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Business Models Extending Active Lifetime of Garments: Supporting Policy instruments

by
David Watson, Anja Charlotte Gylling
and Philip Thörn



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Authors: David Watson and Anja Charlotte Gylling (PlanMiljø) and Philip Thörn (IVL)
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PlanMiljø ApS, Ellevej 5 3670 Veksø Sjælland, Danmark
Phone: + 45 46 76 24 00
www.planmiljo.dk

IVL Svenska Miljöinstitutet, Valhallavägen 81 114 27 Stockholm.
Phone: +46 (0)10-788 65 00
www.ivl.se

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contents

1.introduction.....	2
1.1 background.....	2
1.2 objectives.....	2
2. approach and structure of report.....	3
3. business models, obstacles and policies.....	4
3.1 business models.....	4
3.2 obstacles to up-scaling of these models.....	5
3.3 selection of policy instruments.....	6
4. a closer look at selected policy instruments.....	8
4.1 resource tax on new fibres.....	8
4.2 reduced VAT for reuse/sharing/leasing/renting.....	10
4.3 wage subsidies.....	12
4.4 minimum durability standards.....	13
4.5 durability labelling.....	15
4.6 government supported knowledge hubs.....	17
4.7 labelling for green business models.....	18
4.8 start-up/transition funding tailored to challenges.....	19
4.9 support for second-hand in central shopping malls (square metre scheme).....	21
4.10 shared logistics.....	22
5. stakeholder inputs.....	27
5.1 plotting impact and do-ability.....	27
5.2 stakeholder analysis of two instruments.....	31
6. next steps.....	33
7. references.....	35

list of figures

Figure 1 Overview of the identified five business model types and examples of different business models supporting reuse, collective use and prolonged lifetime of textiles.....	4
Figure 2: The main types of obstacles to scaling-up/spreading of new business models/initiatives.....	5
Figure 3: Level of positive impact (on green business models) and do-ability of the different policy measures according to Workshop participants.....	27

list of tables

Table 1: Pool of policy instruments.....	7
Table 2: Summary of evaluated policy instruments.....	25

summary

121 000 tonnes of new clothes and household textiles are put on the Swedish market each year and the production of these cause significant environmental impacts. Significant reductions in impacts can be made via extending the active lifetimes of garments as far as possible and thus reducing the total quantity consumed.

This does not necessarily mean reduced turnover or profit for the textile industry. There are many opportunities for business models that derive value via extending the active life of garments either via the same user, or consecutive users. Businesses have arisen in the past few years in Nordic countries that attempting to make use of these opportunities. However, they face a range of economic, legal and capacity obstacles that they need to overcome if they are to expand from niche to mainstream.

Government can assist businesses in overcoming these obstacles through adoption of policy instruments. Ten potential instruments for overcoming these obstacles were selected from a wider pool and evaluated. Some of the instruments would require regulation changes, others are economic or information-based.

The magnitude of positive impacts of each instrument on the business models in focus would vary but can be increased in each case by careful design of the instrument. Critical design factors are described for each instrument plus risks and potential conflicts and synergies with other instruments.

While there is room for manoeuvre in terms of careful and intelligent design, there are overlying differences between instruments in the potential magnitude of their positive impact and in the so-called 'do-ability': the acceptability and implementability of the instrument.

A small group of stakeholders plotted potential magnitude of impact against doability. The results found that there is no silver bullet that would both have a high impact and be relatively easy to get accepted and implemented. However, the stakeholders found the following instruments most favourable:

- Reduced VAT for reuse, sharing, second-hand, repair, leasing
- Support for second-hand in central shopping malls
- Start-up transition funding and government-supported knowledge hubs
- Wage subsidies targetted at these models

All these instruments can be carried out at national or local level in Sweden, rather than being more appropriate at EU level. Moreover, there is strong level of synergy and compatibility between the instruments. As a package they could provide considerable support to business models for extending the lifetime of garments.

Under a subsequent task in the Mistra Future Fashion program in theme 3, User, a selection of the 10 policy instruments will be studied at a more detailed level. Options for how they can be designed and implemented in Sweden will be examined, and their likely impacts and benefits evaluated. Where they exist, experiences with similar instruments in other countries may provide important input to this evaluation.

