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EXECUTIVE BODY FOR THE CONVENTION ON
LONG-RANGE TRANSBOUNDARY AIR POLLUTION
Steering Body to the Cooperative Programme for Monitoring and Evaluation
of the Long-range Transmission of Air Pollutants in Europe (EMEP)
(Twenty-ninth session, Geneva, 5-7 September 2005, agenda item 2)

EMISSION INVENTORIES AND PROJECTIONS
Progress report by the Co-Chairs of the Task Force,
prepared in consultation with the secretariat

Summary

This report reflects progress made and conclusions agreed at the thirteenth and fourteenth meetings of the Task Force on Emission Inventories and Projections. The thirteenth meeting considered the results of the 2004 emission reporting round (2002 data) and agreed proposals on methods, timing and procedures for an inventory review. The Task Force considered resource requirements for maintaining and up-dating the EMEP/CORINAIR Atmospheric Emission Inventory Guidebook and agreed to focus its short-term work on heavy metal, persistent organic pollutants (POPs) and particulate matter (PM) emissions, as well as to extend its work to Eastern Europe, Caucasus and Central Asia (EECCA). The Task Force held a scientific workshop on PM emission inventories and a training workshop on data quality assurance. The fourteenth meeting considered the results of the 2005 reporting round (2003 data) and discussed options for in-depth reviews of inventories.

I. THIRTEENTH MEETING OF THE TASK FORCE

1. The thirteenth meeting of the Task Force on Emission Inventories and Projections, the fifth held jointly with the European Information Observation Network (EIONET), maintained by the European Environment Agency (EEA), took place in Pallanza (Italy) on 19 and 20 October 2004. The meeting was preceded by a scientific workshop on particulate matter (PM) emission inventories (18 October 2004, Pallanza) and followed by a training course on data quality (21 October 2004). One hundred and thirty experts from 34 Parties to the Convention attended the meeting. The Parties represented were: Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States of America, and the European Community.
2. The cooperating bodies of the European Commission present included the European Commission's Directorate General on Environment and Joint Research Centre, EEA and its European Topic Centre on Air and Climate Change (ETC/ACC). Representatives of the EMEP Meteorological Synthesizing Centres-East and West (MSC-E and MSC-W), the Chemical Coordinating Centre, the Centre for Integrated Assessment Modelling (CIAM), the Technical Support Unit for the Intergovernmental Panel on Climate Change (IPCC) National Greenhouse Gas Inventories Programme attended. A member of the secretariat was present.
3. Mr. M. Grasserbauer of the European Commission's Joint Research Centre (JRC), Institute for Environment and Sustainability in Ispra, opened the meeting. Mr. R. de Lauretis of the Agency for the Protection of the Environment and Technical Services (APAT), welcomed experts on behalf of the Italian Ministry of Environment. Ms. E. Angelino welcomed experts on behalf of the Regional Agency for the Protection of the Environment (ARPA), Lombardy (Italy).
4. Ms. K. Rypdal (Norway) and Mr. A. Barkman (EEA) co-chaired the meeting.
5. Ms. B. Wachs of the secretariat informed on the 2004 reporting round (EB.AIR/GE.1/2004/10 and corr. 1) and described the reporting process. The EMEP Steering Body at its twenty-eighth session and the Working Group on Strategies at its thirty-sixth session had considered the issue of data quality and stressed the need to further develop an inventory improvement programme (EB.AIR/GE.1/2004/2, paras. 55-60; EB.AIR/WG.5/78, paras. 54-60).

