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Review of the 2019 Adjustment Application by the Netherlands

Expert Review Team Report for the EMEP Steering Body

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Expert Review Team

Role	Sectors	Name	Country
Adjustment lead reviewer	All	Kristina Saarinen	FI
Primary expert reviewer	Agriculture 3B, 3D	Rikke Albrektsen	DK
Secondary expert reviewer	Agriculture 3B, 3D	Simone Haider	AT
Basic checks (Step 1 and 2)	N/A	Katarina Mareckova	CEIP

Executive Summary

- 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 Netherlands. 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).
- Each sector of the application was reviewed by two independent sectoral experts during May and June 2019. The findings were discussed at the meeting held from 25-28 June 2019 in Copenhagen at the EEA. 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)	The emission totals for NMVOC and NH ₃ exceed the emission ceilings as set at the time for these pollutants, for all years since 2010. This is mainly due to the implementation of new emission sources and emission factors that were not state of the art when the ceilings were set.
Pollutant for which adjustment is applied for	NMVOC and NH ₃ .
Sector/Pollutant for which adjustment is applied for	Manure Management (NFR 3B), pollutants: NMVOC and NH ₃ . Crop production and agricultural soils (NFR 3Da2a, 3Da3, 3Dc, 3De), pollutant NMVOC and (NFR 3Da4, 3De), pollutant NH ₃ .
Year(s) for which inventory adjustment is applied	2010-2017 NMVOC 2014-2017 NH ₃
Date of notification of adjustment to the Secretariat	14 February 2019
Date of submission of supporting documentation	15 March, 4, 23 and 24 April 2019

- The Expert Review Team reviewed and evaluated the documents submitted by the Netherlands.
- 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 Netherlands.
- NMVOC emissions from Crop production and agricultural soils (NFR 3Da2a, 3Da3, 3Dc and 3De):** The ERT concludes that emissions from *Crop production and agricultural soils (NFR 3Da2a, 3Da3, 3Dc and 3De)* 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 Netherlands.

6. **NH₃ emissions from Manure Management (NFR 3B3):** The ERT concludes that NH₃ emissions from *Manure Management (NFR 3B3)* are estimated using a significantly different methodology because of the inclusion of emissions from treatment of manure and also because this was not included in the methodology for quantifying emissions in the EMEP/CORINAIR Emissions Inventory Guidebook (1999). The ERT therefore recommends that the EMEP Steering Body **ACCEPT** this adjustment application from the Netherlands.

7. **NH₃ emissions from Crop production and agricultural soils (NFR 3Da4, 3De):** The ERT concludes that emissions from *Crop production and agricultural soils (NFR 3Da4, 3De)* 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 Netherlands.

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
NMVOG	kt	-82.514	-81.294	-81.233	-75.363	-67.657	-79.123	-72.691	-71.864
NH ₃	kt	na	na	na	na	-2.153	-1.851	-2.007	-4.654

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

Poll.	GP Emission Commitment (kt)	2010 Emission reported in 2019 (kt)	2010 Emission (adjusted) (kt)	Difference (%)	2017 Emission reported in 2019(k t)	2017 Emissions (adjusted) (kt)	Difference (%)
NMVOG	191	267.93	185.42	-30.8	252.07	180.21	-28.5
NH ₃	128	134.15	na	na	132.12	127.47	-3.5

8. The total national emissions of the Netherlands for NMVOGs will be below the Gothenburg Protocol ceilings from at least 2010 onwards, if the proposed adjustments are accepted. The total national emissions of the Netherlands for NH₃ will be below the Gothenburg Protocol ceilings from at least 2014 onwards, if the proposed adjustments are accepted.

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1 Introduction and Context

9. 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.

10. 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.

11. 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.

12. 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.

