

# Stockholm Convention on Persistent Organic Pollutants

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## DATE RATIFIED BY THE PHILIPPINES

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27 February 2004



EMB participates in the EnviRUNment Fun Run on 10 June 2018 as part of the awareness campaign on polychlorinated biphenyls (PCB) management. [EMB]

Adopted in 2001 by 91 countries including the Philippines and having entered into force in 2004, the Stockholm Convention enjoins states to take measures to eliminate or reduce the release of persistent organic pollutants (POPs) into the environment in order to protect human health and the environment. Persistent organic pollutants (POPs) are chemicals characterized by long-range transport, persistence in the environment, ability to bio-magnify and bio-accumulate in ecosystems and with significant negative effects on human health and the environment. They are components of products such as flame retardants or surfactants, pesticides, such as DDT, industrial chemicals, most notably polychlorinated biphenyls (PCB) and two unintentional by-products of many industrial processes, known as dioxins and furans.

In 1995, the UNEP Governing Council's decision 18/32 requested the Intergovernmental Forum of Chemical Safety (IFCS) to undertake an international assessment of an initial list of 12 POPs and develop recommendations for international action for consideration by the UNEP Governing Council and the World Health Assembly by 1997. In 1996, the IFCS concluded that international action, through a legally binding instrument, is necessary to minimize the risks posed by the 12 POPs, otherwise known as the "dirty dozen."

In 1997, the UNEP convened an intergovernmental negotiating committee (INC) to prepare an international legally binding instrument for implementing international action on POPs. The INC held its first meeting in June 1998 in Montreal, Canada wherein a Criteria Expert Group (CEG) was established and tasked to formulate the criteria and procedure for identifying additional POPs as candidates for future international action. The INC produced the legally binding instrument in December 2000. The Convention was adopted and opened for signature at a Conference of Plenipotentiaries in Stockholm, Sweden in May 2001.

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## **COMMITMENTS**

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Through the Convention, parties are required to act on the following classified POPs, accessed at <http://chm.pops.int/> through the Stockholm Convention Database:

- Annex A POPs - eliminate the production, use and import/export of 24 chemicals
- Annex B POPs - restrict the production, use and import/export of two chemicals
- Annex C POPs - reduce or eliminate releases from unintentional production of two chemicals (plus five listed in Annex A)

Additionally, parties are required to ensure environmentally sound management of stockpiles and wastes/contaminated wastes of POPs. They are encouraged to use Best Available Techniques (BAT) to reduce releases of chemicals listed in Part I of Annex C and Best Environmental Practices (BEP) in pollution control.

Implementation of the convention, including production, import and export of chemicals listed in the Annexes must be reported through a National Report every four years. Parties are also required to prepare a National Implementation Plan (NIP) which is part of the national sustainable development strategy of the implementing party.

Parties to the Stockholm Convention are mandated to cooperate with the appropriate entities of the Basel Convention to: (a) establish levels of destruction and irreversible transformation to ensure that the characteristics of POPs specified in Annex D are not exhibited; (b) determine environmentally sound disposal methods; and (c) work to establish the concentration levels of the chemicals listed in Annexes A, B and C so as to define the low persistent organic pollutant content and (d) information exchange on the reduction and elimination of POPs and alternatives to POPs.

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## **LATEST POLICY ISSUANCES**

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The overall legal and regulatory framework brought about by **Republic Act No. 6969** or the "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990" includes substances that are detrimental to human health and the environment. This provides the legal basis for the specific policies formulated by the Department of Environment and Natural Resources, in relation to the Stockholm Convention. Some of these policies are

**EMB Memorandum Circular (MC) 2017-003** – Site Characterization Guidelines (for POPs Contaminated Sites)

**EMB MC 2017-004** – Site Remediation Guidelines (for POPs Contaminated Sites)

**EMB MC 2015-004** – Clarifications to the Chemical Control Order (CCO) for Polychlorinated Biphenyls (PCBs)

**EMB MC 2015-007** – Technical Guidance Document on Polychlorinated Biphenyls (PCBs) Management

These and other related policies can be found in the Environmental Management Bureau's website at <https://emb.gov.ph/laws-and-policies-chemical-management/>.

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## UPDATES AND RELATED PROJECTS

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Two new POPs were added to Annex A during the COP-8 in 2017. These are decabromodiphenyl ether (DBDE), used as an additive flame retardant, and short-chain chlorinated paraffins (SCCPs), a softener and flame inhibitor. Also, a hexachlorobutadiene (most often used as a solvent) already in Annex A was also included in Annex C, with the support of the Philippines.

The national reports have been regularly submitted since 2006. The Fourth National Report was submitted on 8 October 2018 and can be accessed at <http://chm.pops.int/Countries/NationalReports/FourthRoundPartyReports/tabid/6346/Default.aspx>.

The Philippines' National Implementation Plan (NIP) on Persistent Organic Pollutants (POPs) was submitted to the Secretariat of the Stockholm Convention in 2006. The Updated NIP was submitted on 31 August 2015 to address 10 new chemicals/pesticides, otherwise known as the "Nasty Nine plus one," or the amendments from the fourth and fifth Conference of Parties.

