



EUROPEAN COMMISSION

Brussels, 26.4.2012  
SWD(2012) 107 final

**COMMISSION STAFF WORKING DOCUMENT**

**Guidelines for the 2012 technical review of greenhouse gas emission inventories to support the determination of Member States' annual emission allocations under Decision 406/2009/EC**

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*This document is a European Commission staff working document for information purposes. It is not a statement of the Commission's current or future official position on the subject it addresses.*

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## 1. BACKGROUND

Decision 406/2009/EC<sup>(1)</sup> (the 'Effort Sharing Decision', ESD) establishes annual binding greenhouse gas emission limits for Member States for the period 2013-2020. These limits concern the emissions from sectors not included in the EU Emissions Trading Scheme, such as from transport, buildings, agriculture and waste.<sup>2</sup>

Under the Effort Sharing Decision all Member States have national 2020 emissions limits, ranging from -20% to +20% compared to 2005 emission levels as laid down in Annex II of the ESD. They average out at -10% for the EU as a whole compared to 2005. In Member States where GDP/capita exceeds the EU average, a deeper emissions reduction than the EU average is required, up to -20% below 2005. Countries with a low GDP per capita will be allowed to increase their emissions by up to 20% above 2005 levels.

The emission limit of a Member State from 2013 to 2020 forms a linear trajectory. In accordance with Article 3(2) of the Decision, the starting point of the linear trajectory is defined as the average annual emissions during 2008, 2009 and 2010 in 2009 (for Member States with positive limits under Annex II of the ESD) or in 2013 (for Member States with negative limits).

Pursuant to Article 3(2) of the Effort Sharing Decision, the European Commission shall determine annual emission allocations (maximum allowed greenhouse gas emissions) of Member States for the period from 2013 to 2020 in tonnes of carbon dioxide equivalent using reviewed and verified emission data. Complete emission inventories for all the reference years (2005, and 2008-2010) will be available in April 2012 and must consequently be reviewed prior to determining the annual emission allocations.

In view of the accession of Croatia to the EU in 2013, complete emissions inventories for the reference years for Croatia shall also be included in the review.

The European Commission will carry out an initial greenhouse gas emissions inventory review in the period from April to August 2012. The review will be co-ordinated by a review secretariat at the European Environment Agency assisted by a technical expert review team.

To facilitate the initial review, technical inventory review guidelines were prepared for the European Commission by the European Environment Agency in close consultation with Member States experts in Working Groups I and II under the Climate Change Committee. The guidelines were endorsed unanimously by Member States at the meeting of the EU Climate Change Committee 19 May 2011.

The inventory review guidelines are presented in the Annex of this Staff Working Document.

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<sup>1</sup> Decision No 406/2009/EC on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

<sup>2</sup> Emissions from Land Use, Land Use Change and Forestry (LULUCF) are not included in the Effort Sharing Decision.

**2. ANNEX: GUIDELINES FOR THE 2012 TECHNICAL REVIEW OF GREENHOUSE GAS EMISSIONS INVENTORIES TO SUPPORT DETERMINATION OF MEMBER STATES' ANNUAL EMISSION ALLOCATIONS UNDER DECISION No 406/2009/EC**

This document was endorsed unanimously by Member States at the meeting of the Climate Change Committee held on 19 May 2011.

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## Introduction

As laid down in Article 3.2 of Decision 406/2009/EC<sup>(3)</sup> (the ‘Effort Sharing Decision’ – ESD), the annual emission allocations (maximum allowed greenhouse gas emissions) of Member States for the period from 2013 to 2020 in tonnes of carbon dioxide equivalent will be determined in a Decision by the European Commission and adopted in accordance with comitology regulatory procedure with scrutiny.

