



The business view on resource efficiency

Electrolux
2nd Dynamix policy platform
24-25 October 2014



Thinking of you
Electrolux

Outline of presentation



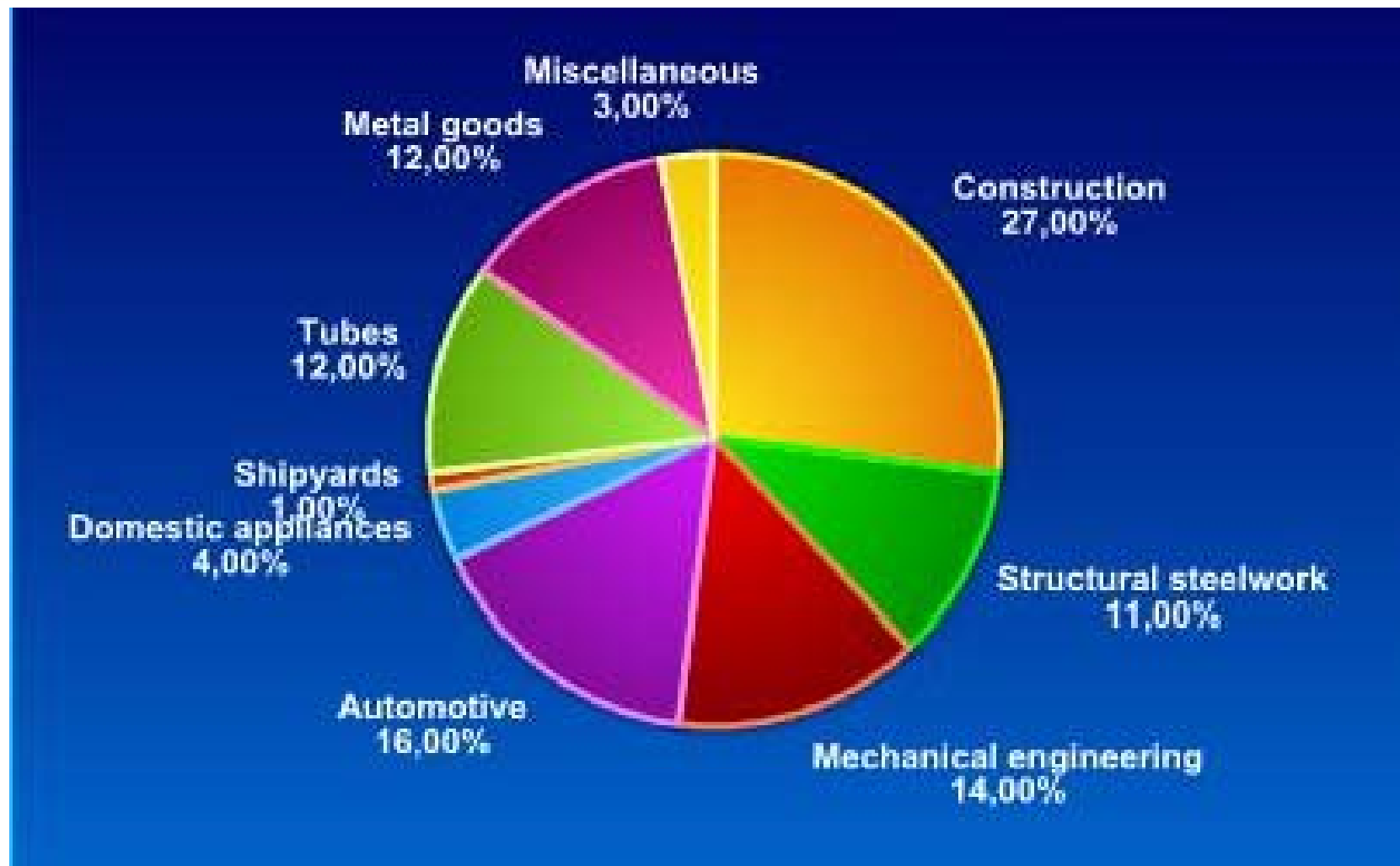
- (a) The household appliance sector and the environmental challenges
- (b) What resource efficiency means at Electrolux
- (c) How policy can support resource efficiency

The appliance sector in Europe - and environmental impacts



- Life cycle impact: 80-90% in use phase – energy, water, detergents – single most important environmental aspect
energy in use phase
- Average product material composition: 60-70% steel, 3-6% aluminium + copper, 25-35% other; mostly polymers, then glass plus electronics

