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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)

REPORT ON THE TWENTY-SECOND SESSION
(from 7 to 9 September 1998)

Summary

The EMEP Steering Body's twenty-second session was devoted to the consideration of its strategic goals for the first five to ten years of the new millennium and to the preparation of the seventh-phase programme for 1999-2002. The Steering Body reviewed the emission data reported by EMEP/MSC-W and the Task Force on Emission Inventories, and progress in the modelling and monitoring activities of the three EMEP centres. The Steering Body agreed that, in future, the EMEP centres needed to work in a more integrated and collaborative way, to address subjects and issues of importance to the Convention.

The Steering Body also prepared a detailed budget proposal for 1999 (and a draft for 2000), which reflects the new phase in EMEP. It decided that two options for calculating the Parties mandatory contributions to the Trust Fund would be presented to facilitate the Executive Body's decision-making on financial issues.

Some key monitoring and modelling results are annexed to this report.

Documents prepared under the auspices or at the request of the Executive Body for the Convention on Long-range Transboundary Air Pollution for GENERAL circulation should be considered provisional unless APPROVED by the Executive Body.

Introduction

1. The Steering Body held its twenty-second session in Geneva from 7 to 9 September 1998.

2. The session was attended by representatives from 24 Parties to the Convention: Armenia, Austria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

3. Representatives from the World Meteorological Organization (WMO), the three Centres cooperating within EMEP (Chemical Coordinating Centre (CCC), Meteorological Synthesizing Centre-East (MSC-E), and Meteorological Synthesizing Centre-West (MSC-W)), the European Environment Agency (EEA), the European Experiment on the Transport and Transformation of Environmentally Relevant Trace Constituents in the Troposphere over Europe (EUROTRAC), and the European Union's Joint Research Centre in Ispra, Italy, also attended.

4. Mr. Martin WILLIAMS (United Kingdom) chaired the meeting.

I. ADOPTION OF THE AGENDA

5. The provisional agenda as contained in document EB.AIR/GE.1/1998/1 was adopted on the understanding that the report on the twenty-first session would be adopted under item 2 and MSC-W would present the draft EMEP website after item 6.

II. MATTERS ARISING FROM THE FIFTEENTH AND THE SPECIAL SESSIONS OF THE EXECUTIVE BODY FOR THE CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

6. The secretariat drew the attention of the Steering Body members to the relevant decisions of the Executive Body at its fifteenth session and its special sessions (ECE/EB.AIR/53, 55 and 57). In conjunction with the fourth Ministerial Conference "Environment for Europe", (Århus, Denmark, 23 to 25 June 1998), the Executive Body had adopted the Protocols on Heavy Metals (HMs) and Persistent Organic Pollutants (POPs) (EB.AIR/1998/1 and EB.AIR/1998/2). Furthermore, it had adopted the Ministerial Declaration on Long-range Transboundary Air Pollution. Ministers and Heads of Delegation from Parties had signed the Declaration on the Phase-out of Added Lead in Petrol. Ministers and Heads of Delegation/representatives of Parties had also endorsed the Declaration on Persistent Organic Pollutants. The report of the Århus Conference has been issued as ECE/CEP/41.

7. The secretariat announced that the current overall status of the Convention was: 43 Parties to the Convention, 37 Parties to the EMEP Protocol, 26 Parties to the 1988 NO_x Protocol, 17 Parties to the VOC

Protocol, 19 Parties to the 1994 Sulphur Protocol, and 34 Signatories to the HM and POP Protocols. The 1994 Sulphur Protocol had entered into force on 5 August 1998.

8. The Steering Body adopted the report on its twenty-first session as contained in document EB.AIR/GE.1/1997/2. For the first time, the secretariat of EMEP had circulated most of the report in electronic format to the Steering Body's members to facilitate the national use of the modelling results.

III. ACTIVITIES OF THE BUREAU BETWEEN THE TWENTY-FIRST AND THE TWENTY-SECOND SESSION OF THE STEERING BODY

9. The Chairman reported on the Bureau's work to monitor the implementation of the EMEP programme of work for 1998 (ECE/EB.AIR/53, annex V, item 2), and to prepare this meeting, in particular the financial issues and the EMEP long-term strategy.

IV. VISIONS FOR THE EMEP WORK BY 2005/2010 AND THE SEVENTH PHASE PROGRAMME FOR 1999-2002

10. To facilitate the discussion, the Chairman had drawn up a note on visions for the EMEP work 2005/2010, which also included a draft programme for the seventh-phase of EMEP (1999-2001), with the assistance of the secretariat and based on the discussions at the Steering Body's twenty-first session and at the Bureau's meeting in July 1998 (EB.AIR/GE.1/1998/3). In his introduction, Mr. Williams stressed the new challenges foreseen for EMEP in the coming years. In 2000, EMEP would have at its disposal time series of emissions and monitoring and modelling results of the acidifying pollutants spanning 20 years. This, together with some more recent data on photochemical oxidants and their precursors and on HMs and POPs, would form a good basis for evaluating the overall development of the long-range transport of air pollutants and their loads in our ecosystems, assessing the achievements of the Convention and its protocols and, together with effect-related data, for considering further abatement strategies and priorities.

11. During its seventh phase, EMEP would continue to provide the scientific underpinning of the Convention's work programme. The nature of the EMEP work is expected to change and focus more on demonstrating environmental improvements arising from the application of the protocols. This would require, among other things, EMEP to change its emphasis from a compartmentalized approach, focusing on reports and analyses of the individual EMEP Centres' work, to a more integrated approach, addressing subjects and issues of importance to the Convention and involving the work of two or more centres. Consequently, the EMEP Centres would need to work in a more integrated and collaborative way, and increase their cooperation and interaction with other bodies under the Convention, national experts, and other research groups and scientists studying atmospheric chemistry, and the transport and effects of air pollutants. For the first time during the seventh phase, the long-range transport of fine particles would also be studied under EMEP. Furthermore, the link between EMEP and integrated

assessment modelling would formally be strengthened.

12. The Steering Body members welcomed the note on visions for the future EMEP work. In this context, a representative of MSC-W also introduced the Centre's note (2/98) on the long-range transport of fine secondary particles, as currently estimated with the EMEP Lagrangian model. A representative of CCC presented some measurement results on aerosol composition in rural and background areas and a note on monitoring atmospheric particulate matter within EMEP (CCC Note 1/98).

13. In the ensuing discussion, several delegations agreed that there was enough scientific evidence of the adverse effects of fine particles on health and that their long-range transport played an important role. Therefore, they strongly supported starting EMEP work on fine particles. EMEP would also make a contribution to the work of the joint Task Force with the World Health Organization (WHO) which the Executive Body set up at its fifteenth session. The Steering Body welcomed the Swiss proposal to organize, possibly in autumn 1999, a workshop to further consider the state of the art in particle measurement and modelling and to prepare recommendations on the future EMEP work. Also, the ongoing and planned activities on fine particles in North America and within the European Union/EEA were noted and it was agreed to take these fully into account in the further planning of the EMEP work.

14. Many Steering Body members also favoured strengthening the link between EMEP and the integrated assessment modelling work done for the purposes of the Convention at the International Institute for Applied Systems Analysis (IIASA) and supported the Chairman's proposal to seek financial support for this work through the EMEP budget. The Russian Federation reserved its position on this issue.

15. The Steering Body also welcomed the proposal to include the measurements of HMs and selected POPs in the EMEP programme. It stressed that attention should first be devoted to the quality assurance of these measurements.

16. Finally, the Steering Body underlined the importance of scientific cooperation between the EMEP Centres and other scientists active in this field and called on national experts to participate in the EMEP work, and for the EMEP results to be used nationally. The EMEP results would in future be available on the Internet. In this context, reference was made to the EMEP/WMO Workshop on data analysis and interpretation (Finland, 14-18 September 1998). Croatia offered to host the next workshop in this series.

17. The Steering Body decided to submit document EB.AIR/GE.1/1998/3 and Add.1, as amended to the Executive Body for further consideration and approval at its sixteenth session. The Steering Body requested the secretariat to draft the 1999 EMEP work programme based on the draft seventh-phase programme as discussed at this meeting.

V. EMISSIONS**A. Present status of emission data and emission database**

18. The representative of MSC-W introduced note EB.AIR/GE.1/1998/4 on the present state of the ECE emission data and database, prepared in consultation with the secretariat. The document summarized official information about the emissions of SO₂, NO_x, NH₃, NMVOC, CH₄, CO, CO₂, heavy metals (HM) and selected persistent organic pollutants (POPs) for 1980-1996 and gave some emission projections for 2005 and 2010. The emission database system at MSC W, which was ready to enter into its operational phase, was described in detail in the MSC-W technical note 1/98. In the 1997 reporting of the emission data (data for 1996 and updates for the previous years), the Parties had already been invited to apply, on a trial basis, the new draft reporting procedure given in document EB.AIR/GE.1/1997/5.

19. According to MSC-W, 22 Parties had reported data for 1996, 9 of them had done so by the end of 1997, the official deadline for data submissions. The reported emission data for SO₂ and NO_x were still better and more complete than those for all other components. Reporting had improved for NH₃, NMVOC, CH₄ and CO in the last years. In autumn 1997, the Parties had also been requested, for the second consecutive year, to report data on their national emissions of HMs and POPs. The data now gave a better picture of these emissions and would be further complemented in the coming years.

20. The Steering Body expressed great appreciation and satisfaction with the work done by MSC-W to operate the emission database for the Convention. Document EB.AIR/GE.1/1998/4 was an excellent summary of the European emission data. The Steering Body decided to submit the emission report and its addendum including the latest updates (EB.AIR/GE.1/1998/4 and Add.1) to the Executive Body at its sixteenth session in December 1998. It also agreed that Parties should apply for one more year the draft reporting procedure on a trial basis when submitting their 1997 emission data.

B. Task Force on Emission Inventories

21. The Chairman of the Task Force, Mr. M. WOODFIELD (United Kingdom), presented its progress report (EB.AIR/GE.1/1998/5 and Add.1). Significant progress had been made in further developing the joint EMEP/CORINAIR Guidebook for emission inventories. The Guidebook had since 1996 been available on the European Environment Agency's homepage (<http://www.eea.eu.int>), which always provided the latest version of the Guidebook. Mr. Woodfield emphasized that the Task Force now had a strong expert network and enjoyed international recognition. He encouraged the Steering Body and the Executive Body to make full use of this network. With reference to the discussion under item 4, Mr. Woodfield indicated that in future the Guidebook could be extended to cover particulate matter. In addition, more attention needed to be given to the VOC species. Furthermore, Mr. Woodfield announced that the Task Force was looking for a co-chairperson.

22. The Steering Body expressed its appreciation for the work done by the Task Force and took note of the progress made (EB.AIR/GE.1/1998/5 and Add.1). The Steering Body thanked the Task Force's outgoing Co-Chair, Mr. G. McInnes, for his valuable pioneering work for the development of international emission inventories. The Steering Body agreed that more scientific attention needed to be given in future to the validation of emission data. It also encouraged the Task Force to continue to offer an effective forum for international cooperation, and to continue efforts to overcome the remaining problems (such as double reporting of data) in the coordination of the work of the international organizations. Furthermore, it supported the Task Force's proposal to create a formal link between it and the CEN TC264/ISO 146 of the International Standardization Organization (ISO), which comprised the groups responsible for developing the measurement methods used to establish inventory emission factors and assess air quality. Finally, the Chairman reminded the Steering Body to be in regular contact with the national emission inventory experts and to encourage them in their demanding and crucial work for the Convention. The Steering Body stressed the importance of reporting data timely, as requested by the secretariat.

VI. MODELLING OF ACIDIFYING POLLUTANTS AND PHOTOCHEMICAL OXIDANTS

23. The representative of MSC-W presented the results and the progress reports of its modelling of acidifying pollutants and photochemical oxidants since the twenty-first session (MSC-W Status Report 1/98, Part 1: "Estimated dispersion of acidifying and eutrofying compounds and comparison with observations" and Part 2: "Numerical Addendum"; CCC and MSC-W Note 4/98: "Geographical distribution of sulphur and nitrogen compounds in Europe derived both from modelled and observed concentrations"; and MSC-W Report 2/98: "Calculations of tropospheric ozone and comparison with observations").

24. The MSC-W work on acidifying pollutants had focused on the calculation of the long-range transmission of sulphur and nitrogen compounds based on the 1996 emission data, and on the evaluation of model results with observations, such as the trend analysis of 12-year data, the analysis of the 12-year performance of the Lagrangian model, the evaluation of the Eulerian model's performance for 1996 and the systematic comparison of the Lagrangian and Eulerian models' performance. The country-specific results (import-export budgets and receiver-emitter matrixes) produced with the Lagrangian model for 1990 and 1996 are set out in annex I below. The representative of MSC-W concluded, *inter alia*, that since the twenty-first session of the Steering Body the further intensive comparison of calculated and measured daily values at all available stations and for eight compounds showed that the Lagrangian model performed better for all concentrations in precipitation, while for most other compounds, concentrations in air derived by the Eulerian model were closer to the measured daily values. The comparison of model and observed sulphur dioxide concentrations in air raised the need to consider further the possibility of including information from other monitoring networks in the EMEP assessment. Furthermore, it was concluded that there were only few EMEP measurement stations with sufficient temporal coverage and that for the interpretation of trends consistent

measurement techniques were desirable. The source-receptor matrices produced by the Eulerian model would be evaluated and analysed once again before the Steering Body's twenty-third session.

25. MSC-W had also continued its efforts to further develop the regional scale photo-oxidant version of the multi-layer Eulerian model. It had compared the 150 km Lagrangian and the 50 km Eulerian models with measurements and each other. The MSC-W representative concluded that this first intensive comparative exercise did not yet make it possible to decide whether differences in model output were due to differences in model structure (especially horizontal and vertical resolution), or to some other differences (such as different chemistry and deposition modules). The Eulerian model seemed to capture the daily concentration variation better than the Lagrangian model. However, when comparing the AOT values, the Lagrangian model matched the observed values somewhat better.

26. The Steering Body expressed great appreciation for the modelling work done at MSC-W and decided to derestrict the Centre's technical reports and notes.

27. The representative of MSC-W introduced and demonstrated the provisional EMEP website. The Steering Body welcomed this additional effort to make EMEP better known and its results easily accessible. The Steering Body decided that its members should be given access to the website on a restricted basis in order to provide comments on it to MSC-W. Based on these comments, the Centres should finalize the website and introduce it to the Executive Body at its sixteenth session. The Steering Body would request the Executive Body's approval for putting EMEP results and reports on the Internet after they had been discussed and destricted at a session of the Steering Body.