II. CONCLUSIONS AND RECOMMENDATIONS TO THE STEERING BODY OF THE THIRTEENTH MEETING

6. The Task Force:

(a) Agreed to focus on obtaining comprehensive and reliable data on emissions of heavy metals, POPs and PM, specifically addressing chemical and size speciation of PM emissions; on updating the Emission Inventory Guidebook and on inventory review;

(b) Noted that the 2002 Emission Reporting Guidelines continued to present certain difficulties due to discrepancies with the 1997 Guidelines and the European Community's National Emission Ceilings (NEC) Directive;

(c) Proposed, as a short-term measure, to implement technical changes to the reporting templates for the 2005 reporting round including agreed memo items to address discrepancies; these changes were intended to facilitate reporting and increase transparency and not to increase the reporting burden;

(d) Considered as a long-term solution the revision of the Emission Reporting Guidelines. The Task Force would, at its meeting in October 2005, propose a timetable, including a workshop on the revision of the Guidelines to be held jointly with experts involved in the revision of the NEC Directive;

(e) Proposed formats for informative inventory reports (IIRs) (para. 38 of the Guidelines); items to be included in a minimum IIR were integrated into the reporting templates as additional reporting; experts were encouraged to submit IIRs at the same time as their main submissions;

(f) Agreed to increase transparency in reporting by indicating cells in the reporting format where emissions could not occur and clarifying the use of notation keys;

(g) Recommended that MSC-West further develop both the data-checking software program (REBDAB) and the EMEP database (WEBDAB) where official submissions and expert estimates were held;

(h) Thanked CIAM for developing a questionnaire on the nomenclature for reporting (NFR) categories used in the Guidelines and appreciated the offer to modify it; the revision of the Guidelines should include the recommended splits, extensions and other clarification of NFR categories for better information on source allocation;

(i) Agreed to propose to the Steering Body that it: continues to develop and implement an inventory review and improvement programme; carries out an annual review process; continues to

hold bilateral consultations with Parties' designated emission experts; requests re-submissions when necessary; and draws on feedback from Parties to further improve inventories;

(j) Agreed to explore options for more detailed reviews of emission data, taking into account that the review is needed both for monitoring progress toward emission targets as well as for policy development;

(k) Would continue to encourage synergies between the review process under the Convention and that used by the United Nations Framework Convention on Climate Change and the NEC Directive;

(l) Recognized the results of the scientific workshop on PM emissions held prior to the meeting of the Task Force and noted that JRC would publish the proceedings;

(m) Supported the main conclusions of the PM workshop (annex I) and underlined the need to update the Guidebook, in particular missing source sectors for PM, heavy metals and POPs emissions. It noted that additional resources may be needed for this work;

(n) Agreed that experts would work closely with modelers (primarily at MSC-W and MSC-E) to improve data on chemical speciation and size distribution of PM emissions;

(o) Would further explore possibilities for developing an emission factor database; it recognized the need to coordinate with other bodies developing emission inventory methodologies to avoid duplication of work, in particular IPCC, the Pollutant Release and Transfer Registers (PRTR) under the OECD and the European Pollutant Emission Register (EPER) of the European Commission.

(p) Would seek to identify obstacles in EECCA countries to develop emission inventories and reporting under the Convention and would organize a workshop back to back with the Task Force's next meeting in October 2005; efforts would be made to encourage the participation of EECCA experts at future meetings of the Task Force, based on available resources, in accordance with Executive Body decision 2003/11;

(q) Expressed concern about the availability of resources for developing the Guidebook.

III. PROGRESS REPORT

A. Status of submissions for 2004 reporting (2002 data)

7. Ms. V. Vestreng (MSC-West) reported on the status of emission data submitted during the 2004 reporting round. Fifty-five per cent of submissions were on time; 94% of submissions were in the correct format. Only 34% passed REPDAB, the data-checking software tool that tests submissions for formatting, completeness and internal consistency.

Regarding completeness, 60% of reporting Parties reported main pollutants, while only 50% reported heavy metals and 40% reported POPs and PM. Moreover, there was large variation in the way countries used notation keys and how they handled footnotes. IIRs were seen as increasingly important.

8. Mr. A. Barkman (EEA) noted NEC directive reporting had shown an improvement over the last year, with most European Union member States using NFR in the Guidelines. Inconsistencies remained between reporting to the Convention and for the NEC Directive. Some Parties reported correctly to the Convention while still using the SNAP nomenclature when reporting for the NEC Directive.

