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**Economic Commission for Europe**

Executive Body for the Convention on Long-range  
Transboundary Air Pollution

**Steering Body to the Cooperative Programme for  
Monitoring and Evaluation of the Long-range  
Transmission of Air Pollutants in Europe**

**Working Group on Effects**

**Seventh joint session**

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Item 2 (a) of the provisional agenda

**Progress in activities of the Cooperative Programme for Monitoring and  
Evaluation of the Long-range Transmission of Air Pollutants in Europe  
in 2021 and future work: improvement and reporting of emission data and  
adjustments under the Protocol to Abate Acidification, Eutrophication and  
Ground-level Ozone: improvement and reporting of emission data**

**Present state of emission data, review process and  
data for modellers**

**Report of the Centre on Emission Inventories and Projections**

*Summary*

The present report was prepared by the Centre on Emission Inventories and Projections in line with the 2020–2021 workplan for the implementation of the Convention on Long-range Transboundary Air Pollution (ECE/EB.AIR/144/Add.2, items 1.1.1.2, 1.1.2.1, 1.1.2.2, 1.1.2.3, 1.1.2.6 and 1.3.3) and the revised mandate of the Centre (Executive Body decision 2019/14).<sup>a</sup>

The report reflects progress in emissions reporting under the Convention in the 2021 reporting round. It summarizes the main conclusions of the annual review of emission data carried out under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transboundary Transmission of Air Pollutants in Europe and presents the outcome of the stage 3 in-depth reviews of national inventories in 2021 and the plans for the year 2022 onwards. It also looks at the review of adjustment applications submitted by Parties and progress in the development and improvement of gridded data and the gridding system.

Annexed to the present document is a table summarizing the status of emission reporting by Parties as at 20 May 2021.

<sup>a</sup> All Executive Body decisions referred to in the present document are available at <https://unece.org/decisions>.



## Introduction

1. At its thirty-second session (Geneva, 9–13 December 2013), the Executive Body for the Convention on Long-range Transboundary Air Pollution adopted the Guidelines for Reporting Emissions and Projections Data under the Convention on Long-range Transboundary Air Pollution (Reporting Guidelines) (ECE/EB.AIR/125) through its decisions 2013/3 and 2013/4. The Reporting Guidelines were adopted for application in 2015 and subsequent years and contain background information on the reporting requirements, deadlines and procedures for reporting emissions under the Convention and their review.
2. The present report reflects progress in emissions reporting under the Convention in the 2021 reporting round (2019 emission data, including resubmissions for previous years since 1990, activity data and projections, and gridded and large point source data). It summarizes the main conclusions of the annual review – as carried out in cooperation with the European Environment Agency and its European Topic Centre on Air Pollution, Transport, Noise and Industrial Pollution – and the review of emission data carried out under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) in line with the 2020–2021 workplan for the implementation of the Convention (ECE/EB.AIR/144/Add.2). The report also outlines progress in improving the gridding system and developing historical data sets for modellers in the new resolution.
3. The report was prepared by the EMEP Centre on Emission Inventories and Projections, which is hosted by the Environment Agency Austria, was established by the Executive Body of the Convention at its twenty-fifth session<sup>1</sup> (Geneva, 10–13 December 2007) and began operating on 15 January 2008.

## I. Present state of emission data

4. *Completeness* – Of the 51 Parties to the Convention, 48 had submitted data up to 20 May 2021. All countries reported data in the standard formats (i.e. the Nomenclature for Reporting). No data were received from Azerbaijan, Bosnia and Herzegovina and Kyrgyzstan. A current overview of the data submitted by Parties during the 2021 reporting round can be found in the annex to the present document. In addition, the latest version of officially reported emission data can be accessed through the Centre on Emission Inventories and Projections website.<sup>2</sup> Most of the Parties that submitted data (37) also provided the secretariat with the notification form.
5. *Timeliness* – Forty-one Parties reported emission data by the due date of 15 February (or, in the case of the European Union, 29 April) 2021. Twenty-four Parties resubmitted data, with the most recent provided on 7 May 2021. Forty-three Parties submitted informative inventory reports.
6. *Uncertainty* – Twenty-one Parties included quantitative information on uncertainty estimates for the main pollutants in their informative inventory reports. Almost all of these Parties report both trend and level uncertainty estimates. An analysis of the reporting of uncertainties in the 2020 submission is available on the Centre on Emission Inventories and Projections website.<sup>3</sup>
7. *Pollutants* – Forty-eight Parties submitted inventories for 2019 for the main pollutants and particulate matter and forty-six for cadmium, mercury and lead emissions. Forty-five