1. background and goals

1.1 background

121 000 tonnes of new clothes and household textiles were put on the Swedish market in 2013 (Palm et al, 2014). The consumption of textile products causes significant environmental impacts. Much of these are caused during the production phases both in the production of natural and synthetic fibres, chemical, water and energy inputs to weaving/knitting, dyeing and finishing of fabrics and finally the fabrication of textiles products (JRC, 2015).

There are many options for reducing these environmental impacts directly via cleaner production processes and selection of greener fibres. These are considered elsewhere in the Mistra Future Fashion Program under the Supply Chain theme¹.

Significant gains can also be made via extending the active lifetimes of garments as far as possible and thus reducing the total quantity of textiles consumed (Roos et al, 2015; Schmidt et al, 2016; WRAP, 2014;). However, the tendency in the industry over past decades has been moving in the opposite direction in the form of fast fashion; more collections, shorter lifetimes and swelling volume sales (Fletcher and Grose, 2012). Turning the tide back towards longer lifetimes needs radical changes in consumer patterns and norms and not least in the approach of the textile industry to doing business.

Extending active lifetimes and reducing the quantity of new textiles purchased each year, does not necessarily mean reduced turnover or profit for the textile industry. There are many opportunities for business models that derive value via extending the active life of garments either via the same user, or consecutive users (Watson et al, 2015; Elander et al 2017).

There are many examples in Nordic countries and elsewhere of existing businesses and start-ups that have adopted business models for extended product lifetimes. However, these business models remain very much a niche sector. Elander et al (2017) identified a range of economic, legal and capacity obstacles faced by these business models that need to be overcome if the business models are to be mainstreamed. At least some of these challenges can be addressed through alterations to regulatory and economic frameworks. However, governments need assistance in identifying the most appropriate policy instruments to choose to support these models, while avoiding unwished for impacts.

1.2 objectives

The objective of this task is to assist governments by identifying policy instruments that can mitigate challenges faced by business models that extend garment lifetimes, to describe their critical features, strengths and weaknesses. The findings will feed into a subsequent deeper evaluation of selected policy instruments.

¹ http://mistrafuturefashion.com/what-we-do/#theme_2

2. approach and structure of report

The task takes its starting point in the five business model typologies characterised by Watson et al (2015) (Section 3.1) and the obstacles that businesses adopting these models experience (Elander et al, 2017) (Section 3.2). A pool of potential policy instruments that can mitigate these challenges were identified by brainstorming methods (Section 3.3). These are filtered down by considering their relevance and the magnitude of impact on these businesses.

The selection of 10 policy instruments are further described in Section 3.4, the critical factors in their design identified along with risks associated with them and conflicts and synergies with existing policy (Section 4), with focus on Swedish policy. These descriptions and investigations are based on desktop study, the policy knowledge of the project team and via inputs obtained from stakeholders at a Mistra Future Fashion policy workshop held in Stockholm on 12th October 2016.

Stakeholders at the workshop included brands and entrepreneurs who have adopted business models or initiatives with the aim of increasing active lifetimes of garments, and Nordic policy makers in the areas of environmental protection and business growth.

The aim of the workshop was to provide inputs to Tasks 3.2.4 (this task) and 4.3.7 – a task concerning development of policy to encourage greater reuse and recycling of used textiles. There are inevitably a number overlaps in the types of policy instruments being considered under both tasks, particularly instruments which encourage reuse of textiles.

A session was held at the workshop to discuss and refine the short analysis of the ten policy options described in Section 4. The participants then plotted out the policies in terms of 1) the magnitude of their potential positive impact on the business models in focus and 2) the expected acceptability and implementability of each policy. The aim was to assist in the selection of policies for more detailed assessment in a later MFF task.

The participants themselves then selected two policies for further work. Working in groups they considered the following questions for the selected policies:

1. What are the opportunities presented by this policy instrument?
2. What are the key obstacles to the instrument being 1) accepted 2) administered
3. Who would be positively and negatively affected by the policy? (winners and losers)
4. How could we overcome the negative aspects of the policy?
5. How should we move forward and who should be involved? (lead and other involved)

The results are described in Section 5. Finally, Section 6 discusses the overall results and the next steps in the policy evaluation.

