

# Montreal Protocol on Substances That Deplete the Ozone Layer

## DATE RATIFIED BY THE PHILIPPINES

17 July 1991



Mr. Joe Amil Salino of the Philippine Ozone Desk in a radio guesting at DZUP 1602, radio station of the University of the Philippines Diliman, in their weekly environment program "Nature Venture" on 17 September 2018. [EMB]

The Montreal Protocol is a landmark multilateral environmental agreement that aims to protect the stratospheric ozone layer from depletion due to the ozone reaction with halogenated hydrocarbons. Hence, its objective is to reduce or eliminate the production and consumption of ozone depleting substances (ODS). Having originated from the Vienna Convention, the Montreal Protocol sets a timeline for the phase-out of chlorofluorocarbons (CFCs). It entered into force in January 1989 and was universally ratified in 2009. The treaty has had several adjustments and amendments since then, adding control measures and substances to the list. The Philippines ratified the first four amendments in 2006. The latest is the Kigali Amendment in 2016 for which the

country is preparing for ratification. It calls for the phase-down of hydrofluorocarbons (HFCs) which do not deplete the ozone layer but are greenhouse gases and therefore contribute to climate change.

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## COMMITMENTS/ROADMAP

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The treaty calls for the phase out of Ozone Depleting Substances (ODS) and provides a timetable on the ban and elimination of their production. The specific commitments of the country to the Protocol are as follows:

- Article 4 bans imports/exports of ODS between Parties and Non-Parties (i.e. countries that have not ratified the Protocol or relevant Amendments). The Article also bans imports from non-Parties of products made with or containing ODS, as decided by the Meetings of the Parties to the Montreal Protocol. Annex D specifies a list of products containing CFCs and halons which cannot be imported from non-Parties.
- Article 4A controls trade between Parties, under certain specific circumstances. Article 4B makes it mandatory for all Parties to implement a system for licensing the import and export of ODS, for both new and used ODS.
- Article 5 mentions that the timetable takes into consideration the allowance for developing countries to delay their compliance with the prescribed control measures by 10 years.
- Article 7 requires all Parties to report ODS data to the Ozone Secretariat through annual reports on the production and consumption of ODS.
- Article 9 requires Parties to cooperate in promoting public awareness of the environmental effects of ODS, conduct research and development (R&D) and information exchange on technologies to reduce emissions and destroy ODS, ODS alternatives, and control strategies.

**Table 1** ODS Phase-out Schedule for Developing Countries, under the Montreal Protocol, specifically for the Philippines

Substances covered by MP	Phase-out Schedule for Developing countries
Chlorofluorocarbons (CFCs), Halons, CCl <sub>4</sub> (Carbon tetrachloride)	Phased out by end of 2010
CH <sub>3</sub> CCl <sub>3</sub> (Methyl chloroform)	Phased out by end of 2015
Hydrochlorofluorocarbons (HCFCs)	Freeze in 2013 at a base level calculated as the average of 2009 and 2010 consumption levels 10% reduction by 2015 35% reduction by 2020 67.5% reduction by 2025 97.5% reduction by 2030 Total Phase out by 2040
Hydrobromofluorocarbons (HBFCs)	Phased out by end of 1995
Methyl bromide (CH <sub>3</sub> Br) (horticultural uses)	Freeze in 2002 at average 1995–1998 base level 20% reduction by 2005 Phased out by end of 2015
Bromochloromethane (CH <sub>2</sub> BrCl)	Phased out by end of 2002
Hydrofluorocarbons (HFCs) and Hydrochlorofluorocarbons (HCFCs)	Phase-down schedule Freeze in 2024 10% reduction by 2029 30% reduction by 2035 50% reduction by 2040 80% reduction by 2045

Source: DENR-EMB, Philippine Ozone Desk, February 2019

Table 2 HCFC Phase-out Schedule and Sectors Affected in the Philippines

Date	Import Reduction	Target HCFC Consumption*	Sector affected/ Remarks
1 Jan 2013	Baseline (161.97 ODP tons) shall not be exceeded		Sector: Foam manufacturing
1 Jan 2015	10.0%	145.77	Compliant to Montreal Protocol
1 Jan 2020	35.0%	105.28	Sector: Manufacturing of refrigeration and air-conditioning equipment
1 Jan 2025	67.5%	52.64	Sector: Chillers and fire extinguishers
1 Jan 2030	97.5%	4.05	All import of HCFC blends prohibited
2030–2039			2.5% per annum allowed for the servicing sector
2040	100.0%	0	All imports of HCFC and HCFC blends prohibited

\*In tons ODP

Source: DENR-EMB, Philippine Ozone Desk, February 2019

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## POLICY ISSUANCES

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**Republic Act No. 6969**, otherwise called the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 and **Republic Act No. 8749** or the Philippine Clean Air Act of 1999 serve as the legal basis for specific policies of the Department of Environment and Natural Resources. The latest of these is **DENR Administrative Order 2013-25** or the Revised Chemical Control Order for ODS. These policies can be found in the Environmental Management Bureau Philippine Ozone Desk's Policies at [http://pod.emb.gov.ph/?page\\_id=21](http://pod.emb.gov.ph/?page_id=21).

