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REPORT

The sustainability
toolbox

“Green Textiles Guide”

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Contents

About the tool	1
background.....	1
aim	1
method	2
results and discussion.....	4
Clarifying sustainable fashion	5
three aspects of sustainability	5
sustainability support tools	6
Frequently Asked Questions (FAQ) about sustainability and fashion	8
Designer	13
designer strategies.....	14
designer tools	17
Supply	19
supply and marketing strategies	20
Supply and marketing tools.....	22
Kläder & Miljö	24
strategier för konsumenter	25
verktyg för konsumenter	28
References	31

About the tool

The Green Textiles Guide is a result of the Swedish research programme Mistra Future Fashion, project 4 (P4) **called** "Moving towards eco-efficient textile materials and processes". For more information about Mistra Future Fashion, see the website (<http://mistrafuturefashion.com/>).

This report summarizes the content of the Green Textiles Guide, which is a prototype set of online tools (Deliverable 4.7) developed in project 4 (P4). The prototype toolbox is available at <http://extra.ivf.se/mifufa/>. This report is also downloadable from the website.

The toolbox is based on strategies and tools for three different roles and contains also a **generic module based on the results from project 2 (P2) on "clarifying sustainable fashion"**:

- Generic information -> **"clarifying sustainable fashion"**
- Designers and product developers -> **"designer"**
- Supply chain managers, marketing managers, buyers and procurers -> **"supply"**
- Consumers -> **"Kläder & Miljö" (this part is in Swedish)**

The results are presented for each of these sections in this report.

background

Several different approaches exist to guide designers and procurers who wish to include sustainability considerations in their fashion designs and purchase of textiles. These range from simple checklist approaches through simplified stand-alone tools to quantitative sustainability metrics embedded in existing computer-aided design tools. All these examples may be relevant at different organizations as well as stages of design or to the design of different classes of product.

aim

The construction of tools to support designers, procurers and consumers need to be developed in dialogue between the tool makers and the end-users, the designers, procurers, consumers. In this project, the researchers has engage with the consortium partners in Mistra Future Fashion as well as companies from the Swedish Chemicals Group at Swerea IVF (<http://kemikaliegruppen.se/>) and other stakeholders to canvas the opinions of as many of the involved persons as possible regarding what information in what format would be most useful for influencing their activities in the direction of sustainability.

The aim was to create a prototype set of online tools to provide a common basis for discussion and illustrate potential directions with designers, procurers and consumers.

method

gap analysis

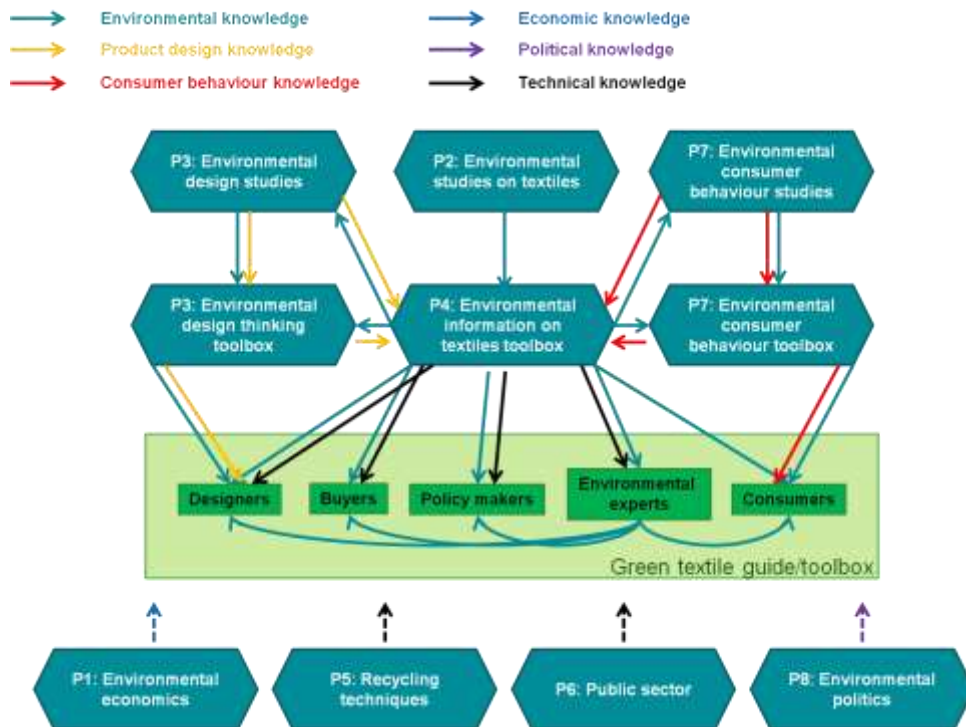
One of the research aims in P4 was to develop support tools for the fashion industry and the public sector. Within the project we wanted to fill a gap in the currently existing multitude of tools. Therefore an overview of the existing tools was made, identifying that different tools have different functions, such as inspiring, educating or measuring.

A couple of current gaps were identified as:

- Quantitative footprint tools
(qualitative measurements means that you cannot compare how large the impact is from e.g. pesticide use in agriculture compared to impact from waste water emissions at a dye house, or even compare production phase with the use phase.)
- Whole life cycle coverage
(Looking at just one part of the life cycle might lead to suboptimization.)
- Lack of important environmental parameters
Toxicity and land use are often not described together with climate change, water etc.
- Seldom links between product level and societal level.
- Lack of information in Swedish.
(Which is why consumer information "**Kläder & Miljö**" is in Swedish)

We have tried to fill some gaps within the project, and constructed this Green Textiles Guide where users can find relevant information depending on their role; consumer, designer, supply chain/marketing manager or environmental expert.

The figure below shows the tool development in the different Mistra Future Fashion projects and how they are interlinked.



The tool development in the different projects and how they are interlinked.

The tools from the other projects in Mistra Future Fashion are accessible from the toolbox website.

development work

The toolbox was developed in dialogue with different stakeholders: the advisory group for P4, including the Swedish Textile and Clothing Industries' Association TEKO¹ and the Swedish School of Textiles at the University of Borås², Kulturen i Lund³ and the companies in the Swedish Chemicals Group at Swerea IVF⁴.

A workshop was carried out with the Swedish Chemicals Group at Swerea IVF on November 13, 2013, to establish the need for information and tools. The opinions of this group on both format and content of the information were then used as a basis for the tool development. In September 2014, the result from the life cycle assessment (LCA) in project 2 was presented to the Swedish Chemicals Group at Swerea IVF, followed by a discussion on usability of the results. The Swedish Chemicals Group at Swerea IVF meets 6 times a year and many informal discussions have continuously been carried out. A second test round was carried out in May 2015 with ten pilot test persons from the Swedish Chemicals Group at Swerea IVF.

¹ <http://www.teko.se/>

² <http://www.hb.se/en/The-Swedish-School-of-Textiles/>

³ <http://www.kulturen.com/>

⁴ <http://kemikaliegruppen.se/>

The toolbox played a part at the exhibition at Kulturen i Lund on fashion design, where Mistra Future Fashion was asked to contribute with an environmental module. Therefore **the consumer part of the toolbox “Kläder & Miljö” was developed in Swedish**. The toolbox was further asked to be presented to the public at a seminar on November 12, 2014, to **the Kulturen i Lund exhibition “Gudrun Sjödén – 40 år av skapande” with around 30 participants**.

