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Review of the 2021 Adjustment Application

Czechia

Expert Review Team Report

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Expert Review Team

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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 2021. 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)	Significant change in method and significantly different EF (3B, 3Da2a). New emission sources that were not state of the art when the ceilings were set (3Da2b, 3Da2c, 3Da3).
Pollutant for which adjustment is applied for	NH ₃
Sector/Pollutant for which adjustment is applied for	Manure Management (NFR 3B) and Manure applied to soil (NFR 3Da2a). Sewage sludge applied to soil and Other organic fertilisers applied to soil (NFR 3Da2b and 3Da2c, Urine and dung deposited by grazing animals (NFR 3Da3).
Year(s) for which inventory adjustment is applied	2015
Date of notification of adjustment to the Secretariat	14 February 2021
Date of submission of supporting documentation	16.3.2021

3. The Expert Review Team reviewed and evaluated the documents submitted by the Czechia.

4. **NH₃ emissions from Manure Management (NFR 3B) and Manure applied to soil (NFR 3Da2a):** The ERT does not find that moving from the Tier 1 to Tier 2 methodology in the EMEP/EEA Guidebook constitutes a 'significantly different methodology' as foreseen by the Part 4 of Annex IV of Directive (EU) 2016/2284. Hence, the ERT is of the view that the application for adjustment does not meet the criteria as outlined in the Directive. The ERT therefore recommends that the EMEP Steering Body **REJECT** this adjustment application from the Czechia.

5. **NH₃ emissions from Sewage sludge applied to soil and Other organic fertilizers applied to soil (NFR 3Da2b and 3Da2c):** For sewage sludge and other organic fertilisers applied to soils, the adjustment application is based on these being new sources. The ERT notes that NH₃ emissions from sewage sludge and other organic fertilisers were not included in the EMEP/EEA Guidebook at the time of setting the emission ceilings, the impact of adjustments is minor and that adjustments for these new sources will not bring Czechia into compliance. The ERT recommends Czechia to **WITHDRAW** the application at this stage.

6. **NH₃ emissions from Urine and dung deposited by grazing animals (NFR 3Da3):** For Urine and dung deposited by grazing animals, the adjustment application is based on this being a new source. However, a methodology for grazed grassland was included in the EMEP/EEA Guidebook at the time of the establishing the emission ceiling and as such this does not meet the criteria for an adjustment based the 'new source' circumstance. The ERT acknowledges that the methodology for estimating NH₃ emissions from grazed grassland has changed significantly, and could be subject to an adjustment based on significantly different methodology. The ERT recommends Czechia to **WITHDRAW** the application at this stage.

7. Czechia addressed "Withdrawal of the Application for Adjustment of the NH₃ Emission Inventories" to UNECE by 05.08.2021 so it could be not reflected in the status report drafted in June. **The review team recommends EMEP SB to accept withdrawal of this adjustment.**

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1 Introduction and Context

8. 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.

9. 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.

10. 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.

11. 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.

