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Review of the 2024 Adjustment Application

DENMARK

Expert Review Team Summary Note

FINAL REPORT

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Expert Review Team

Role	Sectors	Name	Country
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Basic checks (Step 1 and 2)	N/A	Sabine Schindlbacher	CEIP

Executive Summary

1. As mandated by Decision 2012/3 (ECE/EB.AIR/111/Add.1) of the Executive Body of the Air Convention the nominated Expert Review Team undertook a detailed review of the adjustment application submitted by Denmark. 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) and additional Guidance provided in “Inventory adjustments in the context of emission reduction commitments (ERCs)”¹.
2. The application was reviewed by two independent sectoral experts during May and June 2024. The findings were discussed during the review week from 3 to 7 June 2024. 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)	New emission source (3B1b), which was not accounted for at the time when the ERCs were set
Pollutant for which adjustment is applied for	NMVOG
Sector/Pollutant for which adjustment is applied for	3B1b/NMVOG
Year(s) for which inventory adjustment is applied	2005,2020-2022
Date of notification of adjustment to the Secretariat	15 February 2024
Date of submission of supporting documentation	15 March 2024
Resubmission of the adjustment application	19 February 2024

3. The Expert Review Team reviewed and evaluated the documents submitted by Denmark.
4. **NMVOG emissions from Manure Management – Non-dairy cattle (NFR 3B1b):** The ERT finds that this source was not known at the time when the ceilings were set and thus constitutes a valid adjustment. The ERT finds that the emissions have been calculated in line with the EMEP/EEA Guidebook. Hence, the ERT is of the view that the application for adjustment meets the criteria as outlined in the Directive. The ERT therefore recommends that the EMEP Steering Body **ACCEPT** this adjustment application from DENMARK.

¹ Available at: <https://www.ceip.at/gothenburg-protocol/adjustments>

5. **Content**

Executive Summary 3

1 Introduction and Context 5

Figure 1: Flow Diagram/Decision Tree for the Review of Adjustment Applications..... 6

2 Review of Submitted new Adjustments..... 7

 2.1 Assessment of Formal Criteria.....7

 2.2 Assessment of consistency with the requirements of decision 2012/3.....7

 2.3 Assessment of the quantification of the impact of the revision8

3 Conclusions and Recommendations 9

4 Information Provided by the Party..... 10

References 11

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 targets. 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.

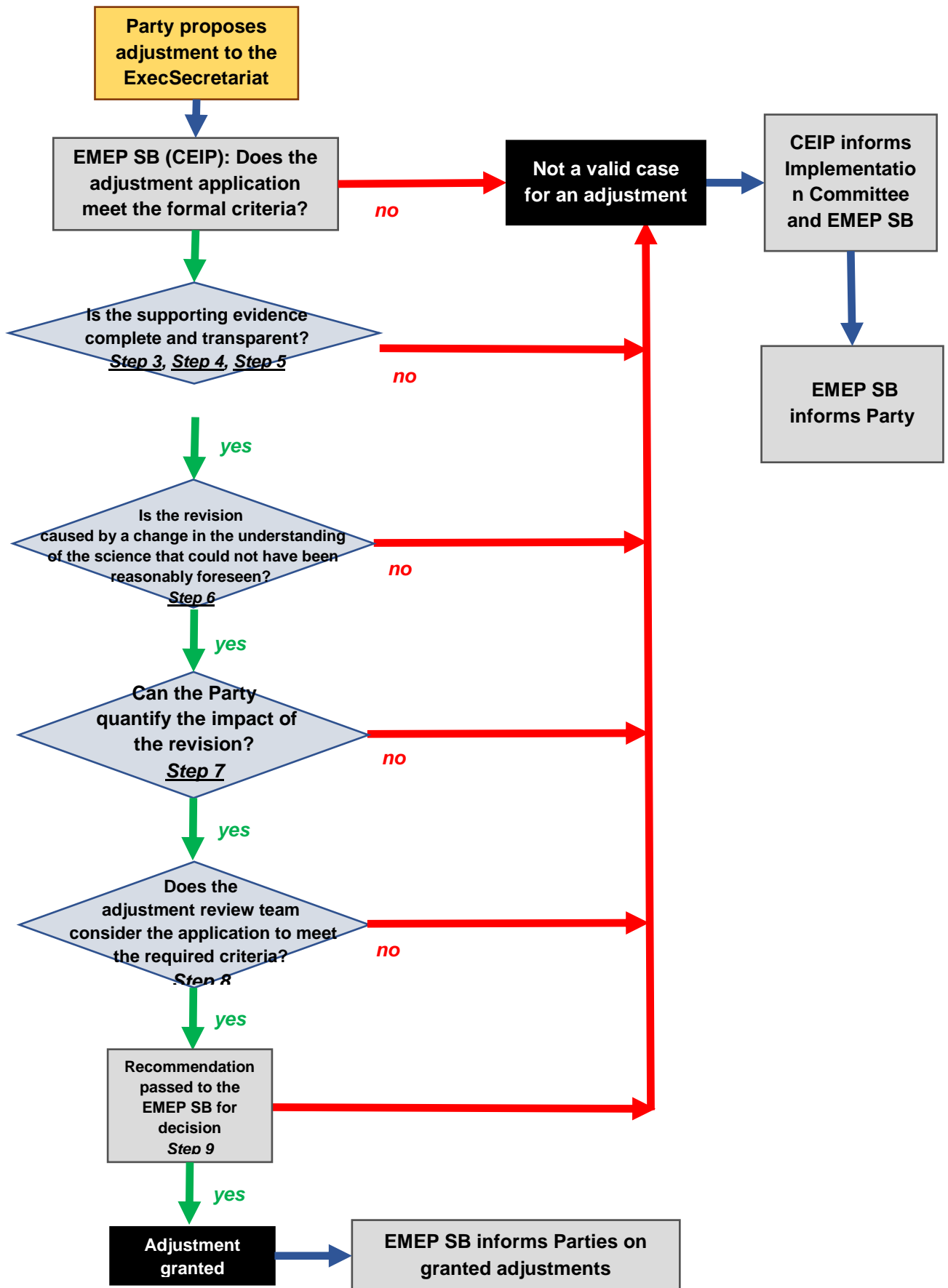
8. As mandated by Decision 2012/12 and as amended by the Decision 2014/1 of the Executive Body of the CLRTAP, applications for adjustments that are submitted by Parties are subject to an expert review². Technical coordination and support to the review is provided by EMEP's Centre on Emission Inventories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