VII. MODELLING OF HEAVY METALS AND PERSISTENT ORGANIC POLLUTANTS

28. The representatives of MSC-E presented progress reports of its modelling of priority heavy metals and selected persistent organic pollutants since the twenty-first session of the Steering Body (MSC-E Report 7/98: "Mercury in the atmosphere of Europe: Concentrations, deposition patterns and transboundary fluxes" and a technical report: "Atmospheric input of mercury to the Mediterranean Sea"; MSC-E Report 5/98: "Modelling of long-range transport of lead and cadmium from the European sources in 1996"; MSC-E Report 2/98: "Long-range Transport of selected POPs, Part 1: "Development of transport models for lindane, polychlorinated biphenyls and benzo(a)pyrene and Part 2: "Physical-chemical properties of dioxines and furans and factors influencing the transport and accumulation of POPs"). In this context, the MSC-E representative also mentioned the useful Belarusian contribution in kind to its work.

29. The representative of MSC-E drew the attention of the Steering Body to the major complicated scientific problems with POPs, which the Centre had studied further since the twenty-first session. The Centre's representative reiterated the need for further work.

30. For mercury, MSC-E had developed a simplified version of the operational model of the Eulerian type to calculate the transport of mercury and to evaluate transboundary pollution in the EMEP region. The preliminary calculations were in satisfactory agreement with available measurement results: for polluted regions of central Europe, the differences were within a factor of 2, and for remote regions they did not exceed 40%.

31. Concerning the progress made in modelling the long-range transport of the other two priority metals (Pb and Cd), the MSC-E representative explained the status of model development and what emission data had been used for the preliminary calculations. Some results for lead are shown in annex II. The Steering Body encouraged MSC-E to use all available HM measurement data for model validation.

32. The representative of the European Union's Research Centre said that the Centre was willing to host a workshop on heavy metals in 1999. MSC-E was also willing to organize a workshop on HM and POP measurement and modelling strategy in 1999.

33. The representative of the Netherlands introduced a proposal for a pilot study on monitoring air concentrations and depositions of HMs and POPs in air.

34. The Steering Body took note of the MSC-E reports, expressed great satisfaction with the progress achieved since its twenty-first session and encouraged the Centre to continue its effort to develop long-range transport models for HMs and POPs. The Steering Body agreed to deregister the Centre's technical reports. Furthermore, it invited the Task Force on Emission Inventories to participate in the further study of the HM and POP emission estimates and evaluate, as appropriate, in cooperation with MSC-E as budgeted for in 1999, the quality of estimates made by experts.

VIII. MONITORING AND QUALITY ASSURANCE

35. The representatives of CCC presented its reports with the results and progress in EMEP monitoring and quality assurance activities since the twenty-first session (CCC Report 1/98: "Data report 1996, Part 1: Annual summaries"; CCC Report 2/98: "Data report 1996, Part 2: Monthly and seasonal summaries"; CCC Report 3/98 "Ozone measurements 1996"; CCC Report 4/98: "VOC measurements 1997"; CCC Report 5/98: "Pilot measurements of nitrogen containing species in air"; CCC Report 6/98: "Data quality 1996, quality assurance and field comparison"; CCC Report 7/98: "Data quality 1996, quality assurance and field comparison, supplementary data for 1989-1996"; CCC Note 2/98: "EMEP expert meeting on measurement of POPs and precipitation"; CCC Note 3/98 Workshop on quality assurance of EMEP measurements and data reporting"; and CCC Note 4/98: Summary of the results from CCC").

36. According to CCC, a total of 76 stations had reported the main components in precipitation and 90 stations had reported the basic air data for 1996. Surface ozone data had been received from 91 stations in 20 different countries. The ozone sites reporting to EMEP were mainly situated in central, western and northern Europe. The EMEP VOC monitoring programme

had been revised in 1997 and now focused on fewer stations. The monitoring data for HMs and POPs were variable but slightly more data had been received.

37. The Steering Body took note of the status of nomination of the national quality assurance managers and endorsed their new job description (annex 2 to CCC Note 4/98). The Steering Body also took note of the recommendations of the Workshop on Quality Assurance and Data Reporting (Bergen, Norway, 12 to 15 May 1998).

38. The Steering Body expressed great satisfaction with the work done at CCC and decided to derestrict the Centre's technical reports and notes.

IX. COOPERATION BETWEEN EMEP AND OTHER MONITORING AND MODELLING PROJECTS

A. Cooperation between EMEP and the Baltic Marine Environment Protection Commission (HELCOM) and the Oslo and Paris Commission for the Protection of the Marine Environment in the North-East Atlantic (OSPARCOM) on emissions, atmospheric monitoring and modelling

39. A representative of MSC-W introduced note 3/98 on the atmospheric supply of nitrogen, lead, cadmium, mercury and lindane to the Baltic Sea prepared jointly by the three centres and HELCOM as part of the cooperation between HELCOM and EMEP as decided at the Steering Body's nineteenth session. The delegation of Denmark, on behalf of HELCOM, reiterated its satisfaction with the present state of cooperation between EMEP and HELCOM.

40. The secretariat introduced the letter of the Executive Secretary of OSPARCOM dated 15 July 1998 on further cooperation between EMEP and OSPARCOM. The Steering Body requested the Secretary and the Chairman to clarify further the topics mentioned in the letter before the meeting of the OSPARCOM/INPUT group in December 1998. The Steering Body also noted that OSPARCOM had entered into a contract with NILU, the host institute of CCC, with regard to data management. This would make the exchange of monitoring data easier in the future, although it would first require the formal approval by the two host bodies.

B. North American activities on long-range transport of air pollutants

41. The representative of Canada reported on the activities in Canada and the United States on the long-range transport of air pollutants, and distributed relevant documents. The Steering Body took note of the information provided and noted with appreciation the volume of the scientific work relevant to EMEP being done in North America. The Steering Body expressed its wish to increase scientific cooperation. In particular, the Steering Body welcomed the pledge of active North American participation and contributions to the EMEP quality assurance activities.

C. Other

42. The representative of WMO informed the Steering Body about its relevant ongoing activities and recent publications. The Strategic Plan of

the Global Atmospheric Watch Programme had been adopted in spring 1997. Intensive cooperation between WMO and EMEP centres would continue; the next concrete effort would be the joint workshop in Finland (see para. 16 above).

43. The representatives of the EEA Topic Centres on Air Quality and Air Emissions informed the Steering Body about their latest activities. Copies of the Executive Summary of the Europe's Environment: The Second assessment, prepared for the fourth Ministerial Conference "Environment for Europe" in June 1998, were circulated.

X. FINANCIAL AND BUDGETARY MATTERS AND THE WORK-PLAN FOR 1999

44. The Chairman introduced document EB.AIR/GE.1/1998/7 on financial and budgetary matters of EMEP and additional proposals for the 1999 budget prepared by the Chairman and the Bureau at its meeting on 7 September. The budget incorporated the 3% programme support cost imposed by the United Nations. The proposed budget also incorporated some funding to cover external work (i.e. not at the EMEP Centres) on integrated assessment modelling. The Chairman pointed out that the Bureau still needed to do more work together with the secretariat, and with professional assistance of the United Nations internal auditors, to develop the budgeting and auditing procedures and follow-up mechanisms as decided at the twenty-first session.

45. The representative of Germany drew the Steering Body's attention to the steep increase in its future mandatory contributions to be paid in United States dollars to the Trust Fund in 1999 and 2000, as a consequence of applying the United Nations scale of assessments as a basis for calculating the contributions. She proposed that the Bureau should reconsider the use of the United Nations scale of assessments for EMEP cost sharing and prepare its proposal for further discussion at the twenty-third session. An alternative option would be to use the 1997 scale for future years as the Executive Body had already decided to apply it for 1998. The delegations of France and Italy shared the concern of Germany about their increasing mandatory contributions.

46. The representative of the Russian Federation expressed its concern about the budget of MSC-E and stressed the importance of the HM and POP modelling work. Norway, among other countries, felt some more resources could be allocated to the HM and POP work (including monitoring).

47. In the light of the information provided and taking into account the views expressed at this meeting, the Steering Body:

(a) Took note of the information provided in document EB.AIR/GE.1/1998/7 on financial and budgetary matters;

(b) Urged Parties to the Protocol on Long-term Financing of EMEP to pay their arrears to the Trust Fund or in kind to MSC-E, as agreed;

(c) Recommended that Parties should pay their mandatory contributions in cash, as early as possible in the fiscal year;

(d) Invited Parties to make further voluntary contributions to the Trust Fund;

(e) Reminded those Parties still availing themselves of the procedure for contributing in kind to submit their proposals for 2000 work elements by February 1999, for further consideration by its Bureau;

(f) Approved the 1997 contribution in kind from Belarus and the Belarusian contributions covering its arrears for 1992-1995 to MSC-E, and invited Bulgaria to circulate to the Steering Body the report on its 1997 contribution to MSC-E for final approval at the twenty-third session;

(g) Requested the Centres to continue to consult the Bureau in the course of a budget year about any significant need for internal changes in their budgets;

(h) Specified provisionally two options for the use of funds 1999 (total budget US\$ 1,855,000 or US\$ 2,040,500) as set out in tables 1 and 2 in annex IV below. The Steering Body decided to submit these budget proposals to the Executive Body for decision at its sixteenth session with the following remarks:

-The proposed division of financial resources between the EMEP programme elements reflects the priorities set up under the Convention;

-More resources could be devoted to work on heavy metals, persistent organic pollutants and fine particles;

-For several years, less than 50% of the total expenditures on EMEP work at MSC-W have been covered by the Trust Fund;

-The programme support cost of 3% reduces the amount of work than can be done at the EMEP centres;

(i) Requested the secretariat to draft the 1999 work-plan for EMEP based on the seventh-phase programme;

(j) Also requested the secretariat to calculate the 1999 mandatory contributions of the Parties in United States dollars according to four options based on a total budget of US\$ 1,855,000 or US\$ 2,040,500 (increase of 10%) and the use of the 1997 United Nations scale of assessments or the 1999 United Nations scale of assessments (see table 3 of annex IV below);

(k) Further requested the secretariat to calculate the 2000 mandatory contributions of the Parties in United States dollars according to four options based on a total budget of US\$ 1,855,000 or US\$ 2,040,500 (increase of 10%) and the use of the 1997 United Nations scale of assessments or the 2000 United Nations scale of assessments and decided to revert to the detailed budget for 2000 at its twenty-third session (see table 3 of annex IV below).

48. Germany formally reserved its position concerning the 1999 and 2000 budgets.

XI. ELECTION OF OFFICERS

49. The Steering Body re-elected Mr. M. WILLIAMS (United Kingdom) as Chairman, Mr. H. HOJESKY (Austria), Ms. M. LESNJAK (Slovenia), and Mr. R. VAN AALST (Netherlands), as Vice-Chairpersons, and Ms. S. VIDIC (Croatia) and Mr. P. GRENNFELT (Sweden) as new Vice-Chairpersons. The Chairman thanked Ms. Mitosek and Mr. Kulmala for the valuable contributions that they had made to the EMEP Bureau. He also wished Mr. Kulmala and Mr. Leyendecker of the European Union's Joint Research Centre a very happy retirement.

Annex I

**MODELLING ACIDIFYING AND EUTROPHFYING POLLUTANTS
IN THE EMEP REGION AT MSC-W**

The information presented in this annex has been taken from report 1/98 EMEP/MSC-W: MSC-W Status Report 1998, Part one: Estimated dispersion of acidifying and eutrofying compounds and comparison with observations; and Part two: Numerical addendum to part one. However, the 1996 values are different from those presented in Report 1/98. To ensure consistency with previous matrices and budget calculations, the 1996 values have been re-evaluated using the same meteorological and atmospheric dispersion models as in previous reports. The only exception is Cyprus, which is included in the analysis for the first time, as metecrological data for the extended EMEP domain became available in 1996. The influence of the use of different meteorological models in the calculated budgets will be further analysed in the MSC-W reports to the Steering Body at its next session.

Emissions of sulphur dioxide, nitrogen oxides, ammonia and non-methane volatile organic compounds used in model runs of acidifying/eutrophying pollutants are given in part one of report 1/98 and not repeated below. The technical report is available from MSC-W on request. The officially reported emission data are detailed in document EB.AIR/GE.1/1998/4.

Tables 2 and 6 give average annual import-export budgets for 1990 and 1996 for sulphur and nitrogen for each country. In the presentation of receiver-emitter matrices (sulphur and nitrogen depositions for 1990 and 1996) in tables 3-5 and 7-9, countries are designated by the letter codes given in table 1. Other geographical designations are explained in the same table. In the matrix tables the contributions from the horizontally listed countries (emitters) are allocated amongst the vertically listed areas (receivers). Each table consists of two parts.

The names of the countries and areas given in the tables reflect designations used by MSCs and do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Table 1. Letter codes of countries and other areas**Emitting regions displayed :**

Albania	AL	Poland	PL
Austria	AT	Portugal	PT
Belarus	BY	Republic of Moldova	MD
Belgium	BE	Romania	RO
Bosnia and Herzegovina	BA	Russian Federation, European part	RU
Bulgaria	BG	Slovakia	SK
Croatia	HR	Slovenia	SI
Czech Republic	CS	Spain	ES
Cyprus	CY	Sweden	SE
Denmark	DK	Switzerland	CH
Estonia	EE	The former Yugoslav Republic of Macedonia	FYM
Finland	FI	Turkey	TR
France	FR	Ukraine	UA
Germany	DE, DD, or DE'	United Kingdom	GB
Greece	GR	Yugoslavia, excluding BA, HR, FYM, SI	YU or YU
Hungary	HU	Remaining Land Areas and Volcanoes	REM
Iceland	IS	Baltic Sea+	BAS
Ireland	IE	Black Sea+	BLS
Italy	IT	Mediterranean Sea+	MED
Latvia	LV	North Sea	NS
Lithuania	LT	Remaining N.E. Atlantic Ocean+	ATL
Luxembourg	LU	Total marine sources	NAT
Netherlands	NL	Total inattributable sources	IND
Norway	NO	Total attributable sources	SUM

+ Refers to depositions arising from international trade emissions only.

