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Implementation towards the achievement of the 2020 goal of sound chemicals management: emerging policy issues and other issues of concern: existing emerging policy issues: hazardous substances within the life cycle of electrical and electronic products

Compilation of best practices on hazardous substances within the life cycle of electrical and electronic products

Note by the secretariat

1. In its resolution III/2 on emerging policy issues, the International Conference on Chemicals Management called for a number of actions related to hazardous substances within the life cycle of electrical and electronic products. As set out in paragraph 3 of section D of the resolution, the Conference decided to continue to work to identify, compile and create an international set of best practice resources on topics in this area, drawing on existing initiatives and opportunities for collaboration within the Strategic Approach and with other international forums, which might include, inter alia:

(a) Tools that lead to progress in the development of designs that reduce and eliminate the use of hazardous chemicals in the production of electrical and electronic products;

(b) Business standards and practices for tracking and disclosing the presence of hazardous chemicals in the manufacturing, use and end-of-life stages of electrical and electronic products;

(c) Tools and information on potential safer substitutes for chemicals of concern in electrical and electronic product applications;

(d) Green purchasing strategies of businesses and Governments;

(e) Extended producer responsibility policies of businesses and Governments;

(f) Provisional strategies and actions in design and manufacturing that should be implemented until elimination is possible or safer substitutes are available.

2. In responding to the decision, the secretariat conducted a survey in August 2014 and invited stakeholders to provide input on items (a) to (f) in relation to initiatives that have been undertaken or that are under way or planned.

3. Responses to the survey were received from Cambodia, China, Costa Rica, Guatemala, Mauritius, Panama, the Philippines, Ukraine, the United Kingdom of Great Britain and Northern Ireland, the secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants, the United Nations Development Programme, the Asia

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Monitor Resource Centre, the Electronics TakeBack Coalition and the Information Technology Industry Council. The responses were presented to the Open-ended Working Group at its second meeting (SAICM/OEWG.2/INF/14, annex).

4. Following the second meeting of the Working Group, the secretariat called for additional contributions to the compilation to be submitted by 30 May 2015. Responses were received from Dominica, the secretariat of the Basel, Rotterdam and the Stockholm conventions, Clean Production Action, the International Campaign for Responsible Technology and the Pesticide Action Nexus Association (PAN-Ethiopia).

5. In addition, the Strategic Approach secretariat has inserted information on further initiatives into the compilation from readily available sources of information.

6. The compilation of responses on the surveys is set out in the annex to the present note for the information of participants. It has not been formally edited.

7. Stakeholders who have not yet responded to the survey may submit their input to the secretariat by 31 December 2015. Stakeholders who have responded and do not see their input reflected in the compilation are kindly requested to resubmit their responses.

Annex

Compilation of best practices on hazardous substances within the life cycle of electrical and electronic products

Part a) Tools that lead to progress in the development of designs that reduce and eliminate the use of hazardous chemicals in the production of electrical and electronic products.

Government/Organization	Specific actions taken, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
China	Issued “Administration measures for the control of pollution caused by electronic products”, adopted a series of source control measures to restrict the use of hazardous substances in electrical and electronic products, such as lead, mercury and cadmium.	
Ukraine	The draft of the Technical Regulation "On Electronic and Electrical Equipment Waste Management"	The improvement of the mechanism of electronic and electrical equipment waste management including the enforcement of environmentally safe management of its components that may contain hazardous constituents (in-process)
United Kingdom	Sponsorship of the Waste and Resources Action Program (WRAP). Transposition of the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU)	A not for profit company to promote resource efficiency. One of its strategic areas addresses sustainable products. Within that is a key area addressing electrical goods in which work on a number of initiatives is being carried out. Restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE
Secretariat of the Basel, Rotterdam and Stockholm Conventions	Draft technical guidelines on transboundary movement electronic and electrical waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste in Basel Convention is being developed. (see: http://www.basel.int/Implementation/Ewaste/TechnicalGuidelines	To provide guidance to parties and other stakeholders on the control mechanisms for such waste. Under development.
United Nations Development Programme (UNDP)	Governance Bottlenecks and Policy Options for Sustainable Materials Management – A publication by the Swedish Chemicals Agency (KEMI) and UNDP	(Published in August 2013) The purpose of this paper is to describe how and in what way governance matters to achieve a sustainable materials management that contributes positively to development. It is intended as a source of information and inspiration to individuals and organisations working with environment and development.

