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**Conference of the Parties to the
Minamata Convention on Mercury
First meeting**

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Item 5 (c) (iv) of the provisional agenda*

**Matters for action by the Conference of the Parties at its
first meeting: matters recommended by the
intergovernmental negotiating committee: consideration
of the report on open burning**

**Consideration of the report on mercury emissions related to the
open burning of waste**

Note by the secretariat

1. At its fifth session, the intergovernmental negotiating committee to prepare a global legally binding instrument on mercury noted that open burning of waste was a potential source of emissions in some countries. The inclusion of open burning in the list of emission sources covered under the Minamata Convention on Mercury was not supported by some countries owing to the lack of sufficient scientific information. The secretariat was requested to gather sufficient information to support decision-making on the issue and to report on its efforts in that regard to the Conference of the Parties to the Minamata Convention at its first meeting or as soon as possible.
2. Following the seventh session of the committee, the secretariat called for Governments and others to provide input for a report on open burning. In the period since the seventh session, submissions have been received from 11 Governments and a number of non-governmental sources. The secretariat has also gathered information from a range of other sources, including publications by the United Nations Environment Programme and the World Bank, and from a number of civil society organizations. The assessment of the submissions and information gathered is provided in the annex to the present note.
3. At the current stage, a limited amount of quantified information is available. Some sources recommend actions to reduce or eliminate open burning altogether as part of sustainable development activities, noting the contribution that such actions would make to achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. It should be noted that additional information on the quantities of mercury emitted as a result of open burning is likely to be gathered by countries during the preparation of mercury inventories that will form part of their initial assessments and preparations for implementation and ratification of the Minamata Convention.

* UNEP/MC/COP.1/1.

Suggested action by the Conference of the Parties

4. The Conference of the Parties may wish to consider the report on mercury emissions related to the open burning of waste (see annex) and may also wish to consider requesting the secretariat to continue to compile information on emissions from open burning as part of its overall consideration of the inventories submitted by countries. The Conference of the Parties may further wish to consider requesting the secretariat to make that information available as background information at future meetings of the Conference.

Annex

Report on mercury emissions related to the open burning of waste

A. Introduction

1. Waste management is a key issue that poses a challenge for all countries, but particularly for developing countries and countries with economies in transition, where resources to manage waste are limited. The emissions and releases resulting from waste management activities pose a threat to public health and the environment in those countries, with certain pollutants posing a global threat, owing to their transboundary movement.

2. Mercury may be found in a wide variety of waste streams, and is not limited to those recognized as being hazardous on the basis of the confirmed presence of mercury (such as waste mercury-added products or wastes contaminated with mercury). The Minamata Convention provides, in its article 11, that mercury wastes are to be managed in an environmentally sound manner, taking into account the technical guidelines developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

3. Recognition of the presence of mercury in general waste led to the inclusion of waste incineration facilities in the list of emissions sources (see annex D of the Minamata Convention) controlled under article 8 of the Minamata Convention, on emissions. Guidance on the control and reduction of mercury emissions from waste incineration facilities was adopted, on a provisional basis, by the intergovernmental negotiating committee to prepare a global legally binding instrument on mercury, at its seventh session, in the overall guidance on best available techniques and best environmental practices.

4. It is recognized, however, that in many countries, only a fraction of the waste disposed of through incineration is burned in established waste management facilities, whereas much of it is burned informally through practices loosely termed “open burning”. The practice of open burning results in uncontrolled emissions to the environment of a range of pollutants. From a public health perspective, open-burning emissions are high-risk for a number of reasons. The emissions generally take the form of ground-level releases, resulting in greater local exposure, and the mixed nature of the waste results in the release of a range of pollutants with a variety of health effects. Controls on open burning are a challenge to enforce, as burning sites are frequently scattered and burning may be intermittent. A range of health effects, including cardiovascular and respiratory effects, have been associated with exposure to smoke emitted from open burning (Mavropoulos, 2015).

5. The elimination of open burning has links to the Sustainable Development Goals. The global waste management goals embedded in the 2030 Agenda for Sustainable Development include the elimination of open burning by 2020, contributing to the achievement of a number of the Goals.

B. Estimates of the scope of open burning

6. In the *Global Waste Management Outlook*, published by the United Nations Environment Programme (UNEP) in 2015, it is estimated that uncontrolled disposal of waste affects more than 50 per cent of the population in low-income countries, with the rate rising to almost 100 per cent in rural areas in those countries. The report estimates that at least 3 billion people worldwide still lack access to controlled waste disposal facilities, with much of the waste disposal being carried out in uncontrolled dumpsites by means of open burning.