Letter codes used by MSC-E (see annex II) which are either different or in addition to those listed above

Czech Repuclic	CS	Unidentified deposition	IND
Armenia, Azerbaijan and Georgia	ZK	Total deposition inside Grid	SUM
Kazakhstan, Turkmenistan, Uzbekistan and Aral Sea	KZ	Transport outside the South-West grid border	BSW
Algeria, Libya, Morocco and Tunisia	AF	Transport outside the North-West grid border	BNW
Atlantic Ocean and Gibraltar	ATL	Transport outside the South-East grid border	BSE
English Channel	ECH	Transport outside the North-East grid border	BNE
Caspian Sea	CAS	Transport outside the grid upper border	BUP
White See	WHS	Total amount of pollution carried away outside The grid limits	BSM
Greenland and Arctic	ARC	Emission	EMIS

Table 2. Import/export budgets for 1990

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%			Mass	%	mass	%			mass	%	mass	%		
AT	381	82	1349	94	8	63	551	92	626	93	7	54	354	51	445	56	3	79
BE	1393	87	536	71	23	84	1006	96	292	88	19	80	501	59	198	36	15	96
BG	8660	86	1020	41	15	46	1050	92	297	76	8	37	682	57	246	33	5	61
CS	9974	82	2908	58	8	71	2701	92	872	78	7	65	757	55	556	47	4	81
DK	831	91	495	86	34	79	834	97	288	92	23	71	568	57	129	23	24	96
FI	978	75	1203	79	19	71	790	87	582	83	14	64	131	46	267	63	11	86
FR	4826	74	2988	64	23	75	3999	83	1629	66	17	68	2548	44	740	19	15	88
DD	18391	84	1661	32	11	75	1960	93	887	86	11	73	967	55	469	38	9	89
DE	3321	76	3631	77	15	81	5211	87	1686	69	14	75	2120	46	1100	31	9	92
GR	2358	92	1033	84	22	36	1129	95	240	79	12	28	402	63	151	39	9	80
HU	4096	81	1270	57	9	71	658	91	472	88	7	64	754	56	268	31	4	73
IS	104	87	91	85	47	53	57	93	71	95	28	39	13	51	28	70	24	73
IE	754	85	272	67	50	76	328	94	157	88	35	66	521	50	71	12	28	93
IT	6861	82	2499	62	24	55	5464	88	839	52	14	45	1771	52	503	23	10	70
LU	66	94	47	92	11	84	69	99	27	96	13	81	37	64	20	49	9	97
NL	869	86	746	84	33	83	1752	97	330	84	23	77	1109	58	175	18	16	96
NO	214	81	1435	97	29	66	628	91	885	93	18	52	90	48	374	79	18	86
PL	11620	72	7067	61	8	71	3338	86	2094	79	7	65	1976	47	1008	31	5	85
PT	1234	87	295	62	18	38	614	91	165	74	12	36	451	59	80	20	11	63
RO	5116	78	2386	62	8	54	1456	88	628	75	6	45	1399	57	497	32	4	66
ES	9072	80	1002	31	24	49	3041	84	637	53	13	40	1515	52	320	19	9	64
SE	517	76	2150	93	27	73	1089	87	1254	89	18	64	234	47	576	68	17	90
CH	170	79	437	91	8	67	464	92	264	87	7	53	294	50	204	41	3	83
TR	1449	82	1536	83	12	35	1344	89	490	74	7	24	2449	72	330	25	3	35
SU	24477	57	19007	50	7	55	8658	64	7477	61	4	45	7204	37	4257	26	3	70
GB	15312	81	799	19	42	75	7939	92	479	39	32	69	1339	51	295	19	26	89
YU	5740	78	2372	60	11	55	878	87	962	88	8	46	898	53	555	41	5	68
REM	15710	87	3049	56	17	36	1020	92	1246	93	3	17	1071	76	716	68	3	30
BAS	252	70	4011	97	35	77	214	88	1747	98	18	69	0	0	1016	10	0	100
NOS	1486	68	7855	92	44	80	1698	87	2775	92	27	71	0	0	1478	10	0	100
ATL	3389	73	12188	91	30	38	3292	83	5197	89	20	32	0	0	2589	10	0	100
MED	58	97	11975	100	3	12	39	97	3137	10	3	13	0	0	1647	10	0	100
BLS	0	0	3013	100	0	100	0	0	609	10	0	100	0	0	630	10	0	100

Mass in 100 tonnes of sulphur/nitrogen, export is % of emission, import is % of deposition, % of emissions deposited to sea, % of emissions deposited within the model area.

Table 3. Deposition of oxidized sulphur in 1990
(Hundreds of tonnes of S)

Emitters

	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL		
AL	39	0	0	24	7	0	0	3	6	1	26	7	0	0	34	0	0	0	5	AL	
AT	0	84	13	5	251	1	0	62	263	86	1	52	0	1	121	1	5	0	110	AT	
BE	0	0	217	0	13	1	0	137	45	63	0	0	0	3	2	2	28	0	10	BE	
BG	7	2	1	1440	58	0	0	5	52	6	40	70	0	0	22	0	1	0	55	BG	
CS	0	27	21	14	2121	4	1	61	1312	131	1	286	0	1	45	2	9	0	503	CS	
DK	0	0	12	0	22	79	0	21	89	34	0	2	0	3	1	0	9	1	26	DK	
FI	0	1	5	2	39	14	322	11	95	16	0	10	0	1	5	0	3	5	93	FI	
FR	0	4	143	3	113	4	0	1674	314	193	0	13	0	14	149	10	48	0	77	FR	
DD	0	2	56	1	519	17	0	97	3529	304	0	7	0	3	11	3	29	1	144	DD	
DE	0	15	224	3	312	19	0	463	981	1074	0	11	0	12	68	15	112	1	149	DE	
GR	14	1	1	422	20	0	0	6	20	2	192	20	0	0	35	0	0	0	135	GR	
HU	1	19	5	20	309	1	0	21	167	24	2	954	0	0	78	0	2	0	135	HU	
IS	0	0	1	0	1	0	0	1	2	1	0	0	16	1	0	0	1	0	1	IS	
IE	0	0	4	0	6	0	0	9	19	5	0	0	0	0	136	0	0	2	0	1	IE
IT	3	16	10	32	133	1	0	180	160	42	14	76	0	1	1529	1	4	0	83	IT	
LU	0	0	3	0	2	0	0	17	5	6	0	0	0	0	0	4	1	0	1	LU	
NL	0	0	80	0	14	1	0	78	56	97	0	1	0	4	2	0	13	51	55	NL	
NO	0	0	16	1	42	26	10	34	130	37	0	7	1	8	2	0	32	2	4430	PL	
PL	1	17	58	21	1409	41	7	110	3529	285	1	233	0	5	40	3	32	0	0	0	PT
PT	0	0	1	0	1	0	0	7	2	1	0	0	0	0	0	2	0	0	216	RO	
RO	5	7	4	299	262	2	1	15	199	21	15	348	0	0	50	0	2	0	10	ES	
ES	0	1	9	0	12	1	0	111	44	15	0	2	0	3	31	1	4	0	186	SE	
SE	0	2	21	1	108	108	59	42	359	80	0	14	0	6	5	1	16	28	13	CH	
CH	0	2	6	0	18	0	0	84	36	26	0	2	0	1	104	1	2	0	48	TR	
TR	1	1	1	253	35	1	0	4	35	4	52	31	0	0	10	0	0	0	3603	SU	
SU	6	31	82	531	1573	98	295	173	2473	317	31	732	0	11	102	4	47	14	14	GB	
GB	0	0	22	0	19	4	0	62	70	30	0	1	0	73	2	0	16	1	143	YU	
YU	26	24	6	160	230	1	1	48	208	30	33	316	0	1	333	0	2	0	65	REM	
REM	1	1	3	29	54	1	2	34	75	10	17	21	0	1	75	0	1	0	583	BAS	
BAS	0	4	45	4	237	180	165	80	858	178	0	42	0	9	12	1	33	11	124	NOS	
NOS	0	2	175	0	151	80	3	386	548	217	0	12	1	71	10	2	218	3	48	ATL	
ATL	0	2	86	4	98	24	57	370	320	132	0	15	46	296	13	3	48	35	120	MED	
MED	39	24	24	708	349	3	1	476	411	73	463	242	0	3	1696	2	11	0	1	138	BLS
BLS	2	2	2	655	89	2	2	5	85	9	24	75	0	0	13	0	12	0	0	153312	SUM
SUM	146	294	1356	4633	8622	715	928	4886	16495	3553	912	3603	64	672	4599	59	843	176	11418		
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL		

	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		
AL	0	7	4	0	0	0	3	1	54	41	0	0	0	0	0	1	62	327	AL	
AT	0	6	9	0	10	0	9	34	95	7	0	8	2	0	0	1	195	1433	AT	
BE	0	1	11	0	0	0	3	121	0	1	0	35	4	0	0	2	53	753	BE	
BG	0	258	2	0	0	6	65	5	150	18	0	1	0	0	0	2	251	5029	CS	
CS	0	34	8	1	3	0	25	62	78	7	1	13	2	0	0	6	59	574	DK	
DK	0	0	3	4	0	0	5	159	1	0	4	28	3	0	0	7	301	1525	FI	
FI	0	5	3	30	0	0	475	54	5	1	13	9	2	0	0	7	778	4662	FR	
FR	10	3	429	1	13	0	13	375	23	17	1	119	85	0	0	33	778	5190	DD	
DD	0	3	10	2	1	0	24	172	3	1	4	39	4	0	0	5	197	4705	DE	
DE	1	5	47	2	19	0	29	524	12	5	4	122	16	0	0	13	447	4705	GR	
GR	0	57	5	0	0	9	31	3	65	90	0	0	0	0	0	3	208	1225	HU	
HU	0	79	7	0	1	0	18	12	188	20	0	3	1	0	0	1	154	2224	IS	
IS	0	0	0	0	0	0	1	14	0	0	0	1	2	0	0	16	49	107	IE	
IE	1	0	4	0	0	0	0	99	0	0	0	6	18	0	0	18	79	408	IT	
IT	3	18	70	0	19	1	12	27	208	705	0	6	5	0	0	0	6	51	LU	
LU	0	0	1	0	0	0	0	3	267	0	0	0	55	4	0	0	4	887	NL	
NL	0	0	6	0	0	0	3	267	0	0	0	5	48	14	0	0	37	438	1486	NO
NO	1	5	14	19	0	0	107	363	2	0	5	25	52	10	0	0	9	568	11497	PL
PL	0	57	14	12	3	0	187	258	85	10	18	48	6	0	0	5	73	476	PT	
PT	181	0	141	0	0	0	0	7	1	9	0	1	3	1	0	0	2	344	3825	RO
RO	0	1439	4	1	1	5	238	15	308	17	1	3	1	0	0	0	18	425	3260	ES
ES	109	0	2258	0	1	0	1	62	5	51	0	9	76	3	0	0	22	465	2313	SE
SE	0	8	8	163	0	0	187	326	9	1	25	52	10	0	0	0	1	97	482	CH
CH	0	0	16	0	45	0	1	15	4	3	0	4	2	0	0	6	635	1857	TR	
TR	0	83	2	0	0	321	252	5	24	52	0	1	0	0	0	0	41	6529	37670	SU
SU	1	853	33	83	5	75	1866	504	329	265	70	84	14	0	0	41	267	4307	GB	
GB	1	0	23	1	0	0	5	3508	0	1	1	87	56	0	0	41	267	3971	YU	
YU	1	120	23	0	3	1	30	18	1599	115	0	4	2	0	0	5	489	3971	REM	
REM	5	24	84	1	1	8	694	19	26	2395	0	2	4	0	0	13	1777	5444	BAS	
BAS	1	17	13	126	1	0	370	420	20	1	108	79	9	0	0	24	488	4119	NOS	
NOS	4	3	76	17	1	0	27	4645	5	3	10	711	94	0	0	149	797	8566	ATL	
ATL	184	7	1548	26	2	0	1021	1979	7	12	7	160	1268	0	0	1374	4194	13456	MED	
MED	27	182	706	1	12	112	144	103	656	2723	1	17	27	2	0	102	2392	11977	BLS	
BLS	0	269	1	1	0	82	907	9	54	33	1	2	0	0	0	12	539	3013	SUM	
SUM	533	3543	5583	494	143	621	2354	14186	4018	6602	277	1758	1775	7	0	1983	24266	153312		
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS								

Table 4. Deposition of oxidized nitrogen in 1990
(Hundreds of tons of N)