Government/Organization	Specific actions taken, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
Asia Monitor Resource Centre (AMRC)	AMRC Published book Health Hazards in the Electronics Industry as early as 1984. The book was the first of its kind in describing the manufacturing process stepwise with the list of chemicals being used at each stage. The book has acted as bible ever since. At Present AMRC is actively engaged in policy level discussions at the national, regional and international level aimed at developing a safer and environmentally sustainable design.	
Centre for International Sustainable Development Law (CISDL)	The Centre for International Sustainable Development Law (CISDL) in 2012 released a publication titled The End-of-Life Management of Waste Electrical and Electronic Equipment for Sustainable Development- by Gideon Emcee Christian. . See: http://cisdl.org/public/docs/Christian_End-of Life_Management_of_Waste_Electrical_and_Electronic_Equipment.pdf	The publication presents very interesting connection between Sustainable development and Electrical and Electronic Equipment and examined how the design process for EEE could be used to address issues relating to e-waste and its impact on communities in the developing world. The design frameworks relating to toxic reduction, reuse, and recycling and environmental policies relating to e-waste management in developed countries
Clean Production Action	1. GreenScreen for Safer - identifies inherently safer chemicals 2. BizNGO Chemical Alternatives Assessment Protocol - how to identify safer substitutes 3. BizNGO Guide to Safer Chemicals - defines business strategies for using safer alternatives 4. Plastics Scorecard - identifies inherently safer plastics	1. GreenScreen - completed in 2007 2. Alternatives Assessment Protocol - completed 2011 3. Guide to Safer Chemicals - completed 2012 4. Plastics Scorecard - completed 2014
Electronic TakeBack Coalition	The Biz NGO working group, a project of Clean Production Action, has developed a framework for safer chemicals using these principles: based on a 4 part strategy: a) know the chemicals in your supply chain; b) disclose the chemicals in your supply chain; c) assess safer alternatives using available tools such as the Green Screen for safer chemicals; d) adopt and implement safer chemicals where available. They are also working on a scoring system. We took that framework and are working on developing a roadmap to safer chemicals in electronics, to be used by purchasers to measure which manufacturers are taking steps in the right direction.	The electronics industry is far behind other sectors on hazardous chemicals. Most Original Equipment Manufacturers (OEMs) don't know the chemicals in their own products. We want to create an incremental path for this work, that purchasers can easily see and reward with their purchases.
International Campaign for Responsible Technology	Compile list of hazardous materials used in electronics with Northwestern University Work with Clean Production Action to develop a roadmap to safer chemicals in electronics to be used by purchasers based on a 4 part strategy: a) know the chemicals in your supply chain; b) disclose the chemicals in your supply chain; assess safer alternatives using available tools such as the Green Screen for safer chemicals; adopt and implement safer chemicals where available	

Government/Organization	Specific actions taken, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
Information Technology and Industry Council (ITIC)	ITIC members typically apply a life-cycle approach to sustainable business practices. Many ITIC members are members of the Electronic Industry Citizenship Coalition (EICC) and use the EICC tools and standards. Most members follow the EICC Code of Conduct, which includes a chapter on environmental standards. The International Electronic Manufacturing Imitative (iNEMI) roadmap (explained in detail below) also contains tools for design. Most ITI members use in-house tracking software (either off-the-shelf such as BOMcheck or developed for their use) to track material composition, compliance with laws and standards, and other concerns.	Purpose: Regulatory, Market Access, Corporate Responsibility Status: Completed
Pesticide Action Nexus Association (PAN-Ethiopia)	Pesticide Action Nexus Association (PAN-Ethiopia) is coordinating IPEN's international e-products working group so that the participating countries all over the world can contribute towards eliminating the use of hazardous chemicals in the production of EEE. Campaigners in South Korea are examples of IPEN's international contribution towards the subject.	• Alleviating national and international problems in the life cycle of electrical and electronic waste (e-waste) and • Promoting e-waste strategies and extended producer responsibility in Ethiopia and Magnifying national success internationally through the IPEN e-products working group

Part b) Business standards and practices for tracking and disclosing the presence of hazardous chemicals in the manufacturing, use and end-of-life stages of electrical and electronic products

