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

Working Group on Strategies and Review

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Item 5 of the provisional agenda

2006 REVIEW OF STRATEGIES AND POLICIES FOR AIR POLLUTION ABATEMENT

Additional material

Note by the secretariat*

1. The Executive Body, at its twenty-fourth session, approved the summary draft document of the *2006 Review of Strategies and Policies for Air Pollution Abatement* and invited the secretariat to publish the review with an executive summary (ECE/EB.AIR/89). Delegations also requested that the description of the compliance mechanism under the Convention be strengthened. To facilitate this, the secretariat prepared an executive summary (part I) and an explanation of the compliance mechanism (part II) for consideration by the Working Group on Strategies and Review at its thirty-ninth session. The Working Group may wish to agree on the

* This document has been submitted late in order to include information on the latest progress in this work.

following texts for inclusion in the publication, which will also reflect any changes requested by individual Parties sent to the secretariat before 31 January 2007.

I. EXECUTIVE SUMMARY

A. The Convention on Long-range Transboundary Air Pollution: a landmark multilateral environmental agreement

2. The Convention on Long-range Transboundary Air Pollution, signed in Geneva in 1979, is a landmark international agreement. For more than 25 years it has been instrumental in reducing emissions contributing to transboundary air pollution in the UNECE region through coordinated efforts on research, monitoring and the development of emission reduction strategies on regional air pollution and its effects. As of 31 January 2007, 51 member states of UNECE and the European Community were Parties to the Convention.

3. The *2006 Review* was prepared mainly on the basis of replies to a questionnaire on strategies and policies for air pollution abatement received from 24 Parties. The questionnaire was used as a tool for determining compliance by Parties to the Convention and its Protocols, as well as for the collection and dissemination of more general information on air pollution abatement technologies and trends.

4. Early sections of the *Review* summarize the status of ratification of the Convention and its protocols (part II, section A); describe the Convention and the activities of its main subsidiary bodies (section B); underline the importance of capacity-building activities (section C); and reflect possible areas of future work under the Convention (section D). Part III describes trends in air pollution emissions and effects (see paras. 5 and 6 below). Part IV summarizes replies by Parties to the questionnaire, showing progress made in the compliance with and implementation of each Protocol, as well as general strategies and policies pursued for air pollution abatement.

5. Concentrations of sulphur dioxide in Europe continued to decrease: 65% from 1990 to 2004. Concentrations of other pollutants have also decreased over the same period: nitrogen oxide (NOx) by 30%, volatile organic compounds (VOCs) by 38% and ammonia by 22%.

6. Effects, particularly acidification, have fallen in line with the drop in emissions. This was especially notable in fresh waters in some regions. However, there remain concerns about nitrogen depositions, ozone concentrations, and the effects of particulate matter on human health.

7. The Executive Body has placed increased emphasis on the implementation of the Convention and its Protocols, in particular in Parties with economies in transition. The project

"Capacity Building for Air Quality Management and the Application of Clean Coal Combustion Technologies in Central Asia" (CAPACT) was one concrete response to this need. Further capacity-building was foreseen under an action plan for countries of Eastern Europe, Caucasus and Central Asia (EECCA), approved in 2005 by the Executive Body. The EECCA action plan aimed, *inter alia,* to create awareness of air pollution and its effects on health and the environment, ensure political commitment at the ministerial level to tackle air pollution problems, develop emission estimates and scenarios, set up monitoring stations and extend EMEP[†] modelling to Central Asia, and develop ecosystem sensitivity maps and health damage estimates.

8. Current priorities under the Convention have included the finalization of the reviews of the three most recent protocols: the 1998 Protocol on Heavy Metals, the 1998 Protocol on Persistent Organic Pollutants (POPs) and the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol). For the Gothenburg Protocol there is already increased interest in the health effects of particulate matter and in the issue of how hemispheric transport of air pollution might be addressed in a revised or amended protocol. For the Protocol on POPs, there will be a continued focus on new substances. Expert peer reviewers have evaluated proposed substances and recommendations have been made to the Executive Body for their addition to one or more of the annexes in the Protocol. Exploration of management options to control the use of some of these substances is also a priority, as is the determination of the most appropriate way (from a legal perspective) to amend the Protocol. For the Protocol on Heavy Metals, while no new substances have been proposed, Parties have been encouraged to work on an effects-based approach to formulating future optimized control strategies for heavy metals.

