

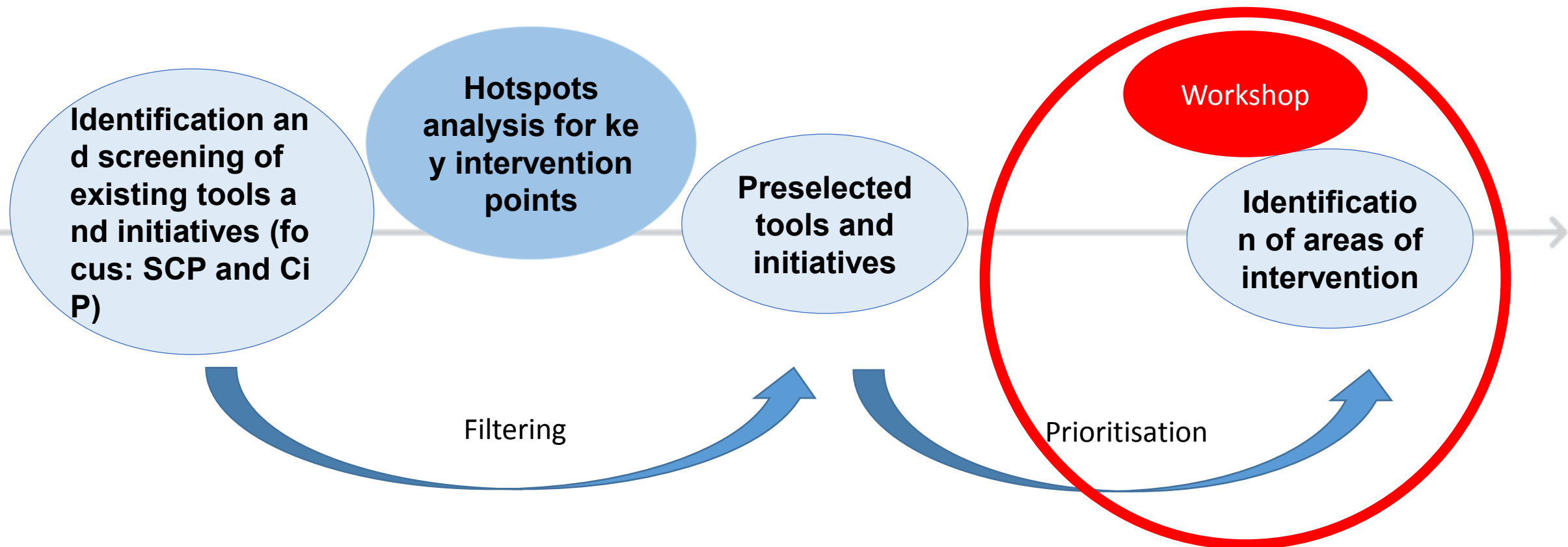
Life cycle management of chemicals present in products

Chemicals in Products: Strengthening Action Workshop

Session 3: Identifying solutions

Preparatory work

- Information gathering: web sites, documents including reports and research articles, e-mail correspondence and personal semistructured interviews



Identification of tools and initiatives

- General chemicals management tools (special focus on SME): Eco-innovation, Responsible Production, Chemical Leasing
 - Other general chemical management tools and initiatives
- Sustainable Public Procurement and labels: Sustainable Public Procurement (UN Environment work), Green Public Procurement, Ecolabels (ISO Type I)
- Tools and initiatives with a strong focus on CiP:
 - Multiple Sectors/no specific sector
 - Building sector
 - Electronics
 - Toys
- Regulations
- Sector actors (NGOs), information or discussion networks or communities of practice that exist for Chemicals in Products (CiP) issues

~30

~80

(Potential) focus on CiP		Tools with a limited geographical scope/application: e.g. BASTA, PRIO, JAMP Various Tools with a very broad application	-Product ratings -Product declarations -Labels with specific CiP focus -Scientific assessment tools -Supply chain management and information systems -Substance Restrictions Lists
		-“Traditional” Chemicals management tools: e.g. Responsible Production, IOMC toolbox -Chemical risk/hazard information tools (main focus workplace safety): e.g. GPS Safety Summaries (ICCA)	-Holistic tools: e.g. Eco-innovation, Responsible Care, -Ecolabels Type I -Chemical Leasing -Building certification systems with broad application: e.g. LEED, BREEAM
	-Specific workplace safety tools -Emergency response tools and guidance e.g. Emergency Response Guidebook -Transport	e.g. GESTIS database, Program for Assisting the Replacement of Industrial Solvents (PARIS III), GEP Index	

