EURIC/EBCD EVENT ON CIRCULAR ECONOMY

22 March 2021

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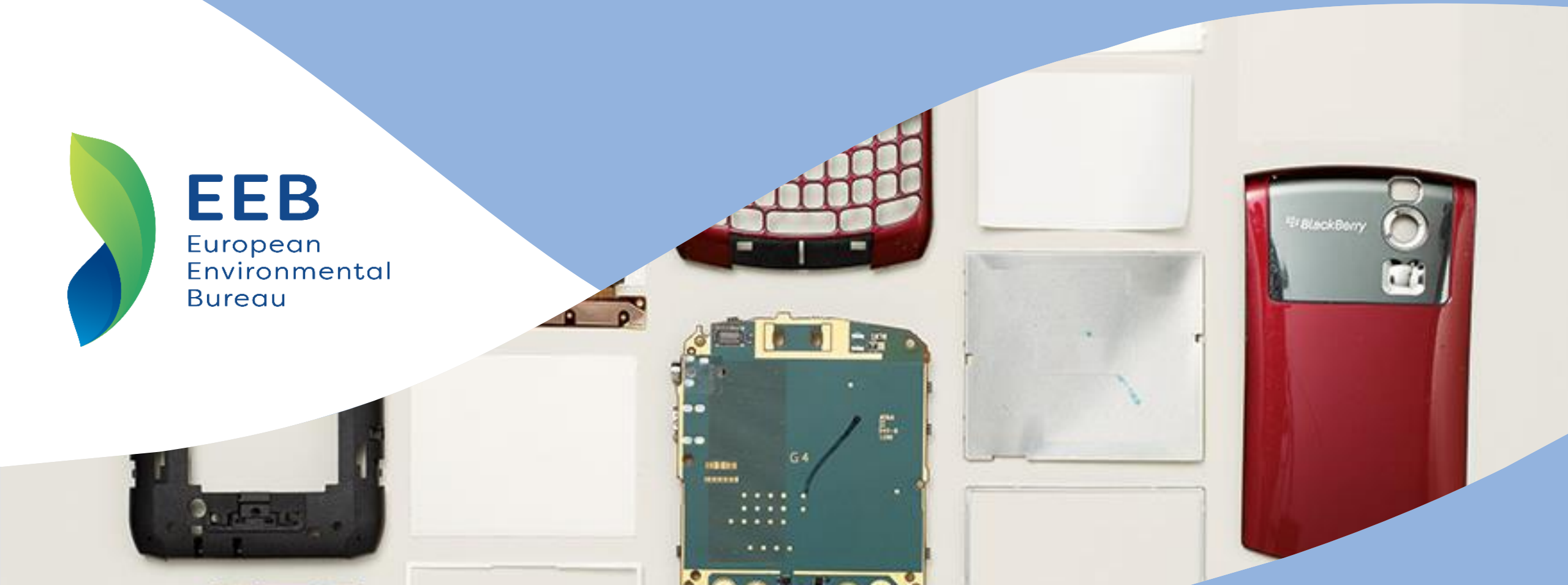

PREVENTION FIRST, NOT ONLY RECYCLING

Circular material use = 11,9% in 2019

$$\frac{\text{Total reused \& recycled material}}{\text{Total material used}}$$

We can increase this

We can decrease this

- **Staying strong on calling for science based material footprint reduction and waste prevention targets**
- **Challenging current 'only recycling' business models ('recyclers' also disassemble, reuse…)**

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BEING DEMANDING FOR RECYCLING

Recycled as virgin

- High quality & performance recycled materials
- No legacy substances

(CSS states same requirements for recycled as for virgin)

Recognising recycling

- Carbon credit & recognition of lower externalities
- Products requirements and modulated EPR fees (recyclability/recycled contents)
- 'Taxing' virgin resources use

Creating legal drivers & a fairer competion for recycling, not triggering a race to the bottom

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ECO-DESIGN FOR & FROM RECYCLING

Phasing out design that hampers reuse, repair and recycling (through Sustainable products policy initiative)

Guidelines to design for and from recycling (technical EEE plastics)

