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**IMPLEMENTATION OF PROTOCOLS IN EASTERN EUROPE, THE CAUCASUS
AND CENTRAL ASIA**

Note by the secretariat

Introduction

1. At its thirty-fourth session, the Working Group on Strategies and Policies requested its Chairman to consider appropriate ways and means to facilitate the exchange of information and technologies to help solve specific problems encountered by the East European, Caucasian and Central Asian (EECCA) countries in the implementation and ratification of the protocols to the Convention (EB.AIR/WG.5/74, para. 66).
2. At the thirty-fifth session of the Working Group, in September 2003, the Russian Federation proposed to draft a questionnaire aimed at identifying problems with the ratification of the Protocol on Persistent Organic Pollutants (POPs), the Protocol on Heavy Metals and the Gothenburg Protocol in EECCA countries, as well as the needs of those countries in relation to the implementation of the three protocols. The proposed draft was presented at the twenty-first session of the Executive Body. The Executive Body thanked the Russian Federation for drafting the questionnaire, and requested the secretariat to circulate the questionnaire, collate the answers and provide a note to the Working Group on Strategies and Review at its next session. (ECE/EB.AIR/78, para. 55 (b)).

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.

3. The main objective of the questionnaire was to identify the needs of the EECCA countries in capacity-building and technology transfer. The questionnaire focused on the three most recent protocols and sought, as well as information on obstacles, information on the needs for technical assistance, including the drawing-up of national implementation plans.

4. The secretariat circulated the questionnaire to the following nine Parties to the Convention: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine. The questionnaire was also sent to Tajikistan and Uzbekistan.

5. Responses were received from Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Republic of Moldova and Ukraine. A summary of the responses is presented below. It should be noted, however, that the replies varied in terms of precision and detail.

I. THE PROTOCOL ON POPS

6. Parties were asked to elaborate on the reasons why they had not ratified the Protocol on POPs, and to identify those articles whose obligations were most difficult to implement. Of the seven respondents, only the Republic of Moldova is a Party to the Protocol.

7. Armenia, Belarus and Ukraine mention economic and technical difficulties related to the transition. Armenia and Belarus need better emission inventory and reporting systems to meet the requirements of the Protocol. In Belarus the emission inventory covers only stationary sources. Emission data for mobile sources are collected for only one of the substances covered by the Protocol (benzo(a)pyrene). There is no inventory of PCBs.

8. Armenia, Azerbaijan, Georgia and Kyrgyzstan indicate that they are Parties to the Stockholm Convention on POPs.

9. In Armenia, the measures taken in relation to the ratification of the Stockholm Convention would help the country accede to the Protocol on POPs. An inventory of POPs is currently being carried out in Georgia, under a programme for the implementation of the Stockholm Convention. Having the results of this inventory and certain other measures, Georgia will be able to meet the obligations under the Protocol. Kyrgyzstan is developing a national implementation plan for the Stockholm Convention with financial assistance from the Global Environment Facility (GEF).

10. Articles 3, 5, 7, 8 and 9 are the most difficult to implement. Armenia, Belarus, the Republic of Moldova and Ukraine mention article 3. More specifically, article 3, paragraph 1 (c), presents a difficulty for Armenia, as mineral oils are still widely used in the energy sector, and pollution with PCBs in different concentrations is therefore possible. Another difficulty for

Armenia is the obligation in article 3, paragraph 5 (a), to reduce annual emissions of the substances listed in annex III, and in particular PAHs and PCDD/F, due to its obsolete private vehicles, the technological equipment in operation and the lack of an effective programme for emission control. Article 3, paragraph 5 (b), is particularly difficult for the Republic of Moldova, while Belarus sees a major obstacle in implementing article 3, paragraph 5 (b) (v), concerning the control of emissions from mobile sources. Another problem for Belarus is the implementation of the provisions of annex IV (Limit values for PCDD/F from major stationary sources) and annex VI (Timescales for the application of limit values and best available technologies to new and existing stationary sources). Currently, Belarus has no major point sources of POPs, for which limit values are set in the Protocol (municipal, medical and waste incineration plants), but there are plans to build municipal waste incineration plants. Fulfilling the requirements for best available techniques (BAT) in the residential combustion sector (emissions of PCDD/F and PAHs), in the technologies for burning coal and wood, and in steel production would also be difficult.

