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GLOBAL MINISTERIAL ENVIRONMENT FORUM

POLICY ISSUES: STATE OF THE ENVIRONMENT

Note by the Executive Director

The Executive Director has the honour to circulate herewith a letter dated 30 January 2001 to the Director of UNEP Chemicals from the Secretary to the Executive Body for the Convention on Long-range Transboundary Air Pollution, on behalf of the Bureau of the Executive Body, concerning the question of mercury.

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30 January 2001

Dear Mr Willis,

On behalf of the Bureau of the Executive Body for the Convention on Long-range Transboundary Air Pollution I have the honour to draw you attention to the decision taken by the Executive Body at its eighteenth session in November-December 2000 resulting from the concern of delegates about mercury as a global pollutant, and the appreciation that the Convention's Protocol on Heavy Metals, for mercury, lead and cadmium, would soon enter into force. The Executive Body requested its Bureau, in consultation with its secretariat, to prepare and send a letter to UNEP noting the importance of the global-scale transport of mercury and the need for future action on this matter. Whilst stressing the need for consideration of the overall workload and priorities of UNEP, the Executive Body wished to invite UNEP to initiate an assessment of mercury and to consider future action.

Although mercury occurs naturally, human activities such as mining, metal production, the manufacture of chlorine, coal combustion and waste treatment contribute significantly to the levels in the environment and to human exposure. Mercury is also used as a chemical in certain products (e.g. dental amalgams, instruments and batteries).

Mercury itself and its inorganic compounds are toxic. Furthermore, the methylation of mercury can give rise to very toxic compounds, which may bioaccumulate in food-chains. High levels of methylmercury are found in both freshwater and marine fish and these pose significant risks to human health. In the eastern Canadian Arctic, 33% of Inuit women have mercury levels greater than WHO guidelines.

Mercury can also cause effects in the environment. There are strong indications that mercury affects the decomposition of organic matter in forest soils and impairs the recycling of important nutrients. Impacts on wildlife include effects on reproduction and neurobehavioural effects. Several international assessments on mercury show a major and increasing threat to human health and the environment.

Mr. James B. Willis,
Director UNEP Chemicals
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Emissions of elemental mercury add to atmospheric background concentrations and modelling results indicate that concentration and deposition patterns regionally are influenced by the global mercury background. Since emissions are spread globally, mercury occurs in increasing concentrations in the environment throughout the world, even in remote regions such as the Arctic. Other forms of mercury will still be deposited on a continental scale, up to 1000 km from the source. Work under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) of the Convention on Long-range Transboundary Air Pollution has been extended to modelling on the hemispheric scale to take account of very long-range transport resulting from the rather high volatility and long residence times in the atmosphere.

The environmental mercury problem has been addressed and actions have been taken in many countries and by regional organizations, for example:

- (a) OECD;
- (b) European Union;
- (c) The NAFTA side agreement on environmental cooperation (NAAEC);
- (d) Convention on Long-range Transboundary Air Pollution (through the Protocol on Heavy Metals);
- (e) Oslo/Paris Convention for the Protection of the Marine Environment of the North East Atlantic;
- (f) Helsinki Convention for the Baltic;
- (g) Arctic Monitoring and Assessment Programme (AMAP).

Action has also been taken on the global level, e.g. Rotterdam Convention on the Prior Informed Consent Procedure for Hazardous Chemicals and Pesticides in International Trade.

There is an urgent need to improve our understanding of mercury and its compounds with regard to sources, transport, and pathways, in relation to its effects on human health and the environment, and in consideration of socio-economic issues. This knowledge could serve as the basis for development of effective and realistic strategies, policies and measures at national, regional and global levels.

Given our current knowledge and experience of mercury pollution, the Executive Body for the Convention on Long-range Transboundary Air Pollution, whilst recognising the need to take due consideration of the overall workload and priorities of UNEP, invites the UNEP Governing Council to initiate an assessment process for mercury and its compounds, which may include other heavy metals that cause similar concerns.

Such an assessment process could:

- (a) Assess the available information on mercury chemistry, toxicology, health and environmental effects;
- (b) Analyse the sources, transport, pathways, transformation and deposition on different scales;
- (c) Assess the risks posed by mercury and its compounds and options for risk reduction;

- (d) Examine abatement options for reducing emissions and discharges of mercury, preferred substitutes for mercury and alternative technologies to replace processes using mercury;
- (e) Analyse the cost-effectiveness of available options.

In undertaking these tasks it would be important to take account of the circumstances of developing countries and countries with economies in transition.

The Executive Body for the Convention on Long-range Transboundary Air Pollution together with its subsidiary bodies, and in cooperation with its secretariat, are willing to help with the assessment process and make available their knowledge and experience.

Following the assessment process, the UNEP Governing Council may wish to bring together information for development of recommendations for future international action including decisions by the UNEP Governing Council.

Yours sincerely,

Keith Bull
Secretary to the Executive Body for the
Convention on Long-range Transboundary Air Pollution
(signing on behalf of the Bureau
of the Executive Body)