

Webinar Report

# Activity Options for Action Plans on the Management and Elimination of PCBs and POP Pesticides

16 December 2025



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# Introduction

Effective National Implementation Plan (NIP) action plans are essential for managing and phasing out persistent organic pollutants (POPs) while avoiding regrettable alternatives and meeting core obligations under the Stockholm Convention, including Article 15 reporting. Action plans provide the basis for sound POPs management by guiding exposure reduction, informing regulatory controls, addressing national priorities identified in the NIP, and supporting the preparation of elimination projects. They should also align with broader national chemicals and waste management priorities to ensure a coherent and integrated approach. For this reason, action plans need to be well-developed, technically robust, and reviewed by relevant ministries and stakeholder groups.

To support this objective, the Green Growth Knowledge Partnership (GGKP), under the GEF-funded and UNEP-led Global NIP Update project (GEF ID 10785), convened a webinar on 16 December 2025 focused on NIP action plan options for managing polychlorinated biphenyls (PCBs) and POP pesticides. The session emphasized integrated and practical approaches to support national implementation, and participants explored activity options for managing and phasing out POP pesticides and PCBs, alongside relevant technical guidance and financing opportunities available under the Stockholm Convention framework. The webinar also provided an update on the status of the GEF/World Bank PCB phase-out and management project and outlined the criteria that national PCB assessments must meet to be considered for future PCB projects.

CET 14:00	Welcome and opening remarks	Ms. Anastasiya Buchok (GGKP)
14:05	Basic considerations on action plan development and integrated approach	Dr. Roland Weber (POPs Environmental Consulting)
14:30	Action plan options for management and elimination of POPs Pesticides & Highly Hazardous Pesticides (HHPs) (synergy with GFC)	
14:55	An alternative approach to substitute POP pesticides and HHPs	Mr. Lars Neumeister (Pesticide Expert)
15:20	Action plan options for polychlorinated biphenyls (PCBs) (and polychlorinated naphthalenes (PCNs))	Dr. Roland Weber (POPs Environmental Consulting)
15:45	Environmentally sound management of remaining PCBs in line with the Stockholm Convention goals - the financial mechanism and other tools	Mr. Agustin Harte (BRS Secretariat/UNEP)
16:10	Q&A session	All
16:30	Closing remarks	