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## UPDATES AND RELATED PROJECTS

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The Philippines does not produce nor export ODS, hence, its consumption is equal to its importation. The DENR-EMB issues clearances of all ODS importations. However, the import of the pesticide methyl bromide is monitored/controlled by the Fertilizer and Pesticide Authority (FPA) of the Department of Agriculture (DA). The Bureau of Customs enforces the DENR and DA regulations on the import and export of ODS by checking if importers have the necessary permits from the DENR or DA to allow entry to the country. The DENR-EMB ensures that methyl bromide importation data is reported annually to the Multilateral Fund Secretariat as part of the Country Program (CP) data reporting and Ozone Secretariat in compliance with the Protocol's Article 7 on data reporting.

The DENR-EMB had already completed the ban on five of the six groups of Ozone Depleting Substances (ODS) namely: (a) chlorofluorocarbons (CFCs) by January 2010; (b) halons by January 1999; (c) carbon tetrachloride (CCl<sub>4</sub>) by January 1996; (d) methyl chloroform by January 1996; and (e) methyl bromide (non-quarantine pre-shipment or non-QPS) by January 2009. Hydrochlorofluorocarbons or HCFCs still need to be phased out. The first species of HCFC to be phased out in the Philippines is HCFC-141b, widely used as a blowing agent, because it has the highest ozone-depleting potential (ODP), according to DENR DAO 2013-25. Based on the third party verification audit, the Philippines was able to comply with the required 10% reduction of ODS in 2015. For 2016 to 2017, the unaudited importation data showed that the Philippines has complied with the 10% requirement for ODS import reduction. The DENR-EMB monitors the ODS quota system allocation and has a licensing system to control the consumption of ODS. The phase-out of ODS in the Philippines is shown in Table 3.

In order to comply with the Montreal Protocol, the DENR-EMB has the following projects:

1. *Philippines-Chillers Energy Efficiency Project (PCEEP) (2011-2017)*. It aimed to reduce greenhouse gas (GHG) emissions by replacing inefficient chillers, including old chlorofluorocarbon (CFC) chillers and non-CFC based chillers. At the end of the project, 45,687 tons of refrigeration (TR) of cooling capacity were transformed to energy efficient cooling. Cumulative carbon emission was reduced to 151.4 kilo tons of CO<sub>2</sub> equivalent (kTCO<sub>2</sub>). Moreover, energy consumption was reduced to 35 Gigawatt hour (GW) a year.

**Table 3** Status of the Phase-out of ODS in the Philippines under the Montreal Protocol

<b>Year</b>	<b>ODS Phase-out Compliance (1996–2015) and Targets (2020–2040)</b>
1996	Carbon tetrachloride and Methyl Chloroform, 100% phased-out
1999	Halon, 100% phased-out
2005	CFC-11, 100% phased-out
2009	Methyl Bromide (Non-Quarantine Pre-shipment or QPS), 100% phased-out
2010	CFC-12, 100% phased-out
2013	HCFC, Freeze from baseline (quota) - compliant
2015	HCFC, 10% reduction compliant
2020	HCFC, for 35% reduction
2025	HCFC, for 67.5% reduction
2030	HCFC, for 97.5% reduction
2040	HCFC, for 100% phase-out
2040	HCFC, 100% phase-out

Source: DENR-EMB, February 2019

2. *ODS-Institutional Strengthening Project (ISP) (1993-2019; Phase I to XI)*. Funded by UNEP, this aims to operationalize the National Ozone Unit or the Philippine Ozone Desk (POD) of the DENR-Environmental Management Bureau to support the country in meeting its obligations under the Protocol. The project assists the DENR EMB-POD in its functions, to wit: implement the country program; design and implement the legal and financial measures to facilitate ODS phase-out; coordinate country activities; consult with industry and other relevant organizations; represent the country's point of view at the Meeting of the Parties and within working groups and committees; organize awareness and training programs for industry and the public; implement the licensing system for monitoring and reporting national consumption; monitor past and present investment and non-investment projects; and create a strategy and plan of action for future projects. Accomplishments under Phase X (January 2016–December 2017) include the continued implementation of the licensing scheme for the importation of ODS and alternatives, monitoring of cases of illegal trade and initiation of the ratification process for the Kigali Agreement that is an Amendment to the Protocol. In June 2017, the Online Permitting and Monitoring System (OPMS) for ODS and ODS Alternatives was

developed and integrated into the EMB permitting system. Moreover, a draft Memorandum of Understanding between the Bureau of Customs and DENR-EMB was prepared for the implementation of the Montreal Protocol commitment to help combat illegal ODS trade. However, the MOU may be expanded to include other multilateral environmental agreements. In Phase XI (January 2018–December 2019), the POD continues to work with other stakeholders on the enforcement of the national ODS import and export licensing system, ensures the implementation of the quota system and strictly monitors the quota allocation of the ODS registered importers, coordinates with the stakeholders on the implementation of other national policies, submitted the 2017 mandatory annual Country Program and Article 7 Data reports, and organized the 2018 International Ozone Day celebration.