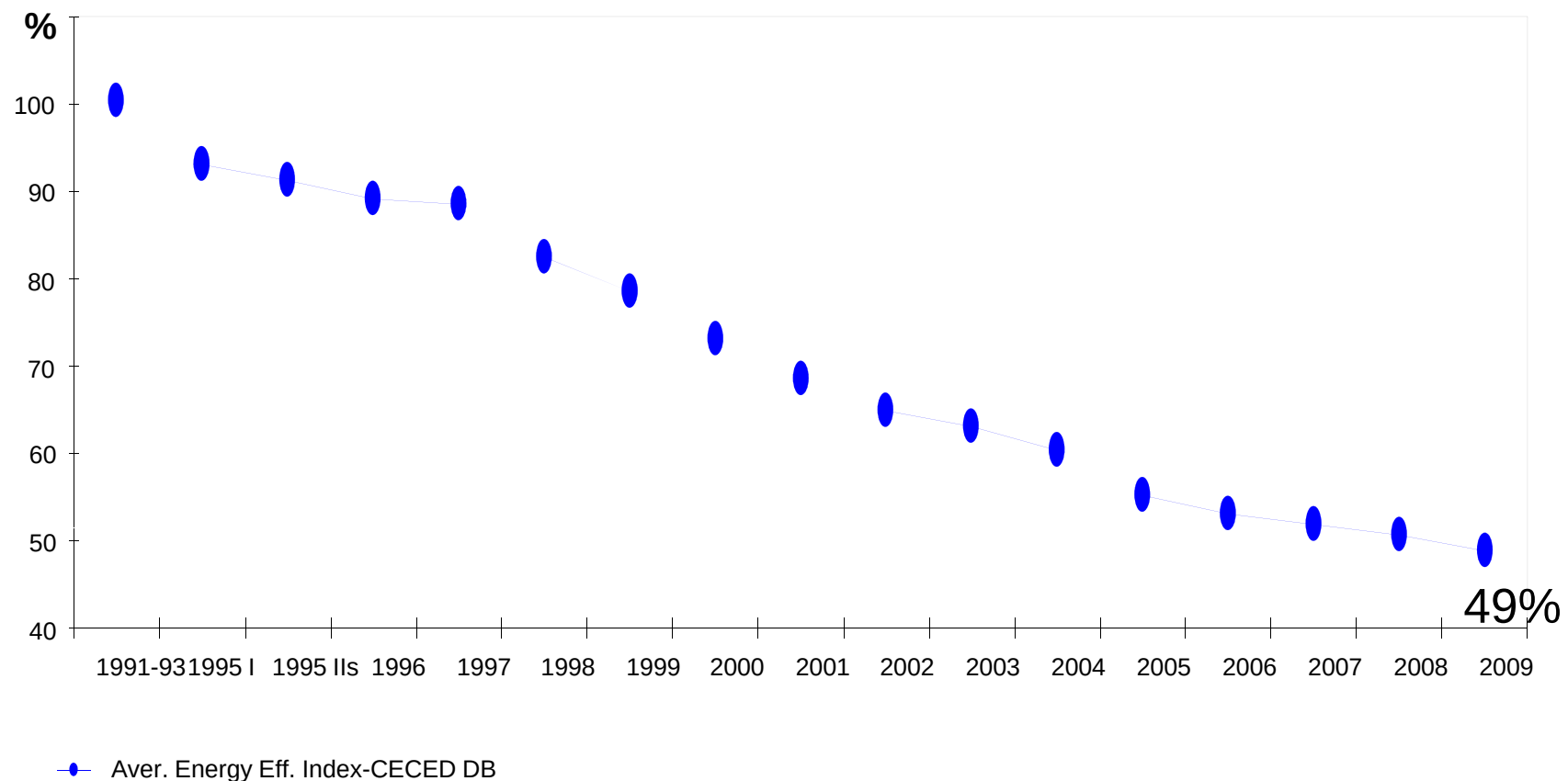
Household appliances: 4% of European steel consumption



