Webinar Report

Inside the POPs Inventory: Lessons, Challenges and Successes from the Global NIP Update

14 April 2025

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GGKP

Introduction

This roundtable is the twelfth event in GGKP's ongoing knowledge-sharing series, held under Component 4 (Knowledge Management and Information Sharing) of the Global Environment Facility (GEF) project ID 10785, titled Global Development, Review and Update of National Implementation Plans (NIPs) under the Stockholm Convention on Persistent Organic Pollutants (POPs).

Bringing together project countries, Parties to the Stockholm Convention and regional centres, this session provided an interactive platform for sharing experiences, challenges and practical insights on POPs inventory development and updates. As countries progress at different speeds, this roundtable aimed to bridge knowledge gaps by facilitating peer-to-peer learning — from those nearing completion of their inventory reports to those just starting or facing significant roadblocks.

With input from Côte d'Ivoire, Peru, the Bahamas, Kenya, Guyana, Armenia, Kazakhstan, North Macedonia, Montenegro and international experts, discussions highlighted key technical aspects of POPs inventories, current progress, common obstacles and best practices that have emerged across regions. Participants had the opportunity to ask questions, seek expert advice, and explore solutions for improving data collection, analysis and overall inventory processes.

This roundtable was an open conversation where project teams and technical specialists could look inside the inventory process, reflect on lessons learned and explore how to enhance future efforts.

CEST 14:00	Welcome and opening remarks
	Moderator: Ms. Anastasiya Buchok, Component 4, GGKP
14:10	Representatives of the countries of Eastern and Western Africa (Côte d'Ivoire and Kenya)
14:25	Expert panel – Dr. Roland Weber, Dr. Ramesh Kumar and Ms. Marcia Cecilia Suazo
14:40	Representatives of the countries of Latin America and Caribbean (Guyana, the Bahamas and Peru)
15:00	Representatives of the countries of Central and Eastern Europe (Armenia, North Macedonia, Montenegro and Kazakhstan)
15:10	Expert panel – Dr. Roland Weber, Dr. Ramesh Kumar and Ms. Marcia Cecilia Suazo
15:25	Closing remarks

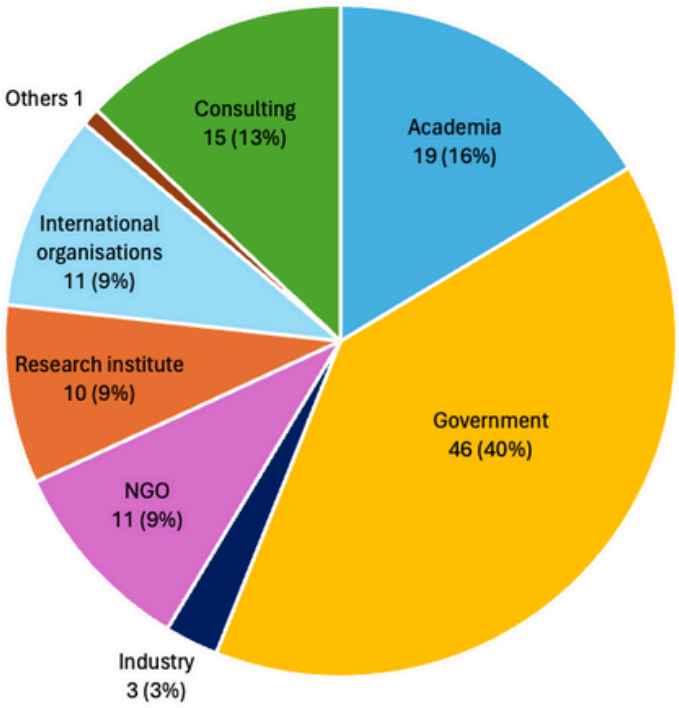
Registration and attendance

Number of registrants: 162 / Total attendance: 116
(Approx. 49% female and 51% male)