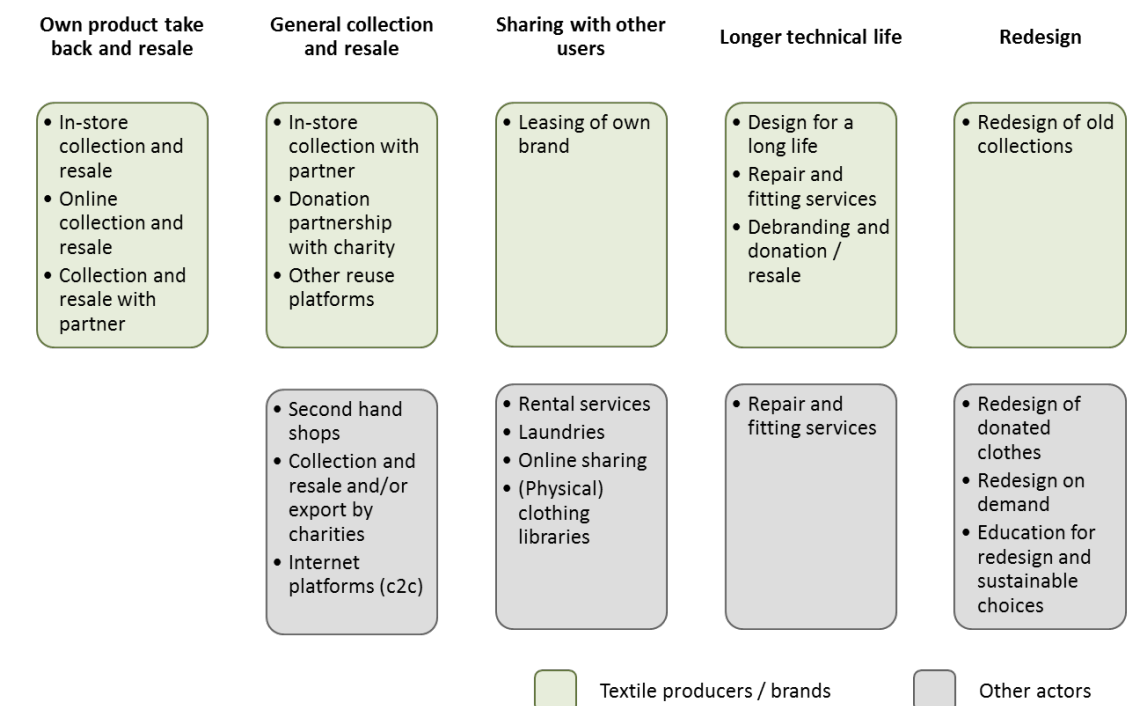
3. business models, obstacles and policies

3.1 business models

Figure 1 gives an overview of five main groups and 22 sub-groups of business models/ business initiatives, which have the potential to extend the active lifetime of garments. The emphasis on 'active' is important; the longer a garment is in active use by a consumer the more it is likely to offset production of new textiles and thus reduce environmental impacts (see e.g. Roos et al, 2015; Schmidt et al, 2016; UK Wrap, 2014;).

One of the groups focuses on extending the technical lifetime of garments. However, this is often not the limiting factor which determines how long a garment is used (Fletcher 2016); it may rather be that the original purchaser no longer has a use for it in their wardrobe. The other groups focus on various methods for distributing or redistributing garments between consecutive users (and uses) to ensure their continued use as long as the technical lifetime allows. Thus, these models compliment and are to a certain extent dependent, on longer technical lifetimes. The various models are described in more detail in Watson et al (2015) and Elander et al (2017).

Figure 1 Overview of the identified five business model types and examples of different business models supporting reuse, collective use and prolonged lifetime of textiles

