Sustainable Design Cards
Design

Functional

Emotional

Technical

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Aesthetic Lifetime

Design

Functional

Emotional

Technical
Aesthetic Lifetime

WHAT?
There are different approaches to working with the aesthetic lifetime of a product – for example to ensure that the intended product-lifespan is supported by the product’s aesthetic expression (1), to ensure that a product age without losing aesthetic value (2) or to ensure that intended aesthetic lifetime is aligned within a circular systems thinking (3).

WHY?
The aesthetic lifetime can support product longevity. Aesthetic means can prolong product lifespan when product expression targets user and context of use and aesthetic traces of time and use can add value to a product.

CHALLENGES
– The aesthetic lifetime and aspects that define it are difficult to predict.

EXAMPLES
– Classic and simple aesthetics less influenced by fast changing trends. See e.g. the company Armoire Officielle.
– Aesthetic ‘richness’ that allows the user to ‘read’ and discover a product over time, e.g. through applying craft and couture techniques (Kate Fletcher).
– Working consciously with patina as an aesthetic value, that only increases over time such as full-grain leather and furniture. Someone who works with this is Lovia Collection.

THIS CARD LINKS TO
/ Customisation / Embedded Storytelling / Formal Alteration and Modification

FURTHER READING
Co-Creation

Design

Functional

Emotional

Technical
Co-Creation

WHAT?
The design process is carried out, fully or partly, in collaboration with future users or other relevant actors.

WHY?
Co-creation can support product longevity:
1. Designing for user specific needs and desires.
2. Creating a sense of user ownership to product. Users are less willing to part with products they have invested themselves in developing.

CHALLENGES
– Users may not be conscious about or able to articulate needs and desires.
– Temporal and/or financial limitations within the design process.

EXAMPLES
– Birger Christensen’s past practice of involving users in the design process via dialogue between designer, patternmaker and costumer in the shop and during fitting.
– Lego’s work with online user co-creation called Lego Ideas.

THIS CARD LINKS TO
/ Embedded Storytelling / User Understanding

FURTHER READING
Customisation

Design

Functional

Emotional

Technical
Customisation

WHAT?
Users can influence the final product, before production, in relation to individual user needs and aesthetic preferences.

WHY?
Customisation can support product longevity through stronger user satisfaction and emotional investment.

CHALLENGES
– Users may not want to make choices.
– Requires a user friendly system.
– Requires a flexible production.

EXAMPLES
– Big brands such as Nike offer their users the possibility to personalise their purchase.
– Bow and Drape within high street apparel uses a ‘coffee to go’ strategy, i.e. users choose their own combination of pre-fixed elements.
– In collaboration with the Van Gills Family, the company, September Salon provides a made-to-measure collection.
– Suiting such as by the company Creyate.
– Unmade’s customised knitwear.

THIS CARD LINKS TO
/ Aesthetic Lifetime / E-Shop / Embedded Storytelling / Formal Alteration and Modification / Local Production / Modularity / Production on Demand / User Understanding

FURTHER READING
Design for Disassembly
Design for Disassembly

WHAT?
Working with materials in a manner that allows for material separation once product is discarded or in need of repair.

WHY?
Design for Disassembly can ease and support re-use of materials.

CHALLENGES
Design for Disassembly may challenge the intended design expression and/or economic considerations.

EXAMPLES
– Design that makes it easy to remove and replace product elements that wear out first. This is often seen with i.e. linings in coats, but can also be collars, sleeves or other exposed parts.
– Design that makes it easy for the user to disassemble the product and replace the exact broken part such as the Fairphone (www.fairphone.com).
– Design where materials can be separated and re-used or re-cycled after the product is fully discarded by the user, by avoiding e.g. glues and mixed fibre materials. An example is Herman Miller's Aeron chair.

THIS CARD LINKS TO
/ Modularity / Mono-Material / Upcycling

FURTHER READING

www.sustainabledesigncards.dk
E-Shop

Design

Functional

Emotional

Technical
E-Shop

WHAT?
Online shop and platform that allow customers to purchase products via their computers.

WHY?
An E-shop can support product transparency and economic efficiency through fewer links, increased control and direct communication with users.

CHALLENGES
It might be difficult for users to test and experience the product before purchase if they only meet the product online.