In fulfilling the convention, the EMB has implemented the following projects:

1. *Integrated Persistent Organic Pollutants Management Project (IPOP) - June 2011 to June 2017 (GEF-World Bank)*. This project assisted the Philippines in meeting its obligations under the Stockholm Convention on POPs in minimizing the risk of human and environmental exposure to POPs. The project assisted the country in strengthening the regulatory and monitoring framework and improving capacity for and providing demonstrations of safe management of PCBs, reduction of releases of unintentionally produced POPs, and reduction of exposure to POPs in contaminated sites. The following are some of the accomplishments of the project: (a) Comprehensive inventory of industrial chemicals under POPs specifically Dioxins and Furans and PCB; (b) Preparation of a Chemicals of Potential Concern (COPC) Management plan including possible remediation measures for COPC-contaminated land (e.g., by polychlorinated biphenyls); and (c) Identification of POPs hotspots or contaminated sites and the formulation of remediation guidelines for the clean-up of contaminated sites and site control measures and the demonstration of actual clean-up and site control in selected contaminated sites.
2. *Implementation of PCB Management Programs for Electric Cooperatives (ECs) and Safe E-waste Management (UNIDO) - January 2017 to January 2022*. The objective of the project is the protection of human

health and the environment through sound management of PCBs particularly in old electric transformers and polybrominated diphenyl ethers (PBDEs) in Waste Electrical and Electronic Equipment (WEEE), also known as e-wastes. Treatment, storage and disposal (TSD) facilities to adopt BEP for WEEE management for the use of informal e-waste collectors and recycles in Caloocan are being planned.

The ownership of the Non-Combustion Technology POPs facility worth \$3,026,848 established by a previous UNIDO/GEF/DENR project (GEF ID 2329) in the PNOC Industrial park in Mariveles, Bataan, was transferred to the DENR-EMB in 2015. While the DENR-EMB is the owner of the facility, the NRDC, the corporate arm of the DENR, is the operating entity who manages the operations of the facility. The facility has a design capacity to destroy 750 tons per year of PCB oil. In 2018, the facility destroyed 100 tons of PCB oil to less than 2 mg/kg. Under the new project, the facility is expected to destroy 600 tons of PCB oil and PCB containing equipment from 26 Electric Cooperatives, through a financial subsidy scheme. The facility enables the country to treat its own PCBs instead of having these exported for incineration.



**Figure 8** UNIDO Director General Li Yong (inset, 10th from left standing) visits the Non-Combustible Persistent Organic Pollutants facility of the DENR-EMB in Mariveles, Bataan on 23 June 2018. [UNIDO]

3. *Best Available Technology (BAT) and Best Environment Practice (BEP) in Open Burning Activities in Response to the Stockholm Convention on POPs - April 2015 to April 2020 (GEF-UNIDO)*. This project's objective is to sustainably reduce the release of Unintentionally Produced Persistent Organic Pollutants (U-POPS) by enhancing guidelines and guidance on BAT/BEP in opening burning practices. It aims to create resource efficient waste management systems by reducing U-POPS emissions through the introduction of BAT and BET in open burning sources in order to attain approximately 90% reduction of the current polychlorinated dibenzo-p-di-oxins (PCDD) and polychlorinated dibenzofurans (PCDF) releases at the pilot demonstration site in General Santos City, Cotabato.

A Php 35M Central Materials Recovery Facility (MRF) constructed under this project in the city's sanitary landfill was inaugurated on 19 February 2019. It is owned and operated by the City Government of General Santos. As the first large-scale mechanized MRF in the Philippines, the facility can process 40 tons of waste daily with the following components: waste conveyor and segregator, compartments for segregated recyclable waste, plastic shredder, bottle crusher, cement and plastic mixer, cement bricks maker, biodegradable granulator, gantry mixer and bio vibrator/separator machine.



**Figure 9** (left) Workers operating machinery and (right) segregated trash in the Central Materials Recovery Facility (CMRF) built in the sanitary landfill in Brgy. Sinawal, General Santos City. [UNIDO]

It is currently processing segregated municipal solid waste, i.e., high value waste is recycled or repurposed (e.g. plastic waste into chairs, pavers and other by-products), biodegradable waste is composted, and residual waste is disposed of in the sanitary landfill.

4. *Global Monitoring Plan (GMP) for POPs 2 - 2018 to 2020*. It is a 48-month regional project which aims to strengthen the capacity for implementation

of the POPs Global Monitoring Plan and to create conditions for sustainable monitoring of POPs in the Asian Region. For the Philippines, sampling is done on air, human milk, sediments and fish. EMB conducts passive air sampling for POPs at the AGROMET station in the University of the Philippines (UP) Los Baños, Laguna. Analysis will be performed by a reference laboratory abroad and the designated National Laboratory – the EMB Central Office’s Environmental Research and Laboratory Services.