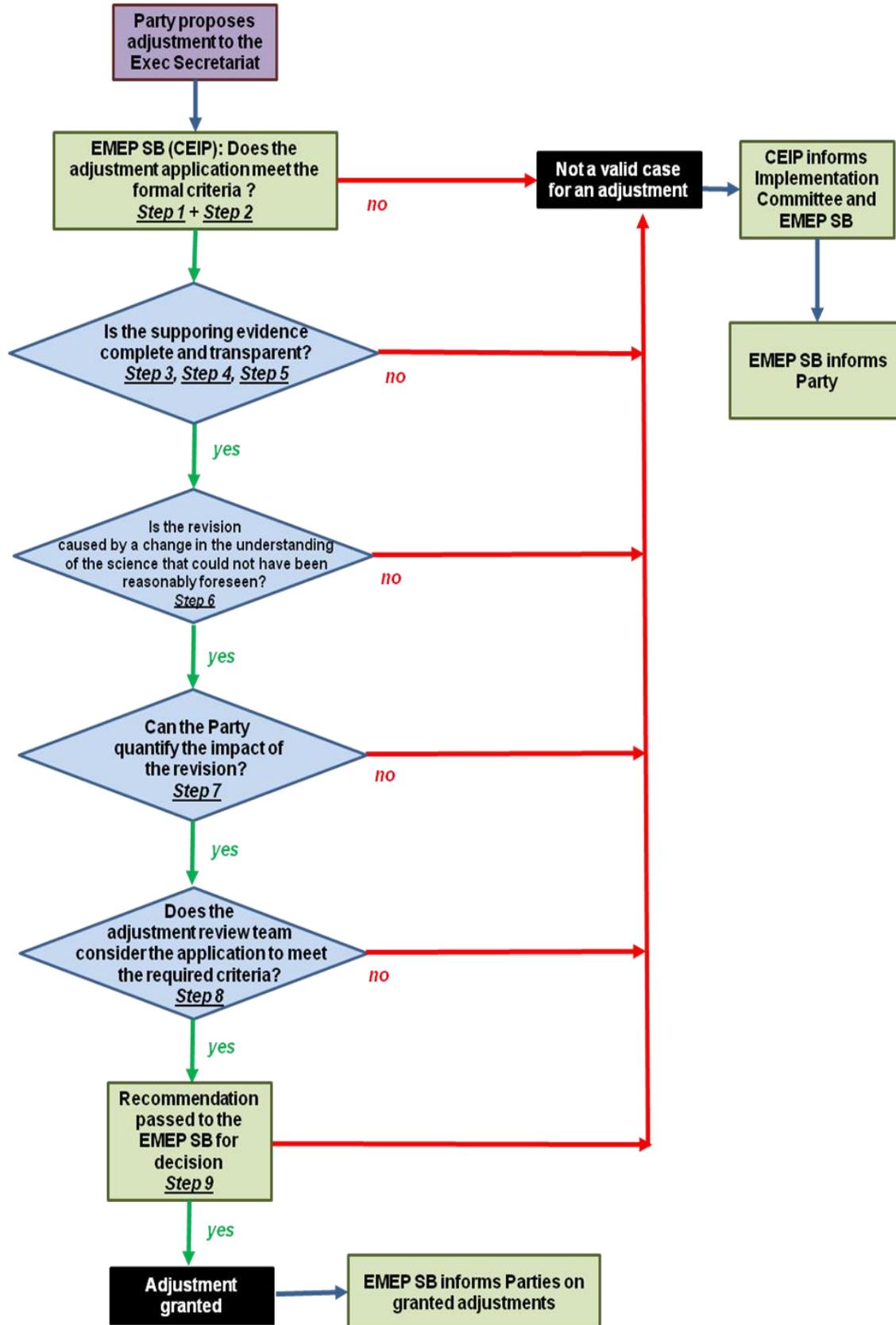
13. The flow diagram below outlines the different stages of the technical review. The following sections of this report are structured in the same way, and describe in detail the findings of the ERT at each of the decision gates in the process.

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/emep/pdf/2019/0_Roster_2019v1.pdf

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



2 Review of Submitted Adjustments

2.1 Assessment of Formal Criteria

14. Netherlands notified the secretariat through the ECE Executive Secretary of its intention to apply for a new adjustment on 14 February 2019 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).

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

16. Netherlands submitted an application (see table1) for emissions adjustments to **NMVOCs** for years 2010-2017 from the following NFR sectors :

- (a) 3B1, 3B2, 3B3, 3B4 Manure Management (all animals)
- (b) 3Da2a Animal manure applied to soils
- (c) 3Da3 Urine and dung deposited by grazing animals
- (d) 3Dc Farm-level agricultural operations including storage, handling and transport of agricultural products
- (e) 3De Cultivated crops

17. and **NH₃** adjustments for years 2014-2017 for the following NFR categories :

- (f) 3B3 Manure Management (Swine)
- (g) 3Da4 Crop residues applied to soils
- (h) 3De Cultivated crops

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

19. Netherlands 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 2017.

20. Netherlands included information on when it will meet its emission ceiling for NMVOC and NH₃ in the supporting documentation in Chapter 12 of the IIR (table 42.1).

2.1.1 Assessment of the Quantification of the Impact of the Revision

21. 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 NH₃ adjustment applications of the Netherlands in the Agriculture sector as provided by the Netherlands in revised Annex II submitted during review (24.07.2019).