The ESD sets out the 2020 emission limit of a Member State in relation to its 2005 emissions, and its emission limits from 2013 to 2020 form a linear trajectory. In accordance with Article 3.2 of the ESD, the starting point of the linear trajectory is defined as the average annual ESD emissions during 2008, 2009 and 2010 in 2009 (for Member States with positive limits under Annex II of the ESD) or in 2013 (for Member State with negative limits). The annual emission allocations shall be determined using reviewed and verified emission data. Thus, complete emission inventories for the reference years (2005, and 2008-2010) must be available and reviewed prior to determining the annual emission allocations in 2012.

This document presents guidelines for the 2012 technical review of emissions inventories to support determination of Member States' annual emission allocations under the ESD. It does *not* address the monitoring, reporting and verification regime for greenhouse gas emissions during the annual compliance period under the ESD.

These guidelines take into account both the existing quality assurance/quality control procedures for Member States' emission inventory submissions under Decision 280/2004/EC and the separate inventory review process occurring under the UNFCCC. Reflecting this, the guidelines have intentionally been designed to build upon the existing UNFCCC guidelines for reporting and review<sup>(4)</sup> familiar to Member States, focusing on the specific and different requirements of the EU ESD review in an effort to complement but not duplicate the UNFCCC reviews.

The guidelines do not represent an official position of the Commission and are not legally binding.

This document has been prepared by the European Environment Agency (EEA) as part of its agreed 2011 work programme, which includes supporting the arrangements for an EU-internal review of Member States' GHG inventories in 2012 under Decision 406/2009/EC. It takes into account the discussions within several meetings of Working Group I and Working Group II under the Climate Change Committee as well as subsequent written comments received from experts in Member States, and the workshop held with Member State experts on the ‘Revision of Decision 280/2004 taking into account the Effort Sharing Decision’ (October 2010).

It was agreed that this guidance document reflects the opinion of the Climate Change Committee at its meeting on 19 May 2011.

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<sup>3</sup> Decision No 406/2009/EC on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

<sup>4</sup> UNFCCC guidelines on reporting and review. FCCC/CP/2002/8. <http://unfccc.int/resource/docs/cop8/08.pdf>

The guidelines are based on the experience of EEA and its experts of the European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM), the JRC and Eurostat in performing the existing initial checks of Member States' emissions inventories under Decision 280/2004/EC (the Monitoring Mechanism Decision) <sup>(5)</sup>, participation in the existing UNFCCC review process, UNFCCC Lead Reviewer meetings, in developing review processes for emission data submitted by Member States under the UNECE LRTAP Convention/NEC Directive.

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<sup>5</sup>

Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emission and for implementing the Kyoto protocol.

# GUIDELINES FOR THE 2012 TECHNICAL REVIEW OF GREENHOUSE GAS EMISSION INVENTORIES

## A. Objective

1. The objective of these guidelines is to define a process for the technical review of the annual greenhouse gas (GHG) inventories of Member States for the determination of the annual emission allocations pursuant to Article 3 of Decision No 406/2009/EC <sup>(6)</sup> (the ‘Effort Sharing Decision’).

## B. Purposes of the technical review of greenhouse gas inventories

2. The purpose of the technical review of Member States GHG inventories is to support the determination of the annual emission allocations pursuant to Article 3 of Decision No 406/2009/EC by:
  - (a) ensuring that the European Commission has accurate, reliable and verified information on annual GHG emissions for the years 2005, 2008, 2009 and 2010 used to determine the annual emission allocations under Decision 280/2004/EC;
  - (b) providing the European Commission and its Member States with a consistent, transparent, thorough and comprehensive technical assessment of the GHG emissions with a focus on data for the years 2005, 2008, 2009 and 2010 reported in 2012;
  - (c) examining, in a facilitative and open manner, the reported inventory information for consistency with the ‘Revised 1996 (IPCC) Guidelines for National Greenhouse Gas Inventories’, with the ‘Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories’ (2000) and with the requirements of Decision 280/2004/EC (the ‘Greenhouse Gas Monitoring Mechanism’ Decision) <sup>(7)</sup>;
  - (d) assisting Member States in improving the quality of their GHG inventories.