Participants by country

Country	Attendees	Country	Attendees	Country	Attendees
Armenia	7	Bolivia	2	Georgia	1
India	7	Botswana	2	Ghana	1
Côte d'Ivoire	4	Burundi	2	Guinea	1
Senegal	4	Estonia	2	Honduras	1
Sierra Leone	4	Guyana	2	Indonesia	1
Switzerland	4	Italy	2	Japan	1
Argentina	3	Republic of Korea	2	Jordan	1
Cameroon	3	Netherlands	2	Montenegro	1
China	3	Peru	2	Morocco	1
Ethiopia	3	Slovakia	2	Mozambique	1
Germany	3	Togo	2	Namibia	1
Kazakhstan	3	Albania	1	Sudan	1
Kenya	3	Belgium	1	Sweden	1
Maldives	3	Bosnia and Herzegovina	1	Tanzania	1
Mauritius	3	Brazil	1	Tunisia	1
Myanmar	3	Croatia	1	Turkey	1
North Macedonia	3	Czech Republic	1	Vietnam	1
South Africa	3	Eswatini	1	Zimbabwe	1
Bahamas	2	Finland	1		

Participants by sector



Key Highlights

The roundtable featured presentations from Côte d'Ivoire, Peru, Kenya, Guyana, the Bahamas, North Macedonia, Montenegro, Kazakhstan and Armenia. Despite varying stages of POPs inventory development, country-specific contexts and levels of progress, most countries highlighted similar challenges in collecting, verifying and managing data for their POPs inventories. A shared insight emerged across the discussions: managing POPs data is deeply complex. Many countries reported that their data is either outdated, fragmented across various institutions, or inaccessible due to a lack of mandatory reporting requirements for industry. These challenges compromise the development of high-quality inventories, which are essential for designing and implementing effective POPs reduction strategies.

In **Côte d'Ivoire**, the main challenges identified during the polybrominated diphenyl ethers (PBDEs) inventory were the lack of data on the age of imported second-hand electronics and weak enforcement of end-of-life vehicle declarations. For per- and polyfluoroalkyl substances (PFAS), reliance on estimated net consumption from incomplete trade and manufacturing data introduces a significant challenge to the inventory. The country also faced challenges with private sector confidentiality, a lack of consistent customs data and unregulated cross-border pesticide movement. At the same time, Côte d'Ivoire's POPs inventory process is strengthened by early stakeholder engagement and multiple data collection methods, including desk reviews, interviews and surveys, which support data triangulation and improve reliability. However, a key gap remains in the country's limited capacity to perform in-depth chemical analyses to verify the presence and concentration of POPs in materials and environmental samples.

Guyana emphasised proactive planning in its second NIP update, building on lessons from its first submission in 2012. A national working group was supported by the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean (BCRC Caribbean) and past inventory developers. Stakeholder identification and mapping allowed early engagement and collection of better quality data, facilitated by strong inter-agency collaboration, including the Guyana Environmental Protection Agency, customs, fire services and pesticide boards. However, inventory was also constrained by a lack of historical data, weak record-keeping systems and insufficient technical capacity, including the absence of adequate laboratory facilities. Additional barriers include the lack of a national strategy for environmentally sound POPs waste management, low public awareness and the need for legislative updates with each new chemical listing. Despite these limitations, Guyana aligned its inventories with the Basel and Rotterdam Conventions and built a baseline for 28 POPs, demonstrating strong ownership and cross-sectoral coordination.

North Macedonia adopted a structured, multi-sectoral approach to developing its PBDE and PFAS inventories, engaging 163 stakeholders across 13 sectors and selecting tailored data sources, such as customs records, landfill data and statistical reports, to cross-verify product flows and address inconsistencies. While the country does not produce PBDEs or PFAS, these substances are present in imported goods, with the highest concentrations found in products currently in use, landfilled, or exported. The Ministry of Internal Affairs and Customs Office provided HS code data for all relevant imports and exports; the State Statistical Office offered guidance on accessing national databases; and the Ministry of Environment's Waste Department shared annual reports from collective handlers.

Key Highlights

Additional data were downloaded from MAKstat and Comtrade to trace industrial chemicals and products potentially containing POPs. Fieldwork included one-on-one meetings with waste electrical and electronic equipment (WEEE) and textile handlers, construction and pharmaceutical companies, landfill operators, and other key sectors. Despite this robust approach, challenges persist, including the absence of legal obligations for POPs data reporting, limited national testing capacity and low industry awareness.

