

PCB Regional Webinar Series

Webinar #5: Making visible the legacy of polychlorinated biphenyls (PCBs): A regional webinar – ASIA

Webinar Report

30 September 2025



Polychlorinated Biphenyls (PCBs) are a class of synthetic chlorinated organic chemicals that are toxic to wildlife and humans, persistent, and can bioaccumulate and travel long distances in the environment. Furthermore, they are classified as carcinogens, and can suppress the immune system, which can increase the risk of developing a wide variety of diseases. There is scientific evidence that humans are exposed to PCBs through ingestion of animal fats, inhalation, and absorption through the skin. Workers in the electrical sector can be particularly exposed to PCBs as these chemicals may be present in older electrical equipment such as transformers, capacitors and fluorescent lighting ballasts.

PCBs have been listed under the **Stockholm Convention** as Persistent Organic Pollutants (POPs). Parties that ratified the Stockholm Convention aim to eliminate the use of PCBs by 2025 and to provide their environmentally sound waste management by 2028.

The Basel, Rotterdam, and Stockholm (BRS) Secretariat and the United Nations Institute for Training and Research (UNITAR) are jointly hosting **regional webinars** that will offer valuable updates, technical insights, and an opportunity for a regional dialogue as Parties prepare for the 2026 reporting round and assess progress toward the 2025 and 2028 goals for the elimination of PCBs under the Stockholm Convention. These webinars have the following objectives:

- To inform countries about the outcomes of the recent 2025 Conferences of the Parties, including the revised guidance documents developed by the PCB Small Intersessional Working Group (SIWG), and new mandates adopted.
- To present the revised reporting format, timeline, and logistical arrangements for the 2026 reporting cycle under the Stockholm Convention.
- To provide an overview of the progress assessment process, including the 2027 global progress report coordinated by the BRS Secretariat with technical support from the PCB SIWG.
- To update on the status of the region in terms of PCBs management, share lessons learned, and discuss how these inputs can shape future actions.
- To provide information on the PCB Global Elimination Programme, the Global Environment Facility (GEF), and other innovative financing approaches for achieving the 2025 and 2028 goals for the elimination of PCBs.

Webinar #5: “Making visible the legacy of polychlorinated biphenyls (PCBs): A regional webinar – Asia” is designed to support countries in Asia in advancing toward the 2025 and 2028 goals for PCBs elimination under the Stockholm Convention.

Agenda

Time (CET)	Agenda Item	Speakers
8:00 – 8:10 (10 minutes)	Opening Remarks	Stephen Joyce Moderator, UNITAR
8:10 – 8:25 (15 minutes)	PCB goals under the scope of the Stockholm Convention and the BRS programme of work	Agustín Harte Programme Management Officer, Secretariat of the Basel, Rotterdam & Stockholm (BRS) Conventions
8:25 – 8:40 (15 minutes)	Global and regional experiences and best practices for the Environmentally Sound Management of PCBs	Rio Deswandi PCBs Expert, UNITAR
8:40 – 8:55 (15 minutes)	Questions and Answers	All Participants
8:55 – 9:10 (15 minutes)	Developing effective national PCB strategies: Practical insights	Edwin Camelo Martinez PCBs Expert, UNITAR
9:10 – 9:25 (15 minutes)	National Case Study and Example - Japan	Yo Osada Technical Advisor for PCB Management, Japan Industrial Waste Management Foundation
9:25 – 9:45 (20 minutes)	Exploring innovative financing pathways for PCB elimination	Marijana Todorovic , Associate Programme Officer, Executive Office, Secretariat of the BRS Conventions
9:45 – 10:00 (15 minutes)	Questions and answers Closing remarks	All Participants