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<sup>1</sup> See ECE/EB.AIR/91, para. 27 (f).

<sup>2</sup> Available at [www.ceip.at/status-of-reporting-and-review-results/2021-submission](http://www.ceip.at/status-of-reporting-and-review-results/2021-submission).

<sup>3</sup> Sabine Schindlbacher, Bradley Matthews and Bernhard Ullrich, “Uncertainties and recalculations of emission inventories submitted under CLRTAP”, Technical report No. CEIP 01/2021 (CEIP/German Environment Agency). Available at [www.ceip.at/fileadmin/inhalte/ceip/00\\_pdf\\_other/2021/uncertainties\\_and\\_recalculations\\_of\\_emission\\_inventories\\_submitted\\_under\\_clrtap.pdf](http://www.ceip.at/fileadmin/inhalte/ceip/00_pdf_other/2021/uncertainties_and_recalculations_of_emission_inventories_submitted_under_clrtap.pdf).

Parties submitted inventories for priority persistent organic pollutants; and forty did the same for additional heavy metals. Activity data for 2019 were reported by forty-one Parties.

8. *Black carbon* – Forty-two Parties reported black carbon emissions (on a voluntary basis) for 2019 and thirty-eight of them submitted emission time series (at least 2000–2019) in 2021.

9. *Gridded data* – Gridded data are part of the quadrennial reporting obligation. In 2017, twenty-seven Parties reported gridded data, at least for 2015, for the first time in the 0.1° x 0.1° longitude/latitude resolution. Twenty-six Parties submitted gridded data in this resolution in year 2021, while only ten of them provided updates on historical years.

10. *Large point source data* – Large point source data are also part of the quadrennial reporting obligation. Thirty-five Parties submitted data for at least 2015 in 2017. In 2021, thirty-one Parties submitted information on large point sources.

11. *Documentation* – Only 84 per cent of the Parties submitted informative inventory reports in 2021. The Centre on Emission Inventories and Projections evaluates the informative inventory reports annually and the best national teams receive awards during the meetings of the Task Force on Emission Inventories and Projections. The names of countries receiving awards are published on the Centre's website.<sup>4</sup>

12. *Projections* – In 2021, emission projections for 2020, 2025 and 2030 were submitted or updated by 27 Parties.

13. *Condensables* – In 2020, information on the inclusion of the condensable component in emission factors for particulate matter was submitted by 23 Parties.

14. *Access to the information* – The Centre on Emission Inventories and Projections updated its website to reflect revisions in the Reporting Guidelines and to improve the transparency and accessibility of data for Parties, the EMEP Steering Body, the Implementation Committee and the public. Websites with information on adjustment procedures, adjustment applications, review, findings and approved adjustment have also been updated. In addition, the Centre provides its users with an online interactive data viewer<sup>5</sup> that can help with the analysis and visualization of officially reported emissions data submitted by countries under the Convention.

15. *Emissions per capita and emissions per gross domestic product (GDP)* – These indicators are calculated for all Parties that submit total national emissions of main pollutants, particulate matter, heavy metals and persistent organic pollutants by using information on population and GDP available from the World Bank Group database.<sup>6</sup> Significant differences are observed across Parties and years.

## II. Technical review of inventories

16. *Main objective* – The main objective of the technical review of inventories is to assist countries in improving their data for the next reporting round. All inventories submitted by Parties were tested via RepDab<sup>7</sup> and imported into the Centre on Emission Inventories and Projections central database. As a next step, a technical review of all inventories was carried out. At each stage of the review, Parties had the opportunity to clarify issues and to provide additional information. The process is seen by Parties as valuable and the feedback is provided to the Centre by means of email communications and during the meetings of the Task Force on Emission Inventories and Projections.