11. Meeting the requirements of articles 5 and 7 would be difficult for Ukraine, and those of article 8 on research, development and monitoring for both the Republic of Moldova and Ukraine. Armenia sees difficulties in complying with the obligations in article 9 on reporting. Azerbaijan mentions obligations related to DDT, PCDD, PCDF and HCB.

II. THE PROTOCOL ON HEAVY METALS

12. Parties were asked to elaborate on the reasons for which they had not ratified the Protocol on Heavy Metals, and to identify those articles whose obligations were most difficult to implement. Of the seven respondents, only the Republic of Moldova is a Party to the Protocol.

13. For Armenia the main reason for not ratifying the Protocol is the lack of resources for evaluating heavy metals emissions necessary for the selection of a base year and the reporting of emission data, and for the subsequent keeping of a heavy metals register and fulfilling the obligations under the Protocol. In Belarus, the annual statistics report heavy metals emissions only if they are directly used in the technological process or as raw materials. Currently, the emissions in Belarus are higher than the limits set in the Protocol. Like Armenia, Belarus has problems with the resources for setting up and keeping a heavy metals register. For Azerbaijan, the problem is related to the preparation of the necessary documentation and explanatory work for the ratification of the Protocol.

14. Economic difficulties are the main obstacle for Georgia, Kyrgyzstan and Ukraine. To meet the obligations under the Protocol, Georgia would need appropriate strategic national development plans, showing clearly the long-term prospects of particular economic sectors, on

the basis of which it would be possible to evaluate what reductions for which substances could be achieved. For Kyrgyzstan, the ratification of the Protocol would entail restricting certain economic activities, which presents difficulties for the country. Ukraine does not plan to ratify the Protocol for economic and technical reasons.

15. Fulfilling the obligations under article 3 would be of particular difficulty for Armenia, Belarus (paras. 2 and 5), the Republic of Moldova (para. 2) and Ukraine. Articles 4 and 5 are a problem for Ukraine, article 6 for the Republic of Moldova and Ukraine, and article 7 for Armenia.

III. GOTHENBURG PROTOCOL

16. Parties were asked to elaborate on the reasons for which they had not ratified the Gothenburg Protocol, and to identify those articles whose obligations were most difficult to implement.

17. Armenia, Kyrgyzstan, the Republic of Moldova and Ukraine mention economic and technical difficulties. Armenia lacks the necessary resources to modernize the technological equipment of its enterprises necessary to fulfil the pollution reduction targets set in the Protocol. Kyrgyzstan does not have a database on the levels of acidification, eutrophication and ground-level ozone for financial reasons. The Republic of Moldova cites the lack of modern equipment for scientific research and monitoring. Furthermore, the Republic of Moldova sees problems with the establishment and application of limit values for emissions and best available techniques for existing and new stationary sources as well as mobile sources regulated by the Protocol, the monitoring and modelling of the transport and deposition of pollutants, the establishment of critical loads and levels, cost estimates and emission projections.

18. Belarus has not ratified the Protocol because it is unable to implement article 3. Ratification of the Gothenburg Protocol may be considered after accession to the 1991 VOC Protocol and the 1994 Sulphur Protocol. Currently, the country is considering ratification of the VOC Protocol. It should be noted that it has made progress in critical loads mapping and calculation since 2001 (art. 2). Critical loads have been calculated for ecosystems in selected areas, while a database of input information for the calculation and mapping of critical loads of acidifying substances and heavy metals for the ecosystems of the whole country is being prepared. Based on World Health Organization (WHO) guidelines, national critical levels of ozone for human health have been established as average indicators. Since 2004 ozone levels have been systematically measured.