Peru has developed a preliminary draft of the national POPs inventory, which is currently under review. Obtaining customs data helped Peru estimate PBDEs and PFAS in imported goods and synergies with the parallel polychlorinated biphenyl (PCB) project are improving inventory accuracy. However, major gaps persist due to the absence of legal requirements for reporting POPs in products, and the lack of a centralised platform to manage emissions data hampers the inventory of dioxins and furans. Peru also faces reluctance from private stakeholders to disclose data on new POPs, and limited financial tools make it difficult to phase out contaminated industrial PCB equipment. Still, the country shows strong leadership, banning chlorpyrifos ahead of global listing and aligning with green chemistry and elimination projects that strengthen national capacity and promote safer practices.

In **Montenegro**, POPs inventory efforts have focused on PBDEs in the electrical and electronic equipment (EEE) and transport sectors, and hexabromocyclododecane (HBCD) in the construction sector. Key challenges include the absence of Cathode Ray Tube (CRT) device registers, limited data on end-of-life flows of EEE and vehicles, and inconsistencies in waste reporting. Polystyrene insulation materials containing HBCD are sometimes disposed of at designated construction waste sites, but are often mixed with municipal waste due to the lack of a dedicated disposal system, raising concerns about unintentional release. A review of data provided by the customs authority concluded that around 12.5% of imported polystyrene granules contained HBCD. The informal involvement of ethnical minorities in e-waste handling further underscores the need for targeted education. Planned next steps include awareness campaigns for industry and the development of clear, safer disposal guidelines to better manage HBCD-containing materials.

Armenia conducted its first inventory of perfluorooctane sulfonate (PFOS) and related substances using national statistics, national customs offices and stakeholder input. For calculations of amounts of PFOS, the qualitative approach recommended by the Stockholm Convention guidance was applied. The National Inventory Team identified import as the only entry point for PFOS, with the main use sectors including textiles, coatings, the additive industry and furniture. Armenia estimated pathways by combining import/export data with production waste flows. Challenges included data gaps in classified sectors (e.g., defense), lack of lab testing and stakeholder coordination.

In **Kazakhstan**, the inventory of new POPs follows Stockholm Convention guidelines and utilises import data provided by the Customs Control Committee and data from the Ministry of Finance. POPs such as HBCD, SCCPs, PFOS, PFHxS, PFOA, PCN, PCP, PeCB and HCBD are not produced domestically, but enter the country as components of imported finished products and goods. The inventory team used the customs data from 2010 to 2023 to estimate volumes and concentrations of POPs in goods such as paints, adhesives, fire extinguishers, fabrics, leather, paper, hydraulic fluids, etc.

Key Highlights

Kenya is at the early stages of its NIP update and POPs inventory development. The country has begun stakeholder mapping and expressed a strong interest in learning from other countries' experiences. Initial challenges at this stage included potential data gaps, especially for POPs in products, and the difficulty of collecting granular product-level data from stakeholders.

The Bahamas is currently midway through its NIP update. POPs inventory and data collection have been partially complicated by the country's archipelagic geography, comprising over 700 islands. The data collection process has taken approximately one year, with "stakeholder fatigue" arising due to overlapping projects involving the same personnel within the National Working Group. The inventory process is being led by a team of consultants, raising concerns about potential institutional knowledge loss. While collaboration with BCRC Caribbean and international experts has provided valuable guidance, limitations in customs data and weak adoption of the Globally Harmonized System (GHS) continue to hinder comprehensive inventory coverage.

Questions and Answers

Q1. In my opinion, the biggest problems are due to confidentiality policies of the industries: companies are reluctant to share data on POPs with scientists/NGOs for fear of being identified as polluters. However, there should be a government body with which industries can safely share POPs data without fear of public exposure.

Dr. Ramesh Kumar: True. Industries try to hide production/raw materials-related information even from regulatory agencies. Having sound knowledge of chemicals/CAS No. etc. is useful to dig out information.

Q2. Are the Global NIP Update project countries capable of controlling chemical use while planning to double or triple the economy from industrial sources? How prepared are these countries?

Dr. Ramesh Kumar: The BRS Conventions phase out or restrict the chemicals listed as POPs. However, most developing countries delay ratification or only ratify chemicals with little or no industry impact.
Dr. Roland Weber: The control and final disposal of chemicals and POPs in products is a challenge for almost all low- and middle-income countries due to a lack of appropriate waste management and lack of destruction capacity. This needs global improvement.