17. *Initial (Stages 1 and 2) review* – The findings of the initial review were communicated to the national designated experts through the country-specific status and assessment reports

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<sup>4</sup> Available at [www.ceip.at/iir-awards](http://www.ceip.at/iir-awards).

<sup>5</sup> Available at [www.ceip.at/data-viewer](http://www.ceip.at/data-viewer).

<sup>6</sup> Available at <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.KD> and <https://data.worldbank.org/indicator/SP.POP.TOTL>.

<sup>7</sup> Available at [www.ceip.at/repdab](http://www.ceip.at/repdab).

in March and May. An overview of the findings for the stage 1 and 2 reviews is summarized in the forthcoming “Inventory Review 2021”,<sup>8</sup> to be made available on the Centre’s website.

18. *In-depth (stage 3) review* – This in-depth review of inventories supports Parties in compiling and submitting high quality inventories and increases confidence in the data used for air pollution modelling. The aim was to conduct a stage 3 review for every Party – the participation of Canada and the United States of America in the review process is to be discussed – at least once in a 5-year period. Resources are required from the expert review team, the reviewed Parties and the Centre on Emission Inventories and Projections. It is estimated that members of the expert review team devote about 10 to 15 days to their tasks, which include preparation, questions for the Parties, participation in the review meeting and follow-up activities, including finalizing the country review reports. The Centre coordinates the entire process, while the review team has full responsibility for findings and recommendations.

19. Parties are expected to nominate review experts to the EMEP roster and provide sufficient resources to enable their participation in the process. One hundred and two reviewers from 24 Parties<sup>9</sup> are listed on the Centre on Emission Inventories and Projections roster of inventory review experts.<sup>10</sup> The nominated experts are suitably qualified to review submitted inventories.

20. During the first and second review rounds (respectively, 2008–2012 and 2013–2017), 44 Parties were reviewed in each round. Reviewers identified areas for improvement in all the inventories that were checked. The Parties had an opportunity to provide comments before the reports were published. The results are posted on the Centre on Emission Inventories and Projections website.<sup>11</sup>

21. The updated long-term plan for in-depth (stage 3) reviews for the period 2018–2021 (see table below) was approved by the EMEP Steering Body at its sixth joint session (Geneva, 14–17 September 2020) with the Working Group on Effects<sup>12</sup> and focuses on Parties that are not member States of the European Union. It reflects review activities under the European Union National Emission Ceilings Directive<sup>13</sup> and, in order to minimize duplication of work, focuses on non-European Union countries, including in Eastern Europe, the Caucasus and Central Asia. The plan is modified if any listed Party does not submit the requested information on time. Submission of emissions data and an informative inventory report is a prerequisite for a Party to be included in the stage 3 in-depth review.<sup>14</sup> For details, see previous Centre on Emission Inventories and Projections status reports to the EMEP Steering Body and the country reports, which are available online.<sup>15</sup> The feedback received during the meetings of the Task Force on Emission Inventories and Projections indicates that inventory compilers consider the in-depth reviews to be useful and recommend that they be continued.

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<sup>8</sup> Marion Pinteris and others, *Inventory Review 2021: Review of emission data reported under the LRTAP Convention and NEC Directive*, Centre on Emission Inventories and Projections Technical Report No. 4/2021 (Vienna, Environment Agency Austria, 2021) (forthcoming).

<sup>9</sup> Austria, Belgium, Croatia, Czechia, Denmark, Estonia, the European Union, Finland, France, Germany, Greece, Ireland, Italy, Kazakhstan, Latvia, the Netherlands, North Macedonia, Norway, Poland, Serbia, Slovakia, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland.

<sup>10</sup> See [www.ceip.at/fileadmin/inhalte/ceip/3\\_review/0\\_roster\\_2020.pdf](http://www.ceip.at/fileadmin/inhalte/ceip/3_review/0_roster_2020.pdf).