B. Implementation of protocols and progress on national strategies and policies

9. All eight protocols to the Convention are now in force, and Parties were asked in the questionnaire to comment on their implementation.

10. National strategies, policies and programmes used by governments to abate or reduce sulphur emissions under both the **Protocol on the Reduction of Sulphur Emission or Their Transboundary Fluxes by At Least 30 Per Cent** (Helsinki, 1985) and the **Protocol on Further Reductions of Sulphur Emissions** (Oslo, 1994) included the control of the sulphur content of fuel, energy efficiency measures, the promotion of renewable energy and the application of best available technologies (BAT). Approaches used by Parties to reduce sulphur

[†] Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe.

emissions included investment in alternative energy sources such as wind power generation to reduce dependence on sulphur-emitting fossil fuels, or promoting renewable energy sources, including hydropower and biomass, and the use of natural gas in large industrial plants. Parties have promoted renewable energy and energy efficiency through market-based incentives such as tax incentives, subsidies and eco-labelling.

11. The **Protocol Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes** (Sofia, 1988) calls on Parties to apply national emission standards to all major source categories and new stationary and mobile source using economically feasible BAT, while developing pollution control measures for existing stationary sources. The Protocol also requires Parties to make unleaded fuel sufficiently available to facilitate the circulation of vehicles equipped with catalytic converters. The transport sector continued to be a main source of NOx emissions in most countries. Parties therefore focused on enforced speed limits and traffic management schemes, as well as subsidies to improve public transport systems, emphasis on a modal shift from road to rail transport, and improvements in vehicle fuel efficiency, including the replacement of older, more polluting vehicles with newer, cleaner ones. Technical measures to reduce NOx emissions from stationary sources included selective catalytic reduction units retrofitted on existing coal- and gas-fired electric utility boilers; low-NOx burners retrofitted to combustion units; and, a cap-and-trade programme for large electricity-generating units and large industrial boilers and turbines. Emissions from large stationary sources were often controlled through permits and licences.

12. The **Protocol on the Control of Emissions of Volatile Organic Compounds or Their Transboundary Fluxes** (Geneva, 1991) requires Parties to reduce their VOC emissions by 30% by 1999, from selected base years between1984 to 1990, and to maintain them below those levels. Strategies pursued by Parties included legislation targeting VOC emissions from transport; use of BAT to control and reduce VOC emissions from existing stationary sources in major source categories, such as leak repairs, operating and performance standards, biofiltration, vapour processing at tank loading, end-of-pipe technology, low-solvent alternatives, new drying technology, less volatile cleaning agents, incineration and closed moulding in polyester processing and recycling; and measures to reduce the volatility of petrol during refuelling operations.

13. The **1998 Protocol on Heavy Metals** (Aarhus, 1998) targets three particularly harmful metals that are listed in an annex to the Protocol: cadmium, lead and mercury. Leaded petrol was largely phased out by Parties or was in the process of being phased out. The most common strategies to tackle pollution from heavy metals were economic instruments; voluntary agreements; conservation; clean energy sources; clean transport systems; phasing out of processes that emit heavy metals; and product control measures.

14. The objective of the **Protocol on Persistent Organic Pollutants** (Aarhus, 1998) is to control, reduce or eliminate discharges, emissions and losses of POPs. The Protocol currently recognizes a list of 16 POPs that resist degradation under natural conditions and that have been associated with adverse effects on human health and the environment. Measures used by Parties to reduce and control POPs included better management of toxic waste; regulating emissions from waste incineration plants; and regulations limiting the import, production, supply, use and export of substances that might present a hazard to the environment.