## C. General approach

3. The greenhouse gas inventories submitted in 2012 from all Member States will be subject to a technical review of GHG emission estimates with a particular focus on the years 2005, 2008, 2009 and 2010.
4. The technical review process for GHG inventories, as outlined in these guidelines, comprises three stages which consider different aspects of the inventories in such a way

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<sup>(6)</sup> Decision No 406/2009/EC on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

<sup>(7)</sup> Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emission and for implementing the Kyoto protocol

that the purposes described above are achieved by the end of the process. The three stages are:

- Stage 1 – initial checks of the completeness of each Member State GHG inventory submitted by 15 January and by 15 March to be completed by 15<sup>th</sup> April 2012;
  - Stage 2 – initial consistency and comparability checks of each Member State GHG inventory submitted by 15 January and by 15 March. To be completed by 15<sup>th</sup> April 2012;
  - Stage 3 – a detailed *technical review* of each Member State GHG inventory submitted by 15 April to be completed by the end of August 2012.
5. The stages of the review process complement each other so that, in general, for each Member State one stage is concluded before the next one is undertaken.
  6. The technical review shall build upon the findings of previous UNFCCC review processes.

## **D. Initial stage 1 and 2 checks of annual greenhouse gas inventories**

### **1. Existing initial Stage 1 and Stage 2 checks**

7. The first two stages of the review process are currently, and will continue to be, performed by experts from the European Environment Agency's (EEA) European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM) as initial checks of Member State data submitted under Decision 280/2004/EC.
8. The initial checks which cover the national inventory submissions will inform the Stage 3 technical review with a view to:
  - (a) assess whether all emission source categories, and gases required under Decision 280/2004/EC are reported;
  - (b) assess whether sub-category sums are consistent with sectoral and national totals;
  - (c) assess whether emissions data time series are consistent;
  - (d) assess whether implied emission factors across Member States are comparable;
  - (e) assess the use of 'Not Estimated' notation keys where IPCC Tier 1 methodologies exist;
  - (f) compare with the previous year's inventory submission of the Member State;
  - (g) limited sector-specific checks performed by ETC/ACM sector experts.
9. Results from the initial checks based on the 15 January GHG submissions will be sent to Member States by 28 February 2012, with updated reports provided as applicable if Member States subsequently submit revised data until 15 April.
10. The results from the initial checks, and any responses received from Member State experts in connection with these checks, will be made available to the review experts undertaking the Stage 3 technical review.

## 2. Extended initial checks

11. The EU initial checks will be extended in 2012 to address additional elements needed for the 2012 technical review. The extended checks may include:
  - (a) detailed analysis of recalculations performed for the 2012 inventory submissions, in particular if recalculations are based on methodological changes.
  - (b) comparison of the verified emissions reported under the EU Emissions Trading System (ETS) <sup>(8)</sup> with the greenhouse gas emissions reported in GHG inventories. The verified emissions under the EU ETS are not fully comparable with the emissions reported in the GHG inventories. This comparison may only highlight areas where some Member States data and trends deviate considerably from those of other Member States.
  - (c) comparison of the results from Eurostat's reference approach, based on energy data reported under Regulation (EC) No 1099/2008 <sup>(9)</sup>, with the Member States' reference approach.

## E. Stage 3 technical review of Member States' 2012 annual submissions

### 1. Scope

12. The technical review will be performed on the basis of greenhouse gas emissions data and national inventory report (NIR) officially reported by Member States by 15th April to the UNFCCC secretariat. Resubmissions reported by Member States will subsequently be taken into account until 15th May, consistent with the reporting practice for resubmissions under Decision 280/2004/EC. Following this date, only data revisions which are provided by a Member State in direct response to the technical review questions and findings will be considered.
13. A technical expert review team (TERT), coordinated by a review secretariat from the European Environment Agency (EEA), will conduct reviews of individual greenhouse gas inventories. The reviews shall include a detailed examination of the inventory estimates and methodologies used in the preparation of inventories, covering each Member State's national inventory submission, any additional information submitted by the Member State in question, and, as appropriate, previous inventory submissions and previous UNFCCC Annual Review Reports.
14. The review will pay particular attention to those areas of the inventory where changes have been reported by the Member State since the previous year's submission and/or where problems have been identified in either previous UNFCCC reviews or in the 2012 initial checks.