<sup>11</sup> See [www.ceip.at/review-of-emission-inventories/in-depth-review-of-ae-inventories](http://www.ceip.at/review-of-emission-inventories/in-depth-review-of-ae-inventories).

<sup>12</sup> See ECE/EB.AIR/GE.1/2020/2–ECE/EB.AIR/WG.1/2020/2, para. 44 (f).

<sup>13</sup> Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC, *Official Journal of the European Union*, L 344 (2016), pp. 1–31.

<sup>14</sup> See Executive Body decision 2018/1, annex, para. 17.

<sup>15</sup> See: [www.ceip.at/ms/ceip\\_home1/ceip\\_home/review\\_process/stage3\\_country\\_reports/index.html](http://www.ceip.at/ms/ceip_home1/ceip_home/review_process/stage3_country_reports/index.html).

**Updated long-term plan for stage 3 reviews during the period 2018–2021**

<i>Year</i>	<i>Party for review</i>
2018	Armenia, Azerbaijan, Belarus, Finland, Rep. of Moldova and Ukraine
2019	Albania, Bosnia and Herzegovina, <sup>a</sup> Georgia, Montenegro, <sup>b</sup> Norway, Russian Federation, Serbia and Turkey
2020	European Union, Iceland, Kyrgyzstan, North Macedonia and Switzerland
2021	Kazakhstan, Liechtenstein, Monaco and Montenegro

<sup>a</sup> Because Bosnia and Herzegovina had never submitted either inventory data or an informative inventory report, Party is not planned for in-depth review.

22. It is proposed that the review in 2022 will focus on the topics of residential heating and transport emissions, with special emphasis on the inclusion of the condensable component in particle matter emissions.

23. A total of 16 experts accepted the invitation to join the in-depth review for 2021: 2 each from Austria, the European Union, the Netherlands and the United Kingdom of Great Britain and Northern Ireland, and 1 each from Croatia, Czechia, Denmark, France, Italy, Norway, Slovakia and Sweden. The review began in mid-May and country reports should be completed and published before the forty-first session of the Executive Body (Geneva, 6–10 December 2021).

**III. Emission data for modellers**

24. *Gap-filled and gridded data sets* – Gap-filled and gridded data sets for main pollutants and particulate matter and for heavy metals and persistent organic pollutants were calculated for the year 2019, with data as of 14 April 2021. Gap-filled and gridded data sets for main pollutants and particulate for the years 2000 to 2018 will be calculated in June 2021.

25. Where sufficient reported data were not available or data had to be replaced, expert estimates (from, for example, the Greenhouse Gas and Air Pollution Interactions and Synergies model (GAINS ECLIPSE v6b data set), the Global Mercury Assessment 2018, the POPCYCLING-Baltic project or the Global atmospheric emission inventory of polycyclic aromatic hydrocarbons) were used for gap-filling. The gap-filling and gridding was done on aggregated sectors (Gridding Nomenclature for Reporting 14) in 0.1° x 0.1° longitude/latitude grid resolution, based on the gridding system developed by the Centre. The gap-filling methods are documented in Centre technical reports 02/2021, 03/2021 and 04/2021 (forthcoming) and are published on the Centre website.<sup>16</sup>

26. Gap-filled and gridded emission data were distributed to the modellers and should be publicly accessible on the Centre website in summer 2021. In addition, a list with Parties that clearly document that the condensable component is included in the particulate matter emission estimates for the residential heating sector was prepared.<sup>17</sup>

27. *Shipping emissions* – Emissions for the sea regions were calculated using the Copernicus Atmosphere Monitoring System global ship data set for the years 2000–2018 and 2019 (Finnish Meteorological Institute, 2019), provided via Emissions of atmospheric Compounds and Compilation of Ancillary Data; CAMS-GLOB-SHIP (v2.1, yearly basis, total TG).<sup>18</sup>

<sup>16</sup> See <https://www.ceip.at/ceip-reports>.

<sup>17</sup> Emissions as used in EMEP models, available at <https://www.ceip.at/webdab-emission-database/emissions-as-used-in-emep-models>.

