GUIDANCE FOR STRENGTHENING THE REGULATORY FRAMEWORK/ VOLUNTARY AGREEMENTS ON MONITORING OF NEWLY LISTED POPs

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Introduction

The Stockholm Convention on Persistent Organic Pollutants (POPs) is an international treaty aimed at protecting human health and the environment from the threats posed by POPs. The Conference of the Parties (COP) to the Stockholm Convention decided to list nine new chemicals in 2009 and an additional one in 2011[1].
To assist Parties in updating their National Implementation Plans (NIPs) to address newly listed POPs, a set of guidance documents has been developed by the United Nations Industrial Development Organization (UNIDO) and the United Nations Institute for Training and Research (UNITAR), working in collaboration with the Secretariat of the Stockholm Convention (SSC) and the Global Environment Facility (GEF)[1].
These documents aim at supporting Parties in developing strategies to restrict and eliminate the newly listed POPs, by providing guidance on establishing inventories, monitoring the presence of products and articles containing newly listed POPs, and selecting Best Available Techniques and Best Environmental Practices (BAT and BEP) for situations when production, use, and recycling of industrial POPs are allowed by the Convention.
Obtaining information on the presence of newly listed POPs as substances, in products, and in articles on the national market and in imported goods is essential for the enforcement of regulations aimed at restricting and eliminating POPs. Currently, most countries lack a strategy to monitor and manage (new) POPs in articles and products. Furthermore, many countries lack the infrastructure and technical capacity to monitor POPs and other hazardous chemicals in products and articles. The collection of such information in a strategic manner by the relevant authorities needs to be facilitated by the existence an adequate strategy and regulatory (and infrastructural) framework for the monitoring of products and articles that contain POPs.

The current paper briefly introduces into the "*Guidance for strengthening the regulatory framework/voluntary agreements regulating the monitoring of products/articles that contain or may contain POPs*"[2] and the key features and content. In particular the possible role of the research community is highlighted. The paper also mentions related Stockholm Convention guidance documents[3-5].

Results and Discussion

Scope of the guidance document

The objective of this guidance document is to assist Parties in developing a regulatory framework that can facilitate the monitoring of products and articles that contain POPs. The document includes guidance on key issues to consider for the enforcement of regulations under such a framework. An overview on the content and approach of the guidance document is given in Figure 1.

Main target audience

The main target audience comprises policy makers responsible for developing regulations for the management of POPs, and authorities and other stakeholders involved in the collection of information on newly listed POPs and those controlling chemicals in products and articles.

Control of newly listed POPs throughout the life cycle stages, the role of stakeholders (including research)

The main responsibility for the monitoring of hazardous chemicals like POPs and their control at the national level in the different life cycle stages is with a number of ministries and related competent authorities (see Figure 2). The guidance document briefly introduces the roles of the different stakeholders for the monitoring of POPs in articles. While ministries and competent authorities (e.g. customs, factory inspectorates, authority for market surveillance) have the main responsibility and legal backing for monitoring and enforcement, other stakeholders within a Party's jurisdiction also need to support/develop the legal framework and monitor POPs at different stages of their life cycle for different purposes. Since several newly listed POPs are included in consumer products (e.g. POP-PBDEs in electronics, vehicles, furniture, construction or PFOS and related substances in impregnated carpets, textiles, paper, impregnation spray), the entire flow of these articles (sales, use, re-use, recycling, and waste management) also needs to be monitored and considered from cradle-to-grave.

[1] Theses guidances and guidelines have not yet been adopted by the Conference of Parties.

