Global NIP Update Webinar –
Activity Options for Action Plans on Cross Cutting Issues of Specific Stockholm Convention Articles (24. February 2026, 14:00 -16:00 CET)

CET	Theme	Speaker
14:00	Welcome and Opening Remarks	Moderator: Dr. Fabienne Pierre (GGKP/UNEP)
14:05	Activity Options for Action Plans on Cross Cutting Issues of Specific Stockholm Convention Articles – Part 1	Dr. Roland Weber; (POPs Environmental Consulting)
14:45	Awareness Raising on POPs and other Pollutants.	Dr. Therese Karlsson (IPEN)
15:00	AWHHE awareness raising as contribution to the SC NIP update in Armenia	Ms. Gohar Khojayan (IPEN)
15:15	Activity Options for Action Plans on Cross Cutting Issues of Specific Stockholm Convention Articles – Part 2	Dr. Roland Weber
15:30	Strengthening Chemicals and Waste Management through Sectoral Approaches: Interlinkages between Stockholm Convention NIPs, Other International Conventions and the Global Framework on Chemicals	Ms Mihaela Paun (UNEP)
15:45	Q&A session	All
16:00	Closing remarks	

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Global NIP Update Webinar “Activity Options for Action Plans on Cross Cutting Issues of Specific Stockholm Convention Articles”, 24. February 2026, 14:00 -16:00 CET

Activity Options for Action Plans for Cross Cutting Issues of Specific Stockholm Convention Articles – Part 1

Dr. Roland Weber
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https://www.researchgate.net/profile/Roland-Weber-2

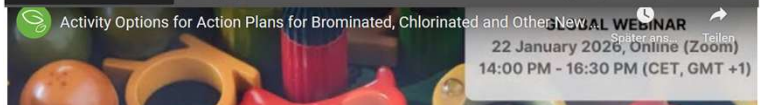
GGKP Action Plan Webinars on individual POPs groups

3 webinars have already been held to introduce the activity options of the action plans for all the major POPs groups:

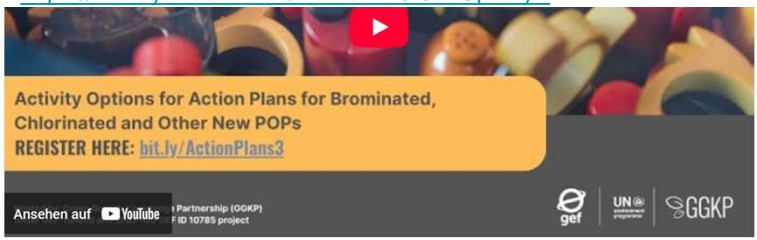
- **Action plans for POPs pesticides and PCBs** https://www.youtube.com/watch?v=Ar6TYGXRTVg
- **Action plans for POP-PFAS and unintentional POPs** https://www.youtube.com/watch?v=oYUl38yxJr8
- **Action plans for brominated and chlorinated POPs plastic additives** https://www.youtube.com/watch?v=3r9K-GpxmyE
- **These webinars inform on major activity options for these POPs and cover a large share of the overall action plans. They are recorded & can be accessed in 4 UN languages.**
- **But there are some further action plans including action plans on specific Convention articles and cross cutting issues which will be addressed in today's fourth and last action plan webinar for the Stockholm Convention NIP.**

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass



https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE

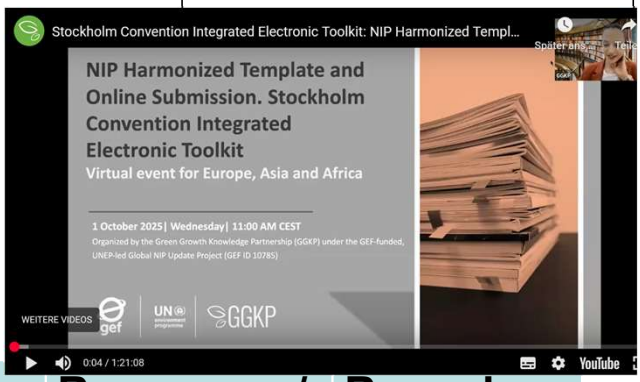


Structure and content of the NIP – Chapter 3: 3.3 Action Plans

3. Strategy and action plan elements of the national implementation plan

3.3 Action plans, including respective activities & strategies

- **The NIP guidance and the electronic NIP harmonized template suggest an action plan structure addressing individual POPs or POPs groups and specific other cross cutting issue.**
- **The NIP harmonized template** includes also **templates for the action plans** considering **Objectives, Activities and Performance Indicators as content.**
- **Also Time Frames, Implementer & Resource Needs are included.**
- **I will go through this suggested structure and would identify objectives & activity options for those action plans which were not yet covered by the other three action plan webinars.**



Objectives	Activities	Performance indicators	Time Frame	Implementers (and stakeholder)	Resources / Needs	Remarks

https://www.youtube.com/watch?v=46Nd5ShR-I4 https://www.youtube.com/watch?v=cGJgmVcpp74

Structure and content of NIP Chapter 3.3 Action Plans

3.3 Action plans, including respective activities & strategies

3.3.1 Activity: Institutional and regulatory strengthening measures.

3.3.2 Activity: Measures to reduce or eliminate releases from intentional production and use.

3.3.3 Activity: Production, import and export, use, stockpiles and wastes of Annex A **POPs pesticides** (Annex A, part 1 chemicals).

3.3.4 Activity: Production, import and export, use, identification, labelling, removal, storage and disposal of **PCBs and equipment containing PCBs** (Annex A, part II chemicals).

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-management-and-elimination-pcbs-and-pop-pesticides
https://www.youtube.com/watch?v=Ar6TYGXRTVg

3.3.1 Activity: Institutional and regulatory strengthening measures

3.3 Action plans, including respective activities & strategies

3.3.1 Activity: institutional and regulatory strengthening measures

- **All the three webinars on the action plans of the different POPs groups contain action options for the regulatory frames for the individual POPs groups** (pesticides, PCBs, POP-PFASs, POP plastic additives and unintentionally produced POPs).
- In your action plans, **you can decide whether regulatory measures for individual POPs are combined in this regulatory action plan, or whether regulatory activities for specific POPs should remain in their respective POP-specific action plans**.
- There are also **general considerations. For these I will suggest objectives & activity options.**

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE

3.3.1 Activity: institutional and regulatory strengthening measures

Objective 1: Legal and policy framework on POPs and other hazardous chemicals are assessed, updated and harmonized (synergy with GFC) .

Recommended activity options:

- **Compile and assess existing national legal instruments relevant for the life cycle management of POPs** and other hazardous chemicals **(synergy with GFC).**
- **Develop or update a national profile on chemical management (synergy with GFC).**
- **Review existing legislations on management of POPs and other hazardous chemicals in selected other countries.**
- **Update and promulgate regulations to eliminate the production, use, import and export of listed POPs (considering exemptions).**
- **Improve or develop an overall chemical regulatory frame, including the assessment of chemicals in use and new chemicals to register for their POPs and other hazard properties, and implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS; GFC synergy).**

STOCKHOLM CONVENTION

UN environment programme Global Framework on Chemicals

3.3.1 Activity: institutional and regulatory strengthening measures

Objective 2: The responsibilities of ministries and other authorities for the life cycle management of POPs (and other hazardous chemicals; GFC synergy) are harmonized.

Recommended activity options:

- **Assess the responsibilities of ministries and institutions for the life cycle management of POPs (and other hazardous chemicals) and the gaps & overlaps in implementation.**
- **Address gaps and overlaps and improve capacity for the life cycle management of POPs (and other hazardous chemicals).**
- **Develop training materials for POPs regulation** (and other hazardous chemical regulation; GFC synergy) **and conduct trainings and workshops for ministries and other regulatory and implementing governmental institutions.**

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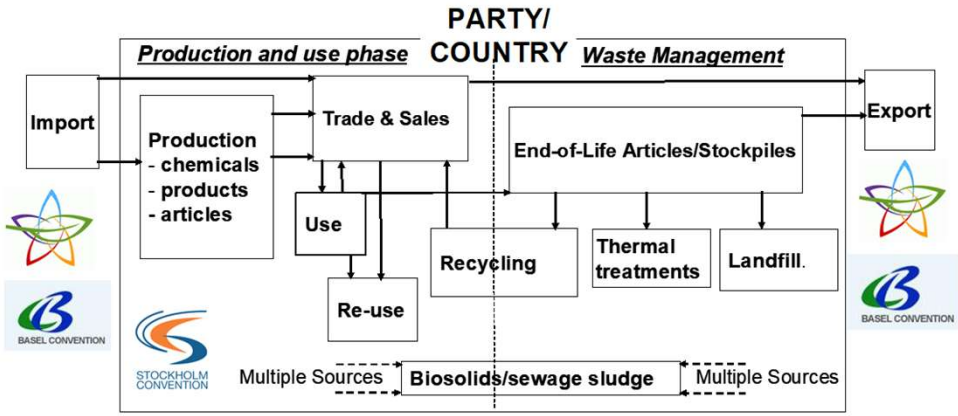
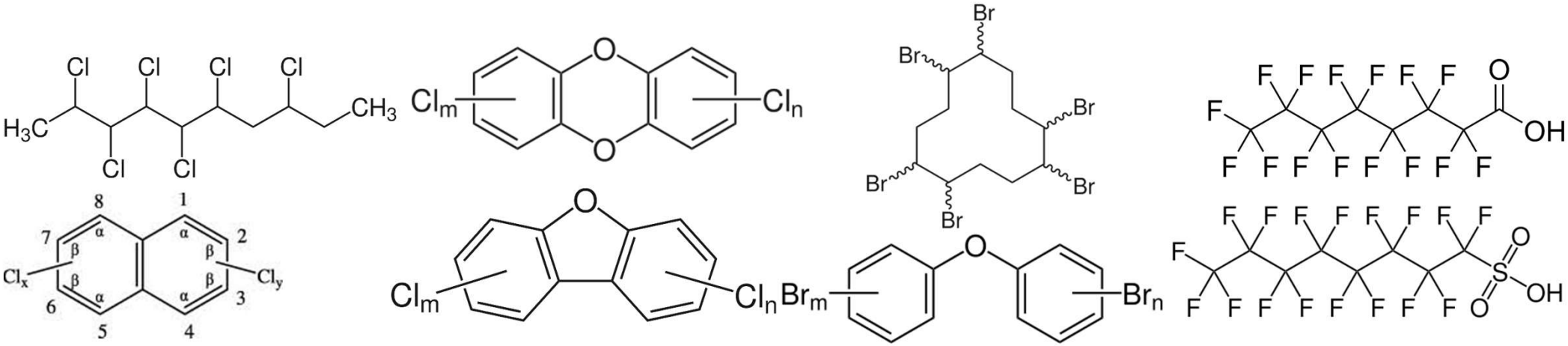


3.3.1 Activity: Institutional and regulatory strengthening measures

Objective 3: To inform, sensitize and capacitate stakeholders on legal requirements and on the enforcement and compliance of regulations on POPs and other hazardous chemicals (GFC synergy).

Recommended activity options:

- **Development of information materials on the regulatory frame and requirements for the POPs groups** (& other hazardous chemicals) **tailored for industry and other stakeholders.**
- **Capacity building and training on the regulatory frame for relevant POPs** (& other hazardous chemicals) **for industries and other stakeholder groups.**



3.3.2 Activity: **Measures to reduce or eliminate releases from intentional production and use**

Background: There are several POPs with exemptions for production & use (e.g., PFOS, PFOA, MCCPs, UV-328, DDT). **If these POPs are produced or used in production or in products exempted, relevant releases and pollution can occur** with generation of contaminated sites. **These POPs also pose a risk of exposure to workers**, e.g., when metal working fluids or firefighting foam are used or POP pesticides are applied. **A Party needs to know the production and use of POPs and take measures to minimize the release and exposure.**

Objective 1: Current production and use of POPs are known and releases evaluated and options for reduction and elimination are compiled.

Recommended activity options:

- **Assessment of production of POPs and associated releases to air, water and wastes.**
- **Evaluate options for reduction & elimination of releases of POPs from productions.**
- **Assessment of the use of POPs in production and products and the related release.**
- **Evaluated options for reduction of POPs releases from use in production and products.**

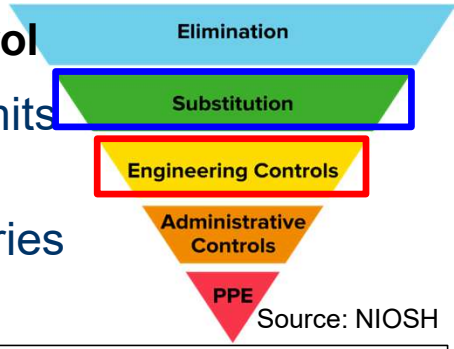
3.3.2 Activity: Measures to reduce or eliminate releases from intentional production and use

Objective 2: BAT/BEP is applied in exempted production & uses to reduce and eliminate release.

