



Strengthening action on chemicals in the electronics sector

Workshop on Electronics

“Addressing the challenge of chemicals of concern, enabling circular electronics”

10th November 2020, 1.00 pm – 3:00 pm CET

11th November 2020, 1.00 pm – 3:30 pm CET

United Nations Environment Programme

Summary

Background

The virtual workshop, organized by the Chemicals & Health Branch and Resources & Market Branch of the United Nations Environment Programme (UNEP), gathered key stakeholders to explore different approaches for addressing chemicals of concern (CoC) in electronics, with a focus on how existing eco-labelling schemes (ecolabels) cover CoC and regulatory approaches that address CC in electronics. This workshop was part of the project entitled “Global best practices on emerging chemical policy issues of concern under the Strategic Approach to International Chemicals Management (SAICM)”, which has been launched in 2019, is running through 2022 and is funded by the Global Environment Facility (GEF). Activities under the project include analyzing the existing landscape of tools and approaches to track and address CoC in electronics and explore opportunities to advance circularity in this sector. The workshop was attended by 41 persons. The list of participants is provided as an annex.

The **first day** of the workshop was opened by Jacqueline Alvarez, Head of the Knowledge and Risk Unit of UNEP’s Chemicals and Health Branch. She welcomed the participants and in her introductory remarks, highlighted the cross-cutting nature of the issue of CoC in electronics and encouraged participants to explore new ideas. The introductory remarks were followed by Session 1 of the workshop which focused on identifying challenges that ecolabels currently face and discussing how CoC in electronics can be further addressed by ecolabels. Ultimately, the session aimed at exploring how labelling initiatives can advance and support efforts towards circularity in the electronics sector, from the chemicals point of view. Preliminary results of UNEP’s research that maps the landscape of ecolabels addressing CoC in electronics were presented, followed by interventions from two representatives from the labelling community:

A representative from TCO Certified shared the label’s approach to the topic, which includes the development and use of accepted substances lists, market surveillance to check if certified products comply with standards, and work on process chemicals. The use of accepted substances list was highlighted as representing a significant investment upfront but having evolved into a useful instrument that is currently being expanded through contribution of industry stakeholders. For chemical hazard

assessment, the label uses the GreenScreen¹ method in order to ensure independent and transparent processes. The accepted substance list is publicly available.

Further, a representative from ABNT Brazil presented their experience on developing chemicals-related criteria to electronic products in Brazil, which covers not only environmental impact criteria but also social impact criteria, such as adverse effects on human health. The intervention also pointed out some challenges for the development and implementation of ecolabels in this field, such as technical capacity (e.g. laboratory testing), engagement of consumer representatives.

The presentations were followed by an open discussion amongst all participants, which covering challenges, opportunities and recommendations for ecolabels to address chemicals of concerns.

The **second day** of the workshop focused on regulatory approaches for CoC in electronics (Session 2). Preliminary findings of a mapping of regulatory approaches were presented by UNEP. This was followed by a short intervention from a representative from the European Commission giving an overview of the Restriction of Hazardous Substances (RoHS) Directive (RoHS, Directive 2011/65/EU), highlighting the link between the RoHS directive and EU circular economy policies.

The workshop then focused on reflections and experience sharing among all participants with a focus on complementing the analysis presented by UNEP, highlighting challenges related to regulations relevant for the sector.

The second part of day 2 focused on opportunities for linkages and synergies (Session 3). This discussion was aimed to distil lessons learned from other workshop sessions, and building on those, reflecting on linkages or synergies between regulatory and voluntary labelling approaches and on complementary tools to advance towards circularity in electronics.

All the presentations and documents shared by the participants during the meeting are available on the [UN OwnCloud](#).

Summary of the discussions

General remarks

- While most of the focus, especially in developing countries, is on end-of-life stage (through e-waste) there is a need to focus on preventive efforts upstream.
- The rationale for the workshop and for focusing on the upstream part of the value chain of electronics, resides in the fact that circularity implies higher rates of recycling which could only be made possible if chemicals of concern are designed out of electronics products.
- Regulations and ecolabels are generally understood to have different roles. While regulations usually restrict the use of certain chemicals of concern in electronics and thus control general market access for electronics in a country, ecolabels aim at identifying best-in-class products and informing consumers on environmentally friendly products.
- The potential of training on regulatory approaches and other relevant tools, such as ecolabels, for the electronics sector have been identified as a potential recommended action.

¹ Available under <https://www.greenscreenchemicals.org/>

- Enforcement of regulations was also identified as a need in the long run and action for further strengthening should be explored.