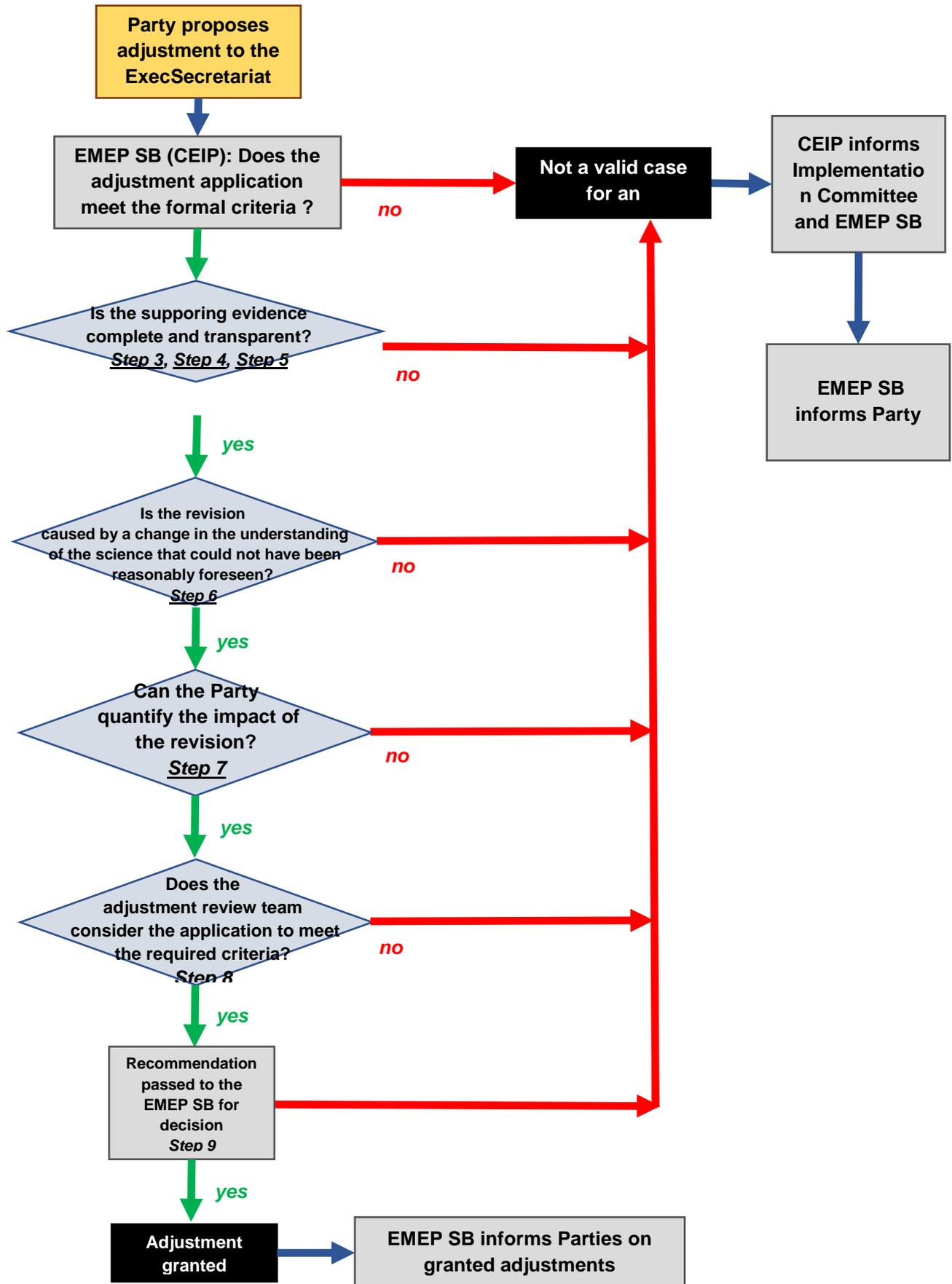
12. The flow diagram below outlines the different stages of the technical review. The following sections of this report are structured in the same way, and describe in detail the findings of the ERT at each of the decision gates in the process.

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_2021.pdf

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



2 Review of new Adjustments Submitted 2021

2.1 Assessment of Formal Criteria

13. Czechia notified the secretariat through the ECE Executive Secretary of its intention to apply for a new adjustment within the legal deadline on 15 February 2021. Limited 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).

14. Additional documentation was provided during the review in response to requests from the ERT. Section 5 lists the documentation provided by the Party.

15. Czechia submitted a new application (see Table 1) for emissions adjustments to **NH₃** for the year 2015 from the following NFR sectors:

- (a) 3B1, 3B2, 3B3, 3B4d, 3B4e Manure Management (all animals),
- (b) 3Da2a, 3Da2b, 3Da2c and 3Da3 Fertilisers applied to soils

16. Czechia does not comply with its **NH₃** emission reduction commitments listed in Annex II of the Gothenburg Protocol, (paragraph 1 of Decision 2012/3).

17. 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 year 2015.

Table 1: NH₃ emissions inventory adjustments submitted in 2021 by Czechia

<i>Pollutant</i>	<i>NFR</i>	<i>year 2015</i>
NH ₃	3B	-11.536
NH ₃	3Da2a, 3Da2b, 3Da2c	-4.823
NH ₃	3Da3	-2.411

18. Czechia included information on when it will meet its emission ceiling for **NH₃** in the supporting documentation in Chapter 11 of the IIR.

2.2 Assessment of Quantification of the Impact of the Revision

19. 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 and Table 2 provides an overview of the **NH₃** adjustment application of Czechia in the Agriculture sector as provided by Czechia in Annex II.

20. The adjustments have in most cases (manure management (3B) and animal manure applied to soils (3Da2a)) been justified with the explanation that they have moved from the Tier 1 to Tier 2 methodology in the EMEP/EEA air pollutant emission inventory guidebook 2019 (hereinafter the EMEP/EEA Guidebook) following a recommendation from the 2020 review process. The ERT notes that the categories are key categories and as such, emissions should always have been estimated using a higher tier methodology. For sewage sludge (3Da2b), other organic fertilisers applied to soils (3Da2c), and grazing (3Da3), the adjustment application is based on these being new sources.

