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EXECUTIVE BODY FOR THE CONVENTION ON  
LONG-RANGE TRANSBOUNDARY AIR POLLUTION

Eighteenth session, Geneva  
(28 November – 1 December 2000)  
Item 4 of the provisional agenda

**THE THIRD REPORT OF THE IMPLEMENTATION COMMITTEE**

**Introduction**

1. At its sixteenth and seventeenth sessions the Executive Body elected the following members to the Implementation Committee: Mr. Harald DOVLAND (Norway); Mr. Ramón GUARDANS (Spain); Mr. Masud HUSAIN (Canada); Mr. Dieter JOST (Germany); Ms. Natalia KARPOVA (Russian Federation); Mr. Tuomas KUOKKANEN (Finland); Mr. Ivan MOJIK (Slovakia); Mr. David VAN HOOGSTRATEN (United States); and Mr. Patrick SZÉLL (United Kingdom). Mr. Széll was elected Chairman of the Committee. (ECE/EB.AIR/59, para. 27 (h) and ECE/EB.AIR/68, para. 31 (c)).

2. The Implementation Committee held two meetings in 2000. Its fifth meeting was held in Berlin on 3-5 April and its sixth meeting in London on 25-27 September. Ms. Karpova did not participate in the fifth meeting. Mr. Van Hoogstraten did not participate in either of the two meetings. Mr. Henning WUESTER attended from the secretariat.

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## **I. SUBMISSION BY SLOVENIA CONCERNING ITS COMPLIANCE WITH THE OSLO PROTOCOL**

### **A. Background**

3. In a letter to the secretariat, Slovenia presented a submission to the Implementation Committee under paragraph 4 (b) of the structure and functions of the Committee (Executive Body decision 1997/2, annex) concerning its potential inability to comply fully with a paragraph 5 (b) of article 2 of the 1994 Oslo Protocol on Further Reduction of Sulphur Emissions for the period between 2004 and 2007 due to the continued operation of the Trbovlje thermal power plant. The submission included a summary of the issues and concerns, as well as an annex providing the background.

4. Mr. Dusan HRCEK, Director of the Hydrometeorological Institute of Slovenia and the Slovenian representative to the Executive Body, and Mr. Jadranko MEDAK from the Slovenian Ministry of Economic Affairs attended part of the Committee's fifth meeting to present the submission and explain the issues that had led to the submission. They replied helpfully and constructively to questions posed by Committee members.

5. The Committee was informed that the Trbovlje thermal power plant (or more precisely its unit 2, which is the only remaining unit) was built in 1968 and had a thermal input capacity of 360 MW<sub>th</sub>. It used local brown coal with a sulphur content of up to 3%. To protect the immediate vicinity, a chimney 360 m high (at 220 m above sea level) was built in 1976. The plant emitted some 30 kt SO<sub>2</sub> per year with concentrations reaching levels above 10 000 mg/m<sup>3</sup>. A new plant with a thermal input of 550 MW<sub>th</sub> had been planned to replace the existing plant. It was to have come into operation before the year 2004 and would have complied with all relevant legislation. The financing of this new plant was, however, rejected by a national referendum in January 1999.

6. Slovenia informed the Implementation Committee after its fifth meeting that its National Assembly had adopted a law, which came into force on 21 July 2000, on the gradual shutdown of the Trbovlje-Hrastnik coalmine and developmental restructuring of the region. This law allowed the extraction of indigenous coal (with a sulphur content up to 3%) from that mine for combustion purposes up to 30 October 2007 at the latest, i.e. the date when the EC directive 96/61/EC concerning integrated pollution prevention and control becomes effective for such a case. The law obliges the Trbovlje power plant to prepare an ecological action programme within six months setting out measures for reducing excessive immission levels. The programme would be adopted by the Government of Slovenia and presented to the Implementation Committee.

7. Slovenia stated that it expected to comply with the emission ceilings of the Oslo Protocol, so that in 2000 its emissions would not exceed 130 kt, in 2005 not exceed 94 kt and in 2010 not exceed 71 kt. Furthermore it expected that in 2010 its emissions would be even below 27 kt, the

ceiling set for Slovenia in annex II of the 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone.

