

Distr.

GENERAL

CEIP/Adjustment RR/2020/Czechia

28/07/2020

English ONLY

Review of the 2020 Adjustment Application

Czechia

Expert Review Team Report for the EMEP Steering Body

| | |
|-------------------------|--|
| Report title | Review of the 2020 Adjustment Application by the Czechia |
| Country | Czechia |
| Report reference | CEIP/Adjustment RR/2020/ Czechia |
| Date | 22/07/2020 |
| Version no | draft |

Expert Review Team

| Role | Sectors | Name | Country |
|-----------------------------|--------------------|-------------------------|----------------|
| Adjustment lead reviewer | All | Kristina Saarinen | FI |
| Primary expert reviewer | Agriculture 3B, 3D | Peder Gjølstad Røhnebæk | NO |
| Secondary expert reviewer | Agriculture 3B, 3D | Hakam Al-Hanbali | SE |
| Basic checks (Step 1 and 2) | N/A | Katarina Mareckova | CEIP |

Executive Summary

1. As mandated by Decision 2012/3 (ECE/EB.AIR/111/Add.1) of the Executive Body of the CLRTAP the nominated Expert Review Team undertook a detailed review of the adjustment application submitted by the Czechia. The review was undertaken on behalf of the EMEP Steering Body and following the guidance published in the Annex to decision 2012/12 (ECE/EB.AIR/113/Add.1) and 2014/1 (ECE/EB.Air/130).
2. Each sector of the application was reviewed by two independent sectoral experts during May and June 2020. The findings were discussed during the review week from 22-26 June 2020. The conclusions and recommendations for the EMEP SB are documented in this country report.

Table ES1: Summary Information on the Submitted Application

| | |
|--|---|
| Reasons for adjustment application (Decision 2012/3, para 6) | Implementation of new emission sources that were not state of the art when the ceilings were set. |
| Pollutant for which adjustment is applied for | NMVOC and NOx. |
| Sector/Pollutant for which adjustment is applied for | Manure Management (3B), pollutants: NMVOC and NOx. |
| Year(s) for which inventory adjustment is applied | 2010-2018 NMVOC 2010-2018 NOx |
| Date of notification of adjustment to the Secretariat | 14 February 2020 |
| Date of submission of supporting documentation | 15 March, 4, 23 and 24 April, 25 May, and 24 June 2019 |

3. The Expert Review Team reviewed and evaluated the documents submitted by the Czechia.
4. **NMVOC emissions from Manure Management (NFR 3B):** The ERT concludes that NMVOC emissions from *Manure Management (NFR 3B1a-b, 3B2, 3B3 and 3B4d-h)* are a “new” source, because no methodology for quantifying these emissions was included in the EMEP/CORINAIR Emissions Inventory Guidebook (1999). The ERT therefore recommends that the EMEP Steering Body **ACCEPT** this adjustment application from the Czechia.

NOx emissions from Manure Management (NFR 3B): The ERT concludes that NOx emissions from *Manure Management (NFR 3B1a-b, 3B2, 3B3 and 3B4d-h)* are a “new” source, because no methodology for quantifying these emissions was included in the EMEP/CORINAIR Emissions Inventory Guidebook (1999). The review team concluded that Czechia is in compliance with NOx emissions also without adjustments and therefore there is no need to approve these.

The following table provides a summary of the inventory adjustments that are accepted by the ERT.

Table ES2: Aggregated Sum of Accepted Inventory Adjustments (ktonnes)

| Pollutant | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| NMVOC | kt | -19.865 | -19.240 | -19.149 | -19.521 | -19.548 | -19.990 | -20.120 | -20.171 | -20.472 |

Table ES3: Impact of the Accepted Inventory Adjustments on National Emissions

| Poll. | GP Emission Commitment (kt) | 2010 Emission reported in 2020 (kt) | 2010 Emission (adjusted) (kt) | Difference (%) | 2018 Emission reported in 2020(k) | 2018 Emissions (adjusted) (kt) | Difference (%) |
|-------|-----------------------------|-------------------------------------|-------------------------------|----------------|-----------------------------------|--------------------------------|----------------|
| NMVOC | 220 | 264.58 | 244.72 | -7.51 | 231.02 | 210.55 | -8.86 |

5. The total national emissions of the Czechia for NMVOCs will be below the Gothenburg Protocol ceilings from at least 2014 onwards, if the proposed adjustments are accepted.