Two members of the Mistra Future Fashion consortia, Swerea IVF and SFA were further involved in a project called Forward Learning (FW:learning) about collaborative learning in the supply chain. The valuable experiences and the format of learning that has been expressed as the wish of the companies involved in FW:learning were incorporated in P4.

results and discussion

The resulting tool is summarised in the sections below.

The second test round, of the finished prototype tool, showed that the original aim, to create a prototype set of online tools to provide a common basis for discussion and illustrate potential directions, proved to generate many comments, those who were most commonly occurring were:

- More facts about textile processes and their impact is requested
- The amount of information is overwhelming
- Good with division into the different user roles

In several cases, the tool in its current state was said to fill some of the current needs of the companies, although it is only developed as a prototype. The two first comments points to the traditional dilemma, that there is often a need for more detailed information, but the amount of information can on the other hand easily be overwhelming.

The comments on content, format and other recommendations will be taken into account in future work, both regarding knowledge development and support tool development.

Clarifying sustainable fashion

Sustainability is interpreted differently by different people. The Green Textiles Guide presents the interpretation resulting from the research programme Mistra Future Fashion and give possibility to discuss what are sustainable textiles in the website forum.

In this chapter is presented a general clarification about Three aspects of sustainability and Sustainability support tools and then Frequently Asked Questions and their answers.

three aspects of sustainability

sustainability in terms of life cycle perspective

It is important to have a life cycle approach when designing or selecting clothes - otherwise you risk constructing or buying a garment that may be good for the environment in Sweden, but destroys the environment elsewhere. Clothes have a life cycle that includes: production of raw materials, manufacturing of garments, use of garments and waste disposal.

sustainability in terms of safe guard objects

Environmental impact can be many different things: climate, water, land use, emissions of toxic substances and many more things. A definition of sustainability is needed to take into account all these environmental categories.

sustainability in terms of environmental targets and thresholds

Many studies of the environmental impact of apparel are made on one garment at a time, from a micro-perspective. It is difficult to get an overall picture of the impact of how the entire Swedish clothing consumption contributes to the societal level, from a macro-perspective. In Mistra Future Fashion we have tried to do just that, and one of the most exciting insights we have gained from this is that there are not days enough of a year for us to be able to wear out all of the 50 new garments we consume per year!!!

sustainability support tools

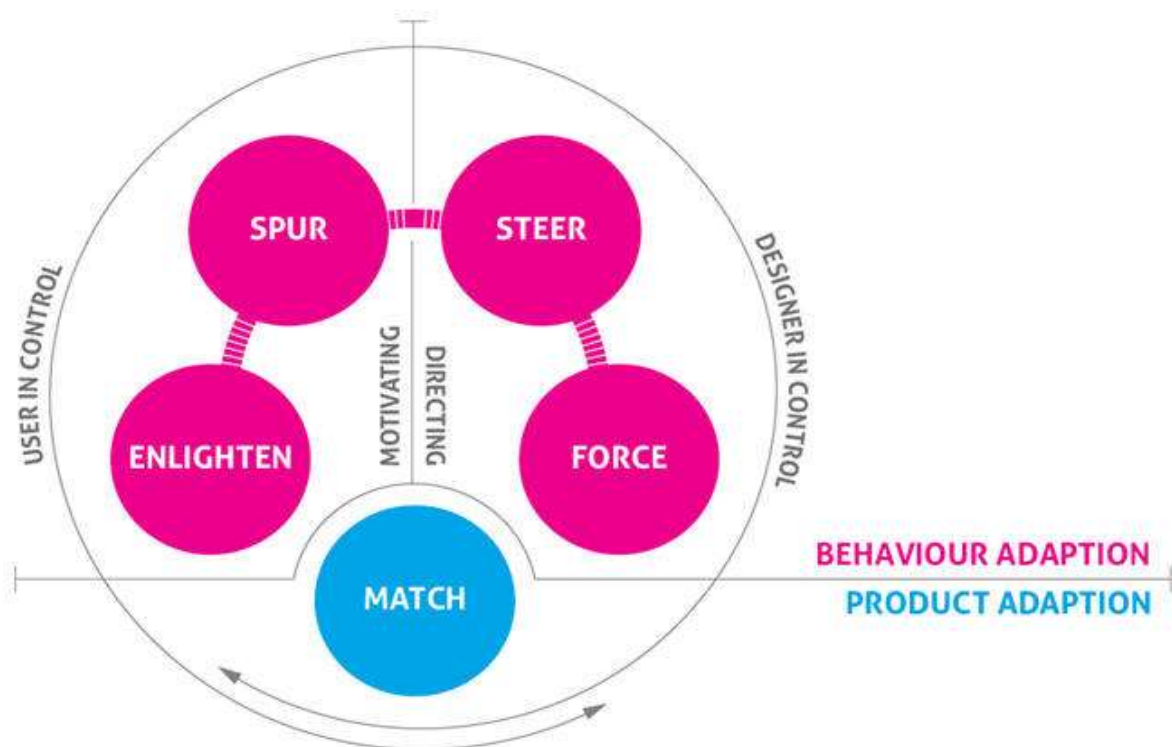
The concept of sustainability support tools is clarified in the Green Textiles Guide.

What is a tool and what can it do?

A sustainability support tool can be anything that simplifies the sustainability work: checklists, softwares, networks, environmental assessment methods, ecolabels, legislation etc. There are over 1000 sustainability tools available for free or against payment. This page intends to give an overview to the concept of sustainability support tools in terms of the different functions, scope and users they are designed for. Examples of and links to different textile tools can then be found under respective user in the left column.

Tools have different functions

Tools can have many different functions to start with. The Chalmers researchers Lidman and Renström have categorized different functions in their strategy wheel that is seen in the picture below.



© KARIN LIDMAN, SARA RENSTRÖM 2011

The Strategy Wheel, from Lidman and Renström, 2011.

The Green Textiles Guide can be seen as an example of a tool that intends to enlighten the users. Environmental labels such as Oeko-Tex or GOTS are examples of tools that aim to spur consumers to buy environmentally friendly products. The TED's TEN is an example of a tool that can steer product developers towards more sustainable decisions.

Legislation is an example of a tool that aims to force companies to act more sustainable.

	Management tools	Footprint tools	Websites	Networks
Educate / Disseminate knowledge	YES	YES	YES	YES
Measure sustainability	NO	YES	NO	NO
Steer towards sustainability	YES	NO	YES	YES
Tell success stories	NO	NO	YES	YES
Create motivation for change	YES	YES	YES	YES

Five different functions of tools and examples of tools that can provide these functions.