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
China	Issued “Marking for the restriction of hazardous substances in electrical and electronic products” (SJ/T11364-2014), electrical and electronic products in Chinese market are required to mark the content of lead and its compounds, mercury and its compounds, cadmium and its compounds, chromium and its compounds, polybrominated biphenyl, and polybrominated diphenyl ethers.	
Mauritius (Mauritius Standards Bureau (MSB)	The Mauritian standards for electrical & electronic products that will be developed will provide for disclosure of any hazardous chemical in the products. To encourage the environmentally sound management of e- wastes in Mauritius, with Government leading by example, about 14,000 units of e-wastes from public and parastatal bodies and weighing more than 87 tonnes on a combined basis have been sent for recycling in 2013. Electronic parts collected from all parts of Mauritius have also been exported.	Purpose is to track the presence of hazardous chemicals used in the production of electrical and electronic products. Status: Planned for MSB and completed for e-wastes
Panama	Elaboration of draft law on Environmental Health Surveillance	
Philippines (Environmental Management Bureau)	The Department of Environment and Natural Resources (DENR) has a Priority Chemical List wherein use, manufacture, and disposal are reported on an annual basis.	
Ukraine	Ukraine's Cabinet Decree of 3 December 2008 No. 1057 "On the Approval of the Technical Regulation on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment"	The Technical Regulation developed in consideration of Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 shall determine the requirements of the use of certain hazardous substances in electrical and electronic equipment.
United Kingdom	Transposition of the waste electrical and electronic equipment (WEEE) Directive (2012/19/EU)	Protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste from electrical and electronic equipment (WEEE) and by reducing overall impacts of resource use and improving the efficiency of such use
SIEMENS	SIEMENS Teamcenter report on Environmental compliance. http://www.plm.automation.siemens.com/zh_cn/Images/Siemens-PLM-Teamcenter-Environmental-Compliance-wp_tcm78-37245.pdf . Facilitates design-for-compliance initiatives . Provides product developers with rapid visibility to all compliant and non-compliant components Integrates compliance management capabilities into current business processes . Minimizes risk of non-compliance. Reduces total cost of ownership Minimizes cost associated with excess and obsolete inventory otherwise caused by the use of non-compliant parts	Responding to many of the regulatory frameworks such as the EU directives on the Restriction on the use of Hazardous Substances (RoHS), Waste from Electrical and Electronic Equipment (WEE) and the Registration Evaluation and Authorization of Chemicals (REACH)

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
Secretariat of the Basel, Rotterdam and Stockholm Conventions	Guidance document on the environmentally sound management of used and end-of-life computing equipment, including – Guideline on environmentally sound testing, refurbishment and repair of used computing equipment – Guideline on environmentally sound material recovery and recycling of end-of-life computing equipment – The Conference of the Parties (COP) to the Basel Convention at its twelfth meeting adopted, on an interim basis, the technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste under the Basel Convention[1]	Sections 1, 2, 4 and 5 of the guidance document adopted at Basel Convention COP 11, May 2013. The COP acknowledged the need to look further into some issues under the technical guidelines and agreed to include the further elaboration of work on these issues in the work programme of the Open-ended Working Group for 2016–2017 in order to possibly prepare revised guidelines for consideration by the COP at its thirteenth meeting in 2017, in particular with reference to Annex V of the technical guidelines. Towards this end, Parties to the Basel Convention and other stakeholders are invited to provide further inputs as requested by the decision BC-12/5
Asia Monitor Resource Centre (AMRC) Asian Network for the Rights Of Occupational and Environmental Victims	AMRC is engaged with the Asian Network for the Rights of Occupational and Environmental Victims (ANROEV) network in 13 Asian countries to pressure businesses to disclose the name of the chemicals at the workplace. AMRC is also actively involved in capacity building. trainings with workers, victims and their organisations. AMRC is also supporting victims groups that have been demanding justice from the companies.	
Clean Production Action	1. Healthy Business Strategies report 2. Greening Consumer Electronics report 3. BizNGO Guide to Safer Chemicals, which includes "vignettes" on Seagate (pages 18-19) and Hewlett-Packard (page 37) 4. List of Case Studies 5. List of Corporate Chemical Policies	
Electronic TakeBack Coalition (ETC)	We are working to introduce criteria into voluntary purchasing standards being those developed under the Electronic Product Environmental Assessment Tool (EPEAT) and Ultra Low Energy (ULE), that would reward companies who are asking for and receiving full chemical inventories for their products. This is the first step towards tracking and eliminating hazards, since many manufacturers don't know the chemicals in their products. We are trying to get criteria that requires the manufacturers to note the presence of hazardous materials that require special handling by recyclers.	
International Campaign for Responsible Technology	Work with EPEAT and ULE to develop purchasing criteria to promote more sustainable electronics - current standards exist for computers, printers, TVs and additional standards are under development for mobile phones and servers which	