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 ..

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



2 Review of Submitted new Adjustments

2.1 Assessment of Formal Criteria

11. Denmark notified the secretariat through the ECE Executive Secretary of its intention to apply for a new adjustment within the legal deadline on 15 February 2024. 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 information was not requested by the ERT during the review.

13. Denmark submitted an application for emissions adjustments to NMVOCs for 2005, 2020-2022 for the following sectors:

(a) NFR 3B1b: Manure management - Non-dairy cattle;

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

15. Denmark 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 2005, 2020-2022 for NMVOCs.

16. Denmark includes information on when it will meet its emission ceiling for NMVOCs in the supporting documentation.

17. Denmark indicated that, with the proposed adjustment (NFR 3B1b Non-dairy cattle), it meets the set emission reduction commitments for NMVOCs in 2020-2022 in the supporting documentation.

2.2 Assessment of consistency with the requirements of decision 2012/3

18. All adjustments have been justified with the explanation that these sources were unknown when the emission reduction commitments were set.

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.
- The ERT concludes that the supporting evidence provided complies with the criteria presented in decision 2012/3, and that the circumstances on which the adjustment is based relate to a change in the understanding of the science relating to this source
- The ERT reviewed the documentation that was provided to support the application (see annex).

- The ERT is of the view that the application by Denmark meets in general the criteria for the supporting documentation required by the Directive as listed above.

2.3 Assessment of the 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 2** provides an overview of the NMVOC adjustment application of Denmark in the NFR 3B1b sector as provided by Denmark in Annex IIa.

The ERT reviewed the quantification of the emissions adjustments provided by the country. The ERT concluded that the information provided was accurate and error free, and is consistent with the most up-to-date available EMEP/EEA Emissions Inventory Guidebook.

The impact of the new adjustment on the NMVOC emission inventories of Denmark for the years 2020-2022 in ktonnes is detailed in **Table 2**.

The impact of the approved and new adjustment on the NMVOC emission inventories of Denmark for the years 2020-2022 in ktonnes is detailed in **Table 3**.

Table 2: Impact of the new adjustment on the NMVOC emission inventories of Denmark for the years 2020-2022 in ktonnes.