Emitters

	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
AL	4	1	0	3	2	0	0	3	1	2	10	1	0	0	26	0	0	0	2	AL
AT	0	46	13	1	64	2	0	61	29	151	0	7	0	1	93	2	14	0	30	AT
BE	0	0	38	0	4	1	0	60	5	43	0	0	0	2	2	1	28	0	3	BE
BG	2	3	1	94	20	1	0	5	7	12	23	12	0	0	22	0	2	0	18	BG
CS	0	29	22	2	242	5	1	61	102	218	1	33	0	1	44	2	29	1	102	CS
DK	0	0	10	0	4	24	1	18	9	40	0	0	0	2	1	0	22	2	6	DK
FI	0	2	6	0	16	23	123	15	18	39	0	2	0	1	7	0	13	22	40	FI
FR	0	6	82	0	31	5	0	840	33	244	0	3	0	8	114	8	81	1	26	FR
DD	0	3	41	0	68	14	1	76	143	306	0	2	0	2	10	4	66	2	32	DD
DE	0	15	131	0	75	14	1	318	88	763	0	2	0	8	51	12	187	3	43	DE
GR	3	1	1	34	7	0	0	8	2	6	64	4	0	0	36	0	1	0	7	GR
HU	0	24	5	3	83	2	0	22	20	50	1	66	0	0	73	1	6	0	42	HU
IS	0	0	1	0	0	0	0	3	0	5	0	0	4	1	0	0	3	1	1	IS
IE	0	0	4	0	3	1	0	9	3	10	0	0	0	22	0	0	6	0	0	IE
IT	1	22	11	4	44	1	0	182	19	89	8	14	0	1	766	1	12	0	26	IT
LU	0	0	2	0	0	0	0	9	1	5	0	0	0	0	0	1	1	0	0	LU
NL	0	0	25	0	3	1	0	33	5	51	0	0	0	3	1	0	62	1	3	NL
NO	0	1	18	0	14	29	11	45	20	75	0	2	1	7	2	1	45	63	20	NO
PL	0	20	55	3	290	44	7	105	295	432	1	32	0	4	41	4	96	8	555	PL
PT	0	0	1	0	0	0	0	7	0	3	0	0	0	0	2	0	1	0	0	PT
RO	1	10	4	41	84	2	1	15	25	43	8	51	0	0	46	0	7	1	67	RO
ES	0	1	9	0	4	2	0	104	7	33	0	0	0	2	28	1	11	0	4	ES
SE	0	3	23	1	35	82	50	46	52	144	0	3	0	5	5	1	53	66	60	SE
CH	0	3	5	0	5	0	0	78	4	42	0	0	0	0	51	1	6	0	4	CH
TR	0	2	1	27	12	1	0	5	5	11	27	6	0	0	10	0	2	0	17	TR
SU	1	49	98	78	492	146	255	210	351	681	21	116	0	9	106	6	180	57	1067	SU
GB	0	0	14	0	8	7	0	45	12	48	0	0	0	31	1	1	29	3	6	GB
YU	5	32	6	24	76	2	1	53	25	66	18	49	0	0	289	1	8	0	45	YU
REM	0	3	4	5	20	3	2	43	12	26	10	4	0	0	73	0	6	0	26	REM
BAS	0	4	39	1	50	100	62	72	94	239	0	6	0	6	11	2	91	29	117	BAS
NOS	0	2	72	0	28	46	3	186	48	212	0	2	1	34	7	2	178	22	28	NOS
ATL	0	4	69	1	34	42	59	246	50	235	0	3	16	79	13	3	118	73	44	ATL
MED	5	27	21	55	85	4	1	319	39	126	136	31	0	2	843	2	27	0	62	MED
BLS	0	3	2	38	23	2	1	5	9	17	11	9	0	0	11	0	3	0	33	BLS
SUM	23	320	836	419	1927	608	581	3306	1534	4467	339	462	24	232	2786	57	1395	358	2536	SUM
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		
AL	0	2	2	0	0	1	1	7	0	0	10	3	0	0	0	0	20	91	AL	
AT	0	2	4	1	21	0	4	26	15	0	0	26	7	0	0	0	71	672	AT	
BE	0	0	4	0	1	0	1	80	0	0	0	1	0	0	0	0	23	330	BE	
BG	0	66	1	1	1	1	5	22	4	15	0	0	1	3	0	0	0	54	391	BG
CS	0	10	3	3	4	9	0	10	51	14	0	1	19	3	0	0	0	92	1114	CS
DK	0	0	1	6	0	0	2	101	0	0	2	26	5	0	0	0	123	705	FI	
FI	0	2	2	63	1	0	107	47	1	0	11	16	4	0	0	0	323	2469	FR	
FR	12	1	156	2	26	0	5	242	5	1	102	111	0	0	0	0	74	1030	DD	
DD	0	1	4	6	4	0	9	112	1	0	3	42	6	0	0	0	181	2449	DE	
DE	1	2	17	7	36	0	11	341	3	0	2	113	22	0	0	0	181	304	GR	
GR	0	18	4	0	1	7	11	4	7	2	0	1	1	0	0	0	56	538	HU	
HU	0	18	3	1	3	0	7	10	32	0	0	4	1	0	0	0	34	75	IS	
IS	0	0	0	1	0	0	0	0	15	0	0	2	3	0	0	0	43	179	IE	
IE	1	0	2	0	0	0	0	47	0	0	0	7	20	0	0	0	0	218	1605	IT
IT	3	7	45	1	40	1	5	21	37	4	0	9	9	0	0	0	2	28	LU	
LU	0	0	1	0	0	0	0	3	0	0	0	1	1	0	0	0	25	392	NL	
NL	0	0	2	1	0	0	1	135	0	0	0	33	6	0	0	0	0	198	948	NO
NO	1	2	7	36	1	0	18	244	1	0	5	61	21	0	0	0	0	220	2649	PL
PL	0	16	5	35	8	0	70	198	14	0	13	66	10	0	0	0	48	224	PT	
PT	59	0	50	0	0	0	0	8	0	0	0	2	41	0	0	0	0	100	834	RO
RO	0	206	2	2	4	60	12	32	0	1	5	1	0	0	0	0	0	199	1212	ES
ES	70	0	575	1	3	0	0	50	2	3	0	13	87	2	0	0	0	207	1416	SE
SE	1	3	4	162	2	0	74	231	2	0	17	68	15	0	0	0	35	302	CH	
CH	0	0	7	0	38	0	0	11	1	1	0	0	5	3	0	0	0	230	659	TR
TR	0	24	1	1	0	169	91	4	3	6	0	2	0	0	0	0	0	2217	12247	SU
SU	2	222	16	232	19	71	4770	438	51	48	63	147	26	0	0	0	0	130	1214	GB
GB	2	0	8	4	1	0	3	735	0	0	1	63	60	0	0	0	0	162	1088	YU
YU	1	37	12	1	8	1	11	15	126	1	1	6	3	0	0	0	0	632	1334	REM
REM	4	9	48	3	3	7	265	20	5	88	1	5	7	0	0	0	0	188	1776	BAS
BAS	1	5	5	138	3	0	108	274	3	0	29	88	15	0	0	0	0	333	3021	NOS
NOS	5	1	28	28	3	0	11	1384	1	0	6	246	101	0	0	0	0	2460	5849	ATL
ATL	61	3	188	60	5	0	137	1005	2	1	8	175	652	0	0	0	0	717	3138	MED
MED	14	43	238	3	25	56	39	67	72	28	1	21	29	1	0	0	0	124	609	BLS
BLS	0	47	0	2	0	44	203	6	5	4	1	2	0	0	0	0	0	9642	51202	SUM
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		

Table 5. Deposition of reduced nitrogen in 1990
(Hundreds of tonnes of N)

Emitters

	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
AL	100	0	0	2	0	0	0	1	0	1	4	1	0	0	6	0	0	0	1	AL
AT	0	346	5	0	36	1	0	30	14	146	0	18	0	1	51	1	9	0	15	AT
BE	0	0	355	0	1	0	0	78	2	20	0	0	0	2	1	2	51	0	2	BE
BG	4	2	0	504	6	0	0	1	2	3	14	16	0	0	6	0	1	0	10	BG
CS	0	38	7	2	618	3	0	26	65	127	0	50	0	1	14	1	17	0	82	CS
DK	0	0	5	0	1	437	0	12	7	37	0	0	0	3	0	0	17	1	5	DK
FI	0	1	2	0	4	10	157	6	8	14	0	2	0	1	2	0	6	2	25	FI
FR	0	4	71	0	6	2	0	3217	14	89	0	3	0	11	48	7	53	0	14	FR
DD	0	2	17	0	14	15	0	38	779	198	0	1	0	3	3	2	54	0	33	DD
DE	0	23	94	0	22	17	0	232	72	2467	0	2	0	10	20	11	290	0	28	DE
GR	9	1	0	24	2	0	0	3	1	1	240	4	0	0	8	0	0	0	3	GR
HU	0	19	1	2	40	1	0	7	7	19	1	597	0	0	24	0	3	0	20	HU
IS	0	0	0	0	0	0	0	1	0	1	0	0	12	1	0	0	1	0	0	IS
IE	0	0	2	0	0	0	0	10	1	3	0	0	0	517	0	0	4	0	0	IE
IT	1	14	4	2	11	0	0	90	6	43	3	16	0	1	1655	0	6	0	9	IT
LU	0	0	2	0	0	0	0	9	0	3	0	0	0	0	0	21	1	0	0	LU
NL	0	0	39	0	0	1	0	32	3	47	0	0	0	4	0	0	802	0	2	NL
NO	0	0	9	0	3	31	2	23	13	36	0	1	0	8	1	0	23	99	15	NO
PL	0	13	18	2	93	37	1	41	193	163	0	28	0	5	10	2	51	1	2208	PL
PT	0	0	0	0	0	0	0	5	0	1	0	0	0	0	1	0	1	0	0	PT
RO	2	5	1	44	24	1	0	5	8	12	4	80	0	0	13	0	2	0	34	RO
ES	0	1	4	0	1	1	0	96	4	10	0	1	0	2	8	0	5	0	4	ES
SE	0	2	8	0	10	82	13	20	31	62	0	2	0	5	2	0	27	15	50	SE
CH	0	3	3	0	1	0	0	75	2	38	0	0	0	0	34	1	5	0	2	CH
TR	0	1	0	16	3	0	0	1	1	3	6	6	0	0	2	0	0	0	7	TR
SU	2	31	32	49	132	70	44	89	148	220	8	120	0	9	32	2	85	6	759	SU
GB	0	0	8	0	2	4	0	52	6	19	0	0	0	94	0	0	16	0	4	GB
YU	15	24	2	20	25	1	0	21	9	25	9	83	0	0	104	0	3	0	20	YU
REM	1	1	1	2	5	1	0	20	4	7	3	4	0	0	19	0	2	0	11	REM
BAS	0	3	14	0	12	133	22	34	83	147	0	4	0	7	3	1	53	4	121	BAS
NOS	0	2	72	0	5	90	0	272	29	137	0	1	0	50	2	1	179	11	17	NOS
ATL	0	3	32	0	8	18	9	325	25	78	0	3	6	233	4	2	58	19	23	ATL
MED	17	14	7	30	20	1	0	209	12	36	53	33	0	1	336	1	12	0	22	MED
BLS	1	2	0	27	5	1	0	1	3	4	4	9	0	0	3	0	1	0	15	BLS
SUM	153	556	819	729	1109	960	249	5083	1553	4217	349	1087	18	968	2412	56	1838	162	3558	SUM
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		
AL	0	2	1	0	0	0	1	0	9	0	0	0	0	0	0	0	0	17	145	AL
AT	0	2	1	0	23	0	4	4	21	0	0	0	0	0	0	0	0	63	791	AT
BE	0	0	2	0	0	0	2	16	0	0	0	0	0	0	0	0	0	19	553	BE
BG	0	74	0	0	0	5	28	0	28	0	0	0	0	0	0	0	0	45	750	BG
CS	0	9	1	1	5	0	16	6	12	0	0	0	0	0	0	0	0	72	1174	CS
DK	0	0	0	4	0	0	2	17	0	0	0	0	0	0	0	0	0	18	566	DK
FI	0	1	1	12	1	0	76	5	1	0	0	0	0	0	0	0	0	86	424	FI
FR	5	1	81	0	26	0	7	45	3	1	0	0	0	0	0	0	0	248	3957	FR
DD	0	1	2	2	2	0	12	15	0	0	0	0	0	0	0	0	0	56	1248	DD
DE	1	1	8	1	45	0	15	54	1	0	0	0	0	0	0	0	0	151	3567	DE
GR	0	14	1	0	0	6	10	0	11	1	0	0	0	0	0	0	0	53	391	GR
HU	0	24	1	0	2	0	8	1	40	0	0	0	0	0	0	0	0	46	865	HU
IS	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	19	40	IS
IE	0	0	1	0	0	0	0	22	0	0	0	0	0	0	0	0	0	27	588	IE
IT	1	4	15	0	50	1	4	2	32	4	0	0	0	0	0	0	0	183	2158	IT
LU	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	41	LU
NL	0	0	1	0	0	0	1	26	0	0	0	0	0	0	0	0	0	19	977	NL
NO	1	2	3	11	0	0	12	44	0	0	0	0	0	0	0	0	0	136	473	NO
PL	0	13	2	12	3	0	110	23	11	0	0	0	0	0	0	0	0	176	3216	PL
PT	315	0	49	0	0	0	0	1	0	0	0	0	0	0	0	0	0	20	395	PT
RO	0	1072	1	0	1	3	118	1	41	0	0	0	0	0	0	0	0	96	1569	RO
ES	69	0	1392	0	1	0	0	6	1	3	0	0	0	0	0	0	0	102	1712	ES
SE	0	3	1	268	1	0	62	30	1	0	0	0	0	0	0	0	0	147	844	SE
CH	0	0	3	0	299	0	1	2	1	0	0	0	0	0	0	0	0	35	503	CH
TR	0	22	0	0	0	969	96	0	3	6	0	0	0	0	0	0	0	154	1299	TR
SU	1	259	8	50	8	80	12091	51	51	33	0	0	0	0	0	0	0	1879	16348	SU
GB	1	0	3	1	1	0	2	1296	0	0	0	0	0	0	0	0	0	80	1591	GB
YU	0	28	4	0	5	0	11	1	798	1	0	0	0	0	0	0	0	142	1353	YU
REM	2	7	18	0	1	27	224	2	4	337	0	0	0	0	0	0	0	349	1053	REM
BAS	0	3	2	68	1	0	121	35	2	0	0	0	0	0	0	0	0	141	1016	BAS
NOS	2	1	10	10	2	0	9	362	1	0	0	0	0	0	0	0	0	211	1478	NOS
ATL	72	2	123	9	3	0	66	269	1	0	0	0	0	0	0	0	0	1198	2589	ATL
MED	9	30	116	0	14	50	37	6	74	35	0	0	0	0	0	0	0	471	1647	MED
BLS	0	57	0	0	64	311	0	6	5	0	0	0	0	0	0	0	0	110	630	BLS
SUM	482	1633	1850	453	495	1204	13455	2345	1157	428	0	0	0	0	0	0	0	6574	55953	SUM
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		

Table 6. Import/export budgets for 1996

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	316	88	325	88	13	54	69	95	108	96	11	47	145	57	65	37	9	75
AT	251	84	959	95	10	65	495	93	542	93	10	55	361	50	435	55	5	85
BE	1063	89	340	71	30	78	977	96	225	85	27	73	485	61	155	33	20	93
BG	6117	86	784	44	13	49	723	92	242	79	9	44	385	56	256	46	5	69
DK	847	91	304	79	44	79	849	97	191	87	32	73	493	61	108	25	31	93
FI	364	76	827	88	20	73	682	87	459	81	15	66	119	47	248	65	11	87
FR	3859	75	2590	67	29	72	4096	82	1661	65	24	67	2453	45	801	21	20	89
DE*	6785	73	3166	56	21	77	4648	82	1745	63	22	72	2310	43	1055	26	14	93
GR	2497	90	886	76	24	46	1016	93	234	77	16	39	375	58	179	40	11	66
HU	2713	81	966	60	10	75	515	90	369	86	10	71	510	53	276	38	5	88
IS	106	88	106	88	43	48	66	94	96	96	27	36	14	55	40	78	24	69
IE	612	86	257	71	57	72	328	94	172	89	41	64	522	50	84	14	32	93
IT	5735	80	2583	64	23	59	5635	86	712	43	18	51	1513	47	466	22	12	77
LU	38	95	32	94	18	75	60	98	22	96	21	71	43	65	15	39	12	91
NL	601	88	448	85	41	80	1483	96	256	83	31	73	746	60	159	25	21	93
NO	140	80	868	96	35	70	591	87	627	88	23	58	97	47	307	74	21	88
PL	8294	71	2934	46	16	75	2846	83	1135	67	15	69	1419	45	845	33	10	88
PT	1176	86	182	50	16	37	715	92	122	68	12	34	452	60	52	15	11	62
RO	3388	74	1895	62	6	60	809	83	533	77	6	53	874	48	590	38	4	77
ES	8327	81	754	28	22	47	3180	85	565	50	16	42	1468	52	277	17	11	66
SE	370	79	1173	92	31	74	968	88	796	86	23	66	252	50	396	61	21	90
CH	124	83	349	93	9	62	370	93	254	91	11	51	304	52	188	40	5	83
TR	1373	78	1348	77	18	48	1771	84	469	58	12	39	2135	62	398	24	9	54
GB	8075	80	907	31	49	74	5842	90	604	48	39	68	1317	50	350	21	30	90
BY	1068	78	1332	81	7	69	527	89	510	89	9	64	886	49	552	38	5	88
UA	4487	69	3186	62	9	67	1143	80	1173	81	9	63	2637	44	1105	25	6	85
MD	264	89	259	89	8	64	73	96	73	96	7	57	232	60	127	45	5	82
RU	8034	61	8741	63	7	53	3659	67	3652	67	4	47	2446	38	3195	45	3	72
EE	520	89	254	80	15	74	128	96	139	96	14	68	138	58	95	48	15	90
LV	163	86	437	94	17	74	84	95	201	98	14	67	81	58	173	75	11	89
LT	446	83	497	85	15	72	192	94	219	95	14	67	199	55	195	54	10	89
SI	483	88	216	77	8	53	205	96	118	94	8	45	106	59	78	51	6	77
HR	254	88	604	94	20	66	160	94	245	96	12	57	141	57	153	59	9	81
BA	2044	85	443	55	9	54	227	93	196	92	10	48	141	55	120	51	5	74
YU*	1693	78	1071	69	7	65	152	88	333	94	6	57	373	50	243	40	3	76
FYM	479	90	242	83	5	43	116	97	70	96	4	37	83	59	68	54	3	65
CS*	4675	86	1166	60	17	77	1161	93	474	84	16	70	367	52	374	52	8	89
SK	967	85	825	83	9	73	372	94	260	92	10	68	232	56	215	54	5	87
CY	209	91	31	60	8	39	63	98	13	93	11	36	0	0	11	100	0	100
REM	14355	94	2261	72	30	52	1004	91	1240	92	7	34	974	69	751	63	6	50
BAS	257	71	2486	96	40	78	214	88	1206	98	25	71	0	0	856	100	0	0
NOS	1441	68	6136	89	51	80	1655	85	2846	91	37	71	0	0	1809	100	0	0
ATL	3232	69	11876	89	33	39	3053	77	6670	88	26	35	0	0	3460	100	0	0
MED	58	97	12748	100	3	13	38	95	3909	100	5	15	0	0	2140	100	0	0
BLS	0	0	2180	100	0	0	0	0	651	100	0	0	0	0	892	100	0	0

Mass in 100 tonnes of sulphur/nitrogen, export is % of emission, import is % of deposition, % of emissions deposited to sea, % of emissions deposited within the model area.