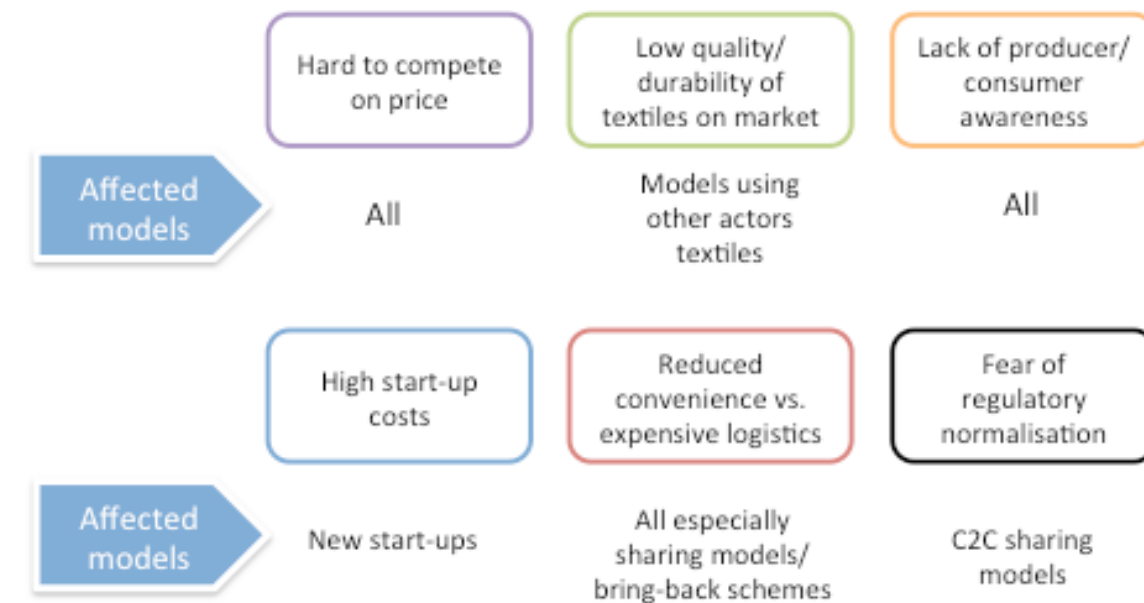


(Source: Elander et al 2017, developed from Watson et al, 2015)

3.2 obstacles to up-scaling of these models

Elander et al 2017 collected information via interviews with Nordic (and international) business models within these various groups. One of the issues examined was challenges to the viability of the various models as experienced by entrepreneurs/businesses. This was supplemented by findings from literature in particular from Watson et al (2015) who also gathered information on obstacles to scaling-up and spreading of the same business model types. The main obstacles identified are illustrated in Figure 2.

Figure 2: The main types of obstacles to scaling-up/spreading of new business models/initiatives



1. hard to compete on price

Many of the models include labour intensive activities as part of the model e.g. take-back and sorting, repair/redesign, laundering and subsequent redistribution of the products. Moreover, these activities in general need to take place close to the customer. Due to the relatively high wages in Sweden compared to low labour costs in Asia where most new textile products are produced, it is hard for many models to compete with the low price of new textiles. The relatively low cost of materials compared to labour also accentuate these price differences. As a result, a repair-based business model for example currently only makes economic sense for a consumer for more expensive higher quality items.

2. low quality/durability of textiles on market

All of the business models would be strengthened by an increasing quality/durability of textile products. The economic viability of each model is raised if the products that form the core of the model can tolerate longer active lives without losing their appearance or functional qualities. In some cases, such as leasing of own brand and resell of own brand, though, it is the business themselves can ensure the highest quality of the products they subsequently lease or resell. For third part models (the lower row of models in Figure 1) the viability and potential scale of businesses are dependent on the general quality of textiles on the market; the higher the average quality level the greater the potential size of reuse markets.

3. lack of awareness/knowledge of these models

Lack of knowledge of alternatives to traditional linear ownership models for textile products both amongst consumer and producers is a key challenge to their spread. This concerns both how producers view their role in the marketplace and how consumers view their options for obtaining and disposing of products. Lack of knowledge often leads to lack of trust or suspicion of new models. Both businesses and consumers are beginning to challenge traditional models on the fringes of the market, as part of a more general emergence of the modern sharing economy. These may remain as niche activities unless the opportunities that they provide to both businesses and users are highlighted.

4. high start-up costs

The new models can be adopted by an existing business as part of a green transition or be the central element of a new business start-up. In either case investments are needed. Finding investors (or CFOs) willing to take a risk in less well-tried business concepts may not be easy. Moreover, most of those we interviewed by Elander et al (2017) found that the models took time to break-even if at all, due to the need to build up a customer-base and due to the price challenge (obstacle no. 1), even if the long-term prospects were good.

5. reduced convenience vs. high distribution costs

It can be an obstacle to some of the business models and initiatives that they require something extra from consumers. This can be that they need to take a product in to a repair service, return clothing to a shop in a take-back and resell or leasing model or to share a product with another consumer in a C2C (consumer to consumer) sharing model. In other models, such as 2nd hand retail, it may simply mean needing to go to other parts of a city from the main shopping areas to find shops. While these additional demands on the consumer will certainly appeal to some, many consumers will prioritise convenience in gaining access to clothing. For those models that try to improve convenience by providing distribution to and from customers' homes, homes, the costs of distribution can be prohibitive.