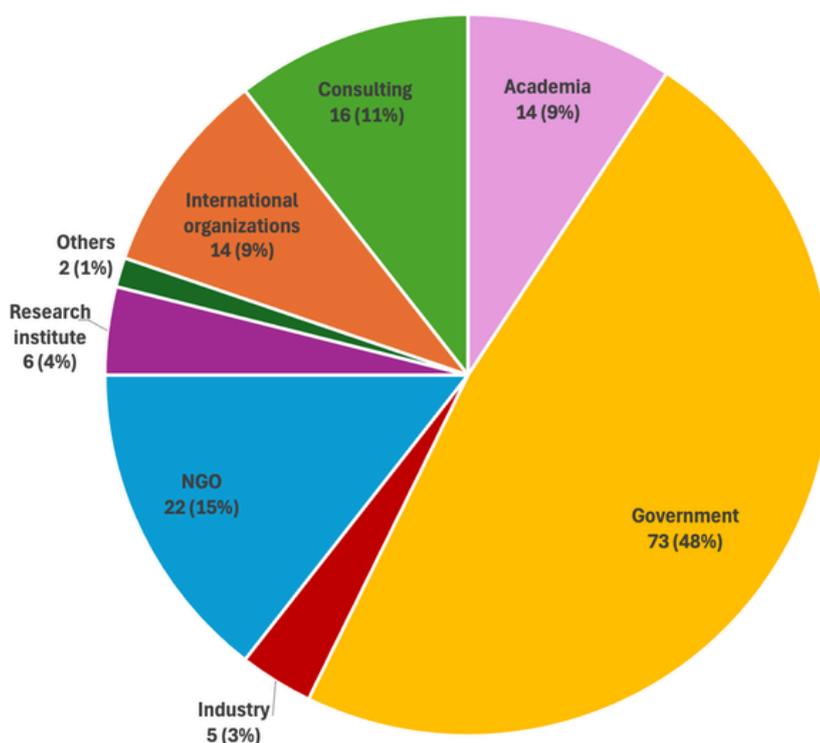
# Registration and attendance

**Number of registrants: 319 / total attendance: 152**  
**(approx. 44% female, 56% male)**

## Participants by country

Country	Attendees	Country	Attendees	Country	Attendees
Nigeria	10	United Kingdom of Great Britain	2	Maldives	1
Costa Rica	6	and Northern Ireland	2	Jamaica	1
Sierra Leone	6	Uruguay	2	Bosnia and Herzegovina	1
Kenya	5	Zimbabwe	2	Kuwait	1
Peru	5	Côte d'Ivoire	2	Kyrgyzstan	1
Argentina	5	Dominican Republic	2	Greece	1
Brazil	5	Tunisia	2	Guinea	1
Mexico	5	Ethiopia	2	Bulgaria	1
Myanmar	4	Bahamas	2	Norway	1
Senegal	4	China	2	Namibia	1
Zambia	4	Germany	2	Eswatini	1
United States of America	4	Armenia	1	Suriname	1
Gambia	3	France	1	Saint Kitts and Nevis	1
Ghana	3	India	1	Micronesia (Federated States of)	1
Yemen	3	Japan	1	Benin	1
United Republic of Tanzania	3	Lao People's Democratic Republic	1	Saudi Arabia	1
Cameroon	3	Madagascar	1	Russian Federation	1
Trinidad and Tobago	3	Switzerland	1	Seychelles	1
Bangladesh	2	Thailand	1	Democratic Republic of the Congo	1
Botswana	2	Cabo Verde	1	Comoros	1
Indonesia	2	Cambodia	1	Malawi	1
Portugal	2	North Macedonia	1	Austria	1
Congo	2	Pakistan	1	Republic of Moldova	1
South Africa	2	Qatar	1		
Uganda	2	Republic of Korea	1		

## Participants by sector



## Key highlights

The webinar provided a comprehensive overview of NIP action plan development for eliminating POPs pesticides, highly hazardous pesticides (HHPs) and PCBs/PCNs. Dr Roland Weber, POPs Environmental Consulting, emphasized the importance of integrated approaches that align POPs management with broader international frameworks and presented action plan options for POP pesticides/HHPs and PCBs/PCNs. Lars Neumeister, Pesticide Expert, highlighted that substituting POP pesticides and HHPs with new chemicals does not solve underlying problems, underscoring the structural pesticide lock-in of agricultural systems and the need for systemic and practical solutions. Agustin Harte, Programme Management Officer, BRS Secretariat/UNEP, outlined the ongoing effort of the Basel, Rotterdam and Stockholm (BRS) Conventions Secretariat and the financial mechanism to support Parties in meeting the 2025 and 2028 Stockholm Convention goals on PCBs, noting the central role of the GEF and the launch of the Global Elimination Program for PCBs (GEP-PCB).

### **Basic considerations on action plan development and integrated approach**

**Dr. Roland Weber** highlighted that 37 POPs listed under the Stockholm Convention represent only the tip of the iceberg. Assessments indicate that more than 570 chemicals likely meet POP criteria and that chemical production is projected to quadruple between 2020 and 2060. Recent studies conclude that “novel entities,” including plastic pollution and chemicals of concern like per- and polyfluoroalkyl substances (PFAS), have already crossed planetary boundaries and are directly linked to the triple planetary crisis of climate change, biodiversity loss and pollution.

To effectively address these intersecting challenges, an integrated approach is essential. NIPs should not treat POPs in isolation, but should align with broader frameworks such as the Basel, Rotterdam and Minamata Conventions as well as the Global Framework on Chemicals (GFC), the Biodiversity and the Climate Convention. Effective management involves controlling POPs across their entire life cycle from production and import to recycling and disposal, strengthening national coordination mechanisms and incorporating gender dimensions. Action plan activities can be identified early, during POP inventory development, and action plans may contain both POP-specific and cross-cutting activities – such as monitoring, contaminated site assessment, or awareness raising – designed to address shared challenges across chemical categories.