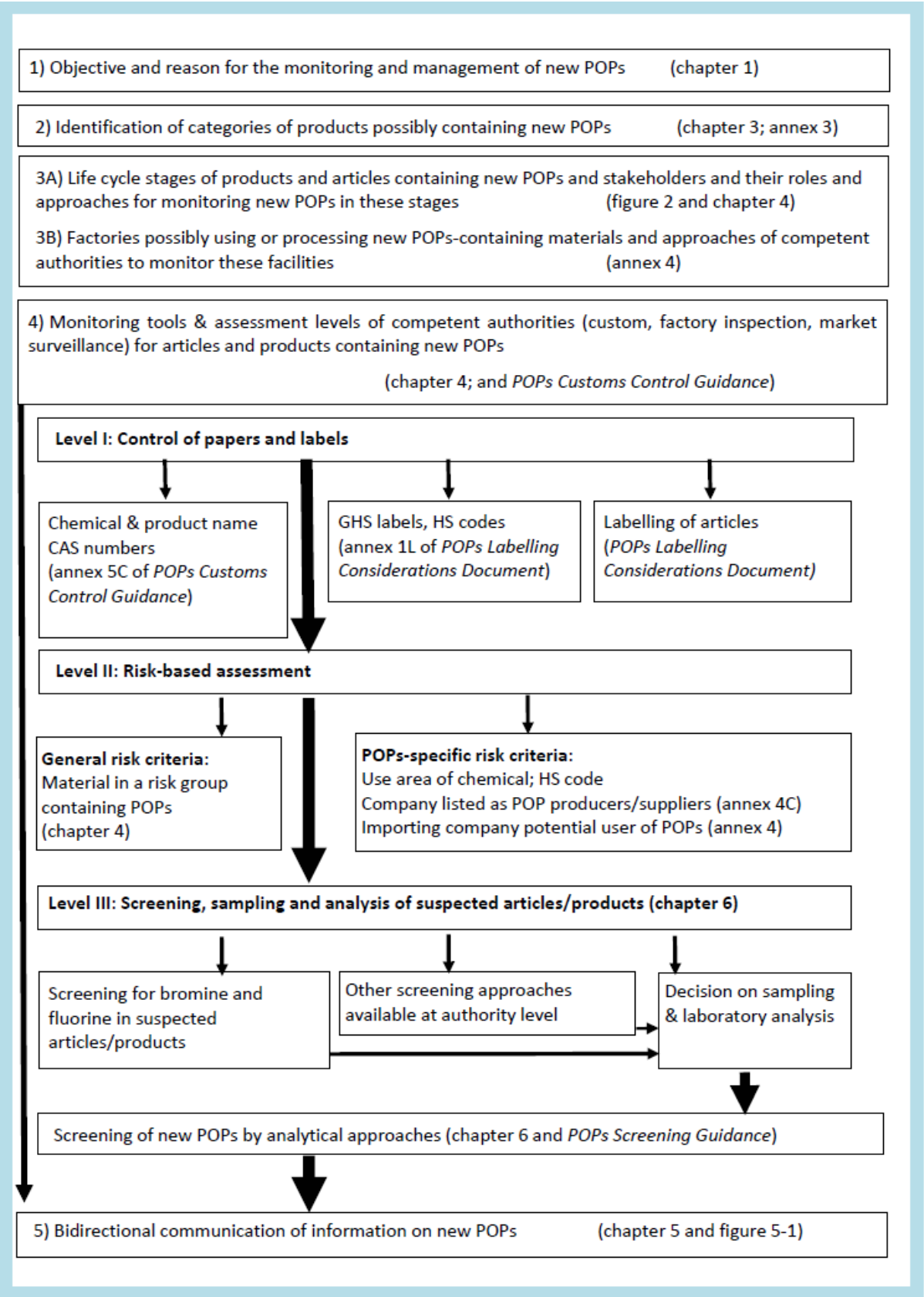

Figure 1: Overview of the content of the *Strengthening POPs Regulatory Framework Guidance*[2] and interrelationships of chapters and approaches

In developing countries in particular, competencies for chemicals management are sometimes unclear or overlapping. When the monitoring of newly listed POPs throughout the life cycle stages is established at the national level (Figure 2), a country might assess: (i) whether all steps of the life cycle of a newly listed POP are

appropriately covered by the current system; and (ii) if there is any unnecessary overlapping of competencies between agencies which could be harmonized.
Through this assessment, the monitoring scheme for chemicals as products, as mixture, and in articles in the life cycle (Figure 2) might be reviewed and possibly improved in the countries.