## **B. Consideration**

8. The Implementation Committee discussed in depth the legal and other aspects raised by the submission. It noted that article 2, paragraph 5 (b) of the Oslo Protocol, inter alia, required each Party, no later than 1 July 2004 to apply emission limit values or emission limitations to those major existing stationary combustion sources the thermal input of which was between 50 and 500 MW<sub>th</sub>, using annex V as guidance. It, therefore, concluded that Slovenia could not be in non-compliance with this obligation of the Oslo Protocol before 1 July 2004. The Committee also noted that Slovenia, based on its own report, was well on the way to complying with the sulphur emission ceilings for the year 2000 and beyond listed in annex II to the Protocol. The Committee further noted that there was no provision in the Protocol enabling Parties to be exempted from the obligations in paragraph 5 (b) of article 2.

9. The Implementation Committee observed that the requirements of paragraph 5 (b) of article 2 for power plants of that capacity could be met either through the application of emission limit values or through the application of emission limitations using annex V as guidance.

10. With respect to emission limit values, the Committee noted that the reported emissions of the Trbovlje power plant were currently well above the emission limit value specified in annex V. Indeed they exceeded it by more than a factor of ten. Furthermore, the Committee recognized that in note a/ of annex V it was provided that 'in a case where a Party, due to the high sulphur content of its indigenous solid or liquid fuels, cannot meet the emission limit value [...] it may apply a desulphurization rate [...] or a maximum limit value of 800 mg SO<sub>2</sub>/Nm<sup>3</sup> [...]'. In addition, the Committee observed that annex V was to be used 'as guidance' for major existing stationary combustion sources the thermal input of which was between 50 and 500 MW<sub>th</sub>.

11. With respect to emission limitations, the Committee noted that the term 'emission limitation' as defined in paragraph 19 of article 1 meant that the requirement could be applied to a 'group of combustion sources [...] located [...] within a defined geographical area'.

12. The Implementation Committee concluded that Slovenia, in fulfilling its obligations under paragraph 5 (b) of article 2, will need to decide whether to pursue the option of applying emission limit values or emission limitations. If it opts for the former, it will have to be able to demonstrate that it has applied measures to the plant and that it has used annex V as guidance, and if it opts for the latter it will have to be able to demonstrate that it has applied emission limitations in line with the definition in paragraph 19 of article 1.

**C. Recommendation to the Executive Body**

13. Based on the above consideration, the Implementation Committee recommends to the Executive Body that it adopt the following decision:

The Executive Body, acting under paragraph 11 of the structure and functions of the Implementation Committee (Executive Body decision 1997/2, annex):

(a) Welcomes the submission by Slovenia to the Implementation Committee concerning its compliance with the requirements of paragraph 5 (b) of article 2 of the 1994 Oslo Protocol on Further Reduction of Sulphur Emissions with respect to sulphur emissions from the Trbovlje power plant;

(b) Notes the report provided by the Implementation Committee on this matter (EB.AIR/2000/2, paragraphs 3-12) and in particular its conclusion that Slovenia could not be in non-compliance with this obligation before 1 July 2004;

(c) Notes with satisfaction that Slovenia reported that it was well on the way to complying with its sulphur emission ceilings under annex II to the Oslo Protocol;

(d) Notes furthermore the intention of Slovenia to adopt an ecological action programme to reduce the sulphur emissions originating from the Trbovlje power plant and to shut down that plant;

(e) Invites Slovenia, in keeping with the spirit of the Oslo Protocol, to consider applying timely measures to reduce sulphur emissions from the plant, for instance the use of coal with a lower sulphur content, coal cleaning or the establishment of time restrictions on the operation of the plant over a year;

(f) Recommends Parties to the Oslo Protocol and invites other Parties to the Convention to examine ways in which they could assist Slovenia in reducing emissions from the Trbovlje plant (for instance through the provision of equipment); and

(g) Invites Slovenia to keep the Implementation Committee informed of the progress it makes with regard to implementation of its obligations under paragraph 5 (b) of article 2 of the Protocol.

**II. COMPLIANCE WITH THE REPORTING OBLIGATIONS**

**A. Emission data**

14. The Implementation Committee reviewed the emission data as presented and taken note of by the EMEP Steering Body at its twenty-fourth session. In reaching its conclusions the Committee

also took into account its previous conclusions regarding emission data (EB.AIR/1998/4, para.41 and EB.AIR/1999/4, para.28).