### **Action plan options for management and elimination of POP-Pesticides and HHPs (synergy with GFC)**

Nine of the initial 12 POPs were pesticides, and since 2009, an additional 12 have been listed. In May 2025, chlorpyrifos was newly added to Annex A, introducing significant momentum into global pesticide assessment and management. The impact of pesticide use on health and biodiversity is severe, and there are many other HHPs beyond those listed as POPs. The GFC guides countries to jointly address the lifecycle of chemicals, including products and waste. Its “Issues of concern” related to POPs include HHPs, PFAS, endocrine-disrupting chemicals and environmentally persistent pharmaceutical pollutants. To maximize resources through enhanced coherence and synergies between multilateral environmental agreements and their implementation, HHPs can be considered in the NIP, including action plans, which have already been done by a range of countries.

## Key highlights

When establishing action plans, developing a regulatory framework is a primary consideration. It is recommended to update existing regulations to restrict or ban all listed POP pesticides, assess existing exemptions and include the assessment, restriction and phase-out of all HHPs. Regarding the inventory, it is important to update the inventory of POP pesticides in current use and obsolete stockpile.

Sound life-cycle management entails assessing and improving pesticide production, storage, handling and disposal, establishing systems for empty pesticide containers with Extended Producer Responsibility (EPR), and building capacity for emergencies related to POP pesticides and HHPs. Additional recommended activities include identifying contaminated sites, securing and monitoring them, establishing awareness raising and education for policymakers, farmers, citizens and NGOs, compiling safer alternatives, strengthening laboratory capacity, as well as monitoring occupational exposure and vulnerable populations. Emerging concerns, such as trifluoroacetic acid (TFA) generated from PFAS pesticides, highlight the need to look beyond POP pesticides to the broader picture of persistent degradation products and related chemical safety and environmental protection. Specific attention should also be given to fluorinated high-density polyethylene (HDPE) containers, considering their potential unintentional release of perfluorooctanoic acid (PFOA).

### **An alternative approach to substitute POP pesticides and HHPs**

**Mr. Lars Neumeister**, Pesticide Expert, emphasized that efforts to eliminate POP pesticides and HHPs often rely on substitution, yet decades of experience show that substitution alone rarely delivers lasting solutions and frequently leads to new risks, new dependencies and renewed regulatory challenges. A brief history of pesticide use – from arsenic-based compounds to DDT, organophosphates and N-methyl carbamates, neonicotinoids, and most recently PFAS-based pesticides – illustrates a consistent pattern in which pesticides are substituted with other pesticides, often with different toxicity profiles, but not necessarily with lower overall risk. The recurring phenomenon of pesticide lock-in shows that agricultural systems have become structurally dependent on chemical inputs, not only for pest control but also as tools to manage economic pressure, crop uniformity and yield stability. Market structures and global pricing pressures reinforce this dependency.

Discussions on pesticide reduction often overlook that each crop presents unique pest pressures, management options and levels of dependency on chemical inputs. A more effective approach is to focus on large-area crops such as cereals and maize, which account for 50–60% of total pesticide uses and can be produced without pesticides using existing agronomic practices. Reducing pesticide dependency requires farm-level measures – such as functional diversity, spatial heterogeneity, diversified crop rotations, intercropping, mechanical weeding, mixed varieties, adjusted nitrogen fertilization and sowing times – supported by policy instruments like pesticide taxation, carbon pricing linked to fertilization and redirecting agricultural subsidies, noting that only 1% of global agricultural subsidies support environmental objectives. Regulatory reforms are also needed so that Integrated Pest Management (IPM) principles – where pesticides should be a last resort – are meaningfully applied, with authorization systems assessing whether a pesticide is genuinely needed. Beyond policies and practices, changing deeply ingrained belief systems after 60-70 years of routine pesticide use is essential.

## Action plan options for PCBs (and PCNs)

Dr. Weber reminded that the Stockholm Convention Annex A deadline to eliminate the use of PCBs in equipment by 2025 has already passed, and Parties must ensure environmentally sound waste management of liquids containing PCBs and contaminated equipment by 2028. PCNs, listed in 2015, were used in similar applications as PCBs and can be managed within the existing PCB frameworks.

Regulatory activity options for PCBs and PCNs include assessing the performance of current legislation, establishing penalties, applying extended producer responsibility and the polluter pays principle, alongside setting unintentional trace contaminant (UTC) limits for chemicals and products. Developing and updating robust inventories through a central database is essential for evaluating progress toward the 2025 phase-out and 2028 elimination targets. For the life-cycle management, it is necessary to assess handling, transport, storage, and disposal status and needs, as well as address financing challenges. The Stockholm Convention Best Available Techniques and Best Environmental Practices (BAT/BEP) guidance on POPs contaminated sites can support identifying PCB-contaminated sites generated along the life cycle of PCBs.