21. In accordance with Part 4 of Annex IV of Directive (EU) 2016/2284 (hereinafter the Directive), there are three circumstances, where an adjustment can be of relevance, i.e.:

- 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.

In case of a new emission source, the following information shall be provided:

- evidence that the new emission source category is acknowledged in scientific literature and/or the EMEP/ EEA Guidebook;
- evidence that this source category was not included in the relevant historic national emission inventory at the time when the emission reduction commitment was set;
- evidence that emissions from a new source category contribute to a Member State being unable to meet its emission reduction commitments, supported by a detailed description of the methodology, data and emission factors used to arrive at that conclusion.

22. The ERT is of the view that the application by Czechia fails to meet the criteria for the supporting documentation required by the Directive as listed above. The ERT notes that NH₃ emissions from sewage sludge and other organic fertilisers were not included in the EMEP/EEA Guidebook at the time of setting the emission ceilings. However, a methodology for grazed grassland was included in the EMEP/EEA Guidebook at the time of the establishing the emission ceiling and as such this does not meet the criteria for an adjustment based the 'new source' circumstance.

23. The ERT notes that the impact of adjustments for sewage sludge and other organic fertilisers applied to soils is minor and that adjustments for these new sources will not bring Czechia into compliance. Furthermore, the ERT acknowledges that the methodology for estimating NH₃ emissions from grazed grassland has changed significantly, and could be subject to an adjustment based on significantly different methodology. This would require Czechia to submit a new application providing all the supporting documentation required to assess an application for an adjustment under the circumstance of a significantly different methodology. In the case of a significantly different methodology, the following information shall be provided:

- a description of the original methodology used, including detailed information on the scientific basis upon which the emission factor was derived;
- evidence that the original methodology was used for determining the emission reductions at the time when they were set;
- a description of the updated methodology used, including a detailed description of the scientific basis or reference upon which it has been derived;
- a comparison of emission estimates made using the original and updated methodologies demonstrating that the change in methodology contributes to a Member State being unable to meet its reduction commitment;
- the rationale for deciding whether the change in methodology is significant.

The ERT is of the view that the application by Czechia fails to meet the criteria for the supporting documentation required by the Directive as listed above.

24. Furthermore, the ERT does not find that moving from the Tier 1 to Tier 2 methodology in the EMEP/EEA Guidebook constitutes a 'significantly different methodology' as foreseen by the Directive. Emissions from key sources should be estimated using a higher tier methodology (called detailed methodology in older versions of the EMEP/EEA Guidebook) and this requirement has been in place also at the time when the emission ceiling was set. Hence, the ERT is of the view that the application for adjustment does not meet the criteria as outlined in the Directive.

25. The ERT notes that Czechia could analyse whether an adjustment taking into account changes in methodology between the detailed methodology when the emission ceiling was established and the current Tier 2 methodology in the EMEP/EEA Guidebook would meet the requirements set out in the Directive.

26. The ERT recommends Czechia to withdraw the application at this stage, to carry out the necessary analysis and subject to the results, apply for adjustments including all the supporting documentation required by the Directive in the next submission. The ERT notes that an application for an adjustment should only be made, if it can be expected to result in compliance with the emission ceiling.

Table 2: Czechia NH₃ adjustment applications for Agriculture sector (kt) submitted in 2021

<i>Ref. Nb.</i>	<i>Pollutant</i>	<i>NFR Code</i>	<i>year 2015</i>
1	NH ₃	3B1a	-4,977
2	NH ₃	3B1b	-3,304
3	NH ₃	3B2	-0,366
4	NH ₃	3B3	-2,772
5	NH ₃	3B4d	-0,012
6	NH ₃	3B4e	-0,106
7	NH ₃	3Da2a	-4,482
8	NH ₃	3Da2b	-0,303
9	NH ₃	3Da2c	-0,038
10	NH ₃	3Da3	-2,411

Abbreviations: NH₃ - ammonia, NFR- Nomenclature for Reporting

3 Assessment of Adjustments Approved prior 2021

27. Czechia submitted an application (see Table 3) for emissions adjustments to **NMVOCs** for years 2010-2018 from the following NFR sectors:

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

Table 3: Impact of adjustments on the NMVOC emission inventories of Czechia for 2010-2018

Pollutant	NFR	2010	2011	2012	2013	2014	2015	2016	2017	2018
NMVOC	3.B	-31.155	-29.968	-30.217	-30.580	-31.205	-32.171	-33.081	-32.873	-34.128

Abbreviations: NMVOC, non-methane volatile organic compound; NFR- Nomenclature for Reporting

28. In addition to adjustment applications submitted in 2021, the reviewers assessed adjustments approved prior 2021. The reviewers undertook a full and thorough assessment of the adjustment for Czechia, NMVOC emissions for manure management (3B) sector, originally approved in 2017. Czechia declares that a transition of method from Tier 1 to Tier 2 was carried out for the submission 2021.