Frequently Asked Questions (FAQ) about sustainability and fashion

The website contains an FAQ where facts about common questions about clothes and the environment are presented:

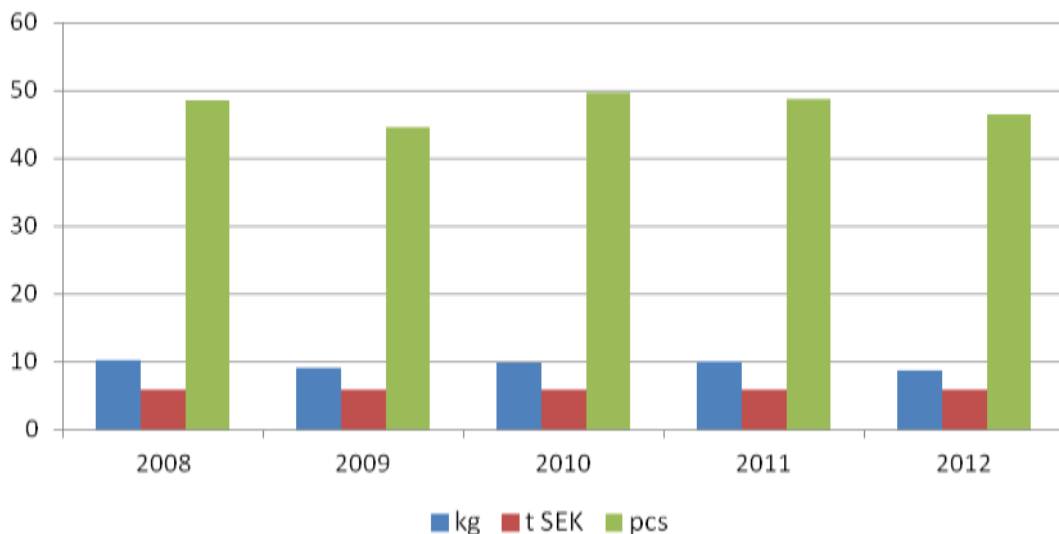
1. How much clothes do we consume in Sweden?
2. What is sustainable fashion?
3. Which has highest environmental impact – producing or using clothes?
4. Is the trend that we consume more or less clothes?

1. How much clothes do we consume in Sweden?

Statistics from Statistics Sweden (SCB) show that the annual consumption (year 2008-2012) of new clothes for an average Swedish are:

- 50 pcs (pieces of garments can be anything from a pair of socks to a jacket)
- 9-10 kg
- 6000 SEK (Swedish corona)

Annual consumption per capita



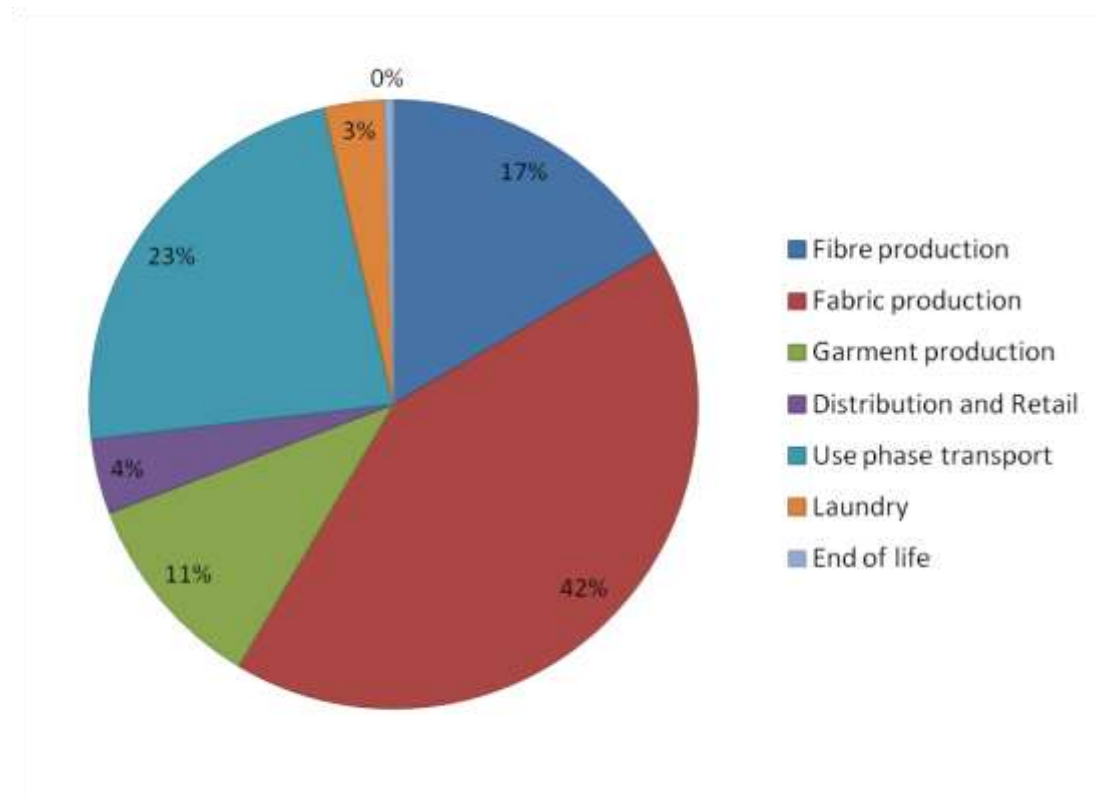
Swedish fashion consumption per capita, 2008-2012

2. What is sustainable fashion?

Sustainability and environmental performance are terms that mean different things to different people. This guide contains a clarification of what sustainable fashion is (in this case environmentally sustainable), developed by Mistra Future Fashion. There is probably no right answer but in Mistra Future Fashion the researchers have tried to define sustainability in the Swedish apparel industry through three concepts: life-cycle thinking, eco-categories and macro perspective (see page 5).

3. Which has highest environmental impact – producing or using clothes?

The picture below shows the climate impact for producing, using and disposing of clothing for an average Swede during one year.

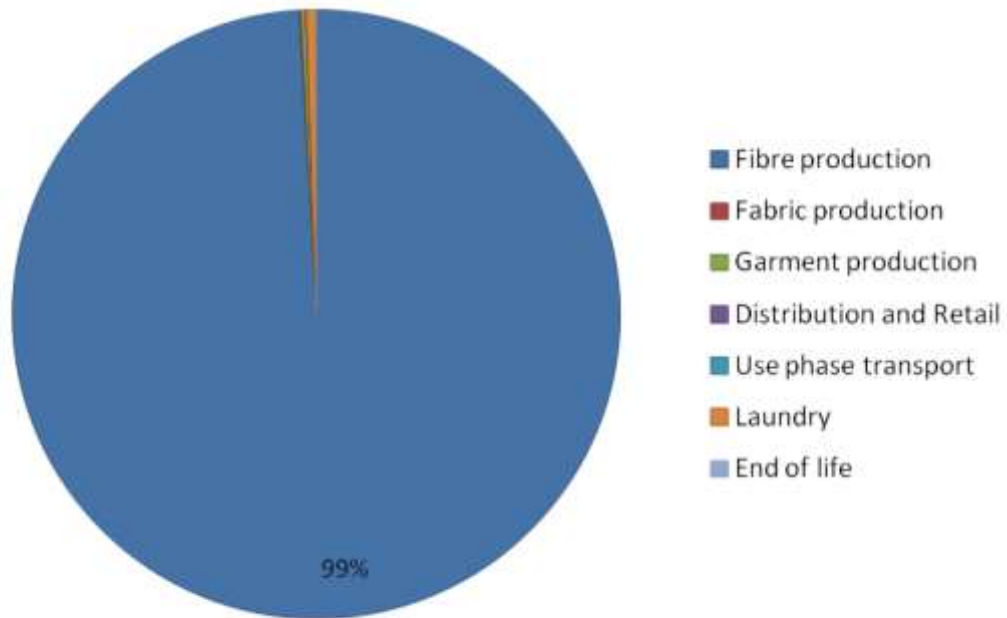


Climate impact in the life cycle of garments

When we use the life-cycle perspective, we can clarify that the production (fibre 17%, textile production 42% and garment construction 11%) accounts for the largest share of the climate impact. The consumer transport to and from the store stands for 23% of the life cycle climate impact (50% of consumers go there by car and 50% by bus in the model). The figures are based on data from Statistics Sweden (Statistics Sweden, 2014) and the consumer survey (Granello, Jönbrink, Roos, Johansson, & Granberg, 2015) and the life cycle assessment (Roos, Sandin, Zamani, & Peters, 2015) performed within Mistra Future Fashion.