Fridge energy index down >50% in 20 years



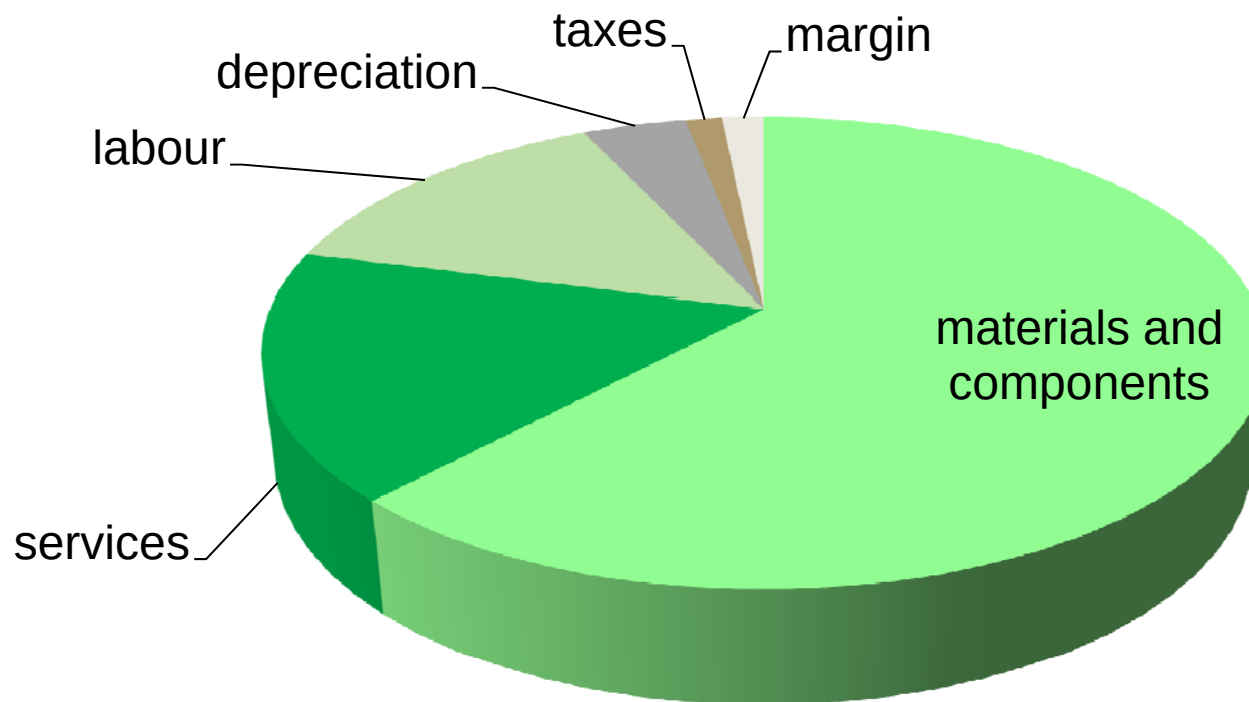
Cold product average energy efficiency index evolution