B. Inventory review and improvement

9. Mr. J. Goodwin (United Kingdom) stressed the importance of an improved emission inventory. Communication with experts should be an important part of the review process, in particular regarding recalculations and time series data. Experts indicated that the review helped them prepare future submissions as well as improve inventories overall. Several experts wanted improved reporting templates, as well as clearer definitions of notations keys and a more informative testing and feedback system. This implied improvements to REPDAB. A few experts expressed concern about the additional burden on Parties for the review and noted reservations on an annual process.

10. Ms. B. Wachs (secretariat) outlined proposals for the review programme to cover both quantitative data and qualitative data.

11. Mr. W. Winiwarter (CIAM) informed about the review of national emissions data carried out under the European Commission's Clean Air for Europe (CAFE) programme. National submissions were compared to data in the RAINS model (emissions, energy balances, and other activity data). Consultations with national experts aimed to identify data gaps and provide a consistent European dataset.

C. Modifications of source categories in NFR

12. Mr. Z. Klimont (CIAM) summarized the results of a questionnaire on the development of NFR and proposals for modifications. Fourteen countries and several organizations involved in NFR development responded. Thirteen countries had experienced problems with allocating emissions into existing NFR codes. The preferred solution was to split categories, rather than extend them, though current source allocation needed clarification. A template was proposed for use in 2005.

D. Cooperation with other bodies

13. Ms. N. Allemand (France) presented progress made under the Convention's Expert Group on Techno-economic Issues. The database developed by the Expert Group (ECODAT) contained information on costs of air pollution reduction strategies and costs of reduction techniques, depending on emissions from given reference installations. The Task Force proposed to cooperate further with the Expert Group.

14. The Task Force proposed to work with experts in the field of PM emissions to improve reporting and to meet the requirements of modellers with respect to size and chemical speciation of anthropogenic sources of PM.

15. Mr. S. Eggleston (IPCC, Technical Support Unit) reported on its greenhouse gas inventory programme. Guidelines were being revised through 2006 and would include IPCC good practice guidance. The United Nations Framework Convention on Climate Change used an emission factor database, available on CD-ROM. He urged the Task Force and its experts to use it and to add to it. He encouraged the Task Force to review the IPCC guidelines and to share information on reporting, review, and uncertainties.

16. Ms. P. Dilara (JRC) informed about the development of an emission factor database. This could possibly be done in collaboration with IPCC. Expert panel leaders were asked several questions regarding the need for emission factor and methodology updates in the Guidebook.

17. Mr. B. Melhorn (European Commission, Directorate General for Environment) informed about the European Pollution Emission Register (EPER), a process under Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC) ("the IPPC Directive"), that was similar to the European Pollutant Release and Transfer Register www.eper.cec.eu.int.

E. Reports from expert panels and task groups

18. ***Task group on particulate matter.*** This group reported that it was considering ways of improving reporting on particulate matter, as well as addressing the requirements for modellers of anthropogenic sources of PM. The focus of the group was PM₁₀ and PM_{2.5} as data on total suspended particulate (TSP) was not widely used. The task group had agreed that Guidebook chapters dealing with PM sources should include specific information on control efficiency of abatement options and indicate the presence of PM in reference measurements.

19. ***Expert panel on combustion and industry.*** The panel reported on progress made on a new Guidebook chapter "Small Combustion Sources". Other chapters were in urgent need

of review and chapters on primary Ni, PM, POPs and solvents would be prioritized. Harmonization of emission factors with those used by IPPC best available technology reference documents and the ESPREME project also was a high priority.

20. ***Expert panel on transport.*** The transport-related chapters of the Guidebook had been updated with chapters on road vehicle tyre and brake wear (B770) and road surface wear (B780). In 2005, information on EURO3 and EURO4 vehicle emission figures, two-wheeler evaporative and exhaust emissions, particle emissions in different aerosol properties, N₂O emission factors and alternative fuels would be incorporated into the chapter on Road Transport. Mr. B. Paradiz (JRC) was the new co-chair of the Panel.