	Unit	2005	2020	2021	2022
ERC	% of 2005		35%	35%	35%
ERC unadjusted	(kt)		91.61	91.61	91.61
NT for Compliance unadjusted ³	(kt)	140.94	85.23	84.53	94.43
Gap to ERC unadjusted	(%)		7%	8%	-3%
ERC adjusted	(kt)		84.90	84.90	84.90
Adjusted NT for Compliance	(kt)	130.62	74.02	73.40	84.10
Gap to ERC adjusted	(%)		13%	14%	1%
Impact of adjustment on NT for Compliance	(kt)	-10.32	-11.21	-11.13	-10.33

Table 3: Impact of the approved and new adjustment on the NMVOC emission inventories of Denmark for the years 2020-2022 in ktonnes.

	Unit	2005	2020	2020	2020
ERC	% of 2005		35%	35%	35%
ERC unadjusted	(kt)		104.62	104.62	104.62
NT for Compliance unadjusted	(kt)	160.96	109.13	108.95	118.45
Gap to ERC unadjusted	(%)		-4%	-4%	-13%
ERC adjusted	(kt)		84.90	84.90	84.90
Adjusted NT for Compliance	(kt)	130.62	74.02	73.40	84.10
Gap to ERC adjusted	(%)		13%	14%	1%
Impact of adjustment on NT for Compliance	(kt)	-30.34	-35.11	-35.55	-34.35

³ "NT for Compliance unadjusted" represents NT for compliance including the previously approved adjustment in the 2022 submission (NFR 3B1a).

3 Conclusions and Recommendations

20. The ERT has undertaken a full and thorough assessment of the application for an adjustment of the NMVOC emissions inventory that was submitted by Denmark for the source sector listed in Table 4.

21. 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.

22. Table 4 below provides a summary of the adjustment application received from Denmark, and the subsequent recommendations made by the ERT to the EMEP SB.

23. The ERT recommends the EMEP SB to accept new adjustment applications submitted by Denmark.

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

Country	Sector	NFRs	Pollutant	Years	ERT Recommendation
Denmark	Manure Management – Non-dairy cattle	3B1b	NMVOC	2005, 2020, 2021, 2022	Accept

4 Information Provided by the Party

24. Table 3 lists the information provided by the Party in its adjustment application. The information provided by Party can be downloaded from the CEIP website⁴.

Table 3: Information Provided by the Party

Filename	Short description of content
annex_iaa_to_ece- eb.air130_adjustment_application_v202423 01_final_v2	MS Excel file with detailed data underlying the proposed adjustment applications for: Manure Management – Non-dairy cattle 3B1b
Denmarks_Informative_Inventory_Report_ 2024.pdf	IIR (2024), pdf-document ; here especially: Chapter 12. Adjustments.
Annex_3D_Agriculture.xlsx	MS Excel file accompanying Annex to the IIR (2024)

25. The ERT did not find necessary to ask the Party for further information.

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

References

Data submitted by Parties applying for an adjustment:

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

https://webdab01.umweltbundesamt.at/cgi-bin/adj_v2.pl

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://unece.org/DAM/env/documents/2013/air/ECE_EB.AIR_111_Add.1__ENG_DECISION_3.pdf

Decision 2012/4 (ECE/EB.AIR/111/Add.1): Provisional Application of Amendment to the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone

https://unece.org/DAM/env/documents/2013/air/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://unece.org/DAM/env/documents/2012/EB/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://unece.org/DAM/env/documents/2014/AIR/EB/Decision_2014_1.pdf

ECE/EB.AIR/125: 2014 Reporting Guidelines for Estimating and Reporting Emission Data under CLRTAP https://unece.org/DAM/env/documents/2013/air/eb/ece.eb.air.125_E_ODS.pdf

ECE/EB.AIR/GE.1/2022/20– ECE/EB.AIR/WG.1/2022/13: *Guidelines for Reporting Emissions and Projections Data under the Convention on Long-range Transboundary Air Pollution*. United Nations Economic Commission for Europe:

https://unece.org/sites/default/files/2022-08/ECE_EB.AIR_GE.1_2022_20-2210473E.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

EMEP/EEA 2019: EMEP/EEA Air Pollutant Emission Inventory Guidebook 2019, EEA Report 13/2019

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

EMEP/EEA 2023: EMEP/EEA Air Pollutant Emission Inventory Guidebook 2023, EEA Report 06/2023

<https://www.eea.europa.eu/publications/emep-eea-guidebook-2023>

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

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

TFEIP 2022: Technical Guidance for Emissions Inventory Adjustments under the Amended Gothenburg Protocol: Inventory adjustments in the context of ERCs

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