EXAMPLES
- The designer Bruno Pieters uses the e-shop to promote the company/product transparency as his basic approach to design.
- On a larger scale, Marks and Spencer uses their e-shop to tell about their strategic sustainability goal.
- Everlane is another example on a company that is online-based. They have occasional popup events to promote contact with customers and show case products.

THIS CARD LINKS TO
/ Customisation / Information / Production on Demand

FURTHER READING
Embedded Storytelling

Design

Functional

Emotional

Technical
Embedded Storytelling

**WHAT?**
Embedded stories can generate emotional value in a product through
- Stories embedded by the designer.
- Stories embedded by the user via use.

**WHY?**
Emotional value may prolong a product’s overall lifespan by making the user attached to the product.

**CHALLENGES**
- Emotional value is difficult to pinpoint, predict and make tangible.

**EXAMPLES**
- Storytelling embedded by use can be design steered as seen in e.g. the Pandora concept, where each bead represents something, a personal story, to the user.
- Often designers work with some sort of embedded storytelling. This potential can be further activated by
  1. creating diverse types of stories for diverse user groups.
  2. implementing the story embedded in the design in the communication of the design to the intended user.

**THIS CARD LINKS TO**
/ Aesthetic Lifetime / Co-Creation / Customisation / Product History / User Understanding

**FURTHER READING**
Ethical Supply Chain

Design

Functional

Technical

Emotional
Ethical Supply Chain

WHAT?
Initiatives towards responsible labour conditions in a product’s life cycle. This is often incorporated in a company’s corporate social responsibility (CSR) strategy.

WHY?
Focus serves to ensure that workers involved in a product’s life cycle have dignified living conditions in relation to ethical concerns of the industry.

CHALLENGES
– Sub-suppliers do not always share a company’s values; consequently in some places it is necessary to monitor sub-suppliers, which is time consuming and expensive.

EXAMPLES
– The Code of Conduct is based on International Labour Organization (ILO) standards and seeks to protect the workers in manufacturing.
– The organisation, Clean Clothes Campaign, focuses on improving working conditions in the global garment industry.
– The company, Carcel provides jobs and a fair living wage to women in prison in some of the World’s poorest countries
– The company, Fairphone focuses on using materials from conflict-free areas and enabling workers to organise in labour organisations.

THIS CARD LINKS TO
/ Information / Labelling / Local Production / Product History

FURTHER READING
Environmentally Friendly Materials

Design

Functional

Technical

Emotional
Environmentally Friendly Materials

WHAT?
Materials and production methods that in different ways consider the environment in a positive way.

WHY?
Environmentally friendly materials are used to minimize pollution and use of resources in materials and production and disposal.

CHALLENGES
- Environmentally friendly materials can be many things and it is necessary to define aspects for the specific context.
- A product may not necessarily be environmentally friendly even if the material is.
- Environmentally friendly materials might compete with less expensive alternatives.

EXAMPLES
- Use of organic cotton instead of conventionally grown cotton; see e.g. the Danish company Organic Basics.
- Conventional plastics (such as Polyester and Nylon) that are made by using renewable components, see for example the Plantbottle initiative.
- The company Stenpapir has made an alternative to paper made from wood-pulp that is Cradle to Cradle certified.

FURTHER READING

www.sustainabledesigncards.dk
Formal Alteration and Modification

Design

Functional

Technical

Emotional

Emotional

Technical

Functional
Formal Alteration and Modification

WHAT?
Users and specialists to have products adjusted or modified. This can be part of a larger service system.

WHY?
An existing product have a higher use potential and/or emotional value than a new equivalent product.

CHALLENGES
– Lack of specialists and craftsmen.
– How should the service system be created to support this?

EXAMPLES
– Furriers often offer traditional services to do with modification of garments; see for example Maison Lama.
– The American company Runway of Dreams has expanded on the idea by working with modification of garments for people not applying to the ‘fashion-body’ norm, identified as ‘differently abled’.

THIS CARD LINKS TO
/ Customisation / Formal Sharing and Heritage / Informal Alteration and Modification / User Understanding

FURTHER READING
Formal Sharing and Heritage

Design

Functional

Technical

Emotional
Formal Sharing and Heritage

**WHAT?**
Service design systems driven by sharing of products between actors.

**WHY?**
It speaks into the current sharing paradigm that serves to optimise resource use. These kinds of systems focus on user economic and support user diversity.

**CHALLENGES**
- It can be difficult to identify ‘how?’ when a service system is formalised and who it’s for.
- Formalised sharing can require larger data systems to process information on product flows or users.