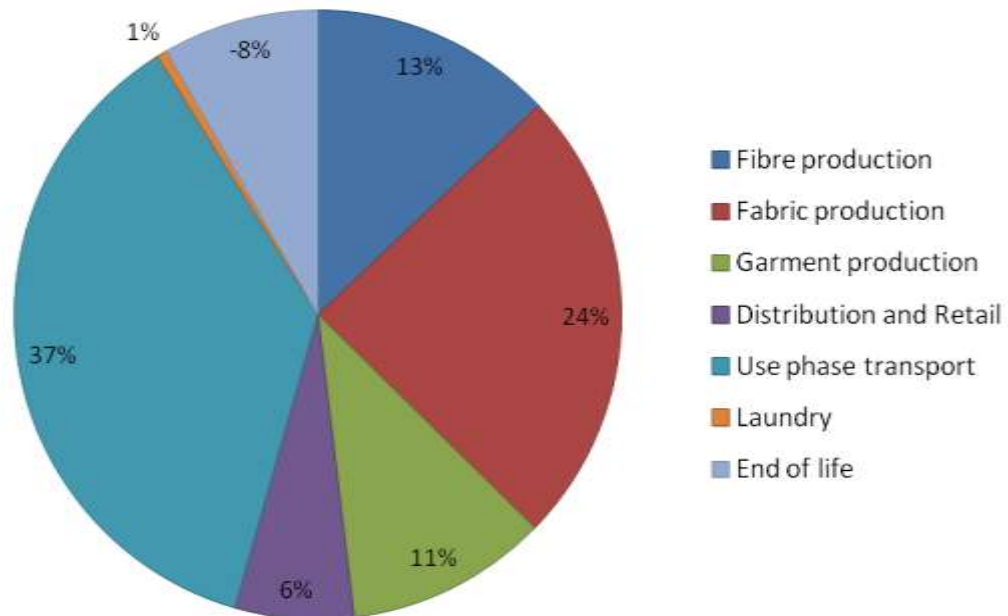


If we instead look at the depletion of freshwater resources for producing, using and disposing of clothing for an average Swede, the fibre production dominates totally, since Swedish garment consumptions is to a large extent cotton garments.



Freshwater depletion in the life cycle of garments

If we instead look at the use of primary energy resources for producing, using and disposing of clothing for an average Swede, the largest portion of environmental impact is actually caused by the consumer transport to and from the store.



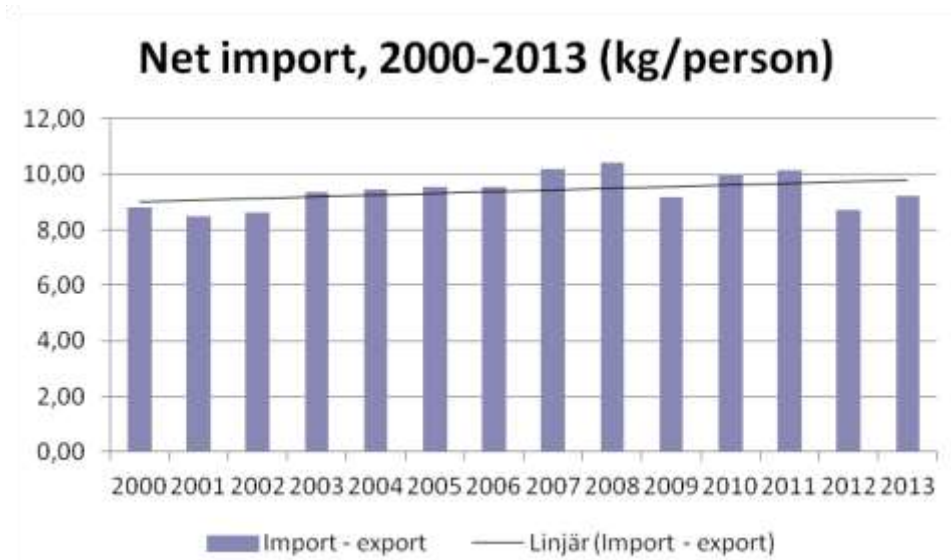
Primary energy use in the life cycle of garments

It is not entirely surprising if we consider that we may drive a car that weighs around 1 tonne a couple of kilometers, in order to buy a T-shirt of 110 gram!!! In the LCA study it is assumed that 50% of the consumers go to the shop by car and 50% by bus, which was the most common transport modes according to the consumer survey.



4. Is the trend that we consume more or less clothes?

Statistics can be difficult to interpret, when we look at the years 2000-2013 we see a slight increase in net imports of garments.



Net import of garments to Sweden, 2000-2013.

If we look at only the last years, from 2011 to 2013, we see a decrease, but if it is a short term dip or a long term change in trend is not yet known.

Designer

What can a designer do to increase the sustainability of textiles?

Choose eco-friendly materials? Design for increased life-length? What will impact the environmental performance most?

There are several different strategies in use among designers today, and in the Designer strategy section you can get inspiration to choose a strategy that suits your situation and needs or share your own strategy with others!

What designer tools are there?

The Designer tool section will present current commonly used sustainability tools for textile designers.

designer strategies

Five different strategies are presented here, LCA-based ecodesign and then four simplified design strategies: Design for long life products, Design for short life products, Design for chemical sustainability and Design for circularity. Combinations are desirable when possible.

LCA-based ecodesign

The definition of ecodesign according to the Ecodesign Directive 2009/125/EC (European Commission, 2009) is “the integration of environmental aspects into product design with the aim of improving the environmental performance of the product throughout its whole life cycle”. The knowledge about the environmental performance is commonly acquired by performing an LCA study, as has been made also in the Mistra Future Fashion programme (Roos et al., 2015). **In the section above called “Clarifying sustainable fashion”, some of the general findings from the LCA study are presented:**

- Reduce the use of conventional cotton.
The fibre production stands for around 10-20 % of the total life cycle impact of a garment and the textile production processes for around 50%, so fibre choice is less important than a sustainable supply chain, with one exception – conventional cotton – that dominates both water use and ecotoxicity. Consider if alternative materials can be used.
- Increase the service life of the garment.
The main environmental burden of the garment life cycle lies in the production **phase, see strategy “Design for long life products” below** for more details.
- Collaborate with the supply chain.
Consider if the design requirements can be enough flexible to enable the producer to select the most environmentally friendly option and avoid routine based excessive demands concerning:
 - Trim items, prints, finishings etc.
 - Water and soil repellence
 - Nuance tolerance

Note that the environmental performance of different materials depends on the production process and the environmental performance can vary with several orders of magnitude between different supply chains – even though the ready-made material looks and feels exactly the same. It should also be noted that life cycle assessment has still some weak points in assessing textiles, especially for effects from chemicals and land use change (Roos, 2015; Sandin, Peters, & Svanström, 2013).