15. The Implementation Committee noted that, whilst the completeness of the emission data reported was better than in previous years, there was still much room for improvement in this regard. This was well illustrated by the information presented in tables 11, 12 and 14 of EB.AIR/GE.1/2000/6, which showed that some Parties' emission reporting was incomplete. Given that the data referred to in these tables fell under the requirements of the adopted guidelines, late or incomplete presentation of the data constituted a case of non-compliance for Parties to the 1991 VOC and the 1994 Sulphur Protocols within the geographical scope of EMEP with the reporting requirements of these Protocols, in particular, article 8, paragraph 3, of the 1991 VOC Protocol and article 5, paragraphs 1 (b) and 2, of the 1994 Sulphur Protocol.

16. The Implementation Committee evaluated the completeness and timeliness of reporting based on the information presented in the report on the present state of emission data (EB.AIR/GE.1/2000/6) covering emission data reported up to 23 June 2000, while the deadline for reporting was 14 January 2000.

17. Table 1 below, updating the information previously presented by the Committee to the Executive Body (EB.AIR/1999/4, table 2), gives an overview of emission data reporting by the Parties to the 1985 Sulphur Protocol. It shows the date of entry into force of the Protocol for each Party and whether data were reported for the base year and successive years starting with the year of entry into force for that Party. 96% of the required annual total emission data have been reported and 90% of the data were reported as final and covering all emission source categories.

18. Table 2 below, updating the information previously presented by the Committee to the Executive Body (EB.AIR/1999/4, table 3), gives an overview of emission data reporting by the Parties to the 1988 NO<sub>x</sub> Protocol. It shows the date of entry into force of the protocol for each Party and indicates whether data were reported for the base year and the years starting with the year of entry into force for that Party. 92% of the required annual total emission data have been reported and 89% of the data were reported as final and covering all emission source categories.

19. Table 3 below reviews the reporting on VOC emissions by Parties to the 1991 VOC Protocol, updating the information previously presented by the Committee to the Executive Body (EB.AIR/1999/4, table 4). It shows the date of entry into force of the Protocol for each Party and indicates whether data were reported for the base year and the years since entry into force. 86% of the required annual total emission data have been reported and 82% of the data were reported as final and covering all emission source categories.

20. Table 4 reviews for the first time the reporting on sulphur emissions by Parties to the 1994 Sulphur Protocol. It shows the date of entry into force of the Protocol for each Party and indicates

whether data were reported for the one year since entry into force. 81% of the required annual total emission data and 81% of the required emission data for specified source categories have been reported.

21. The Committee reached the following conclusions which it draws to the attention of the Executive Body:

(a) The Committee noted with satisfaction the improvement in the completeness of emission data reported by Parties to the 1985 Sulphur, 1988 NO<sub>x</sub> and 1991 VOC Protocols in comparison to the previous years. Some Parties had improved their record significantly. On the whole the coverage of emission data (expressed as the percentage of required emission data submitted in the table below) reporting has improved since the Implementation Committee started examining completeness of reported data:

Emission data reported for:	1985 Sulphur Protocol		1988 NO <sub>x</sub> Protocol		1991 VOC Protocol	
	%		%		%	
	Preliminary	Final	Preliminary	Final	Preliminary	Final
First report	92	86	84	82	-	-
Second report	94	89	89	86	79	76
Third report	96	90	92	89	86	82

While these improvements show an average over all years for which emission data has to be reported, for the most recent year (1998) many Parties did not comply with their reporting obligations and submitted preliminary, incomplete or no data at all. The timeliness of emission data reporting will receive increased attention by the Committee.

(b) There remained, however, some concern over a few Parties that were consistently in non-compliance with their emission data reporting requirements:

- (i) For the 1985 Sulphur Protocol, the **Russian Federation** still has not submitted emission data covering all relevant sources for the base year. **Liechtenstein** has not submitted any data after 1994. **Luxembourg** has not provided any data for the years 1987-89 and 1991-92.
- (ii) For the 1988 NO<sub>x</sub> Protocol, there were still three Parties (**Greece**, **Luxembourg** and **European Community**) that had not even reported emission data for the base year and for the **Russian Federation** the base year data do not cover all relevant sources. **Liechtenstein** has not reported data for years after 1994 and **Spain** for years after 1996.
- (iii) For the 1991 VOC Protocol, all Parties had now reported data for the base

- (iv) year. **Liechtenstein** and **Spain** have not submitted any data for 1997 and 1998.

The Implementation Committee would wish to remind Parties of the importance of complying fully and on time with their reporting obligations.