Q3. What specific measures are adopted by developed countries to control chemicals used in their industries?

Dr. Roland Weber: Restricting and substituting POPs is critical. Countries and the European Chemicals Agency (ECHA) evaluate chemicals in use and then propose them for listing under the Stockholm Convention. Recently, ECHA started to address groups of chemicals to enhance regulatory effectiveness, for example, for all PFAS (https://echa.europa.eu/-/echa-publishes-pfas-restriction-proposal). Efforts are also being made to develop capacity for substituting chemicals of concern with sustainable chemical alternatives, to develop such chemicals and to promote their use. Additionally Europe has developed a strategy on flame retardants with a grouping approach (https://echa.europa.eu/documents/10162/2082415/flame_retardants_strategy_en.pdf).

Q4. We are having difficulties collecting data with the new toolkit. People are providing generic information, and we are unable to complete the toolkit as required. What can we do in this situation?

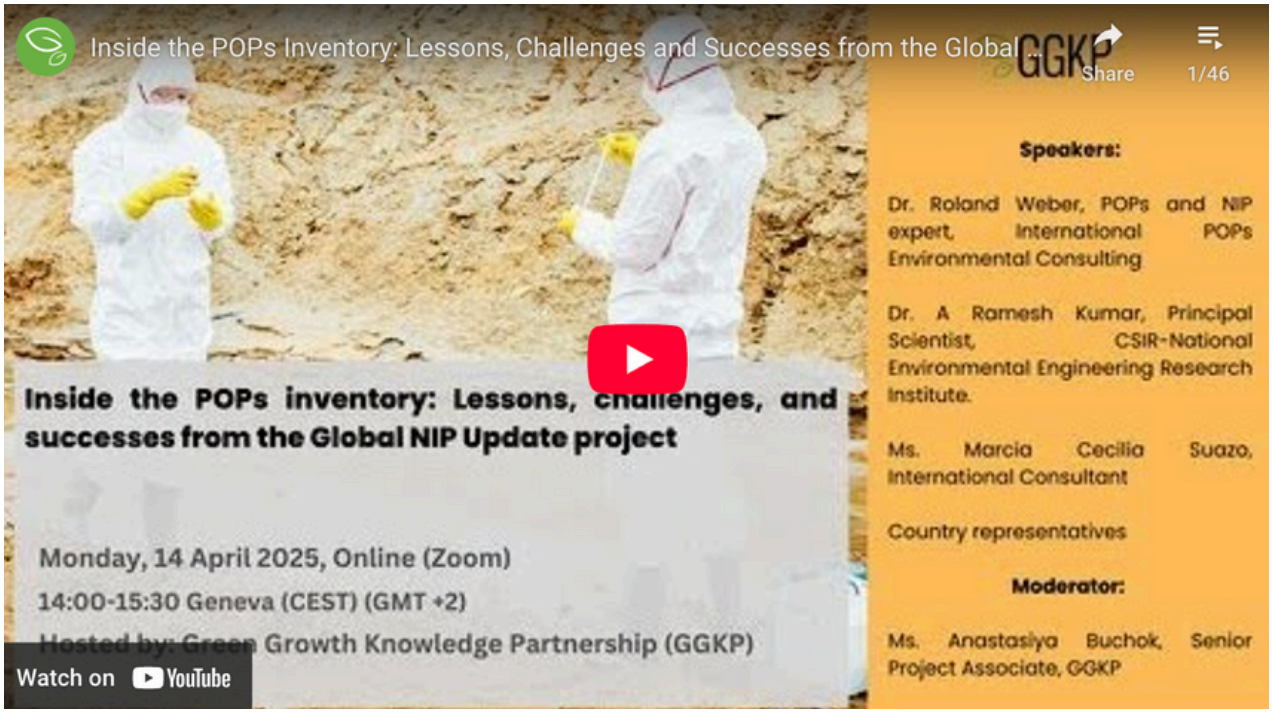
Dr. Ramesh Kumar: It is not necessary to get the data of all sources listed in the toolkit. Identify the major ones, waste incineration, metal or smelting, cement industries, etc.

Q5. How can we develop the PCB inventory in the open system without analysis tools?

