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Review of the 2015 Adjustment Application by Germany

Expert Review Team Report for the EMEP Steering Body

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Executive Summary

1. As mandated by decision 2012/3 (ECE/EB.AIR/111/Add.1) of the Executive Body of the Convention on Long-range Transboundary Air Pollution (CLRTAP), the nominated expert review team (ERT) undertook a detailed review of the adjustment application submitted by Germany. The review was undertaken on behalf of the EMEP¹ Steering Body (SB) and following the guidance published in the Annex to decisions 2012/12 (ECE/EB.AIR/113/Add.1) and 2014/1 (ECE/EB.Air/130).
2. Each section of the application was reviewed by two independent sectoral experts in May and June 2015. The findings were discussed at the meeting held 22-26 June 2015 at the EEA in Copenhagen. The conclusions and recommendations for the EMEP Steering Body have been documented in this country report.

Table ES1: Summary Information on the Submitted Application, Germany 2015

Reasons for adjustment application (decision 2012/3, para 6 as amended by decision 2014/1, annex, para 3)	Manure management ² (3B), and Cultivated crops (3De): New sources
Pollutant for which adjustment is applied for	NMVOC
Year(s) for which inventory adjustment is (are) applied for	2010, 2011, 2012, 2013
Date of notification of adjustment to the Convention Secretariat	9 February 2015
Date of submission of supporting documentation	24 February 2015

3. The expert review team reviewed and evaluated the documents submitted by Germany.
4. **Manure management (3B) and cultivated crops (3De), NMVOC:** Germany reported NMVOC emissions from the agriculture sector under the framework of the CLRTAP. However, NMVOC emissions from manure management (3B) and cultivated crops (3De) had not been accounted for at the time the emission reduction commitments were set. The expert review team has concluded that the application meets all of the requirements set out in decision 2012/12 of the Executive Body of the CLRTAP and therefore recommends that the EMEP Steering Body **ACCEPT** this adjustment application.
5. A summary of the quantity and impact of the adjustments recommended for acceptance is provided in tables ES2 and ES3 below.

¹ Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe

² NFR14s: 3B1a, 3B1b, 3B2, 3B3, 3B4d, 3B4e and 3B4gi-iv hereinafter referred to as 3B

Table ES2: Sum Total of Recommended Inventory Adjustments (ktonnes), Germany 2010-2013

Pollutant		2010	2011	2012	2013
NM VOC	kt	-201.23	-200.70	-204.15	-208.71

Table ES3: Impact of Recommended Inventory Adjustments on National Emissions, Germany 2010 and 2013

Poll.	GP emission reduction commitment (kt)	2010 emissions reported in 2015 (kt)	2010 emissions (adjusted) (kt)	Difference (%)	2013 emissions reported in 2015(kt)	2013 emissions (adjusted) (kt)	Difference (%)
NM VOC	995	1238.75	1037.52	16%	1138.24	929.53	18%

6. Germany's total national emissions will be below the Gothenburg Protocol ceilings from 2011 onwards if the proposed adjustments are accepted

7. **Adjustments approved in 2014:** The ERT has undertaken a full assessment of NOx adjustments for the sectors road transport (1A3bi-ii) and agriculture (3B, 3D) previously accepted in 2014 and recommends that the EMEP Steering Body continue to **ACCEPT** these adjustments.

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1 Introduction and Context

8. Parties may apply for an adjustment to their inventory data or emission reduction commitments whenever they are (or expect to be) in non-compliance with their emission reduction targets³. However, in making an adjustment application, they must demonstrate that extraordinary circumstances have given rise to the need to revise their emission 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 (for a more detailed definition see decision 2014/1, annex, para. 3 (a) (i)–(iii)); or
- b) emission factors used to determine emissions levels for the year in which emission reduction commitments are to be attained are significantly different than when the emission reduction commitments were set; or
- c) the methodologies used to determine emissions from specific source categories change significantly between the time the emission reduction commitments were set and the year they must 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 and the Technical Guidance document (ECE/EB.Air/130) must be provided (either as part of the Informative Inventory Report or in a separate report) by 15 March of the same year.

10. Decision 2012/12, as amended by the decision 2014/1, of the Executive Body of the CLRTAP, mandates that applications for adjustments submitted by Parties shall be subject to an expert review⁴. Technical coordination and support in 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 experts⁵ nominated by Parties to the CEIP roster of experts.

11. The expert review team undertakes a detailed technical review of the adjustment application in cooperation with the technical bodies under EMEP 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 each adjustment application based on the outcome of the technical assessment completed by the ERT.