Recommended activity options:

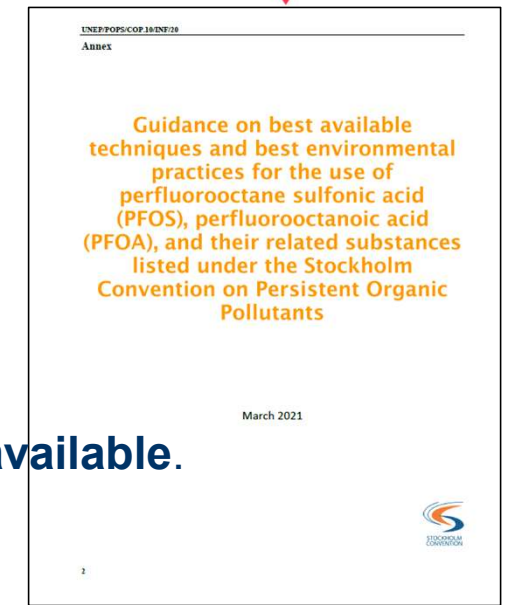
- Define and implement **BAT/BEP for production** of **POPs** including release limits and develop control of production, related releases and waste management.
- Define and implement **BAT/BEP for the use of** the respective **POPs** in industries **including release limits** and develop related control of uses, releases and environmental sound management of waste.
- **Capacity building of industries and workers on BAT/BEP** and **how to control and minimize releases of POP.**
- **Implement measures to minimize and eliminate exposure of workers in the production and use of POPs and education.**
- **Continuously look for alternatives and substitute when they become available**.

Hierarchy of Hazard Control



Source: NIOSH

International Labour Organization


UNEP/POPS/COP.10/INF/20

Annex

Guidance on best available techniques and best environmental practices for the use of perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), and their related substances listed under the Stockholm Convention on Persistent Organic Pollutants

March 2021

Structure and content of NIP Chapter 3.3 Action Plans (continued)

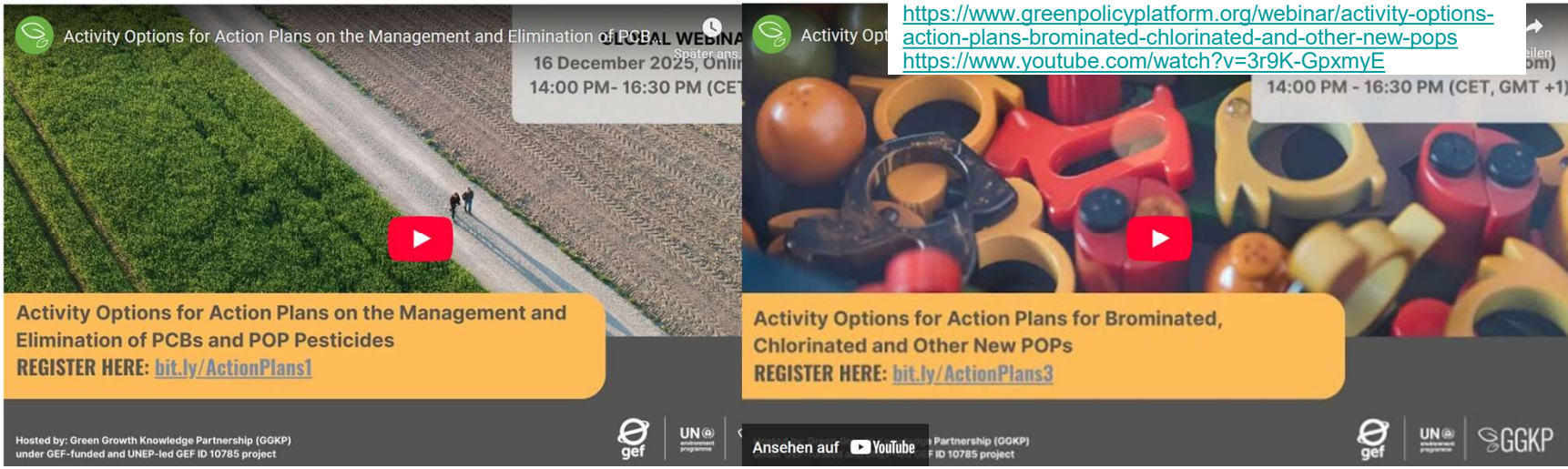
3.3 Action plans, including respective activities & strategies

3.3.5 Activity: Production, import and export, use, stockpiles, and wastes of hexaBDE and heptaBDE (Annex A, Part IV chemicals) and tetraBDE and pentaBDE (Annex A, Part V chemicals), DecaBDE and HBB (Annex A, Part I); HBCD (Annex A, Part I and Part VII)

3.3.6 Activity: **Production, import and export, use, stockpiles, and wastes of HCBD (Annex A, Part I chemicals)**

3.3.7 Activity: Production, import and export, use, stockpiles, and wastes of PCNs (Annex A, Part I chemicals)

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

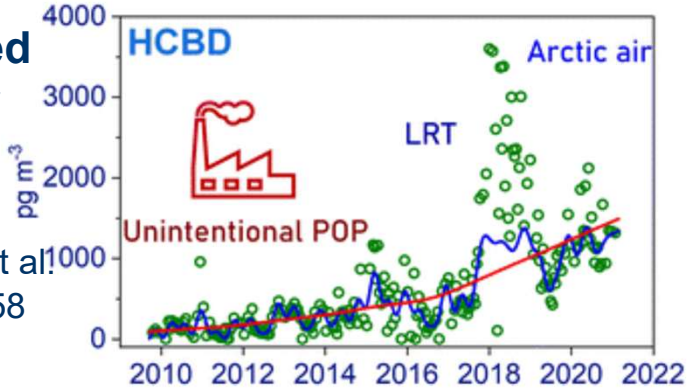


https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE

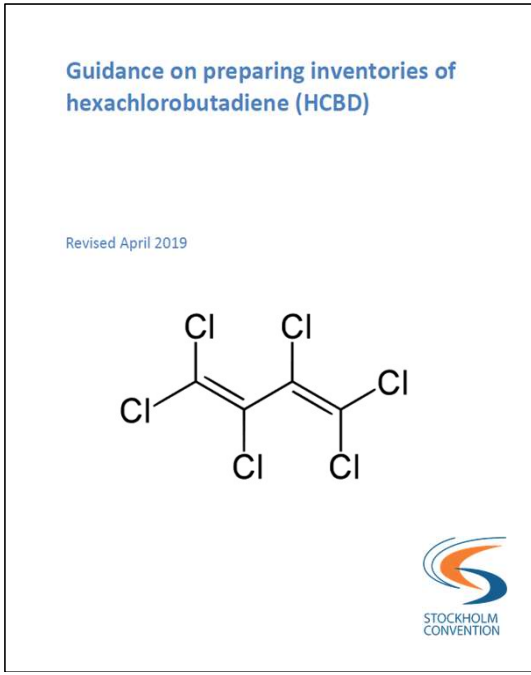
3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD

Background

- Hexachlorobutadiene (HCBD) is an aliphatic unsaturated perchlorinated alkene. **HCBD was listed in 2015 in Annex A without exemptions and was listed in 2017 additionally in Annex C**.
- The **major source** of **HCBD was & is the production of chlorinated solvents** (tetrachloroethylene, trichloroethylene, tetrachloromethane/carbon tetrachloride) and hexachlorocyclopentadiene (intermediate of cyclodiene pesticides) **and the related waste and landfills from (former) production.**
- **The HCBD levels have strongly increased in Artic air from 2009 to 2020 most likely from Asia where chlorinated solvent production increased. HCBD is the POP with the highest levels in Arctic air**. Hsu et al (2025) Environ. Sci.: Processes Impacts,27, 2147-2158



- The HCBD inventory guidance stresses that **in particular Parties which have or had production of these organochlorine compounds should establish detailed HCBD inventories and assessment. Parties that have neither current nor past production of relevant organochlorines in their countries are not expected to have major HCBD production, release, stockpiles or contaminated sites**.



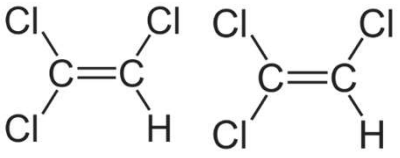
3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD

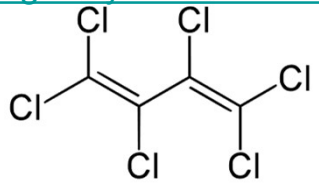
Objective 1. Regulatory framework for HCBD established

Objective 1: Established policy and regulatory frame to stop the use and to control HCBD in industrial processes, products and waste.

Recommended activity options:

- Assessment of regulatory frames for controlling HCBD from organochlorine production (especially chlorinated solvent production).
- **Restrict the recovery of HCBD as product by separation of HCBD formed in chlorinated solvent production and market it as product**.
- Amend existing laws, or develop new **laws for the control and management of HCBD. This could include setting limits for HCBD, e.g., limits for emissions from organochlorine production, limits for low POP content in waste and limits for unintentional trace contaminant (UTC)** (e.g. limits in perchloroethylene (PCE); trichloroethene (TCE)).
- **Restrict the major products containing HCBD** and **production processes generating HCBD** in **particular PCE** (see USEPA for PCE https://www.epa.gov/system/files/documents/2024-12/pce-fact-sheet_english.pdf **and for TCE** https://www.epa.gov/system/files/documents/2024-12/tce-fact-sheet.pdf)





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3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD
Objective 2. Updated HCBD inventory established

Objective 2: (Updated) **Inventory for HCBD is established and data appropriately managed and coordinated with other release inventories.**

Recommended activity options for Parties with organochlorine production:

- Assessment of the management and quantification of current waste residues from the production of chlorinated solvents and related organochlorines and their destruction.
- Assessment of historic management of residues from plants where chlorinated solvents and other organochlorines were produced including related landfills.
- Assessment of HCBD concentrations in the produced chlorinated solvents.

Recommended activity options for Parties without Cl-solvent production:

- **Inventory** of **import** of **HCBD** in **chlorinated solvents** (perchloroethylene, trichloro-ethylene, trichloromethane, dichloromethane) and their use (dry cleaning, degreasing and possibly others) and their management & disposal.

These assessments would be within the frame of unintentional POPs inventory in the organochlorine production, import and use.


Guidance on preparing inventories of hexachlorobutadiene (HCBD)

2022

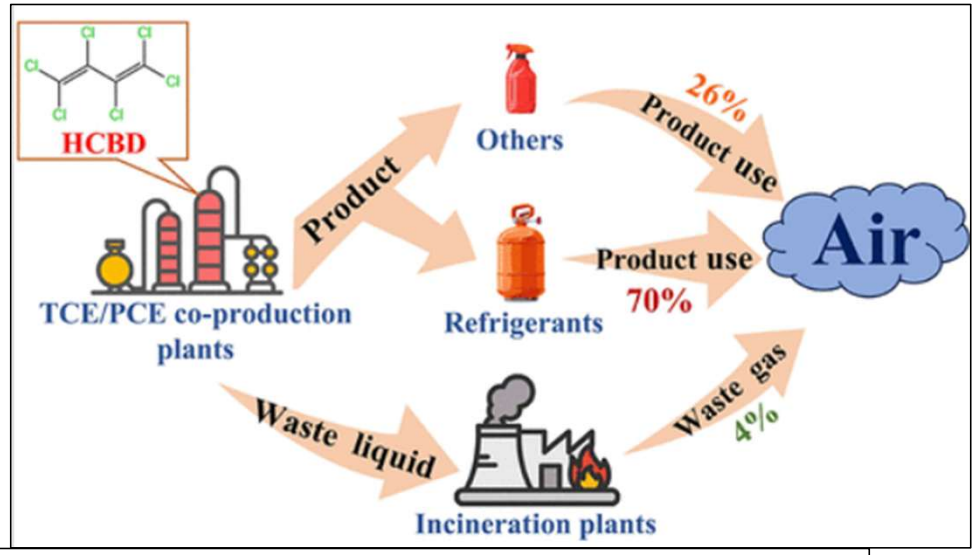
Secretariat of the Basel, Rotterdam and Stockholm Conventions

3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD
Objective 2. Updated HCBD inventory established

Objective 2: (Updated) **Inventory for HCBD is established and data appropriately managed and coordinated with other release inventories.**

Impact factor of HCBD in trichloroethylene and perchloroethylene production & products were recently published in a study from China. Also global amount of HCBD in TCE/PCE production were estimated at **3110** to **5520 kg/year**.

mg/L	Plant 1	Plant 2	Plant 3
Trichloro-ethylene	5.12×10^{-1}	2.32×10^{0}	2.94×10^{1}
Perchloro-ethylene	3.00×10^{-1}	8.22×10^{-2}	1.54×10^{-1}



Formation Characteristics and Emission Inventory of Hexachlorobutadiene in Trichloroethylene/Perchloroethylene Coproduction ES&T 2025, 59, 26741–26749

Junhao Tang, Haiyan Zhang, Mujie Wang, Chen Jiang, Minghui Zheng, and Guorui Liu* https://doi.org/10.1021/acs.est.5c09592

3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD

Objective 3. Substitutes for chemicals releasing HCBD are used

Background: PCE/TCE production are major sources of HCBD in production & the environment with high levels in the Arctic but also high exposure risk for workers.

