
TOGETHER WE
MAKE TOMORROW
MORE BEAUTIFUL

Content

- Introduction to ecodesign
- Ecolizer 2.0
- Second ecodesign tool: OVAM SIS Toolkit

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Introduction to ecodesign

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Introduction to ecodesign

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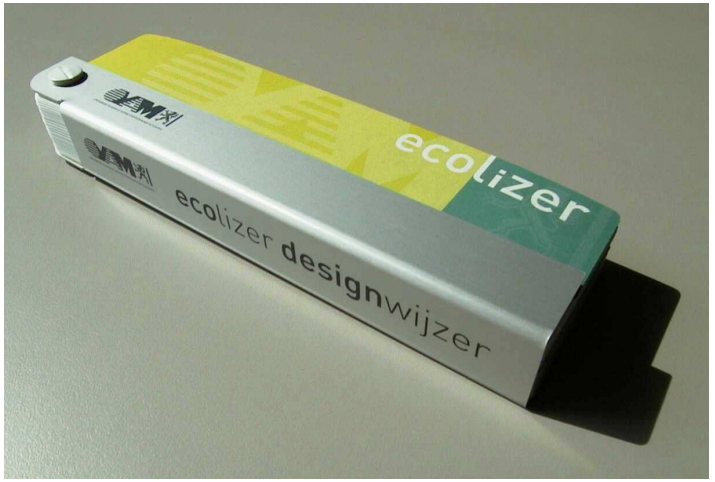
Ecolizer 2.0 - history

- First Ecolizer in 2005
- Comparing materials and processes at design stage
- Analysis of designs or existing products
- Link between academic knowledge and design practice
- Introduction of ecodesign in a look and feel for designers



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Ecolizer 2.0

- Cards with eco-indicators (EI)
- Measure of environmental impact
- The higher the indicator, the greater environmental impact
- Expressed in mPt/unit (kg, m, m², tonkm, etc)
- Integrated environmental impact
- Lifecycle perspective

PE Polyethylene 03.05

PRODUCTION	mPt/kg
Low Density Polyethylene, LDPE/kg	285
High Density Polyethylene, HDPE/kg (products)	277
Linear Low Density Polyethylene, LLDPE/kg	272
EPE (expanded PE)	dna

PROCESSING	mPt
Revolving, milling, drilling/cm³	0,01 (!)
Extrusion, plastic film/kg	49
Extrusion, plastic pipes/kg	36 (!)
Stretch blow moulding/kg	131 (!)
Hot element welding (30sec)/welding	2 (!)
Hot element welding (45min)/welding	155 (!)
Blow moulding/kg	123 (!)
Laser welding/m	0,46 (!)
Foaming/kg	60 (!)
Reaction injection moulding (RIM)/kg, large scale/kg	21 (!)
Rotation Forming/kg	106 (!)
Mirror-welding	dna
Injection moulding/kg	126 (!)
Ultrasonic welding (15kHz)/welding*	0,04 (!)
Ultrasonic welding (20kHz)/welding*	0,02 (!)
Ultrasonic welding (40kHz)/welding*	0,01 (!)
Vacuum forming/kg	dna

RECYCLING**	mPt/kg
Proces	25 (!)
Primary material saved	-285
Total	-260 (!)

WASTE TREATMENT	mPt/kg
Waste treatment scenario in the EU	39 (!)

* Per welding joint of appr. 2,5 cm² (0,5 seconds welding).
** If sufficiently pure.

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Ecolizer 2.0

- Defining functional unit
- Introduction life cycle thinking
- Estimating dominant product lifecycle phases
- Environmental impact of
  - materials
  - production processes and -manufacturing
  - use
  - waste and recycling

PE Polyethylene **03.05**

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Ecolizer 2.0 - Overview of the optimizations

- ReCiPe method replaces the Eco-Indicator ‘99 method
- More data on materials and processes
- Printed recto - verso Dutch - English
- Indicators with quality score
- Colour indication chapters
- More interpretation,
  especially about waste phase and recycling

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Ecolizer 2.0 - Dissemination and future

- Workshops with partner organizations
- Further feedback from target group and federations
- Update every 3 years
- Digital/online version in 2012
- Completed by the OVAM SIS Toolkit in 2011