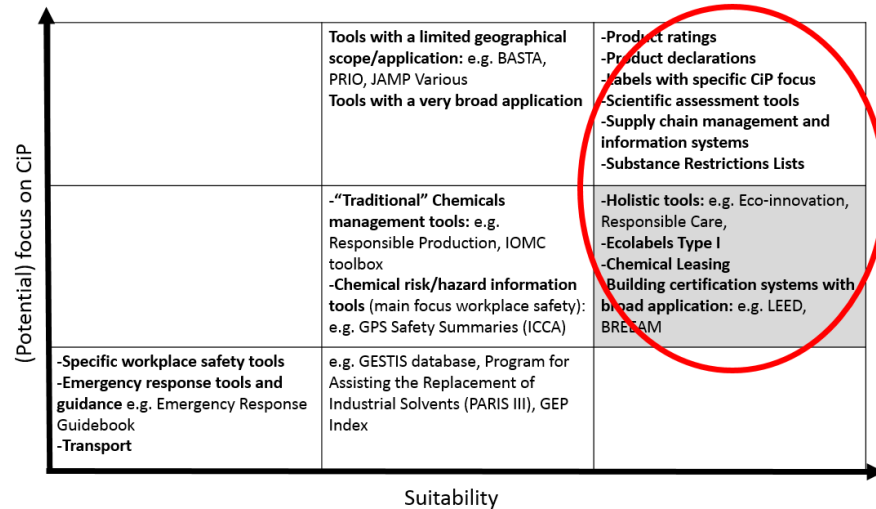
Suitability

(Potential) focus on CiP

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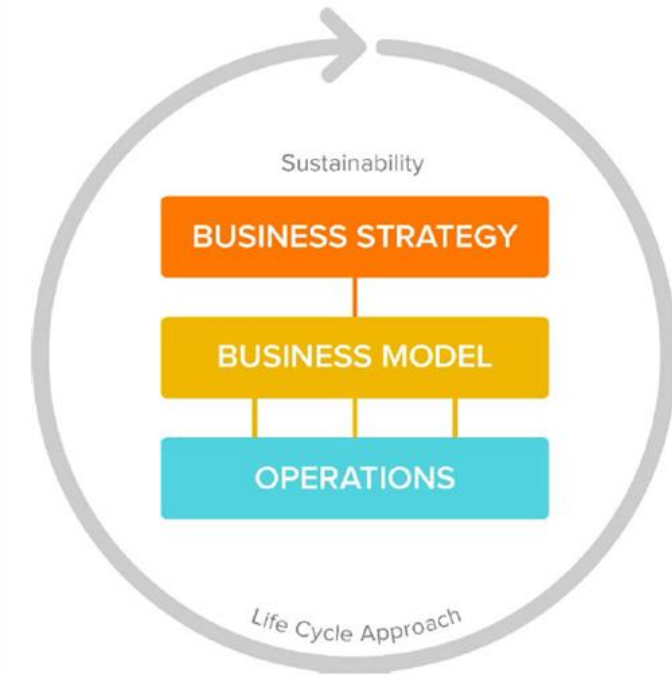
Tools with potential to include Chemicals in Products



- Sustainable Public procurement
- Eco-innovation
- Chemical Leasing
- Building certificates (e.g. LEED, BREAAAM)
- Cleaner Production
- Ecolabels
- USEtox
- National Multi-Stakeholder Platform on Voluntary Sustainability Standards (VSS)
- Draft Guidelines for Providing Product Sustainability Information (UNEP: CI-SCP)

Eco-innovation approach

- Holistic approach to reduce the environmental impact of products, processes and services
- Embed sustainability in all levels of a company's operations
- Develop and apply new business model(s) to improve the sustainability performance over the product/service life cycle
- Influencing and involving stakeholders along the entire value chain
- Enhancing company's performance: positive sustainability impacts and increased competitiveness