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<sup>(8)</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, as amended by Directive 2009/29/EC.

<sup>(9)</sup> Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics.

15. The 2012 technical review will provide recommendations for any 'technical correction' considered necessary to the inventory of a Member State.
16. The specific activities of the 2012 technical review will include:
  - (a) analysis of the Member States' implementation of recommendations related to improving inventory estimates in accordance with the 1996 IPCC Guidelines and the IPCC good practice guidance as listed in the UNFCCC Annual Review Reports from the 2010 and 2011 UNFCCC review processes <sup>(10)</sup> and where UNFCCC recommendations have not been implemented, assess that the Member State has provided adequate justification for these;
  - (b) assessment of the time series consistency of the greenhouse gas emissions estimates with a particular focus on the 2005 and 2008-2010 estimates;
  - (c) a check whether problems identified for one Member State in UNFCCC reviews may also be a problem for other Member States (whether identified by the UNFCCC expert review team or not);
  - (d) an assessment of any recalculations made by a Member State in their inventory since the previous submission, and assess whether these are transparently reported and in accordance with IPCC good practice guidance;
  - (e) a follow-up on any outstanding findings from existing and extended stage 1 and 2 checks;
  - (f) provision of an estimate for any 'technical correction' to emission estimates reported by a Member State where it is believed that emissions reported by the Member State are either under or overestimated and state the significance of these 'technical corrections' in comparison to the overall reported inventory estimates. An evidence-based justification for any such technical corrections shall be fully documented in the review reports of the relevant Member State. A record of correspondence with the Member State concerning the recommended 'technical correction' shall be retained by the review secretariat.
17. Material from previous UNFCCC inventory reviews will be used to inform the technical review including the previous years' Annual Review Reports which provide an indication of the overall quality of the inventory.
18. If available and appropriate, the TERT may use additional technical information in the review process, such as EU-ETS data, information from Eurostat and other international organisations.
19. Combined and flexible approaches shall be used during the technical review:
  - (a) Experts will first conduct a desk-based analysis of the material generated in stage 1 and 2 identifying potential problems and/or identifying questions for the Member State under review;

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<sup>(10)</sup> The ESD review will not be able to review in detail recommendations related to the national inventory systems of Member States. As the emissions and removals from LULUCF are not relevant for the ESD target, the review will exclude the LULUCF sector and LULUCF activities reported under the Kyoto Protocol.

- (b) After receipt of responses from the Member State, the TERT will meet to discuss the initial findings, cross cutting issues, agree further actions and recommendations, and ensure a consistent handling of issues across all Member States. Experts will be expected to discuss the main issues and agree on a course of action covering the following:
  - identification of any remaining or additional questions for Member States;
  - preparation of a draft review report;
  - for Member States where it is considered that issues in the inventory submission may require a subsequent technical correction to be recommended, details of any such correction and its justification shall also be included in the draft review report;
  - The draft review reports will be sent to Member States for commenting.
- (c) A final review report for each Member State shall be prepared by the TERT following receipt of Member State comments on the draft review report (see Section E.3);
- (d) In exceptional cases, where significant quality issues are found to exist in the inventories reported by Member States or the TERT are unable to resolve questions, an ad-hoc country visit may be undertaken to provide an opportunity for selected TERT expert(s) and/or review secretariat to discuss and review relevant documentation directly with national expert(s) concerning the identified issues. Any such visits will be scheduled, planned and take place with the close coordination of the Member State subject to review;
- (e) Any disagreements concerning the TERT's review recommendations contained in the Member State review reports shall be addressed by the European Commission.