Materials are 2/3 of the costs

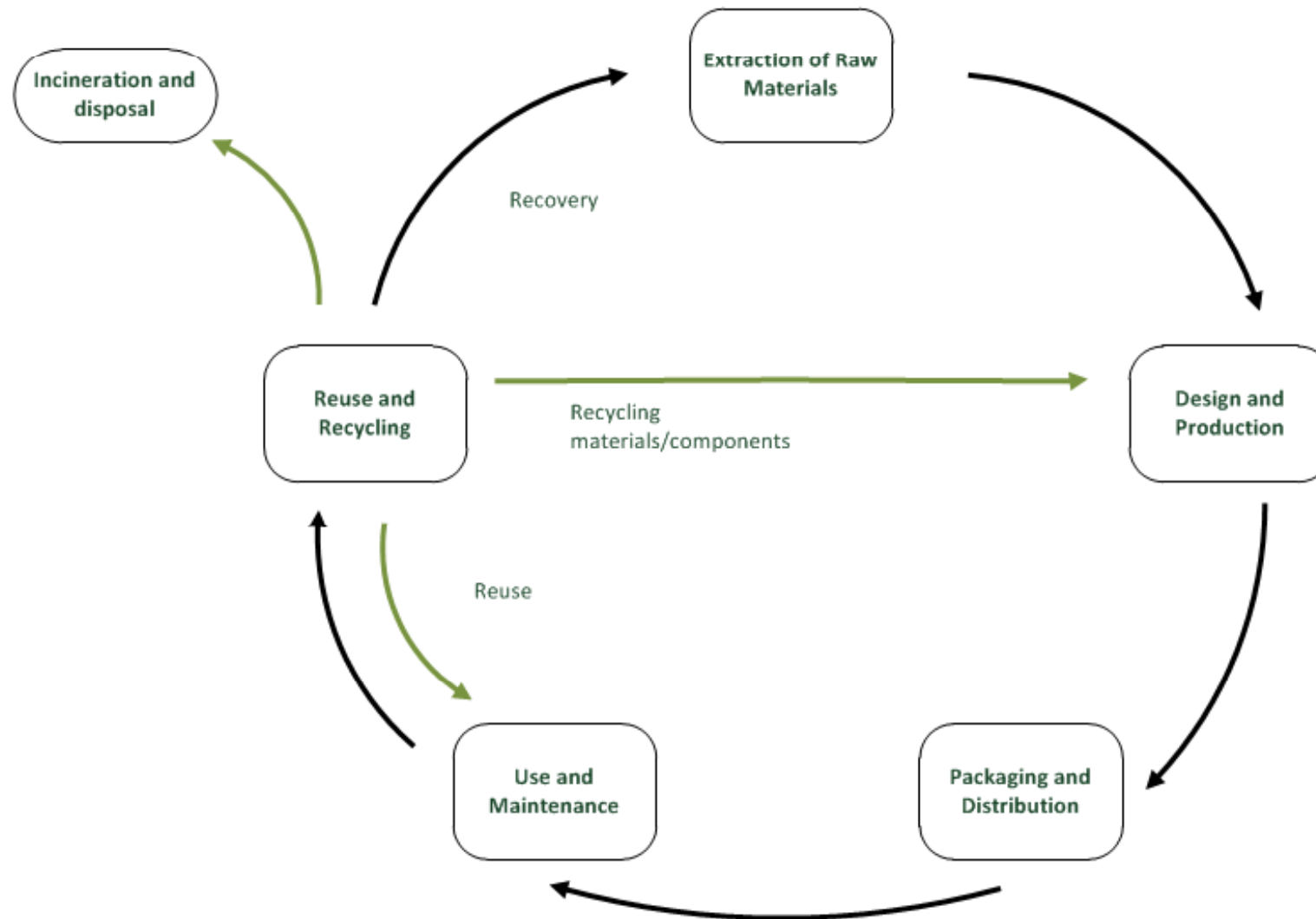


- ❑ Mass production sector
- ❑ High volumes
- ❑ Concentrated production



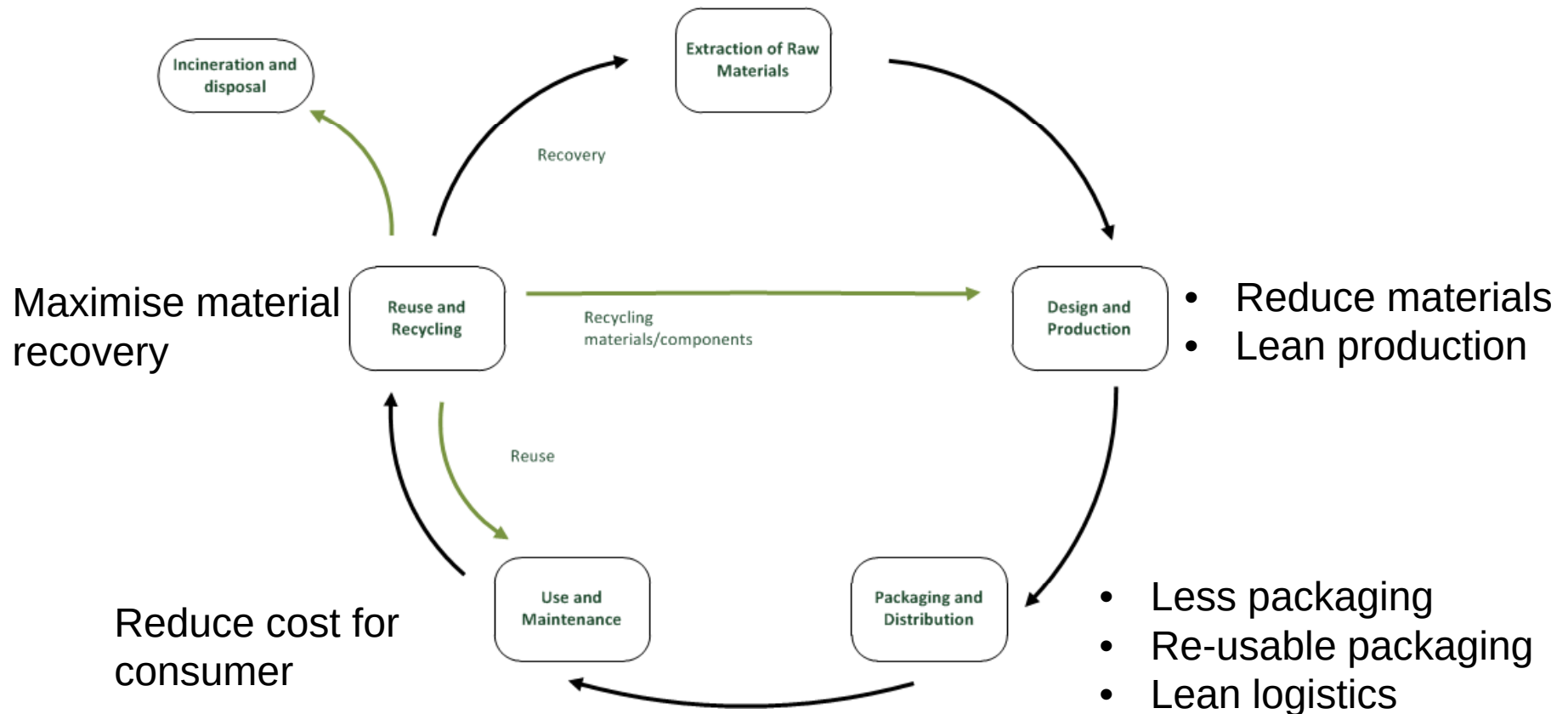