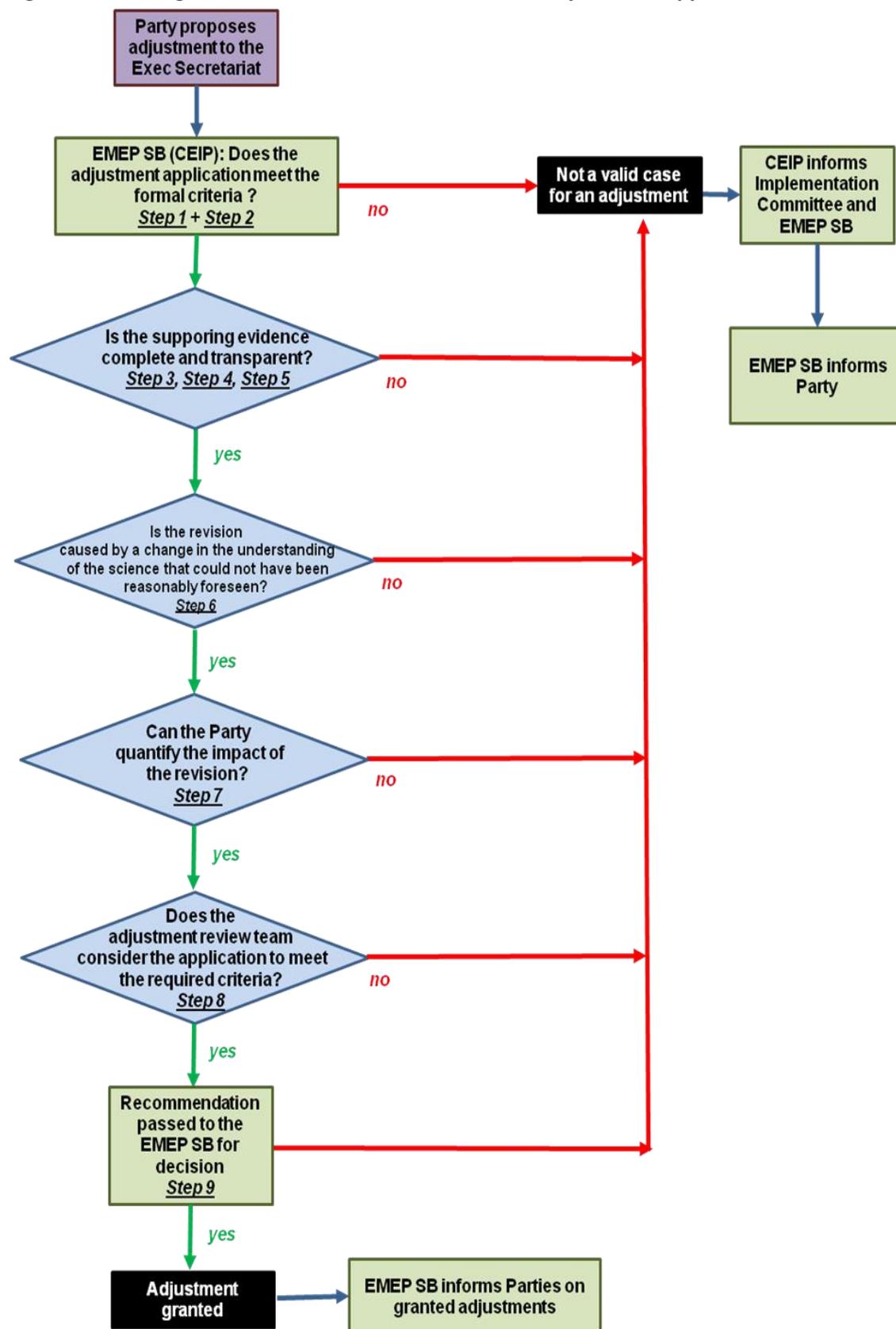
12. The flow diagram below outlines the different stages of the technical review. The following sections of this report are structured in the same way and provide a detailed description of the ERT findings at each of the decision gates in the process.

³ The term "emission reduction commitments" is used throughout this report. However, the term "emission ceilings" is equally applicable.

⁴ 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 para 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 ECE/EB.Air/130 .

⁵ http://www.ceip.at/fileadmin/inhalte/emep/pdf/2015/0_Roster_2015.pdf

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



2 Review of Adjustments Submitted in 2015

2.1 Assessment of Formal Criteria

13. Germany notified the Convention Secretariat through the Executive Secretary of its intention to apply for a new adjustment on 9 February 2015, i.e. the legal deadline of 15 February. All supporting information requested by Decision 2012/12 amended by decision 2014/1 was provided as part of the Informative Inventory Report before the legal deadline of 15 March of the same year it was submitted for review by the EMEP Steering Body (decision 2012/12, annex, para 1). Additional documentation was provided during the review in response to requests from the ERT. Section 5 lists the documentation provided by the Party.