**EXAMPLES**
- Systems may focus on optimising the use-extent of a product, as seen at textile rental and laundry service company Berendsen.
- Focus on prolonging product lifespan as i.e. the company Re-second, which runs on membership for sharing and swapping products.
- The company Too Good To Go has developed an app where you can find and purchase food from restaurants after closing hours to avoid food waste.

**THIS CARD LINKS TO**
/ Formal Alteration and Modification/ Informal Sharing and Heritage / Rental Service / User Understanding

**FURTHER READING**
Informal Alteration and Modification

Design

- Functional
- Technical
- Emotional
Informal Alteration and Modification

WHAT?
Users adjust and modify products themselves, for themselves and near relations. This is self-driven and un-systematised.

WHY?
To prolong product lifespan and to adapt a product to its changing needs of its users.

CHALLENGES
– It relies partly on the product’s emotional value.
– Many users do not have the necessary skills to make alterations and modifications.

EXAMPLES
– In the project, Local Wisdom, British scholar Kate Fletcher, has documented ways in which users adjust and modify garments over time.
– Blogging and Youtubing about DIY is a growing phenomenon.

THIS CARD LINKS TO
/ Formal Alteration and Modification / Informal Sharing and Heritage / Repair / User Understanding

FURTHER READING

www.sustainabledesigncards.dk
Informal Sharing and Heritage

Design

Functional

Emotional

Technical
Informal Sharing and Heritage

WHAT?
Users that share products in a self-driven and un-systematised manner.

WHY?
This approach taps into the current sharing paradigm that focuses on prolonging the lifespan of a product. Sharing and heritage can be:
1. an economic advantage.
2. a way of passing on/creating emotional value in a product.

CHALLENGES
– Products may not fit new users.
– Unwanted traces of time and use in product may occur such as i.e. smell and stains.

EXAMPLES
– People tend to share products that possess value; emotionally, economically or both such as garments made of fur or baby clothes that are frequently shared due to the short use time and thereby lack of wear and tear. Swapping ‘parties’ are similarly seen as a growing phenomenon. See for example Copenhagen Fashion Exchange.

THIS CARD LINKS TO
/ Formal Sharing and Heritage / Informal Alteration and Modification / User Understanding

FURTHER READING
Information

**WHAT?**
Information on active initiatives in relation to sustainable products.

**WHY?**
Information makes knowledge visible, accessible and transparent to actors such as users, internally within a company and collaborative partners.

**CHALLENGES**
- To make the information comprehensible, attractive and relevant to the user.
- To get the necessary information from sub-suppliers.

**EXAMPLES**
- Information on generic material categories such as at Træ.dk - Danmarks Traeportal.
- Product information as from the company, Neutral selling B2B clothing.
- Strategic information as from the company, Patagonia.
- The company, Everlane has a concept called 'Transparency Tuesday', where they answer questions from customers using Instagram as a platform.

**THIS CARD LINKS TO**
/ E-Shop / Ethical Supply Chain / Maintenance / Labelling / Product History / Repair

**FURTHER READING**
Labelling

Design

Functional

Emotional

Technical
Labelling

WHAT?
Formal information provided by labelling systems. Labelling can inform on aspects such as material composition, production and maintenance.

WHY?
Labelling can represent a guaranty from the user perspective and provide guidelines for the users.

CHALLENGES
– The current labelling ‘jungle’ creates information fatigue.
– Users do not always read the labels.
– Labelling can be costly – especially if the included information is standardized.

EXAMPLES
– In the European Union, there is a regulation, Regulation 1007/2011, on which information that should be included on labels for textiles and clothing.
– An overview on eco labels can be found in the Eco Label Index.

THIS CARD LINKS TO
/ Environmentally Friendly Materials / Ethical Supply Chain / Information / Maintenance

FURTHER READING
Local Production

Design

Functional

Emotional

Technical
Local Production

WHAT?
Production of product placed locally to either development, material production and/or retail.

WHY?
Local production can:
- minimise use of resources i.e. transport costs, CO₂ emission and logistics.
- enable design innovation in collaboration with manufacturers within production.
- support local communities.
- support transparency in the supply chain.

CHALLENGES
Lack of locally situated manufactures in Denmark, Scandinavia and Western Europe due to the general outsourcing.