21. ***Expert panel on agriculture and nature.*** The panel had progressed with updates of chapters on enteric fermentation (B1040) and manure management (B1050) including a detailed methodology for methane. It was also developing a preliminary chapter dealing with emissions of particulates from animal houses. These, as well as a draft chapter on PM emissions from arable agriculture, would be finalized in 2005.

22. ***Expert panel on review.*** The work of the panel is reflected in annex III.

IV. OTHER ITEMS

23. ***EMEP contributions in kind.*** Mr. S. Kakareka (Belarus) presented his country's contribution in kind to EMEP for 2003. The project, "Research for HCB and PCB emission inventory improvement in the Commonwealth of Independent States (CIS), taking Belarus as an example", was focused on additions to the Guidebook for selected POPs. The Task Force recommended the proposal to the Steering Body, as well as a contribution in kind for 2005 on research on PM emission inventory improvement in the Newly Independent States (NIS).

24. The Task Force agreed to hold its fifteenth meeting and associated EIONET workshop from 19 to 21 October 2005, to be preceded by a scientific seminar on heavy metal and POP emissions (18-19 October) and a training seminar on emission inventories for countries with economies in transition (17-18 October 2005). All meetings would be hosted by Finland.

V. FOURTEENTH MEETING OF THE TASK FORCE

25. The fourteenth meeting was held in Copenhagen on 6 and 7 June 2005. The emphasis was on data quality and review, in particular to develop proposals for stage 3 (in-depth) reviews of emission inventories (see annex III). Depending on the view of the Steering Body at its twenty-ninth session, these proposals would be elaborated by the Task Force at its fifteenth meeting (Roviemini, Finland, 19-21 October 2005).

26. An informal meeting was held on 8 June 2005 to plan the next meeting of the Task Force, to be organized by Finland with the support of Norway and Sweden. The Task Force meeting would be preceded by a capacity building workshop for EECCA countries on emission inventory construction and reporting (17-18 October) and a scientific workshop on POPs and heavy metal emission inventories (18-19 October).

VI. CONCLUSIONS AND RECOMMENDATIONS OF THE FOURTEENTH MEETING

27. The Task Force:

(a) Recognized that resources were required to carry out stage 1 of the review annually. Some may be available through the existing EMEP Trust Fund, but additional funding would be required. Experience from previous years' review exercises showed that stage 2 of the review would require approximately 6 person-months. It appreciated that half of this could be contributed by EEA;

(b) Noted that guidance on estimating methodologies and up-to-date emission factors were needed to review and improve inventories. It estimated that approximately 2 person-years were needed to update and develop the EMEP/CORINAIR Emission Inventory Guidebook with respect to PM. It would assess the resources needed to update the Guidebook for other pollutants;

(c) Estimated the resources required for stage 3 (in-depth) reviews, based on the experience of the United Nations Framework Convention on Climate Change review process. A centralized review¹ of a single national inventory was estimated to require 8 person-days at the level of inventory expert, 3 person-days at the level of administrator and 2-3 person days for the national expert to respond to the review. Additional resources might be required to coordinate the review and complete the reports. In-country reviews would require more than 3 times this amount; desk reviews would require less resources than centralized reviews, although they had been shown to yield less useful results;

(d) Proposed to initiate a stage 3 centralized review on a trial and voluntary basis in 2006. Parties were encouraged to participate. The Task Force would consider the organizational aspects of carrying out a trial review at its fifteenth meeting in October 2005. Results of the trial review and recommendations would be reported to the Steering Body at its thirtieth session in September 2006;

(e) Concluded that IIRs were necessary for stage 3 reviews; their submission was strongly encouraged;

¹ "Centralized review" refers to a process of reviewing emission inventory data at a central location, i.e. as opposed to an "in-country review" taking place in the country being reviewed, or a "desk review" where the reviewer works at home or in an office.