6. fear of regulatory normalisation

This obstacle mostly concerns sharing economy models. The sharing economy has grown rapidly in areas such as mobility and hospitality and this growth has challenged regulation frameworks that have not been constructed to take account of such models. Issues such as untaxed C2C trade and income, unregulated and untrained providers of services, lack of regulation in health and safety issues and so on have been raised by competitors in the established economy and by government. This has led to fear of future regulation that may clamp down on sharing economy activities and throw out the baby with the bathwater (see Dervojeda et al 2013 ; van den Steenhoven, 2016).

3.3 selection of policy instruments

The team took these obstacles and searched for examples of policy instruments, either already in use in other countries or for other sectors, or on the drawing board, that can tackle the main obstacles identified above.

This led to a pool of 20 potential instruments/actions. These 20 were then evaluated against relevance and potential impact as shown in Table 1 with the aim of finding the 10 more promising instruments for further evaluation. By relevance we mean the degree to which the policy would directly or only indirectly support business models for prolonging active lifetimes, and overcome the obstacles that they experience (left-hand column).

Table 1: Pool of policy instruments

Obstacle	Policy instrument	Relevance	Potential impact	Selected?
Hard to compete on price	Resource tax on new fibres	High	Large	✓
	Remove VAT for sharing/leasing/repair	High	Large	✓
	Wage subsidies for these models (as social support)	High	Medium	✓
Low quality/durability	GPP goals for product reuse/sharing	Medium	Medium	X
	Minimum quality/durability standards	High	Large	✓
	Durability labelling	High	Medium	✓
	Import tax per item/kg rather than per Euro	Medium	Medium	X
	Requirement for sustainability in design school curricula	Medium	Medium	X
Lack of producer/consumer awareness	Government supported knowledge hubs	High	Medium	✓
	Green business awards for sustainable models	Medium	Medium	X
	Tools to assist businesses in setting up sharing models	High	Medium	X
	Labelling for green business models	High	Medium	✓
High start-up costs	Quality/trust certification for sharing businesses	Medium	Medium	X
	Start-up/transition funding tailored to challenges	High	Medium	✓
	Regulatory/other assistance to crowd-funding	Medium	Medium	X
	Reduced taxes for investments in green sharing models	Medium	Medium	X
Lack of convenience vs. high cost of logistics	Municipal support for second-hand/post consumer shops/areas in central shopping malls	High	Medium	✓
	Platforms for shared/public logistics	High	Medium	✓
Fear of regulatory normalisation	Long-term warning of future regulation	Medium	Medium	X

For example, removing VAT for sharing/leasing/repair would be a direct support mechanism for these businesses, rebalancing the economic framework within which they work, and therefore highly relevant. A requirement for sustainability courses in design schools on the other hand, is more indirect. It is not certain that this would lead to increased quality of clothing which itself is only an obstacle for some of the business models. This is therefore considered less relevant.

The 'potential impact' is our assessment of the magnitude of the effect as a support for the relevant businesses. A resource tax on new fibres, for example, would potentially increase the price of all new clothing, thereby challenging fast fashion and giving stronger economic incentives to repair, reuse, resell etc. Green Public Procurement goals for sharing and reuse of publically purchased items on the other hand would affect a smaller share of the market and therefore the impact is evaluated as of medium magnitude. Potential impact and relevance were given equal weighting in the evaluation.

This first screening was carried out using the researchers knowledge rather than any search for experiences of similar instruments in other sectors. The selected 10 are highlighted in the table. The selected policy instruments are considered in the following section.

4. a closer look at selected policy instruments

The ten selected policy instruments were further investigated using a methodology adapted from Watson et al (2015). This focuses on highlighting the key aspects of the policy instruments for key stakeholder and in particular governments who may consider further assessment of one or more of these policy instruments.