Content

| | |
|--|-----------|
| Executive Summary | 3 |
| 1 Introduction and Context | 6 |
| Figure 1: Flow Diagram/Decision Tree for the Review of Adjustment Applications..... | 7 |
| 2 Review of Submitted Adjustments | 8 |
| 2.1 Assessment of Formal Criteria..... | 8 |
| 2.1.1 Assessment of the Quantification of the Impact of the Revision | 8 |
| 3 Conclusions and Recommendations | 10 |
| 4 Information Provided by the Party..... | 11 |
| References | 12 |

1 Introduction and Context

6. Parties may apply to adjust their inventory data or emission reduction commitments if they are (or expect to be) in non-compliance with their emission reduction targets¹. However, in making an adjustment application, they must demonstrate that extraordinary circumstances have given rise to revisions to their emissions estimates. These extraordinary circumstances fall into three broad categories:

- a) Emission source categories are identified that were not accounted for at the time when the emission reduction commitments were set; or
- b) For a particular source, the emission factors used to estimate emissions for the year in which emissions reduction commitments are to be attained are significantly different to those used when the emission reduction commitments were set; or
- c) The methodologies used for determining emissions from specific source categories have undergone significant changes between the time when emission reduction commitments were set and the year they are to be attained.

7. Any Party submitting an application for an adjustment to its inventory is required to notify the Convention Secretariat through the Executive Secretary by 15 February at the latest. The supporting information detailed in Decision 2012/12 must be provided (either as part of the Informative Inventory Report, or in a separate report) by 15 March of the same year.

8. As mandated by Decision 2012/12 and as amended by the Decision 2014/1 of the Executive Body of the CLRTAP, applications for adjustments that are submitted by Parties are subject to an expert review². Technical coordination and support to the review is provided by EMEP's Centre on Emission Inventories and Projections (CEIP). The members of the review team are selected from the available review experts³ that Parties have nominated to the CEIP roster of experts.

9. The Expert Review Team (ERT) undertakes a detailed technical review of the adjustment application in cooperation with the EMEP technical bodies and makes a recommendation to the EMEP Steering Body on the acceptance or rejection of the application. The EMEP Steering Body then takes its decision on any adjustment application based on the outcome of the technical assessment completed by ERT.

