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Review of the 2018 Adjustment Application by United Kingdom

Expert Review Team Report for the EMEP Steering Body

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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 United Kingdom. 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 2018. The findings were discussed at the meeting held from 18-21 June 2018 in Copenhagen at the EEA. The conclusions and recommendations for the EMEP SB are documented in this country report.-

Table ES 1 Summary Information on the Submitted Application

Reasons for adjustment application (Decision 2012/3, para 6)	Road Transport 1A3bi-iv: Revision to emission factors
Pollutant for which adjustment is applied for	NO _x
Year(s) for which inventory adjustment is applied	2010
Date of notification of adjustment to the Secretariat	15 February 2018
Date of submission of supporting documentation	15 March 2018

2. The Expert Review Team reviewed and evaluated the documents submitted by the United Kingdom and requested additional information where needed.

3. **NO_x emissions from 1A3bi-iv:** The United Kingdom reported revised emission estimates for road transport emissions from NO_x for 2010 on the basis of revisions applied to emission factors. The Expert Review Team undertook a detailed review of all submitted documents and concluded that the adjustment meets all of the requirements laid out in Decision 2012/12 of the Executive Body of the CLRTAP. The Expert Review Team therefore recommends that the EMEP Steering Body **accept** this adjustment.

4. The following tables provide a summary of the inventory adjustments that are accepted by the ERT.

Table ES 2 Aggregated Sum of Accepted Inventory Adjustments (ktonnes), United Kingdom 2010

Pollutant	Unit	2010
NO _x	kt	-102.21

Table ES 3 Impact of the Accepted Inventory Adjustments on National Emissions, United Kingdom 2010

Pollutant	GP Emission Commitment (kt)	2010 Emission reported in 2018 (kt)	2010 Emission (adjusted) (kt)	Difference (%)
NO _x	1,181	1,223	1,121	8%

5. Country's national total emissions will be below the Gothenburg Protocol ceilings for 2010, if the proposed adjustment is accepted.

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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 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.

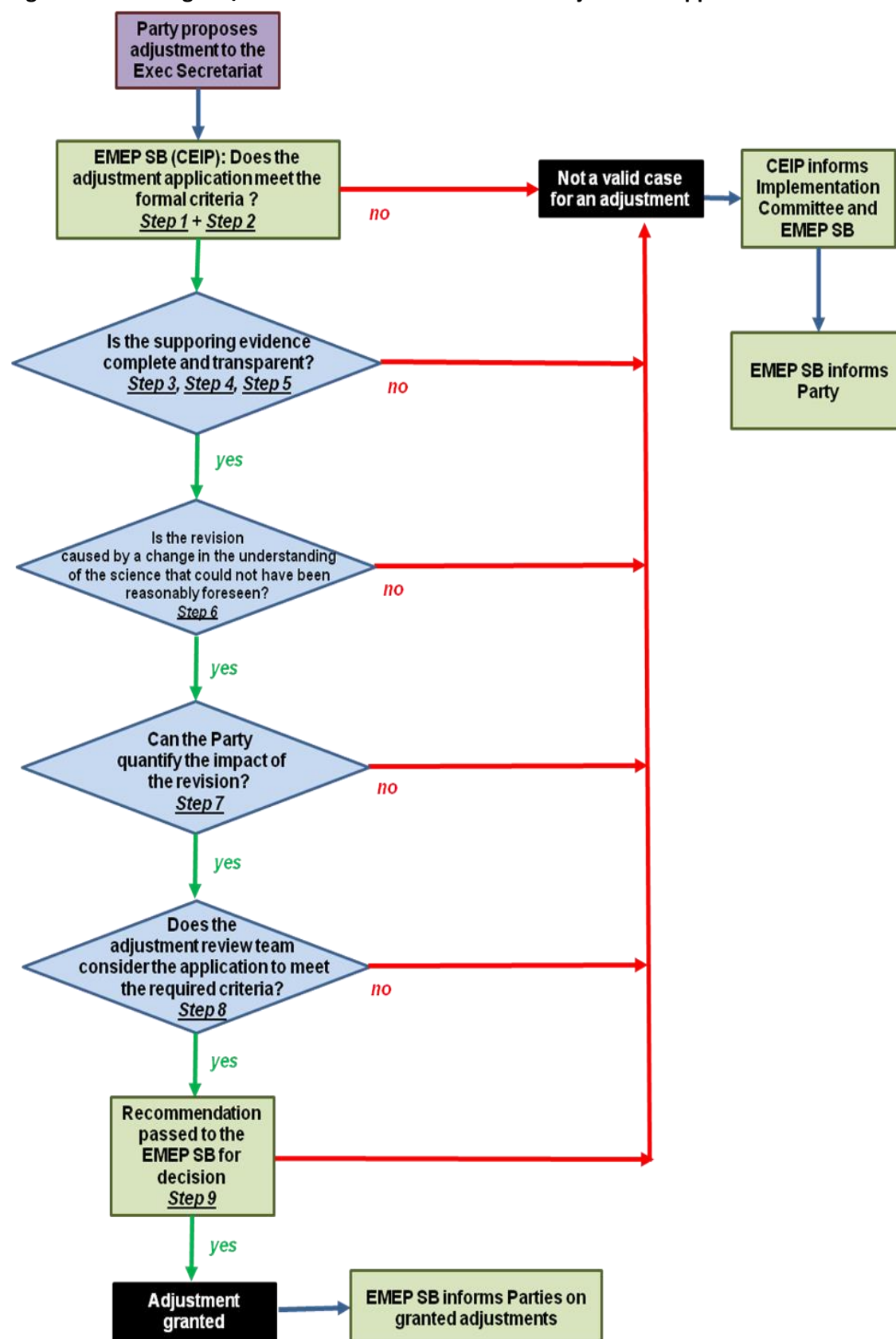
10. The flow diagram below outlines the different stages of the technical review. The following sections of this report are structured in the same way, and describe in detail the findings of the ERT at each of the decision gates in the process.