The brief assessment consists of three steps:

- Identify critical factors of the policy packages that need careful design to achieve the policy packages defined goals.
- Identify risk factors connected to the policy packages i.e. how it may negatively impact on existing activities, actors or sustainability goals.
- Identify some potential synergies and/or conflicts between the proposed policy instruments and also with existing policy frameworks

4.1 resource tax on new fibres

Obstacle addressed: Hard to compete on price with new

Description of the instrument

Resource taxes, in this case a tax on new fibres for textiles, aim to changing price systems and thereby at setting incentives for increasing resource efficiency and reducing resource consumption (Eckerman et. al, 2012). A resource tax on new fibres



would increase the cost for new fibres, thus make it more expensive to produce textiles using new fibres. There are several potential resource taxation schemes, for example: i) tax levied on resources at the point of extraction (extraction tax); ii) a tax levied on resources when they enter into production (material input tax); iii) a tax levied on resources embodied in a final product or on a resource intensive final product (consumption tax).

Experiences from resource taxes show that they can have an effect on resource use. According to model-based results the introduction of taxation on building materials in Germany could reduce consumption of non-metallic minerals by 15.5%, assuming business as usual (Eckerman et al., 2012). Denmark introduced a resource tax on construction and demolition waste in 1990, which have increased the recycling rate for this kind of waste (Ekvall & Malmheden, 2012).

Critical factors in the design

An optimal resource tax perfectly internalizes the external effects and corrects the market failure. In this case the resource tax would reflect the external cost of e.g. the environmental damages, from producing textiles using new fibres. The tax would increase the price of new textiles and increase the competitiveness of reused textiles and repair, thus levelling the playing field and correct market failures (Tekie et al., 2013).

Risk factors

In practice it is very difficult to precisely calculate the external costs and thus set the correct resource tax. The external effects, e.g. the environmental damages, from producing textiles using new fibres are very uncertain and difficult to calculate. Moreover, optimal prices do not automatically lead to optimal markets and resource use (Tekie et al., 2013).

Taxation of resources is usually complicated since products often contain several different resources. Furthermore, international trade, co-production and the long production chains make the determination of the tax base, the implementation of a tax and the calculation of the effects difficult (Eckerman et al., 2012).

A resource tax needs to cover producers as well as importers, in the country where it is implemented. Otherwise there is a risk that the competitiveness of the manufacturers weakens compared to the rest of the world, e.g. the importers can avoid the resource tax by importing textiles from countries which do not have resource taxes on new fibres (Tekie et al., 2013). Administering a resource tax is foreseen to be complicated, particularly in the case of administering the tax on imports (Watson et al., 2014).

Conflicts and synergies

There is potentially a conflict between a resource tax on new fibres and policy measures that aim to improve the quality of the textiles. A resource tax primarily supports recycling of textiles, since it is intended to increase the demand for recycled fibres in new products. Producers might respond to a resource tax by pushing quality even further down to conserve low prices (Watson et al., 2014).

A resource tax would also need to comply with WTO and EU trade regulation and not be considered a trade barrier.

On the other hand there may be good synergies with VAT reduction for reuse, sharing, leasing and renting, wage subsidies, minimum quality/durability standards and durability labelling which together could provide a combined package to make these models more competitive.

4.2 reduced VAT for reuse/sharing/leasing/renting

Obstacle addressed: Hard to compete on price with new

Description of the instrument

Reduced value added tax (VAT) for reuse, repair, sharing, leasing and renting of textiles would lower the cost for businesses providing these goods and services. Businesses, providing reuse, sharing, leasing and renting of textiles, would due to their lower costs be able to lower their prices on goods and services.



As in other Nordic countries, second hand shops in Sweden run by non-profit organizations are currently VAT exempt. This is motivated by the fact that second hand shops run by non-profit organizations inter alia provide work opportunities for long term unemployed, facilitate reuse and resource efficiency and in general contribute to a sustainable development. The second hand shops are important sources of funding for the non-profit organizations, which motivates the VAT exemption (Finansdepartementet, 2015).

The Swedish government has also recently reduced VAT for repairs of clothing, shoes and bicycles from 25% to 12% in order to stimulate repair businesses.

Critical factors in the design

In countries with high levels of VAT, e.g. Sweden 25%, a VAT reduction can, depending on the level of reduction, substantially lower the costs for relevant goods and services. The level of VAT reduction needs to be carefully calculated. On the one hand the reductions need to be substantial in order to have an effect, on the other hand a too generous VAT reduction can be very costly (see also Risk factors).

Risk factors

A VAT reduction scheme on second hand sales, leasing of textiles and textile repair services needs to be intelligently designed and monitored. There would be strong incentives for businesses, which in effect are not eligible for a reduction, to claim reuse, sharing, leasing and renting of textiles, since this would lead to reduced VAT. The scheme must be transparent regarding the activities that qualify and do not qualify for VAT-reduction and loopholes need to be avoided. The VAT changes must be compatible with EU regulations on minimum VAT (Watson et al., 2015).