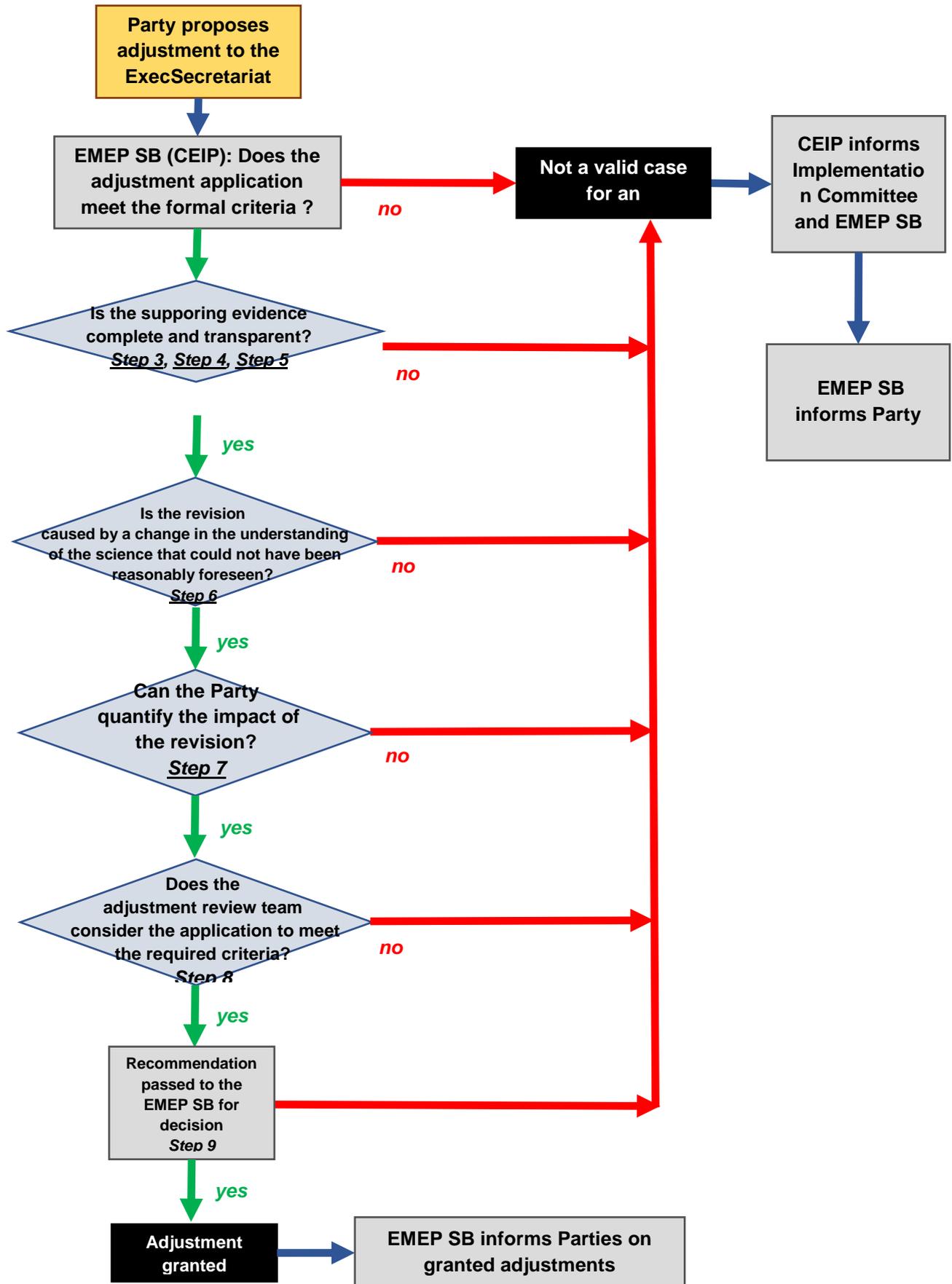
10. The flow diagram below outlines the different stages of the technical review. The following sections of this report are structured in the same way, and describe in detail the findings of the ERT at each of the decision gates in the process.

¹ Throughout this report the term "emission reduction commitments" is used. However, the term "emission ceilings" is equally applicable.

² The EMEP Steering Body, in conjunction with other appropriate technical bodies under EMEP, shall review the supporting documentation and assess whether the adjustment is consistent with the circumstances described in paragraph 6 of EB decision 2012/3 and the further guidance in EB decision 2012/12 as amended by EB decision 2014/1 and Technical guidance document ECE/AB.Air/130 ..

³ https://www.ceip.at/fileadmin/inhalte/ceip/3_review/0_roster_2020.pdf

Figure 1: Flow Diagram/Decision Tree for the Review of Adjustment Applications



2 Review of Submitted Adjustments

2.1 Assessment of Formal Criteria

11. Czechia notified the secretariat through the ECE Executive Secretary of its intention to apply for a new adjustment on 14 February 2020 and thus before the legal deadline of 15 February. All supporting information requested by decision 2012/12 was provided as part of the Informative Inventory Report before the legal deadline of 15 March of the same year that it is being submitted for review by the EMEP Steering Body (decision 2012/12, annex, para. 1).