Source: CECED

The Product Cycle of Domestic Appliances

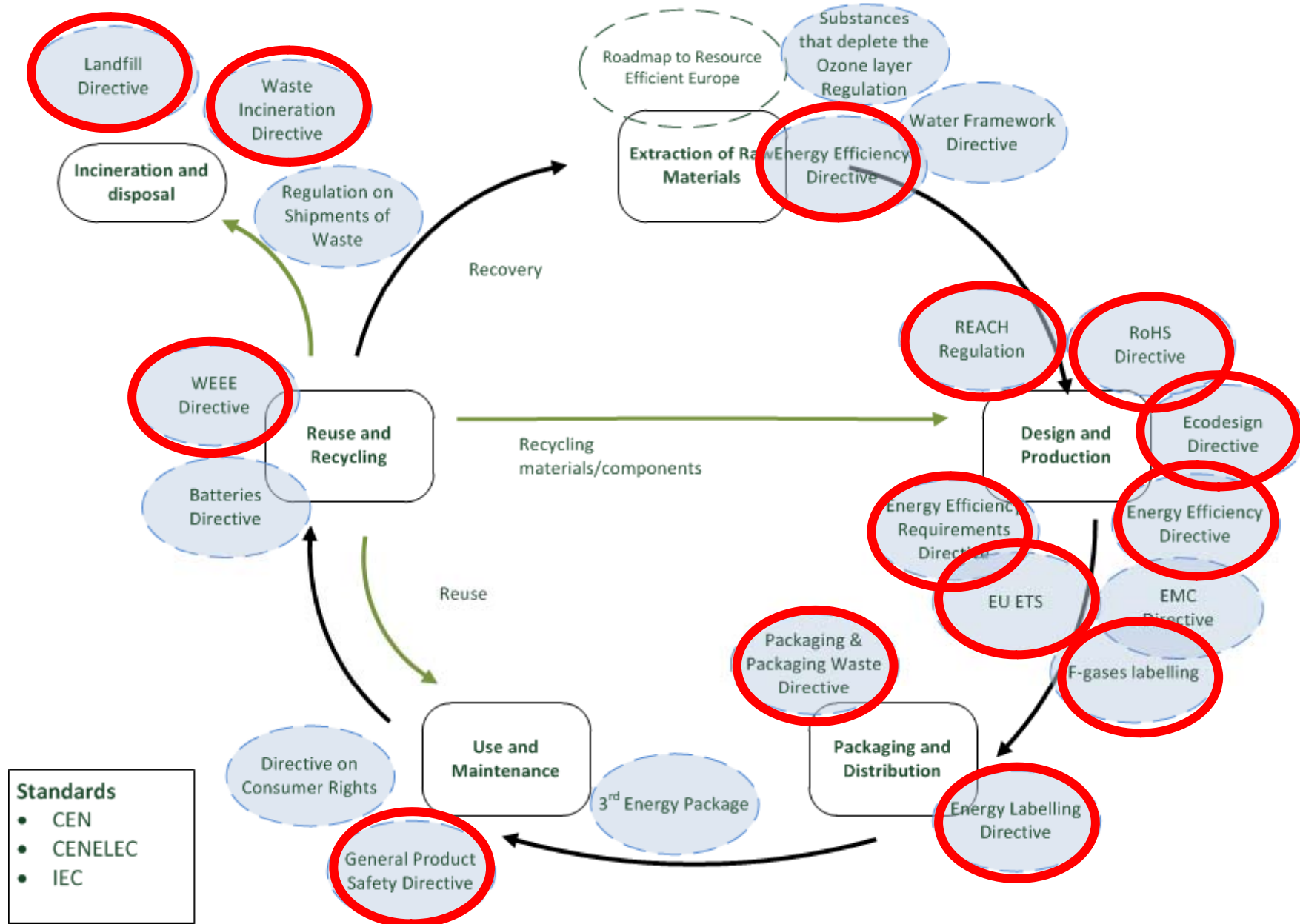


Optimisation makes sense

The Product Cycle of Domestic Appliances



