COMMISSION ON PHYTOSANITARY MEASURES

TWENTIETH SESSION

REPORT BY THE OZONE SECRETARIAT*

AGENDA ITEM 22.3

Introduction

1. Under the Montreal Protocol on Substances that Deplete the Ozone Layer, technical advice on and assessment of issues related to the use of methyl bromide, a potent ozone-depleting substance, are dealt with by the Methyl Bromide Technical Options Committee (MBTOC), which is one of the technical options committees of the Protocol's Technology and Economic Assessment Panel (TEAP). The work of the MBTOC has benefitted from cooperative efforts with the Technical Panel on Phytosanitary Treatments (TPPT) of the International Plant Protection Convention (IPPC) since 2007.[1]

2. The MBTOC responds to requests from and tasks assigned to it by the parties to the Montreal Protocol and has been providing advice on issues related to the control of methyl bromide for non-QPS (Quarantine and Preshipment) uses since 1992. Thanks to actions taken by the parties, the phase-out of controlled non-QPS uses of methyl bromide is now virtually complete and no party has been authorized any exemption for Critical Use (CUE) since 2025. This means that over 85% of the total methyl bromide for all uses (QPS and non-QPS) has been phased out globally to date from the baseline values set under the Protocol in the early 1990s. An average of 10,000 tonnes of methyl bromide has been used per year for QPS purposes (currently exempted under the Montreal Protocol) over the last decade, and this is a significant issue for the recovery of the ozone layer.

3. Given that methyl bromide alternatives for QPS uses are available for about 30-40% of the current uses, replacing methyl bromide for such uses would bring rapid and clear environmental benefits.

Recent news and findings

4. The highlights from the 2025 MBTOC Progress report[2] are listed below:

- Reported **production** of methyl bromide for QPS uses was about 8,935 tonnes in 2024.[3] Production currently occurs in 5 parties – China, Israel, India, Japan and the United States of America, with India and the United States of America accounting for over 75% of the production.

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* Prepared with input by the Methyl Bromide Technical Options Committee (MBTOC) of the Technology and Economic Assessement Panel (TEAP) of the Montreal Protocol on Substances that Deplete the Ozone Layer.

[1] A report on the Montreal Protocol was submitted for the first time to the Commission on Phytosanitary Measures at its second meeting (CPM-2), available at: https://www.ippc.int/en/publications/471/.

[2] https://ozone.unep.org/system/files/documents/TEAP-May2025-Progress-Report.pdf (Chapter 4).

[3] Reported data for 2024 are available but not yet complete.

- Reported QPS **consumption** of methyl bromide increased from 7,660 tonnes in 2023 to 7,832 tonnes in 2024. Over the last three years, however, QPS consumption has declined by over 20% due to several countries making substantial efforts to reduce methyl bromide use and emissions, e.g., New Zealand by over 800 tonnes and China by 300 tonnes since 2022. It is noted that there is a discrepancy of over 1,100 tonnes between the total production and consumption reported for 2024.

- Over 85% of the methyl bromide used is vented directly to the atmosphere after treatment of commodities and this is an issue of concern under the Protocol.

- Alternatives exist for QPS uses of methyl bromide and some are being adopted for key sectors including timber and grain (e.g., phosphine, ethyl formate, ethane dinitrile). In particular, alternatives are available for most pre-shipment (PS) uses (~35% of QPS use).

- A proposed reduction to the worker safety exposure limit for methyl bromide from 5 ppm to 1 ppm in several major user parties, such as Australia and Canada, is expected to significantly reduce the methyl bromide feasibility and use.

- Recent data indicate that atmospheric concentrations of methyl bromide have increased, reaching the levels observed about three years ago.

- Recent studies[4] also report substantial sources of unexplained emissions of methyl bromide, estimated at 4,000-9,000 tonnes annually between 2011 and 2020, which are not consistent with reported anthropogenic consumption.

- Many of the findings above underscore the importance of accurate reporting by parties under Article 7 of the Montreal Protocol.

- Further reduction in the use of methyl bromide for QPS applications is particularly important because eliminating emissions from these uses represents the single largest short-term opportunity to reduce the total concentration of ozone depleting chemicals in the atmosphere and accelerate the recovery of the ozone layer. However, instead of declining, the average atmospheric concentration of methyl bromide has remained stable over the past three years, largely due to ongoing QPS uses and other unidentified sources. Concentrations continue to remain significantly above natural baseline levels.