**Sustainability as an
inspiration for innovation**

Eco-innovation approach

- targeted at SME
- Direct effects concerning CiP
 - substitution of chemicals
 - Eco-design
- Indirect effects concerning CiP
 - communication in the value chain
 - improving communication with stakeholders
 - encouraging substitution of hazardous chemicals

Cleaner Production

- Methodology to support SMEs in developing countries
- “the continuous application of an integrated preventative environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment”
- can be applied to the processes used in any industry, to products themselves and to various services provided in society.
- National Cleaner Production Centers (NCPCs)

Cleaner Production

- Cleaner Production practices include
 - Input material change - requires the “replacement of hazardous or non-renewable inputs by less hazardous or renewable materials or by materials with a longer service life-time”
 - Product modifications e.g. development of a recycling friendly design, the reduction of harmful substances or the extension of product life.

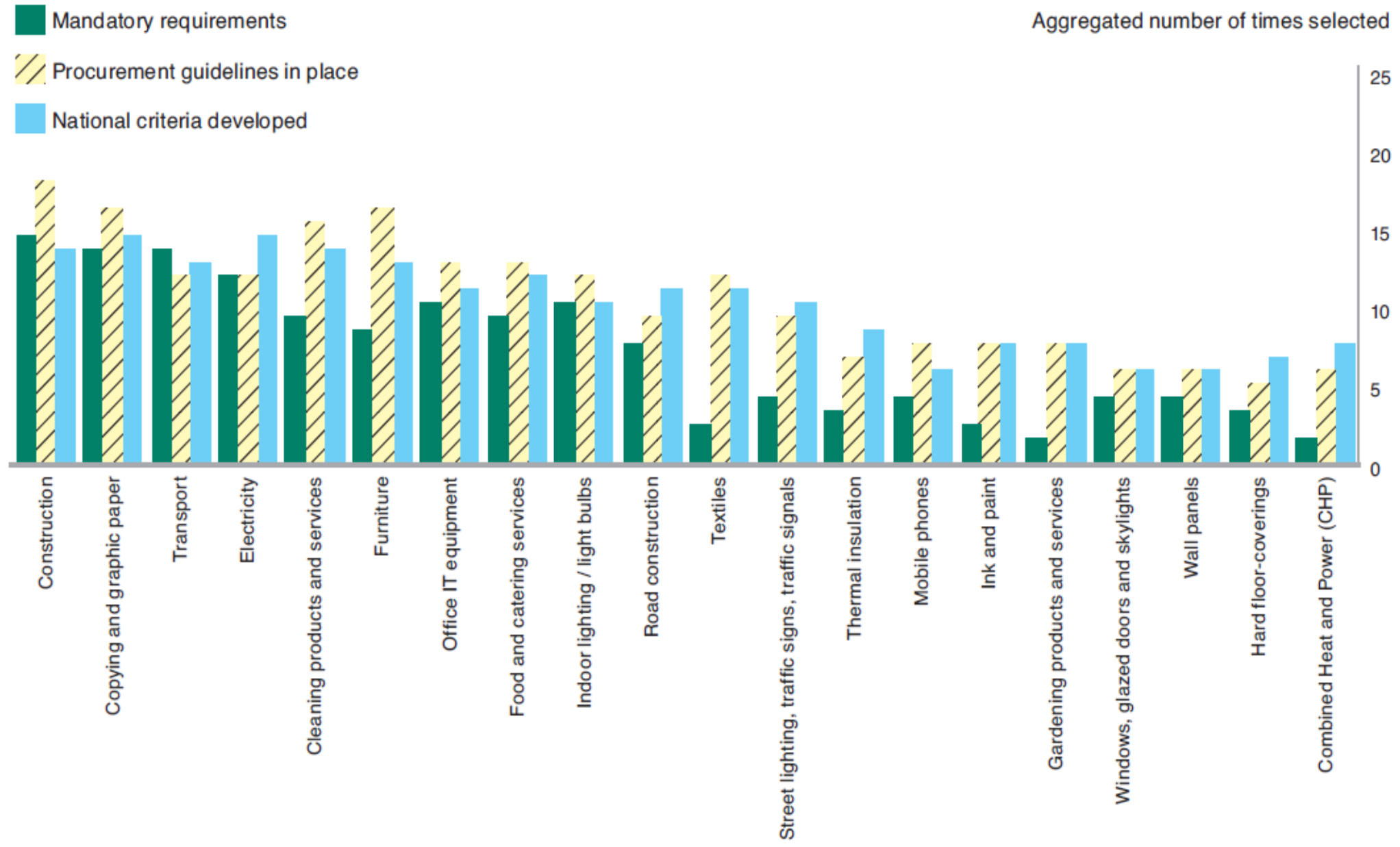
Chemical Leasing

- Business model/methodology
- company supplies a specific service rendered by a substance rather than selling the chemical itself
- Can lead to the reduction of chemicals or to substitution
- require collaboration and sharing of expertise between chemical users and chemical suppliers