Examples of regulatory impact (direct and indirect) on efficiency and materials in the product cycle



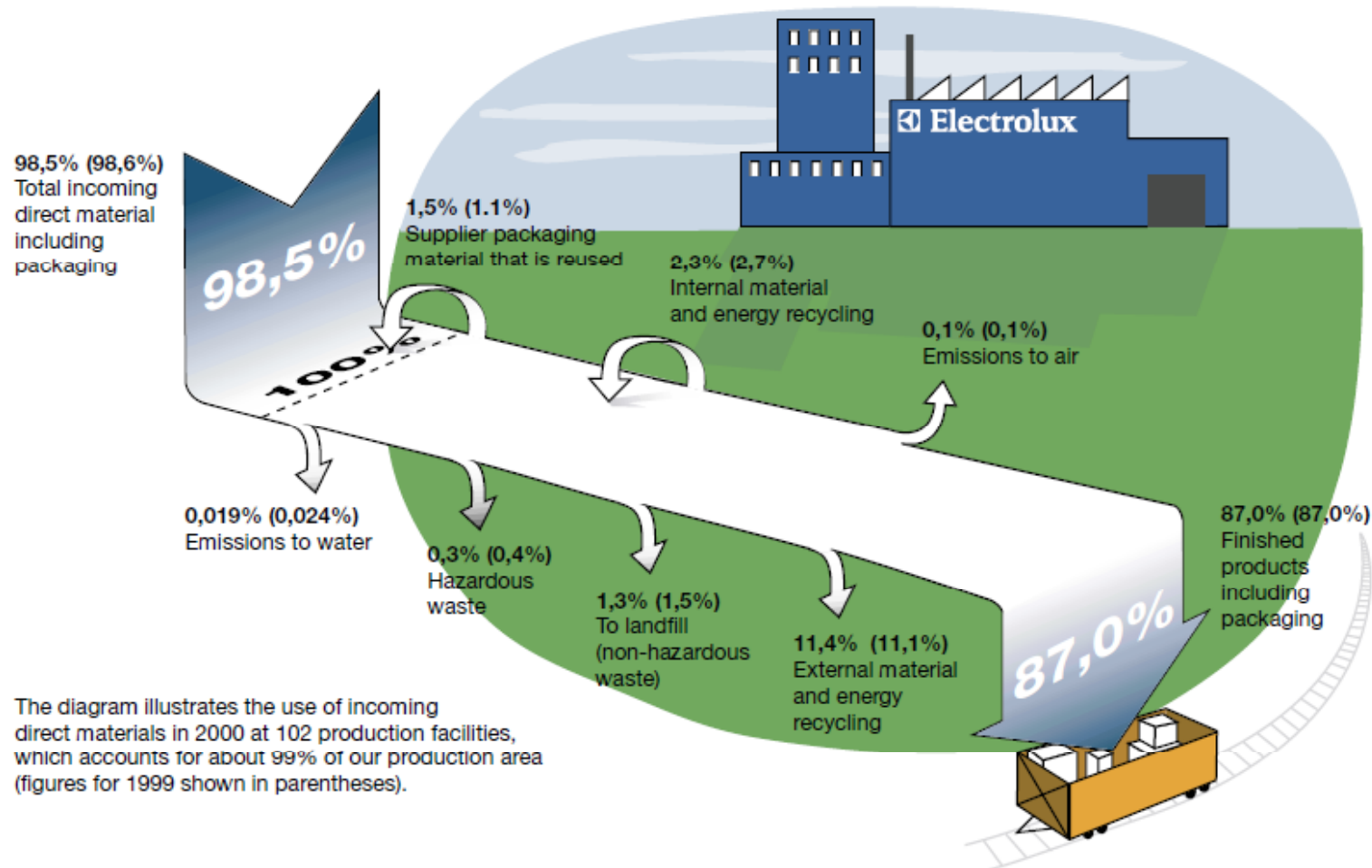
Resource efficiency at Electrolux in practice