(f) Recommended close collaboration with the European Commission when developing review procedures and revising the Emission Reporting Guidelines to ensure synergies with the revision of the Commission's (NEC) Directive.

Annex I

Conclusions from the scientific workshop on PM emission inventories

(Pallanza, Italy, 18 October 2004)

1. ***Introduction and objective.*** A scientific workshop on PM emission inventories organized by JRC was held in Pallanza (Italy) on 18 October 2004. The aim of the workshop was to examine current research on emissions of particulate matter (PM). Seventeen presentations were given in plenary, scientific posters were exhibited and a panel discussion was held. Workshop proceedings were published as a book and CD-ROM report of the European Commission (EUR 21302EN, P. Dilara, M. Muntean and E. Angelino, editors). Results are reflected below
2. ***General concepts.*** The workshop agreed that atmospheric PM has been proven to seriously affect health and to decrease life expectancy. There was greater evidence pointing towards fine particles (PM_{2.5}) as a relevant indicator than towards coarse particles (PM₁₀). This had consequences for PM abatement, since mitigation of PM_{2.5} should be of higher priority. Assessment of PM may also be used as a proxy to estimate other compounds, specifically heavy metals and POPs, and their spatial and temporal resolution.
3. ***Individual source sectors.*** The published proceedings cover the most important source sectors for PM. Recent results were given for modern passenger cars (specifically on particle number concentrations). Vehicle non-exhaust emissions (tyre-wear, brake-wear, road abrasion and dust suspension) were presented from various new European data sets. Several studies described emissions from domestic heating by wood combustion. Other important sources, such as agricultural fugitives, wildfires, and secondary particle formation were also considered, though in less detail.
4. ***Detailed properties of PM.*** The workshop discussed the importance of understanding and quantifying the total carbon and black carbon fractions of PM, as well as the effect of changes in consumer behaviour on the contribution of these components to total PM emissions. Atmospheric and PM modelling contributed to understanding the importance of source sectors on atmospheric PM concentrations rather than merely emission fractions. However, modelling required additional information from the inventory community, primarily concerning chemical speciation.
5. ***PM Inventories.*** Presentations on PM emission inventories raised problems that might be connected to inventory generation. The scale of the inventory was important to consider, as national inventories would have different problems and may provide different results compared to sub-national or continental inventories, even if subsequently converted to an identical grid size.

Also the importance of providing good input data (e.g. statistical information on domestic wood consumption) was underlined. Three different large-scale inventories (Australia, United States and Europe) were compared.

6. ***The way forward.*** The workshop noted that methodologies to assess PM emissions were available, except for fugitive sources. Considerable efforts might be needed to compile this information for use in the Emission Inventory Guidebook. Recommended next steps were to determine missing sectors or chapters in the Guidebook related to PM emissions.

Annex II

Conclusions from the training workshop on quality assessment and quality control

(Ispra, Italy, 21 October, 2004)

1. ***Introduction and objectives.*** A training workshop on quality assurance and quality control (QA/QC) of emission inventories was organized jointly by JRC and EEA's ETC/ACC. Thirty-seven experts from 30 countries attended. This was the third in a series of training workshops on emission inventory improvement organized by JRC and EEA. The objective was to discuss requirements for high-quality emission inventories as well as practical approaches on how to achieve it. Uncertainty management was addressed as well as the possible application of QA/QC systems for emissions reported under the Convention and for reporting to other bodies. At the national level an integrated QA/QC system covering emissions for both the Convention and the United Nations Framework Convention on Climate Change could contribute to more rational use of resources. REPDAB was a practical tool for QA/QC for reviewing national emission inventories. Experiences from QA/QC in pollutant release and transfer registers were also discussed.

2. ***Conclusions.*** The workshop noted the approaches and experiences of several countries in establishing QA/QC systems for emission inventories. It agreed that additional resources were required for the initial development of a QA/QC system although, once implemented and fully integrated in emission compilation, only modest additional resources were needed. External, second party audits were seen as a crucial part of QA/QC. The workshop agreed that QA/QC systems required careful planning and several years to be developed and implemented.