### **B. Reporting on strategies and policies for air pollution abatement**

22. The Implementation Committee reviewed the first part of the draft 2000 review of strategies and policies for air pollution abatement (EB.AIR/2000/1) as well as the background documents for that review reproducing the full responses by Parties to the different questions. Documents were provided to it by the secretariat only very shortly before the sixth meeting.

23. In particular, the Committee examined the extent of reporting by Parties to the four Protocols in force regarding those questions that addressed the specific reporting requirements of these Protocols. Table 5 gives an overview of the responses to the respective sections by the Parties to the four Protocols. The Implementation Committee concluded that, with some notable exceptions, Parties seemed to have respected fairly well their reporting obligations. The Committee noted that the following Parties that were subject to mandatory reporting requirements, **France**, **Liechtenstein**, **Luxembourg** and **Slovenia**, had not submitted any report and that **Ukraine** had failed to respond to the question regarding the 1985 Sulphur Protocol. It also was a matter of concern that a majority of the Parties had not submitted their reports on time, thus creating difficulties for the secretariat in organizing the work in an effective manner.

24. The Committee did not have sufficient time to examine in detail the contents of the reports, but noted in a preliminary manner the apparent progress in the quality of reporting. The new questionnaire seemed to have persuaded Parties to respond more clearly and more fully than before. It noted, however, that the responses remained uneven, in length, depth and content. Parties must make further effort to provide concise and precise information on the implementation of their obligations under the Protocols upon which the Implementation Committee could rely. Other subsidiary bodies to the Executive Body also require better information on strategies and policies. To facilitate Parties' efforts, the Committee decided to review the questionnaire before it was presented to the Executive Body for the purpose of the 2002 review. It suggested that the secretariat should contact Parties, and especially the experts who had completed the questionnaires and invite them to provide comments on their experience in filling in the questionnaire.

### **C. Recommendation to the Executive Body**

25. In view of the continued non-compliance with reporting obligations by some Parties, the Implementation Committee recommends that the Executive Body adopt the following decision:

The Executive Body, acting under paragraph 11 of the structure and functions of the Implementation Committee (Executive Body decision 1997/2, annex):

(a) Takes note of the report of the Implementation Committee with respect to compliance by Parties with their emission data reporting obligations under the Convention and its Protocols, prepared on the basis of information compiled by EMEP;

(b) Takes note also of the report of the Implementation Committee with respect to compliance by Parties with their reporting obligations on strategies and policies for air pollution abatement under the Convention and its Protocols;

(c) Recalls that the Implementation Committee in its second report (EB.AIR/1999/4, para. 28) drew attention to the fact that Greece, Luxembourg and the European Community had not reported emission data for the base year for the 1988 NO<sub>x</sub> Protocol;

(d) Recalls furthermore that the Implementation Committee in its second report (EB.AIR/1999/4, para. 8) also drew attention to the fact that France, Liechtenstein and Luxembourg had not submitted any report for the 1998 Major Review on Strategies and Policies;

(e) Expresses concern that France, Greece, Liechtenstein, Luxembourg and the European Community all remain in non-compliance with these reporting obligations;

(f) Urges Greece, Luxembourg and the European Community to comply with their reporting obligations under the 1988 NO<sub>x</sub> Protocol and, in this context, to provide as soon as possible, but no later than 31 January 2001, all the missing information on their national emissions, including in particular their respective base year data;

(g) Urges furthermore France, Liechtenstein and Luxembourg to comply with their reporting obligations under the 1985 Sulphur, the 1988 NO<sub>x</sub>, the 1991 VOC and the 1994 Sulphur Protocols and, in this context, to provide as soon as possible, but no later than 31 January 2001, a response to the questionnaire used for reporting for the 2000 Review on Strategies and Policies;

(h) Requests the Implementation Committee to review the progress made by the above-mentioned Parties with regard to their reporting obligations and to report thereon to it at its nineteenth session.

### **III. IN-DEPTH REVIEW OF COMPLIANCE BY PARTIES WITH THE 1985 SULPHUR AND THE 1988 NO<sub>x</sub> PROTOCOLS**

26. As requested by the Executive Body in its work plan (ECE/EB.AIR/68, annex IV, item 1.2), the Implementation Committee carried out an in-depth review of compliance by Parties with the 1985 Sulphur and the 1988 NO<sub>x</sub> Protocols, focusing on their national emission obligations. It

used as a basis the information contained in the 1998 Major Review on Strategies and Policies (ECE/EB.AIR/65, chapters V.A and B.), as well as the new emission data reported by Parties (EB.AIR/GE.1/2000/6). The Committee limited its review to the emission reduction obligations and the related reporting obligations, as a review of other obligations would be more fruitful once the 2000 Review on Strategies and Policies based on the revised questionnaire was available.