<sup>18</sup> See <https://eccad.aeris-data.fr>.

#### **IV. Gridding system in 0.1 x 0.1 longitude/latitude resolution**

28. The gridding system in higher spatial resolution (0.1° x 0.1°) developed by the Centre on Emission Inventories and Projections is module-based and uses reported gridded emission data as a first step. Where no reported gridded data in the 0.1° x 0.1° resolution are available, Copernicus Atmosphere Monitoring System and Emission Database for Global Atmospheric Research proxies are used and upgraded by point source information available from the European Pollutant Release and Transfer Register.<sup>19</sup> The system also uses global shipping emissions from the Finnish Meteorological Institute. Those emissions are modelled using the Ship Traffic Emission Assessment Model, which is based on automatic identification system tracking data.

29. *Update of historical emissions* – In 2021, gridded data for the whole time series from 2000 to 2019 will be prepared for main pollutants. For heavy metals and POPs gridded data for the year 2019 will be prepared.

#### **V. Review of submitted adjustment applications**

30. Czechia and France submitted new adjustment applications to the secretariat in 2021. Ten Parties (Belgium, Czechia, Denmark, Finland, France, Germany, Luxembourg, the Netherlands, Spain and the United Kingdom of Great Britain and Northern Ireland) submitted the reporting templates in annex VII to the Reporting Guidelines, with adjustments approved in 2014, 2015, 2016, 2017, 2018, 2019 and/or 2020. Hungary did not report adjustments in 2021. Approved adjustments reported in annex VII have been imported into the website tool,<sup>20</sup> where all information can be easily viewed and compared. All submitted applications, both new and previously approved, have been reviewed by the expert review team and recommendations to the EMEP Steering Body are provided in a special status report on adjustments.<sup>21</sup> The activity was covered by EMEP mandatory contributions.

#### **V. Updating Guidelines for reporting emissions and projections data under the Convention**

31. Work on the workplan item 1.1.2.6 “Updating Guidelines for reporting emissions and projections data under the Convention” has been started but the draft of the up-dated Reporting Guidelines will only be available in 2022. The Centre and the Task Force on Emission Inventories and Projections have compiled a preliminary list of issues that should be addressed during the revision of the Guidelines. For the revision of the Reporting Guidelines a discussion with a larger group of the Task Force representative is planned and additional topics might be raised or listed topics might be withdrawn:

- (a) Elaboration of the text regarding Large Point Sources reporting (add definitions and clear guidance, better guidance on reporting emissions from agriculture, define consistency with data reported in Nomenclature for Reporting (NFR) tables and gridded data);
- (b) Elaboration of the text regarding gridded data reporting (add definitions and clear guidance, define consistency with data reported in NFR tables and gridded data);
- (c) Up-date outdated references and links;
- (d) Remove reference to outdated items in the Annexes to the Reporting Guidelines (example shaded cells in Annex I);
- (e) Add definition of the geographic area of Parties for historic years;

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<sup>19</sup> See <http://prtr.ec.europa.eu>.

<sup>20</sup> See <https://www.ceip.at/gothenburg-protocol/adjustment-tool>.

<sup>21</sup> <https://www.ceip.at/gothenburg-protocol/review-of-adjustments>.

(f) Remove the alternative to report gridded emissions in a grid of approximately 50 x 50 square kilometres (km<sup>2</sup>) until it is technically and economically feasible to switch to a grid of 0.1° x 0.1°;

(g) Add the requirement to provide a “Declaration on the publication of the Informative Inventory Report (IIR)” together with the IIR;

(h) Revise the use of shall/should/encourage/good practice in several places.

32. Further, additional topics were identified that should be discussed as part of the revision of the Reporting Guidelines. However, some of these topics might need to be addressed at another place e.g. as part of the revision of protocols or as part of the revision of other Guidance documents:

(a) Require emissions per fuel;

(b) Review the list of pollutants, consider making black carbon emission reporting mandatory;

(c) Review if it is possible to remove certain elements of the reporting requirements.