[1] Available as document UNEP/CHW.12/5/Add.1/Rev.1.

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
	will incorporate criteria to promote environmental and occupational health in the supply chain - these standards are similar to but not as comprehensive as those developed by TCO Development, which include criterial to address corporate social responsibility	
Information Technology and Industry Council (ITIC)	ITIC members typically have purchase and manufacturing specifications restrict the use of hazardous substances where possible. ITIC members comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). ITIC members gather data on substances using the IEC 62474 standard. Most ITIC members provide product disassembly instructions to electronics recyclers.	Purpose: Regulatory, Market Access, Corporate Responsibility
Pesticide Action Nexus Association (PAN-Ethiopia)	PAN-Ethiopia conducted e-waste inventory in four big cities of Ethiopia which became a baseline for the GEF funded e-waste management project which is being implemented by the Ministry of Environment and Forest and the Ministry of Communication and Information Technology of Ethiopia. The Ethiopian inventory was also used as best practice for developing a guide on e-waste inventory in Africa which was fully supported and lounched by IPEN at the ExCOP in Geneva in 2013.	

Part c) Tools and information on potential safer substitutes for chemicals of concern in electrical and electronic product applications

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
China	In order to reduce or avoid the generation of pollutants, China has published "List of substitutes for hazardous materials or products", to facilitate the use of materials with low toxicity or non-toxicity as far as possible, and reduction content of toxic materials in products, such as lead, mercury, cadmium, chromium.	
Costa Rica	Ministry of Health: The Ministry of Health, Costa Rica, is willing to develop a manual or a standard compliance guide for recycling electronic waste where the variables related to the components of environmental protection and human health are included.	
Mauritius (Mauritius Standards Bureau (MSB)	Mauritius has successfully implemented its Chlorofluorocarbon (CFC) Phase - Out management plan since 2005(in line with the Montreal Protocol). Since 2011, Mauritius has a HCFC phase- out management Plan.	CFC phase-out Management Plan completed. HCFC management plan underway.
Philippines (Environmental Management Bureau)	In general, the Department of Environment and Natural Resources (DENR), Philippines, has a list of chemicals under control. If a chemical is controlled, action can be in the form of substitute, phase-out and regulation of importation.	
United Kingdom	Sponsorship of WRAP - see above.	See link in below.
European Union	The European Union (EU) is taking measures to prevent the generation of electrical and electronic waste and to promote reuse, recycling and other forms of recovery in order to reduce the quantity of such waste to be eliminated, whilst also improving the environmental performance of economic operators involved in its management. See: http://europa.eu/legislation_summaries/environemt/ waste management/ 121210_en.htm	In addition, in order to contribute to the recovery and elimination of equipment waste and the protection of human health, the EU is also taking measures restrict the use of hazardous substances in this type of equipment
Asia Monitor Resource Centre (AMRC)	Working actively with institutions like International Consumer Research and Testing (ICRT), International Pops Elimination Network (IPEN), Academia and public health institutions to get updated information on substitutes.	
Clean Production Action	Decabromodiphenyl ether (DecaBDE) alternatives assessments in electronic products	DecaBDE: 1. BizNGO report - draft 2014 2. Green Screen - completed in 2007
Electronic TakeBack Coalition	We are working on getting (optional) criteria into EPEAT and ULE standards that reward companies who perform alternative assessments, and who make safer substitutions for hazardous materials.	
International Campaign for Responsible Technology	Sustainable Purchasing Leadership Council -work with task group to develop criteria to support more humane working conditions for workers in the supply chain	
Information Technology and Industry Council (ITIC)	ITIC and our members participate in a number of initiatives looking at potential safer chemicals. The Information and Communication Technology (ICT) industry has worked in a multi-stakeholder fashion on technology roadmaps to promote the development of new technologies and solutions to manufacturing challenges that	Purpose: Regulatory, Market Access, Corporate Responsibility Status: Completed

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
	address environmentally safe electronics, including the iNEMI Environmentally Conscious Electronics 2011 Roadmap and International Technology Roadmap for Semiconductors (ITRS). iNEMI is also working on alternatives assessment tools for the ICT industry.	