**A. Compliance with the 1985 Helsinki Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30%.**

27. The 1985 Sulphur Protocol (article 2) requires its Parties to make a 30% cut in sulphur emissions or their transboundary fluxes as soon as possible and at the latest by 1993, compared to levels in 1980. At the seventh session of the Executive Body in December 1989 the Parties expressed a common understanding about the interpretation of this provision that it "means that reductions to that extent should be reached in that time frame and the levels maintained or further reduced after being reached" (ECE/EB.AIR/20, para. 22). The Chairman of the Executive Body reminded Parties of this understanding at the eighth session (ECE/EB.AIR/24, para. 18), and it was confirmed by the Executive Body at its tenth session in November 1992 (ECE/EB.AIR/33, para. 14).

28. Officially submitted emission data suggest that all of the then 21 Parties to the Protocol met the required reductions in 1993 and maintained these levels except for **Bulgaria**. Whilst achieving the required reduction in 1993, **Bulgaria's** emissions were only 28% below its 1980 levels in 1994 and 27% in 1995, but it met the target again in the years 1996 to 1998. For Estonia, the Protocol will only enter into force on 5 June 2000, but available data suggests its full compliance with the 30% sulphur emission reduction.

29. Article 4 of the Protocol also contains a requirement to report emissions of sulphur annually to the Executive Body. Complete reports on national annual emissions for the latest year covered by reporting (1998) have been received from 14 of the 22 Parties (see table 1). **Italy, Liechtenstein and Ukraine** have not submitted any of the required sulphur emissions data for 1998. **Belgium, Finland, France, Hungary and Slovakia** have reported only preliminary data for 1998. For compliance by the Parties to the Protocol with their emission data reporting obligations, see paras. 17 and 21 (b) (i) above.

**B. Compliance with the 1988 Sofia Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes.**

30. The emission reduction obligation for the Parties to the NO<sub>x</sub> Protocol (paragraph 1 of article 2) is to control and/or reduce their total annual emissions of nitrogen oxides or their transboundary fluxes so that these, at the latest by 31 December 1994, do not exceed such emissions for 1987. At its fourteenth session in December 1996, the Executive Body confirmed

its understanding that the obligation "should be taken to mean that emission levels for the years after 1994 should not exceed those specified in that paragraph" (ECE/EB.AIR/49, para. 21).

31. Official submissions suggest that this requirement has not been met in several of the years 1994 - 1998 by 3 of the 27 Parties to the Protocol. The following Parties are in non-compliance with the obligation of paragraph 1 of article 2 of the Protocol:

- **Ireland** ratified the Protocol in 1994. Its emissions were 4% above the 1987 level in 1996, 3% in 1997 and 6% in 1998;
- **Spain's** emissions were 21% above the 1987 level in 1994 and 1995 and 19% in 1996. No data has yet been reported for subsequent years;
- The **United States of America** specified a different base year (1978) when it signed the Protocol, with the consequence that its obligation became to control and/or reduce its total annual emissions of nitrogen oxides or their transboundary fluxes so that these, at the latest by 31 December 1994, did not exceed 1978 level (21,830 kt). In addition, it had to ensure that its national average annual transboundary fluxes or national average annual emissions for the period from 1 January 1987 to 1 January 1996 did not exceed those for the calendar year 1987. Emission data provided by the United States of America shows that it did not achieve stabilization of emissions at 1978 levels in 1994. Its emissions were 5% above the 1978 level in 1994, 4% in 1995, 2% in 1996, 3% in 1997 and 1% in 1998. Additionally, the average of its annual emissions in the period 1 January 1987 to 1 January 1996 (22,128 kt) was above its emissions in 1987 (20,689 kt).

32. Under paragraph 1 (b) of article 8 of the Protocol, Parties are required to report annually their levels of national emissions of nitrogen oxides. Since the following Parties have not reported emission data for the base year, it has not been possible to assess their compliance for any year:

- **Greece** has not provided emissions data for the base year;
- **Luxembourg** has submitted no emission data for the base year (1987), nor for the years 1991, 1992, and 1993;
- The **Russian Federation** has reported partial data for the base year (1987), not covering all sources. (The absence of complete data may affect the Russian Federation's compliance with its emission-related obligations.);
- The **European Community** has not reported NO<sub>x</sub> emissions for any year.