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 http://www.ceip.at/fileadmin/inhalte/emep/pdf/2018/0_Roster_2018.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. The United Kingdom notified the Convention Secretariat through the Executive Secretary of its intention to apply for a new adjustment on 15/02/2018 and thus before 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 the 15 March of the same year that it is being 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 4 lists the documentation provided by the Party.
12. The United Kingdom submitted an application for emission adjustments to **NO_x** for 2010 for the sector **Road transport 1A3bi-iv**.
13. The United Kingdom does not comply with its emission reduction commitments listed in Annex II of the Gothenburg Protocol (paragraph 1 of Decision 2012/3) for NO_x in the year 2010.
14. The United Kingdom provided information on the impact of the adjustment to its emission inventory, and the extent to which it would affect the exceedance in 2010, and possibly bring the Party in compliance with emission reduction commitments.
15. The United Kingdom did include information on when it will meet its emission ceiling for NO_x in the supporting documentation.

2.2 Road Transport 1A3bi-iv (NO_x)

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

16. The Party made an application based on significant revisions to emission factors (EFs).
17. The adjustment application requires the provision of specific supporting information to demonstrate compliance with specific criteria (Decision 2012/3, para. 6a-c). The ERT reviewed the supporting documentation (see section 4) with regard to these criteria and concluded that emission factors used to determine emission levels for the road transport source categories 1A3bi-iv for the year 2010 in which emissions reduction commitments are to be attained are significantly different than the emission factors applied to these categories when emission reduction commitments were set.
18. The changes in EFs highlighted in the adjustment application could not have been foreseen at the time of setting the 2010 emission ceilings, and result entirely from the Euro standards not delivering the originally predicted NO_x emissions reductions in the real world.
19. The ERT therefore concludes that the provided supporting evidence does comply 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 when the emission ceilings were established for 2010.
20. The ERT reviewed the documentation that was provided to support the application (listed in section 4).

21. The supporting information provided by the Party on the revisions made to emission factors was considered to be complete. However, the ERT requested that the Party provided clarification and information on the following points:

- The use of appropriate emission factors for Euro 5 compared to Euro 4 vehicles; and
- The calculations made for pre-Euro 5 light commercial vehicles.

22. The Party provided clarifications on these issues (See section 4), answering all of the reviewers' questions.

2.2.2 Assessment of the Quantification of the Impact of the Revision

23. 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 NO_x adjustment applications of the United Kingdom in the Road Transport sector.

Table 1: United Kingdom's NO_x Adjustment Applications for Road Transport

Reference number	Pollutant	NFR14	unit	2010
GB 1/2018/NO _x	NO _x	1A3b	kt	-102.21

24. The reviewers conclude that the quantification of the impact of this adjustment as calculated by the Party, on national total emissions uses an appropriate methodology and does not include any calculation errors. Furthermore, the reviewers conclude that the information presented by the Party is in line with the most up-to-date available guidance from the EMEP/EEA Emissions Inventory Guidebook and the scientific literature.

3 Conclusions and Recommendations

25. The ERT has undertaken a full and thorough assessment of the application for an adjustment of the NO_x emissions inventory from 1A3bi-iv Road Transport that was submitted by the United Kingdom in 2018.

26. The review of the submitted application followed the guidance provided in 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.

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

Table 2: Recommendations from the ERT to the EMEP SB, United Kingdom 2018 application

Country	Sector	NFRs	Pollutant	Years	ERT Recommendation
United Kingdom	Road Transport	1A3bi - iv	NO _x	2010	Accept

28. **Road Transport NO_x:** The United Kingdom provided information to support their application for an adjustment. During the review, the ERT requested more detailed information from the United Kingdom – in particular, information (i) on the use of appropriate emission factors for Euro 5 vehicles compared to Euro 4 vehicles; and (ii) on the calculations made for pre-Euro 5 light commercial vehicles. The United Kingdom has provided sufficient clarifications on the issues raised above. The reviewers concluded that the adjustment met all of the requirements laid out in Executive Body Decision 2012/12 and in the Technical Guidance and therefore recommend that the EMEP Steering Body **accept** this adjustment application.

29. The United Kingdom did provide information in its IIR on comparing adjusted national totals to the Gothenburg Protocol ceilings. The United Kingdom will comply with the NO_x ceilings for 2010. From year 2011 up to the latest inventory (2016), the United Kingdom has met its 2010 emissions ceilings for NO_x as set in the Gothenburg Protocol.

4 Information Provided by the Party

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

Table 3: Information Provided by the Party

Filename	Short description of content
Annex_II_to_ECE-EB.Air130_Adjustment_Application_2018_GB_1A3b_v1.0.xlsx	MS Excel file with detailed data underlying the proposed adjustment applications for NO _x from 1A3bi-iv Road Transport
GB_IIR_2018_v1.2.pdf	IIR 2018, pdf-document; here especially: Chapter 10. Adjustment
GB_NotificationTemplate_CLRTAP_EMEP emission inventory status report 2018_v1.doc	MS Word document indicating sectors and pollutants proposed for adjustment

31. 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
GB_CLRTAP_review_Q_A_road_transport.docx	Doc file with detailed explanations on the questions asked by the ERT

⁴ http://www.ceip.at/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