FACT SHEET
2024 Final Risk Management Rule fo
Trichloroethylene under TSCA

EPA

https://www.epa.gov/system/files/documents/2024-12/tce-fact-sheet.pdf
https://www.epa.gov/system/files/documents/2024-12/pce-fact-sheet_english.pdf

International Labour Organization

HOW TO PREVENT THE USE OF TOXIC CHEMICALS
frequently found in the Mediterranean Region

https://backend.orbit.dtu.dk/ws/files/163013878/Weber_2018.pdf

Objective 3: Use of substitutes or modified materials, products and processes to prevent the formation and release of HCBD (Art. 5)

Recommended activity options:

- **Substitute perchloroethylene in dry cleaning** with alternatives. (E.g., alternatives to dry cleaning systems are liquid carbon dioxide (LCO2) or wet cleaning and hydrocarbon solvent-based systems).
- Assessment and **substitution of the use of PCE, TCE or other chlorinated solvents (e.g. in degreasing of metals, as lubricants and other uses) by alternatives where feasible.**

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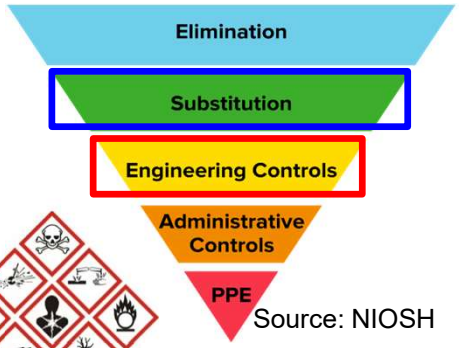
switchmed

3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD
4. Application of BAT/BEP for chlorinated solvent production

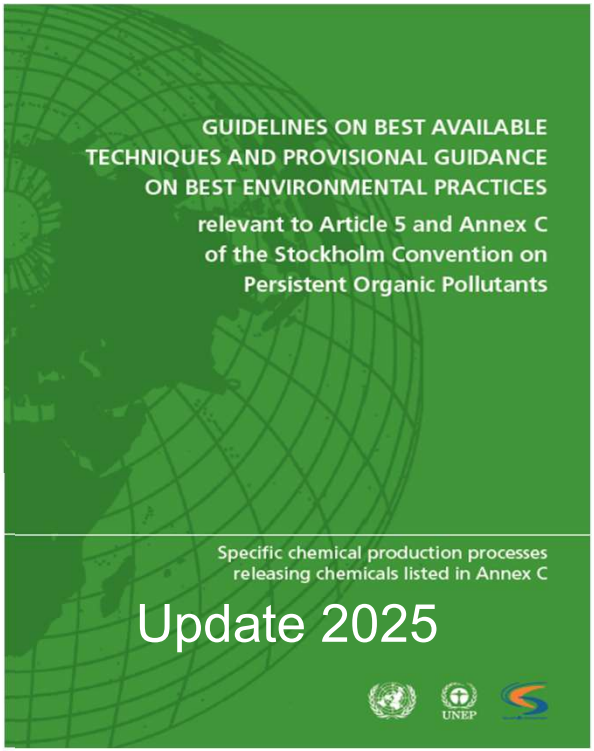
Objective 4: BAT/BEP is applied for production and use of chlorinated solvents.

Recommended activity options:

- **Apply BAT/BEP in the production of chlorinated solvents and implement control measures for releases and waste management.**
- **Ensure that HCBD containing waste is destroyed in an ESM.**
- **Apply BAT/BEP in the use of chlorinated solvents containing HCBD** in dry cleaning, metal degreasing and other uses.



Source: NIOSH



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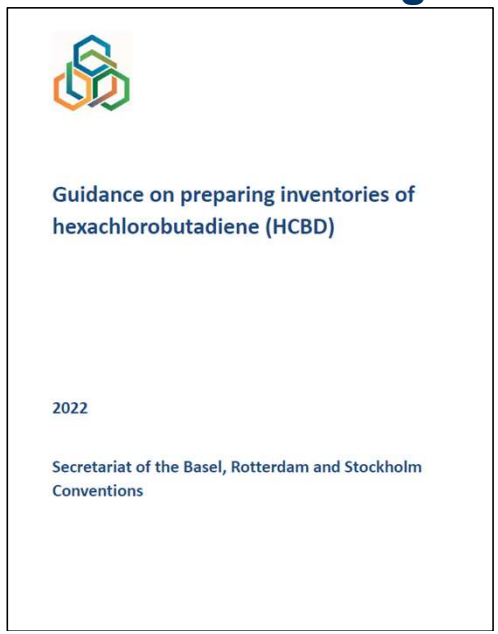
3.3.6 Activity: Production, import/export, use, stockpiles, & wastes of HCBD

Objective 5. Sites contaminated with HCBD are assessed & managed

- HCBD contaminated sites are **legacies** from **organochlorine solvent production.** In some cases, large quantities of several thousand tonnes of "HCBD/HCB waste" were disposed of by industry in landfills. Due to the relative high volatility and water solubility, **these landfills cause environmental pollution** & **risks**.
- **HCBD (and co-deposited HCB, PeCB, and PCN) are highly persistent and the contaminated sites have the potential to impact human health and the environment for generations**.
- **Objective 5: Sites potentially contaminated with HCBD are identified, assessed and managed**.

Recommended activity options:

- Assessment of HCBD contaminated sites from organochlorine production.
- Establish conceptual site models of HCBD contaminated sites, **for further assessment and management.**
- Establish **a legal frame that implements the polluter pays principle** for **contaminated sites.**
- **Secure contaminated sites to stop exposure from ground and drinking water and vapor intrusion in buildings.**
- Possibly remediate the site in an environmentally sound manner.



Structure & content of NIP Chapter 3.3 Action Plans (continued)

3.3 Action plans, including respective activities & strategies (continued)

3.3.8 Activity: Production, import and export, use, stockpiles, and wastes of **SCCPs and MCCPs** (Annex A, Part I chemicals)

3.3.9 Activity: Production, import and export, use, stockpiles, and wastes of **PFOA**, its salts and PFOA-related compounds (Annex A, Part I and Part X chemicals) (integration PFHxS)

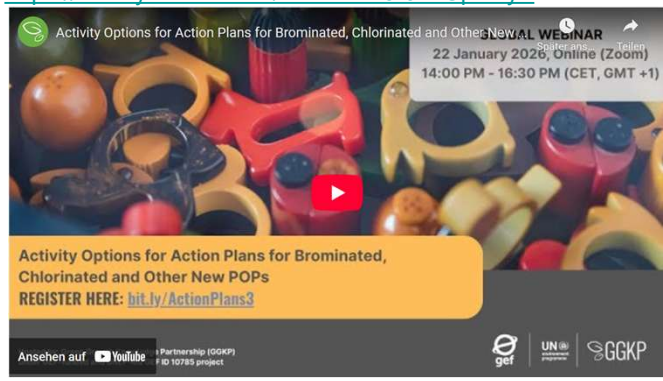
3.3.10 Activity: Production, import and export, use, stockpiles and wastes of **DDT (Annex B Part II** chemical) if used in the country

3.3.11 Activity: Production, import and export, use, stockpiles, and wastes of **PFOS, its salts and PFOSF (Annex B**, Part III chemicals)

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE

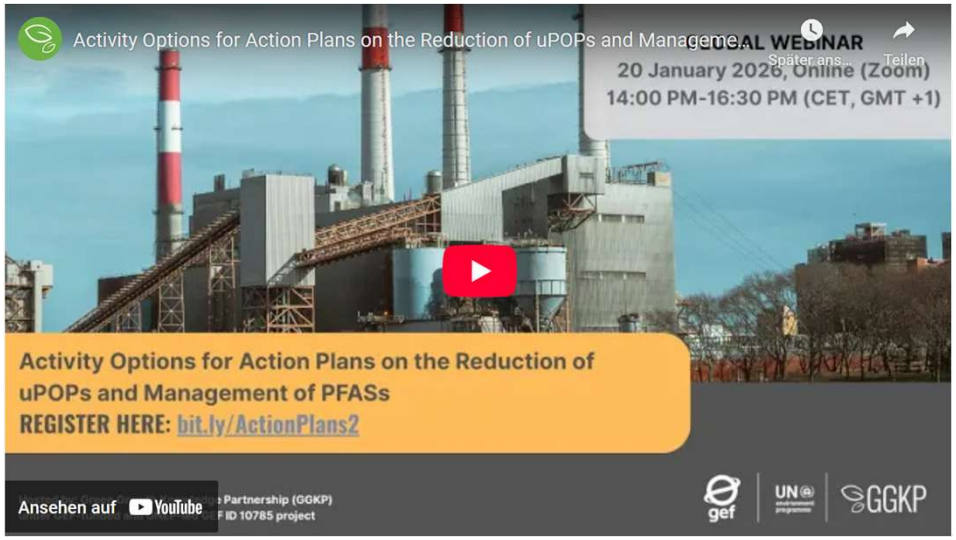


Structure & content of NIP Chapter 3.3 Action Plans (continued)

3.3 Action plans, including respective activities & strategies (continued)

3.3.12 Activity: **Register for specific exemptions** and assess the continuing need for exemptions (Article 4) (DDT, PFOA, Dechlorane Plus, UV-328, MCCP)

3.3.13 Activity: Measures to reduce releases from **unintentional production (Article 5)**



https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass

3.3.12 Activity: **Register for specific exemptions** and **assess the continuing need for exemptions** (Article 4)

Background

- **Article 4** of the Stockholm Convention **requires the establishment of a POPs register for the purpose of identifying Parties that have specific exemptions listed in Annex A or B**.
- The number of listed POPs with specific exemptions and acceptable purposes increased (DDT, PFOS, PFOA, MCCP, Dechlorane Plus, UV-328, DecaBDE, and recycling of PBDEs-2009).
- An **informed decision needs** to be made if an exemption is needed, taking into account alternative chemicals and non-chemical solutions. If, following an assessment, an exemption is required, the Secretariat of the Stockholm Convention/COP must be informed and the exemption registered

Objective 1: An informed registration process is established for the required exemptions for POPs and **the need for individual exemption is evaluated.**

Recommended activity options:

- Science based assessment if any exemption for the use of chemicals listed under Annex A or B is needed involving relevant stakeholders such as regulators, industries, scientists, and NGOs.
- Prepare notification for the BRS Secretariat on specific exemptions or acceptable purposes (if needed).

3.3.12 Activity: Register for specific exemptions and assess the continuing need for exemptions (Article 4)

Objective 2: The needed exemptions are registered at the BRS Secretariat POP register with appropriate information on the exemption and the need is periodically reviewed.

Recommended activity options:

- **Notification of the BRS Secretariat /COP** on the **needed of exemption for the respective POP including the appropriate information** (What exemption(s), estimated quantity of production/use, purpose of production / use, reason for exemption).
- **Conduct periodic review** to **assess the need for continued exemptions considering available alternatives**. **Stop exemption and use by more sustainable alternatives as soon as feasible**.

https://www.pops.int/Implementation/Exemptions/Overview/tabid/789/Default.aspx

Structure & content of NIP Chapter 3.3 Action Plans (continued)

3.3 Activities, strategies and action plans (continued)

3.3.14 Activity: Identification and management of stockpiles, waste and articles in use, including **release reduction** and appropriate measures for handling and disposal (Article 6)

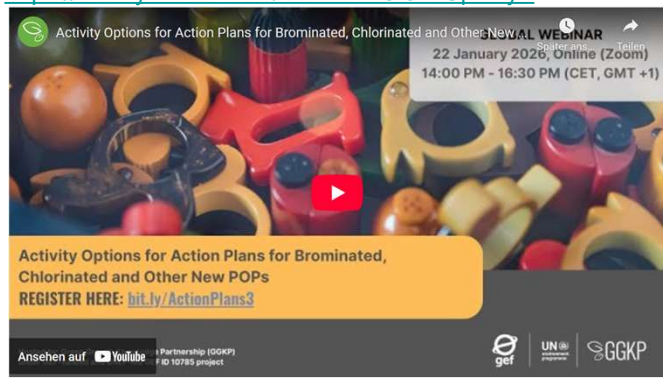
3.3.15 Strategy: Identification of contaminated sites (Annex A, B and C chemicals), and securing and remediation in an environmentally sound manner (Article 6)

- **For both action plans, activities were introduced in the action plan webinars on the individual POPs. The Parties can decide in their NIPs, whether to include these activities in the action plans for the individual POPs (e.g. for PCBs, pesticides) or to include them all in the two cross cutting action plans listed above.**

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE



3.3.14 Activity: Identification and management of **stockpiles**, **waste** & articles, including release reduction and measures for handling & disposal (Article 6)

Background

- In addition to remaining waste & stocks of PCB and pesticide, **large volumes of wastes & stocks** containing POP-BFR and other POP-plastic additives have been generated (e.g. (W)EEE plastics; plastic/polymers in the transport sector; insulation foam and other plastics from construction sector).
- A similar situation exists with PFOS, PFOA, PFHxS and related compounds (e.g., AFFF, carpets, textiles, leather, paper and other products). The GFC has all PFASs as an issue of concern. Therefore all PFAS containing wastes will need to be managed/destroyed.
- Wastes containing these POPs and other chemicals of concern need to be managed. **Activities for the management of POPs specific waste are listed in the individual action plans and would be considered/linked** to the activities listed in this generic action plan.