19. As with the Protocol on Heavy Metals, Azerbaijan has problems to prepare the necessary

documentation and explanatory work for the ratification of the Protocol. Georgia would need appropriate strategic national development plans, showing clearly the long-term prospects of particular economic sectors.

20. Article 3 poses difficulties for most countries: Armenia, Belarus (paras. 2, 3, 5-8), Moldova (paras. 2 - 6) and Ukraine. In addition, for Ukraine it would be difficult to implement articles 4 and 5. Article 6 poses a problem for Belarus and the Republic of Moldova sees difficulties with implementing articles 7 and 8.

IV. NEEDS FOR TECHNICAL ASSISTANCE

21. All the respondents consider it necessary to develop guidelines for the provision technical assistance for implementing the obligations under the protocols. Here are some of their priorities for technical assistance:

- (a) Training for decision makers and other staff on:
 - (i) Identification, inventories, controls, monitoring and improvement of emissions reporting, as well as methods for the evaluation and projection of emissions;
 - (ii) Available methods for the evaluation and projections of POPs, risk assessment and regulation of PCBs, dioxins and furans;
 - (iii) Development, application and compliance with the regulatory measures for POPs;
 - (iv) Development and introduction of alternatives to POPs;
 - (v) Economic instruments for the use of cost-effective methods for reducing emissions of heavy metals; alternatives to the use of heavy metals in products;
 - (vi) Monitoring and modelling of the transport, concentrations and deposition of the pollutants regulated by the protocols, as well as particulate matter (PM) as PM_{1.0}, PM_{2.5}, PM₁₀ and total suspended particulates (TSP); impact assessment of acidification, eutrophication and photochemical pollution; emission control technologies;
 - (vii) Methods to take account of socio-economic factors in the assessment of alternative emission reduction strategies;
 - (viii) Cost-benefit assessment;

- (b) Establishment and application of emission limit values (ELVs) and BAT for existing and new stationary sources, as well as for mobile sources, regulated by the protocols;
- (c) Capacity-building for scientific laboratory research and monitoring, including assistance with the application of standardized methods for sampling and analysis procedures;
- (d) Development, application and ensuring the compliance with the regulatory control measures for pollutants;
- (e) Assessment of critical loads and levels;
- (f) Identification and dissemination of BAT;
- (g) Assistance for a public awareness raising programme and dissemination of information;
- (h) Identification, inventory, control and monitoring of candidate substances for POPs, such as polychlorinated terphenyls, polybrominated biphenyls, short-chained chlorinated paraffins, etc.
- (i) Development and application of clean processes for the control and prevention of pollution;
- (j) Assessment of the impact of heavy metals on human health and the environment;
- (k) Development of national action plans/programmes, e.g. for the reduction of the emissions of POPs, VOCs and the impact of ground-level ozone;
- (l) Economic instruments for the implementation of the protocols;
- (m) Improvement of the pollution monitoring system, the system for control of emissions from enterprises and the evaluation of emissions of the substances covered by the protocols;
- (n) Methods for the evaluation of synergies and the combined impact of acidification, eutrophication and photochemical pollution;
- (o) Preparation of guidelines for the implementation of the obligations of the protocols;
- (p) Elaboration and explanation of the principles of the respective inventory documents for EECCA countries;
- (q) Need for computers and software.

22. All but one country consider it necessary or useful to have regional workshops on problems hampering their accession to the three protocols. For Georgia, such workshops would be necessary for developing methodologies for a complete emissions inventory including source categories, to enable it to report in particular on priority industrial sectors as well as on other types of pollution sources.

23. All but one country are prepared to host such a workshop. However, only two countries have mentioned that they can do this with partial financial support. The Republic of Moldova can provide the premises, equipment and experts for the organization of the workshop, and transfer to/from airport of the participants. Armenia can also provide premises; it hosted a similar workshop on the implementation of another UNECE Convention in 2003. Ukraine can host a workshop in 2007.