Annex III

Draft methods and procedures for the technical review of air pollutant emission inventories reported under the Convention and its protocols

Introduction

1. This note describes methods and procedures for the annual review of the air pollution emission data submitted by Parties to the Convention and its protocols in accordance with their emission reporting obligations. The process is intended to be simple and transparent and carried out in close cooperation with national experts.
2. The review will check and assess Parties' data submissions with a view to improving the quality of emission data and associated information reported to the Convention. The review also seeks to achieve a common approach to prioritizing and monitoring inventory improvements under the Convention with those of other organizations with similar interests such as the United Nations Framework Convention on Climate Change and the European Union National Emission Ceilings (NEC) Directive.

I. THE APPROACH

3. The technical review process will be in three stages and carried out stage by stage. At each stage, experts will have the opportunity to clarify issues or provide additional information. They may also express their views at meetings of the Task Force on Emission Inventories and Projections.
4. Parties to the Convention submit air pollution emission data annually to the secretariat. Submissions consist of both quantitative and qualitative information. Quantitative data should be in accordance with the EMEP reporting templates and in line with the Convention's Emission Reporting Guidelines. Qualitative data, including methodologies, may be included in informative inventory reports (IIR). The three stages of the annual review, covering both kinds of data, are:
 - (a) **Stage 1:** An initial check of submissions for timeliness and completeness;
 - (b) **Stage 2:** A synthesis and assessment of all national submissions with respect to consistency and comparability of data with recommendations for data quality improvement;
 - (c) **Stage 3:** In-depth reviews of selected inventories, by pollutant, country or sector, as in the workplan agreed by the Executive Body.

II. RESPONSIBILITIES FOR THE REVIEW PROCESS

5. Those responsible for the annual review are listed below.

(a) *Parties' designated emission experts* shall calculate emissions and respond to review questions and comments as well as make available any additional information required for the review process.

(b) *The Task Force on Emission Inventories and Projections* shall guide, evaluate and report on the review process. It will follow up the review and will suggest solutions to problems encountered. The Task Force will propose recommendations to the Steering Body for further improvements in emission inventories;

(c) *The secretariat* shall carry out stage 1 of the review by making an initial check of each national submission making use of REPDAB, the interactive data-checking tool developed by MSC-West. It will send a detailed reply letter to the designated emission expert, drawing attention to missing data and to the REPDAB results. It will prepare a "status report" summarizing this information;

(d) *The Review Team of Experts* shall carry out stage 2 of the review. The members of the Review Team will be:

- (i) A Co-Chair of the Task Force (who will lead the Review Team);
- (ii) The head of MSC-West, or his/her representatives, who will assist by organizing meetings and preparing reports;
- (iii) The heads of CIAM, MSC-East and CCC, or their representatives;
- (iv) A member of the secretariat.

The Co-Chairs of the Task Force may invite additional experts to participate in the work of the Review Team. Representatives of the European Environment Agency, its European Topic Centre on Air and Climate Change and the European Commission's Joint Research Centre will be invited to participate in the work of the team. The Review Team will test and implement methodologies for review, consult with national experts and make proposals for improving data quality. It shall submit reports to the Task Force;

(e) *MSC-West* shall provide support to the Review Team of Experts (as above). It will

facilitate the reporting and revision of emission data by national experts through maintaining and updating WEBDAB, the EMEP database of submitted emissions, and REPDAB.

III ASSESSMENT OF ANNUAL SUBMISSIONS

A. Stage 1: Initial check of submissions

6. The secretariat shall conduct the initial check of each submission of emission data received from Parties' designated experts noting the timeliness, completeness and adherence to the correct format (using REPDAB) and summarize this in status reports to the Parties. It will prepare a report summarizing the results of the reporting round for presentation to the EMEP Steering Body Bureau; it will request re-submissions when necessary and transmit all files and an overview of submissions to MSC-West for processing and loading to WEBDAB. It will afterwards forward each original submission together with re-submissions, correspondence with experts and complete data files to MSC-West and MSC-East for processing, analysis and review.