The following Parties have not reported emission data for the most recent year (1998):

- **Finland, France, Hungary and Slovakia** have submitted only preliminary data;
- **Italy, Liechtenstein, Spain and Ukraine** have not reported any data.

For compliance by the Parties to the Protocol with their emission data reporting obligations, see paras. 18 and 21 (b) (ii) above.

#### **IV. COOPERATION WITH OTHER BODIES UNDER THE CONVENTION AND OUTSIDE**

33. At the fourth meeting of the Committee, the Chairman of the Task Force on Emission Inventories invited a representative of the Implementation Committee to attend the next meeting of the Task Force to inform the experts about the Committee's work and the requirements on reported emission data with respect to compliance review. The Committee had welcomed this opportunity for direct contacts with emission data experts. It asked Mr. Guardans to represent the Committee at the Task Force meeting. The meeting of the Task Force Emission Inventories and Projections was held in Rome on 15-18 May 2000. Mr. Guardans highlighted that the Task Force had noted good progress in emission data reporting. Much of the discussion had focussed on the development of reporting guidelines. There was a strong demand from national emission data experts to improve the coordination between the reporting schemes covering different international organizations and conventions. There was also an interest by modelling experts to include reporting of emission-related activity data in the requests. Mr. Guardans stressed the lack of awareness among national experts of the work by the Implementation Committee and the use of the emission data.

34. The secretariat informed the Committee about preparations for a workshop to be held in January 2001 that aimed at drafting revised guidelines for the reporting of emission data. As these guidelines would provide the basis for future reporting and hence for compliance review, the workshop was open to receiving any input the Implementation Committee might wish to transmit. The Implementation Committee declared its readiness to review the preliminary draft guidelines at its next meeting and provide input to the process.

35. The Committee agreed to continue its contacts with other bodies. It decided to come back to the decision of inviting experts from other bodies in 2001 at its seventh meeting. It would consider the possibility of inviting once again emission data experts to continue the dialogue or to start discussions with effect experts to come to a better understanding on how to deal with some of the general obligation in the Protocols related to research and monitoring.

36. The secretariat reported on its participation at an informal exchange of views and information organised under the United Nations Framework Convention on Climate Change. The purpose of the meeting was to enable the FCCC Parties to identify best practice in other forums to

help shape a compliance system for the Kyoto Protocol. It had been invited to provide information on the compliance system under the Convention on Long-range Transboundary Air Pollution together with representatives from three other secretariats. The workshop had been a useful opportunity to inform about the Convention and many participants, in particular those from other regions, had shown great interest in the experience gained under the Convention.

## **V. FURTHER WORK**

37. At its sixth meeting, Norway submitted a note to the Implementation Committee regarding its inability to meet its emission reduction obligations under the 1991 VOC Protocol. The Committee agreed to consider this as a submission under para. 4 (b) of its structure and functions and take this issue up as a matter of priority in its work in 2001.

38. The Implementation Committee reviewed item 1.2 of the draft work plan, which the secretariat had prepared for the eighteenth session of the Executive Body (EB.AIR/2000/5). It approved the draft work plan suggesting the inclusion of the submission by Norway. It agreed to schedule its next meeting for 2-4 May 2001 in Bratislava.

**Table 1. National total annual emissions reported by Parties to the 1985 Sulphur Protocol (a)**

	Entry into force	Emission data reported for:													
		Base year, 1980	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Austria	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Belarus	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Belgium	9/7/89	X	X	X	X	X	X	X	X	X	X	X	X	P	
Bulgaria	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Canada	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Czech Republic	4/1/93	X	n/a	n/a	n/a	n/a	n/a	n/a	X	X	X	X	X	X	
Denmark	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Estonia	6/5/00	X	n/a												
Finland	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	P	
France	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	P	
Germany	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Hungary	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	P	
Italy	5/6/90	X	n/a	n/a	n/a	X	X	X	X	X	X	X	X	-	
Liechtenstein	9/2/87	X	X	X	X	X	X	X	X	X	-	-	-	-	
Luxembourg	11/22/87	X	-	-	-	X	-	-	X	X	X	X	X	X	
Netherlands	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Norway	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Russian Federation	9/2/87	P	P	P	P	P	P	P	P	P	P	X	X	X	
Slovakia	8/26/93	X	n/a	n/a	n/a	n/a	n/a	n/a	X	X	X	X	X	P	
Sweden	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Switzerland	12/20/87	X	X	X	X	X	X	X	X	X	X	X	X	X	
Ukraine	9/2/87	X	X	X	X	X	X	X	X	X	X	X	X	-	
Total:	22 Parties	100%	94%	94%	94%	100%	95%	95%	100%	100%	95%	95%	95%	86%	<b>96%</b>
Total (final, complete data):		95%	89%	89%	89%	95%	89%	89%	95%	95%	90%	95%	95%	62%	<b>90%</b>