24. Six of the countries have answered that they need financial and/or technical assistance to develop national programmes (implementation plans) for the protocols, as required in particular articles. For example, the Republic of Moldova, due to economic difficulties and the lack of knowledge, has not yet developed national plans/programmes, as required by article 7 of the Protocol on POPs, article 5 of the Protocol on Heavy Metals and article 6 of the Gothenburg Protocol. It needs assistance to develop national implementation programmes for all three protocols, to develop national programmes for the establishment and application of ELVs and BAT for existing and new stationary sources, covered by all three protocols, and to strengthen the infrastructure and the capacity in scientific research and in the monitoring of atmospheric pollution.

25. Four countries mention that they might need assistance to improve their legislation on air protection: Armenia, Azerbaijan, Kyrgyzstan and the Republic of Moldova. In particular, the Republic of Moldova's Environmental Protection Act, adopted in 1997, does not define ELV, BAT, critical loads and levels, etc., nor does it contain provisions on the development, application and compliance with ELV, application of BAT, or establishment of critical loads and levels. The Act and other regulations do not establish a priority list of pollutants for regulation, reporting, control, monitoring, etc.

26. Only one country, Kyrgyzstan, needs legal assistance to amend its national legislation, to ensure that it does not contradict the provisions of the protocols.

V. INFORMATION NEEDS

27. Countries were invited to specify their information needs with regard to BAT. The following needs for information were mentioned:

(a) Information on the national implementation plans/programmes of other Parties to the Convention and the protocols;

(b) Information on the reduction of emissions of PCDD/F in waste incineration (municipal, medical, hazardous), thermal metallurgical processes (production of steel in electric arc furnaces, production of pig-iron, secondary production of aluminium, copper and their alloys); reduction of the emissions of PAHs in residential heating through wood and coal burning, and in wood preservation; reduction of emissions of heavy metals in waste incineration (municipal, medical and hazardous), production of glass, electric arc furnaces, production of cement;

(c) BAT for the emission calculations of the substances covered by the Convention and the three protocols;

(d) Information on the burning of fossil fuels and the optimal and modern methods for air quality protection;

(e) BAT for waste incineration, thermal processes in the metallurgical industry, combustion of fossil fuels in utility and industrial boilers, residential combustion, reduction of POPs emissions from mobile sources (for the Protocol on POPs);

(f) Information on BAT for the change of raw materials, low-emission process technologies, fugitive emissions control and off-gas cleaning (for the Protocol on Heavy Metals);

(g) Information on BAT in the use of solvents, control of emissions from stationary and mobile sources, and control of ammonia emissions from agriculture (for the Gothenburg Protocol).

VI. OTHER

28. Countries were asked to describe other problems that they faced with regard to implementation, not covered in the questionnaire.

29. A problem for Belarus is that its representatives do not always participate in the sessions of the working bodies of the Convention and the documents from these sessions do not always reach the specialists responsible for the implementation of the Convention. Other problems are the high percentage of deterioration of the technological and environmental protection equipment in the chemical industry and the production of building materials as well as the lack of automated monitoring systems for major polluting sources.

30. In the Republic of Moldova there is a lack of equipment, a lack of scientific research, development and monitoring required by the three protocols, and a lack of knowledge for the establishment of threshold values.

31. Georgia is exploring the possibilities for accession to the EMEP Protocol. In view of the difficult financial situation of the country, fulfilment of the above-mentioned obligations would be possible only with financial support. As the problems of the EECCA countries are being prioritized, it will be necessary to provide information materials and assistance for participation in the meetings. It is hoped that the increased support for participation will contribute to a more active participation of Georgia and implementation of the Convention. Otherwise, accession to the protocols would not be positive since, without international assistance, Georgia would fail to comply with their obligations.

32. In Kyrgyzstan, information about the implementation of the Convention in other countries, both developed and developing, is insufficient. Being a country with an economy in transition, Kyrgyzstan needs assistance from the secretariat and experts from developed countries.