Dr. Roland Weber: PCBs in open applications (particularly sealants and paints) will likely need analysis. First, you can check if they were used from the 1950s to the 1970s in your country. They were expensive products and not frequently used in low- and middle-income countries.
Dr. Ramesh Kumar: Find out the open applications of PCB products and the average consumption of PCB/tonnes of the product manufactured. Multiply the factor by the annual production (activity rate). PCBs are likely found only in older products manufactured before the 1970s–1980s.

Resources

- **The concept note and video recording in English, Spanish and French of the webinar are available on the Global NIP Update platform:** https://www.greenpolicyplatform.org/webinar/inside-pops-inventory-lessons-challenges-and-successes-global-nip-update



Spanish **French**

- **GGKP sectoral guidance documents**
  - Sectoral Guidance for Inventories of POPs and Other Chemicals of Concern in Buildings/Construction, Electrical and Electronic Equipment, and Vehicles. https://www.greenpolicyplatform.org/guidance/sectoral-guidance-inventories-pops-and-other-chemicals-concern-buildingsconstruction
  - Production, Use and Trade of POPs Newly Listed in the Stockholm Convention 2009 to 2022. https://www.greenpolicyplatform.org/research/production-use-and-trade-pops-newly-listed-stockholm-convention-2009-2022
  - Short Guidance on Implementing Quality Assurance and Quality Control (QA/QC) for POPs Inventories Data Validation. https://www.greenpolicyplatform.org/guidance/short-guidance-implementing-quality-assurance-and-quality-control-qaqc-pops-inventories-0
  - Guiding Methodology for Strengthening Collaboration with National Statistical Offices to Address Gaps in POPs Data and Related Information. https://www.greenpolicyplatform.org/guidance/guiding-methodology-strengthening-collaboration-national-statistical-offices-address-gaps

Resources

- **Inventory case studies as annexes to the sectoral POPs guidance**
  - Inventory of POPs in the Transport Sector in Nigeria. https://www.greenpolicyplatform.org/case-studies/inventory-pops-transport-sector-nigeria
  - Inventory of POPs in Electrical and Electronic Equipment (EEE) and Related Waste (WEEE) In Nigeria. https://www.greenpolicyplatform.org/case-studies/inventory-pops-electrical-and-electronic-equipment-eee-and-related-waste-weee-nigeria
  - Case Study of Inventory of POPs in the Building and Construction Sector in Country A. https://www.greenpolicyplatform.org/case-studies/case-study-inventory-pops-building-and-construction-sector-country

- **Inventory of POPs in EEE/WEEE in Nigeria**
  - Babayemi, Nnorom and Weber (2025) Comprehensive inventory of imports of electrical and electronic equipment and related plastics and POPs plastic additives into Nigeria in the past 32 years (1990–2022), Emerging Contaminants, 11(1), p. 100423. https://doi.org/10.1016/j.emcon.2024.100423

- **Inventories on the imports of SCCP/MCCP in Brazil and Nigeria**
  - Guida et al. (2022) Inventory approach for short-chain chlorinated paraffins for the Stockholm Convention implementation in Brazil, Chemosphere 287, 132344. https://doi.org/10.1016/j.chemosphere.2021.132344
  - Babayemi, Nnorom and Weber (2022) Initial assessment of imports of chlorinated paraffins into Nigeria and the need of improvement of the Stockholm and Rotterdam Conventions, Emerging Contaminants. https://doi.org/10.1016/j.emcon.2022.07.004

- **PFOS inventories in Brazil and Suriname**
  - Torres et al. (2022) Brazilian overview of per- and polyfluoroalkyl substances listed as persistent organic pollutants in the stockholm convention, Chemosphere, 291, p. 132674. https://doi.org/10.1016/j.chemosphere.2021.132674
  - Pinas, Van Dijk and Weber (2020) Inventory and action plan for PFOS and related substances in Suriname as basis for Stockholm Convention implementation, Emerging Contaminants, 6, pp. 421–431. https://doi.org/10.1016/j.emcon.2020.10.002

- **The Global E-waste Statistics Partnership**
  - https://globalewaste.org/

- **Toolkit for Identification and Quantification of Releases of Dioxins, Furans and other Unintentional POPs**
  - https://www.greenpolicyplatform.org/tools-and-platforms/toolkit-identification-and-quantification-releases-dioxins-furans-and-other

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

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