

# Checklist Worksheet

## Needs Analysis

- How does the product system actually fulfill social needs?
- What are the product's main and auxiliary functions?
- Does the product fulfill these functions effectively and efficiently?
- What user needs does the product currently meet?
- Can the product functions be expanded or improved to fulfill user needs better?
- Will this need change over a period of time?
- Can we anticipate this through (radical) product innovation?
- What is the technical lifetime ?
- How much maintenance and repairs are needed?
- What is the aesthetic lifetime of the product?

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## Life cycle stage 1: Prod. & Supply of Materials and Components

- What problems can arise in the production and supply of materials and components?
- How much and what types of plastic and rubber are used?
- How much and what types of additives are used?
- How much and what types of metals are used?
- How much and what other types of materials (glass, ceramics, etc.) are used?
- How much and which type of surface treatment is used?
- What is the environmental profile of the components?
- How much energy is required to transport the components and materials?

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## Life cycle stage 2: In-house Production

- What problems can arise in the production process in your own company?
- How many and what types of production processes are used (including connections, surface treatments, printing and labeling)?
- How much and what types of auxiliary materials are needed?
- How high is the energy consumption?
- How much waste is generated?
- How many products don't meet the required quality norms?

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## Life cycle stage 3: Distribution

- What problems arise in the distribution of the product to the customer?
- What kind of transport packaging, bulk packaging and retail packaging are used (volumes, weights, materials, reusability)?
- Which means of transport are used?
- Is transport efficiently organized?

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#### **Life cycle stage 4: Product Use**

- What problems arise when using, operating, servicing and repairing the product?
- How much, and what type of energy is required, direct or indirect?
- How much, and what kind of consumables are needed?
- What and how much auxiliary material and energy are required for operating, servicing and repair?
- Can the product be disassembled by a layman?
- Are those parts often requiring replacement detachable?

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#### **Life cycle stage 5: Recovery and Disposal**

- What problems can arise in the recovery and disposal of the product?
- How is the product currently disposed of?
- Are components or materials being reused?
- What components could be reused?
- Can the components be disassembled without damage?
- What materials are recyclable?
- Are the materials identifiable?
- Can they be detached quickly?
- Are any incompatible inks, surface treatments or stickers used?
- Are any hazardous components easily detachable?
- Do problems occur while incinerating non-reusable product parts?

**Internal Drivers for Sustainable Design Worksheet**

The internal drivers for product development which can be met by sustainable design are:

Sense of responsibility:

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Increase of quality:

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Image improvement:

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Savings in costs:

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Innovation:

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Increased employee motivation:

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The internal obstacles to design for environment are:

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## External Drivers for Sustainable Design Worksheet

The external drivers for product development which can be met by design for environment are:

Market demands from supply chain:

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Technological innovations of suppliers:

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Market demands from end-users:

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Legislation or regulation:

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Attitude of social environment:

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Activities of competitors:

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Activities of trade organizations:

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Other external drivers:

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## Ecodesign Improvement Options Worksheet

### Ecodesign Strategies

### Improvement Options

1. New Ways of Doing it

- 1.
- 2.
- 3.
- 4.

2. Material Selection

- 1.
- 2.
- 3.
- 4.

3. Materials Usage

- 1.
- 2.
- 3.
- 4.

4. Distribution

- 1.
- 2.
- 3.
- 4.

5. Product Use

- 1.
- 2.
- 3.
- 4.

6. Optimal Life

- 1.
- 2.
- 3.
- 4.

7. End-of Life

- 1.
- 2.
- 3.
- 4.