



**CIRCULAR ECONOMY**  
saving resources, creating jobs

Green Week, Brussels > 3-5 June 2014

Mining the E-waste stream  
4 June 2014

## Codesigning our Electric and Electronic Equipment (EEE)



EUROPEAN  
ENVIRONMENTAL  
BUREAU



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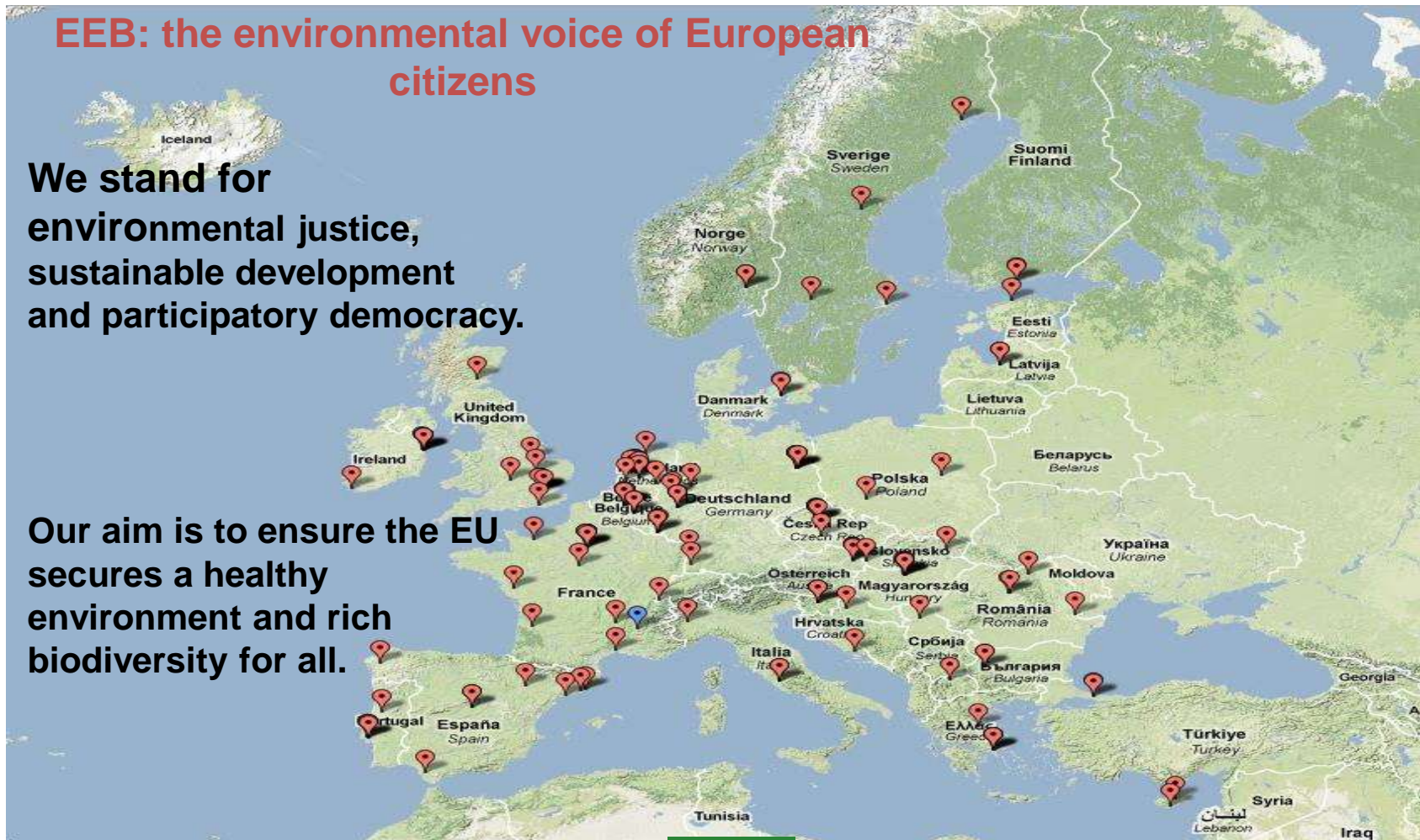
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## Who are we?

