERT to assess the accuracy of the inventory. The LRs noted that the carbon content of fuels sold in the country should be used to estimate the CO₂ emissions from road transportation in accordance with the 2006 IPCC Guidelines;

(e) Carbon stocks in equilibrium: the LRs recommended that the notation key “NA” be used in CRF tables for the tier 1 assumption provided in the 2006 IPCC Guidelines for “carbon stocks in equilibrium” in the LULUCF sector and the notation key “NE” be used for reporting carbon pools for which the Party has reported verified information that the pool is “not a net source” under KP-LULUCF activities, in accordance with decision 2/CMP.8, annex II, paragraph 2(e);

(f) Availability of methods in the 2006 IPCC Guidelines: the LRs clarified that, consistent with the 2006 IPCC Guidelines, the reporting of all CO₂ emissions related to the non-energy use of fuels is required, including fuels used for hydrogen production. The LRs further clarified that the methods provided in the 2006 IPCC Guidelines do not cover the reporting of methane and N₂O emissions from home composting under category 5.B.1; therefore, these emissions are not mandatory for reporting. The LRs noted that failure to report indirect N₂O emissions from leaching/run-off in manure management systems does not lead to an underestimation of N₂O emissions, and therefore ERTs do not need to raise this issue as a potential problem.

VI. Operationalization of reviews, including desk reviews

A. Operationalization of reviews

28. The LRs noted that one of the main bottlenecks that affects the timeliness of report preparation is the QC and QA processes of the secretariat; this is a bottleneck owing to the limited resources available and the coincidence of review activities with other tasks, such as the provision of support to sessions of the subsidiary bodies and the COP. The LRs further noted the importance of ensuring that sufficient resources are allocated to the secretariat to undertake QC and QA activities during the review period.

29. The LRs noted that the timeliness of report preparation is dependent on the performance and quality of the results of each stage of the review process. The LRs discussed

possible solutions to improve timeliness and quality and requested the secretariat to continue to make efforts to implement them during the 2019 review cycle, including:

(a) Introducing standardized text in the ARR template (e.g. sample paragraphs for each of the principles of transparency, accuracy, completeness, consistency and comparability);

(b) Ensuring that LRs encourage peer reviews among relevant review experts and that such peer reviews are performed during the review week;

(c) Prioritizing the QC process by the LRs and the secretariat by concluding it in the week after the review week with a focus on the main issues identified and ensuring that all issues identified during the QC process are properly addressed;

(d) Prioritizing the QA process by focusing on checking consistency and avoiding unnecessary editing, recognizing that the timeliness and scope of the QA process is related to the quality of the draft reports prepared by the ERT.

30. The LRs also discussed different approaches and options to enhance the quality and efficiency of reviews, including:

(a) When organizing ERTs, the secretariat should aim to ensure that LULUCF experts do not act as LRs and that at least one LR does not have sectoral responsibilities;

(b) Ensuring that an earlier invitation is sent to experts to participate in a review (at least three months prior to the review), and that the preparation and distribution of the materials for the review process occurs no later than three weeks prior to the review;

(c) Developing a checklist per sector based on the review handbook, which would be a product/tool that a reviewer has to follow during the review week, noting that this could be a useful means of training new experts and reducing the work of LRs in supporting new experts;

(d) Enhancing the role of the RITS by instructing experts to document minor issues only in the RITS and not include them in the ARR, in order to reduce the workload involved in the QA process and editing;

(e) Assigning time at the end of the review week, if possible, to discuss what worked well and what did not work and lessons learned while memories are still fresh.

B. Desk reviews

31. The LRs discussed different approaches and options to enhance the quality and efficiency of DRs, considering the experience from the 2015, 2016, 2017 and 2018 review cycles. The LRs noted with appreciation that the DRs in 2018 showed improvements in terms of timeliness and that the review reports better reflect the mandated scope for this review approach as defined in decision 13/CP.20.¹⁰ In part, these improvements stem from the development of a specific template for the ARR for DRs.

32. However, the LRs noted difficulties in extending the DR approach to more Parties during a review cycle. These difficulties include the lack of available experts for this approach, competition with other non-review tasks while experts remain in their home country during the review week and problems with communication (including experts working in different time zones, experts not being available at certain times for discussing review issues, and performance of the iVTR under certain conditions).

33. The LRs discussed several solutions to these difficulties and requested LRs and the secretariat to make the necessary efforts to implement those solutions starting from the 2019 review cycle, including:

¹⁰ Four submissions were reviewed in DRs in 2018. As at 10 March 2019, the review reports of three of those submissions had been published (Austria: 16 January 2019; Denmark: 5 February 2019; and Italy: 29 January 2019).

(a) When selecting Parties for DRs, the secretariat is to consider criteria such as the number and complexity of issues identified in previous review reports and/or feedback from the previous ERT with respect to the quality of the Party's submission;

(b) The secretariat, when inviting review experts to DRs, is to communicate, upon request and indication by the expert, the time and effort needed to successfully complete the DR, taking into consideration the option for limited scope of the DR (see para. 31 above);

(c) Ensuring that an earlier invitation is sent to experts to participate in the review (at least three months prior to the review), and that the preparation and distribution of the materials for the review process occurs no later than three weeks prior to the review;

(d) Enhancing the review week practices and plans in order to improve the time efficiency of the review, including considering a reduction in the number of teleconference calls and using more communication via email;

(e) The secretariat is to provide to ERTs a checklist of the actions to be prioritized during the DRs, taking into consideration relevant sections of the review handbook.

34. The LRs noted the need for Parties to encourage and facilitate the participation of their experts in DRs, noting that without greater support from Parties it will be very difficult for the secretariat to organize DRs and ensure geographical balance in the ERTs.

35. The LRs noted that the Comparison Tool is able to provide a list of categories recalculated by more than 2 per cent in the tool itself and an Excel file in order to facilitate DRs. The LRs also noted that the Excel file, which contains a list of categories recalculated by more than 2 per cent, does not include numerical information on emissions/removals. The LRs noted that it would be useful for the Excel file generated by the Comparison Tool to include numerical information on emissions/removals, particularly for the base year and for the last but one reported year. The LRs requested the secretariat to investigate the possibility of enhancing the Comparison Tool for generating the above-described Excel file.