Table 7. Deposition of oxidized sulphur in 1996
(Hundreds of tonnes of S)

Emitters

	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB	
AL	44	0	0	19	0	0	3	2	48	3	0	0	31	0	0	0	77	0	12	6	1	6	0	14	AT
AT	1	49	8	9	2	0	37	144	2	52	0	1	136	0	3	0	77	0	1	11	0	0	0	48	BE
BE	0	0	137	0	1	0	90	63	0	2	0	1	4	1	21	0	7	1	1	11	0	0	0	10	1
BG	9	1	0	983	0	0	2	10	36	37	0	0	13	0	0	0	34	0	158	2	0	0	10	1	
DK	0	0	6	0	83	1	11	69	0	3	0	1	1	0	5	1	52	0	1	2	4	0	0	38	
FI	0	0	3	2	11	116	5	34	0	5	0	1	1	0	2	4	62	0	4	1	23	0	0	26	
FR	0	4	128	3	7	0	1296	240	1	15	0	9	180	7	37	0	40	10	4	453	1	13	0	232	
DE*	0	20	146	9	46	2	308	2470	0	68	0	6	98	8	75	2	442	1	22	46	5	14	0	224	
GR	18	0	0	278	0	0	3	5	283	11	0	0	29	0	0	0	12	0	32	5	0	0	21	1	
HU	3	11	2	40	1	0	9	56	7	637	0	0	41	0	1	0	125	0	96	4	0	1	1	4	
R	IS	0	0	1	0	1	0	2	6	0	0	14	2	0	0	1	0	4	0	0	0	0	0	16	
E	IE	0	0	4	0	1	0	16	16	0	2	0	103	0	0	2	0	7	1	1	6	0	0	0	
C	IT	3	10	6	17	1	0	123	73	16	43	0	1	1450	0	2	0	44	4	11	71	0	10	2	
E	LU	0	0	3	0	0	0	11	6	0	0	0	1	2	1	0	0	0	0	2	0	0	0		
I	NL	0	1	53	0	3	0	44	117	0	4	0	2	3	0	79	0	19	1	1	5	0	0	77	
V	NO	0	0	10	0	27	4	17	62	0	5	0	3	1	0	6	35	57	0	1	3	20	0	0	
E	PL	3	12	17	33	33	3	37	756	5	239	0	1	39	1	10	1	3391	1	87	7	8	1	1	
R	PT	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	184	0	73	0	0	0	1	
S	RO	8	3	2	384	1	0	6	43	23	183	0	0	30	0	1	0	132	0	1172	2	0	0	13	
	ES	0	0	6	0	1	0	72	14	0	2	0	1	17	0	2	0	3	100	1	1978	0	1	0	
	SE	0	1	10	1	74	20	17	106	0	15	0	2	3	0	7	17	153	0	5	4	100	0	0	
	CH	0	2	5	0	0	0	54	24	0	2	0	0	120	0	2	0	4	0	1	9	0	26	0	
	TR	3	0	0	149	0	0	2	6	80	10	0	0	15	0	0	0	15	0	31	3	0	0	397	
	GB	0	2	40	1	7	1	106	117	0	10	0	42	6	1	25	1	54	2	26	1	1	0	2065	
	BY	1	2	2	35	5	2	7	67	4	52	0	0	13	0	1	0	319	1	61	2	3	0	2	
	UA	4	3	4	228	7	2	10	96	20	170	0	1	35	0	2	0	463	0	354	4	2	1	35	
	MD	0	0	0	21	0	0	0	5	1	8	0	0	2	0	0	0	18	0	54	0	0	0	2	
	RU	2	4	8	170	27	94	21	187	16	100	0	1	24	0	5	6	571	0	150	4	29	1	43	
	EE	0	0	1	1	4	9	2	17	0	3	0	0	1	0	1	0	46	0	3	1	3	0	0	
	LV	0	0	1	3	6	3	3	34	0	9	0	0	2	0	1	0	157	0	10	0	3	0	0	
	LT	0	1	2	4	5	1	4	43	0	16	0	0	3	0	1	0	157	0	10	0	3	0	0	
	SI	0	5	1	4	0	0	5	16	1	14	0	0	59	0	0	0	12	0	3	2	0	0	0	
	HR	2	5	1	12	0	0	7	28	6	64	0	0	79	0	0	0	39	0	10	7	0	0	1	
	BA	5	2	1	11	0	0	5	16	9	37	0	0	49	0	0	0	26	0	8	4	0	0	1	
	YU*	24	2	1	74	0	0	6	28	36	107	0	0	52	0	1	0	52	1	55	4	0	0	4	
	FYM	14	0	0	43	0	0	1	2	34	5	0	0	10	0	0	0	4	0	8	1	0	0	2	
	CS*	0	14	8	11	4	0	24	396	1	67	0	0	29	1	4	0	312	0	17	3	1	1	0	
	SK	1	8	2	16	1	0	6	49	3	216	0	0	17	0	1	0	194	0	34	1	0	0	4	
	CY	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	REM	1	0	3	23	1	0	30	10	9	5	0	0	51	0	1	0	17	7	14	102	0	1	9	
	BAS	0	3	19	5	146	61	35	330	1	43	0	3	11	0	13	6	584	0	18	7	79	0	0	
	NOS	0	7	170	6	160	5	381	781	0	55	1	37	17	3	165	20	556	3	23	55	25	2	0	
	ATL	0	5	107	4	60	22	469	437	0	41	42	295	15	3	57	28	318	154	15	1049	29	2	0	
	MED	43	13	23	439	4	0	433	164	605	133	0	3	1573	1	8	0	144	28	102	917	1	9	174	48
	BLS	4	1	0	449	1	0	1	16	35	30	0	0	10	0	0	0	54	0	123	1	0	0	130	
	SUM	196	194	941	3490	733	351	3722	7157	1285	2524	58	517	4270	30	545	122	8720	501	2719	4886	347	93	857	7532
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB

Table 7. cont.

Emitters

	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	2	0	0	0	0	0	0	1	10	10	12	2	1	0	83	0	0	0	0	0	1	81	369	
AT	1	8	0	1	0	0	1	50	5	9	10	1	135	24	0	17	1	5	1	0	0	1	178	1008	
BE	0	0	0	0	0	0	0	0	0	1	0	0	13	1	0	2	0	26	3	0	0	2	39	477	
BG	2	42	6	5	0	0	0	1	1	30	80	31	13	9	0	41	0	0	0	0	0	1	206	1761	
DK	1	3	0	1	0	0	1	0	0	0	1	0	22	1	0	0	6	22	1	0	0	4	41	387	
FI	16	16	1	200	42	6	10	0	0	1	1	0	15	2	0	1	14	10	2	0	0	7	295	943	
FR	0	2	0	0	0	0	1	5	2	6	3	0	76	5	0	136	1	121	68	0	0	28	751	3886	
DE*	4	16	0	8	2	0	3	11	3	8	13	0	869	31	0	11	12	107	12	0	0	15	502	5636	
GR	1	21	2	3	0	0	0	0	1	14	18	19	6	3	0	131	0	0	0	0	0	4	249	1169	
HU	1	14	1	2	0	0	1	11	15	64	105	4	75	83	0	22	0	0	2	0	0	0	1	158	1603
IS	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	3	0	0	16	50	120
IE	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	1	0	8	16	0	0	14	48	360	
IT	0	6	0	0	0	0	0	34	15	41	18	2	54	11	0	1337	0	4	4	0	0	11	596	4033	
LU	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	4	34	
NL	0	1	0	0	0	0	0	1	0	0	0	0	29	2	0	0	1	39	2	0	0	3	40	527	
NO	7	5	0	58	4	2	6	0	0	2	2	0	25	2	0	0	7	44	12	0	0	26	337	903	
PL	31	104	4	44	5	4	25	12	7	35	56	3	555	114	0	22	15	24	3	0	0	6	522	6325	
PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	32	0	0	5	65	366	
RO	6	153	22	17	1	0	2	3	5	64	185	17	49	41	0	45	1	2	0	0	0	2	443	3067	
ES	0	0	0	0	0	0	0	0	0	1	1	0	5	0	0	27	0	7	70	3	0	15	383	2732	
SE	14	13	0	68	13	6	16	1	0	5	6	0	43	6	0	1	25	40	7	0	0	17	377	1273	
CH	0	0	0	0	0	0	0	2	1	2	1	0	8	1	0	12	0	3	2	0	0	1	83	375	
TR	4	72	3	12	0	0	1	0	0	4	12	3	7	2	19	93	0	0	0	0	0	7	793	1745	
GB	1	2	0	1	0	0	1	1	0	1	1	0	51	4	0	4	1	119	44	0	0	33	196	2972	
BY	307	159	7	82	5	7	30	3	2	10	16	2	53	20	0	20	3	4	1	0	0	5	1003	5164	
UA	83	1978	58	241	5	3	13	5	4	31	66	6	90	58	0	51	3	6	1	0	0	0	58	290	
MD	3	58	31	6	0	0	0	0	0	2	4	1	4	3	0	3	0	0	0	0	0	22	5073	13882	
RU	310	949	19	5141	192	34	67	5	2	22	37	4	133	37	1	263	27	23	5	0	0	0	1	69	319
EE	10	8	0	27	65	8	8	0	0	1	1	0	9	1	0	1	7	3	0	0	0	2	99	464	
LV	27	17	1	30	11	27	30	0	0	2	3	0	20	3	0	4	5	3	0	0	0	0	1	101	586
LT	25	21	1	24	3	7	89	1	0	3	6	0	26	6	0	4	4	3	0	0	0	0	43	282	
SI	0	2	0	0	0	0	0	66	6	5	4	0	15	4	0	11	0	0	0	0	0	0	106	640	
HR	1	4	0	1	0	0	0	11	36	84	23	2	35	13	0	57	0	1	0	0	0	0	1	105	799
BA	1	3	0	1	0	0	0	3	9	356	31	2	19	8	0	83	0	0	0	0	0	2	210	1548	
YU*	1	10	1	2	0	0	0	2	6	223	477	36	31	19	0	74	0	1	0	0	0	1	56	293	
FYM	0	3	0	0	0	0	0	0	0	10	15	51	2	1	0	28	0	0	0	0	0	1	140	1946	
CS*	2	10	0	4	1	0	2	10	3	8	12	1	780	44	0	6	2	7	1	0	0	1	93	993	
SK	2	12	1	2	0	0	1	6	4	22	32	2	82	168	0	9	0	2	0	0	0	0	24	52	
CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	3151	
REM	6	73	2	201	1	0	1	1	1	6	6	1	6	1	29	890	0	2	6	1	0	11	1613	2589	
BAS	36	38	1	110	58	24	46	3	1	8	12	0	136	17	0	5	103	53	4	0	0	21	453	6892	
NOS	15	28	1	29	5	3	12	4	1	4	7	0	322	26	0	7	23	756	69	0	0	137	699	13301	
ATL	20	24	1	571	16	5	15	3	1	2	4	0	204	18	0	15	16	284	1425	0	0	1444	4233	12750	
MED	6	96	7	15	1	0	2	31	53	177	91	22	127	29	18	4407	1	19	29	2	0	118	2631	2180	
BLS	10	349	15	64	1	0	2	1	1	11	27	5	17	8	1	76	1	1	0	0	0	16	719	111635	
SUM	954	4323	188	6975	434	140	387	290	190	1286	1400	226	4174	827	90	6001	282	1753	1827	8	0	2006	24285	111635	
	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Table 8. Deposition of oxidized nitrogen in 1996
(Hundreds of tonnes of N)