## VI. Conclusions

33. *Timeliness and completeness* – In 2021, 48 Parties submitted their inventories. While the completeness of information on the priority pollutants is relatively good and is improving, not all Parties reported (voluntary) additional heavy metals, black carbon and activity data. The persisting problem with data completeness and quality, particularly in the eastern part of the EMEP domain, could not be resolved. The capacity-building and awareness-raising programme of the United Nations Economic Commission for Europe in countries of Eastern Europe, the Caucasus and Central Asia and in the Western Balkan countries seeks to improve the situation.

34. *Missing reporting* – Bosnia and Herzegovina have not to date reported any emission data to the Centre on Emission Inventories and Projections. Azerbaijan and Kyrgyzstan did not submit any data in 2021. Several times a year, the Centre provides the Implementation Committee under the Convention with detailed information on how the Parties to the Protocols to the Convention are fulfilling their reporting obligations.

35. *Gridded data and large point sources* – Gridded and large point sources are part of the quadrennial reporting obligation. Reporting was due in 2021. In the 2021 reporting round, 26 Parties (51 per cent of the Parties) submitted gridded data and 31 Parties (61 per cent) submitted large point source data.

36. *Recalculations of emissions. Uncertainty* – Review of submitted inventories still identifies significant recalculations every year. This fact seems to indicate relatively high uncertainty of emission estimates at the sectoral or country level. However, only roughly half of the Parties provide quantitative information on uncertainty estimates. Currently, it is not possible to use the information provided for the calculation of the uncertainty of the emissions in the EMEP domain.

37. *Stage 3 in-depth reviews* – The Centre on Emission Inventories and Projections organized the 2021 stage 3 review and adjustment review as a desk review in 2021 by reviewing inventory of 4 Parties. The third cycle (2018–2021) of in-depth reviews focusing on non-member States of the European Union has been closed successfully, with 21 Parties reviewed in total. While most of the Parties reviewed clearly recognize the value of the review process in terms of improving the quality of their national inventories, difficulties are often encountered when EMEP requests complete inventory data and relevant explanatory information in a transparent format.

38. *Review of adjustment applications* – The assessment of adjustment applications submitted by 10 Parties in 2021 was organized in line with Executive Body decisions 2012/3, 2012/12 and 2014/1. Details on the process and findings are provided in document ECE/EB.AIR/GE.1/2020/10–ECE/EB.AIR/WG.1/2020/21.

39. *Resource limitations* – A persistent key constraint for both reviews is the limited nature of the resources provided to invited experts by Parties. Each year, a subset of the nominated experts cannot accept the invitation owing to technical issues or lack of resources. EMEP may wish to consider how to financially support the participation in the review process of experts from Eastern Europe, the Caucasus and Central Asia and Western Balkan countries. The European Environment Agency covered the travel costs of seven experts (from Czechia, Estonia, Greece, Kazakhstan and Latvia) and two trainees (from North Macedonia and Serbia) during the period 2010–2012, and of one expert from North Macedonia in 2018, in order to enable them to participate in stage 3 reviews. The National Focal Point of the European Union indicated that there would be the possibility to support financially the travel/accommodation for a few Western Balkan experts to the review meeting in 2022, via one of the European Union’s neighbourhood programmes.

40. *The gridding system* – The production of gridded data in high resolution ( $0.1^\circ \times 0.1^\circ$ , World Geodetic System 1984 (a geographic coordinate system)) requires a huge amount of annual gap-filling and gridding work on the part of the Centre on Emission Inventories and Projections and to do this in the limited time period between the submission of data (15 March for inventory data and 1 May for gridded data) and the deadline for the production of gridded data (May) is a big challenge.

41. *Increasing reliability of gridded data* – In order to increase the reliability of emission data for modellers, it is extremely important that those Parties that did not submit gridded data in the  $0.1^\circ \times 0.1^\circ$  resolution in the period 2017–2020 do so in 2021. It is also important that Parties regularly update their gridded emissions for the years 1990 and 1995 (voluntary), 2000, 2005, 2010 and 2015, as encouraged in the Reporting Guidelines<sup>22</sup> and invited to do in the fifth joint session of the Steering Body to EMEP and the Working Group on Effects (Geneva, 9–13 September 2019).<sup>23</sup>

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<sup>22</sup> See ECE/EB.AIR/125, para. 47.