Resource efficiency at Electrolux is comprised of many elements:

- Energy efficiency in products and processes
- Material efficiency
 - In operations
 - In products
 - At end-of-life
- Water efficiency in products and processes
- Chemical management
- Maintain and improve performance of products
- New products, new features
- Product energy and water efficiency the primary concern 80– 90% of life cycle impact

Electrolux material balance 2000



Material balance 2012 – moving towards zero waste



One factory. Total material input: >50.000 tonnes. 2012 data.

In finished goods including packaging	94,4%	
Internal recycling	(2,3%)	Plastic clippings
External recycling	5,3%	1/3 metal 1/3 wood 1/3 plastic, paper, other
Landfill	0,15%	
Hazardous waste	0,15%	as defined by legislation
	100,0%	

Energy consumption in this factory down 30% from 2005 to 2012

Product material efficiency is high – WRAP findings



- WRAP product design review: identify opportunities for material optimisation
- Teardowns of a vacuum cleaner and a washer drier
- Identified material savings of 1-2%

The products are highly optimized in terms of material utilization. Key driver is material cost.



End-of-life material recycling largely commercially driven



- Household appliances covered by producer responsibility
- Large domestic appliances make up more than half of all WEEE by volume
- Legal minimum recycling level 75% (will be 80%)
- Recyclers achieve from 85 to 93% material recovery
- About 2/3 of WEEE are managed by commercial actors without involvement of producer schemes
- Issue: downcycling



Green Range vacuum cleaners

High share of recycled plastic



- Vac with 55-70% recycled plastic
- High energy efficiency
- High performance
- Low noise
- Launched 2008

Reduced energy with maintained performance and low noise in legislation from September 2014





Resource efficiency and future policy



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Ecodesign legislation (ErP)



- Framework covers both energy and material efficiency
- Requirements per product group based on impact and potential for improvement
- Until now energy in use phase always identified as key parameter