**EEB: the environmental voice of European citizens**

**We stand for environmental justice, sustainable development and participatory democracy.**

**Our aim is to ensure the EU secures a healthy environment and rich biodiversity for all.**





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## New ways of doing things

*The future of EEE\* is not waste*  
*The future of WEEE\*\* is product*

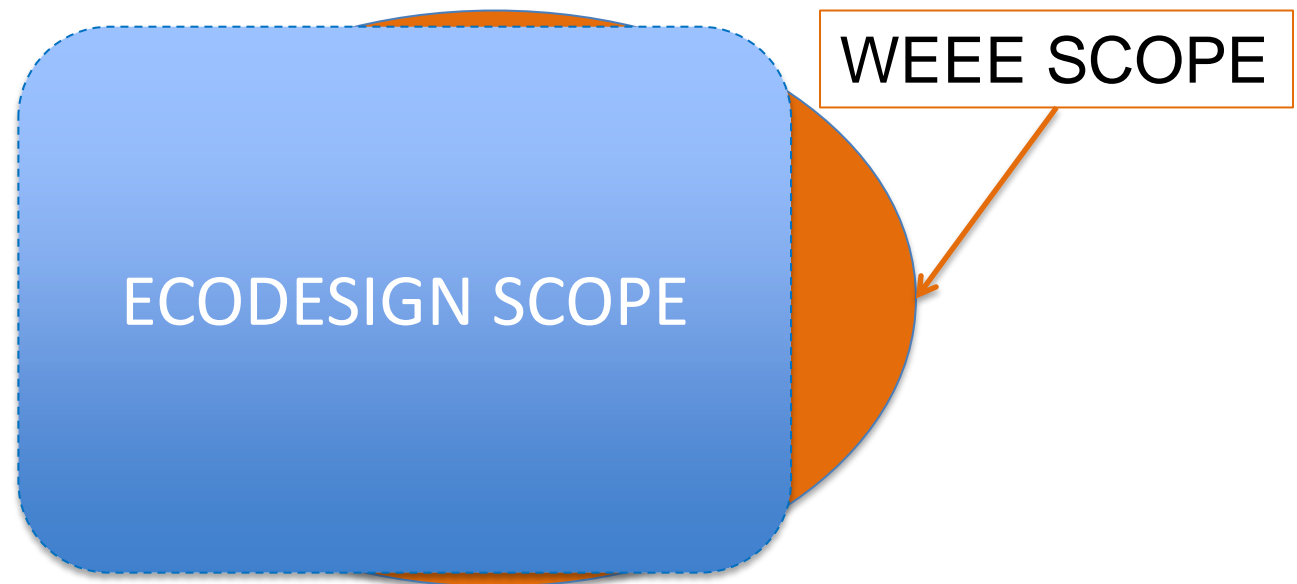
\*EEE= Electric and electronic equipment - \*\*WEEE= Waste of electric and electronic equipment

- 80% of the environmental impacts, including end of life, is determined at design stage
- From cradle to grave to cradle to cradle®...designing waste out of our products



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## Consistency between product & waste policies



Large overlap between WEEE and Ecodesign scope:  
more consistency or passing the buck?



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# Converging agendas

ECODESIGN

Energy and all environmental aspects



For the production of one computer :

- 240 kilograms fossile fuels
- 22 kilograms synthetic chemical compounds
- 1500 liters of (grey) water

**all together >1700 kg raw materials**

WEEE

Environmental and human health protection

- ✓ Climate change mitigation
- ✓ Energy in use stage + embedded energy = Total energy saving
- ✓ Europe reduced dependency
- ✓ Critical material recovery
- ✓ Industrial policy
- ✓ Job creation

*Resources use could be the best proxy to capture embedded energy and CO2 emissions*

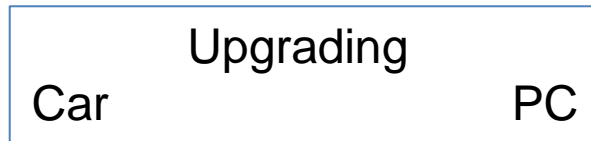


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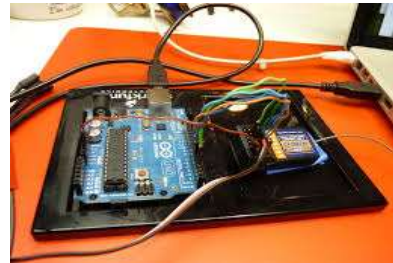