EXAMPLES
- High-end textiles company, Wallace & Sewell use their choice of local production as part of the product history build-up.
- Local Production can be used to promote and invigorate a specific geographical area through a joint platform, see for example MINYC.
- Adidas has launched a Women's Empowerment Programme to improve knowledge and skills and help female workers within their supply chain.

THIS CARD LINKS TO
/ Customisation / Embedded Storytelling / Ethical Supply Chain / Product History / Production on Demand

FURTHER READING
Maintenance

Design

Functional

Technical

Emotional
Maintenance

WHAT?
Motivate users to maintain products with a low level of energy consumption through:
1. Information and guidelines; low wash temperature, zero tumbling, airing.
2. Choice of material.

WHY?
– The energy consumption in the use/maintenance processes can be minimised with the right handling.
– The product lifespan can be prolonged by handling with care.

CHALLENGES
– Users may not read care labels and are habit driven.
– Users on average have limited knowledge on materials and maintenance.

EXAMPLES
– Japanese brand Konaka has developed a ‘shower clean business suit’.
– Rubber belt drives by the company Gates Carbon Drive that require less maintenance than conventional steel chains.

THIS CARD LINKS TO
/ Information / Labelling / Rental Service / Repair / Technical Durability

FURTHER READING
Modularity
Modularity

WHAT?
Design that is based on a modular approach. A product contains several separable pieces that can be assembled in different ways by the user or a series of individual products that may be purchased and used alone, or collected and assembled in different ways over time by the user.

WHY?
Modularity can support the functional lifespan and overall product longevity. Users can choose to buy products according to individual resources (economy), and users can build up their own selection in their own time. Components can be shared and swapped as well as changed to new ones if they become defect or broken (flexibility).

CHALLENGES
– Users may find it challenging and complicated in use.
– Product continuity is needed to secure user satisfaction.

EXAMPLES
– Modularity understood as bits to be built together by the user such as the garment experiment by Berber Soepboer.
– The platform, Phonebloks informs on companies that work with modular phone concepts.
– The concept, Clouds by Ronan and Erwan Bouroullec in collaboration with Kvadrat provides a customisable sound insulation system.

THIS CARD LINKS TO
/ Customisation / Design for Disassembly / Mono-Material / Production on Demand / Technical Durability / Zero-Waste

FURTHER READING
Mono-Material

Design

Functional

Technical

Emotional

Emotional
Mono-Material

**WHAT?**
A product that is composed of a single type of material or a product with components that each are made of a single type of material and that can be split apart.

**WHY?**
Mono-materials can ease material re-use and recycling of a product.

**CHALLENGES**
- There are limited possibilities for re-utilisation due to lack of facilities that process into new high value materials.
- Compromises on for example functionality and quality of the product may be necessary.

**EXAMPLES**
- Mono material can be a creative constraint and concept, see for example Pleats Please made in 100% polyester by Issey Miyake.
- The chair, Nobody by Komplot Design is produced in 100% polyester fibre mat without any additives or additional materials for assembly or reinforcement.

**THIS CARD LINKS TO**
/ Design for Disassembly / Modularity / Re-Use / Up-Cycling

**FURTHER READING**
Multi-Functionality

Design

Functional

Emotional

Technical
Multi-Functionality

**WHAT?**
Product that can serve multiple functions for one or for several users:
1. Transformation of function.
2. Transformation of function to context.
3. Transformation to body-type.

**WHY?**
Multi-functionality can minimise use of resources by optimising product usability.

**CHALLENGES**
- It demands user friendly design.
- It creates a risk of low product functionality overall.

**EXAMPLES**
- Multi-gender garments such as Weekday’s S(HE) product line or the garment subscription service Good Practice.
- The EMPWR Coat by The Empowerment Plan is a jacket that can transform into a sleeping bag initially developed to help homeless people (www.empowermentplan.org).

**THIS CARD LINKS TO**
/ Repair / User Understanding

**FURTHER READING**
Product History

WHAT?
Articulation to create transparency on product history regarding development, production and potential former use.

WHY?
Visible and transparent product history supports emotional attachment between the product and the user.

CHALLENGES
– Information must be sorted and selected and who decides what is relevant?
– Credibility can be challenged on how to avoid, or inform on, information biases.