Emitters

	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB	
AL	4	1	0	3	0	0	5	2	16	1	0	0	33	0	0	0	2	0	1	2	0	0	3	1	
AT	0	38	10	2	3	1	50	118	1	8	0	1	132	1	11	1	26	0	3	2	2	14	0	17	
BE	0	1	40	0	2	0	51	47	0	0	0	1	4	1	28	0	2	0	0	5	1	1	0	38	
BG	2	2	1	65	0	0	3	7	21	9	0	0	16	0	1	0	14	0	36	1	1	0	14	2	
DK	0	1	6	0	28	1	12	41	0	1	0	1	2	0	14	2	14	0	0	1	7	1	0	38	
FI	0	1	5	0	18	106	9	35	0	2	0	1	2	0	10	23	35	0	1	1	60	0	1	32	
FR	0	7	95	0	8	1	898	252	1	3	0	7	189	8	74	1	14	12	1	191	3	30	0	215	
DE*	0	29	123	2	40	4	312	1007	0	11	0	5	100	11	183	7	105	1	6	19	16	32	0	222	
GR	4	1	0	22	0	0	5	4	71	3	0	0	35	0	1	0	5	0	8	3	0	0	28	1	
HU	1	17	3	7	1	0	13	39	5	60	0	0	54	0	4	0	44	0	21	2	1	3	2	5	
R	IS	0	0	2	0	2	0	4	8	0	0	4	2	0	0	3	1	3	0	0	0	1	0	0	
E	IE	0	1	5	0	1	0	20	17	0	1	0	22	1	0	6	0	3	1	0	3	0	0	53	
C	IT	1	19	8	3	2	0	162	70	8	9	0	1	930	1	7	0	17	4	3	45	1	23	4	14
E	LU	0	0	2	0	0	0	7	5	0	0	0	0	1	1	1	0	0	0	1	0	0	0	2	
I	NL	0	1	25	0	2	0	31	69	0	1	0	1	2	1	54	1	4	0	0	2	1	1	0	
V	NO	0	2	13	0	34	10	24	56	0	2	1	3	3	0	26	85	32	0	1	1	48	0	0	
E	PL	1	22	22	6	41	7	51	260	3	41	0	1	46	1	39	7	563	0	20	2	27	4	1	54
R	PT	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	58	0	34	0	0	0	
S	RO	2	6	2	55	2	1	7	26	15	37	0	0	41	0	3	0	53	0	162	1	2	1	18	5
E	ES	0	0	7	0	2	0	89	22	0	0	0	1	16	0	6	0	2	76	0	554	1	2	0	
S	SE	0	3	13	0	61	38	21	90	0	4	0	3	6	0	29	59	68	0	2	2	134	0	0	
CH	CH	0	3	6	0	1	0	65	31	0	0	0	0	83	0	5	0	1	0	0	4	0	26	0	
TR	TR	1	1	0	14	0	0	4	4	37	2	0	0	18	0	0	0	6	0	8	1	0	0	335	
GB	GB	0	3	31	0	9	1	86	92	0	2	0	25	6	1	49	3	18	2	1	13	5	2	0	
BY	BY	0	4	4	5	9	5	11	44	2	11	0	0	13	0	7	2	103	0	14	1	10	1	3	
UA	UA	1	7	6	32	10	5	15	60	13	32	0	0	41	0	11	2	156	0	73	2	10	2	52	
MD	MD	0	0	0	3	0	0	0	3	1	2	0	0	3	0	0	0	7	0	9	0	0	0	4	
RU	RU	0	11	14	25	49	197	36	149	10	25	0	1	29	0	29	34	250	0	42	1	109	3	61	
EE	EE	0	1	2	0	6	10	3	14	0	1	0	0	1	0	3	2	18	0	1	0	10	0	7	
LV	LV	0	1	2	0	9	6	4	23	0	2	0	0	3	0	4	2	32	0	2	0	11	0	0	
LT	LT	0	1	3	1	7	3	5	28	0	3	0	0	4	0	5	2	48	0	3	0	9	0	10	
SI	SI	0	7	1	1	0	0	7	11	1	3	0	0	51	0	1	0	4	0	1	1	0	1	1	
HR	HR	1	8	1	2	1	0	10	17	4	10	0	0	92	0	2	0	14	0	2	4	1	1	2	
BA	BA	1	4	1	2	0	0	7	12	6	7	0	0	72	0	1	0	10	0	2	3	0	1	2	
YU*	YU*	5	5	2	11	1	0	8	19	19	20	0	0	64	0	2	0	22	0	14	3	1	1	6	
FYM	FYM	2	0	0	5	0	0	2	1	13	1	0	0	12	0	0	0	2	0	2	1	0	0	3	
CS*	CS*	0	20	10	2	6	1	33	143	1	11	0	0	33	1	15	1	68	0	5	1	4	4	0	
SK	SK	0	11	3	3	1	1	9	29	2	28	0	0	22	0	4	0	53	0	8	1	1	2	1	
CY	CY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
REM	REM	0	1	5	4	1	1	52	16	5	1	0	0	57	0	4	0	9	7	4	59	1	2	12	
BAS	BAS	0	6	20	1	86	55	39	177	0	8	0	3	15	1	43	24	152	0	4	3	106	2		
NOS	NOS	0	11	95	1	89	9	251	395	0	9	1	26	17	4	204	33	138	3	6	25	46	6		
ATL	ATL	0	13	131	1	100	49	494	504	0	11	18	114	18	6	205	98	159	71	5	238	91	8		
MED	MED	7	22	25	38	5	1	408	134	153	24	0	2	1092	2	23	1	51	22	22	335	4	27	143	
BLS	BLS	1	1	1	29	1	1	2	7	17	5	0	0	10	0	1	0	18	0	23	0	1	0	120	
SUM	SUM	34	295	745	345	639	517	3330	4088	426	410	25	224	3371	43	1121	395	2346	262	518	1569	725	203	821	4415
	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB	

Table 8. cont.

Emitters

BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		
AL	0	1	0	0	0	0	0	1	2	1	1	1	1	0	0	1	0	0	0	0	0	0	29	112 AL	
AT	1	2	0	1	0	0	0	13	3	2	1	0	32	7	0	0	1	7	2	0	0	0	0	70 580 AT	
BE	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	19	5	0	0	0	0	17 265 BE	
BG	1	12	1	6	0	0	0	0	1	3	7	5	5	5	0	2	0	1	0	0	0	0	62 307 BG		
DK	1	1	0	1	0	0	0	0	0	0	0	0	5	1	0	0	3	18	2	0	0	0	0	17 219 DK	
FI	10	6	0	38	10	4	6	0	0	0	0	0	6	1	0	0	11	17	4	0	0	0	0	105 565 FI	
FR	0	1	0	0	0	0	0	2	1	1	0	0	18	2	0	4	1	103	87	0	0	0	0	325 2559 FR	
DE*	3	4	0	2	0	0	2	5	2	1	1	0	132	10	0	0	8	113	21	0	0	0	0	215 2752 DE*	
GR	1	7	1	4	0	0	0	0	1	2	2	2	2	1	0	2	0	0	0	0	0	0	0	86 305 GR	
HU	1	4	0	2	0	0	0	5	9	8	8	1	23	26	0	0	0	0	2	0	0	0	0	53 429 HU	
IS	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	5	0	0	0	0	37 100 IS	
IE	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	10	20	0	0	0	0	26 194 IE
IT	0	2	0	1	0	0	0	12	8	7	2	1	16	5	0	6	0	7	7	0	0	0	0	236 1642 IT	
LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2 23 LU	
NL	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	26	4	0	0	0	0	18 310 NL
NO	5	3	0	14	1	1	3	0	0	0	0	0	10	1	0	0	7	51	12	0	0	0	0	136 712 NO	
PL	22	23	1	22	2	2	9	6	5	4	5	1	116	36	0	1	11	34	5	0	0	0	0	175 1698 PL	
PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	28	0	0	0	0	51 180 PT	
RO	4	36	5	16	0	0	1	1	4	6	14	5	17	18	0	2	1	2	0	0	0	0	0	122 695 RO	
ES	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	0	10	76	3	0	0	0	220 1119 ES	
SE	10	5	0	25	5	3	8	1	1	1	0	15	3	0	0	17	52	10	0	0	0	0	0	146 930 SE	
CN	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	4	2	0	0	0	0	33 280 CN	
TR	2	22	1	20	0	0	0	0	0	1	1	1	2	1	9	8	0	0	0	0	0	0	0	300 804 TR	
GB	1	1	0	1	0	0	1	0	0	0	0	0	11	2	0	0	1	88	49	0	0	0	0	98 1263 GB	
BY	66	43	2	52	2	3	10	1	1	1	1	1	17	8	0	2	4	7	1	0	0	0	0	91 576 BY	
UA	39	278	12	167	2	2	7	2	3	4	6	2	28	23	0	19	3	9	1	0	0	0	0	294 1451 UA	
MD	1	11	3	5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	16 76 MD	
RU	127	256	7	1813	38	20	35	2	2	2	3	1	48	18	1	138	29	41	10	0	0	0	0	1728 5465 RU	
EE	5	3	0	9	6	2	3	0	0	0	0	0	3	1	0	0	4	5	1	0	0	0	0	23 145 EE	
LV	10	5	0	14	3	4	7	0	0	0	0	0	5	1	0	0	4	5	1	0	0	0	0	32 205 LV	
LT	11	6	0	10	1	2	12	0	0	0	1	0	7	3	0	0	3	5	1	0	0	0	0	16 126 SI	
SI	0	0	0	0	0	0	0	8	2	1	0	0	4	1	0	0	0	1	0	0	0	0	0	16 126 SI	
HR	0	1	0	1	0	0	0	4	10	9	2	1	10	5	0	0	0	1	1	0	0	0	0	37 255 HR	
BA	0	1	0	0	0	0	0	1	5	16	3	1	6	3	0	1	0	1	0	0	0	0	0	37 212 BA	
YU*	1	3	0	2	0	0	0	1	5	14	21	10	11	8	0	1	0	1	0	0	0	0	0	65 354 YU*	
FYM	0	1	0	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	17 73 FYM	
CS*	1	3	0	1	0	0	1	5	2	1	1	0	93	11	0	0	2	10	2	0	0	0	0	54 567 CS*	
SK	1	3	0	1	0	0	0	3	3	3	1	22	24	0	0	0	2	0	0	0	0	0	0	7 14 CY	
CY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	626 1344 REM	
REM	3	19	1	110	0	0	0	0	1	1	1	0	3	1	5	104	0	4	9	1	0	0	0	626 1344 REM	
BAS	19	11	0	38	11	7	14	2	1	1	1	0	34	6	0	0	29	57	7	0	0	0	0	148 1235 BAS	
NOS	9	8	0	14	2	1	4	2	1	1	1	0	57	8	0	0	13	289	76	0	0	0	0	277 3135 NOS	
ATL	16	11	0	90	6	4	8	2	1	0	0	0	70	10	0	1	18	349	891	0	0	0	0	2347 7561 ATL	
MED	4	28	2	16	0	0	1	11	17	21	7	4	32	11	6	47	1	22	34	2	0	0	0	1055 3911 MED	
BLS	4	72	3	83	0	0	1	0	1	1	2	1	5	3	1	28	0	1	0	0	0	0	0	296 651 BLS	
SUM	381	894	43	2587	91	59	136	95	97	117	99	44	683	268	23	374	174	1382	1374	6	0	0	0	9922 45916 SUM	
BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM		

Table 9. Deposition of reduced nitrogen in 1996
(Hundreds of tonnes of N)

Emitters

	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB	
AL	110	0	0	1	0	0	2	0	8	1	0	0	7	0	0	0	1	0	1	1	0	0	1	0	
AT	0	355	4	1	1	0	30	144	0	15	0	1	58	1	5	0	13	0	3	1	1	22	0	4	
BK	0	1	314	0	1	0	58	28	0	0	0	1	1	2	35	0	1	0	0	3	0	1	0	10	
BG	4	1	0	299	0	0	1	2	16	9	0	0	2	0	0	0	5	0	53	0	0	0	10	0	
DK	0	1	3	0	322	0	6	43	0	1	0	1	1	0	9	0	11	0	0	0	5	0	0	8	
FI	0	1	2	0	7	136	3	17	0	1	0	1	0	0	4	3	18	0	1	0	13	0	0	4	
FR	0	5	77	0	3	0	3048	126	0	2	0	8	66	9	39	0	4	5	1	105	1	35	0	50	
DE*	0	39	84	0	33	0	219	3051	0	9	0	7	30	12	193	2	65	1	4	9	6	48	0	46	
GR	11	0	0	13	0	0	1	1	267	2	0	0	6	0	0	0	2	0	8	1	0	0	14	0	
HU	1	19	1	4	0	0	5	19	2	454	0	0	13	0	2	0	19	0	31	1	0	2	1	1	
R	IS	0	0	1	0	1	0	3	4	0	0	11	3	0	0	1	0	1	0	0	0	0	0	5	
E	IE	0	1	2	0	0	0	19	8	0	1	0	532	0	0	2	0	1	0	0	2	0	0	30	
C	IT	1	17	2	1	1	0	68	50	2	9	0	0	1691	0	2	0	5	2	3	15	0	43	1	2
E	LU	0	0	2	0	0	0	7	3	0	0	0	0	23	1	0	0	0	0	0	0	0	0	0	
I	NL	0	1	31	0	2	0	25	62	0	0	0	2	1	0	489	0	2	0	0	1	0	1	14	
V	NO	0	1	7	0	21	2	15	33	0	1	0	3	1	0	11	109	20	0	1	1	18	0	27	
E	PL	1	18	7	4	26	1	20	171	1	36	0	2	11	1	17	1	1710	0	23	1	11	3	0	
R	PT	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	306	0	29	0	0	0	0	
S	RO	4	4	0	49	1	0	2	10	8	59	0	0	8	0	1	0	22	0	946	0	0	0	9	
E	ES	0	0	3	0	1	0	74	10	0	0	0	1	4	0	2	0	0	68	0	1373	0	2	0	
S	SE	0	2	5	0	46	9	10	50	0	3	0	2	1	0	12	15	37	0	2	1	250	0	15	
C	CH	0	3	3	0	0	0	57	37	0	1	0	1	47	0	2	0	0	0	2	0	281	0	2	
T	TR	1	0	0	8	0	0	1	1	11	2	0	0	3	0	0	0	3	0	8	0	0	0	1283	
G	GB	0	3	20	0	4	0	83	48	0	2	0	77	2	1	23	1	8	1	1	5	1	2	0	
B	BY	1	3	1	3	3	1	4	19	1	11	0	0	4	0	3	0	79	0	20	0	3	1	2	
U	UA	1	4	2	18	4	1	5	26	4	37	0	1	12	0	3	0	98	0	116	1	2	2	42	
M	MD	0	0	0	2	0	0	0	1	0	2	0	0	1	0	0	0	3	0	20	0	0	0	3	
R	RU	1	7	4	13	17	38	15	62	3	24	0	1	7	0	9	5	135	0	51	1	21	1	125	
E	EE	0	1	0	0	3	2	1	7	0	1	0	0	0	1	0	13	0	1	0	3	0	0	1	
L	LV	0	1	0	0	4	1	1	10	0	2	0	0	1	0	1	0	23	0	2	0	4	0	0	
I	LT	0	1	1	0	3	0	2	15	0	2	0	0	1	0	2	0	41	0	3	0	3	0	0	
S	SI	0	12	0	0	0	0	3	8	0	4	0	0	20	0	0	0	2	0	1	1	0	1	0	
H	HR	1	8	0	1	0	0	4	9	1	20	0	0	28	0	0	0	5	0	2	1	0	1	1	
B	BA	2	3	0	1	0	0	2	5	2	10	0	0	17	0	0	0	4	0	2	1	0	0	1	
Y	YU*	16	3	0	10	0	0	2	8	9	31	0	0	12	0	1	0	7	0	16	1	0	1	3	
F	FYM	10	0	0	4	0	0	1	0	11	1	0	0	2	0	0	0	1	0	2	0	0	1	0	
C	CS*	0	38	4	1	3	0	17	131	0	11	0	0	9	1	7	0	55	0	5	1	1	3	0	
S	SK	1	13	1	2	1	0	4	17	1	42	0	0	5	0	1	0	37	0	10	0	0	1	1	
C	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	
R	REM	1	1	1	2	0	0	22	4	1	1	0	0	14	0	1	0	2	3	5	23	0	1	56	
B	BAS	0	4	8	1	88	19	18	151	0	5	0	3	3	0	21	3	130	0	5	1	63	1	0	
N	NOS	0	11	81	1	120	1	309	310	0	8	0	40	5	3	151	14	88	1	6	10	23	4	0	
A	ATL	0	9	60	0	40	8	518	222	0	7	6	290	4	4	84	26	69	70	5	125	18	5	0	
M	MED	22	14	9	17	2	0	229	55	66	20	0	1	378	1	9	0	15	12	20	167	1	21	89	
B	BLS	1	1	0	14	0	0	0	2	5	4	0	0	2	0	0	0	7	0	30	0	0	0	208	
SUM	SUM	192	606	741	471	761	222	4916	4981	423	851	17	981	2479	60	1147	181	2765	471	1409	1885	450	486	1856	2368
	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	GB	

Table 9. cont.