Part d) Green purchasing strategies of businesses and Governments

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
Cambodia	None. However, Cambodia has the National Green Growth Policy and National Green growth Action Plan, of which it's a part may engage the green products	
China	Formulated and published a series of standards, such as "Technical requirement for environmental labelling products Microcomputers and displays, set up content limits for Hexabromocyclododecane (HBCD), polycyclic aromatic hydrocarbons, mercury and other hazardous materials, carry out environmental protection grade certification and publish government green purchasing list including electrical and electronic product.	
Dominica	Few businesses in Dominica have a green purchasing strategy. Some importers are very aware of sustainability and try to import more and more environmentally friendly E-products (such as energy labeled products) and promote them despite the small the market. The interest of consumers is still small. While some are aware of environmental issues they do not have a green purchasing strategy and for many they are unfamiliar with the term. Some businesses have different sections/units/departments that makes decisions as to what electrical and electronic products to buy. The survey in Dominica did not have the opportunity to obtain the views of the departments.	
Ukraine	The methodical manual "The Instruction on the Use of Green Purchases in the State and Private Sectors of Economics" has been developed	The methodical manual was issued under support of the Ministry of Ecology and Natural Resources of Ukraine and project "Additional Support of the Ministry of Ecology and Natural Resources of Ukraine in the Implementation of Sectoral Budget Support", which is financed by European Union.
Costa Rica (Ministerio de Ambiente, Energía y Mares - MINAE)	MINAE: Green purchase policies are being implemented among Government institutions	Introduce clean production nationwide Reduce the carbon footprint, increase the energy efficiency
Mauritius (Mauritius Standards Bureau (MSB)	MSB is collaborating with appropriate authorities to develop standards for the adoption of green specifications of electrical & electronic products. Under the Consumer Protection (Control of Imports) Regulations 1999, are prohibited for importation, items containing CFCs and HCFCs, asbestos fibres, PBB, PCB, PCT, batteries containing mercury in many electronic and electric appliances. Replacement of all electrical bulbs by economical energy saving bulbs has been done under supervision of the Central Electricity Board	Purpose is to encourage the use of green electrical and electronic equipment. Status : Planned for MSB and completed for the economical energy saving bulbs

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
Ukraine	The methodical manual "The Instruction on the Use of Green Purchases in the State and Private Sectors of Economics" has been developed	The methodical manual was issued under support of the Ministry of Ecology and Natural Resources of Ukraine and project "Additional Support of the Ministry of Ecology and Natural Resources of Ukraine in the Implementation of Sectoral Budget Support", which is financed by European Union
United Kingdom	Sponsorship of WRAP -see above.	
International Campaign for Responsible Technology	Work with Seagate and Apple to encourage the full materials disclosure of chemicals used throughout their supply chains	
International Institute for Sustainable Development (IISD)	International Institute for Sustainable Development (IISD) report on "*Procurement, Innovation and Green Growth . the story continues….”* EPEAT has come to be the definitive global environmental rating for electronics over a very short time. The resulting environmental benefit and supply chain impacts occur around the globe and throughout the lifecycle of the covered products (EPEAT, 2010).	
Information Technology and Industry council (ITIC)	ITI and our members are participants in the Institute of Electrical and Electronic Engineers (IEEE 1680) suite of standards for green electronics purchasing. Many ITI members design several products in accordance to these standards.	Purpose: green procurement; green purchasing Status: .1 .2 and .3 complete; .1 revision underway and .4 (servers) underway
Pesticide Action Nexus Association (PAN-Ethiopia)	As a member of the steering committee in the Ethiopian GEF e-waste management project, PAN-Ethiopia is promoting green purchaing to be taken as a strategy in Ethiopian institutions.	

Part e) Extended producer responsibility policies of businesses and Governments.