Establishing analytical and monitoring capacity is vital, especially for a robust inventory as a base for environmentally sound management (ESM) and GEF projects, but also for monitoring of contaminated sites and occupational exposure through non-invasive methods such as analyzing hydroxylated polychlorinated biphenyls (OH-PCBs) in urine. For the country's monitoring frame, it needs to be determined whether national, regional, or international laboratories best support PCB and PCN analysis. Awareness-raising activities can be established for relevant stakeholder groups, such as policymakers, customs authorities, utility sectors, maintenance workers, industries, citizens and vulnerable groups, with education on health hazards, oversight responsibilities and open applications. Regarding assessing and promoting sustainable alternatives for PCBs and PCNs, it is recommended to compile information on former closed and open applications, promote energy-efficient transformers, and ensure that substitutions do not introduce other harmful chemicals such as chlorinated paraffins.

## Environmentally sound management of remaining PCBs in line with the Stockholm Convention goals – the financial mechanism and other tools

**Agustin Harte**, Programme Management Officer, BRS Secretariat/UNEP, highlighted the Secretariat's continuous support to Parties in achieving the Stockholm Convention mandates for the environmentally sound management of PCBs. The small intersessional working group on PCBs (SIWG PCBs) was reestablished at SC COP-11 to develop tools and strategies to meet the 2025 and 2028 goals. The group of more than 20 experts develops a global report every four years to assess the global progress on PCBs elimination and provide recommendations for prioritized actions. The BRS Secretariat continues to strengthen national and regional capacities through technical assistance, training and pilot projects. National reports submitted by Parties every four years are critical for tracking their progress and challenges, with the sixth national report due 31 August 2026. The reporting format for PCBs has been adjusted to make it easier and the data more comparable with previous reports.