Product level - From start to concept

	Guidelines and design strategies for recyclability	Rationale
Enable easy access and removal of hazardous or polluting components	**Use click/snap solutions to fix batteries in a product. Avoid permanent fixing such as glued, welded, and enclosed solutions.**	Batteries can cause problems in the recycling process if they are not manually removed before they go into the shredder. If not removed, batteries pollute the material streams and can explode during the recycling process. Batteries are also seen as dangerous by consumers, and therefore it is important to make them easily removable. When using Li ion batteries, use hard cells. Soft Li ion batteries are easily damaged and volatile, which is a safety and fire risk.
	To fix valuable components (PCBs, cables, wires, and motors) in a product, use metal screws, click fingers, press fit, shrink foil, self-screwed/tapering, or connectors. Avoid permanent fixing such as 2K (over-moulding, IML, insert moulding), PSA tapes, glue, melted (different plastics, enclosures), and welded.	Recyclers are most interested in valuable components. Facilitating the separation of these components will lead to a higher yield and less loss in other material streams. As of today, a significant part of e-waste is still recycled in an informal context (especially in developing countries), where valuable components are often extracted by unsafe methods such as burning cables to extract the copper and pouring acids on PCBs to get out valuable metals. These methods can release different kinds of toxic fumes and can pose a risk to human health and the environment. To account for these risks, designers are advised not to glue valuable components together, but to opt for click/snap-solutions to enable easy removal. If valuable components are easier to remove, this design feature can contribute to less negative health and environmental impacts.
	Use drains for operating liquids and gasses and enable easy removal of components such as oil tanks, compressors, and hoses.	Some products contain operating liquids and gasses that can be hazardous for human health and the environment. Providing easy to find drains that enable the removal of such liquids and gasses should be considered at the design stage. In case drains cannot be implemented, specific markings indicating where the product can be opened (if necessary by applying manual force) can help recyclers during the dismantling process.

Table 17: Design guidelines on the part level

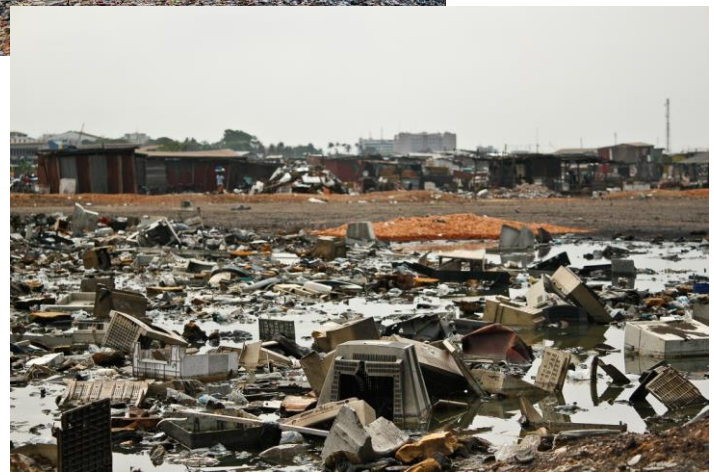
Part level: From concept to production

	Guidelines and design strategies for recyclability	Rationale
Avoid the use of hazardous substances	**Avoid the use of brominated flame retardants (BFRs) such as PBDEs, TBBPA, PBBs, HBCDs, etc. in the product.**	Plastics containing BFRs can usually be separated by recyclers nowadays and end up in incineration. Several BFRs are already restricted and it is possible that more will become banned in the future. If these substances are used in materials today, it is likely that they cannot meet the requirements to be recycled and reused in new products in the future (legacy substances). However, it is important to make sure that the selected alternative is not worse.
	Avoid the use of substances of very high concern (SVHC) according to REACH and substances classified carcinogenic (Carc. 1A or 1B), mutagenic (Muta 1A or 1), reprotoxic (Repr. 1A or 1B) by CLP Regulation in housing/housing parts.	The reason for this recommendation is to impede these substances to be contained in future plastic recyclates.
	Avoid the use of substances that are listed for future restriction on the 'SIN list' (https://sinlist.chemsec.org/)	These substances are mainly used in plastics as surfactants, solvents, stabilizers, plasticizers, anti-corrosions, pigments, and coatings. Do not use in concentrations above 1000ppm, (0.1% per article) per substance. *Background*: The 'SIN list' is a list of substances that are not yet restricted, but are being candidates to go on the SVHC list in the future. SIN list substances are a good indication of substances to be restricted / banned in the future. If these substances are used in materials today, it is possible that the future waste stream might not meet the requirements to be recycled and reused in new products in the future.

RECYCLING IN EU, NOT EXPORTING WASTE

EU should not delegate its waste management (and overconsumption of resources) to third countries

STOP DUMPING WASTE (legally or illegally)



EXPORTING SECONDARY RAW MATERIALS
(if too much recycling potentials)

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