Notes: Information based on emission data in EB.AIR/GE.1/2000/6.

X Final and complete data reported for that year.

P Preliminary or partial data reported for that year.

- No emission data was reported for that year.

n/a Not applicable.

(a) Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent adopted 8.7.1985 in Helsinki.

**Table 2. National total annual emissions reported by Parties to the 1988 NOx Protocol (a)**

	Entry into force	Emission data reported for:									
		Base year	1991	1992	1993	1994	1995	1996	1997	1998	
Austria	2/14/91	X	X	X	X	X	X	X	X	X	
Belarus	2/14/91	X	X	X	X	X	X	X	X	X	
Bulgaria	2/14/91	X	X	X	X	X	X	X	X	X	
Canada	4/25/91	X	X	X	X	X	X	X	X	X	
Czech Republic	4/1/93	X	X	X	X	X	X	X	X	X	
Denmark	5/30/93	X	X	X	X	X	X	X	X	X	
Estonia	6/5/00	X	n/a								
Finland	2/14/91	X	X	X	X	X	X	X	X	P	
France	2/14/91	X	X	X	X	X	X	X	X	P	
Germany	2/14/91	X	X	X	X	X	X	X	X	X	
Greece	7/28/98	-	n/a	X							
Hungary	2/10/92	X	n/a	X	X	X	X	X	X	P	
Ireland	1/15/95	X	n/a	n/a	n/a	n/a	X	X	X	X	
Italy	8/17/92	X	X	X	X	X	X	X	X	-	
Liechtenstein	6/22/94	X	X	X	X	X	-	-	-	-	
Luxembourg	2/14/91	-	-	-	-	X	X	X	X	X	
Netherlands	2/14/91	X	X	X	X	X	X	X	X	X	
Norway	2/14/91	X	X	X	X	X	X	X	X	X	
Russian Federation	2/14/91	P	X	X	X	X	X	X	X	X	
Slovakia	8/26/93	X	n/a	n/a	X	X	X	X	X	P	
Spain	3/4/91	X	X	X	X	X	X	X	-	-	
Sweden	2/14/91	X	X	X	X	X	X	X	X	X	
Switzerland	2/14/91	X	X	X	X	X	X	X	X	X	
Ukraine	2/14/91	X	X	X	X	X	X	X	X	-	
United Kingdom	2/14/91	X	X	X	X	X	X	X	X	X	
United States	2/14/91	X	X	X	X	X	X	X	X	X	
European Community	3/17/94	-	n/a	n/a	n/a	-	-	-	-	-	
Total:	27 Parties	89%	95%	95%	95%	96%	92%	92%	88%	85%	<b>92%</b>
Total (final and complete):		81%	95%	95%	95%	96%	92%	92%	88%	69%	<b>89%</b>

Notes: Information based on emission data in EB.AIR/GE.1/2000/6.

X Final and complete data reported for that year.

P Preliminary or partial data reported for that year.

- No emission data reported for that year.

n/a Not applicable.

(a) Protocol to the 1979 Convention on Long-range Transboundary Air Pollution concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, adopted 31.10.1988 in Sofia.