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
China	Issued “Regulation on the administration of the recovery and disposal of waste electrical and electronic products”, setting up the extended producer responsibility requirements and specifying the different responsibilities of producers, importers or their agents, business operators of renewable resources recovery and consumers of electrical and electronic products.	
Costa Rica (Ministerio de Ambiente, Energía y Mares-MINAE)	MINAE: The regulation for the declaration of special management waste (for 14 types of waste) come into effect since September, 2014, where the industry has to submit a compliance plan for the disposal of these type waste.	Reduce the waste production; improve the waste management.
Guatemala	This is a principle in the National Policy for the Environmentally Sound Management of Chemicals and Hazardous Wastes	Create a national framework to achieve the 2020 goal. (completed)
Panama	Elaboration of draft law on Environmental Health Surveillance	
Philippines (Environmental Management Bureau)	The DENR and the Department of Energy (DOE) issued Joint Administrative Order (JAO) 2013-09-0001, Lighting Industry and Waste Management Guidelines, last September 2013 to operationalize Extended Producer Responsibility (EPR) for lighting products.	The Department of Energy (DOE) is implementing the Philippine Energy Efficiency Project, which aims to provide direct economic benefits to the country by reducing energy peak demand through the use of energy efficient lightings (EELs). In order to effectively address the hazards inherent to EELs due to their mercury vapor content and recognizing the large volume of lamp wastes that will be generated from its energy efficient public lighting programs, DOE initiated the procurement of a Lamp Waste Management Facility (LWMF) as well as the operationalization of Extended Producer Responsibility (EPR) for lighting products. The regulatory instrument for the implementation of EPR for lighting products is through a Joint DENR-DOE Administrative Order (JAO). This EPR system is being eyed to be replicated for Waste Electrical and Electronic Equipment (WEEE)
United Kingdom	Transposition of the waste electrical and electronic equipment (WEEE) Directive (2012/19/EU)	
Ukraine	The development of the draft of Ukraine's Cabinet Decree "Some Issues of Electronic and Electrical Equipment Waste Management"	The implementation of the mechanism of extended producer responsibility in the area of the management of electronic and electrical equipment and its wastes (in-process)

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
United Nations Development Programme (UNDP)	China UNDP/GEF project: An App designed for smart phones ("Baidu Recycle") was launched in August 2014. It's the first web App of its kind in China, doesn't need to be downloaded and can be accessed by searching for "Baidu Recycle" in the Baidu search app.	This service is expected to be rolled out in other cities in the future. The web app is hoped to help streamline the recycling process and cut down on 'informal recycling stations' where uncredited entities reclaim precious metals from within electronic equipment and subsequently dispose of the toxic materials incorrectly, causing severe ground and water pollution.
United Nations Development Programme (UNDP)	Partnership Action for Computing Equipment (PACE)/UNEP/UNDP (Jordan) • Guidelines for hazardous waste dumping at Swaqa have been drafted and are under review. • 200 containers for e-waste collection of the computers and its accessories, cell phones, bulbs and batteries were distributed among the governorates of the Kingdom. The distribution included schools, trade centers, municipalities and environmental directorates. • Collection of e-waste has been initiated at collection points all over the country and ultimately goes to Swaqa Dump site. • Bid for purchasing an additional 220 plastic containers has been initiated. • A comprehensive plan for awareness has been finalized and is being implemented. The Campaign has started at schools.	A second phase project was launched (following its participation in the PACE e-waste surveys mentioned above), entitled "Pilot project on the environmentally sound management of used and end-of life computing equipment in Jordan" (June 2013 - June 2015), with the objective to: Improve collection and materials recovery practices in an environmentally sound manner in Jordan.
Asia Monitor Resource Centre	Collaborating with Electronic Take Back Campaign (ETBC) in the US to develop the framework for the extended producer responsibility in Asian context	
Computer Aid International	Computer Aid International special series report of August 2012 concludes that the inconsistent levels of responsibility for e-waste placed on producers between developed and developing countries are unjust; producers must face up to their responsibilities and governments around the world must engage with the EPR toolkit to achieve this. As EPR shares many of its motivations and objectives with Corporate Social Responsibility and as public environmental awareness continues to grow, more attention must be paid to this http://www.computeraid.org/uploads/Report-5---EPR_Final-ver2.pdf .	
Clean Production Action	Extended Producer responsibility factsheet and toolkit	Extended Producer responsibility Factsheet 2008 and Toolkit