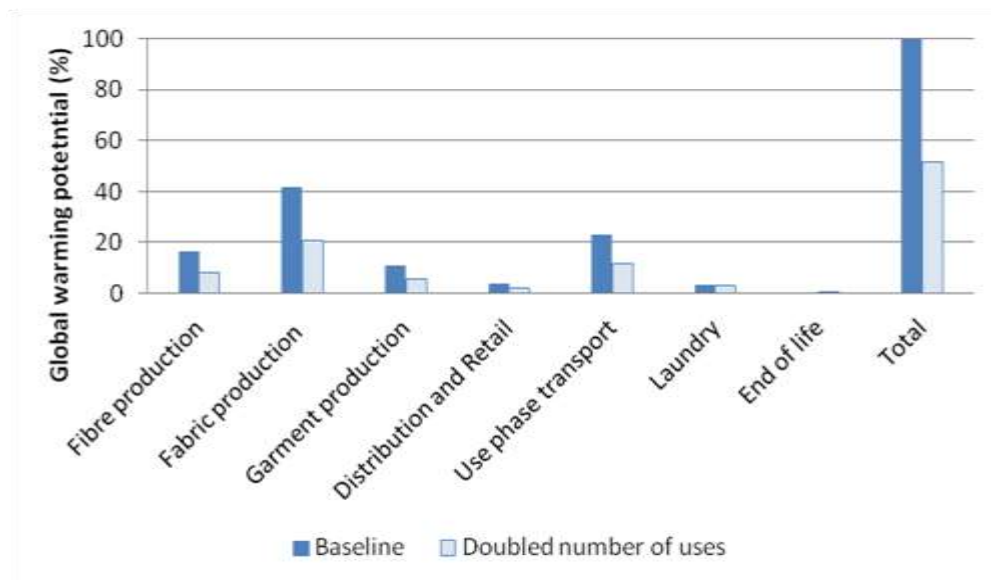
In order to reduce the environmental impact of a certain garment, the supply chain in question should be optimized. This means that the designer need to collaborate with the supply chain manager and buyers to choose materials that are produced in an environmentally friendly way.

Design for long life products

The main environmental burden of the garment life cycle (see pages 7-9) lies in the production phase.

For climate change the total burden connected to production and purchase of the garment was calculated to 97 %, including fibre production, fabric production, garment **making, distribution and retail, and the consumer's transport to and from the store.** For water consumption, the total burden connected to production and purchase of the garment was calculated to 99 %.

If we look in a life cycle perspective, we can divide the impacts from production and purchase with the number of uses and let each use bear a share of the impact. The figure below show what happens with the environmental impact per use when the number of uses is doubled.



the impact of long life design

This means that if we can double the life time, we will almost decrease the environmental burden by half!!!

For increased life length of garments, strategic designer/product developer decisions can be to work with:

- Classic design
- Increased material strength
- Reduced pilling
- Reduced colour fading
- Choice of colour, less sensitive to stains
- Etc.

Design for short life products

The main environmental burden of the garment life cycle (see page 2) lies in the production phase. For fast fashion garments that are designed for a short life, the production processes with smallest environmental impact are preferable.

For increased life length of garments, strategic designer/product developer decisions can be to work to:

- Avoid cotton fibres, use forest based fibres (viscose, lyocell) if possible
- Create knitted products instead of woven to save energy in the production phase
- Avoid unnecessary finishing
- Increase the nuance tolerance to avoid repeated dyeing processes
- Etc.

Design for chemical sustainability

The health and environmental impacts from use and emissions of chemicals is perhaps the most important environmental aspect in the textile industry.

For sustainable use of chemicals in the textile industry, strategic designer/product developer decisions can be to work to:

- Avoid components known to often contain toxic plasticizers, such as plastisol prints, PVC coatings etc.
- Avoid unnecessary high demands on water and soil repellence
- Avoid all unnecessary finishing
- Increase the nuance tolerance to avoid repeated dyeing processes
- Choose processes for adding colour to textiles with least environmental impact
- Etc.

Design for circularity

The use of fossil resources is contrary to many sustainability visions, and the need for a circular thinking about our resources is growing more and more important.

For circular design in the textile industry, strategic designer/product developer decisions can be to work to:

- Use biobased and sustainable fibres, such as organic cotton, viscose, lyocell etc.
- Use recycled materials
- Design products to be recyclable
- Etc.

It should be noted that the environmental benefits from recycling arise when recycled material substitute the production of new materials. The recycling processes must therefore be less resource demanding and cause less pollution than the production of new materials!

designer tools

There are many different kinds of sustainability tools. In the design work, two major questions have been identified:

1. *What can I do to decrease the environmental impact?*
For example: are there other options than using organic cotton?
2. *How much do my choices decrease the environmental impact?*
For example: does it matter most which material I choose, how the material is produced or how the consumer treats it?

The first question is answered by so called "Management tools" and the second is answered by so called "Product footprint tools".

(Tools for communication, such as KPIs, ecolabels and EPDs can be found under the Supply and Marketing tools section.)

Table 1. Overview of designer tools.

Management tools		Product footprint tools	
Answers the question: What can I do to decrease the environmental impact?		Answers the question: How much do my choices decrease the environmental impact?	
Examples of management tools	Organization behind	Examples of product footprint tools	Organization behind
Higg's Index	SAC	Material Sustainability Index (MSI)	Nike/SAC
Chemicals Management Module	OIA/SAC	Product Environmental Footprint	European Commission
TED's TEN	UAL	Ecometrics	Colour Connections
More sustainability tools for designers are presented below in alphabetic order.			

other tools

- AFIRM Supplier RSL Toolkit, support tools to work with hazardous chemicals issues in the supply chain
- Ecodesign Maturity Model (EcoM2), a model to select the most proper tool for the company's ecodesign process,

In addition there are also other tools that can help you 1) create motivation for change, 2) educate your suppliers 3) ecolabel your products etc., see the general Tool section.

useful links

- The Smart Time, guide to textile processing (<http://www.thesmarttime.com/>)
- Sustainable Apparel Coalition (SAC), global textile industry network for sustainability work (<http://www.apparelcoalition.org/>)
- AFIRM, global apparel and footwear industry network for RSL work (<http://www.afirm-group.com/>)
- The Swedish Chemicals Group, Swedish/Nordic industry network for chemicals issues in textiles and electronics (<http://www.kemikaliegruppen.se/>)
- Nätverket för miljöanpassad produktutveckling (MPU), Swedish industry network for ecodesign (<http://www.swerea.se/sv/ivf/IF/Natverket-for-miljoanpassad-produktutveckling/>)
- Sustainable Fashion Academy (SFA), Swedish educational company for sustainability in the textile industry (<http://www.sustainablefashionacademy.org/>)

Supply

What can supply chain managers, marketing managers, buyers and procurers do to increase the sustainability of textiles?

Buy and market ecolabelled materials? Set stricter requirements on chemical content? What will impact the environmental performance most?

There are several different strategies in use for supply chains today, and in the Supply and marketing strategy section you can get inspiration to choose a strategy that suits your situation and needs or share your own strategy with others!

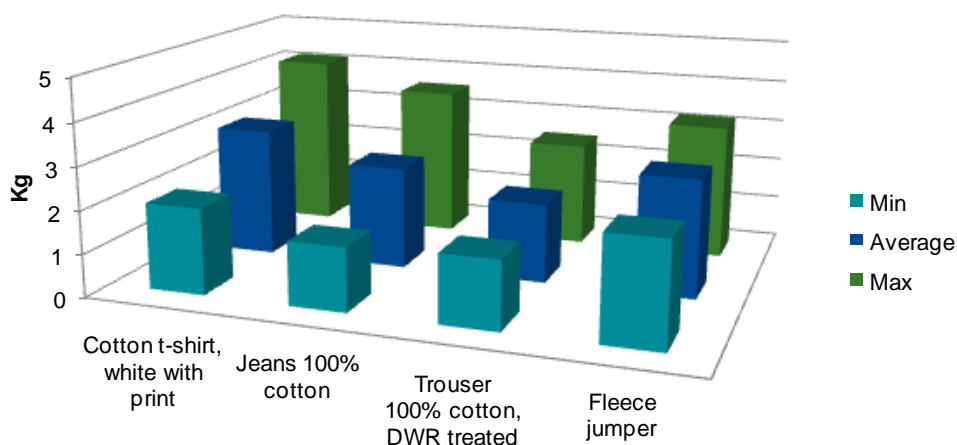
What supply chain tools are there?

