



Industry Perspectives on Circular Economy Electronics supply-chain

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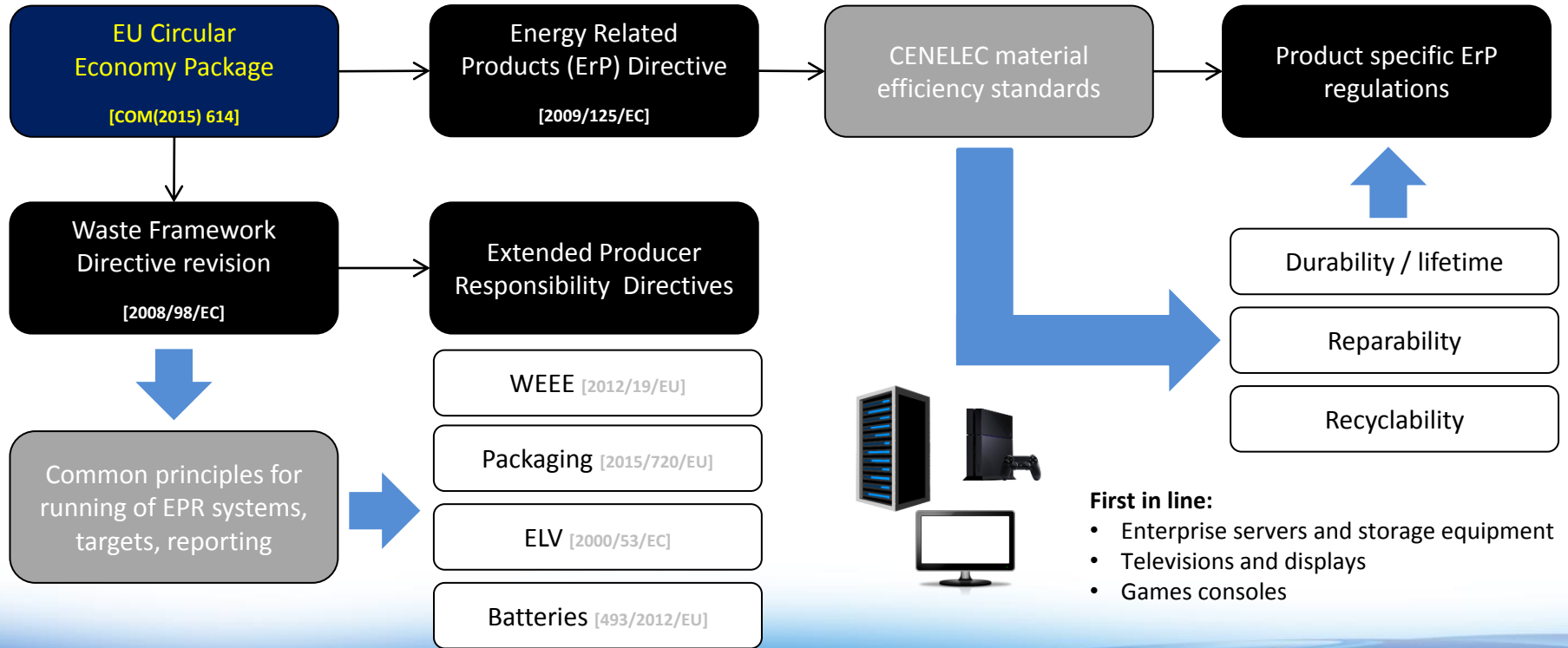


Industry perspective: Overview

- **Circular Economy policy framework**
- **Industry opportunities and concerns**
- **Industry Ecology relevance**



EU will create mandatory policy framework





Industry see various opportunities:

- ▶ **Harmonised design requirements**
- ▶ **Support for innovation and investment**
- ▶ **Enforcement to prevent illegal waste trafficking**
- ▶ **Ensuring EPR provides financial incentives for better design**
- ▶ **Providing common rules & guidelines for EPR schemes**
- ▶ **Improving accuracy of data on waste flows**
- ▶ **Boosting markets for secondary materials**

Based on position of: **DIGITALEUROPE** 



Industry have various concerns:

- ? Impossible to measure average product lifetimes
- ? Managing consumer expectation re. average lifetime
- ? Schematics and parts are proprietary
- ? Liability for quality & safety regarding repair instructions
- ? Design requirements not related to actual recycling issues
- ? Quantitative recyclability index is of little relevance

Based on position of: **DIGITALEUROPE**



IE research example: EPR costs can be better differentiated

Compliance category	Product	UK	
		Actual recycling costs per product type	Actual PRO recycling compliance costs
Small appliances	Household appliances with batteries	£0.00	£9.00
	PCs & games consoles	£0.00	
	Laptop (with mercury-free backlight)	(£250)	
	Laptop (with mercury backlight)	£180.00	
	Servers	(£150)	
	Mobile phones	(£700.00)	
Refrigerators	CFC refrigerant	£53.00	£57.00
	Propane refrigerant	(£100)	
Displays	LCD with mercury backlight	£180.00	£94.00
	LCD with mercury-free backlight	£0.00	
	CRT screen	£100.00	
Large domestic appliances	e.g. microwave, dishwasher, washing machine	(£100.00)	(£45.00)

- EPR systems charge average prices
- ‘Real’ recycling prices can be substantial vs logistics costs:
Current WEEE recycling costs vary by six orders of magnitude (-£700 to +£180)

K. Mayers, R. Lifset, K. Bodenhofer & L. Wassenhove. Implementing Individual Producer Responsibility for Waste Electrical and Electronic Equipment through Improved Financing. *Journal of Industrial Ecology*, Volume 17, Issue 2, pages 186–198, April 2013



IE leads and can help on many topics

Evaluating new technologies



Waste management



Business model / strategy evolution



Sustainable cities



Eco-design



Resource use & efficiency



Measuring environmental performance



Life cycle assessment / foot-printing



Energy efficiency



Consumer behaviour



Industrial symbiosis



Remanufacturing



Extended Producer Responsibility





Industry perspective: Overview

- **Circular Economy measures focused largely on electronics**
- **Significant opportunities exist; but industry impacts not fully considered**
- **Industry Ecology: A scientific approach is needed for future direction**