Industry position

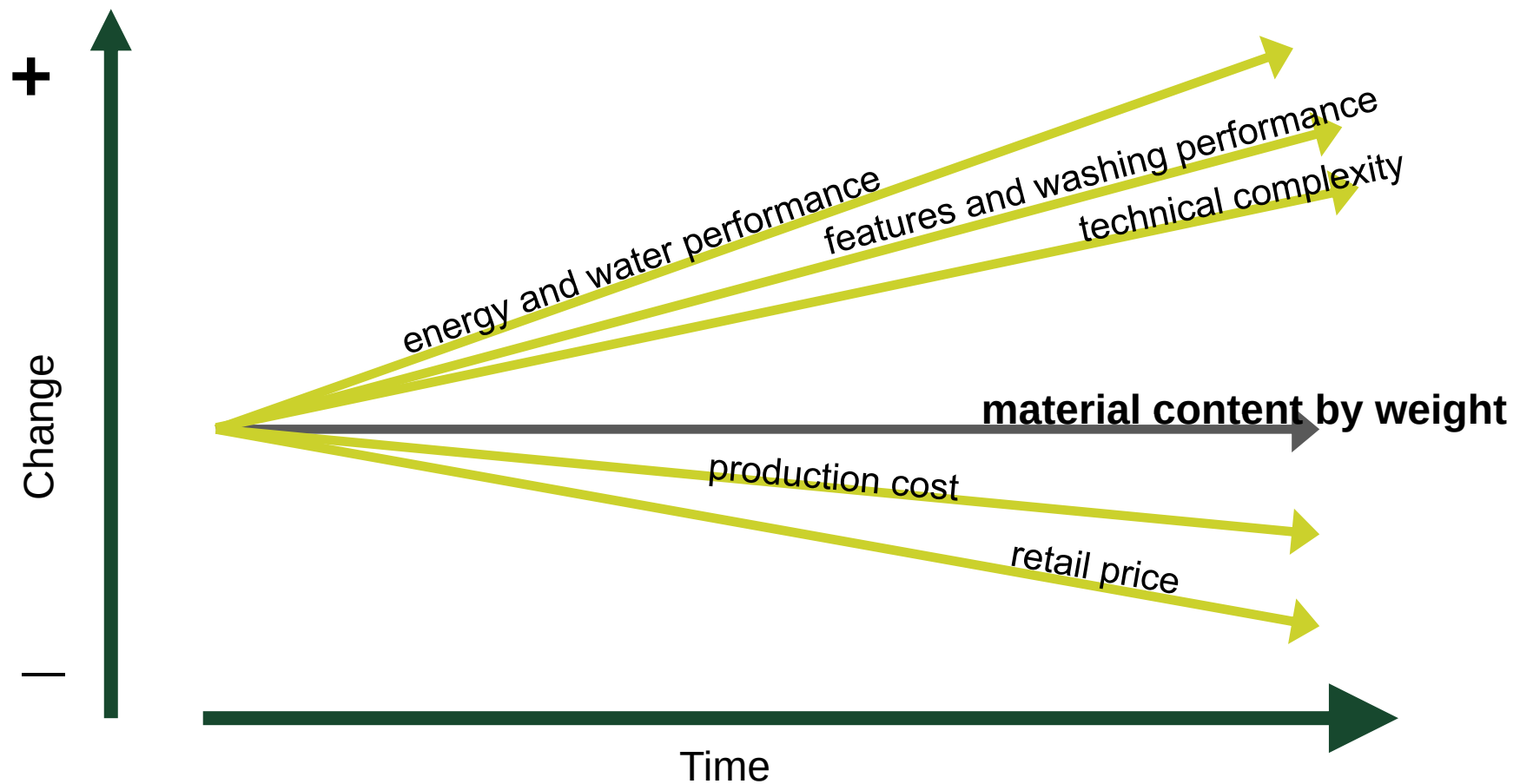


Any requirements on resource efficiency should fulfill the following:

- Measurable
 - > Must be possible to test on the product
- Enforceable
 - > Must be possible to test for market surveillance
- Relevant
 - > Must have positive environmental impact
- Competitive proof
 - > Must not put European production at an disadvantage versus non-European production



Material efficiency is improving



Material efficiency is different from energy efficiency



Energy efficiency

- Use phase
- Demand driven
- Measured on product

Material efficiency

- Production phase, end of life
- Cost driven – addressed by manufacturer
- Measured on process – how to measure on product?

How to improve material efficiency - the view from EoL



Today most WEEE is collected but:

- Some more can still be collected
- Monitor all collection – not only producer schemes
- Same treatment and recovery requirements on all treatment of WEEE – not only producer led

For large household goods, 80% of material has to be recovered according to WEEE rules

Recycled plastic is an opportunity

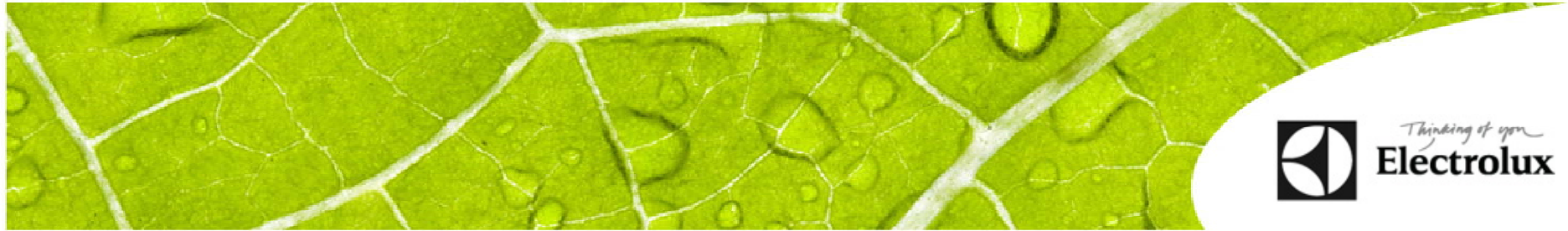


- Electrolux uses recycled plastic in vacuum cleaners
- Recycled plastic flows and operators small compared to flows of virgin polymers and their operators, but growing steadily
- Large amounts of plastic separated at treatment stage leaves Europe
- Key policy support is landfill ban, restriction of incineration and relevant export control, all which contribute to stronger supply in Europe

Product design, resource efficiency, legislation and enforcement



- Impacted by many different legislations – ecodesign, RoHS, REACH, WEEE
- Requirements should be relevant, measurable on the product and not too complex
- Rules will shape product design – think carefully before setting new rules
- The best regulation provide incentives rather than overly specific rules



Thank you.

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