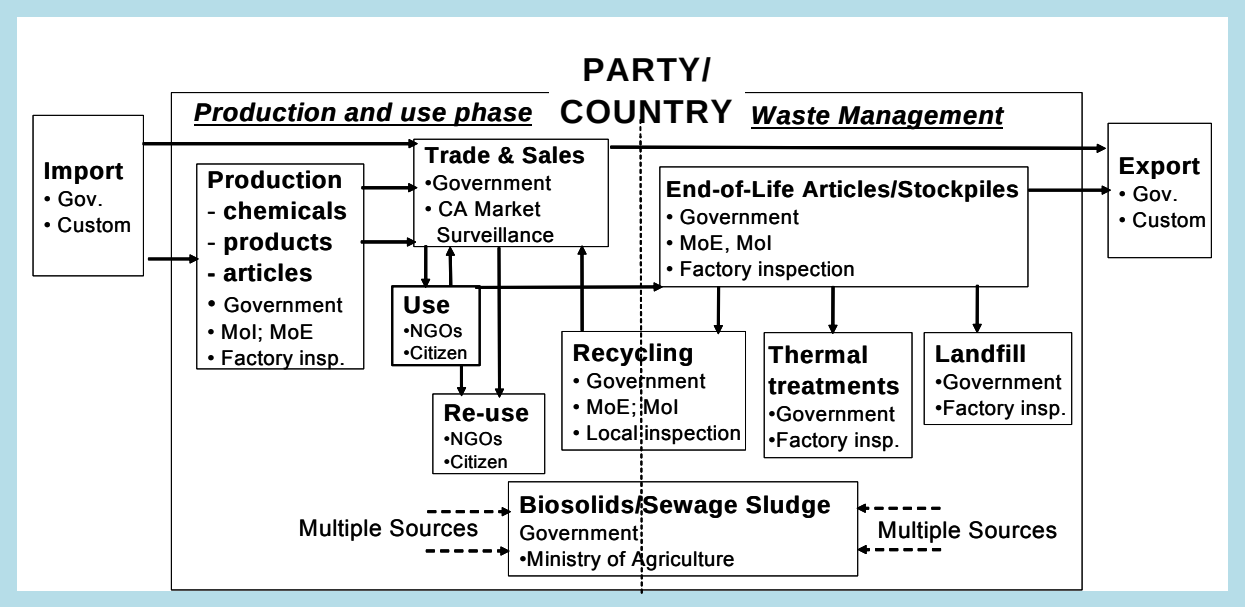

Figure 2: Life cycle stages of products and articles and responsible stakeholders for monitoring and managing of newly listed POPs at these stages

Research institutions and research community as a stakeholder
Most measurements and studies on newly listed POPs are conducted by research institutions. Furthermore, measurement capacity for newly listed POPs (in particular c-PentaBDE, c-OctaBDE, and PFOS and related chemicals) in developing/transition countries is typically established in research institutions rather than in market surveillance bodies or customs. POPs research projects usually focus on environmental monitoring, the monitoring of contamination in biota, and the exposure of humans. However, some research groups have started to monitor POPs in articles often screening for PBDEs and other brominated flame retardants in consumer products (e.g. toys[6] or baby products[7]). Research institutions are also monitoring PFOS and other per/polyfluorinated chemicals (PFCs) in consumer products[8,9]. In addition, some research groups are including pentachlorobenzene when screening unintentionally POPs in products such as organochlorine chemicals[10].
Within the establishment of an effective bi-directional information system and network on POPs in articles and products (see below), research institutions would be included. Also, when planning further research, information exchange between the environmental ministry, the national steering committee for the Stockholm Convention implementation and research institutions would need to be ensured.
The Global Monitoring Plan (GMP) has begun to address newly listed POPs. It could be assessed whether, in addition to the monitoring of air and human milk, an activity might be initiated on monitoring or supporting the monitoring of newly listed POPs in products and articles.