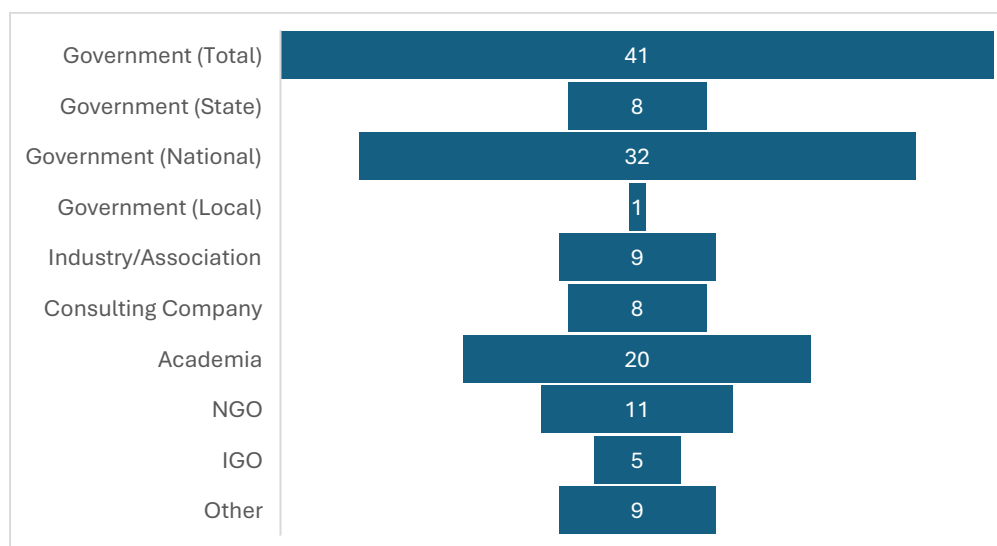
Resources

The resources for this webinar (flyer, presentations, satisfaction survey, recording) are available in the [Shared Folder](#) and on the [PCB e-Learning Platform](#).

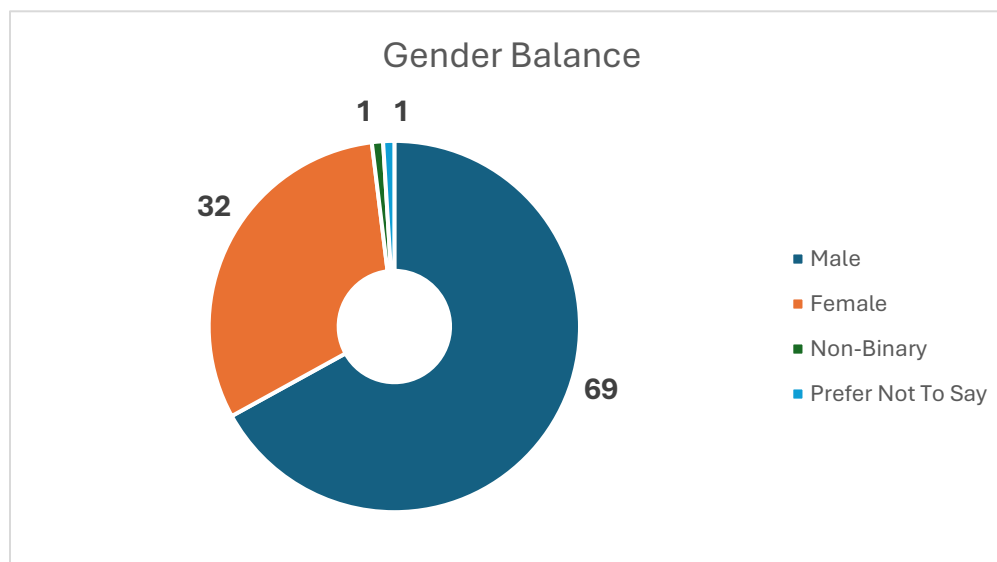
Attendance breakdown and representation

Total attendance: 103 participants

Sector distribution of participants



Gender distribution of participants



Country distribution of participants

ASIAN REGION (28 COUNTRIES)		OTHER REGIONS (26 COUNTRIES)	
Country	#	Country	#
Indonesia	7	Nigeria	5
Philippines	6	Gambia	3
Cambodia	6	Rwanda	2
Bangladesh	6	Ethiopia	2
India	4	South Africa	2
Taiwan	3	Kenya	2
Japan	3	Tunisia	2
Malaysia	2	Côte d'Ivoire	2
Myanmar	2	Uganda	2
Mongolia	2	Mexico	2
United Arab Emirates	2	United States	2
Pakistan	2	Senegal	1
Singapore	2	Botswana	1
Oman	1	Togo	1
Kuwait	1	Congo, Democratic Republic of the	1
Iraq	1	Chad	1
Thailand	1	Libya	1
China	1	Mauritius	1
Yemen	1	Zambia	1
Tajikistan	1	Ghana	1
Lao People's Democratic Republic	1	Egypt	1
Jordan	1	United Kingdom	1
Turkey	1	Albania	1
Lebanon	1	Serbia	1
Sri Lanka	1	Belarus	1
Vietnam	1	Slovakia	1
Kazakhstan	1		
Kyrgyzstan	1		

Panel Discussion and Questions received (Q) and answered (A)

DISCLAIMER: PCB experts suggest the following answers based on their academic training and professional experiences. Please refer to official materials for legal provisions related to the Stockholm and Basel conventions.

Q: What are the environmental and health risks associated with exposure to PCBs? Why is exposure to these chemicals deemed dangerous for our health and the environment?