## **2. Technical expert review team (TERT)**

- 20. The GHG inventory submissions of Member States will be assessed by a technical expert review team (TERT) that will be responsible for performing the review in accordance with the procedures and timeframes established in these guidelines.
- 21. The TERT will provide a thorough and comprehensive technical assessment of the GHG inventory submitted and, under its collective responsibility, will prepare 27 review reports in accordance with the provisions of these guidelines.
- 22. The TERT will be composed of experts selected by the European Commission and will include lead reviewers. The work of the TERT will be performed in close contact with, and be coordinated by, a review secretariat (see Section 4).
- 23. In the conduct of the review, the TERT shall adhere to these guidelines, including quality assurance and control and confidentiality provisions in accordance with the relevant agreements with the European Commission.
- 24. Wherever possible, participating experts shall be trained and active in GHG review processes (e.g. UNFCCC review experts) and have experience in the area of GHG

inventories in general and/or in specific sectors (Energy, Industrial Processes and Solvents and Other Products Use, Agriculture and Waste).

25. The TERT should comprise of at least 20 experts (at least 4 experts for each sector covering all 27 Member States and lead reviewers), to ensure adequate review over the short time period available.
26. Each expert will be assigned to review relevant sectors across a number of Member States depending on the availability of experts.
27. To ensure the review is performed in an un-biased manner members of the TERT shall not review emission inventories of Member States where they themselves have contributed to the compilation of the inventory of a Member State at present or in the past, or are part of any inventory decision-making process related to this Member State.
28. The members of the review team will be selected in a way that will ensure that the collective skills of the team address the areas mentioned in paragraph 16 above and that experts in the team have the necessary experience in the review process.

#### *Lead reviewers*

29. A minimum of four inventory experts with substantial inventory review experience will serve as lead reviewers.
30. Lead reviewers should ensure that all Member State reviews are performed according to these guidelines and are performed consistently across all Member States under review by the TERT. They should also ensure the quality and the objectivity of the technical assessments in the reviews.
31. With the support of the secretariat, lead reviewers will:
  - (a) monitor the progress of the review activity;
  - (b) ensure that there is good communication within the TERT and across the sectors reviewed;
  - (c) coordinate the queries of the TERT to the Member State and coordinate the inclusion of the Member State responses in the review reports;
  - (d) ensure that any recommendations for changes and any technical corrections are consistent with the IPCC Revised 1996 Guidelines and by the IPCC Good Practice Guidance;
  - (e) ensure that the review is performed and the review reports are prepared in accordance with these guidelines.

### **3. Individual review reports**

32. Under its collective responsibility, the TERT will produce an individual inventory review report for each Member State. The review reports shall contain an objective assessment of the inventory information and should not contain any political judgement.
33. The review reports will be based on a standard report template listing the outcomes of the checks made, any identified problems and a list of prioritised recommendations for subsequent consideration by Member States. Should the TERT recommend a 'technical correction' be made to the reported emission estimates of a Member State, the report

shall contain an evidence-based justification for this. A summary of the correspondence with the Member State will also be included. Reports will be prepared in English.

34. Throughout the inventory review process, each Member State under review will have the opportunity to clarify issues and provide additional information if requested. The review secretariat will send to each Member State a draft of its individual inventory review report for commenting prior to its finalisation. In the case of a Member State and the TERT being unable to agree on an issue raised in the report, the Member State can request to insert additional explanatory text to be included in a separate section of the review report including a statement of any disagreement concerning the TERT's recommendations.