# Opportunity 1: extending life time of products

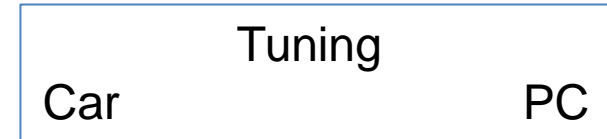
The car “paradigm” – a product to maintain and upgrade:



<http://www.carcraft.com/>



<http://eastbay-rc.blogspot.fr/2011>



[www.shutterstock.com](http://www.shutterstock.com) - 50235558



<http://www.cimolino.lu/wp/>

Possible requirements for products:

- Minimum life time/durability ( exists for vacuum cleaners)
- Maintenance of performance in time (exist for lighting)
- Replacement of critical components, incl. battery
- Upgrading of parts/functionalities (electronics)
- ...

Note: study on product durability –  
<http://www.productdurability.eu/>



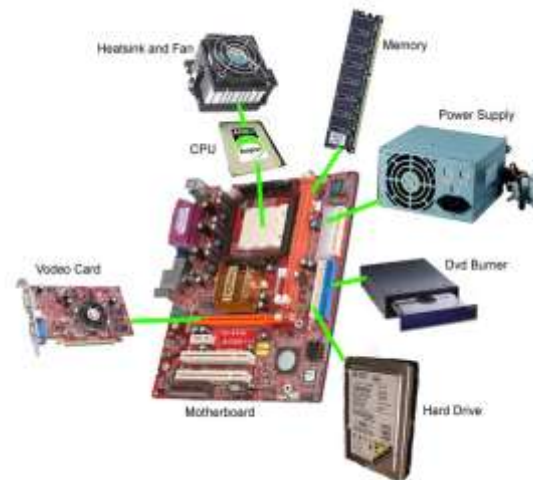
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## Opportunity 2: reusing products and material

The second life “paradigm” – a product/material to repair and reuse/re-sell:



<http://www.technobuffalo.com/>



Possible requirements for products:

- Disassembly time/ material separation of product
- No glue or welding of parts
- Spare parts availability
- Bill Of Material, service manual and tools made available according to normalised format

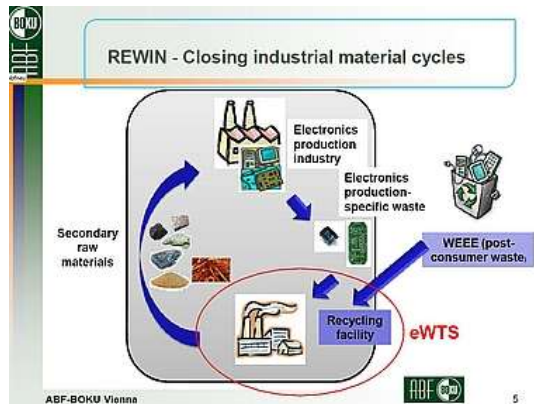




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## Opportunity 3: recycling material

The loop “paradigm” – waste as resource:



[archive.switch-asia.eu](http://archive.switch-asia.eu)



Possible requirements for products:

- Minimum recyclability of products
- De-toxification of products
- Critical material localisation and extraction
- Recycled contents of products
- Single plastic polymer or recyclable polymer blend
- ...