12. Additional documentation was provided during the review in response to requests from the ERT. Section 4 lists the documentation provided by the Party.

13. Czechia submitted an application (see table1) for emissions adjustments to **NMVOCs** and **NO_x** for years 2010-2018 from the following NFR sectors:

- (a) 3B1, 3B2, 3B3, 3B4 Manure Management (all animals)

14. Czechia does not comply with its NMVOC emission reduction commitments but is in compliance with NO_x emission reduction commitments listed in Annex II of the Gothenburg Protocol, (paragraph 1 of Decision 2012/3).

15. Czechia provided information on the impact of the adjustment to its emission inventory, and the extent to which it would reduce the current exceedance and possibly bring the Party into compliance with its emission reduction commitments for the years 2010 to 2018.

Table1: Impact of adjustments on the NMVOC emission inventories of Czechia for 2010-2018

| <i>Pollutant</i> | <i>NFR</i> | <i>2010</i> | <i>2011</i> | <i>2012</i> | <i>2013</i> | <i>2014</i> | <i>2015</i> | <i>2016</i> | <i>2017</i> | <i>2018</i> |
|------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| NMVOC | 3.B | -19.865 | -19.240 | -19.149 | -19.521 | -19.548 | -19.990 | -20.120 | -20.171 | -20.472 |

Abbreviations:; NMVOC, non-methane volatile organic compound;

16. Czechia included information on when it will meet its emission ceiling for NMVOC and NO_x in the supporting documentation in Chapter 11 of the IIR.

2.1.1 Assessment of the Quantification of the Impact of the Revision

17. The adjustment application process requires that the Party submit a quantification of the impact of the adjustment for which an application has been submitted. Table 1 provides an overview of the NMVOC and NO_x adjustment applications of the Czechia in the Agriculture sector as provided by the Czechia in Annex II.

18. During the review, emissions calculations and two updated tables for the informative inventory report were received from the Czechia and included in the assessment. In the 2020 submission, Czechia included NMVOC and NO_x emissions from manure management (3.B) in its inventory in accordance with the methodology presented in the 2016 EMEP/EEA air pollutant emission inventory guidebook (2016 Guidebook) and has identified these as new sources that were not accounted for when its emission reduction commitments were set. The second edition of the Guidebook (EMEP/CORINAIR Atmospheric Emission Inventory Guidebook 1999 (1999 Guidebook)) did not provide methodologies for estimating NMVOC and NO_x from these sources.

19. The Czechia indicate that, if the proposed adjustments are accepted, its national total of **NMVO**C emissions will be below the emission ceiling in accordance with the Gothenburg Protocol as from 2014, for NMVOCs. The Expert Review Team concluded that the NMVOC adjustment applications met all of the requirements set out in decision 2012/12 and in the Technical Guidance and therefore recommended that the EMEP Steering Body **accept** these adjustment applications.

20. For the **NO_x** emissions, agriculture is only a small contributor to the national total, and the national total will be below the emission ceiling in accordance with the Gothenburg Protocol as from 2010, even without the adjustments. Review team concluded that Czechia is in compliance with NO_x emissions also without adjustments and therefore there is no need to approve these and recommends Czechia to withdraw this application.