Table 1: Netherlands NMVOC and NH₃ adjustment applications for Agriculture (kt)

Ref. Nb.	Polutant	NFR Code	2010	2011	2012	2013	2014	2015	2016	2017
1	NMVOC	3B1a	-35.675	-36.130	-36.853	-38.463	-31.993	-41.643	-45.225	-45.174
2	NMVOC	3B1b	-12.592	-12.609	-12.573	-12.896	-13.010	-13.255	-13.049	-12.342

Ref. Nb.	Pollutant	NFR Code	2010	2011	2012	2013	2014	2015	2016	2017
3	NMVOC	3Da2a	-11.090	-12.378	-11.670	-13.196	-13.455	-12.662	-14.417	-14.349
4	NMVOC	3Dc	-10.157	-10.250	-10.397	-10.809	-9.199	-11.563		
5	NMVOC	3B3	-3.568	-3.508	-3.354					
6	NMVOC	3B4gii	-3.417	-3.417	-3.422					
7	NMVOC	3B4gi	-3.213	-3.002	-2.964					
8	NMVOC	3De	-1.588							
9	NMVOC	3Da3	-0.349							
10	NMVOC	3B4h	-0.328							
11	NMVOC	3B4d	-0.308							
12	NMVOC	3B4e	-0.083							
13	NMVOC	3B4giii	-0.073							
14	NMVOC	3B4giv	-0.053							
15	NMVOC	3B2	-0.020							
16	NMVOC	3B4f	-0.0003							
17	NH ₃	3Da4					-2.153	-1.851	-2.007	-2.345
18	NH ₃	3De								-1.821
19	NH ₃	3B3								-0.487

3 Conclusions and Recommendations

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

23. 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.

24. Table 2 below provides a summary of the adjustment applications received from Netherlands, and the subsequent recommendations made by the ERT to the EMEP SB.

Table 2: Recommendations from the ERT to the EMEP SB

Country	Sector	NFRs	Pollutant	Years	ERT Recommendation
Netherlands	Manure Management	3B	NNVOC	2010- 2017	Accept
	Crop production and agricultural soils	3D	NMVOC	2010 - 2017	Accept
	Manure Management	3B3	NH ₃	2017	Accept
	Crop residues applied to soils	3Da4	NH ₃	2014-2017	Accept
	Cultivated crops	3De3	NH ₃	2017	Accept

4 Information Provided by the Party

25. 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_II_Adjustment_Application_Netherlands_2019_v1.1.xlsx	MS Excel file with detailed data underlying the proposed adjustment applications for: NMVOC 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.f, 3.B.4.gi, 3.B.4.gii, 3.B.4.giii, 3.B.4.giv, 3.B.4.h, 3.D.a.2.a, 3.D.c, 3.D.a.3 and 3.D.e. NH ₃ from 3.B.3, 3.D.a.4 and 3.D.e
IIR_2019_NL_RIVM2019-0016.pdf	IIR 2019, pdf-document ; here especially: Chapter 12. Adjustments

26. The ERT found it necessary to ask the Party for further information. The information provided is described in Table 4 below.

Table 4: Additional Information Provided by the Party

Filename	Short description of content
Adjustments_v2.1.docx	MS Word file with an updated version of Chapter 12 for IIR 2019
Annex_II_Adjustment_Application_Netherlands_2019_v3.1.xlsx	MS Excel file with an updated version of adjustment application - changed to questions asked during the review
NMVOC_data example Dairy cattle.xlsx	MS Excel file with an example of calculation of NMVOC emissions from manure management for dairy cattle
Review Question_NL-3B-2019-0002_3D_Cropresidues-TERT_NL.xlsx	MS Excel file with additional information on activity data and calculation details for NH ₃ emissions from 3.D.a.4
Review Question_NL-3B-2019-0002_Export.xlsx	MS Excel file with additional information on activity data for manure treatment
Review Question_NL-3B-2019-0002_NH3_Manure_treatment-TERT_NL.xlsx	MS Excel file with additional information on activity data and calculation details for NH ₃ emissions from manure management/manure treatment

⁴ http://www.ceip.at/ms/ceip_home1/ceip_home/adjustments_gp/

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.

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.

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.

Data submitted by Parties applying for an adjustment:

http://www.ceip.at/ms/ceip_home1/ceip_home/adjustments_gp/

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 http://www.ceip.at/ms/ceip_home1/ceip_home/reporting_instructions/

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

The 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone http://www.unece.org/env/lrtap/multi_h1.html