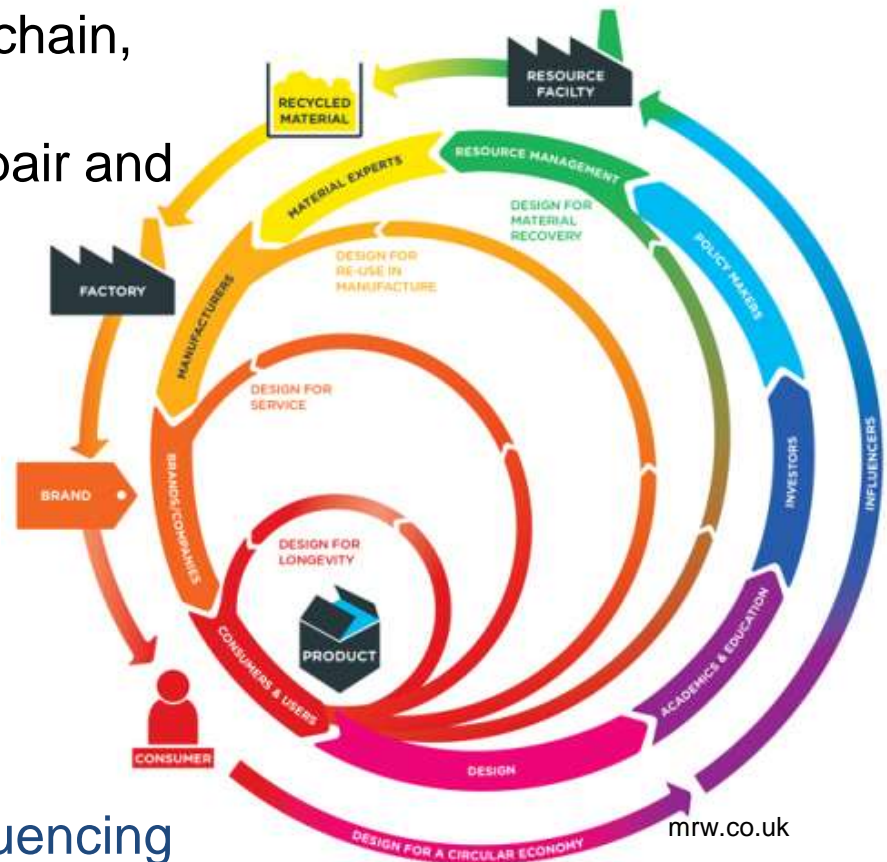




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# Complementary paradigms

- ✓ The local loops AND the global supply chain,
- ✓ Qualified jobs for life time extension/repair and recycling



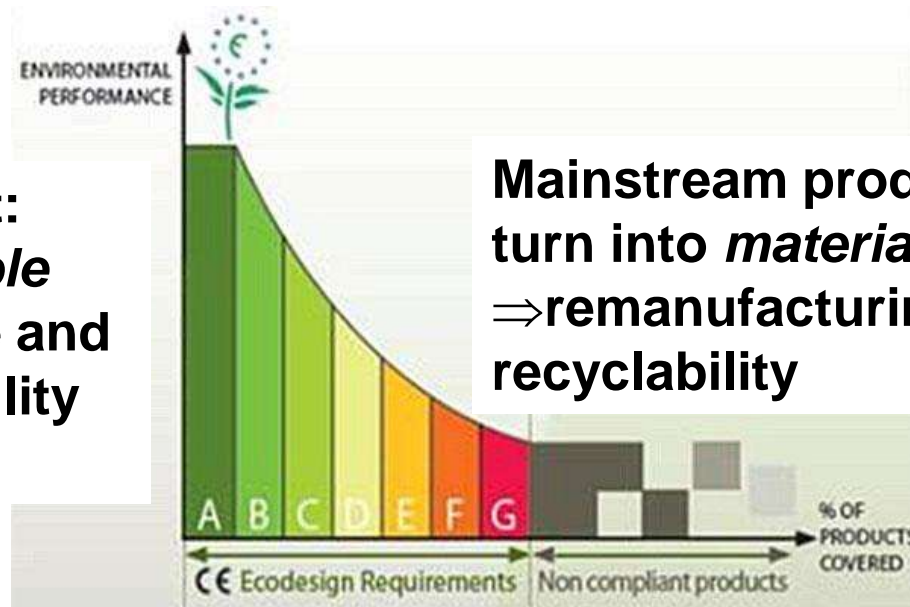
No contradiction, rather a relevant sequencing



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## Example of product strategy

**High end product:**  
make them *durable*  
⇒ extend life time and  
increase reparability





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# Product policy options:

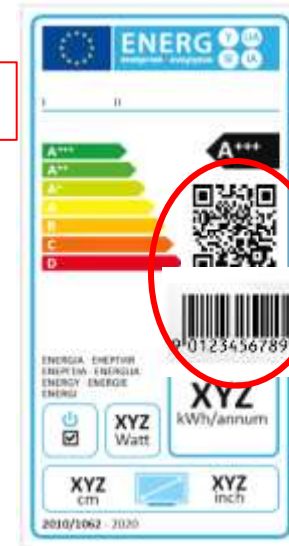
➤ Ecodesign requirements for durability, reuse and recycling:

- Horizontal methodologies and measurement standard at sector level (e.g white goods/consumer electronics/ICT)
- information and specific requirements thresholds per product category

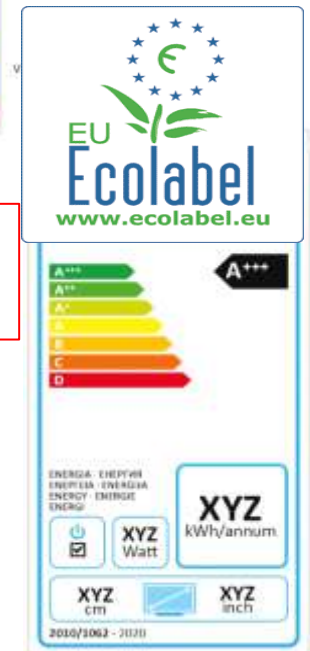
➤ Complementing the energy label:

- use of internet possibilities (QR code, code bar scan)
- towards a more integrative label (a mix of Ecolabel and Energy label ?)

Tomorrow



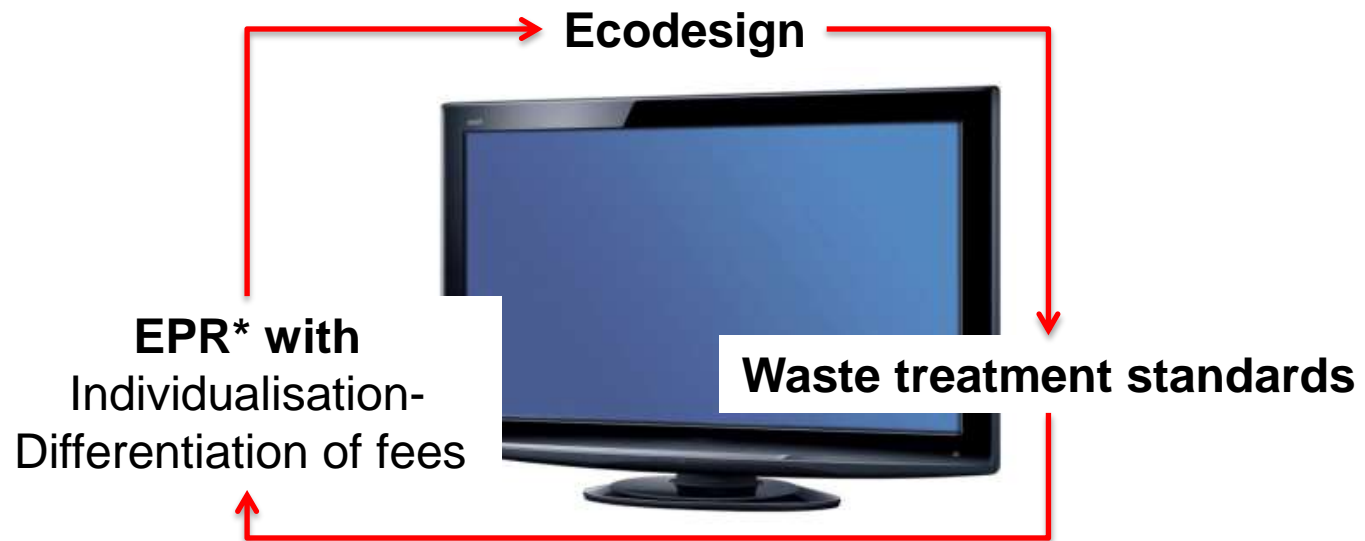
After tomorrow





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## Instruments for circular economy



\* Extended producer responsibility

**Indicator in Japan since 2003 :**

**Total material reused and recycled**

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**Total material used**



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## Product database/product passport

**Towards a fine ID of our products:**

**- A product register with legally required information**

(e.g: energy performance, hazardous contents, repair manual....)

+

Eventual additional information according to a normalised format

(e.g: recycled content, origin of material, ...)





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Thanks for your attention

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