Objective 1: Regulatory frame for identification, separation, handling, transport, and sound disposal of POPs (and other hazardous) **waste is established**.

Recommended activity options:

- **Compile information of regulatory frames from selected countries for POPs/hazardous waste.**
- **Adopt, or modify legislation for safe handling, transport, storage and disposal of POPs containing waste** (and other hazardous waste).

3.3.14 Activity: Identification and management of **stockpiles**, **waste** & articles, including release reduction and measures for handling & disposal (Article 6)

Objective 2: Safe life cycle management of POP-containing waste is established and POPs waste is handled, collected, transported and stored in an environmentally sound manner. (see life cycle management in the POPs specific action plans)

Recommended activity options:

- **Compile guidelines for lifecycle management of waste containing POPs** (Basel, Stockholm +X) **and develop capacity for POP and hazardous waste management in the country (GFC synergy)**.
- **Establish collection schemes for POPs-containing products and waste.**
- **Establish separation of waste categories containing POPs (e.g. WEEE, ELVs).**
- **Identify appropriate storage facilities for interim storage of POPs stockpiles.**

Objective 3: Option & limitations for the destruction of POPs (and other hazardous) waste in the country is assessed and technologies or export for individual waste categories is selected.

Recommended activity options:

- Evaluation the option and limitation of the use of cement kilns, incinerators and other combustion or non-combustion technologies in the country.
- Upgrade of facilities to destroy certain waste fractions containing POPs.
- Clarify which POPs-containing waste cannot be treated in the country and require export.

3.3.14 Activity: Identification and management of **stockpiles**, **waste** & articles, including release reduction and measures for handling & disposal (Article 6)

Objective 4: Destruction, disposal or export of POPs-containing waste in an ESM.

Recommended activity options:

- **Destruction of POPs-containing waste in an environmentally sound manner.**
- **Export of POPs which cannot be treated in the country following Basel Conv. procedures.**
- **Otherwise dispose of POPs in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option.**

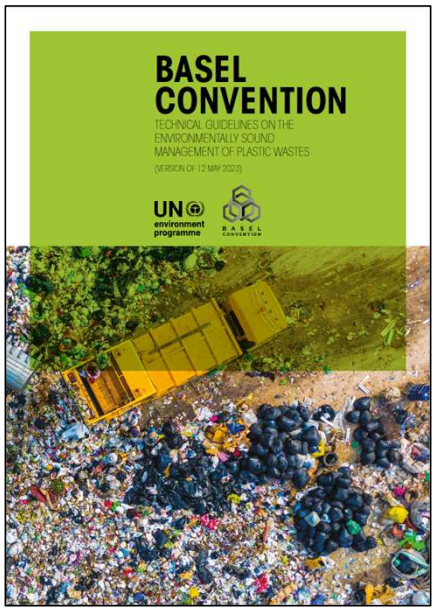

UNEP/CHW.17/6/Add.1/Rev.1

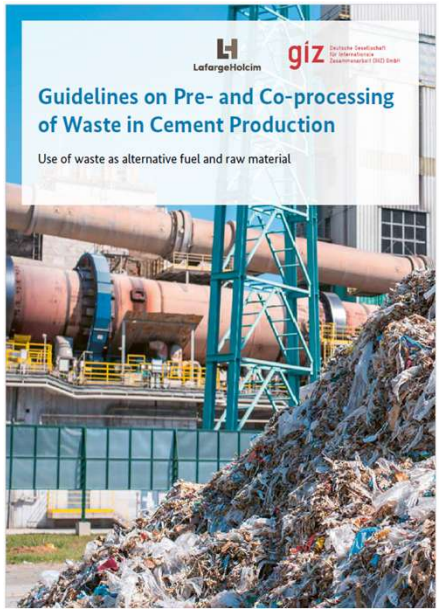
Annex

General technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants

(Version of 9 May 2025)

ADVANCE





STOCKHOLM CONVENTION

BASEL CONVENTION

3.3.15 Strategy: Identification of **contaminated sites** (Annex A, B & C chemicals), securing and remediation in an environmentally sound manner (Article 6)

Objective 1: Regulatory frame for POPs contaminated sites is established.

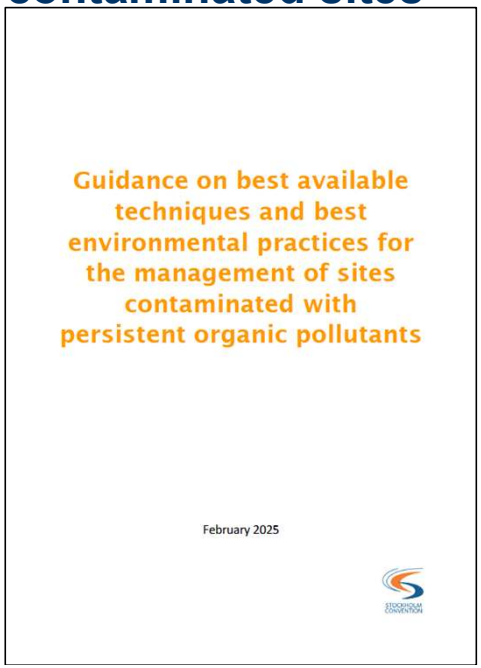
Recommended activity options:

- **Develop or update legislation to set out the criteria for determining contaminated sites for individual POPs (in the overall frame of contaminated sites – soils, sediments and water).**
- **Develop legislation on liability (Polluter Pays Principle (PPP)) related to contaminated sites and responsibility for clean-up.**

Objective 2: Methodology for identification and prioritization of sites contaminated with Annex A, B and C chemicals is selected and applied.

Recommended activity options:

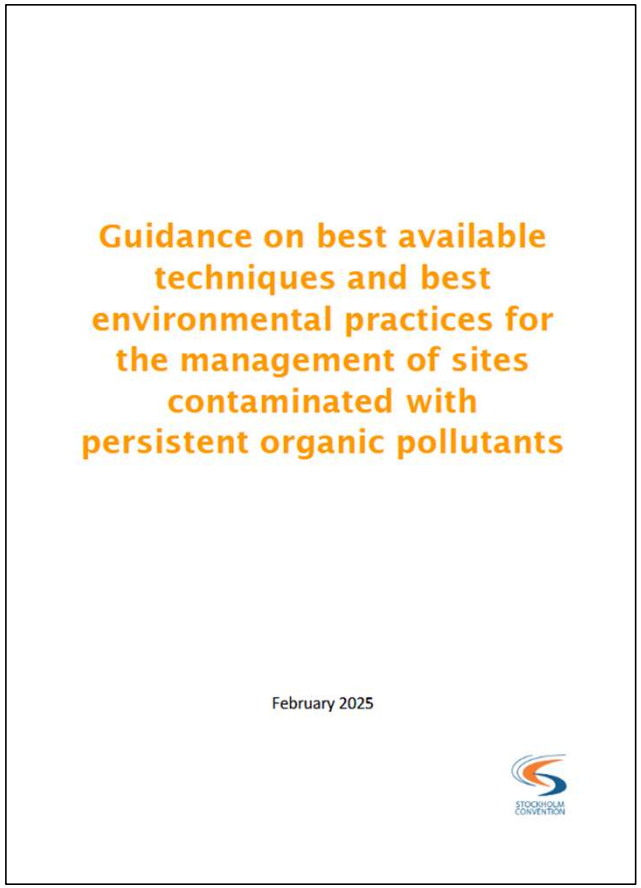
- **Use the POP inventory process and the SC BAT/BEP guidance to systematically identify and assess POPs contaminated sites.**
- **Compile a list of potential contaminated sites and develop conceptual site models for relevant sites.**
- **(Preliminary) prioritization of POPs contaminated sites.**



Guidance on BAT/BEP for POPs contaminated sites (2025)

Module	Title	English
	Executive Summary and Introduction	
1	Background on POPs Contaminated Sites	
2	Principles and Approaches for POPs Contaminated Sites Management and Remediation	
3	Site Investigation, Assessment and Conceptual Site Model	
4	Environmental Risk Assessment	
5	Remediation Technologies and Techniques	
6	Technology Selection Tool for remedial options to be used in Phase 3 - the Remediation Assessment	
7	Stakeholder Engagement, Public and Worker Safety and Health	
8	Contaminated Sites Remediation and Monitoring and Aftercare	
9	Getting Started: Legislation, Policy, Inventory Development and Financing Remediation	
10	Case study - Environmental Management Plan Lâm Hoá site, Viet	

The guidance consists of nine modules, an executive summary and a first case study.



https://www.pops.int/Implementation/BATandBEP/POPscontaminatedsites/Guidance/tabid/9649/Default.aspx

3.3.15 Strategy: Identification of contaminated sites (Annex A, B & C chemicals), securing and remediation in an environmentally sound manner (Article 6)

Objective 3: POPs contaminated sites are secured, and where feasible remediated in an environmentally sound manner.

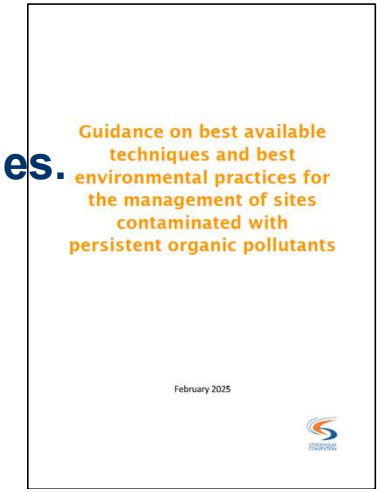
Recommended activity options:

- **Train personnel** in the assessment, securing and remediation of contaminated sites.
- **Secure high priority sites to prevent further human exposure and environmental release.**
- **Identify available remediation technologies and develop strategies for the environmentally sound management and remediation of POPs contaminated sites.**

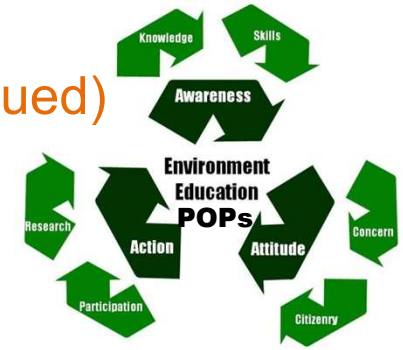
Objective 4: A countrywide database for POPs contaminated sites is established and relevant co-pollutants are considered.

Recommended activity options:

- **Assessment of database systems for contaminated sites in selected countries.**
- **Selection of a database methodology and creation of a database of POPs contaminated sites, integrated into a general national database of contaminated sites.**



Structure & content of NIP Chapter 3.3 Action Plans (continued)



3.3 Activities, strategies and action plans (continued)

Two action plans on information, education and awareness

3.3.16 Activity: Facilitating or undertaking **information exchange** & **stakeholder involvement** (Art. 9)

3.3.17 Activity: Public awareness, information & education (Article 10)

- **The successful implementation of the Stockholm Convention on POPs in the country will only be achieved when the relevant stakeholders (policy makers, industry, workers, science community, civil society and general population) are sensitized on the nature of POPs**, other hazardous chemicals **and their effects on human health, the environment and related costs**.
- By raising awareness among stakeholders, the necessary commitment can be reached to achieve the objective of the Convention. Information needs to be targeted for specific stakeholder groups.
- **Awareness activities on POPs should be linked to awareness activities on general chemical safety (synergy with GFC)**, awareness programmes on public health, and on green economic development, as well as **awareness programs on sustainable consumption and production** - all aimed at broad awareness raising strategies for sustainable development.
- The **complexity** of the meanwhile **37 POPs** and their uses **require** also **education** of stakeholders.