15. The **Protocol to Abate Acidification, Eutrophication and Ground-level Ozone** (Gothenburg, 1999) is an innovative multi-effect, multi-pollutant protocol that aims to simultaneously address the three effects it describes through controlling the pollutants causing them. It promotes action within the UNECE region and sets an example for action worldwide. The Protocol seeks to control and reduce emissions of sulphur, NOx, ammonia and VOCs from anthropogenic sources. It is the first Protocol under the Convention to tackle more than one pollutant, and the first to address ammonia. It sets emission ceilings for 2010 for the four pollutants, negotiated on the basis of scientific assessments of pollution effects and abatement options. Once the Protocol is fully implemented, Europe's emissions should be cut significantly for sulphur (63%), NOx (41%), VOCs (40%) and ammonia (17%), compared to 1990.

16. Aside from the strategies and policies cited by Parties for reducing sulphur, NOx and VOCs, approaches used to abate ammonia, in particular from agricultural sources, included covering stores of solid manure that were not in daily use, covers on slurry containers on livestock holdings, bans on surface spreading, reductions in the time that applied manure was allowed to remain on the ground surface, bans on ammonia treatment of straw, and limiting local ammonia volatilization from livestock in the vicinity of vulnerable natural habitat types. Other Parties cited voluntary measures such as incorporating manure within four hours after spreading, using injection techniques for slurry and urine spreading, and using band spreaders. Many of these measures were reflected in national advisory codes of good agricultural practices.

C. General trends and priorities in combating air pollution

17. In addition to providing information on Protocols in force, Parties described their general policy directions and priorities in tackling air pollution. These included public information campaigns and voluntary schemes, dissuasive taxes and fines, and positive incentives to promote the use of renewable energy and cleaner fuels, including biofuels (biodiesel, bioethanol). There were clear trends in all responding countries to retrofit old vehicles, which involved retrofitting soot filters on all categories of vehicles and mobile machinery. Environmental impact assessments were increasingly required for major new projects in an attempt to reduce their negative environmental impact. Many Parties reported they were investing in new technologies

to reduce air pollution or to mitigate its impact and were supporting the development of new environmental technologies, including in heating and control systems, domestic hot water and sanitary systems, ventilation, white goods, lighting and industry. Cross-sectoral and multi-pollutant approaches were gaining in popularity, including the integration of air pollution policies into sectoral policies, particularly agricultural, energy, health and transport policy.

II. COMPLIANCE MECHANISM

18. The text of paragraphs 19–24 was submitted by the Chair of the Implementation Committee in response to a request by delegations to clarify the compliance procedures under the Convention.

19. An effective compliance mechanism is an important component of the success of the Convention. Parties must demonstrate that they have complied with their obligations under the Convention. This includes both their obligations to reduce emissions under Protocols they are Party to and their obligation to report this information. Reporting on strategies and policies, emission reporting and emission reduction are all monitored by an Implementation Committee, which oversees compliance by Parties with their respective obligations.

20. The Implementation Committee was established by a decision of the Executive Body in 1997 (EB Decision 1997/2) laying out its three primary tasks:

(a) To consider submissions or referrals on individual Parties' compliance;

(b) To periodically review compliance by the Parties with the reporting requirements of the Protocols; and

(c) To carry out in-depth reviews of compliance with specified obligations in an individual Protocol.

21. Based on submissions and referrals, the Committee examines whether an individual Party is in non-compliance with a specific obligation under a given Protocol as alleged in the submission or referral. If the Committee finds, based on information received from the Party concerned or through the secretariat, that there is a case of non-compliance, it submits to the Executive Body, together with its report, recommendations on measures that could be taken to bring about full compliance.

22. Unlike this consideration of individual cases, the other two tasks do not include examination of individual Parties' compliance, but are mainly an overall review of the state of

health of the Protocols. Even if, while carrying out these tasks, the Committee identifies possible non-compliance by an individual Party with some obligations, this does not trigger a more thorough examination, since the Committee cannot examine an individual Party's compliance without a specific submission or referral by a Party or the Secretariat.

23. The Committee submits each year a detailed report about its work and findings to the Executive Body (ECE/EB.AIR/2006/3). Together with the Committee's recommendations, this allows the Executive Body to take the decisions it considers necessary to promote overall and individual compliance with the Convention and the Protocols.

24. The Committee reviews compliance by Parties with their obligations to report on strategies and policies for air pollution abatement, based on their replies to questionnaire on strategies and policies. The Committees findings for 2006 are contained in its report to the EB (ECE/EB.AIR/2006/3/Add.1).