14. Germany submitted an application for NMVOC emission adjustments for 2010-2013 in the following sectors:

- a) Manure management (3B1a, 3B1b, 3B2, 3B3, 3B4d, 3B4e and 3B4gi-iv hereinafter referred to as 3B)
- b) Cultivated crops (3De)

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

16. Germany provided information relating to the adjustment impact on its emission inventory and the extent to which it would reduce the current exceedance and presumably bring the Party in compliance with the emission reduction commitments.

17. In the supporting documentation, Germany included information on when it expects to meet its NMVOC emission ceiling.

2.2 Manure Management (3B), NMVOC; Cultivated Crops (3De), NMVOC

2.2.1 Assessment of Consistency with Requirements of EB Decision 2012/3 as amended by EB Decision 2014/1

18. Germany submitted an application for a new source.

19. The adjustment application requires the provision of specific supporting information to demonstrate compliance with specific criteria (decision 2012/3, para 6a-c as amended by decision 2014/1, annex, para 3). The ERT deemed the supporting information provided by Germany complete.

20. The ERT noted that no methodology for NMVOC emissions from these sources was included in the 1999 Guidebook. Furthermore, it concluded that the supporting evidence provided complies with the criteria presented in decision 2012/3 and that the circumstances on which the adjustment is based could not have been reasonably foreseen by the Party at the time the emission ceilings were established for 2010.

2.2.2 Assessment of the Quantification of the Revision Impact

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 adjustment applications for manure management and agricultural soils.

Table 1: Impact of Adjustment to Germany's NMVOC Emission Inventory from Manure Management (3B) and Cultivated Crops (3De) for 2005–2013

Reference number:	NFR14	Pollutant:	Unit:	2010	2011	2012	2013
DE/2015/1	3B	NMVOC	kt	-191.74	-191.71	-194.13	-198.39
DE/2015/2	3De	NMVOC	kt	-9.49	-8.99	-10.02	-10.32

22. The ERT concluded that the quantification of the recalculations, as calculated by Germany, on national total emissions does not include any calculation errors. Furthermore, the ERT concludes that the information presented by Germany is in line with the most up-to-date available EMEP/EEA Guidebook and scientific literature.

23. Germany reported NMVOC emissions from manure management (3B) and cultivated crops (3De). However, these NMVOC emissions had not been accounted for at the time emission reduction commitments were set by the Gothenburg Protocol. NMVOC emissions between 2004 and 2011 were calculated using the emission factors cited in the then current version of the EMEP/EEA Guidebook. The chapter was revised in 2012 as the previously published data was no longer considered reliable. The current version of the EMEP/EEA Guidebook provides new EFs for manure management (3B) and agricultural soils (3D). Thus, NMVOC emissions were recalculated for the national inventory using the revised EFs provided in the updated EMEP/EEA Guidebook.

24. In its adjustment proposal Germany transparently demonstrated that increased emissions are based on a new emission source reported by Germany. Increased emissions are not the result of new specific agriculture activities causing additional emissions in Germany. The ERT is therefore of the opinion that this is a valid case for an adjustment.

3 Assessment of Adjustments Accepted in 2014

25. In addition to adjustment applications submitted in 2015, the ERT reviewed the 2015 report on adjustments granted in 2014. Germany had an adjustment granted in 2014 for NO_x emissions from road transport (1A3b) and agriculture (3B, 3D) and reported these in 2015. See report Review of the 2014 adjustment application by Germany for detailed information (CEIP/Adjustment RR/2014/GERMANY1 September 2014).

26. Without these adjustments Germany would not be in compliance with its emission reduction commitments listed in Annex II of the Gothenburg Protocol (para 1 of decision 2012/3).

27. Germany provided information on the impact of the adjustments on its emission inventory.

28. The ERT undertook a full and thorough assessment of Germany's quantification of the adjustments granted in 2014 and noted that the adjustments in agriculture (3B and 3D) were

identical to those granted in 2014. However, the quantities reported by Germany for road transport (1A3b) differed by between 0.13 per cent and 0.57 per cent from those approved in 2014. The ERT discussed these findings with Germany and concluded that the differences were negligible.

29. The ERT concluded that the adjustments continue to meet all the requirements set out in Executive Body decision 2012/12 and in the Technical Guidance. The ERT therefore recommends that the EMEP Steering Body continue to accept the reported adjustments for Germany.