The Supply and marketing tool section will present current commonly used sustainability tools for textile supply chain actors.

The environmental performance depends more on the supply chain than on the material

The environmental performance of different materials depends on the production process and the environmental performance can vary with several orders of magnitude between different supply chains – even though the ready-made material looks and feels exactly the same. Knowledge about the own supply chain is therefore key to sustainable products. The figure below from Roos (2015) shows the use of chemicals (in kg, no consideration of toxicity included) in different supply chains and for different materials. The use of chemicals depend more on the supply chain than the material (Olsson, Posner, Roos, & Wilson, 2009).

Use of chemicals (in kg) per kg garment



The use of chemicals depend more on the supply chain than on the material

supply and marketing strategies

Four different strategies for supply chain sustainability are presented here: 1) Collaborative supply chain, 2) Labelling and certification, 3) Networking and 4) Legal compliance. Combinations are desirable when possible.

Collaborative supply chain

The collaborative supply chain strategy includes to make use of the competence in the supply chain and consider if the requirements on your supplier regarding design and time schedule can be flexible to enable the producer to select the most environmentally friendly option and avoid routine based excessive demands concerning:

- Trim items, prints, finishings etc.
- Water and soil repellence
- Delivery time
- Nuance tolerance

The collaborative supply chain strategy builds on long term relationships with respect and confidence, encourages information exchange and dialogue about continuous improvements rather than strictly passing requirements.

Labelling and certification

The labelling and certification approach builds on joining one or several of the existing programs, such as Oeko-Tex, BlueSign, BSCI etc. A guide to environmental labels and certification systems is found at <http://www.ecotextilelabels.com/>.

Networking

The networking approach builds on joining one of the existing networks. Some examples of networks where currently many Swedish textile companies are very active are:

- Sustainable Apparel Coalition (SAC), global textile industry network for sustainability work, <http://www.apparelcoalition.org/>
- AFIRM, global apparel and footwear industry network for RSL work, <http://www.afirm-group.com/>
- The Swedish Chemicals Group, Swedish/Nordic industry network for chemicals issues in textiles and electronics, <http://www.kemikaliegruppen.se/>
- Nätverket för miljöanpassad produktutveckling (MPU), Swedish industry network for ecodesign, <http://www.swerea.se/sv/ivf/IF/Natverket-for-miljoanpassad-produktutveckling/>
- Sustainable Fashion Academy (SFA), Swedish educational company for sustainability in the textile industry, <http://www.sustainablefashionacademy.org/>
- The Business Social Compliance Initiative (BSCI), a network and certification scheme for social sustainability <http://www.bsci-intl.org/>
- The Swedish Textile Water Initiative (STWI), a network for sustainable water use founded by Swedish textile companies, <http://stwi.se/>
- Zero Discharge of Hazardous Compounds (ZDHC), an industry network for reduced emissions of hazardous chemicals, <http://www.roadmaptozero.com/>

Legal compliance

Merely coping with legal compliance might seem like a low ambition level, but in fact, in many countries the legislation is not always followed. Even in Sweden, companies are not always aware of e.g. that several different chemicals legislations are in place. Each week **several products are reported in the European Commission's register for non-compliant products**, called RAPEX (http://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/index_en.htm).

Expert knowledge is often required in order to:

- construct a useful Restricted Substances List (RSL)
- manage spot checks of chemical content
- provide an overview of legal regulations
- construct useful legal contracts
- interpret Safety Data Sheets (SDS)

supply and marketing tools

There are many different kinds of sustainability tools as has been described earlier (pages 4-5). In the supply chain and marketing work, three major questions have been identified:

1. *What can I do to decrease the environmental impact?*
For example: are there other options than using organic cotton?
2. *How much do my choices decrease the environmental impact?*
For example: does it matter most which material I choose, how the material is produced or how the consumer treats it?
3. *How can I display my product's environmental impact?*
For example: how can the environmental performance be a sales argument?

The first question is answered by so called "Management tools", the second is answered by so called "Product footprint tools", the third is answered by so called "Communication tools". Examples of such tools are found below.

In addition there are also other tools that can help you 1) create motivation for change, 2) educate your suppliers 3) ecolabel your products etc., see page 4-5.

management tools

Some examples are:

- The AFIRM Supplier RSL Toolkit (<http://www.afirm-group.com/toolkit/>), support tools to work with hazardous chemicals issues in the supply chain,
- Green Product Procurement (<http://www.konkurrensverket.se/upphandling/hallbar-upphandling/>), sustainability criteria and contracts on the suppliers, e.g. from the Swedish Competition Authority,

product footprint tools

Some examples are:

- Life Cycle Assessment (LCA) (ISO, 2006), a quantitative measurement method for environmental performance

communication tools

Some examples are:

- Global Organic Textile Standard (GOTS) (<http://www.global-standard.org/>), sustainability ecolabel,
- OEKO-TEX® standard 100 (https://www.oeko-tex.com/se/manufacturers/concept/oeko_tex_standard_100/oeko_tex_standard_100.xhtml), chemical content ecolabel,
- Cradle to Cradle® (C2C) (<http://www.c2ccertified.org/>), a product certification
- Environmental Product Declarations (EPD), <http://www.environdec.com/>

other tools

- Ecodesign Maturity Model (EcoM2), a model to select the most proper tool for the company's ecodesign process, [http://orbit.dtu.dk/en/publications/ecodesign-maturity-model-ecom2-the-application-method\(7594ef57-31f3-4287-a09e-6cee747e883e\)/export.html](http://orbit.dtu.dk/en/publications/ecodesign-maturity-model-ecom2-the-application-method(7594ef57-31f3-4287-a09e-6cee747e883e)/export.html)
- The Smart Time, guide to textile processing, <http://www.thesmarttime.com/>
- Sustainable Apparel Coalition (SAC), global textile industry network for sustainability work, <http://www.apparelcoalition.org/>
- AFIRM, global apparel and footwear industry network for RSL work, <http://www.afirm-group.com/>
- The Swedish Chemicals Group, Swedish/Nordic industry network for chemicals issues in textiles and electronics, <http://www.kemikaliegruppen.se/>
- Näätverket för miljöanpassad produktutveckling (MPU), Swedish industry network for ecodesign, <http://www.swerea.se/sv/ivf/IF/Natverket-for-miljoanpassad-produktutveckling/>
- Sustainable Fashion Academy (SFA), Swedish educational company for sustainability in the textile industry, <http://www.sustainablefashionacademy.org/>
- Ecotextile Labels, a guide to labels and standards <http://www.ecotextilelabels.com/>

Kläder & Miljö

This is a description of the Swedish part of the tool "Kläder & Miljö". **To continue the English text, go to page 30.**

Vad kan jag som konsument göra?

Vad behöver man som konsument för att kunna svara på vad som är bäst att göra? Vi tror att man behöver kunskap, en strategi och verktyg. Vad tycker du?