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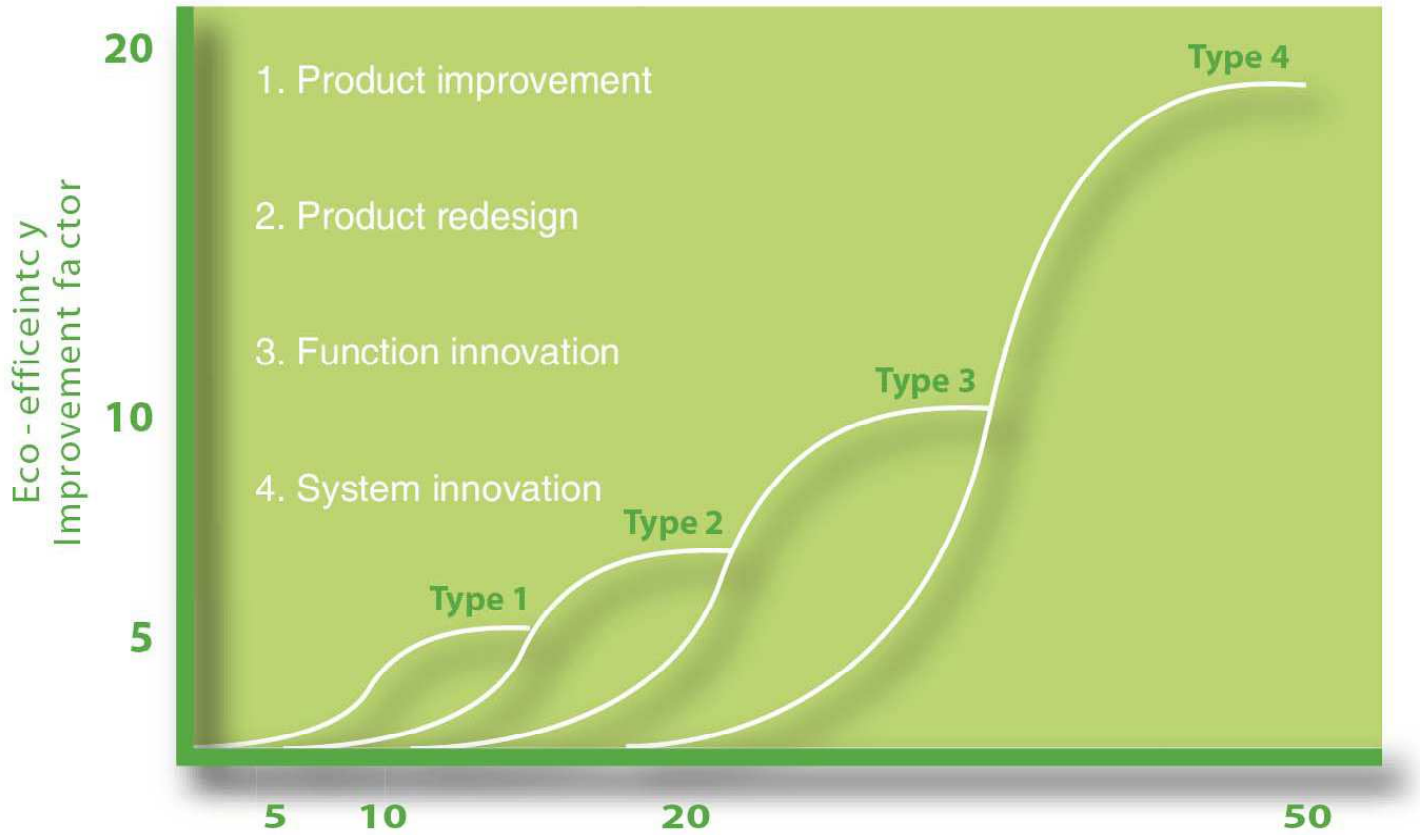
Starting early in process / define level of innovation



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Level 1. Product improvement

- The existing product is at the end of his market life and must be replaced by a new product that sells well again
- Adjustments are particularly the choice of materials, components and aesthetic innovations
- Development of a short time and low risk, the product will therefore be quickly outdated again

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Level 2. Product redesign

- The technology of the product is updated and ready for production for new applications
- The operating concept of the product is reviewed and questioned

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Level 3. Function innovation

- The total product system is questioned in relation to the needs of the user
- Looks at different ways of filling the need without the product in mind
- Benefits
  - Products and their producers are still needed
  - Producers have every interest in designing products as sustainable and flexible as possible
  - They often remain responsible during the lifetime of the product
  - Consumers will have more access to different products