**Table 3. National total annual emissions reported by Parties to the 1991 VOC Protocol (a)**

	Entry into force	Base year	Emission data reported for:			
			Base year	1997	1998	
Austria	9/29/97	1988	X	X	X	
Bulgaria	5/28/98	1988	X	n/a	X	
Czech Republic	9/29/97	1990	X	X	X	
Denmark	9/29/97	1985	X	X	X	
Estonia	6/5/00	1990 *	X	n/a	n/a	
Finland	9/29/97	1988	X	X	-	
France	9/29/97	1988	X	X	P	
Germany	9/29/97	1988	X	X	X	
Hungary	9/29/97	1988	X	X	P	
Italy	9/29/97	1990	X	X	-	
Liechtenstein	9/29/97	1984	X	-	-	
Luxembourg	9/29/97	1990	X	X	X	
Netherlands	9/29/97	1988	X	X	X	
Norway	9/29/97	1988	X	X	X	
Slovakia	3/14/00	1990 *	X	n/a	n/a	
Spain	9/29/97	1988	X	-	-	
Sweden	9/29/97	1988	X	X	X	
Switzerland	9/29/97	1984	X	X	X	
United Kingdom	9/29/97	1988	X	X	X	
Total:	19 Parties		100%	82%	76%	<b>86%</b>
Total (final and complete):			100%	82%	65%	<b>82%</b>

Notes: Information based on emission data in EB.AIR/GE.1/2000/6.

X Final and complete data reported for that year.

P Preliminary or partial data reported for that year.

- No emission data reported for that year.

n/a Not applicable.

\* To be confirmed.

(a) Protocol to the 1979 Convention on Long-range Transboundary Air Pollution concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, adopted 18.11.1991 in Geneva.

**Table 4. Emission data reported by Parties to the 1994 Sulphur Protocol (a)**

	Entry into force	Annual totals reported for:	Sectoral emission reported for:
		1998	1998
Austria	11/25/98	X	Y
Canada	8/5/98	X	Y
Croatia	7/26/99	n/a	n/a
Czech Republic	8/5/98	X	Y
Denmark	8/5/98	X	Y
Finland	9/6/98	P	Y
France	8/5/98	P	Y
Germany	9/1/98	X	Y
Greece	8/5/98	X	Y
Ireland	12/3/98	X	Y
Italy	12/13/98	-	-
Liechtenstein	8/5/98	-	-
Luxembourg	8/5/98	X	Y
Netherlands	8/5/98	X	Y
Norway	8/5/98	X	Y
Slovakia	8/5/98	P	Y
Slovenia	8/5/98	X	Y
Spain	8/5/98	-	-
Sweden	8/5/98	X	Y
Switzerland	8/5/98	X	Y
United Kingdom	8/5/98	X	Y
European Community	8/5/98	-	-
<b>Total:</b>	<b>22 Parties</b>	<b>81%</b>	<b>81%</b>

## Notes:

Information based on emission data in EB.AIR/GE.1/2000/6.

X Final and complete data reported for that year.

Y Sectoral emission data reported for that year.

P Preliminary or partial data reported for that year.

- No emission data was reported for that year.

n/a Not applicable.

(a) Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Further Reduction of Sulphur Emissions, adopted 14.6.1994 in Oslo.

**Table 5:**  
**2000 Review on Strategies and Policies:**  
**Responses received by Parties to the Protocols in force**

Party	1985 Sulphur Protocol	1988 Nitrogen Oxides Protocol	1991VOC Protocol	1994 Sulphur Protocol
Austria	A	A	A	B
Belarus	A	A	n/a	n/a
Belgium	B	n/a	n/a	n/a
Bulgaria	B	B	B	n/a
Canada	A	A	n/a	A
Croatia	n/a	n/a	n/a	B
Czech Republic	A	A	A	A
Denmark	B	B	B	B
Finland	B	B	C (not Q. 14, 15,16, 17)	C (not Q. 26, 27)
France	None	None	None	None
Germany	A	A	A	A
Hungary	B	C (not Q. 7)	B	n/a
Greece	n/a	B	n/a	B
Ireland	n/a	B	n/a	B
Italy	B	B	B	B
Liechtenstein	None	None	None	None
Luxembourg	None	None	None	None
Netherlands	B	B	B	B
Norway	A	A	A	A
Russian Federation	B	B	n/a	n/a
Slovakia	A	B	C (not Q. 14, 15, 16)	B
Slovenia	n/a	n/a	n/a	None
Spain	n/a	B	B	B
Sweden	B	B	B	B
Switzerland	B	B	B	B
Ukraine	None	C (not Q. 7)	n/a	n/a
United Kingdom	n/a	A	A	A
United States	n/a	A	n/a	n/a
European Community	n/a	B	n/a	C (not Q. 24, 26, 27)

- A Response to all questions related to the Protocol.  
B Response to all questions related to the Protocol but not on time.  
C (not Q.) Response to all questions related to the Protocol except those specified.  
None No response to any question of the section.  
n/a Not applicable (not Party to the Protocol).