EXAMPLES
– High-end textiles company Wallace & Sewell use their choice of local production as part of the product history build-up.
– Material origin: The Wild Concept as the story of fur design based on hunted fur bought of local hunters made by Marita Huurinainen.
– The company, Lovia Collection work with a 'product DNA' to demonstrate the complexity of the fashion industry and to provide transparency in the supply chain.

THIS CARD LINKS TO
/ Embedded Storytelling / Ethical Supply Chain / Information / Local Production

FURTHER READING
Production on Demand

Design

Functional

Emotional

Technical
Production on Demand

WHAT?
Production of product only takes place after a user has placed an order. The concept is also called Manufacturing on Demand (MoD) and Demand-driven Manufacturing (DdM).
An alternative approach to Product on Demand is using crowdfunding platforms to ensure a customer demand before initiating production.

WHY?
Less over-production can reduce overall resource wastage.

CHALLENGES
- The user may find it difficult to understand the product if it is not physically available.
- Users must be patient due to increased time between purchase and possession for user.

EXAMPLES
- The Danish Company EE12 produces garments to order and have minimal stock.
- The British company Unmade produces on demand knitwear.
- Small scale cultural initiatives and media productions such as publications and podcasts that have been funded on Kickstarter and Indiegogo. See for example the podcast, 99% Invisible.

THIS CARD LINKS TO
/ Customisation / E-Shop / Local production / Modularity

FURTHER READING
Rental Service

Design

Functional

Emotional

Technical
Rental Service

WHAT?
Re-use of products through rental services such as subscription services and leasing. Rental services as a concept is part of the sharing economy societal paradigm.

WHY?
Rental service models can minimise use of resources by potentially extending the product lifespan.

CHALLENGES
– Products should be designed for extensive use, which can be a design challenge.
– Users may not want to pay for used products.

EXAMPLES
– Rental services can offer complete solutions, like the subscription based baby clothing company Vigga.
– Rental services may provide single items such as designer bags from rentabag.dk.
– Belgian company Mud Jeans leases jeans made of organic and recycled cotton for a monthly fee.

THIS CARD LINKS TO
/ Formal Alteration and Modification / Maintenance

FURTHER READING
Repair

WHAT?
Self-driven product repair carried out by users can be supported via the product.

WHY?
Repairs can prolong the product lifespan. This can be motivated by user economy, ideology and/or emotional attachment to a product.

CHALLENGES
– User skills might be limited.
– It can be difficult to get hold of spare parts.
– Users might experience lack of motivation.
– Inexpensive items may not motivate repair.

EXAMPLES
– Online communities for all types of repair is a growing phenomenon such as ifixit.com.
– Websites where users share very basic craft skills for repairing clothes, such as on Lifehacker.
– Christopher Ræburn's remade-reduced-recycled initiative has created the Raeburn Repairs open day, where customers can bring items for repair free of charge.

THIS CARD LINKS TO
/ Informal Alteration and Modification / Information / Maintenance / Multi-Functionality

FURTHER READING
Re-Use Design

Functional

Emotional

Technical
Re-Use

WHAT?
Re-use of products and materials based on a deposit system.

WHY?
Re-use can minimise use of resources as they will be used again instead of becoming waste. Re-use can also prolong a product lifespan.

CHALLENGES
- It requires systems that are easy to engage with for users in everyday life.

EXAMPLES
- Re-use of a product in its original form, similar to the Danish bottle deposit system, Dansk Retursystem.
- Re-use of a product material, similar to H&M in collaboration with I:CO-Systems; bring a bag of clothes to the store and get money off.

THIS CARD LINKS TO

FURTHER READING
Technical Durability

WHAT?
To align a material’s durability with the intended product lifespan with respect to functional properties such as abrasion, tearing strength and ageing.

WHY?
By optimising or estimating the product lifespan, use of resources can be minimised. Furthermore this can ensure the right material choice. One example could be that for disposable products (like a paper plate) a criterion may not be long lasting but compostable.

CHALLENGES
– It can be difficult to estimate wear and tear in use contexts.
– It can be costly and troublesome to perform standardised tests.

EXAMPLES
– Waste management plastic bags made of Mater-Bi by Novamont are biodegradable and compostable.
– Product and material specifications that define performative properties, such as abrasion (e.g. ISO 12947-1:1998) and tearing resistance and dimension stability (e.g. ISO 6330:2012).

THIS CARD LINKS TO
/ Maintenance / Modularity / Re-Use

FURTHER READING
Up-Cycling

Design

Functional

Technical

Emotional
Up-Cycling

WHAT?
To inject new and higher value to a used, and possibly discarded, product through design.