VAT reductions are not revenue neutral and account needs to be taken of the decrease in government income that they would result in, and how this gap should most appropriately be filled. At the same time VAT reductions need to be substantial to have a real effect, which could be costly for the state. The Swedish VAT exemption for second-hand shops run by non-profit organisations is projected to reduce tax revenues by approximately 150 million SEK a year (Finansdepartementet, 2015). This gap needs to be filled by increased revenues from other sources. These can be carefully chosen as part of a green fiscal reform policy to also support green businesses by penalizing 'brown' ones (EEA, 2011).

Conflicts and synergies

A VAT reduction for reuse, sharing, leasing and renting of textiles seems to be compatible with other policies and measure identified here aimed at stimulating reuse, sharing, leasing and renting of garments.



4.3 wage subsidies

Obstacle addressed: Hard to compete on price with new

Description of the instrument

Wage subsidies, i.e. transfers to employers or employees that cover at least part of the eligible individual wage or non-wage employment costs, earmarked for businesses providing goods and services, based on reuse, collective use and prolonged life time for textiles. The basic rationale for introducing a wage subsidy is that it will lead to an increase in employment for the groups targeted, due to the fact that the subsidy reduces the cost of labour for employers, and as a result increases the demand for labour services (ILO, 2015).



In France, in the aftermath of the recent financial crisis, new hiring programs specifically targeting youth were initiated. During 2013, two programs, which were primarily oriented towards non-profit organizations, but also open to the private sector, were launched. The first, “Jobs of the Future” for unqualified youth (aged 16 to 25) who have been out of work for at least six months, offers subsidies amounting to 35 per cent of minimum wages (€500 per month). The second program “Generation Contract”, offers lump-sum payments of €4,000 per year for three years upon hiring young persons (aged 16 to 25) on permanent contracts, along with the obligation to keep or hire older employees (aged 55 and over) and assigning an older “mentor” to newly appointed young employees (ILO, 2015). In Denmark people who are not able to work full time due to illness might be eligible to work in a “Flexjob” which is partly supported by the municipality. A different possibility is to hire unemployed staff for a limited time with wage subsidy in order to test the possibility of a permanent position (Watson et al., 2015).

Wage subsidies would lower the personnel cost for business providing goods and services, based on reuse which would to a certain extent reduce the labour cost differential between new production in Asia and the Swedish transaction/service costs in repair, take back, leasing and sharing models. In countries with high levels of payroll taxes, e.g. Sweden 31%, a wage subsidy, depending on the level of the subsidy, could substantially decrease employers’ personnel costs. Businesses providing these goods and service would be able to lower their personnel cost and/or increase their number of staff.

Critical factors in the design

Care needs to be taken in the design of wage subsidies to ensure that companies do not misuse them. Eligible business operations need to be carefully listed and justified using green economy arguments. Vetting of businesses against these criteria will need to be carried out in a way that guards against cheating but avoids excessive bureaucracy. Subsidies should only be available for long-term unemployed or disadvantaged groups. For long-term unemployed subsidies should be dependent on staff being trained to increase their fitness for the labour market. Governments should also consider carefully the time-length and review period of subsidies to ensure that they are not abused by companies to avoid collective wage agreements with trade unions.

Risk factors

Wage subsidy programs are frequently criticized for potential shortcomings, which can lead to negative effects that outweigh the positive aspects. One concern is that the subsidy may support a high share of eligible workers who would have been hired in any case.

In this case, taking the potentially high deadweight costs into account, other active labour market measures can be more cost effective. Another concern is the so-called substitution effect, which means that firms increase their number of staff in response to the subsidy. However, hiring workers eligible for wage subsidies, leads to the firing of ineligible workers who have similar characteristics and can be easily substituted (ILO, 2015).

A wage subsidy needs to be substantial in order to have an effect and actually lower the costs for businesses, eligible for the subsidy. If the wage subsidy is too low it will not have an effect and employers will not be able to lower their personnel cost and/or increase their number of staff. On the other hand an excessive wage subsidy could be costly for the state.

Conflicts and synergies

A wage subsidy for reuse, sharing, leasing and renting of textiles seems to be compatible with other policies and measure identified here aimed at stimulating reuse, sharing, leasing and renting of textile.