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Level 4. System innovation

- Entire technological system is replaced by a new system

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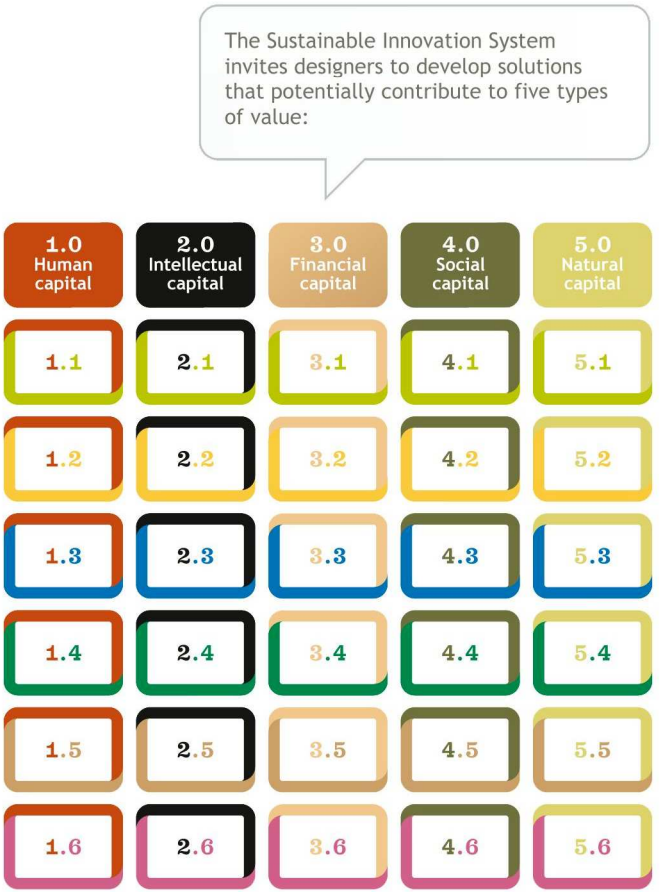
Second ecodesign tool: OVAM SIS Toolkit

- OVAM SIS (Sustainable Innovation System) Toolkit is a tool that show diferent dimensions of ecodesign
- It combines three perspectives on sustainability:
  - life cycle thinking (often used in design practice)
  - management perspective (maximizing value)
  - strategic perspective (from the mission, vision and ambition of a company).
- The instrument is versatile and broadens horizons in ecodesign. It specifies that other sustainability strategies are possible.



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OVAM SIS Toolkit

1. Value creation as ultimate goal

The purpose of design, and particularly eco-design, is always value creation.

Designers are used to the fact that their solutions have to generate an economic surplus - or **financial capital**.

Ecodesigners link that economic boundary condition to the desire to create also **natural capital** by minimizing environmental impact, or even by generating a positive ecological dividend.

The SIS Toolkit widens the perspective then to three additional forms of value creation: **human capital** (associated to users' quality of life), **intellectual capital** (knowledge), and **social capital** (embedded in networks and relationships).

The Sustainable Innovation System invites designers to develop solutions that potentially contribute to five types of value:

2. The strategic/functional dimension

The potential for value creation is crucially determined by the scope of the design space that a design team is able (or allowed) to envisage.
That space is defined by the ambition of the (client) organization, the needs one wants to serve and the way in which the design process is organized.

Ambition refers to the vision on the impact that is envisaged with the innovation project.

The SIS-matrix invites users to clarify their ambitions with respect to all five dimensions of value creation. What do we want to achieve in terms of social, natural or other forms of capital?

.1

An understanding of **people's needs** is supposed to drive any innovation process.

The SIS-matrix offers tools and approaches to identify current and future needs as a basis for sustainable value creation.

.2

The way in which a **design process** is organized has to cohere with the espoused ambitions and the needs identified. For example, if the creation of human capital is a key element in the innovation project, then it follows that the user will have to be actively implicated in the design. In that way the design process itself can be a source of value.

.3

3. Life cycle

Life cycle thinking has always been a prominent logic underpinning eco-design. The SIS Toolkit offers prompts to think about value creation as a function of three generic life stages:

Production (materials use and production process) .4

Distribution and use .5

End of life .6

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