Kunskap

Finns det miljövänliga kläder? Hur man än väljer att tolka ordet "miljövänlig" så finns det kläder med god miljöprestanda, kläder som är mer miljövänliga än andra och kläder som tillverkas och används på ett miljövänligt sätt. Denna guide innehåller den förklaring av vad hållbart (miljövänligt) mode innebär som tagits fram genom ett svenskt forskningsprogram kallat Mistra Future Fashion (<http://www.mistrafuturefashion.com>).

Strategi

Att veta vad som är stort och smått vad gäller miljöpåverkan hjälper dig att välja en klok Strategi (som exempelvis att köpa miljömärkta kläder, att köpa second hand, att tvätta klimatsmart, handla nära osv. eller kanske alltihop på en gång).

Verktyg

Vi har också gjort en samling med Verktyg som kan vara till hjälp för dig som vill veta mer om hur du kan minska ditt bidrag till klimatpåverkan, utsläpp av giftiga ämnen, vattenförbrukning osv.

strategier för konsumenter

Det finns flera olika strategier du kan ha som konsument: Undvik konventionell bomull, Köpa färre nya kläder, Köpa miljömärkta kläder, Köpa från schyssta affärer och märken, Köpa kläder som håller länge eller Låta kläderna självtorka. Välj en eller flera som passar dig!

Undvik konventionell bomull.

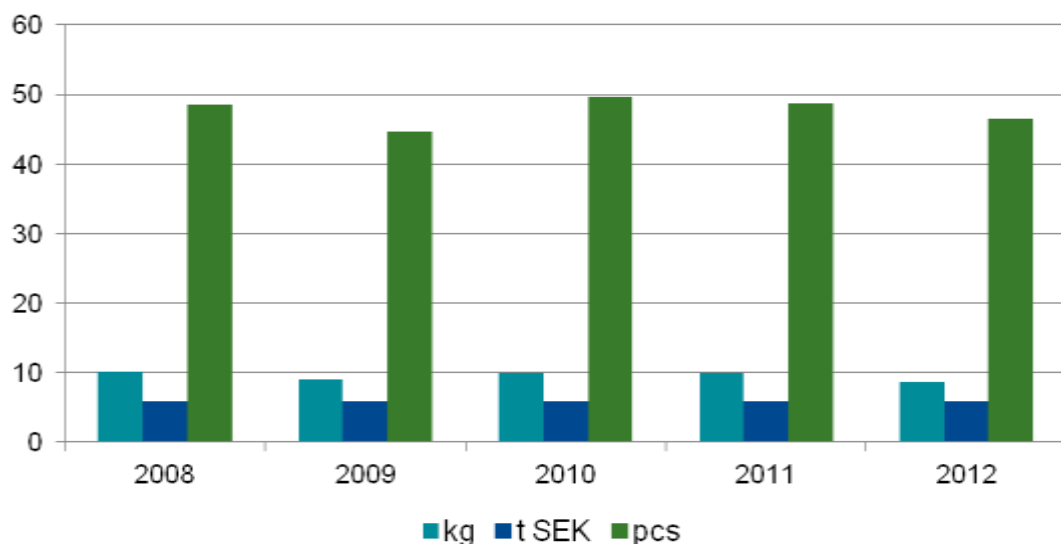
Framställning av fibrer står för cirka 10-20% av den totala miljöpåverkan av ett plagg medan processerna för textilproduktion står för cirka 50%. Så fiberval är mindre viktigt än hållbara textilprocesser, med ett undantag - konventionell bomull - som dominerar om vi tittar på förbrukning av vattenresurser och giftiga föroreningar. Försök hitta alternativa material som ekologisk bomull, viskos eller lyocell!

Köpa färre nya kläder

Antingen kan man köpa färre kläder totalt eller köpa vissa kläder second hand. Tänk på att återvinningens miljönytta kommer ifrån att man ersätter produktionen av ett nytt plagg med ett gammalt. Statistik från SCB visar att den årliga konsumtionen av nya kläder för en medelsvensk är:

- 50 stycken plagg (plagg kan vara allt från ett par strumpor till en jacka)
- 10 kg
- 6 000 kr

Konsumtion av kläder per capita



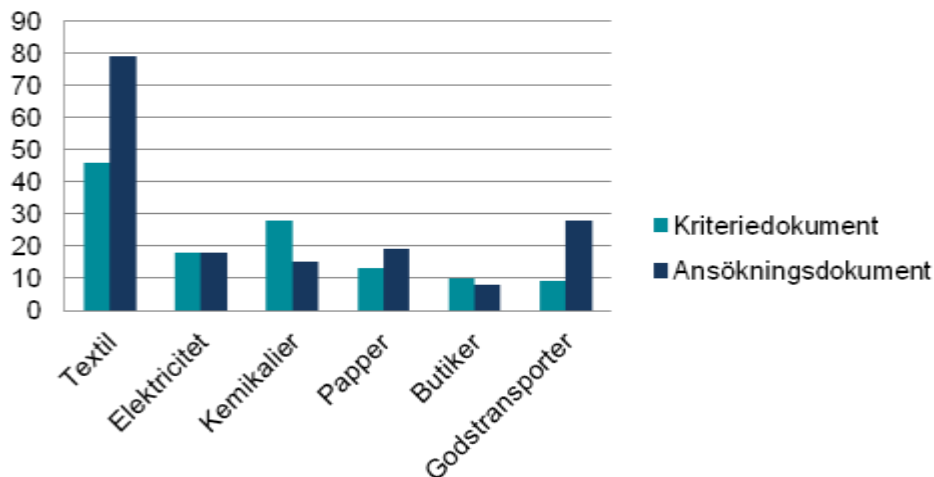
Konsumtion av kläder per capita i kilogram (kg), tusen svenska kronor (t SEK) och styck (pcs)

Köpa miljömärkta kläder

Textila produkter är faktiskt bland de svåraste produktgrupperna att miljömärka på produktnivå. Staplarna nedan visar hur många sidor kriteriedokumentet innehåller för miljömärkningen "Bra Miljöval". Detta beror på att den textila kedjan innehåller många

olika steg och många olika material. Varje steg och varje material måste gås igenom för att se att hela den märkta produkten till slut håller bättre miljöprestanda än andra produkter. Vissa märkningar täcker dock bara delar av plaggets livscykel, som exempelvis tillverkningen av råmaterial. Att ett plagg är gjort av ekologisk bomull betyder inte att alla steg i tillverkningen gått schysst till.

Jämförelse av kriterier för miljömärkning



Antal sidor kriteriedokument för att få en miljömärkning i olika produktgrupper. Textila produkter har särskilt många kriterier att ta hänsyn till för att få miljömärkning.

Notera att man när man köper något som är miljömärkt, så väljer man inte bara det som är bättre ur miljösynpunkt. Man skickar också ett budskap till den tillverkaren och till andra företag längs den leverantörskedjan och andra att man tycker det är viktigt med miljöanpassade varor!

Köpa från schyssta affärer och märken

Köpa schyssta kläder, från affärer och märken som man vet har ett hållbarhetstänk. Vet man inte kan man gå på märkningar:

- kläder som har miljömärkning, då stöder man de företag som satsar på miljömärkning
- kläder som har rättvisemärkning, då stöder man företag som satsar på schyssta villkor

Köpa kläder som håller länge

- Köp bra kvalitet - då håller kläderna längre.
- Köp klassiska plagg - då håller kläderna också längre ur modesynvinkel.

Det gäller då att använda sina kläder fler gånger innan man slänger dem!