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## NEXT STEPS

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1. The National Implementation Plan (NIP) of 2013/2014 needs to be 1. The National Implementation Plan (NIP) of 2014 needs to be updated periodically in relation to significant progress in implementation of the action plans and developments in the NIP. The current NIP shall be updated within the next three to five years. Inter alia, this will contain the status of the phase out of PCBs, disposal of POPs stockpiles, status of the action plans in the 2014 NIP and action plans on the new identified POPs. Among the important action plans in the 2014 NIP are:
  - Strengthen the IEC program on POPs especially in the less urbanized regions through development of training modules and training materials
  - Preparation of updated action plans on POPs pesticides to include the strengthening of monitoring activities by providing training and adequate regional monitoring teams for the FPA - This shall include monitoring of the retrieval and proper disposal of POPs pesticides and health aspects.
  - Preparation of an updated action plan on polybrominated diphenyl ether (PBDE) management to include the conduct of a more comprehensive National Inventory of products which may contain PBDE, e.g., WEEE and their sound disposal
  - Preparation of an action plan on dioxins and furans based on the “National Inventory of Dioxins and Furans” done by the IPOP’s Project (based on 2010 activity data) - With this in place and using the results of the demonstration project on BAT/BEP on fossil fuel fired power plants, the country can adopt the BAT/BEP for other facilities.
  - Preparation of an action plan on perfluorooctane sulfonate (PFOS) including the conduct of a comprehensive National Inventory of PFOS and the development of a national policy on PFOS in terms of its management (storage, handling, disposal) and the use of alternatives

2. Some of the action plans in the NIP are implemented through foreign funded projects as discussed in the Updates Section. Among the next steps being undertaken on the UNIDO - PCB-WEE project are:
- Development and implementation of incentives for rural electric cooperatives to comply with the phase out of PCBs;
  - Dissemination of information and lessons learned.
  - Upgrading and maintenance of the Bataan non-combustion technologies for destroying POPs (Non-Com) - This will improve the efficiency and capacity of the facility to destroy PCBs in an environmentally sound manner in compliance with the Stockholm Convention's 2025 phase out and the Philippines' Chemical Control Order on PCBs.
  - Training on the use of PCB screening equipment - This will significantly lower the cost of PCB analysis and facilitate PCB disposal.
  - Screening and sound disposal of polybrominated diphenyl ethers (PBDEs) in waste electrical and electronic equipment (WEEE).

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## **FOCAL OFFICE**

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### ***Chemical Management Section***

DENR - Environmental Management Bureau

Tel. No. - (632) 928 8892

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## **MEETINGS ATTENDED**

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- Training Workshop on Monitoring for Unintentional Persistent Organic Pollutants (U-POP) and Greenhouse Gases (GHG) from Open Burning Activities, 20–30 November 2017; Hanoi, Vietnam – Mr. Roger C. Evangelista (EMB) and Mr. Allen Joy B. Saganay (EMB Reg. 12)
- Technical Evaluation of the Proposals Received for Request for Proposal No.7000002385 – Provision of Material Recovery Facility to be Located at General Santos, Philippines in Relation to the Project "Demonstration of Best Available Technology (BAT) and Best Environment Practice (BEP) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)," 7–11 August 2017; Vienna, Austria – Mr. Phillip Gregory E. Biboso (EMB Reg. 12)
- 2017 Stockholm Environment Institute (SEI) Science Forum, 30 May 2017; Bangkok, Thailand – DENR OIC-Undersecretary Maria Paz G. Luna
- Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions (BC COP-13, RC COP-8, SC COP-8), 24 April–5 May

2017; Geneva, Switzerland – Asst. Sec. Juan Miguel T, Cuna (DENR), Asst. Dir. Jacqueline A. Caancan, Mr. Renato T. Cruz, Mr. Geri-Geronimo R. Sañez (EMB)

- Asia-Pacific Regional Preparatory meetings of the Conference of the Parties to the Basel, Rotterdam and Stockholm Conventions and Working Session to Address Specific Issues Related to Ratification and Early Implementation of the Minamata Convention, 6–10 March 2017; Bangkok, Thailand – Mr. Renato T. Cruz and Mr. Geri Geronimo R. Sañez (EMB)
- UNEP/GEF Project–Establishing the Tools and Methods to Include the Nine New Persistent Organic Pollutants (POPs) into the Global Monitoring Plan, 25–27 January 2016; Hanoi, Vietnam – Mr. Renato T. Cruz and Ms. Ma. Fatima Anneglo Molina (EMB)
- 12th Workshop on Information Warehouse and the 7th Analysis Training of Persistent Organic Pollutants (POPs) in the East Asian Countries, 12–15 September 2017; Incheon, Republic of Korea – Mr. Rommel M. Bailon (EMB)

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## RELEVANT LINKS

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<http://chm.pops.int/TheConvention/Overview/History/Overview/tabid/3549/Default.aspx>

<http://popstoolkit.dlsu.edu.ph/Home.aspx>

<https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/persistent-organic-pollutants-pops>