<sup>23</sup> See ECE/EB.AIR/GE.1/2019/2–ECE/EB.AIR/WG.1/2019/2, para. 24.



## Annex

### Status of emission reporting by Parties as at 20 May 2021

Party	Annual reporting submission date		Quadrennial reporting submission date				Adjustments		
	Annex I	Latest resubmission	IIR	Notification form	Projections	Gridded data	Large point sources	New adjustment application	Annex VII
Albania	16 Feb. 2021	7 May 2021							
Armenia	26 Feb. 2021		15 Mar. 2021	26 Feb. 2021					
Austria	15 Feb. 2021		29 Apr. 2021	15 Feb. 2021		29 Apr. 2021	29 Apr. 2021		
Azerbaijan									
Belarus	15 Feb. 2021								
Belgium	15 Feb. 2021	8 Mar. 2021	15 Mar. 2021	15 Feb. 2021	15 Mar. 2021	30 Apr. 2021	30 Apr. 2021		X
Bosnia and Herzegovina									
Bulgaria	12 Feb. 2021	21 Apr. 2021	15 Mar. 2021		30 Mar. 2021	1 May 2021	21 Apr. 2021		
Canada	15 Feb. 2021		15 Mar. 2021	15 Feb. 2021	15 Feb. 2021				
Croatia	10 Feb. 2021		12 Mar. 2021	10 Feb. 2021	12 Mar. 2021	3 May 2021	28 Apr. 2021		
Cyprus	15 Feb. 2021	12 Mar. 2021	14 Mar. 2021	15 Feb. 2021	12 Mar. 2021	29 Apr. 2021	29 Apr. 2021		
Czechia	15 Feb. 2021	29 Mar. 2021	15 Mar. 2021	15 Feb. 2021	15 Mar. 2021	28 Apr. 2021	30 Apr. 2021	X	X
Denmark	15 Feb. 2021		15 Mar. 2021	15 Feb. 2021	15 Mar. 2021	28 Apr. 2021	28 Apr. 2021		X
Estonia	9 Feb. 2021	8 Mar. 2021	15 Mar. 2021	9 Feb. 2021	9 Mar. 2021	3 May 2021	27 Apr. 2021		

Party	Annual reporting submission date			Quadrennial reporting submission date			Adjustments		
	Annex I	Latest resubmission	IIR	Notification form	Projections	Gridded data	Large point sources	New adjustment application	Annex VII
European Union	29 Apr. 2021			29 Apr. 2021					
Finland	15 Feb. 2021		14 Mar. 2021		14 Mar. 2021	30 Apr. 2021	29 Apr. 2021		X
France	15 Feb. 2021	7 Apr. 2021	12 Mar. 2021	15 Feb. 2021		30 Apr. 2021	30 Apr. 2021	X	X
Georgia	13 Feb. 2021	26 Apr. 2021		26 Apr. 2021	26 Apr. 2021				
Germany	9 Feb. 2021		15 Mar. 2021	9 Feb. 2021	15 Apr. 2021	26 Apr. 2021	28 Apr. 2021		X
Greece	15 Feb. 2021		16 Mar. 2021	15 Feb. 2021	16 Mar. 2021	10 May 2021	10 May 2021		
Hungary	15 Feb. 2021	15 Mar. 2021	15 Mar. 2021	15 Feb. 2021	21 Apr. 2021		18 May 2021		
Iceland	15 Feb. 2021	31 Mar. 2021	31 Mar. 2021	15 Feb. 2021			3 May 2021		
Ireland	15 Feb. 2021		15 Mar. 2021	15 Feb. 2021					
Italy	16 Feb. 2021	15 Mar. 2021	17 Mar. 2021	26 Mar. 2021	15 Mar. 2021				
Kazakhstan	1 Feb. 2021		1 Feb. 2021				9 Feb. 2021		
Kyrgyzstan									
Latvia	15 Feb. 2021	15 Mar. 2021	15 Mar. 2021	15 Feb. 2021	12 Apr. 2021	30 Apr. 2021	30 Apr. 2021		
Liechtenstein	8 Apr. 2021		29 Apr. 2021						
Lithuania	13 Feb. 2021		16 Mar. 2021	13 Feb. 2021	14 Mar. 2021				
Luxembourg	16 Feb. 2021	15 Mar. 2021	15 Mar. 2021	15 Feb. 2021	15 Mar. 2021	3 May 2021	3 May 2021		X
Malta	15 Feb. 2021		16 Mar. 2021		15 Mar. 2021		10 May 2021		
Monaco	15 Feb. 2021	2 Mar. 2021	15 Mar. 2021	15 Feb. 2021	16 Apr. 2021	17 Feb. 2021	17 Feb. 2021		
Montenegro	15 Feb. 2021		15 Mar. 2021	15 Feb. 2021					