3.3.16 Activity: Facilitating or undertaking **information exchange** and **stakeholder involvement**

FREEP!K

Background: This activity is **supporting and establishing a system for exchanging information on POPs at national, regional and international level**. Referring to Articles 9 and 10 of the Convention, the Parties provide the community with access to information on POPs and ensure that this information is constantly updated. **Due to the increasing number of POPs and the associated complexity, close information exchange on regional & international level is needed.**

Objective 1: Information exchange on POPs in the country is established considering regional and international information sources.

Recommended activity options:

- **Development of a mechanism that information generated in the Stockholm**, Basel and Rotterdam Conventions (considering joint clearing-house mechanism) and the **Global Framework on Chemicals is screened for the relevance for stakeholders in the country and compiled.**
- **Development of a mechanism that information on POPs from the Party with regional or international relevance are communicated to the regional Basel/Stockholm centres and to the BRS Secretariat.**

3.3.16 Activity: Facilitating or undertaking **information exchange** and **stakeholder involvement**

FREEP!K

Objective 2: Access to POPs information for national stakeholders is established.

Recommended activity options:

- Establish a mechanism, and possibly a website, through which stakeholders can access key documents, and relevant information and news on POPs (and other chemicals of concern; GFC).
- Evaluate Stockholm Convention documents and **decide** if some **documents should be translated**.

Objective 3: Improved information exchange on POPs at a national level between stakeholders.

Recommended activity option:

- Facilitate the dialogue on POPs and other hazardous chemicals between policy makers, science and industries (and possibly other stakeholders).

3.3.17 Activity: **Public awareness, information & education** (Article 10)

Objective 1: Stakeholders are aware on the risks posed by POPs and POPs-related GFC issues of concern and are educated that they can contribute to reduce and eliminate the risk of POPs to human health and the environment (For specific awareness activities for individual POPs see the respective action plans of individual POPs and coordinate activities**).**

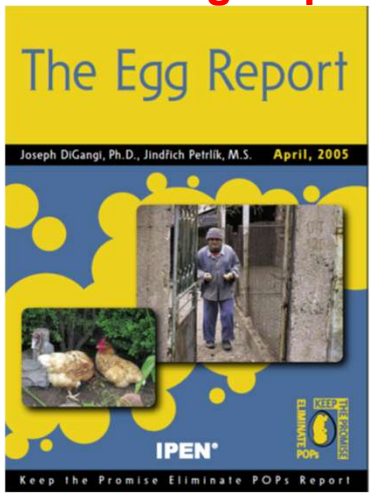
Recommended activity options:

- **Compile state-of-art awareness and education materials on POPs** and **related GFC issues of concern, as well as basic information on hazardous chemicals including GHS classification**.
- **Adopt awareness & education materials** on POPs & other chemicals of concern **tailor-made for target groups** (policy makers, industry, workers, the public, youth; *option translate materials*).
- **Implement tailor made training on POPs control and management** for i**nspectors**, **customs**, environmental police, and stakeholder groups that are directly exposed (see individual action plans).
- **Integrate POPs and hazardous chemicals in the environmental education syllabus of basic & secondary schools**.
- Implement communication activities, raise awareness on POPs &POP-like chemicals; dissemination of **information** in **media outlets** and trainings **targeted to stakeholder groups and the public**.

POP contaminated eggs as awareness tool – IPEN activities as best practice

- **POP** contaminated **food** impacts everybody! →**Ideal for awareness raising of all stakeholder groups**.
- IPEN showed that **PCDD/Fs levels or Σdioxin & dl-PCBs in free range eggs at all metal industries** & **E-waste** recycling sites as well as around most landfills in **LMICs** were **above** the **EU maximum limits**. Consumption of **one egg** exceeds **TDI** for child.
- **POPs levels in the eggs leading to exceedance of TDI is a science-based reason for priority activities for POPs control in action plans: E.g. BAT/BEP is needed to reduce dioxin release from incinerators and metal industries**.

We invited the International Pollutant Elimination Network to this webinar to give some insights into their awareness activities and materials which is the next presentation.



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CHINESE ROOTS GLOBAL IMPACT

Contents lists available at ScienceDirect

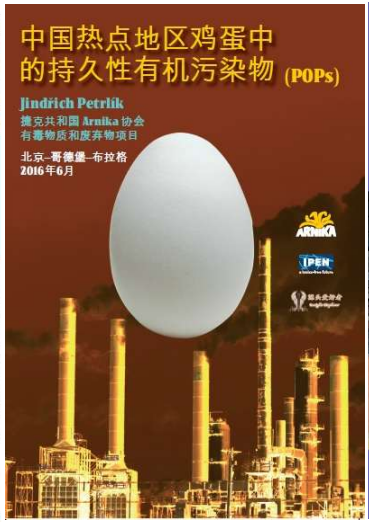
Emerging Contaminants

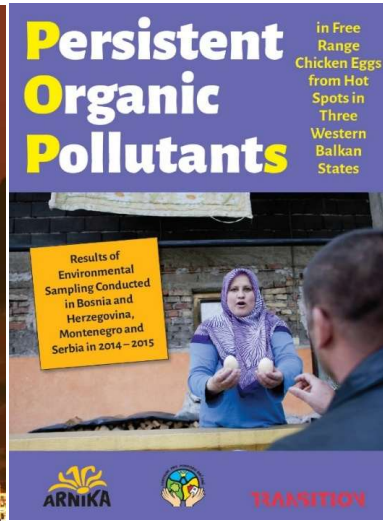
journal homepage: www.keaipublishing.com/cn/journals/emerging-contaminants

Review article https://doi.org/10.1016/j.emcon.2022.05.001

Monitoring dioxins and PCBs in eggs as sensitive indicators for environmental pollution and global contaminated sites and recommendations for reducing and controlling releases and exposure

Jindrich Petrlik [a, b], Lee Bell [a, c], Joe DiGangi [a], Serge Molly Allo'o Allo'o [d], Gilbert Kuepouo [e], Griffins Ochieng Ochola [f], Valeriya Grechko [b, g], Nikola Jelinek [b], Jitka Strakova [a, b], Martin Skalsky [h], Yuyun Ismawati Drwiega [i], Jonathan N. Hogarh [j], Eric Akortia [k], Sam Adu-Kumi [l], Akarapon Teebthaisong [m], Maria Carcamo [n], Bjorn Beeler [a], Peter Behnisch [o], Claudia Baitinger [p], Christine Herold [q], Roland Weber [q, *]



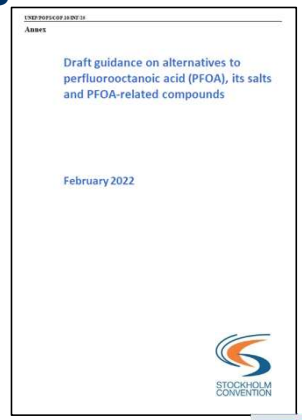


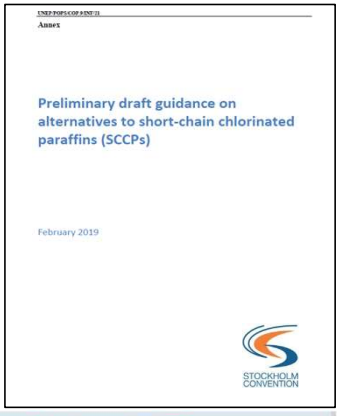
3.3.17 Activity: public awareness, information & education (Article 10)

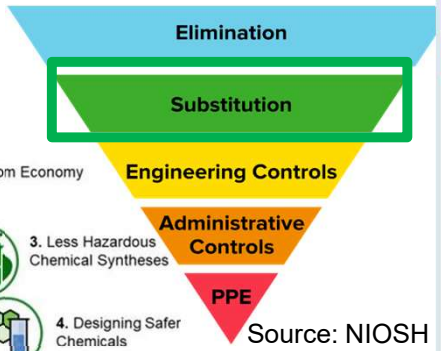
Objective 2: Key stakeholders are made aware of and knowledgeable about alternatives to POPs and are introduced to Green and Sustainable Chemistry

Recommended activity options:

- Compile information materials available on alternatives to exempted POPs and Green and Sustainable Chemistry and select/adjust.
- Establish education on Green Sustainable Chemistry and on POPs/ POPs-like chemicals for curricula of secondary & tertiary education.
- Develop information materials on alternatives to POPs and on Green and Sustainable Chemistry **for relevant industries**.







Source: NIOSH

https://doi.org/10.52711/2231-5659.2024.00008

https://www.unep.org/resources/toolkits-manuals-and-guides/green-and-sustainable-chemistry-framework-manual

https://www.leuphana.de/en/institutes/insc.html
https://www.york.ac.uk/chemistry/research/green/
https://chem.nju.edu.cn/jz_en/list.htm
https://www.gcnc.in/

https://www.isc3.org/page/trainings
https://www.greenscreenchemicals.org/resources/entry/gc3

Education and capacity building on alternatives assessment

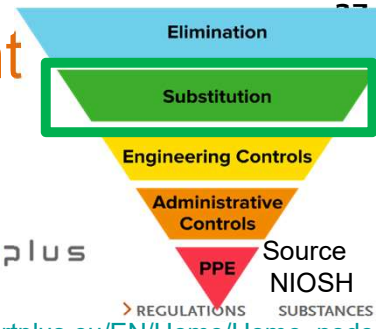
Current and recommended substitution practice to avoid regrettable substitutes

Current practice		Recommended practice
Voluntary, some producers	Phase-out agreement	Binding, cross-sector, global
Known, similar substances	Inventory of alternatives	Structurally different substances
Incomplete assessment	Assessment of alternatives	Complete assessment incl. life cycle impacts
Incremental substitution	Selection of alternatives	Fundamental substitution
No or slow phase-out	Phase-out implementation	Effective phase-out

From incremental to fundamental substitution in chemical alternatives assessment http://dx.doi.org/10.1016/j.scp.2015.08.001

Peter Fantke [a], Roland Weber [b], Martin Scheringer [c,d,*]

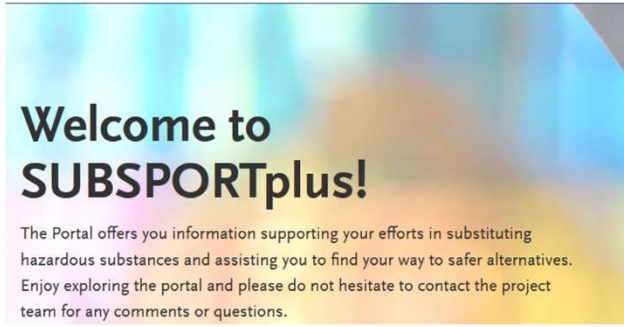
Contents lists available at ScienceDirect
Sustainable Chemistry and Pharmacy
journal homepage: www.elsevier.com/locate/scp

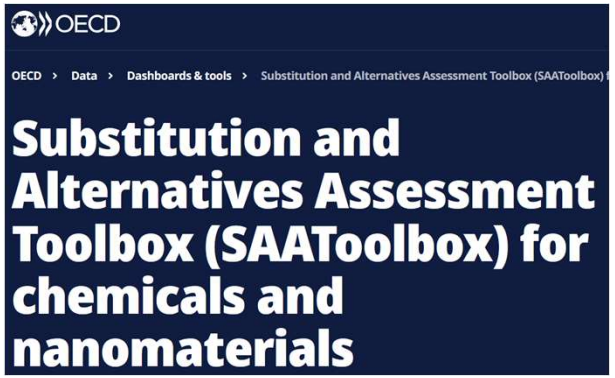


Source NIOSH

:subsportplus Substitution Support Portal

https://www.subsportplus.eu/EN/Home/Home_node





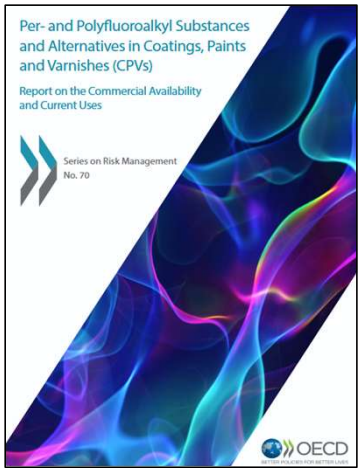
https://www.oecd.org/en/data/tools/substitution-and-alternatives-assessment-toolbox-for-chemicals-and-nanomaterials.html

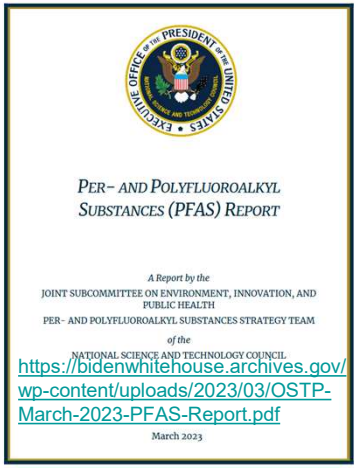
Assessment & selection of alternatives for POPs with exemption: PFAS

Due to large challenges with PFAS pollution, management and resulting restriction activities of some countries and the European Union/ECHA which proposes a restriction of all PFASs and only allow essential uses, finding and assessing alternatives to PFASs has a high priority.