3. *HCFC Phase-out Management Plan Stage 1.* The POD implemented Stage 1 from January 2013 to December 2017. Policy, investment and non-investment activities (training, capacity building and public awareness) were done to completely phase-out HCFC-141b in the foam sector and control growth in the consumption of HCFC-22 in the refrigeration, air conditioning, and servicing sectors, and consumption of HCFC-141b in solvent/ servicing usages.
4. *HCFC Phase-out Management Plan Stage 2.* This shall be implemented beginning in the latter half of 2019 and its preparatory activities are part of ODS-ISP Phase XI. During this stage, 25.73 ODP tons of HCFCs will be phased out; total phase-out of HCFC-22 used in manufacturing domestic and commercial air-conditioners will be achieved; and HCFC consumption in the refrigeration servicing sector will also be reduced.

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## NEXT STEPS

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- Coordination and consultation for the ratification and implementation of the Kigali Agreement
- Development or formulation of a Chemical Control Order for HFCs since the Kigali Agreement has entered into force on 1 January 2019
- Selection of non-HCFC alternatives that are climate-friendly, safe to use and affordable, given the climatic and socio-economic conditions of the Philippines
- Identification of opportunities for partnerships and information-sharing on technology transfer and capacity building, to ensure that the transition will also benefit the economy

- Training of customs officers and environmental officers for them to closely monitor the entry and exit of ODS from the country
- Training and certification of refrigeration technicians
- Accreditation of service shops
- Adaption of international standards to national standards on flammable refrigerants
- Awareness raising of stakeholders in view of the Kigali Agreement

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## **FOCAL OFFICE**

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### ***Philippine Ozone Desk***

DENR - Environmental Management Bureau

Tel. Nos. - (632) 282 6783, 376 5541

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## **MEETINGS ATTENDED**

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- Training Workshop for the New National Ozone Officers of South Asia and Southeast Asia Network Countries, 17–22 February 2019; Bangkok, Thailand – Mr. Joe Amil M. Salino (EMB)
- 40th Meeting of the Open-ended Working Group (OEWG) of the Parties to the Montreal Protocol on Substance that Deplete the Ozone Layer and Workshop on Energy Efficiency Opportunities while phasing down Hydrofluorocarbons (HFCs), 8–14 July 2018; Vienna, Austria - Director Metodio U. Turbella (EMB) and Mr. Joe Amil M. Salino (EMB)
- 59th Meeting of the Implementation Committee for Consultation, 11th Meeting of the Conference Meeting of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the 29th Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, 18–24 November 2017; Montreal, Canada - Undersecretary Juan Miguel T. Cuna (Central Office), Director Metodio U. Turbella (EMB), Ms. Elvira S. Pausing (EMB)
- Workshop on Safety Standards Relevant to the Use of Low-Global-Warming-Potential Alternatives to Hydrofluorocarbons (HFCs) and the 39th Meeting of the Open-ended Working Group (OEWG) of the Parties to the Montreal Protocol on Substance that Deplete the Ozone Layer, 10–14 July 2017; Bangkok, Thailand - Ms. Elvira S. Pausing and Ms. Bellrose B. Buraga (EMB)

- 79th Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, 5–7 July 2017; Bangkok, Thailand – DENR Undersecretary Analiza Rebuelta-Teh and Director Edwin G. Domingo
- Kigali Amendment - Vienna Talks on Opportunities, Challenges and Key Action for the Phase-down of Hydrofluorocarbons (HFCs), 13–15 June 2017; Vienna, Austria - DENR Undersecretary Juan Miguel T. Cuna
- 28th Meeting of the Parties (MOP 28) to the Montreal Protocol on Substance that Deplete the Ozone Layer, 10–14 October 2016; Kigali, Rwanda Central - DENR Undersecretary Jonas R. Leones
- 3rd Extraordinary Meeting of the Parties to the Montreal Protocol, 21–26 July 2016; Vienna, Austria - DENR Undersecretary Analiza Rebuelta-Teh and Ms. Ella S. Deocadiz (EMB)
- 38th Meeting of the Open-ended Working Group, 18–21 July 2016; Vienna, Austria - Ms. Ella S. Deocadiz (EMB)
- 37th Open-ended Working Group, 15–16 July 2016; Vienna, Austria - Ms. Ella S. Deocadiz (EMB)
- Thematic Workshop for ASIA and the Pacific National Ozone Officers, 14 – 20 June 2016; Suva, Fiji - Ms. Ella S. Deocadiz (EMB)

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### **SOURCES/RELEVANT LINKS**

<https://ozone.unep.org/vienna-convention-protection-ozone-layer/46092>

<https://ozone.unep.org/montreal-protocol-substances-deplete-ozone-layer/32506>

<https://pod.emb.gov.ph/>

*International Day for the Preservation of the Ozone Layer (September 16)* <http://www.un.org/en/events/ozoneday/>