Emitters

BY	UA	MD	RU	EE	LV	LT	SI	HR	HA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLA	NAT	IND	SUM			
AL	0	2	0	0	0	0	0	0	1	1	4	2	0	0	0	1	0	0	0	0	0	0	30	175	AL	
AT	1	6	0	1	0	0	0	18	3	1	2	0	25	10	0	0	0	0	0	0	0	0	61	790	AT	
BE	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	14	469	BE	
BG	2	32	5	4	0	0	0	0	1	2	26	6	1	2	0	2	0	0	0	0	0	0	67	555	BG	
DK	2	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13	430	DK	
FI	14	14	1	29	14	3	5	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	89	384	FI	
FR	0	1	0	0	0	0	0	1	1	0	1	0	5	1	0	4	0	0	0	0	0	0	248	3849	FR	
DE*	4	10	0	1	0	0	2	3	1	0	2	0	46	6	0	0	0	0	0	0	0	0	168	4106	DE*	
GR	1	14	2	2	0	0	0	0	1	1	5	5	1	1	0	2	0	0	0	0	0	0	86	446	GR	
HU	2	15	1	2	0	0	0	5	12	6	23	1	10	28	0	0	0	0	0	0	0	0	51	730	HU	
IS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	51	IS	
IE	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15	616	IE	
IT	0	3	0	0	0	0	0	8	8	4	4	0	5	3	0	6	0	0	0	0	0	0	138	2157	IT	
LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	38	LU	
NL	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13	648	NL	
NO	9	6	0	8	2	1	3	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	112	416	NO	
PL	58	107	4	19	2	2	14	3	4	2	9	1	54	31	0	1	0	0	0	0	0	0	28	358	PL	
PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	1536	PT
RO	7	147	33	13	0	0	1	1	3	4	35	3	5	10	0	2	0	0	0	0	0	0	0	147	1536	RO
ES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	101	1650	ES	
SE	15	12	0	16	6	3	9	0	0	0	2	0	4	2	0	0	0	0	0	0	0	0	113	646	SE	
CH	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	29	469	CH	
TR	4	52	2	15	0	0	0	0	0	0	2	1	1	0	0	9	0	0	0	0	0	0	59	1668	TR	
GB	1	2	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	102	1470	GB	
BY	918	193	8	43	2	5	20	1	1	1	3	0	6	5	0	1	0	0	0	0	0	0	0	325	4472	BY
UA	115	3367	62	155	1	2	7	1	3	2	12	1	8	15	0	15	0	0	0	0	0	0	0	325	4472	UA
MD	3	67	155	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	19	282	MD	
RU	241	545	17	3912	39	20	37	1	2	2	8	1	13	10	0	132	0	0	0	0	0	0	0	1574	7107	RU
EE	10	8	1	9	101	5	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	21	196	EE	
LV	30	17	1	12	9	59	20	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	29	232	LV	
LT	42	23	1	9	2	5	163	0	0	0	1	0	2	2	0	0	0	0	0	0	0	0	14	153	LT	
SI	0	1	0	0	0	0	0	75	4	1	1	0	2	1	0	0	0	0	0	0	0	0	34	259	SI	
HR	1	3	0	0	0	0	0	6	106	12	5	0	4	4	0	0	0	0	0	0	0	0	35	234	HR	
BA	1	2	0	0	0	0	0	1	13	114	11	0	2	2	0	0	0	0	0	0	0	0	35	234	BA	
YU*	1	10	1	1	0	0	0	1	6	14	368	9	4	6	0	1	0	0	0	0	0	0	70	611	YU*	
FYM	0	3	0	0	0	0	0	0	0	1	8	57	0	0	0	0	0	0	0	0	0	0	20	125	FYM	
CS*	3	10	0	1	0	0	1	3	2	1	2	0	341	12	0	0	0	0	0	0	0	0	47	715	CS*	
SK	2	16	1	1	0	0	0	2	3	2	6	0	13	180	0	0	0	0	0	0	0	0	31	395	SK	
CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	11	CY	
REM	4	32	1	112	0	0	0	0	0	1	2	0	1	0	0	434	0	0	0	0	0	0	0	455	1185	REM
BAS	41	34	1	30	28	12	24	1	1	0	2	0	9	3	0	0	0	0	0	0	0	0	128	856	BAS	
NOS	15	25	1	8	2	1	4	1	1	0	1	0	21	6	0	0	0	0	0	0	0	0	193	1809	NOS	
ATL	18	23	1	42	5	2	6	1	0	0	1	0	18	5	0	1	0	0	0	0	0	0	1335	3460	ATL	
MED	5	52	4	9	0	0	1	7	21	13	16	3	9	6	0	52	0	0	0	0	0	0	0	790	2140	MED
BLA	10	256	11	85	0	0	1	0	0	0	3	1	1	1	0	34	0	0	0	0	0	0	0	211	892	BLA
SUM	1580	5114	317	4550	214	125	323	140	200	188	567	91	629	357	0	701	0	0	0	0	0	0	0	7570	53385	SUM
BY	UA	MD	RU	EE	LV	LT	SI	HR	HA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLA	NAT	IND	SUM			

Annex II

**PRELIMINARY RESULTS OF HEAVY METALS (LEAD) MODELLING
IN THE EMEP REGION AT MSC-E**

Table 1. Lead (Pb) emissions used in MSC-E model runs

Country	Estimates for 1990 [van den Hout (ed.), 1994] ESQUAD			Estimates for 1990 [Berdowski et al., 1997] UBA	UN/ECE reported "official emission" data EB.AIR/GE.1/1997/3 EB.AIR/GE.1/1997/3/Add.1				
	Low	Avg	High*		1990	1991	1992	1993	1994
Albania	28	33	39	33.4					24.3
Austria	217	292	392	215					122.462
Belarus	146 ¹⁾	588 ²⁾	734 ³⁾	736	736.009				434.9 ¹⁾
Belgium	305	577	940	716					285.585
Bosnia&Herzegovina	237 ³⁾	277 ³⁾	329 ³⁾	8.63					297.5
Bulgaria	200	282	351	317	435.8				
Croatia	261 ³⁾	305 ³⁾	361 ³⁾	466	466.03				
Cyprus				0.906					
Czech Republic	162 ³⁾	325 ³⁾	501 ³⁾	337					
Denmark	146	168	207	179					45.6 43.0
Estonia	51 ³⁾	67 ³⁾	85 ³⁾	171					
Finland	159	217	305	215	313	259	150	99	60 67
France	2414	2987	3784	4414	2930				
Germany	2023	2859	4160	2347	2313				624 ³⁾
Greece	429	496	565	505					
Hungary	653	764	880	639	638.9	491.3	318.6	193.9	172.1 151.4
Iceland	13	15	17	6.38	12	9	7	5	5 4
Ireland	115	133	155	134					
Italy	2192	2771	3516	1642	4299.8				2173.8
Latvia	101 ³⁾	133 ³⁾	165 ³⁾	218	20.3 ³⁾	10.1 ³⁾	7.94 ³⁾	6.18 ³⁾	10.3 ³⁾ 4.69 ³⁾
Lithuania	157 ³⁾	207 ³⁾	258 ³⁾	246	46.7	48.8	32.4	28.2	33.0 17.2
Luxembourg	47	97	172	73.5					44.145 25.689
The FYR of Macedonia	139 ³⁾	162 ³⁾	192 ³⁾	210					
Republic of Moldova	168 ³⁾	221 ³⁾	276 ³⁾	168	0.262	0.034	0.031	0.114	0.084
Netherlands	285	377	511	266	272	266		160	148
Norway	179	204	231	226	229.8				
Poland	1557	2057	2388	1372	1371.7	1335.6	986.0	996.9	966.1 936.6
Portugal	550	628	715	631					
Romania	743	970	1234	585					
Russian Federation ⁴⁾	5452 ³⁾	7193 ³⁾	8967 ³⁾	7266					
Slovakia	91 ³⁾	184 ³⁾	283 ³⁾	166					
Slovenia	114 ³⁾	134 ³⁾	159 ³⁾	123					
Spain	2715	3234	3804	4674	4674				
Sweden	339	448	579	537	540	365.0		37.0	
Switzerland	283	325	368	520	520	461	401	341	287 226
Ukraine	3144 ³⁾	4148 ³⁾	5179 ³⁾	3878					
United Kingdom	2614	3163	4046	2703	2842.0	2453.9	2253.8	2040.5	1754.8 1492.4
Yugoslavia	605 ³⁾	708 ³⁾	839 ³⁾	597					
Armenia	108 ³⁾	143 ³⁾	178 ³⁾						
Azerbaijan	260 ³⁾	342 ³⁾	42 ³⁾						
Georgia	222 ³⁾	293 ³⁾	366 ³⁾						
Kazakhstan	114 ³⁾	151 ³⁾	185 ³⁾						
Total (kT)	30	39	49	38					

official data used in calculations are shaded

* data used in calculations

¹⁾ this value represents the sum given for the Wallonia and Flanders regions

²⁾ preliminary data

³⁾ emissions from gasoline are not included

⁴⁾ within the EMEP grid

⁵⁾ MSC-E estimates on the basis of ESQUAD data

The contribution of various source categories to total European emissions was evaluated as follows (in %): stationary fuel combustion – 8; non-ferrous metal industry – 2.5; iron and steel industry – 9.5; transport – 78 and others – 2 [Berdowski et al., 1997].

Table 2. Preliminary results of lead (Pb) deposition based on emission data from table 1 above and 1996 meteorology (Source: MSC-E report 5/98)
(Tons per year)

	al	at	by	be	ba	bg	hr	cy	cs	dk	ee	fi	fr	de	gr	hu	is	ie	it
al	15	0	0	0	0	1	3	0	0	0	0	0	1	0	8	1	0	0	14
at	0	103	0	2	0	0	8	0	11	0	0	0	16	32	0	16	0	0	23
by	0	2	321	2	0	1	2	0	6	2	2	1	3	19	0	8	0	0	5
be	0	0	0	149	0	0	0	0	0	0	0	0	99	19	0	0	0	0	1
ba	1	2	0	0	6	0	50	0	1	0	0	0	3	2	1	10	0	0	22
bg	0	0	0	0	0	151	1	0	0	0	0	0	0	1	13	7	0	0	2
hr	0	6	0	0	0	0	237	0	2	0	0	0	5	4	0	24	0	0	33
cy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
cs	0	18	2	4	0	0	2	0	122	1	0	0	14	80	0	11	0	0	4
dk	0	0	1	6	0	0	0	0	1	27	0	0	10	29	0	0	0	0	0
ee	0	0	6	1	0	0	0	0	0	0	1	38	4	2	7	0	0	0	0
fi	0	0	10	2	0	0	0	0	1	4	15	94	5	11	0	0	0	0	0
fr	0	2	0	97	0	0	2	0	2	2	0	0	2302	95	0	2	0	2	41
de	0	14	4	111	0	0	2	0	25	9	1	1	277	1092	0	6	0	2	13
gr	2	0	0	0	0	20	2	0	0	0	0	0	3	0	164	2	0	0	10
hu	0	8	1	0	0	1	31	0	6	0	0	0	2	5	1	304	0	0	7
is	0	0	0	1	0	0	0	0	0	0	0	0	1	3	0	0	2	0	0
ie	0	0	0	3	0	0	0	0	0	0	0	0	6	6	0	0	0	37	0
it	0	16	0	2	0	0	11	0	1	0	0	0	98	18	1	4	0	0	835
lv	0	0	17	1	0	0	0	0	1	1	7	2	3	13	0	1	0	0	0
lt	0	1	20	2	0	0	0	0	2	1	1	1	3	16	0	2	0	0	1
lu	0	0	0	3	0	0	0	0	0	0	0	0	11	3	0	0	0	0	0
fym	2	0	0	0	0	7	1	0	0	0	0	0	1	0	10	2	0	0	5
md	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
nl	0	0	0	60	0	0	0	0	1	1	0	0	40	27	0	0	0	0	0
no	0	0	7	10	0	0	0	0	1	7	1	2	21	29	0	0	0	1	1
pl	0	9	26	9	0	0	4	0	92	8	2	2	22	189	0	31	0	0	6
pt	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
ro	1	1	2	0	0	24	6	0	3	0	0	0	1	4	3	55	0	0	5
ru	0	1	174	8	0	4	1	0	4	9	60	53	18	58	1	6	0	1	2
sk	0	6	1	1	0	0	5	0	18	0	0	0	2	7	0	60	0	0	2
si	0	8	0	0	0	0	15	0	1	0	0	0	2	2	0	4	0	0	12
es	0	0	0	3	0	0	0	0	0	0	1	0	0	105	6	0	0	0	3
se	0	1	13	9	0	0	0	0	2	22	6	9	19	47	0	2	0	1	1
ch	0	3	0	2	0	0	0	0	0	0	0	0	72	18	0	0	0	0	16
ua	0	2	56	2	0	9	6	0	6	1	1	1	4	15	2	35	0	0	6
gb	0	0	1	27	0	0	0	0	2	3	0	0	87	40	0	1	0	18	1
yu	3	1	0	0	0	7	16	0	1	0	0	0	1	1	5	23	0	0	12
ar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
az	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
gg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kz	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
ml	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
tr	0	0	2	0	0	14	0	0	0	0	0	0	1	0	23	2	0	0	4
as	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	1
af	1	0	1	2	0	7	1	0	0	0	0	0	0	25	2	26	1	0	24
atl	0	1	13	155	0	0	1	0	10	36	2	3	584	255	0	3	3	61	3
bas	0	2	18	12	0	0	0	0	6	28	22	22	26	113	0	2	0	1	3
med	6	6	4	9	1	30	55	0	2	1	0	0	428	22	174	8	0	0	499
bis	0	0	3	0	0	21	1	0	0	0	0	0	0	1	5	4	0	0	2
cas	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
arc	0	0	12	12	0	0	0	0	1	10	4	10	29	39	0	0	1	3	1
sum	32	214	720	707	9	301	465	1	336	178	164	204	4358	2332	443	636	6	129	1621

Note: Emitters are listed horizontally and receivers vertically. See annex I.
 Table 1 for letter codes of countries and other areas.