Sustainable Public Procurement

- 15 to 30 per cent of national GDPs in developing countries
- Guidance for governments to select products and include sustainability criteria
- Building sector, IT products
 - Focus on energy efficiency
 - Eliminations of VOC and lead in paint

Product category guidelines with mandatory requirements, procurement requirements in place or national criteria developed (UNEP, 2013)



Steps for the Implementation of SPP (UNEP, 2013)

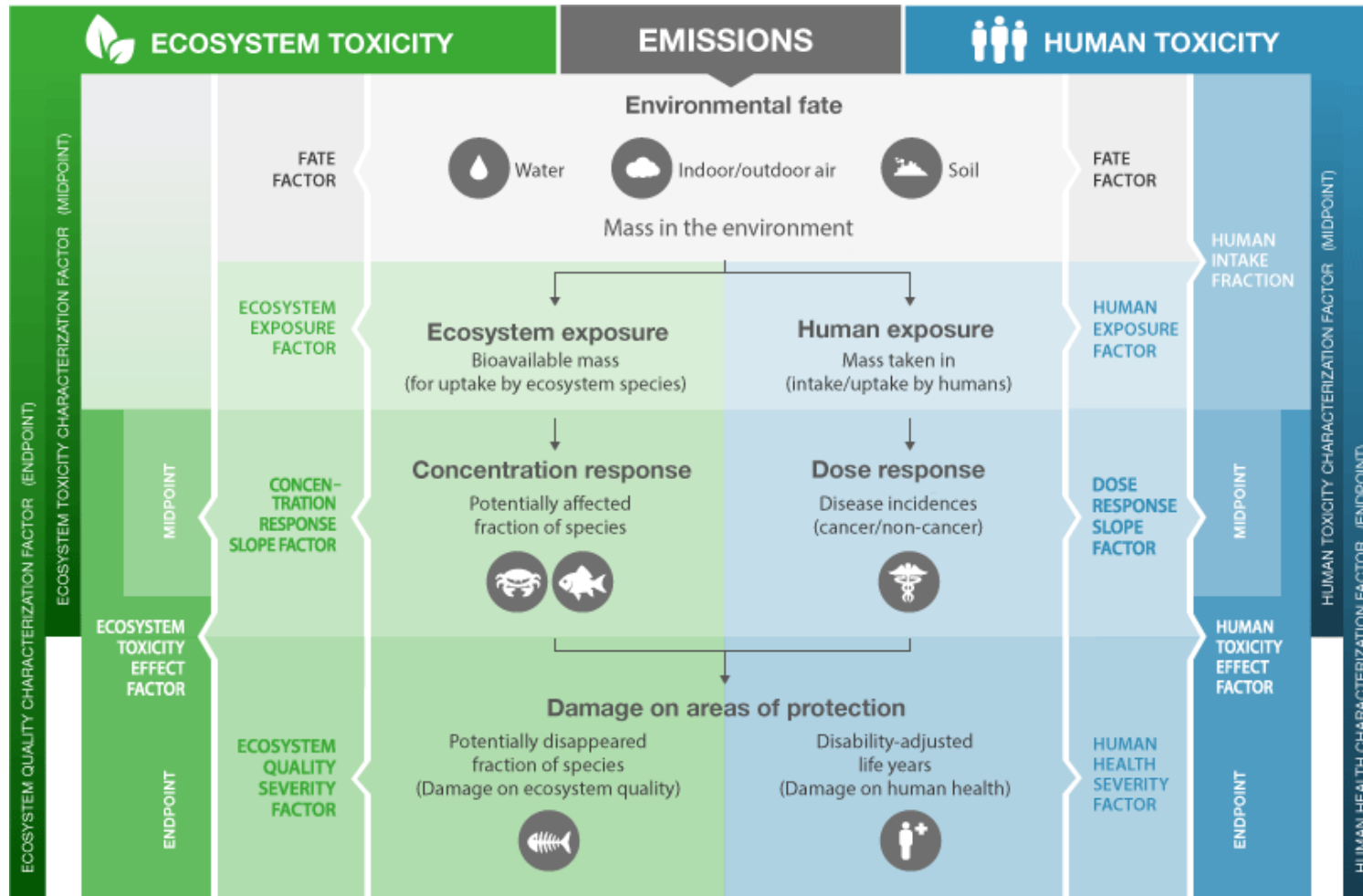


- 1. Identifying and agreeing on national sustainable development priorities;
- 2. Analysis of expenditure;
- 3. Risk and opportunity assessment; and
- 4. Final prioritisation of products and services.

Ecolabels

- ISO Type I labels (multi-criteria, multi- sector, third party certified),
 - ISO Type I- like (focus on specific impacts),
 - ISO Type II (self-declaration, often single attribute) and
 - ISO Type III (product declaration with more detailed quantitative information on products).
-
- almost 500 eco-labels
 - criteria concerning the content of CiP
 - Facilitates communication of expectations and requirements

Scientific assessment tools (e.g. USEtox)