Challenges

Following the presentations of sessions 1 on ecolabels, and session 2 on regulatory frameworks, challenges and needs related to chemicals of concern, in the electronics sector, were shared by participants:

Challenges related to ecolabels

- **Gaps in knowledge and communication of information related to the use of chemicals** due to the complex and international nature of supply chains in the electronics sector. This applies in particular to small- and medium-sized enterprises (SMEs) but also remains challenging for larger companies. Even if companies in the sector communicate lists of restricted substances (RSL) to their suppliers, they may have little knowledge on which exact substances or materials are used in the manufacture of specific components. Depending on the requirements of respective ecolabels, such knowledge gaps may lead to challenges during the certification process.
- **CoC-related criteria can differ across product categories** for the same components and materials (e.g. criteria for plastic casings in different product categories). This is due to the fact that normally each product category criteria are developed at different times and by independent multi-stakeholder groups, and **harmonization** can only take place when criteria for product groups are revised.
- Especially in the context of SMEs or in countries with emerging economies, **cost- or capacity-related barriers may hinder adoption of ecolabels** by industry and certification of their products. This can lead to situations where ecolabels are theoretically available but no company within a country has obtained a certification of their products.
- The role of ecolabels consists in identifying best-in-class products, usually by setting criteria that go beyond regulatory requirements. Due to the identified gaps in knowledge and communication of information related to the use of chemicals in electronics, the **development of such criteria that go beyond regulatory requirements and that address the whole life cycle of a product can be challenging for ecolabels.**
- **Consumer awareness** for chemicals-related issues in electronics tends to be low and engaging representatives from consumer organizations in the development of relevant criteria for labelling can be difficult.

Challenges in the space of regulation

- **Lack of harmonization between existing regulatory approaches** are challenging for industry stakeholders, due to the complex and international nature of supply chains in the electronics sector. While many countries have modelled their regulatory approaches, to some extent, on the EU RoHS Directive, differences remain for many regulatory aspects, such as compliance control mechanisms, or the scope of products or individual chemicals and chemical groups that are addressed under the existing approaches.
- In many countries the **focus of regulation currently lies more on waste-related issues**, such as the management of e-waste, rather than on the use of CoC in electronics. This prioritization can be due

to the fact that in many countries (especially the ones with emerging economies) the majority of electronic goods are imported, and the volume of electronic goods manufactured and produced within the respective regulatory territory tends to be small. Consequently, **many countries currently lack regulatory approaches for the use of CoC in electronics and capacities for development and enforcement of such regulations are limited.**

- **Gaps in knowledge and communication of information related to the use of chemicals** (due to the complex and international nature of supply chains in the electronics sector) are challenging for the development of regulatory approaches and their enforcement by authorities. Likewise, tracking and controlling chemicals and chemicals-related information through supply chains to ensure regulatory compliance remains challenging for industry stakeholders.

Opportunities, potential linkages and synergies

- **Increase harmonization in both, the space of ecolabelling and the space of regulation:** Moving closer to harmonization of chemicals-related criteria for ecolabels in electronic products is crucial to maintain and accelerate progress in this area. This could be initiated through strengthening mutual recognition of programmes and other harmonization processes. Likewise, harmonization of regulatory requirements and processes are important to further strengthen and ensure a concise set of regulations that reflect the sector's global nature. Continuing harmonization and standardization can also support the transfer of knowledge and the development of capacities in countries with less developed regulatory approaches, facilitate access to international markets and facilitate regulatory compliance by industry stakeholders. As initial recommendation, the group suggested avoiding duplication of efforts, and harmonizing by building on existing obligations such as established by the EU RoHS directive and other framework regulations important for the issue of CoC in electronics (e.g. POPs-related regulations). In this context, the potential of regional (trade) agreements were mentioned as entry points for harmonization. The group also highlighted the importance of standardizing reporting and information requirements.
- **Widen the focus of regulatory efforts in developing countries beyond transport and disposal of EEE to include requirements on chemicals of concern.** Such requirements for upstream stages of the value chain can help address the impacts at end-of-life stages of these products. For this, **building capacity of developing countries for developing, adopting and enforcing regulations** on hazardous substances in electronics is essential. Furthermore, **building and setting up laboratory capacity** for testing is crucial in order to enforce regulations and ensuring eco-label requirements.
- **Making use of the complementary roles that ecolabelling and regulatory approaches can play in different contexts.** In general, regulation is a strong driver in advancing the issue of CoC in electronics. In countries with advanced regulatory approaches for CoC in electronics, regulations are controlling market access while ecolabels are recognizing best-in-class solutions. However, in a context where regulatory approaches are currently lacking, ecolabelling can provide useful entry points for advancing the issue of CoC, for example related to sustainable procurement.
- **Learn from, and connect to other approaches** in the electronics sector, such as chain of custody approaches from the area of conflict minerals, market harmonization initiatives or initiatives related to e-waste.