C. Estimates of mercury emissions from open burning of waste

7. The UNEP *Global Mercury Assessment 2013* notes that the share of mercury in products entering the waste stream is distributed among recycling, incineration and landfill activities (the latter of which may result in subsequent releases of mercury, depending on the controls in place at the relevant landfill). The waste could be further divided into controlled and uncontrolled waste, in the case of both incineration and landfill activities. In the assessment, modelling was done to estimate the mercury emissions resulting from different waste management practices in different countries, based on estimates of the level of development. The assessment methodology includes some assumptions about the waste management practices, and the accuracy of the estimates is expected to improve with the collection of additional data.

8. A similar methodology, presented in the UNEP Toolkit for Identification and Quantification of Mercury Releases, can be used to estimate the amount of mercury emitted from the burning of waste, with factors used to estimate the amount of controlled versus uncontrolled burning at the national

level. The resulting estimates may be further refined by factoring in additional national information. As countries develop inventories of mercury emissions and releases as part of their implementation of the Minamata Convention, it will be possible to collect more information, and a more accurate picture of the extent of mercury emissions will be feasible.

D. Information compiled from submissions from countries on open burning of waste

9. A number of countries indicated that open burning of waste was not allowed at the national level. Other treatment methods for waste included recycling, thermal treatment in an authorized facility or controlled landfilling. Some countries have established practices to utilize the heat generated from waste incineration for the generation of electricity or the heating of buildings. One country indicated that religious and cultural events in its territory involved the burning of a certain amount of waste, but that the amount was considered to be negligible and the mercury levels were expected to be low (i.e., comparable to those of natural objects in the environment, such as trees).

10. A number of countries provided detailed information in relation to their waste management practices. Costa Rica provided information on waste for 2014. In that year, close to 1.5 million tons of waste were generated. The majority of the waste was disposed of in a landfill. It was estimated that around 68 per cent of the waste not sent to a landfill was burned. Using the emission factors in the UNEP Toolkit for Identification and Quantification of Mercury Releases, mercury emissions in 2014 were estimated to be around 475 kg.

11. Guatemala estimated that in 2013 it had generated 240,000 tons of ordinary waste. However, it did not have any information on, or estimates of, the average mercury content of the waste or the proportion of waste subject to open burning.

12. Montenegro submitted detailed information on waste generated in its territory. It was able to provide estimates of waste for a number of categories, including municipal waste, industrial waste, construction waste, sewage sludge, medical waste, waste vehicles, waste batteries and accumulators, packaging waste, waste tyres, waste electrical and electronic products and waste oils. It did not, however, have any information on either the percentage of waste being disposed of through open burning or the average mercury content of its waste.

13. Saudi Arabia indicated that, at the time of reporting, it did not have any reliable information on its national levels of emissions and releases of mercury and mercury compounds. It is currently in the process of undertaking surveys and other studies that directly address air pollution, including mercury and mercury compounds, and which are directed towards estimating such emissions. In its submission, Saudi Arabia indicated that it had already taken measures to:

- Reduce the generation of hazardous and other waste (including mercury and mercury compounds) to a minimum, taking into account social, technological and economic aspects.
- Apply and enforce national environmental standards for air pollutants (including mercury and mercury compounds) from all anthropogenic activities.
- Ban open burning of municipal and other waste.
- Ensure the availability of adequate disposal facilities for the environmentally sound management of hazardous waste that contains mercury and other mercury compounds, which shall be located, to the extent possible, at the place of its disposal.
- Ensure that persons involved in the management of hazardous or other waste take such steps as necessary to prevent pollution, and, if such pollution occurs, to minimize its consequences for human health and the environment.
- Implement and enforce the provisions of the Basel Convention, including to ensure that the transboundary movement of hazardous and other waste is reduced to a minimum, consistent with the environmentally sound and efficient management of such waste, and in such a manner as to protect human health and the environment against the adverse effects which may result from such movement, and that such export is consistent with the provisions of the Basel Convention.
- Prevent the import of hazardous and other waste into its territory.

14. Senegal submitted an estimate of the emissions and releases of mercury from open burning in its territory. It estimated that approximately 2,557 kg of mercury had been emitted to the air, and that approximately 285 kg of mercury are present in wastes that remain after burning.

15. South Africa indicated that it did not currently have any available information on open burning of waste in its territory, while Uganda indicated that solid waste incineration was not usually practised in its territory, with direct landfilling being the most common waste management practice.

E. Conclusions

16. According to the UNEP *Global Mercury Assessment 2013*, waste management (including landfill and controlled incineration) contributes less than 5 per cent to overall mercury emissions globally. Estimates of the contribution from open burning range from none in some countries to potentially 100 per cent of waste disposal in other countries. Estimates of the quantities of mercury emitted and released will be improved as more data is gathered, a process already under way in many countries as part of the Minamata Initial Assessments and the preparations for implementation of the Convention.

17. The challenges of open burning of waste extend, however, far beyond the problem of mercury emissions. As part of the overall development agenda, the elimination of open burning has been identified as a priority for sustainable development, helping to reduce a range of air pollutants and providing social and economic benefits.

References

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