Stockholm Convention Regional Centres as stakeholders – and possible cooperation with research
The Stockholm Convention Regional Centres support the implementation of the Convention in the respective regions, e.g. by supporting the implementation of regional projects or capacity building in their region. With respect to monitoring of newly listed POPs, they might support capacity building on the different approaches. As a first step, Centres with analytical capacity might develop the capacity for analysis of newly listed POPs possibly in cooperation with experienced research groups. The Centres might coordinate monitoring and implementation approaches within a region, where appropriate, and in this way also facilitate national activities. Furthermore, they can communicate best practice case studies.

Bi-directional communication
Considering the globalized nature of the supply chains of products and articles that contain POPs, obtaining up-to-date information on such products and articles can be facilitated by regional and international schemes for information exchange. The guidance therefore outlines a bi-directional information exchange for competent authorities and other stakeholders on (new) POPs in products and articles. This also considers the role of the research community. Such a framework should also promote, among competent authorities, the exchange of information collected at different stages of the life cycle of products and articles.

Step-by-step approach for monitoring newly listed POPs in products/articles by instrumental analysis
Monitoring of chemicals and products by authorities are largely conducted by control of, for example, import papers and other information documents, chemical names, product names, CAS number, or GHS labels (details on this approach are described in chapter 4 of guidance). However, due to the limitations of these tools and of voluntary schemes described in Annexes 1 and 2 of the guidance (see below), in particular for certain newly listed POPs in articles, monitoring by analytical means needs to be considered as a complementary approach.

The collection of such information in a strategic manner by the relevant authorities is facilitated by the existence of an adequate legal framework for the monitoring of products and articles that contain POPs. For some POPs which are still produced and have exemptions for production and use (e.g. PFOS or endosulfan), the entire life cycle needs to be controlled including production, import, use, recycling, and the end-of-life phase.
The following steps would be considered for monitoring of articles and products possibly containing POPs:

- Step 1: Defining limits for regulating newly listed POPs and related requirements
- Step 2: Stakeholder identification and monitoring concepts
- Step 3: Survey of products and articles possibly containing newly listed POPs
- Step 4: Collection of products and articles: Sampling and screening
- Step 5: Sample analysis and quantification
- Step 6: Communication of results

The main role of research institutions is within Step 3 to 5 for conducting actual studies. However, for the development of regulatory limits (Step 1) and monitoring concepts (Step 2) the research community could provide key inputs in communicating results from screening studies in a scientifically sound manner (Step 6).

Annexes of the regulatory framework document
Finally the guidance contains dedicated Annexes supporting the regulatory framework for monitoring POPs:

- *Annex 1: Describes tools and legal frameworks for the identification of chemicals and their gaps to facilitate the control of import/export of newly listed POPs or the monitoring of products and articles possibly containing newly listed POPs*
- *Annex 2: Lists voluntary schemes for identification of chemicals in articles and their gaps to facilitate the control of import/export and monitoring of articles possibly containing newly listed POPs*
- *Annex 3: Lists articles and matrices which might contain newly listed POPs and the stakeholders responsible for monitoring these articles*
- *Annex 4: List companies to be inspected for production and use or processing newly listed POPs*
- *Annex 5: Lists some limits for regulating newly listed POPs in products and articles*
- *Annex 6: Examples of bi-directional information systems on dangers in articles*

Related Guidance documents
The following related guidance documents have been or are developed within the Stockholm Convention:

A) Guidance for the control of the import and export of POPs[3]
B) Labelling of products and articles that contain POPs – initial considerations[4]
C) Screening and analysis of newly listed POPs in articles and products: A guidance document for monitoring of newly listed POPs in articles and products is currently developed. The research community is considered to be a key stakeholder to use and support the update of this guidance document.

Acknowledgements
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