Party	Annual reporting submission date			Quadrennial reporting submission date			Adjustments		
	Annex I	Latest resubmission	IIR	Notification form	Projections	Gridded data	Large point sources	New adjustment application	Annex VII
North Macedonia	12 Feb. 2021	8 Mar. 2021		12 Feb. 2021			30 Apr. 2021		
Norway	11 Feb. 2021		15 Mar. 2021	11 Feb. 2021	15 Mar. 2021	2 May 2021	2 May 2021		
Poland	15 Feb. 2021		10 Mar. 2021	22 Feb. 2021	10 Mar. 2021	30 Apr. 2021	30 Apr. 2021		
Portugal	11 Feb. 2021	15 Mar. 2021	15 Mar. 2021	11 Feb. 2021		30 Apr. 2021			
Rep. of Moldova	19 Feb. 2021	23 Apr. 2021	23 Apr. 2021						
Romania	12 Feb. 2021	12 Mar. 2021	12 Mar. 2021	12 Feb. 2021					
Russian Federation	12 Feb. 2021		12 Feb. 2021	12 Feb. 2021		11 May 2021	11 May 2021		
Serbia	12 Feb. 2021	17 Feb. 2021	15 Mar. 2021	12 Feb. 2021			29 Apr. 2021		
Slovakia	15 Feb. 2021	15 Mar. 2021	15 Mar. 2021	18 Mar. 2021	15 Mar. 2021	30 Apr. 2021	10 May 2021		
Slovenia	12 Feb. 2021		14 Mar. 2021	12 Feb. 2021	11 Mar. 2021	29 Apr. 2021	14 Apr. 2021		
Spain	29 Jan. 2021	17 Mar. 2021	12 Mar. 2021	29 Jan. 2021		28 Apr. 2021	30 Apr. 2021		X
Sweden	12 Feb. 2021		2 Mar. 2021	12 Feb. 2021	15 Mar. 2021	27 Apr. 2021	12 Apr. 2021		
Switzerland	12 Feb. 2021		10 Mar. 2021		12 Feb. 2021	12 Feb. 2021	12 Feb. 2021		
Netherlands	14 Feb. 2021	15 Mar. 2021	15 Apr. 2021		15 Mar. 2021	20 May 2021	19 May 2021		X
Turkey	15 Feb. 2021	4 Mar. 2021	15 Mar. 2021	15 Feb. 2021					
Ukraine	30 Mar. 2021	30 Apr. 2021	30 Apr. 2021						
United Kingdom	12 Feb. 2021		15 Mar. 2021	12 Feb. 2021	15 Mar. 2021	29 Apr. 2021	29 Apr. 2021		X

Party	<i>Annual reporting submission date</i>			<i>Quadrennial reporting submission date</i>			<i>Adjustments</i>		
	Annex I	Latest resubmission	IIR	Notification form	Projections	Gridded data	Large point sources	New adjustment application	Annex VII
United States	15 Feb. 2021		16 Mar. 2021	15 Feb. 2021					

*Abbreviations:* IIR, Informative Inventory Report.