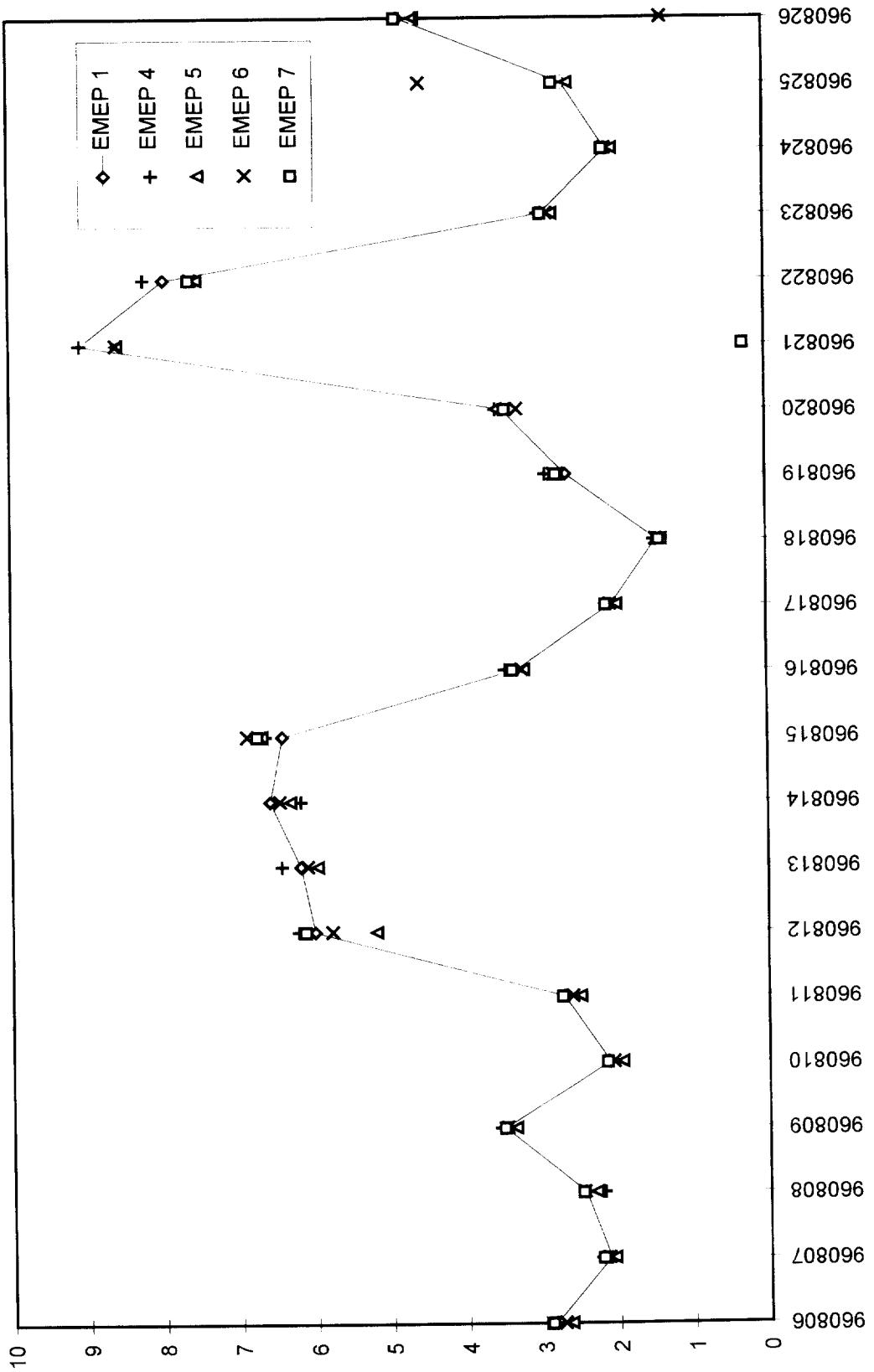
Table 2. cont.

	lv	lt	lu	fym	md	nl	no	pl	pt	ro	ru	sk	si	es	se	ch	ua	gb	yu	sum
al	0	0	0	9	0	0	0	0	0	1	0	0	0	1	0	0	1	0	15	73
at	0	0	0	0	0	0	0	7	0	1	1	3	15	1	0	17	4	2	1	265
by	11	27	0	0	6	1	1	63	0	9	67	3	1	0	5	1	149	3	2	724
be	0	0	5	0	0	8	0	1	0	0	0	0	0	2	0	1	0	23	0	311
ba	0	0	0	1	0	0	0	2	0	2	1	1	2	1	0	1	3	0	18	127
bg	0	0	0	16	4	0	0	1	0	37	7	1	0	0	0	0	33	0	36	312
hr	0	0	0	0	0	0	0	3	0	1	1	2	21	1	0	2	3	1	8	357
cy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
cs	0	0	1	0	0	1	0	38	0	1	2	8	1	1	1	5	5	4	1	328
dk	0	1	0	0	0	4	1	7	0	0	2	0	0	0	10	1	2	18	0	121
ee	13	5	0	0	0	1	1	6	0	0	14	0	0	0	6	0	6	2	0	113
fi	9	6	0	0	0	1	8	6	0	0	51	0	0	0	37	1	11	9	0	283
fr	0	0	20	0	0	15	1	3	6	0	1	1	1	336	3	60	1	138	1	3132
de	1	2	22	0	0	44	3	44	0	1	4	3	1	5	11	73	7	79	1	1856
gr	0	0	0	27	1	0	0	0	0	6	3	0	0	2	0	0	11	0	12	267
hu	0	0	0	1	0	0	0	10	0	11	2	25	5	0	0	1	13	0	24	459
is	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	5	0	16
ie	0	0	0	0	0	2	0	1	0	0	0	0	0	0	1	0	0	0	0	100
it	0	0	0	1	0	1	0	1	0	1	1	0	9	20	0	57	1	3	2	1087
lv	58	22	0	0	0	1	1	13	0	1	15	0	0	0	6	1	14	3	0	180
lt	11	68	0	0	1	1	1	25	0	1	19	1	0	0	5	1	15	3	0	201
lu	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	26	157
fym	0	0	0	95	1	0	0	0	0	3	1	0	0	0	0	0	39	0	1	105
md	0	0	0	0	41	0	0	2	0	10	6	0	0	0	0	0	28	0	213	
nl	0	0	1	0	0	50	0	1	0	0	0	0	0	1	1	0	0	43	0	265
no	2	4	1	0	0	5	80	10	0	0	10	0	0	1	22	1	6	43	5	1372
pl	4	10	1	0	2	6	3	777	0	8	25	23	2	1	13	4	75	16	3	314
pt	0	0	0	0	0	0	0	0	235	0	0	0	0	73	0	0	0	2	0	673
ro	0	0	0	5	24	0	0	12	0	327	18	8	1	0	0	0	112	1	57	6623
ru	57	44	1	0	13	4	12	59	0	18	5183	2	0	1	47	2	752	26	2	216
sk	0	0	0	0	0	0	0	27	0	4	1	62	1	0	0	1	11	1	4	98
si	0	0	0	0	0	0	0	1	0	0	0	1	50	0	0	1	1	0	0	2623
es	0	0	1	0	0	0	1	0	0	116	0	0	0	0	2369	1	2	0	15	463
se	10	11	1	0	0	5	29	19	0	0	26	1	0	1	183	2	14	31	0	361
ch	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0	239	0	4	0	8
ua	2	5	0	1	46	1	0	68	0	62	236	12	1	0	3	1	2008	4	14	2610
gb	0	1	1	0	0	11	2	7	1	0	1	0	0	12	4	1	1	850	0	1076
yu	0	0	0	18	1	0	0	3	0	9	2	2	1	1	0	0	0	0	0	419
ar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
az	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	2	0	0	16
gg	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	37	0	0	222
kz	0	0	0	0	1	0	0	1	0	2	175	0	0	0	0	0	0	0	0	0
mi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	167
tr	0	0	0	2	3	0	0	1	0	8	29	0	0	1	0	0	70	1	0	30
as	0	0	0	0	0	0	0	0	0	1	16	0	0	0	0	0	5	0	0	256
af	0	0	0	4	1	0	0	1	8	4	2	0	0	128	0	1	9	2	5	1
atl	4	6	7	0	0	82	37	61	103	1	20	2	0	482	43	8	20	1139	1	3147
bas	21	20	1	0	1	7	9	59	0	43	1	0	1	84	4	25	31	1	565	
med	0	1	1	19	5	2	0	4	21	18	18	1	9	860	1	28	56	20	31	2341
bis	0	0	0	1	11	0	0	2	0	25	101	1	0	0	0	0	228	0	8	417
cas	0	0	0	0	0	0	0	0	0	48	0	0	0	0	0	0	11	0	0	61
arc	5	6	1	0	0	7	30	15	0	0	79	0	0	2	34	2	14	70	0	387
sum	211	241	73	203	164	262	219	1364	493	575	6251	165	123	4308	524	519	3784	2618	588	35544

Note: Emitters are listed horizontally and receivers vertically. See annex I.

Table 1 for letter codes of countries and other areas.

Annex III
The emphasis of CCC's 1998 reporting to the Steering Body was on data quality results.
By way of example, the figure below compares five identical samplers for nitrogen dioxide at CCC in August 1996



Annex IV

Table 1. DRAFT 1999 EMEP BUDGET

COVERED BY THE MANDATORY CONTRIBUTIONS THROUGH THE TRUST FUND;

Option I: No increase in the total EMEP budget compared with the 1998 level
(IN US\$ OR EQUIVALENT)

		CCC	MSC-E	MSC-W	
I.	ACID DEPOSITION			225,000	
	MODELLING	225,000			
	MEASUREMENTS	400,000	400,000		
II.	PHOTO-OXIDANTS			196,000	
	MODELLING	196,000			
	MEASUREMENTS	232,000	232,000		
III.	HEAVY METALS			160,000	
	MODELLING	160,000			
	MEASUREMENTS	50,000	50,000		
IV.	PERSISTENT ORGANIC POLLUTANTS			185,000	
	MODELLING	185,000			
	MEASUREMENTS	55,000	55,000		
V.	INTEGRATED ASSESSMENT			60,200a/	
	MODELLING	60,200			
VI.	SMALL PARTICLES	60,000	25,000	10,000	25,000
VII.	EMISSION DATABASE	160,000		20,000	140,000
	Sub-total	1,783,200	762,000	375,000b/	646,200
VIII.	PROGRAMME SUPPORT COST (3%)	55,151			
	Belarus (in kind to MSC-E)	3,554c/			
	Ukraine (in kind to MSC-E)	13,090c/			
	TOTAL	1,854,995			

"Modelling" includes all necessary elements of the activity, such as: input data preparation for model runs (emission data, meteorological data, etc...), model development, model verification and model calculations.
 "Measurements" includes data monitoring, data storage, quality control and quality assurance, etc.

a/ To be used for external consultancy.

b/ Contributions in kind from Belarus and Ukraine to MSC-E to be added.

c/ Contributions calculated on the basis of the 1999 scale of assessments.

**Table 2. DRAFT 1999 EMEP BUDGET
COVERED BY THE MANDATORY CONTRIBUTIONS THROUGH THE TRUST FUND;
Option II: 10% increase in the total EMEP budget compared with the 1998 level
(IN US\$ OR EQUIVALENT)**

		CCC	MSC-E	MSC-W	
I.	ACID DEPOSITION				
	MODELLING	247,500		247,500	
	MEASUREMENTS	440,000	440,000		
II.	PHOTO-OXIDANTS				
	MODELLING	215,600		215,600	
	MEASUREMENTS	255,200	255,200		
III.	HEAVY METALS				
	MODELLING	176,000		176,000	
	MEASUREMENTS	55,000	55,000		
IV.	PERSISTENT ORGANIC POLLUTANTS				
	MODELLING	203,500		203,500	
	MEASUREMENTS	60,500	60,500		
V.	INTEGRATED ASSESSMENT				
	MODELLING	66,220		66,220a/	
VI.	SMALL PARTICLES	66,000	27,500	11,000	27,500
VII.	EMISSION DATABASE	176,000		22,000	154,000
	Sub-total	1,961,520	838,200	412,500b/	710,820
VIII.	PROGRAMME SUPPORT COST (3%)	60,666			
	Belarus (in kind to MSC-E)	3,910c/			
	Ukraine (in kind to MSC-E)	14,399c/			
	TOTAL	2,040,495			

"Modelling" includes all necessary elements of the activity, such as: input data preparation for model runs (emission data, meteorological data, etc.), model development, model verification and model calculations.

"Measurements" includes data monitoring, data storage, quality control and quality assurance, etc.

a/ To be used for external consultancy.

b/ Contributions in kind from Belarus and Ukraine to MSC-E to be added.

c/ Contributions calculated on the basis of the 1999 scale of assessments.

Table 3. Mandatory EMEP contributions for two total budget options (US\$ 1,855,000 and US\$ 2,040,500) calculated on the basis of the 1997, 1999 and 2000 United Nations scales of assessments

Parties to the EMEP Protocol	Based on 1997 scale		Based on 1999 scale		Based on 2000 scale	
	US\$ option I	US\$ option II	US\$ option I	US\$ option II	US\$ option I	US\$ option II
	voluntary	voluntary	voluntary	voluntary	voluntary	voluntary
Belarus	11,285	12,413	3,554	3,910	2,503	2,753
Bosnia and Herzegovina	403	443	217	238	220	241
Bulgaria	3,224	3,547	824	906	483	531
Canada	voluntary	voluntary	voluntary	voluntary	voluntary	voluntary
Croatia	3,627	3,990	1,560	1,716	1,317	1,449
Cyprus	1,209	1,330	1,474	1,621	1,493	1,642
Czech Republic	10,076	11,083	5,245	5,769	4,698	5,168
Hungary	5,642	6,207	5,201	5,721	5,269	5,796
Latvia	3,224	3,547	260	286	263	290
Liechtenstein	403	443	1,040	1,144	746	821
Malta	403	443	607	667	615	676
Norway	22,570	24,826	26,440	29,084	26,782	29,460
Poland	13,300	14,630	8,972	9,869	8,605	9,466
Russian Federation	172,094	189,299	64,452	70,893	47,286	52,015
Slovakia	3,224	3,547	1,690	1,859	1,537	1,690
Slovenia	2,821	3,103	2,644	2,908	2,678	2,946
Switzerland	48,767	53,642	52,663	57,929	53,345	58,679
Turkey	15,315	16,846	19,071	20,978	19,318	21,250
Ukraine	43,930	48,322	13,090	14,399	8,342	9,176
United States	voluntary	voluntary	voluntary	voluntary	voluntary	voluntary
Yugoslavia	4,030	4,433	1,474	1,621	1,142	1,256
Austria	35,064	38,569	40,787	44,865	41,359	45,495
Belgium	40,706	44,776	47,808	52,589	48,471	53,319
Denmark	29,018	31,919	29,951	32,946	30,382	33,421
Finland	24,988	27,486	23,492	25,842	23,841	26,225
France	258,745	284,613	283,469	311,816	287,360	316,096
Germany	365,145	401,650	425,117	467,629	432,775	476,052
Greece	15,315	16,846	15,214	16,735	15,411	16,952
Ireland	8,464	9,310	9,709	10,680	9,835	10,818
Italy	211,591	232,744	235,444	258,989	238,713	262,585
Luxembourg	2,821	3,103	2,947	3,242	2,986	3,284
Netherlands	64,082	70,488	70,694	77,763	71,654	78,819
Portugal	11,285	12,413	18,074	19,882	18,923	20,816
Spain	95,921	105,511	112,217	123,439	113,759	125,135
Sweden	49,573	54,529	46,985	51,683	47,374	52,111
United Kingdom	214,412	235,847	220,621	242,683	223,566	245,923
European Community	62,322	68,552	61,992	68,192	61,950	68,145
Total	1,855,000	2,040,450	1,855,000	2,040,500	1,855,000	2,040,500