A: PCBs are one of [Persistent Organic Pollutants](#) (POPs), group of very toxic chemicals and cause serious disease including various cancers (Group 1 carcinogenic according to the International Agency for Research on Cancer/IARC). PCBs are lipophilic which bioaccumulate over time in the fats of animals and plants. Exposure to PCBs can cause severe health effects in humans, ranging from skin alterations to damage to the immune, reproductive, nervous, and endocrine systems. To have an introduction and further explanation on the history and dangers of PCBs, please refer to the [PCB e-Learning Platform's Training Modules](#).

Q: What are the biggest challenges facing developing countries in disposing of PCB stockpiles?

A: Each country may have their own national context and situation, and from my experience, each of the regions are facing different challenges. In the revised strategy documents (UNEP/POPS/COP.12/INF/11), the list of actions that are suggested are basically the challenges that countries are facing.

The first one may be on the regulatory side; so, national and local legislation, laws and regulatory resolutions and other legislation that obliges each of the PCB owners to take the necessary steps to ensure the elimination PCBs.

The second is technical capacities, referring to not only governmental capacities. For example, from the environmental health authorities to enforce, also from the energy authorities to ensure that electric companies comply with this environmental legislation. But also, from the same companies and PCB owners: to take the samples you will need to have trained personnel and accredited or certified laboratories will be needed to develop the analysis. Also, technical capacities for treatment and disposal through hazardous waste management companies will be needed. Lots of stakeholders are and need to be involved.

The capacity to carry out and accomplish PCB inventory is another greater challenge that was highlighted in several official reports issued during the 2023 COP 11, for example the report on progress toward the elimination of polychlorinated biphenyls (UNEP/POPS/COP.11/INF/11) and report on further options for addressing the needs, including funding needs, and challenges met to reach the targets related to the elimination of polychlorinated biphenyls (UNEP/POPS/COP.11/INF/30). Those reports highlighted difficulties and different standards methods to perform PCB inventory are barriers toward PCB disposal.

The latter is a financial issue of course, the [Global Environment Facility](#) (GEF) is there to support developing countries on meeting their obligations, and, for example, financing the elimination and treatment of PCBs. On other aspects of the financial issues, including financing of the replacement of equipment, which is sometimes very expensive. Some electrical companies of course cannot afford to take out and dispose of the contaminated equipment because it's an asset which they need for their infrastructure to properly function.

There are many types of challenges. Through national efforts, through regional cooperation, with assistance of international agencies this can be overcome!

Q: How can countries utilize GEF funding or such funding resources as a foundation for establishing sustainable long-term funding mechanisms?

A: The GEF, as the Convention's financial mechanism, is key because it covers the costly part, which is the disposal of PCBs. This can create real incentives for utilities, whether private or public, because they can replace the old transformers while knowing that the PCB disposal will be taken care of through this financial support. Importantly, GEF resources are catalytic: they not only finance disposal directly, but also help countries leverage additional loans and investments for transformer replacement and grid modernization. By linking PCB elimination with wider energy-sector investments, countries can use GEF funding as an entry point toward more sustainable, long-term financing models.

Q: How can civil society or academia effectively participate in these efforts?

A: From a technical, social and environmental perspective PCB management has a very wide aspect. By having many stakeholders participating on the board in business management for academia, NGOs, it could give a very diverse perspective and enrich the strategy. NGOs for example work with local communities and are knowledgeable on what happens on the field, whereas academia has the science to develop novel technical approaches for PCB management. These different perspectives are required to set the best strategy for the country to ensure all voices are heard. Only then will there be a legitimate strategy approved by all.

Q: What steps do you recommend taking first to develop an awareness campaign?

A: Based on Japan's experience, the following are recommendations:

- The first one is to create a dissemination document which includes a government statement – the obligation to report survey results is required by law, a link to the survey methodology, for example [UNEP PCB Guidance](#) and contact information for any supposed questions.
- The second one is to go digital and target key industries. Avoid printing physical documents to save costs and target organisations that need this information the most, such as: electrical power or major manufacturing sectors. Send the document only electronically so that they can quickly cascade the message to other members.

- The third one is to use social media to raise general awareness. After key industries are informed, use the cheapest and most wide channel available for the public.

Q: What are the implications for countries unable to meet the upcoming PCB goals, and then also in 2028?

A: The main implication is to the environment and to the health of the people - the objective of the convention is to protect both from the adverse effects of Persistent Organic Pollutants (POPs), such as PCBs. If these are not managed properly, they may be released into the environment – and by being released into the environment, PCBs enter our food chain which will ultimately reach and harm humans. Therefore it is important to replace all PCBs with non-PCB oils and ensure its proper disposal.