Table 2: Czechia NMVOC and NO_x adjustment applications for Agriculture (kt)

| Ref. Nb. | Pollutant | NFR Code | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------|-----------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | NMVO | 3B1a | -6.879 | -6.705 | -6.693 | -6.589 | -6.684 | -6.747 | -6.682 | -6.633 | -6.555 |
| 2 | NMVO | 3B1b | -8.597 | -8.634 | -8.729 | -8.773 | -8.910 | -9.178 | -9.286 | -9.360 | -9.350 |
| 3 | NMVO | 3B2 | -0.055 | -0.058 | -0.062 | -0.062 | -0.063 | -0.065 | -0.061 | -0.061 | -0.061 |
| 4 | NMVO | 3B3 | -0.962 | -0.839 | -0.787 | -0.806 | -0.801 | -0.780 | -1.048 | -0.976 | -1.013 |
| 5 | NMVO | 3B4d | -0.014 | -0.015 | -0.015 | -0.015 | -0.015 | -0.017 | -0.017 | -0.018 | -0.019 |
| 6 | NMVO | 3B4e | -0.233 | -0.242 | -0.258 | -0.267 | -0.256 | -0.262 | -0.250 | -0.269 | -0.274 |
| 7 | NMVO | 3B4gi | -1.056 | -1.044 | -0.923 | -1.234 | -1.154 | -1.080 | -1.044 | -1.171 | -1.361 |
| 8 | NMVO | 3B4gii | -1.619 | -1.308 | -1.332 | -1.382 | -1.254 | -1.372 | -1.294 | -1.238 | -1.302 |
| 9 | NMVO | 3B4giii | -0.147 | -0.143 | -0.125 | -0.172 | -0.155 | -0.163 | -0.147 | -0.133 | -0.135 |
| 10 | NMVO | 3B4giv | -0.164 | -0.120 | -0.103 | -0.114 | -0.161 | -0.238 | -0.202 | -0.222 | -0.313 |
| 11 | NMVO | 3B4h | -0.139 | -0.133 | -0.122 | -0.108 | -0.095 | -0.091 | -0.090 | -0.090 | -0.090 |
| 12 | NO _x | 3B1a | -0.175 | -0.170 | -0.170 | -0.167 | -0.170 | -0.171 | -0.170 | -0.168 | -0.166 |
| 13 | NO _x | 3B1b | -0.210 | -0.210 | -0.213 | -0.214 | -0.217 | -0.224 | -0.226 | -0.214 | -0.211 |
| 14 | NO _x | 3B2 | -0.002 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 |
| 15 | NO _x | 3B3 | -0.030 | -0.023 | -0.024 | -0.024 | -0.024 | -0.023 | -0.023 | -0.022 | -0.022 |
| 16 | NO _x | 3B4d | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 17 | NO _x | 3B4e | -0.007 | -0.008 | -0.008 | -0.009 | -0.008 | -0.008 | -0.008 | -0.009 | -0.009 |
| 18 | NO _x | 3B4gi | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 |
| 19 | NO _x | 3B4gii | -0.405 | -0.327 | -0.333 | -0.346 | -0.314 | -0.343 | -0.323 | -0.310 | -0.325 |
| 20 | NO _x | 3B4giii | -0.008 | -0.008 | -0.007 | -0.010 | -0.009 | -0.009 | -0.008 | -0.007 | -0.007 |
| 21 | NO _x | 3B4giv | -0.007 | -0.005 | -0.004 | -0.005 | -0.007 | -0.010 | -0.009 | -0.010 | -0.014 |
| 22 | NO _x | 3B4h | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 |

3 Conclusions and Recommendations

21. The ERT has undertaken a full and thorough assessment of the application for an adjustment of the NMVOC emissions inventory that was submitted by the Czechia for the source sectors listed in table 1. The ERT also assessed NOx emissions submitted by Czechia.

22. The review of the submitted application followed the guidance provided in the Annex to Decision 2012/12 of the Executive Body of the CLRTAP. The findings of the ERT are described in detail in Section 2 of this report.

23. Table 3 below provides a summary of the adjustment applications received from Czechia, and the subsequent recommendations made by the ERT to the EMEP SB.