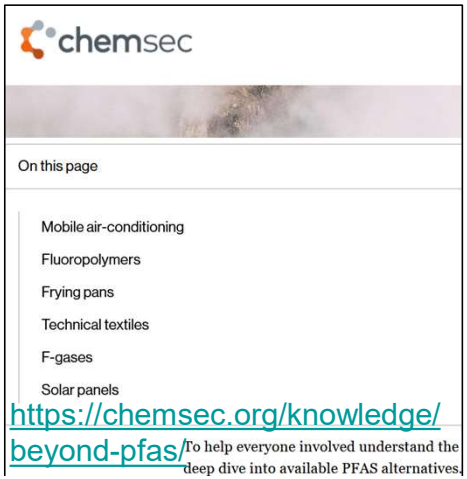
https://echa.europa.eu/de/-/echa-publishes-updated-pfas-restriction-proposal

- Therefore, in addition to the SC PFAS alternative guidance, **large efforts are underway to compile information on alternatives to all PFASs** (incl. **POP-PFAS**) by authorities & scientific community.
  - EU ZeroPM project published a first version of a PFAS Alternatives Assessment Database.
  - OECD compiles information on PFAS alternatives and published several report on specific uses.
  - US Executive Office of the President published a PFAS Report on 2023 including alternatives.
  - Also the NGO ChemSec established a website on PFAS alternatives.

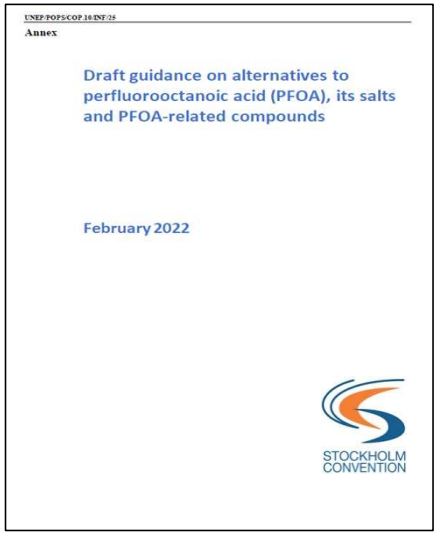




https://bidenwhitehouse.archives.gov/wp-content/uploads/2023/03/OSTP-March-2023-PFAS-Report.pdf



https://chemsec.org/knowledge/beyond-pfas/



Global NIP Update Webinar “Activity Options for Action Plans on Cross Cutting Issues of Specific Stockholm Convention Articles”, 24. February 2026, 14:00 -16:00 CET

Structure of the Stockholm Convention NIP and further Assessment Tasks – Part 2

Dr. Roland Weber
POPs Environmental Consulting,
73527 Schwäbisch Gmünd, Germany
https://www.researchgate.net/profile/Roland-Weber-2

Structure and content of NIP Chapter 3.3 Action Plans (continued)

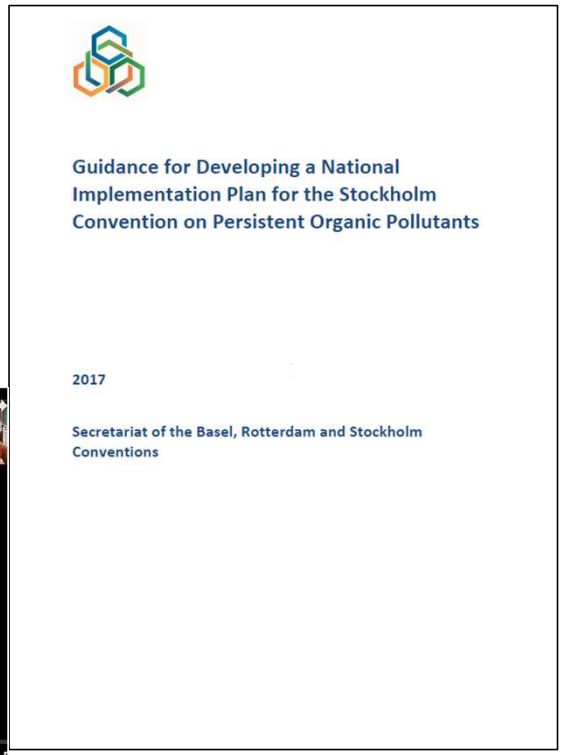
3.3 Action plans, including respective activities & strategies (continued)

3.3.18 Activity: Effectiveness evaluation (Article 16)

3.3.19 Activity: Reporting (Article 15)

3.3.20 Activity: Research, development and monitoring (Article 11)

3.3.21 Activity: Technical and financial assistance (Articles 12 and 13)



https://www.youtube.com/watch?v=46Nd5ShR-I4
https://www.youtube.com/watch?v=cGJgmVcpp74

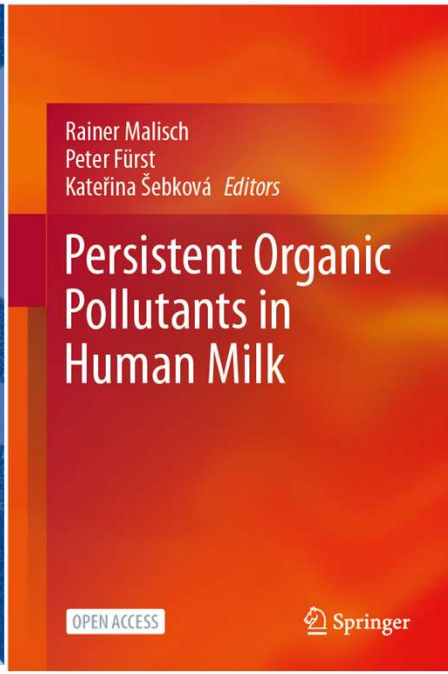
3.3.18 Activity: Effectiveness evaluation (Article 16)

Background: Article 16 of the Convention requires parties to establish mechanisms for providing comparable monitoring data on the presence of Annex A, B and C chemicals. According to Article 16 (paraphrased): Parties, in accordance with their technical and financial capabilities and using existing monitoring programmes and mechanisms, are to co-operate on a regional basis, when appropriate, and contribute to the Global Monitoring Programme (GMP) for the SC. This evaluation shall be conducted on the basis of scientific, environmental, technical and economic information including national reports. **The main matrices selected for assessing the effectiveness of implementation are human milk and air.**

Objective 1: National POPs data for human milk or blood and air are generated.

Recommended activity options:

- Monitoring of POPs in human milk (or blood) by participation in GMP or by a national program.
- Monitoring of POPs in air by participation in GMP or by a national or regional program.



https://link.springer.com/book/10.1007/978-3-031-34087-1

https://www.pops.int/implementation/globalmonitoringplan/overview/tabid/83/default.aspx

3.3.18 Activity: Effectiveness evaluation (Article 16)

Objective 2: The effectiveness of national implementation of the Convention is evaluated.
Recommended activity options:

- Develop own national implementation performance criteria.
- Assessment of the own implementation and progress performance.

BRS Website: The objective of the effectiveness evaluation is assessing whether the Stockholm Convention is an effective tool to protect human health and the environment from persistent organic pollutants. In practice this happens through evaluating whether:

- **Releases from intentional production and use are eliminated or reduced**;
- Releases from **unintentional production are eliminated or reduced**;
- Releases **from stockpiles and wastes are eliminated or reduced**; and
- Environmental levels of POPs are decreasing over time.

The **effectiveness** of the **Convention implementation by a Party can be measured** & documented by the evaluation of the releases **based on robust inventories** and update of the inventories.

https://www.pops.int/Implementation/EffectivenessEvaluation/Overview/tabid/369/Default.aspx

3.3.19 Activity: Reporting (Article 15)

Background: According to Article 15: Parties are required to report every 4 years on measures taken, and on their effectiveness in meeting the objectives of the SC. Article 15 of the Stockholm Convention on POPs mandates Parties to report to the Conference of Parties (COP) on measures taken to implement the provisions of the Convention as well as the effectiveness of the measures taken. In addition, each party is to provide to the Secretariat, statistical data on its total quantities of production, import and export of each of the chemicals listed in Annex A and B as well as a list of states from/to which it has imported/exported each of such substances. **This Action Plan therefore aims at collecting/collating all information relevant to the provisions of the Convention.**

Objective 1: A mechanism for Article 15 reporting is in place and Article 15 reports are submitted in time.

Recommended activity options:

- Develop and establish a national mechanism for complying with the reporting requirements and setting up responsibilities for data compilation and filling the reporting form.
- Compile information for Article 15 reporting (updated inventory and other information) and submit report to the secretariat considering the reporting timeline.

https://www.pops.int/Countries/Reporting/OverviewandMandate/tabid/746/Default.aspx
https://www.pops.int/Countries/Reporting/ElectronicReportingSystem/tabid/3669/Default.aspx

6th National Reporting opened 15.01.2026 with **deadline on 31.08.2026**

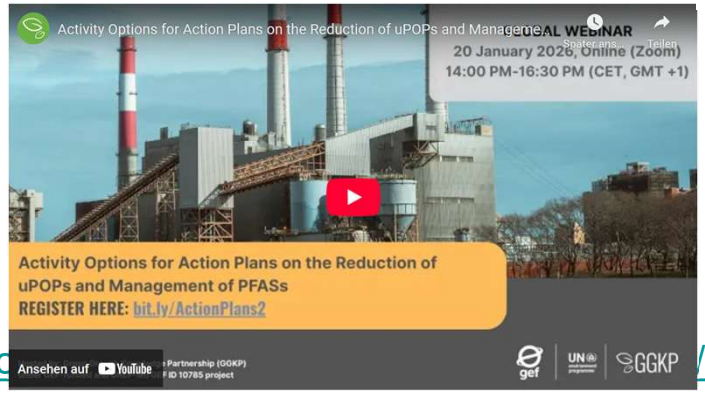
3.3.20 Activity: Research, development and monitoring (Article 11)

Background: Article 11 of the Stockholm Convention mandates Parties to undertake appropriate research, development, monitoring and cooperation pertaining to POPs and where relevant to their alternatives and candidate POPs. Considering the large amount of POPs-like chemicals in use and considering the synergies with issues of concern of the GFC, a wider frame of research and monitoring capacity is needed to address relevant hazardous chemicals and to select appropriate alternatives to POPs and other chemicals of concern avoiding regrettable substitutes. **A science–policy interface is crucial for controlling chemicals**, for **BAT/BEP waste/resource management** and for environmental governance.

In the action plans for the individual POP groups, monitoring and research were included. When writing the action plans it can be decided if the POP specific monitor/research activities for specific POPs are included in the POP specific action plans or if all monitoring & research is included here.

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass



https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE

3.3.20 Activity: Research, development and monitoring (Article 11)

Objective 1: Research capacity is developed or co-operations are developed to assess and evaluate POPs and other hazardous chemicals (synergy with GFC) in the country.

Recommended activity options:

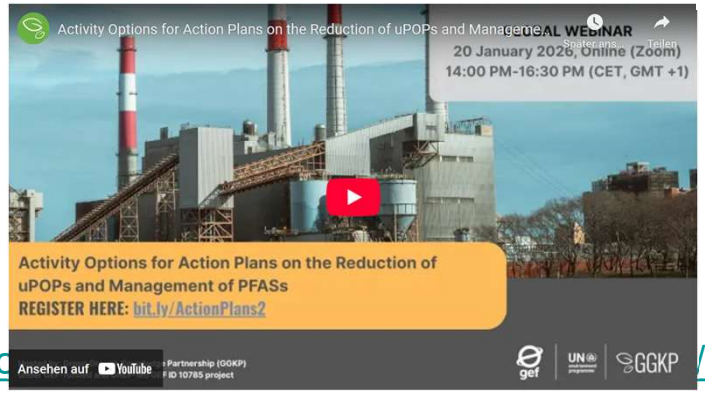
- Identify institutions with the potential to undertake research into POPs & other hazardous chemicals (GFC)
- Strengthen national scientific & technical research capacity and infrastructure to evaluate & research POPs.

Article 11: (a) Sources & releases into the environment; (b) Presence, levels and trends in humans & environment;
(c) Environmental transport, fate and transformation; (d) Effects on human health and the environment;
(e) Socio-economic and cultural impacts; (f) Release reduction and/or elimination; and
(g) Harmonized methodologies for inventories of sources & analytical techniques for monitoring releases.