Låta kläderna självtorka



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I användarfasen kan man, om det funkar praktiskt, välja att inte torktumla sina kläder, utan självtorka så mycket som möjligt. Torkning i torktumlare/torkskåp kostar ca fem gånger mer energi än tvätten och sliter dessutom på plagget!

verktyg för konsumenter

Det finns en väldigt massa olika verktyg, här har vi sorterat dem efter vad du kan göra med dem:

1. *Mät din egen miljöpåverkan*
2. *Hitta rätt miljömärkning*
3. *Kontrollera farliga kemikalier*
4. *Ta hjälp av miljöorganisationer*

Mät din egen miljöpåverkan

Ta reda på vilken påverkan du själv har och se hur du kan förbättra dig!

- Energirådgivningens verktyg för att beräkna din el från tvätt och tork, <http://iis.energiradgivningen.se/misc/www/kalkyler/hushall/hushall.aspx>.



MAT	Effekt W	Drifttid	Kostnad kr/år
<input type="checkbox"/> Frys - äldre	200	5000 timmar	0
<input type="checkbox"/> Frys - nyare	120	5000 timmar	0
<input type="checkbox"/> Dörrmaskin	1400	1 timme/dag	0
<input type="checkbox"/> Kyl - äldre	100	3500 timmar	0
<input type="checkbox"/> Kyl - nyare	100	1700 timmar	0
<input type="checkbox"/> Skivspelar	1000	40 minuter/dag	0
<input type="checkbox"/> Kaffebröjsare	800	1 timme/dag	0
<input type="checkbox"/> Ugn	1500	2 timmar/vecka	0
<input type="checkbox"/> Tvåskåp	200	1 timme/dag	0
<input type="checkbox"/> Mikrovågsugn	1500	7 minuter/dag	0
<input type="checkbox"/> Vattenkylare	1500	5 minuter/dag	0

TVÄTT M.M.	Effekt W	Drifttid	Kostnad kr/år	
<input type="checkbox"/> Ettvättstare	80	24 timmer/dag	0	
<input type="checkbox"/> Tullmaskin	1200	4 timmar/vecka	0	
<input type="checkbox"/> Torktumlare	2000	4 timmar/vecka	0	
<input type="checkbox"/> Torktumlare	2000	2 timmar/vecka	0	
<input type="checkbox"/> Skrymsel	1000	1 timmar/vecka	0	
<input type="checkbox"/> Dammugare	1000	1 timmar/vecka	0	
<input type="checkbox"/> Hållare	1000	1 timmar/vecka	0	
Summa				0

Beräkning av hushållsel

- EcoMetrics verktyg ger dig ett mått på miljöpåverkan från din garderob, <http://www.colour-connections.com/EcoMetrics/household.html>.



COLOUR CONNECTIONS

Household Textile Environmental Impact Calculator

Welcome to the Colour Connections calculator which allows you to assess the environmental impact of the choices you make when you buy, care for and dispose of your household textiles.

The calculator is very simple to use. All you have to do is indicate how many items of various sorts that you buy in a year and then how many of each sort you dispose of in a number of different ways.

Finally, you need to indicate how you wash, dry and iron your textiles in a typical week. Then click the CALCULATE button and the system will calculate the number of EDUs you are responsible for each year.

We will get an overall EDU score depending on your purchasing patterns, methods of clothes care and what you do with textile items when you no longer have a use for them.

EDUs (Environmental Damage Units) are calculated based on the total impacts of:

- Water use
- Energy use
- Use of non-renewable resources
- Pollution

For example making 1kg of dyed cotton fabric used in good quality t-shirts scores 24 EDUs and doing one 40°C wash cycle per week uses 46 EDUs per year.

NEXT 

Beräkning av en garderobs påverkan

Hitta rätt miljömärkning

Miljömärkta plagg har den fördelen att hela produktionskedjan håller god miljöprestanda. Miljömärkta material talar bara om att själva fibern håller god miljöprestanda.

- Sveriges konsumenter har gjort en guide som förklarar innebörden av märkningar som; EU-blomman, Oeko-Tex, Organic Exchange, Bra Miljöval m.fl., http://www.sverigeskonsumenter.se/Documents/Projekt/Guide_gr%C3%B6na%20tr%C3%A5dar.pdf.

Gröna trådar | GUIDE

Jämför miljömärkningarna!

	Ekologisk odling (inga kemiska bekämpningsmedel, antibiotika, växtskydd, konstgjorda färgämnen)	Kontroll av kemikalieanvändning och efterbehandling i produktionskedjan efter odling	Inga kemikalier i produktion	Varaktighet, färgfasthet, fel, tvätt, utsläpp, etc.	Arbetsvillkor och andra förhållanden i produktionsland
SVANEN	✓	✓	✓	✓	10 av 10
FÅ KLÄMMAN	10, 15 till med till " ekologisk "	✓	✓	✓	10 av 10
ÖKO-TEX	10, 15 till med till " bra miljöval "	✓	✓	10 av 10	10 av 10
KRAV	✓	✓	✓		10 av 10
BRÄNNEN	✓	✓	✓		10 av 10
GOTS	✓	✓	✓	✓	✓

Översikt över miljömärkningar

- Länkar till miljömärkningar:



GOTS

<http://www.global-standard.org/>



Oeko-Tex

<https://www.oeko-tex.com/>



SVANEN

<http://www.svanen.se/>



EU Ecolabel

<http://ec.europa.eu/environment/ecolabel/>

Fler miljömärkningar finns, och även märkningar som reglerar sociala och etiska förhållanden. Hur mycket de används kan du själv se i butikerna. På märkningarnas hemsidor kan man ofta också hitta en lista med de certifikat som har utfärdats så att man kan se efter själv att en produkt inte är falskt märkt.

Kontrollera farliga kemikalier

När du väljer plagg utan farliga kemikalier skyddar du inte bara din egen hälsa utan även hälsan hos de människor som jobbar med att tillverka och hantera dina kläder!

- Att fråga i butik efter farliga kemikalier

Gör det till en vana att fråga i butiken om din vara innehåller ämnen på Kandidatlistan! Lager säger att om en vara innehåller vissa särskilt farliga kemikalier som finns på den sk. Kandidatlistan har en kund rätt att få svar på detta inom 45 dagar. Kandidatlistan (<http://echa.europa.eu/web/guest/candidate-list-table>) innehåller idag (maj 2015) 161 ämnen men uppdateras varje halvår och är en lista på särskilt farliga kemikalier (SVHC-ämnen = Substances of Very High Concern).

- Miljömärkningar som reglerar och även tar stickprov på kemikalier i kläder:
 - OEKO-TEX® Standard 100, <https://www.oeko-tex.com/>

Flera miljömärkningar reglerar kemikalieinnehållet i kläder men många kräver enbart egenkontroll.

Ta hjälp av miljöorganisationer

Du kan hitta fler tips och verktyg hos flera miljöorganisationer.

- Naturskyddsföreningens Gröna Guide till kläder, <http://www.naturskyddsforeningen.se/vad-du-kan-gora/gron-guide/hitta-din-egen-smarta-och-personliga-stil>.
- Greenpeace undersökning om gifter i kläder, <http://www.greenpeace.org/sweden/se/rapporter-och-dokument/Hur-giftig-ar-din-garderob/>.
- WWFs arbete om bl.a. bomull, <http://www.wwf.se/vrt-arbete/vtmarkerstvatten/vattenfotavtryck/1128210-bomull-1a-sida>.
- Sveriges Konsumenters facebookside Stilmедveten, <https://www.facebook.com/medvetenstil?fref=ts>.

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