- Scientific consensus model for characterizing human and ecotoxicological impacts of chemicals
- Scientific basis for substitution
- Aim: consensual environmental impact category indicators for use in e.g. Environmental product information schemes

Building certificates (e.g. LEED, BREEAM)

- Widely used, strong focus on energy efficiency
- No strong focus in CiP
- New developments LEED v4
 - Building product disclosure and optimization - material ingredients - possible 2 points (out of 100)
- BREEAM

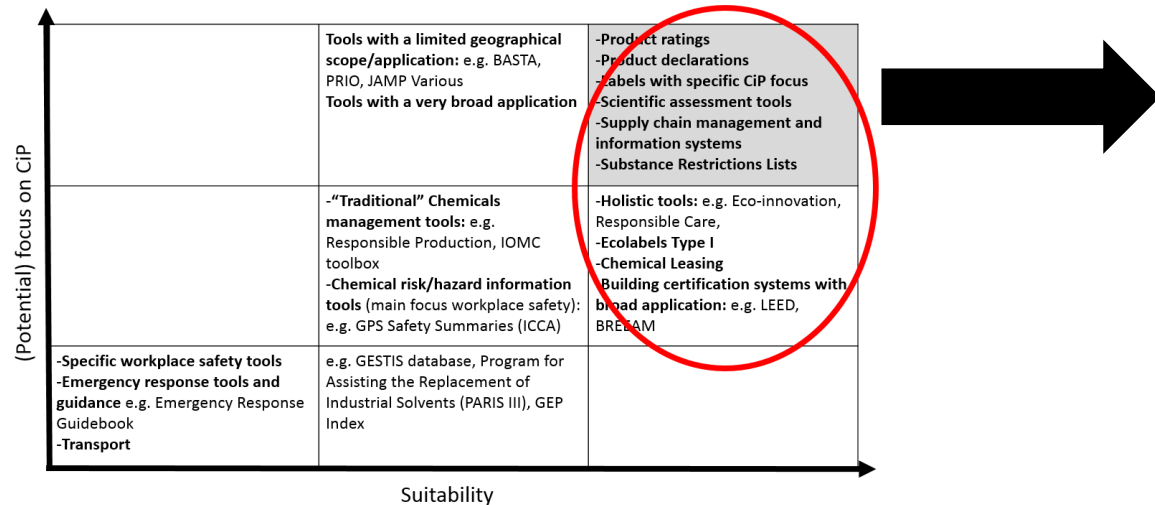
National Multi-Stakeholder Platform on Voluntary Sustainability Standards (VSS)

- “A sustainability standard is a set of criteria defining good social and environmental practices in an industry or product” (ISEAL 2016).
 - e.g. Fairtrade, FSC (Forest Stewardship Council)
- Mostly developed by non-state initiatives, but also public (and public-private) schemes,
- VSS can become de facto mandatory when they dominate a market.

National Multi-Stakeholder Platform on Voluntary Sustainability Standards (VSS)

- 2016
 - India: National Platform on Private Sustainability Standards
- 2017
 - Brazil (launch March 2017)
 - China (launch June 2017).