There is also now an established compliance committee. One of their activities is to assess the challenges and the level of implementation of [Article 3](#), which is banned chemicals are listed. The committee will provide guidance to the Conference Of Parties (COPs). Most of the participating countries, if not all, have made efforts to identify and ensure the environmentally sound management of PCBs. The compliance committee will prepare a report and give recommendations to the COPs. Another relevant process is the effectiveness evaluation of the Stockholm Convention which assess implementation and the effectiveness of the measures adopted under the Convention. Last COPs' report ([2023](#)) for example shows the recommendations on how to accelerate action: what has (not) worked in the past, where adjustments need to be made and where more effort needs to be put in.

In 2028 PCBs will still require action as a lot has yet to be identified and managed. The deadline is therefore put in place for parties to really implement the mechanisms. In the end it is each Parties' task to implement and fulfil the Conventions objectives.

Q: What are the modern or environmentally friendly technologies used for destroying PCBs?

A: The selection of disposal technologies depends on technical and financial considerations. For low ppm PCB, non-thermal dechlorination would be a safe option. But for high ppm, thermal (incinerator) is still an option. For more information, please refer to the [PCB e-Learning Platform's Module on PCB Elimination](#).

Q: What strategies, technologies, and public engagement efforts are most effective for safely managing electronic and hazardous waste?

A: A clear regulatory framework is crucial to precisely define the obligations for all stakeholders, from consumers, waste generators to waste management companies. The most relevant public

policy principles in these cases (e-waste and hazardous waste) are Extended Producer Responsibility (EPR) and the "polluter pays" principle.

To select the most appropriate technologies, it's essential to understand the waste characteristics. For PCBs, concentration is a key factor, as is the waste matrix (e.g., oils, contaminated metals, or other materials). The available technologies and their limitations are described in the Basel Convention guidelines.

Q: Is Tier 2 testing (i.e. rapid testing) such as using Dexsil still acceptable for identifying PCBs in transformer oil? Is Tier 3 testing still necessary if Tier 2 testing has already been performed and the results are less than 50 ppm?

A: The acceptability of Dexsil for rapid testing subject to national regulation. However, from the technical perspective, using Dexsil as the semi-quantitative screening for PBC is only effective if a country adopts the 50 ppm. For countries adopting much less PCB standards, such as 2 ppm or 0.5 ppm, the use of Dexsil is not effective. The accuracy of Dexsil, as claimed by the brand, falls between 2 - 2,000 ppm. Rapid test kit is also not effective to analyse sample containing high concentration of water and impurities. In general, Tier 3 testing is unnecessary if the Tier 2 indicates lower than 50 ppm.

Q: In Sub-Saharan Africa, the main sources of PCB exposure are from E-waste, Industrial Activities Leakage from Transformers. How can these be mitigated?

A: Identifying electrical equipment that may contain PCBs is very important, not only to determine the technology required for their disposal but also to ensure this equipment is in a condition that prevents the release of dielectric oils during the removal process. We must prioritize the disposal of equipment that is in poor condition and may have leaks or significant damage. It is important to train and raise awareness among owners, power companies and their personnel, so they always test the PCB content in oils before performing maintenance procedures to avoid cross-contamination of equipment and tools.

Q: In Bangladesh, PCB elimination is still difficult because of limited resources and facilities. We believe regional cooperation and innovative financing are key to achieving the 2025 and 2028 goals.

A: Indeed, Bangladesh has made efforts to ensure the environmentally sound management of PCBs. Supported by UNDP they have prepared a National Implementation Plan and they had a project on PCBs implemented by UNIDO. We will continue exploring ways we can support Bangladesh in this task.

Q: Are there still legal uses for PCBs in some countries?

A: PCBs are no longer manufactured. The use of PCBs is dependent on the legislation and practices of countries and is directly linked to efforts to phase out and eliminate the use of PCBs.

Q: How is old electrical equipment containing PCBs, such as transformers and capacitors, handled?

A: When handling or maintaining equipment containing PCBs, special procedures should be applied to ensure the safety of the worker and to protect the environment. For example, equipment should be labelled indicating its status, and personnel must be informed about the dangers, necessary precautions and measures required in case of accidents. This includes having a complete kit for managing spills and medical emergencies. There are also certain recommendations to be considered, such as, if the equipment is in a particular area, it should be enclosed to prevent access from unauthorized personnel and regular inspections (such as every 2 weeks or less) must be carried out. Non-compliance must be considered a serious violation under the necessary regulations.

Regional PCB Webinar Series

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Latin America and the Caribbean

8 July, 2025
11 a.m. - 1 p.m. (GMT-3)



Africa

02 September, 2025
9 a.m. - 11 a.m. (GMT+0)



Europe

04 September, 2025
9 a.m. - 11 a.m. (CEST)







Asia

30 September, 2025
2 p.m. - 4 p.m. (GMT+8)



Pacific Islands and Australia

25 September, 2025
2 p.m. - 4 p.m. (GMT+10)

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webinar

Comments? Questions?

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