29. Additional documentation was provided during the review in response to requests from the ERT. Section 5 lists the documentation provided by the Party. An error in the calculation was found and the Party provided a recalculated emission estimate and an updated Annex VII.

30. The adjustment for NMVOC emission from agriculture manure management (NFR 3B) has been recalculated using a higher tier methodology than when approved in 2017. The recalculation increases the emission with 57-67 % for the years 2010-2018 compared to submission 2020. The reviewers concluded that the adjustment met all of the requirements laid out in Executive Body decision 2012/12 and in the Technical Guidance.

4 Conclusions and Recommendations

31. The ERT has undertaken a full and thorough assessment of the application for an adjustment of the NH₃ emissions inventory that was submitted by the Czechia for the source sectors listed in Table 1.

32. 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.

33. Table 4 below provides a summary of the adjustment applications received from Czechia, and the subsequent recommendations made by the ERT to the EMEP SB.

34. The ERT recommends Czechia to withdraw 3B and 3D adjustment applications at this stage, to carry out the necessary analysis and subject to the results, apply for adjustments including all the supporting documentation required by the Directive in the next submission. The ERT notes that an application for an adjustment should only be made, if it can be expected to result in compliance with the emission ceiling.

35. Czechia addressed "Withdrawal of the Application for Adjustment of the NH₃ Emission Inventories" to UNECE by 05.08.2021 so it could be not reflected in the status report. The review team recommends EMEP SB to accept withdrawal of this adjustment.

Table 4: Recommendations from the ERT to the EMEP SB on new adjustments

Country	Sector	NFRs	Pollutant	Years	ERT Recommendation
Czechia	Manure Management	3B	NH ₃	2015	Accept withdrawal
	Agricultural soils	3Da2a	NH ₃	2015	Accept withdrawal
	Agricultural soils	3Da2b and 3Da2c	NH ₃	2015	Accept withdrawal
	Agricultural soils	3Da3	NH ₃	2015	Accept withdrawal

36. **Previously approved NMVOC adjustments:** The reviewers have undertaken a full and thorough assessment of the adjustments previously accepted in 2017-2020, and recommend that the EMEP Steering Body **continue to accept** these adjustments.

5 Information Provided by the Party

37. Table 5 lists the information provided by the Party in its adjustment application. The information provided by Party can be downloaded from the CEIP website⁴.

Table 5: Information Provided by the Party

Filename	Short description of content
CZ_2021_Annex_II_to_ECE-EB.Air130_Adjustment_Application_CLRTAP.xlsx	MS Excel file with detailed data underlying the proposed adjustment applications for: Manure Management (3B) and Manure applied to soil (3Da2a), ,Sewage sludge applied to soil and Other organic fertilisers applied to soil (3Da2b and 3Da2c), Urine and dung deposited by grazing animals (3Da3)
CZ_IIR_2021_v1	IIR 2021, pdf-document ; here especially: Chapter 11. Adjustments.
CZ_Notification form _2021	Word document

38. The ERT found it necessary to ask the Party for further information. The information provided is described in Table 6 below.

Table 6: Additional Information Provided by the Party

Filename	Short description of content
CZ-Annex II...corr	Corrected Excel file
Answers to questions set up by ERT	“Clever space” - platform at Umweltbundesamt website
 CZ_IIR_2021_v2.pdf	Corrected IIR, pdf file
CZ_notificaion form_2021_CLRTAP_corr	Corrected notification form
 Withdrawal_NH3 2021_CLRTAP_corr.pdf	Withdrawal of the Application for Adjustment of the NH ₃ Emission Inventories
 Withdrawal_of_application_for_NOX_adjustment_3.pdf	

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>

[https://webdab01.umweltbundesamt.at/cgi-](https://webdab01.umweltbundesamt.at/cgi-bin/adj_GP.pl?p_iso2B=ALL&p_subm_yearB=ALL&p_pollutantB=ALL)

[bin/adj_GP.pl?p_iso2B=ALL&p_subm_yearB=ALL&p_pollutantB=ALL](https://webdab01.umweltbundesamt.at/cgi-bin/adj_GP.pl?p_iso2B=ALL&p_subm_yearB=ALL&p_pollutantB=ALL)

EMEP/EEA Air Pollutant Emission Inventory Guidebook 2019

<https://www.eea.europa.eu/publications/emep-eea-guidebook-2019>

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