#### **4. Review secretariat**

35. A review secretariat from the European Environment Agency (EEA) will coordinate and manage the Stage 3 technical review.
36. The secretariat shall be comprised of experts familiar with the emission reporting requirements under the EU Monitoring Mechanism Decision, and the 1996 IPCC Guidelines and the IPCC good practice guidance. Furthermore, the secretariat shall have familiarity with emission inventory review processes and procedures under the UNFCCC.
37. The secretariat will:
  - (a) prepare a work plan for the review activity including milestones, activities, tasks and deliverables.
  - (b) communicate in early 2012 with the European Commission and Member States about the foreseen deadlines for the technical review in order to allow advance preparation for the review.
  - (c) ask the Member State to identify a designated contact person(s) through whom enquiries will be directed.
  - (d) be responsible for the compilation and provision of information necessary for the work of the TERT. This includes GHG emission inventory data and accompanying national inventory reports reported by Member States, results from the initial checks and any related Member State responses, compilations of previous UNFCCC reviewing findings, the latest status reports from UNFCCC, etc. In compiling and providing such information, the secretariat shall liaise closely with the experts of EEA's European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM).
  - (e) coordinate during the review, together with the lead reviewers, communications between the TERT and the designated contact person(s) of the Member State under review.
  - (f) ensure that the technical review undertaken by the TERT is performed in line with these guidelines and in a consistent and equal manner.
  - (g) have responsibility for the compilation and editing of the final review reports, together with the lead reviewers. The secretariat will also maintain a record of

communications between the review teams and Member States in order that this information may be included in the review reports as appropriate.

- (h) coordinate, as appropriate, practical arrangements concerning the review, by facilitating meetings of the TERT etc.

## **5. Member States**

- 38. Member States should assist with the timely performance of the technical review process by providing a national contact point, respond to questions at different stages of the review in a timely manner, and to provide comments on the draft review reports provided by the secretariat (see timetable Section E.6).

## 6. Timings of the Stage 3 technical review

No.	Task description	Activity	Indicative Timings
0.1	Stage 1 – initial checks of the completeness	Initial checks of the completeness, consistency and comparability of MS inventories, based on 15 <sup>th</sup> Jan submissions with updated reports provided if MS submit revised data to 15 <sup>th</sup> March	15 January - 15 March 2012
0.2	Stage 2 – initial consistency and comparability checks		
0.3	Extended Stage 2 checks		
1	<i>MS inventory submission deadline</i>	<i>MS inventory submissions reported to UNFCCC</i>	<i>15 April 2012</i>
2	Review material provided to TERT (including copies of stage 1&2 initial and extended test results)	Secretariat prepare and compile material for TERT	15 March - 30 April 2012
3	<i>MS resubmission deadline</i>	<i>MS may re-submit inventories</i>	<i>15 May 2012</i>
4	Desk-based review - compilation of initial questions to Member States by TERT	TERT prepare questions based on 15 <sup>th</sup> April submissions but including consideration of any re-submitted data to UNFCCC. Secretariat to communicate questions to MS	1 May - 21 May 2012
5	Member State deadline for responses to initial questions	MS respond to questions – 2 week period for responses	21 May - 4 June 2012
6	Centralised expert meetings of the TERT	TERT meet to discuss responses from Member States, identify cross-cutting issues, ensure consistency of findings across MS, agree recommendations etc. Additional questions identified and communicated to MS during this period.	5 June - 29 June 2012
7	Member State deadline for responses to additional questions	MS respond to questions	6 July 2012
8	Preparation of draft review reports, including further questions to MS where potential issues are identified	TERT compile draft review reports, including still-unresolved questions to MS, draft recommendations concerning possible inventory improvements for consideration by MS, and where applicable, details and justification for potential ‘technical corrections’. Secretariat to communicate reports to MS	29-June - 13 July 2012
9	MS deadline for responses on draft review report	MS comment on draft reports, respond to unresolved questions and where relevant agree/disagree with the TERT’s recommendations – 3 week period for responses	13 July - 3 August 2012
10	Finalisation of review reports	Informal communication with MS to follow up any outstanding issues. Reports finalised by TERT, reviewed by secretariat and edited	17 August 2012
11	Review reports submitted to the European Commission		17 August 2012

MS = Member States