Tools with a focus on chemicals in products



- Chemical Footprint Project (CFP) Assessment Tool
- Cradle to Cradle Certified Product Standard
- BizNGO Guide to Safer Chemicals
- The SIN (Substitute it Now!) List
- BOMCheck
- chemSHERPA
- Electronic Product Environmental Assessment Tool (EPEAT®)
- Substance Restriction Lists (SRLs)
- GreenScreen List Translator
- IMDS
- Pharos
- Chemical Management Database (CMD)

Chemicals in products tools

- Supply chain information systems
 - Developed by producers or third parties
 - depth of information (only restricted chemicals, CoC, Full Material Declarations) varies greatly
- Substance lists
 - Lists of regulated/legally restricted substances
 - Restricted Substance Lists by companies
 - List of substances of concern (“black lists”)
 - Other lists e.g. List of endocrine disrupting substances
- Environmental product declarations
 - widespread in the building sector
- Regulations and standards

BOMCheck

- generation of Regulatory-Compliance-Declarations (RCD) and/or Full-Materials-Declarations (FMD)
- System Users: Siemens, Toshiba, Philips, Microsoft, Canon, Electrolux, Hitachi, IBM, Intel

chemSHERPA

- Electronics
- System user: Canon

Chemical Management Database (CMD)

- Supply chain management system
- Relevant for the toy sector
- offices in Hong Kong and Shenzhen

Chemical Footprint Project (CFP) Assessment Tool

- Provided by Clean Production Action
- Rating of companies
- Aim: transform global chemical use by measuring and disclosing data on business progress to safer chemicals.

BizNGO Guide to Safer Chemicals

- Project of Clean Production Action
- Initiative to promote the creation and adoption of safer chemicals and sustainable materials, thereby creating market transitions to a healthy economy, healthy environment, and healthy people
- Targets i.a. retail sector
- Principles
 - Principles 1a: Know Chemicals across the Life Cycle of Products
 - Principle 1b – Disclose Chemicals across the Life Cycle of Products
 - Principle 2 – Assess & Avoid Hazards
 - Principle 3 – Commit to Continuous Improvement
 - Principle 4 – Support Public Policies & Voluntary Initiatives

GreenScreen List Translator

- “list of lists” - Chemical scoring process based on information from over 40 hazard lists developed by authoritative scientific bodies convened by international, national and state governmental agencies, intergovernmental agencies and NGOsP
- Part of the Pharos Chemical and Material Library, used for LEED v4

Cradle to Cradle Certified Product Standard

- Developed by the Cradle to Cradle Products Innovation Institute (C2CPii)
- guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories:
 - material health, material reutilization, renewable energy and carbon management, water stewardship and social fairness.
 - Material health: Knowing the chemical ingredients of every material in a product, and optimizing towards safer materials
 - Identify materials as either biological or technical nutrients
 - Understand how chemical hazards combine with likely exposures to determine potential negative impacts to human health and the environment
 - A product receives an achievement level in each category.

Electronic Product Environmental Assessment Tool (EPEAT®)

- Electronics
- EPEAT-registered products can even be identified based on specific attributes valued by an organization (reduction of toxic materials, recyclability, use of recycled plastic, etc.)
- Used by institutional purchasers

Substance Restriction Lists (MSRLs)

- Cisco Controlled Substances Specification
- Dell's Materials Restricted for Use
- Electrolux Restricted Materials List
- Huawei Substance List
- Microsoft Restricted Substances for Hardware Products
- OSRAM Index List Environment - Declarable Substances
- OQA-2049 (System User: Samsung)
- Seagate restricted substances list (Seagate)
- "Controlled Substances" Defined by Sony
- UL 110 (Sprint)
- Toshiba Prohibited Substance List (System User: Toshiba)
- The Ericsson Lists of Banned and Restricted Substances
- Acer Environmental Standard Requirements

The SIN (Substitute it Now!) List

- List of chemicals likely to be banned or restricted in a near future
- Aim: speeding up legislative processes and giving guidance to

Pharos

- Healthy Building Network
- Pharos helps commercial buyers evaluate product content and other relevant data against health and environment benchmarks.
- Pharos Chemical and Material Library (CML): online catalog of chemicals, polymers, metals, and other substances