Table 2: Emission Adjustments Approved in 2014, as Reported by Germany in 2015 (in thousands of tonnes)

Reference number	Pollutant	NFR14	2010	2011	2012	2013
Germany-A	NO _x	1A3b	-101.00	-96.00	-91.00	-86.00
Germany-B	NO _x	3B	-2.06	-2.03	-2.00	-2.01
Germany-C	NO _x	3D	-102.26	-111.06	-105.91	-106.75
Germany TOTAL	NO_x		205.32	209.09	-198.91	-194.76

4 Conclusions and Recommendations

30. The ERT has undertaken a full and thorough assessment of the application for an adjustment of the NMVOC emission inventory submitted by Germany in 2015 for the following source sectors:

- a) Manure management (3B);
- b) Cultivated crops (3De)

31. The review of the submitted application was performed in accordance with the guidance provided in the Annex to decision 2012/12 of the Executive Body of the CLRTAP. The ERT findings are described in detail in Section 2 of this report.

32. Table 3 below provides a summary of the adjustment applications received from Germany as well as the subsequent recommendations the ERT made to the EMEP Steering Body.

Table 3: ERT Recommendations to the EMEP Steering Body, Germany 2015

Country	Sector	NFR14	Pollutant	Years	ERT recommendation
Germany	Manure management Cultivated crops	3B 3De	NMVOC	2010- 2013	Accept

33. **Manure management (3B) and cultivated crops (3De), NMVOC:** Germany provided information to support their application for an adjustment. During the review, the ERT requested more detailed information from Germany, in particular regarding the data that had been used to quantify the adjustment, and this was provided by Germany. The ERT then concluded that the application meets all the requirements set out in decision 2012/12 of the Executive Body of the CLRTAP and therefore recommends that the EMEP Steering Body ACCEPT this adjustment application.

34. In the supporting documentation, Germany provided information on when it expects to meet its NMVOC emission ceiling.

35. **Adjustments approved in 2014:** The ERT has undertaken a full and thorough assessment of the NO_x adjustments for the road transport (1A3bi-ii) and agriculture (3B, 3D) sectors previously accepted in 2014 and recommends that the EMEP Steering Body continue to accept this adjustment.

**Table 4 Total NO_x Adjustment Approved in 2014, as Reported by Germany in 2015
(in thousands of tonnes)**

	Pollutant	2010	2011	2012	2013
Germany TOTAL	NO _x	-205.32	-209.09	-198.91	-194.76

5 Information Provided by the Party

36. Table 5 below lists the information provided by the Party in its adjustment application. The information provided by Party can be downloaded from the CEIP website⁶.

Table 5: Information Provided by Germany

Filename	Short description of content
DE_Notification DE 2015	Documentation of the application of emission inventory adjustments
DE_IIR_2015	The atmospheric emission inventory for Germany 2013

37. The CEIP and the ERT found it necessary to ask the Germany for further information. Part of this information was provided by e-mails. The documents supplied are described in Table 6 below.

Table 6: Additional Information Provided by Germany

Filename	Short description of content
Comparison of adjustment applications proposed by Germany in 2014 and 2015 regarding NO _x emissions from road transportation and agriculture, e-mails of 16 June 2015 and of 21 June 2015	Feedback to Q1 and Q2; brief information on changes in emissions resulting from the proposed adjustment Feedback on Q3 and Q4
DE_2015_Table II_Adjustment_Applied_for.xlsx	Table 1: Summary of Adjustment(s) Applied for by the Party (by NFR, year and pollutant) (Excel spreadsheet, 28 April 15)
DE_2015_appendix_B1_Adjustment_Application_Table.xlsx	Table summarizing the adjustment applications made for the annual application/review
DE_2015_Table_VII_Approved_Adjustments_revised.xls	Annex VII: report on approved adjustments, by NFR, year and pollutant, version 30.4.
Germany's e-mail of 4 May 2015	Information on published tables at http://cdr.eionet.europa.eu/de/un/UNECE_CLRTAP_DE/envvudzqg ; the IIR shall be put online promptly.

⁶ http://www.ceip.at/ms/ceip_home1/ceip_home/adjustments_gp/

6 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 2013 (EMEP/EEA Guidebook)

<http://www.eea.europa.eu/publications/emep-eea-guidebook-2013>

EMEP/CORINAIR atmospheric emission inventory guidebook - Second edition 1999 (1999 Guidebook)

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

Guidelines for reporting emissions and projections data under the Convention on Long-range Transboundary Air Pollution (ECE/EB.AIR/125)

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

<http://www.unece.org/environmental-policy/conventions/envlrtapwelcome/guidance-documents-and-other-methodological-materials/emissions-reporting.html>

Review of the 2014 Adjustment Application by Germany, (CEIP/Adjustment RR/2014/GERMANY 1 September 2014)

http://webdab.umweltbundesamt.at/download/adjustments2014/Adjustment_Review_Report_GERMANY_2014.pdf?cgiproxy_skip=1

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

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