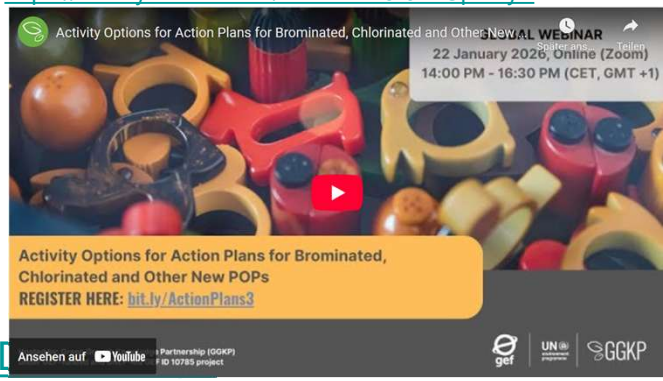
- Develop and facilitate networks among identified research institutions on national and international level.

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass



https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-brominated-chlorinated-and-other-new-pops
https://www.youtube.com/watch?v=3r9K-GpxmyE



3.3.20 Activity: Research, development and monitoring (Article 11)

- Develop and facilitate networks among identified research institutions on national and international level.

Article 11 2(b) Support national and international efforts to strengthen national scientific and technical research capabilities, particularly in developing countries and countries with economies in transition, and to promote access to, and the exchange of, data and analyses; (c) Take into account the concerns and needs, particularly in the field of financial & technical resources, of developing countries and countries with economies in transition and cooperate in improving their capability to participate in the efforts referred to in subparagraphs (a) and (b);

https://www.greenpolicyplatform.org/research/national-implementation-plans-research-needs-and-opportunities-africa

https://www.greenpolicyplatform.org/webinar/national-implementation-plans-research-needs-and-opportunities-asia

3.3.20 Activity: Research, development and monitoring (Article 11)

Objective 2: Analytical capacity is developed or co-operations are established to monitor POPs and other hazardous chemicals (Synergy with GFC).

Recommended activity options:

- Assessment on analytical capacity needs (see webinars of individual POPs action plans).
- Develop laboratory capacity for POPs considered relevant for the Party (see action plans individual POPs).
- Identify partners for POPs and CoC research on regional & international level and establish co-operations.

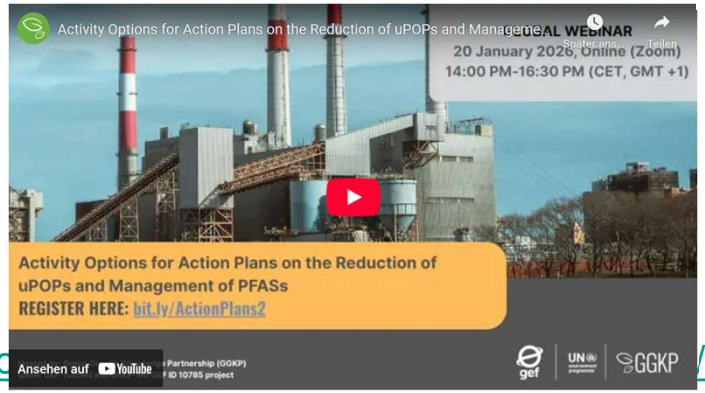
Objective 3: POPs monitoring data needed for implementation of the action plans of the NIP are generated

Recommended activity option:

- The monitoring for the action plans of the individual POPs groups are executed (see activities for the individual POPs groups).

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

https://www.greenpolicyplatform.org/webinar/activity-options-action-plans-reduction-upops-and-management-pfass



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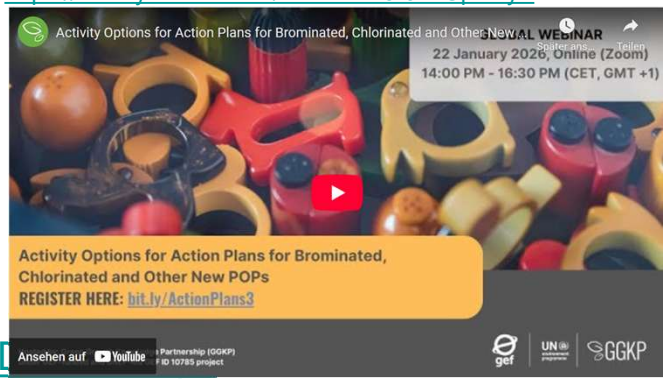
https://www.youtube.com/watch?v=3r9K-GpxmyE



3.3.20 Activity: Research, development and monitoring (Article 11)

Objective 4: Operative science-policy interface on chemicals and waste contributing to decision making is established in the country.

Recommended activity options:

- Assessment of the **gaps** and improvement needs of current **science-policy interface** in decision making.
- Establish/improve science-policy interface for chemicals and waste/resources for assessing the impact of POPs and hazardous chemicals to the SDGs and indicators, ecosystem services and other policy drivers.

Objective 5: Capacity for socio-economic assessment, life cycle costing and external cost for policy making is established. **Recommended activity options**:

- Compile information and develop **capacity on socio-economic analysis, life cycle costing, and external costing of POPs and other hazardous chemicals**.
- Develop and contribute information **on life cycle costs, external costs and socio-economic assessment to the science-policy dialogue in the country and possibly internationally**.

Key Principles for the Intergovernmental Science–Policy Panel on Chemicals and Waste https://doi.org/10.1021/acs.est.2c08283

Marlene Ågerstrand, Kenneth Arinaitwe, Thomas Backhaus, Ricardo O. Barra, Miriam L. Diamond, Joan O. Grimalt, Ksenia Groh, Faith Kandie, Perihan Binnur Kurt-Karakus, Robert J. Letcher, Rainer Lohmann, Rodrigo O. Meire, Temilola Oluseyi, Andreas Schäffer, Mochamad Septiono, Gabriel Sigmund, Anna Soehl, Temitope O. Sogbanmu, Noriyuki Suzuki, Marta Venier, Penny Vlahos, and Martin Scheringer*

A Call to Action: Engaging with the Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution

Miriam L. Diamond,* Gabriel Sigmund,* Marlene Ågerstrand, Michael G. Bertram, Alex T. Ford, Rainer Lohmann, Andreas Schäffer, Maria Clara V. M. Starling, Anna Soehl, Noriyuki Suzuki, Penny Vlahos, Marta Venier, and Martin Scheringer

https://doi.org/10.1021/acs.est.5c18169

Environmental Science & Technology

https://www.unep.org/isp-cwp https://www.youtube.com/watch?v=Cna4yTmc6WQ

Case study: External cost of POP-PFAS & short-chain PFAS in Europe

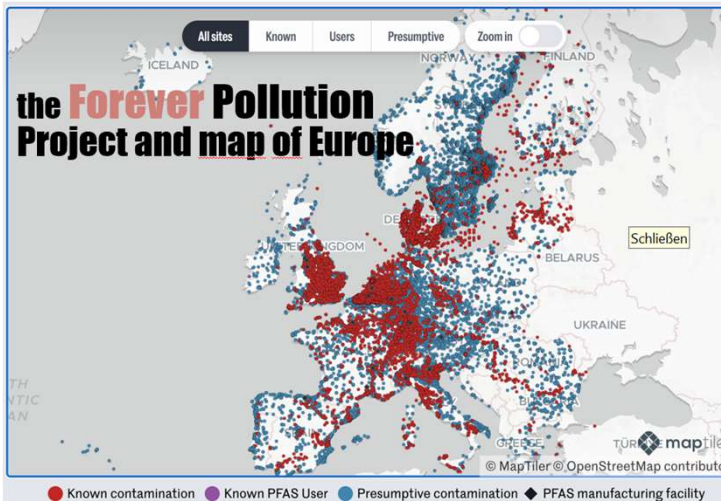
A consortium of PFAS researchers and investigative journalists estimated the management costs of POP-PFAS and short-chain PFAS for Europe in two scenarios:

- **In the 'legacy' scenario, where emissions cease immediately and only legacy PFAS – long-chain PFAS that received the first regulatory attention for restriction and phase out (such as PFOS and PFOA) – are remediated, then the cost is about €95 billion over 20 years.**
- **In the 'emerging' scenario**, where emissions continue and remediation efforts **include short-chain PFAS,** which are difficult to deal with, then costs rise to around **€2 trillion** over the **next 20 years**. **A phase-out of these difficult to remediate, emerging PFAS would be needed to lower this 20-year estimate, otherwise remediation could cost over 100 billion euros per year in perpetuity.**

https://foreverpollution.eu/lobbying/the-cost-of-remediation/ https://foreverpollution.eu/lobbying/the-cost-methodology/

- **The European Commission assessed the societal costs of PFAS pollution in the European Economic Area. Human health costs of PFOA, PFOS, PFNA and PFHxS pollution were estimated at €39.5 billion/year in 2024 alone. In a business-as-usual situation for PFAS emissions, reflecting the regulatory status as of June 2024, the health costs would still amount to €29.5 billion/year in 2050. (Health costs caused by other PFAS were not considered)**

https://op.europa.eu/en/publication-detail/-/publication/2bcea765-fbf8-11f0-8da5-01aa75ed71a1/language-en

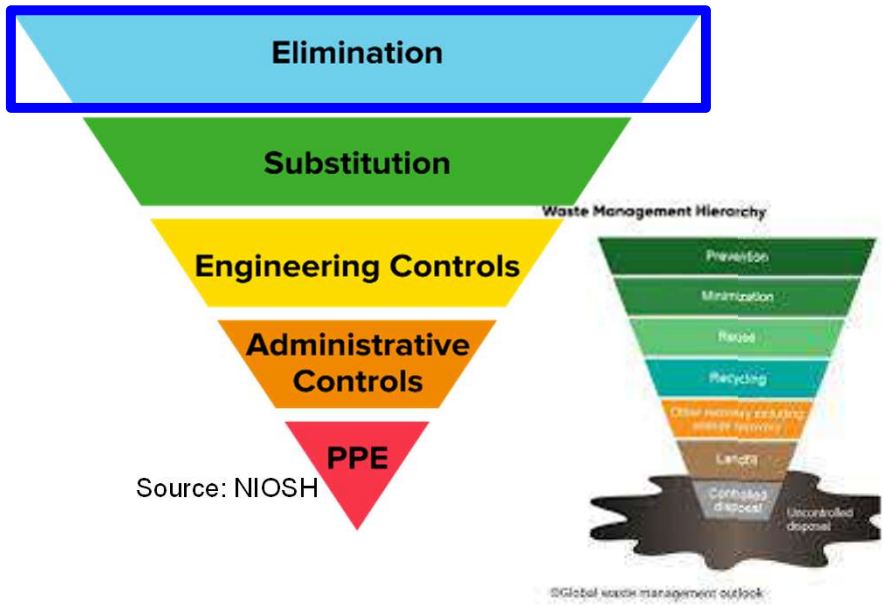


3.3.20 Activity: Research, development and monitoring (Article 11)

Objective 6: Research and assessment of alternatives & substitution to POPs considering Green and Sustainable Chemistry is established.