Cooperation areas between the Montreal Protocol and the IPPC

5. At the Second Session of the Commission on Phytosanitary Measures (CPM-2) of the IPPC in 2007, the Ozone Secretariat submitted a paper on cooperation and areas of mutual concern between the two agreements. The parties to the IPPC participating in CPM-2 agreed that the IPPC Secretariat should

[4] Choi H., Park M.-K., Fraser P. J., Park H., Geum S., Mühle J., Kim J., Porter I., Salameh P. K., Harth C. M., Dunse B. L., Krummel P. B., Weiss R. F., O'Doherty S., Young D., Park S. (2022), Top-down and bottom-up estimates of anthropogenic methyl bromide emissions from eastern China, Atmos. Chem. Phys. *Atmos. Chem. Phys*., 22, 5157–5173, https://doi.org/10.5194/acp-22-5157-2022.

Hu X., Yao B., Muhle J., Rhew R.C., Fraser P., O'Doherty S., Prinn R., Fang X. (2024). Unexplained high and persistent methyl bromide emissions in China. *Nat. Commun.* 15, 8901. https://doi.org/10.1038/s41467-024-53188-3.

continue to cooperate and coordinate with the Ozone Secretariat on issues of common concern with a view to identifying and promoting activities that would benefit and enhance the coherence of the two international agreements.[5] The following activities are considered to be important areas for collaboration:

- Continued data gathering on quantities of methyl bromide used for QPS by country and particular applications, together with identification of uses for which there are feasible and approved alternatives, including estimates of the quantity of methyl bromide replaceable, if these alternatives are implemented.

- Identification of quarantine situations for which methyl bromide fumigation is the only phytosanitary measure specified, and encouragement of development and use of alternatives in these situations.

- In situations where methyl bromide and an alternative are both recommended for a particular quarantine treatment, and development of guidance for the non-methyl bromide alternative.

- Specification and promotion of best fumigation practice in quarantine treatments with methyl bromide, with emphasis on more efficient methyl bromide use and adoption of technologies to minimise emissions, while maintaining phytosanitary effectiveness.

- Encouragement of the use of methyl bromide recapture, recovery and recycling technology, where technically and economically feasible, to reduce emissions of methyl bromide from quarantine treatments without alternatives, until such alternatives are available, and to exchange relevant information.

- Promotion of joint participation by experts in technical advisory bodies of the Montreal Protocol and the IPPC to enhance communication and advice, consistent with the aims of both agreements.

- Continued collaboration between the secretariats and between the technical bodies of the two international agreements to progress mutual aims.

Key issues for consideration

6. The MBTOC has a similar key role to the TPPT in identifying suitable alternatives to methyl bromide. Continued collaboration with the IPPC and the TPPT, in particular, is considered essential in assisting parties with the phase out of methyl bromide for QPS uses.

7. The Memorandum of Understanding between the secretariats of the two treaties, which expired in 2017, has been instrumental in promoting cooperation on issues of common concern. That cooperation continues and ways to strengthen it are being explored.

8. It is also suggested that consideration be given to:

- Promoting and facilitating collaboration between the Montreal Protocol and the IPPC through joint participation of technical experts in the technical panels and committees of both treaties,

[5] https://assets.ippc.int/static/media/files/publications/en/1179929463410_CPM_2_report_1.pdf.

such as the MBTOC and the TPPT, to enhance communication and exchange of advice, consistent with the aims of both agreements; and

- Exchanging information and documentation with a view to maximizing efficiency and effectiveness in advancing the mutual aims of the treaties, minimizing duplication of effort, and facilitating coordination and consultation among relevant stakeholders at the national and international level.

9. Currently, there are no experts who are members of both the MBTOC and the TPPT. The MBTOC would therefore like to continue to invite TPPT technical experts in methyl bromide use for quarantine and related phytosanitary issues to consider participating in MBTOC through the nomination procedure established under the Montreal Protocol. In this regard, the expertise sought by the MBTOC relates to:

- Alternatives to methyl bromide that can be used in quarantine (and pre-shipment) uses globally (in both developed and developing countries); and

- Regulations involved in maintaining phytosanitary/biosecurity standards between and within countries during international trade.

10. The Ozone Secretariat wishes to reiterate that it would appreciate receiving suggestions by the IPPC on possible ways for strengthening the cooperation between the two entities, to enable the parties to the Montreal Protocol to consider them as soon as possible in 2026, including during the forty-eighth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol in July 2026, and the Thirty-Eighth Meeting of the Parties to the Montreal Protocol in November 2026.