Table3: Recommendations from the ERT to the EMEP SB

| Country | Sector | NFRs | Pollutant | Years | ERT Recommendation |
|---------|-------------------|------|-----------|-------------|--------------------|
| Czechia | Manure Management | 3B | NNVOC | 2010- 2018 | Accept |
| | Manure Management | 3B | NOx | 2010 - 2018 | Withdraw* |

*Note: * CZ is in compliance with NOx emissions also without submitted adjustment*

4 Information Provided by the Party

24. Table 4 lists the information provided by the Party in its adjustment application. The information provided by Party can be downloaded from the CEIP website⁴.

Table 4: Information Provided by the Party

| Filename | Short description of content |
|---|--|
| CZ_2020_Annex_II_to_ECE-EB.Air130_Adjustment_Application.xlsx | MS Excel file with detailed data underlying the proposed adjustment applications for: NMVOC and NOx from 3.B.1.a, 3.B.1.b, 3.B.2, 3.B.3, 3.B.4.d, 3.B.4.e, 3.B.4.gj, 3.B.4.gii, 3.B.4.giii, 3.B.4.giv and 3.B.4.h. |
| CZ_Informative_Inventory_Report_2020_v2.0.pdf | IIR 2020, pdf-document ; here especially: Chapter 11. Adjustments. |

25. The ERT found it necessary to ask the Party for further information. The information provided is described in Table 5 below.

Table 5: Additional Information Provided by the Party

| Filename | Short description of content |
|--------------------------------------|---|
| Corrected tables Czech IIR 2020.docx | MS Word file with the corrected tables 11-1 and 11-2 in the 2020 IIR for Czechia. |
| NFR3B_NMVOC-NOx TIER1.xlsx | MS Excel file with calculation of NMVOC and NOx emissions from manure management for all animal categories. |

⁴ <https://www.ceip.at/gothenburg-protocol/review-of-adjustments>

References

Decision 2012/3 (ECE/EB.AIR/111/Add.1): Adjustments under the Gothenburg Protocol to emission reduction commitments or to inventories for the purposes of comparing total national emissions with them.

https://www.ceip.at/fileadmin/inhalte/ceip/4_adjustments/decisions/ece_eb.air.111.add.1_eng_decision_3.pdf

Decision 2012/4: Provisional Application of Amendment to the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone

https://www.ceip.at/fileadmin/inhalte/ceip/4_adjustments/decisions/ece_eb.air.111.add.1_eng_decision_4.pdf

Decision 2012/12 (ECE/EB.AIR/113/Add.1): Guidance for adjustments under the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to emission reduction commitments or to inventories for the purposes of comparing total national emissions with them.

https://www.ceip.at/fileadmin/inhalte/ceip/4_adjustments/decisions/decision_2012_12.pdf

Decision 2014/1 (ECE/EB.Air/127/Add.1): Improving the guidance for adjustments under the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to emission reduction commitments or to inventories for the purposes of comparing total national emissions with them.

https://www.ceip.at/fileadmin/inhalte/ceip/4_adjustments/decisions/decision_2014_1.pdf

ECE/EB.AIR/130: Technical Guidance for Parties Making Adjustment Applications and for the Expert Review of Adjustment Applications, 14 April 2015

https://www.ceip.at/fileadmin/inhalte/ceip/4_adjustments/ece_eb.air.130.av_for_the_web.pdf

Data submitted by Parties applying for an adjustment:

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

EMEP/EEA Air Pollutant Emission Inventory Guidebook 2016

<http://www.eea.europa.eu/publications/emep-eea-guidebook-2016>

EMEP/CORINAIR Air Pollutant Emission Inventory Guidebook 1999, 2nd edition

<http://www.eea.europa.eu/publications/EMEPCORINAIR>

2014 Reporting Guidelines (ECE/EB.AIR/125) for Estimating and Reporting Emission Data under CLRTAP

https://www.ceip.at/fileadmin/inhalte/ceip/1_reporting_guidelines2014/ece.eb.air.125_advance_version_reporting_guidelines_2014.pdf

The 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone

http://www.unece.org/env/lrtap/multi_h1.html