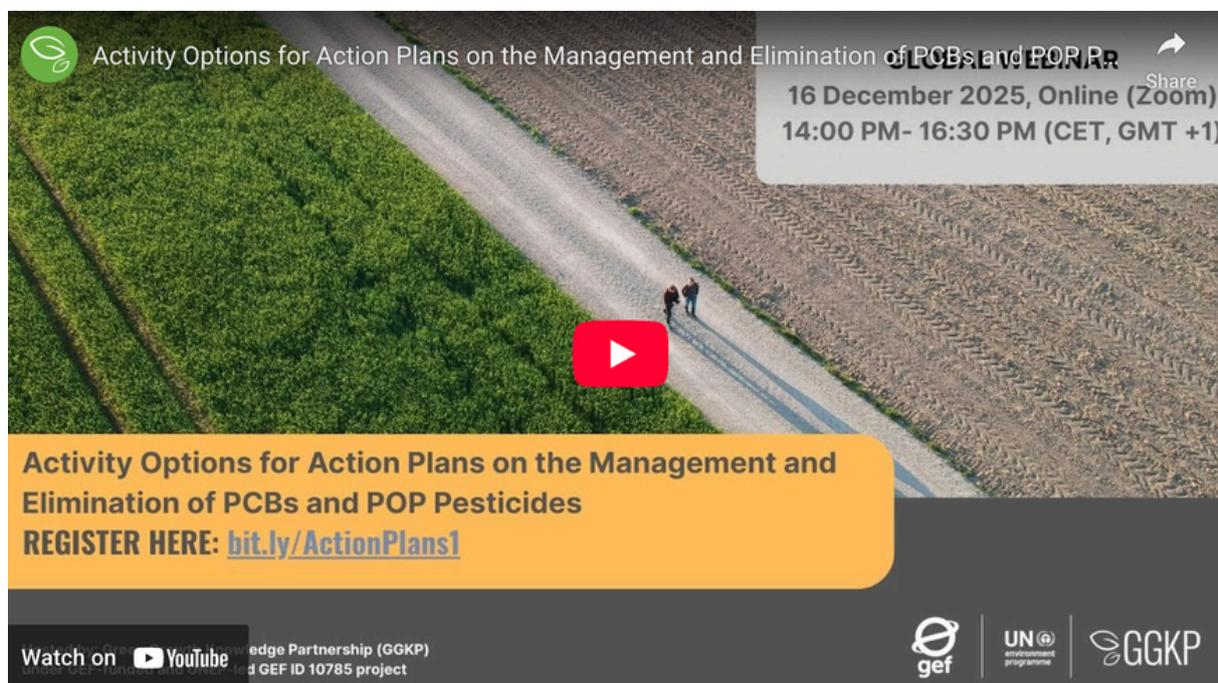
## Key highlights

GEF is the main contributor to the financial mechanism of the Stockholm Convention, investing around \$400 million across more than 114 projects. It supported the elimination of approximately 150,000 tonnes of PCBs, representing around 75% of the amounts eliminated in developing countries. The Global Elimination Program for PCBs (GEP-PCB) was newly launched as a programmatic approach funded by the GEF to help countries scale up funding and attract additional investments, noting that GEF funding alone will not be enough to address the entire problem. The first round selected six African countries – Gabon, Cameroon, Uganda, Madagascar, Nigeria and Eswatini – based on their updated inventories and significant energy investment programmes. The GEP-PCB includes three components: creating an enabling environment for PCB elimination through regulatory frameworks and accurate inventories; supporting the treatment and disposal of equipment using chemical, physical, or thermal technologies; and global coordination led by the World Bank with a knowledge management platform and stakeholder engagement.

Funding gaps remain significant for managing PCBs in equipment in use, waste stockpiles, contaminated sites and orphan stocks, prompting the exploration of innovative financing options such as fees, levies, green financial products such as pollution bonds, blended finance, and the potential use of carbon markets or hazardous waste credits. To further support Parties, the BRS Secretariat is also launching a revamped training platform in partnership with UNITAR, featuring new modules on national reporting and sustainable financing, ensuring that countries have access to updated guidance and information on PCB management.

- The concept note and video recording in **English**, **Spanish**, **French** and **Russian** are available on the **Global NIP Update platform**:

<https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-management-and-elimination-pcbs-and-pop-pesticides>



**Spanish** 

**French** 

**Russian** 

- **Chemicals and plastics crossed planetary boundaries**
  - Persson, L. et al. (2022). Outside the Safe Operating Space of the Planetary Boundary for Novel Entities. *Environmental Science & Technology*. 2022, 56, 3, 1510–1521. <https://doi.org/10.1021/acs.est.1c04158>
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  - Richardson, K. et al. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*. 9, eadh2458. DOI:10.1126/sciadv.adh2458
- **Integrated approach to POPs management**
  - SAICM Emerging Policy Issues and Other Issues of Concern. <https://www.saicm.org/Implementation/EmergingPolicyIssues/tabid/5524>
  - RiskCycle. <http://www.wadef.com/projects/riskcycle/results.php>
- **Gender considerations for NIP update including action plan development**
  - UNEP (2021). Incorporating Gender Dimensions into National Strategy Setting in Chemicals Management. <https://www.unep.org/resources/toolkits-manuals-and-guides/incorporating-gender-dimensions-national-strategy-setting>
  - GGKP (2025). Mainstreaming Gender in National Implementation Plans under the Stockholm Convention. [Regional Workshop for Latin America and the Caribbean / Regional Workshop for Europe, Asia and Africa](#)

- **Action plans in the recommended NIP structure**

- UNEP (2017). Guidance for Developing a National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants. Secretariat of the Basel, Rotterdam and Stockholm Conventions. <https://www.pops.int/Implementation/NationalImplementationPlans/GuidanceArchive/GuidanceforDevelopingNIP/tabid/3166/Default.aspx>
- GGKP (2025). Stockholm Convention Integrated Electronic Toolkit: NIP Harmonized Template and Online Submission. [Regional Workshop for Latin America and the Caribbean / Regional Workshop for Europe, Asia and Africa](#)

- **Impact of pesticide use on health and biodiversity**

- UNEP (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: KEY INSIGHTS. Secretariats of the Basel, Rotterdam, Stockholm Conventions, and the Minamata Convention on Mercury. <https://www.brsmeas.org/biodiversity-report>
- Project TENDR Targeting Environmental Neuro-Development Risks <http://projecttendr.com>

- **Action plan considerations for management and elimination of POP-pesticides and HHPs**