WHY?
Cradle to Cradle considerations to minimise use of resources.

CHALLENGES
– It can be difficult to ensure clean material fractions.
– Access to and development of up-cycling supportive technology are limited.
– It can be difficult to define what ‘higher value’ is.

EXAMPLES
– Patagonia’s fleece jumper is made of old plastic bottles (https://www.patagonia.com/recycled-polyester.html).
– The company, Econyl collects nylon waste and processes it into new fibers and products.
– In the initiative, Nike Grind old sneaker soles are transformed into turf surface material.
– The material Newspaperwood from Vij5 is made out of old compressed newspapers (http://vij5.nl).

THIS CARD LINKS TO
/ Design for Disassembly / Mono-Material / Re-Use

FURTHER READING
User Understanding

Design

Functional

Emotional

Technical
User Understanding

WHAT?
To understand intended and/or a potential user regarding for example values, economic resources, physique (age and body shape) and or practical life/product use context.

WHY?
Understanding the user can prolong product lifespan through:
– Enhanced product/user match.
– Meeting diverse user needs.

CHALLENGES
– It can be a challenge to incorporate users and user understanding into design processes.

EXAMPLES
– Danish baby clothing company, Vigga base their business model on in-depth user understanding and community building.
– The Nike Flyease has been specially developed for athletes of all abilities and ages making them easier to take on and off.

THIS CARD LINKS TO
/ Co-Creation / Customisation / Embedded Storytelling / Formal Alteration and Modification / Formal Sharing and Heritage / Informal Alteration and Modification / Informal Sharing and Heritage / Multi-Functionality / Re-Use

FURTHER READING
Zero-Waste

WHAT?
To optimise the use of material in production and use. In the apparel industry this can correlate to optimising material usage through pattern construction.
2. Full use of own or others material scraps for other purposes.

WHY?
Working with a zero-waste approach can minimise material waste.

CHALLENGES
– It may demand aesthetic compromises.
– It can be difficult to get access to material ‘left overs’.

EXAMPLES
– The production techniques used to manufacture Nike Flyknit sneakers minimise excess materials.
– The company, Carcel works with fully fashion knit as a way to eliminate waste and save valuable materials in production.
– 3D printing techniques that can be applied for multiple materials offer efficient use of materials as well as potential reuse of excess materials. See for example the company, Materialise (e.g. www.materialise.com).

THIS CARD LINKS TO
/ Modularity / Mono-Material / Multi-Functionality / Re-Use

FURTHER READING
Design

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WHAT?

WHY?

CHALLENGES

EXAMPLES

THIS CARD LINKS TO

FURTHER READING

www.sustainabledesigncards.dk
Design

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Materials

- Ethical Supply Chain
- Environmentally Friendly Materials
- Labelling
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- Product History
- Technical Durability
- Up-Cycling
Production

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Production

- Customization
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- Production on Demand
- Technical Durability
- Up-Cycling
- Zero-Waste
Transport and Retail

Design

Functional

Emotional

Technical
Transport and Retail

- E-Shop
- Ethical Supply Chain
- Information
- Labelling
- Local Production
- Production on Demand
- Rental Service
User and Practice

Design

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User and Practice

- Aesthetic life time
- Co-Creation
- Customization
- Embedded Storytelling
- Information Alteration and Modification
- Informal Sharing and Heritage
- Maintenance
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- Product History
- Repair
- Re-Use
- User Understanding
Recovery

- Design for Disassembly
- Environmentally Friendly Materials
- Ethical Supply Chain
- Formal Alteration and Modification
- Formal Sharing and Heritage
- Informal Sharing and Heritage
- Labelling
- Mono-Material
- Rental Service
- Re-Use
Design and Concept

Design

- Functional
- Technical
- Emotional
Design and Concept

- Co-Creation
- Customization
- Design for Disassembly
- Embedded Storytelling
- Formal Alteration and Modification
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- Maintenance
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- Mono-Material
- Multi-Functionality
- Rental Service
- Technical Durability
- Up-Cycling
- User Understanding
- Zero-Waste
The collection of cards introduces and describes selected approaches to sustainability within design. The cards have been developed as an inspiration and methods toolkit to be used in sustainable design practice.

The cards are distributed in six categories that together account for the stages in a product life cycle.