- **Increase transparency of information related to the use of chemicals** and potential chemicals of concern beyond the supply chain in order to facilitate development and harmonization of regulatory and labelling approaches.
- Ensure that **criteria of ecolabelling approaches consider the entire life cycle of a product**, especially also its end-of-life stages, with the aim to enable circularity. The presence of CoC in electronics poses threat to the circular economy concept, as it limits the recyclability of materials and reduces the potentials for closing material loops
- **Leverage the role of intermediaries such as retailers**, which can find an interest in promoting products with ecolabels. Campaign for informed consumers, including highlighting environmental and health-related aspects that eco-labels can inform them.
- **Support circularity of electronics** by demonstrating the **economic case**, including a cost-benefit analysis, and highlighting the role that regulations and eco-labels as voluntary tools can play in a shift to a non-toxic, circular electronics value chain (including a focus on supporting design for circularity decisions). Also consider economic models for recycling to be financially sustainable in the long run (for instance through EPRs).
- **In addition to specific criteria on individual chemicals and groups of chemicals of concern, consider including criteria into ecolabelling approaches that focus on chemicals management practices.** This could help to lower cost- or capacity-related barriers that may exist especially for SMEs and in countries with developing economies.

Next steps

- UNEP will finalize the analysis on how ecolabels address the issue of CoC and recommendations for action in this space, and the report on the review of regulatory approaches, including the feedback and comments received during the workshop.
- The final recommendations and reports will be shared widely, including with initiatives and networks such as the Circular Electronics Partnership and the One Planet network Consumer Information Programme, and inform the development of regional electronics roadmaps and policy recommendations under the GEF project, as well as feed into the Strategic Approach and Sound Management of Chemicals and Waste Beyond 2020 process.

Annex: List of participants

No	Name	Organization
1	Ms Gabriela Nair Medina Amarante	Basel Convention Coordinating Centre for Training and Technology Transfer for Latin America and Caribbean Region in Uruguay
2	Ms Pamela Brody-Heine	Clean Electronics Production Network
3	Ms Giuliana Brussolo	Instituto Nacional de Tecnología Industrial, Ministry of Productive Development Argentina
4	Ms Luz Ángela Luna Castillo	Universidad El Bosque (Colombia)
5	Mr Adrian Clews	Hinckley (Nigeria)
6	Mr Otmar Deubzer	UNU/UNITAR SYCLE
7	Mr Thomas Ebert	Apple Environmental Initiatives
8	Mr Fernando Tavares Dos Santos	Positivo
9	Mr Stephen Fuller	TCO Development
10	Ms Nancy Gillis	Green Electronics Council
11	Mr Daniel Hinchliffe	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
12	Mr Tim Hopper	Microsoft
13	Mr Guy Ladvoat	ABNT Brazil
14	Ms Madalina Laxton	European Commission, Directorate-General for Environment
15	Ms Erica Logan	Green Electronics Council
16	Mr Frans Loen	Dell
17	Ms Penka Nikolovski	Ministry of Environmental Protection Serbia
18	Mr Fabian Ottiger	World Resources Forum
19	Ms Marisa Quiñones	Ministry of the Environment Peru (PREAL Project)
20	Ms Vanessa Rios	NCPC Colombia (Centro Nacional de Producción Más Limpia)
21	Ms Gladis Sierra	NCPC Colombia (Centro Nacional de Producción Más Limpia)
22	Ms Elisabeth Smith	Solving the e-waste problem (StEP) Initiative
23	Ms Anna Steinhardt	Ökopol - Institut für Ökologie und Politik
24	Ms Camila Torres	ABNT
25	Ms Sonia Valdivia	World Resources Forum
26	Mr Xiaomeng Wang	China Environmental United Certification Center (CEC)
27	Mr Olaf Wirth	Ökopol - Institut für Ökologie und Politik
28	Mr Till Zimmermann	Ökopol - Institut für Ökologie und Politik
29	Ms Jacqueline Alvarez	UNEP, Chemicals and Health Branch
30	Ms Beatriz Martins Carneiro	UNEP, Resources and Market Branch
31	Ms Wenjia Fan	UNEP, Chemicals and Health Branch
32	Ms Fernanda Sousa Gimenes	UNEP, Resources and Market Branch

33	Ms Bettina Heller	UNEP, Resources and Market Branch
34	Ms Noline Lavanchy	UNEP, Chemicals and Health Branch
35	Ms Sandra Averous-Monnery	UNEP, Chemicals and Health Branch
36	Mr Eduardo Caldera Petit	UNEP, SAICM Secretariat
37	Mr Robert Reinhardt	UNEP, Resources and Market Branch
38	Ms Amélie Ritscher	UNEP, Chemicals and Health Branch
39	Ms Ainhoa Carpintero Rogero	Secretariat of the International Resource Panel (IRP)
40	Ms Samantha Schmitt	UNEP, SAICM Secretariat
41	Ms Eloise Touni	Global Environment Fund (GEF)
42	Mr Feng Wang	UNEP, Resources and Market Branch