- PAN International (2024). PAN International List of Highly Hazardous Pesticides. [https://pan-international.org/wp-content/uploads/PAN\\_HHP\\_List.pdf](https://pan-international.org/wp-content/uploads/PAN_HHP_List.pdf)
- USEPA (2025). Per- and Polyfluoroalkyl Substances (PFAS) in Pesticide and Other Packaging. <https://www.epa.gov/pesticides/pfas-packaging>
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- **Assessment of alternatives to POP-pesticides and HHPs**

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- **Alternatives to POP-pesticides and HHPs – Organic farming and IPM**
  - FAO (2025). Guidance on integrated pest management for the world's major crop pests and diseases. <https://openknowledge.fao.org/items/c9304805-d858-433c-a137-a553b0846517>
  - FiBL (2021). Organic farming: Basic principles and good practices. <https://www.fibl.org/en/shop-en/1141-organic-farming-principles>
  - IFOAM - Organics International (2016). Organic 3.0: For Truly Sustainable Farming & Consumption. <https://www.ifoam.bio/why-organic/organic-landmarks/organic-30-truly-sustainable>
  - FiBL (2025). The World of Organic Agriculture 2025. <https://www.fibl.org/en/shop-en/1797-organic-world-2025>
- **Assessment, management and database of POPs contaminated sites**
  - UNEP (2025). Guidance on best available techniques and best environmental practices for the management of sites contaminated with persistent organic pollutants. Secretariat of the Basel, Rotterdam and Stockholm Conventions. <https://chm.pops.int/Implementation/BATandBEP/POPscontaminatedsites/Guidance/tabid/9649/Default.aspx>
  - Weber, R. et al. (2018) Life cycle of PCBs and contamination of the environment and of food products from animal origin. Environmental Science and Pollution Research. Int. 25(17), 16325-16343. <https://doi.org/10.1007/s11356-018-1811-y>
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- **Managing remaining industrial PCNs within PCB management**
  - UNEP (2021). Guidance on preparing inventories of polychlorinated naphthalenes (PCNs). Secretariat of the Basel, Rotterdam and Stockholm Conventions. <https://www.greenpolicyplatform.org/guidance/guidance-preparing-inventories-polychlorinated-naphthalenes-pcns>
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- **Action plan options and considerations for PCBs and PCNs**
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  - UNEP (2016). PCB Management Guidance: Maintenance, Handling, Transport and Interim Storage of Liquids Containing PCB and Equipment Contaminated with PCB. PCB Elimination Network (PEN). Secretariat of the Stockholm Conventions. <https://www.greenpolicyplatform.org/guidance/pcb-management-guidance-maintenance-handling-transport-and-interim-storage-liquids>
  - ChemFORWARD. Safe + Circular Inadvertent PCB (iPCB) Pigment Resource. <https://www.chemforward.org/ipcb-pigment-resource>

- **Analysis and monitoring of PCBs and PCNs**
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  - Haga, Y. et al. (2018). Monitoring OH-PCBs in PCB transport worker's urine as a non-invasive exposure assessment tool. Environ Sci Pollut Res 25, 16446–16454. <https://doi.org/10.1007/s11356-018-1927-0>
- **Environmentally sound management of remaining PCBs in line with the Stockholm Convention goals – the financial mechanism and other tools**
  - Stockholm Convention. PCBs. <https://www.pops.int/tabid/273/Default.aspx>
  - BRS Conventions. Global Elimination Program for PCBs (GEP-PCB). <https://www.brsmeas.org/MediaHub/News/PressReleases/GEFapprovesUSD2068million/tabid/10144/language/en-US/Default.aspx>
  - PCB e-Learning Modules. <https://pcb.unitar.org/elearning>
- **Useful links**
  - [Developing Integrated Action Plans for NIPs 1: POP Pesticides and Highly Hazardous Pesticides \(HHPs\)](#)
  - [Developing Integrated Action Plans for NIPs 2: Polychlorinated Biphenyls \(PCBs\) and Polychlorinated Naphthalenes \(PCNs\)](#)
  - [Substitution: Rethinking Action Plans for POPs Pesticides and Highly Hazardous Pesticides](#)
  - [Advancing the Global Elimination of PCBs: Strategies, Financing, and the Path to 2028](#)

If you have any questions or comments, please contact the GGKP team.

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