Recommended activity options:

- **Compilation of information on alternatives assessment and research on alternatives.**
- **Develop research into Green and Sustainable Chemistry and alternatives to POPs and other hazardous chemicals.**
- **Assessment of essential use and promotion of elimination.**



https://doi.org/10.52711/2231-5659.2024.00008

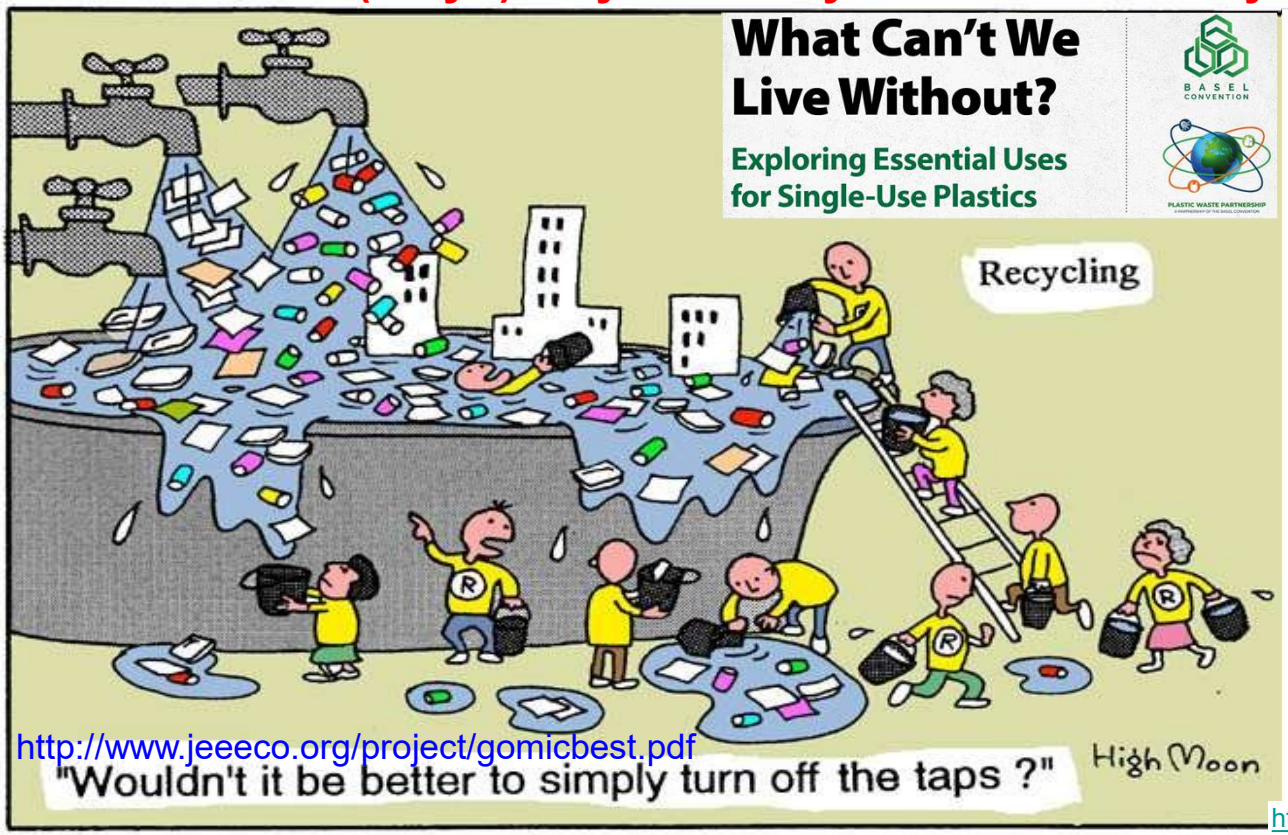
From incremental to fundamental substitution in chemical alternatives assessment

http://dx.doi.org/10.1016/j.scp.2015.08.001

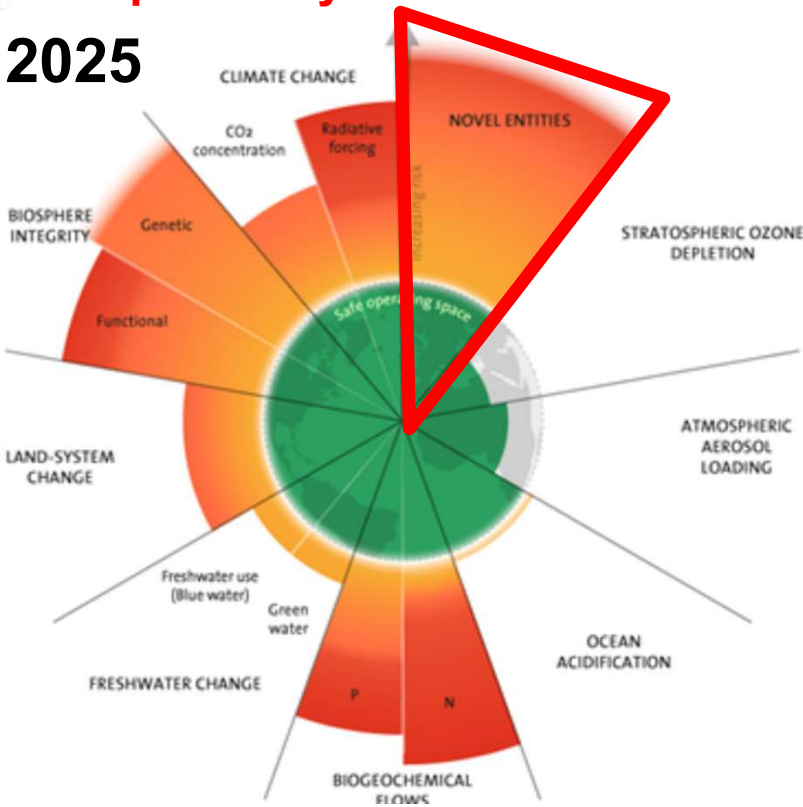
Peter Fantke [a], Roland Weber [b], Martin Scheringer [c,d,*]

Do we need it at all? Essential use assessment!

In addition to substitution & circular economy, **reduction** of **unnecessary chemicals/plastics need to be a priority** - sustainable consumption (SDG 12). **This will reduce chemical releases & exposure, and is the best (only?) way humanity can return to stay within planetary boundaries.**



http://www.jeeeco.org/project/gomicbest.pdf

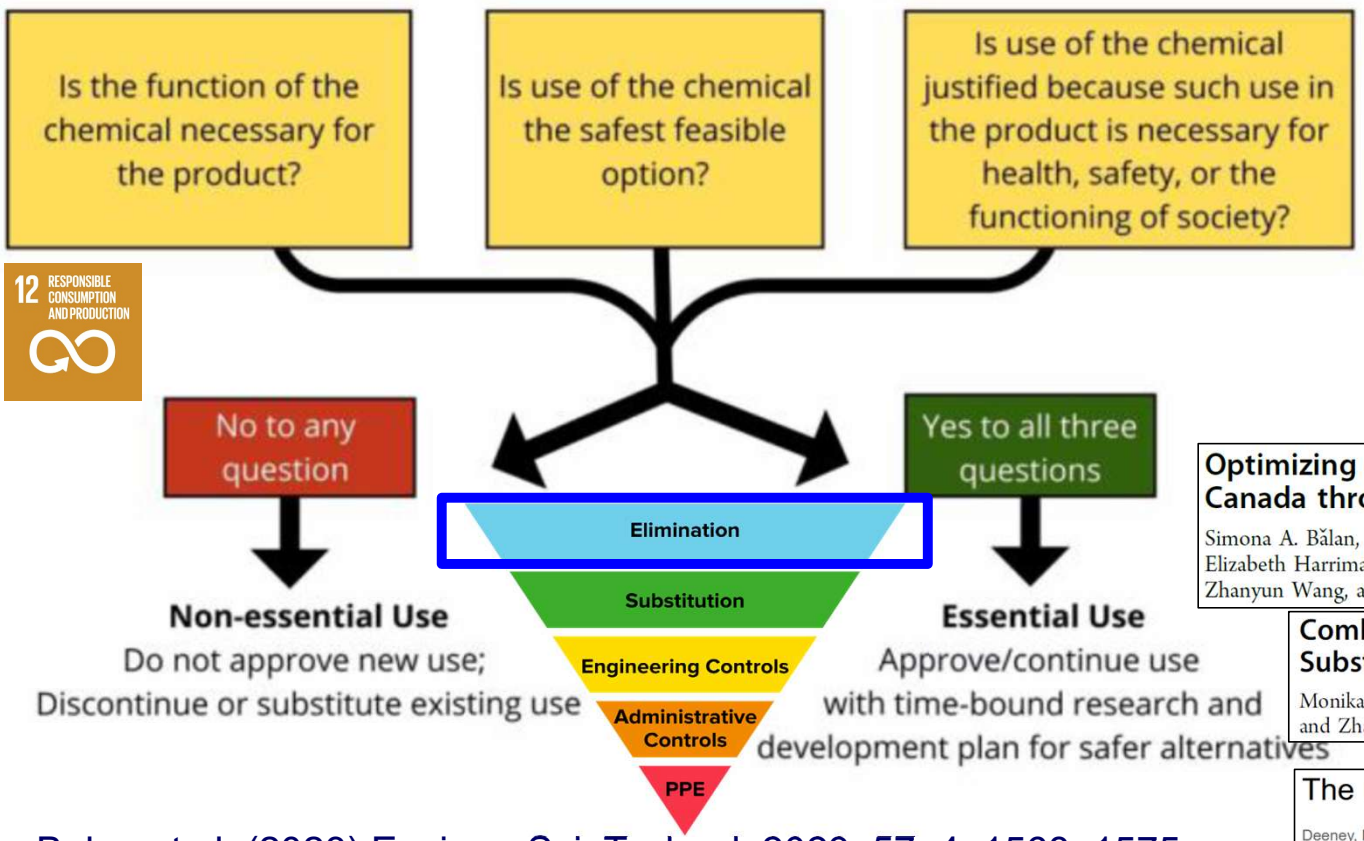


https://www.stockholmresilience.org/research/planetary-boundaries.html

Role model: National policies like Ecuador constitution including sustainability development, the "Sufficiency Economy" of Thailand or the "Ecological Civilization" of China where sufficiency needs to be an inherent part

Science-Policy Advice – Essential use concept

The science community published a range of policy advice papers and studies on the essential use concept for haz. chemicals with a suggestion of a **strategy to identify non-essential uses:**



Balan et al. (2023) Environ. Sci. Technol. 2023, 57, 4, 1568–1575

RESEARCH Open Access
https://doi.org/10.1186/s12302-022-00708-x
The essential-use concept: a valuable tool to guide decision-making on applications for authorisation under REACH?
Romain Figuière*, Flora Borchert, Ian T. Cousins and Marlene Ågerstrand

The Concept of Essential Use: A Novel Approach to Regulating Chemicals in the European Union
https://doi.org/10.1017/S2047102521000042
Kathleen Garnett* and Geert Van Calster**

Optimizing Chemicals Management in the United States and Canada through the Essential-Use Approach
Simona A. Bălan, David Q. Andrews, Arlene Blum, Miriam L. Diamond, Seth Rojello Fernández, Elizabeth Harriman, Andrew B. Lindstrom, Anna Reade, Lauren Richter, Rebecca Sutton, Zhanyun Wang, and Carol F. Kwiatkowski* https://doi.org/10.1021/acs.est.2c05932

Combined Application of the Essential-Use and Functional Substitution Concepts: Accelerating Safer Alternatives
Monika A. Roy, Ian Cousins, Elizabeth Harriman, Martin Scheringer, Joel A. Tickner,* and Zhanyun Wang https://doi.org/10.1021/acs.est.2c03819

The Essential Use Concept for the Global Plastics Treaty
Deeney, Megan; Farrelly, Trisia; Wagner, Martin; Thompson, Richard; Carney Almroth, Bethanie; Baztan, Juan; https://zenodo.org/records/16363511

Thank you for your attention ! Questions?

More Information https://www.thegef.org/; https://en.wikipedia.org/wiki/Triple_planetary_crisis

Basel Convention: www.basel.int

Rotterdam Convention: www.pic.int

Stockholm Convention: http://chm.pops.int/;

Montreal Protocol/Vienna Convention: http://ozone.unep.org

GFC: https://www.chemicalsframework.org/ **FAO:** www.fao.org **WHO** www.who.int/

Climate Convention https://unfccc.int/ **Biodiversity Convention:** https://www.cbd.int/

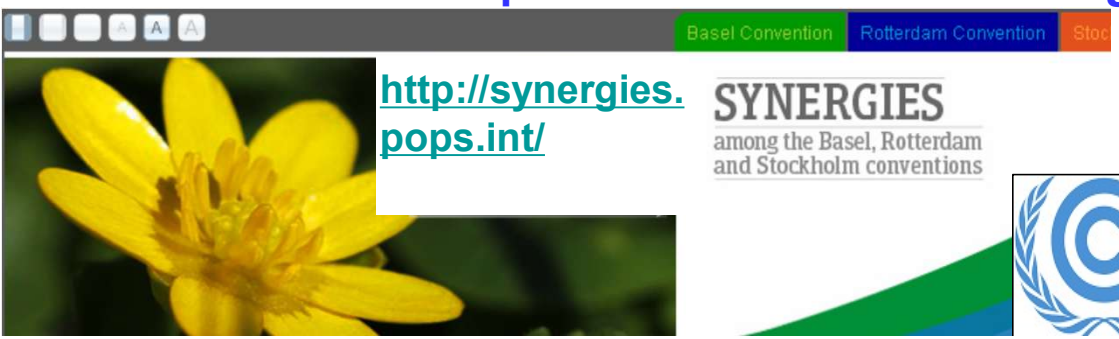
OECD/IOMC: http://www.oecd.org/chemicalsafety/

Science:; https://www.ipcc.ch/; https://www.ipbes.net/; https://www.unep.org/isp-cwp; https://www.ipcp.ch/

Industry: http://www.suschem.org/; https://icca-chem.org/; https://cefic.org/

NGO: www.ipcp.ch; www.ipen.org; www.ciel.org/; www.ban.org; www.chemsec.org; www.wecf.org

Better-world-links: http://www.betterworldlinks.org/



http://synergies.pops.int/

SYNERGIES
among the Basel, Rotterdam and Stockholm conventions

UN environment programme Global Framework on Chemicals

GREEN GROWTH Knowledge Partnership

United Nations Framework Convention on Climate Change

Convention on Biological Diversity