7. The timetable for the above shall be as follows:

(a) The secretariat will send country-specific status reports to the designated emission experts by e-mail within two weeks from the date of receipt of the submission;

(b) The designated emission experts will provide comments on the status report to the secretariat within two weeks of receipt. Re-submissions by experts due to error or modification should be received by the secretariat within three weeks from the due date for submission. Late re-submissions (i.e. later than three weeks from the due date for submission) will not be included in the annual inventory review, EMEP modelling exercises, or loaded to WEBDAB.

B. Stage 2: Synthesis and assessment of reported data

8. In stage 2, the Review Team of Experts will carry out a more detailed assessment of the submitted data than in the initial check and prepare a synthesis and assessment report (see below). The Co-Chair of the Task Force in collaboration with MSC-West will prepare the Review Team's report to the Task Force.

9. The aim of the synthesis and assessment report will be to:

- (a) Develop a better understanding and level of confidence in submitted emissions;
- (b) Identify inconsistencies between and within Parties' inventories;

(c) Highlight issues for further consideration, including further review of individual air emission inventories or analysis of specific sectors;

(d) Draw attention to problematic sources and obstacles to comprehensive, high-quality emission reporting and propose solutions.

10. Synthesis and assessment reports shall include:

(a) An overview of key sources per country;

(b) Review of consistency between inventories on the basis of sector-implied emission factors, key sector pollutant ratios and sector and national totals in other reported inventories (e.g. the National Emissions Ceiling Directive and the United Nations Framework Convention on Climate Change);

(c) Assessment of completeness and consistency of the time-series;

(d) Checks against previously reported inventories for recalculations and changed estimates to determine whether methods and data have been applied consistently across the latest time series;

(e) An implementation and testing of review approaches in line with priorities identified in the Task Force workplan; the content of the report may change to reflect these priorities.

11. Part I of the synthesis and assessment will consist of country-specific questions based on the inventory data checks above. These will be sent electronically to designated emission experts for bilateral correspondence with the Review Team via a password-protected website.

12. Part II of the synthesis and assessment will be an overview report of the review results with regard to the timeliness, completeness, consistency and transparency of inventory data submissions by region. It will also contain recommendations for future work and will, if necessary, include annexed details on findings from part I together with comments by the designated experts. The report will also note unresolved issues within source categories requiring further consideration or clarification by designated experts. The synthesis and assessment report will be submitted to the Task Force for consideration and forwarded to the EMEP Steering Body for approval.

13. The Review Team of Experts will carry out the review cycle annually, according to the following timetable:

(a) The Review Team will prepare part I of the synthesis and assessment report including country-specific questions within 11 weeks from the due date for submissions.

MSC-West will make the country-specific questions available via a password-protected website;

(b) Designated emission experts should comment on the country-specific questions (part I of the synthesis and assessment report) using the website within three weeks of it being made available;

(c) The Review Team will conduct bilateral correspondence with the designated experts;

(d) The Review Team will prepare part II of the synthesis and assessment report within 5 months from the due date of submission, for consideration by the Task Force.

C. Stage 3. In-depth reviews

14. Following completion of the initial checks and the synthesis and assessment reports, the Review Team of Experts or the Task Force may wish to propose topics for in-depth reviews of selected submissions. The nature of these reviews may depend on the topic. Proposals for in-depth reviews will be considered by the EMEP Steering Body, which shall submit its plans to the Executive Body for inclusion in the annual workplan.

15. Possible detailed reviews may include:

(a) Examining whether good practice was applied, as indicated in the Emission Reporting Guidelines and in the EMEP/CORINAIR Emission Inventory Guidebook;

(b) Reviewing the transparency of the inventories, including explanations of recalculations, methodologies, use of notation keys and missing or aggregated sources; and

(c) Reviewing other required data including activity, gridded and point source data;

16. The Task Force will propose methods and timing for in-depth reviews to the Steering Body.