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
International Campaign for Responsible Technology	Compile comprehensive overview of media coverage of toxic hazards and workers' rights in Silicon Valley during the period 1980 - 2014	
Information Technology and Industry council (ITIC)	The electronics industry has been a significant contributor to the development of guidance for the environmentally sound management of used and end-of-life computing equipment under the Basel Convention Partnership for Action on Computing Equipment (PACE).	
Pesticide Action Nexus Association (PAN-Ethiopia)	PAN-Ethiopia , in consultation with the IPEN-e-products working group, contriibuted to the development of the Ethiopian e-waste management draft regulation which incorporats EPR as one of the main articles.	• collection of electrical and electronic waste generated during the manufacture of electrical and electronic equipment and channelizing the same for recycling or disposal; • collection of e-waste generated from the end of life of their products in line with the principle of extended producer responsibility, and to ensure that such electrical and electronic wastes are channelized to registered refurbishing or dismantling or recycling centers; • setting up collection centers or take back system either individually or collectively for all electrical and electronic equipment at the end of their life; • financing either individually or collectively, and organizing a system to meet the costs involved in the environmentally sound management of electrical and electronic waste.

Part f) Provisional strategies and actions in design and manufacturing that should be implemented until elimination is possible or safer substitutes are available.

Government /Organization	Specific actions taken by your institution, including tools or best practices available	Purpose of the initiative and status (completed, underway or planned)
China	In line with "Administration measures for the control of pollution caused by electronic products", carry out "State voluntary certification of electronic products pollution control", encourage enterprises restrict the use of hazardous materials by development of alternative materials, revised design and updated technology.	
Mauritius (Mauritius Standards Bureau (MSB)	After consultation with stakeholders MSB can develop appropriate standards and sensitise both producers and users.	Purpose is to ensure that producers adopt green specifications for electrical & electronic products and that users opt for green products. Status: Planned
Asia Monitor Resource Centre	Working on developing better safety procedures with unions and workers groups. Demand for full disclosure by the companies with a clear time plan for elimination and substitution.	

The following organizations indicated a potential interest in participating in the further development of this work:

	In what context?
China	We are willing to work with other stakeholders to facilitate the substitution of hazardous chemicals by means of information exchange and etc.
Dominica	All of the interviewed businesses and government agencies are open to be contacted for further discussions as the work progresses. The question "In what context?" is a bit too early to give details on. The businesses have said that they can be contacted, but to what extent they can be of help (as in how much time will be required from them) must be determined when the work is a bit more developed.
Guatemala	Learning about which actions need the countries with economies in transition to reduce hazardous chemicals in electrical and electronic products.
Mauritius (Mauritius Standards Bureau (MSB)	Develop standards and assist in the working of regulations for green electric and electronic products.
Panama	In the treatment process (recycling, utilization) and safe disposal of electrical and electronic products.
Ukraine	Electronic and electrical equipment waste management
United Kingdom	Possibly, subject to resources
Citizen of the Earth, Taiwan	
Clean Production Action	Development of tools and resources for identifying chemicals of high concern and safer alternatives.
International Campaign for Responsible Technology	Disclosure of supply chain by Original Equipment Manufacturers and on OEMs publishing of sustainability reports with a focus on corporate social responsibility in the supply chain
Information Technology and Industry council (ITIC)	Technical assistance
Pesticide Action Nexus Association (PAN-Ethiopia)	Through educating the public and monitoring the proper implementation of e-waste management regulation at national level and through coordinating the IPEN international e-products working group and participating in the international policy dialogues.

Links to additional information

1. Waste and Resources Action Program (WRAP) webpage on electrical and electronic goods: http://www.wrap.org.uk/category/materials-and-products/electrical-and-electronic-goods
2. UK Government on Guidance on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Regulations 2012: https://www.gov.uk/government/publications/restriction-on-the-use-of-certain-hazardous-substances-in-electrical-and-electronic-equipment-regulations-government-guidance-notes-rohs-2
3. Handbook on Health Hazards in Electronics: http://www.amrc.org.hk/sites/default/files/downloadables/publication/Health_Hazards_In_Electronics.pdf
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