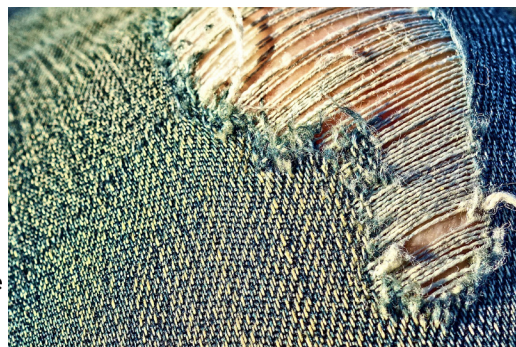
There is no minimum wage in Sweden but wage subsidies can be in conflict with collective agreements between trade unions and employers and must be designed carefully to meet with the rules laid down in these agreements.

4.4 minimum durability/quality standards

Obstacle addressed: Low quality and durability of products on the market

Description of the instrument

Business models based on reuse, second-hand, leasing and repair services are all dependent on a sufficient quality and durability of the products which are central to their model; the longer the durability the more viable the model. Minimum durability standards can be important for those models such as second hand, repair etc. which are reliant on a general high quality on the market. Improved quality would also have a secondary positive effect on the models since its immediate effect would be to increase article prices for the consumer. This would reduce the relative services and transaction costs of leasing, repair, etc. and would make second hand more attractive.



A minimum durability standard could be mandatory or voluntary. A mandatory would make sure that the standard is broadly implemented but could face considerable resistance from the industry. A minimum durability standard would mean that only products of a certain defined quality might be produced or sold on a specific market (e.g. national or European market).

Durability measures and standards are already included in a number of Type I eco-labels for textiles, for example the Swan and EU Flower label criteria for textiles. For example the Nordic Swan includes:

- Requirement that dimension changes above a certain percentage (different for different types of products) during washing or drying must be explicitly stated on the care label and packaging or on a product information label.
- Minimum standards for colourfastness under different actions: washing and perspiration, wet rubbing, dry rubbing, and exposure to light.

- Standards for pilling resistance (furniture fabrics only).

Critical factors in the design

Minimum durability standards need to be clearly defined, measurable, reportable and verifiable in order to allow control and monitoring. A standard that is transparent and easily understood is more likely to be accepted and implemented.

The durability criteria in the EU Flower and Swan eco-label criteria for textiles could form the basis of a voluntary or mandatory minimum standard. These are clearly defined and have associated standard test procedures. They are, however, quite limited in terms of their durability effect only covering two wash cycles of a garment. To really have an effect on durability, it may be more appropriate to set standards which define the minimum number of standard washes an article can survive before it shows signs of wear. This would also be easily communicable to consumers in the case that the same test formed the basis of a durability label (see next instrument).

Since different types of garments have very different use profiles it may not be appropriate to apply the same minimum standard to all garments. Under traditional single owner systems highest standards may be most appropriate for basic clothing like T-shirts, socks, underwear and jeans while setting high standards for fashion items might be a case of over engineering. However, under the types of sharing, multiple user business models addressed by this report, it is these otherwise rarely used items that would be central to the models and not underwear, and these would also need to survive use by many consecutive users.

Industry would need to take a central role in deciding how standards should be differentiated between product types that might suggest an industry led voluntary rather than mandatory approach.

Risk factors

Minimum quality standards limit the range in which producers can differentiate quality. Hence price competition will intensify regarding good quality textiles, since more producers will be offering good quality textiles while no producers will be offering low quality textiles. Although in the long term the increased supply of good quality textiles may lead to lower prices on good quality textiles (Ronnen, 1991).

Both producers and consumers might be initially resistant to minimum standards due to its effect in increasing purchase prices and reducing the volumes of clothing that they could buy (consumers) and sell (producers). However, this would not necessarily reduce producer profits, a high volume low price mode would be replaced by a lower volume, higher price model which could be just as profitable provided there was a level playing field. From the consumer's point of view, fewer higher quality and longer lasting garments may lead to increased rather than reduced satisfaction (Bly et al, 2015; Gwozdz et al, 2015). Desire for changes in style could be provided by the very sharing models supported by the instrument.

Minimum quality/durability standard needs to comply with WTO and EU trade regulation and not be considered a trade barrier.

Conflicts and synergies

A minimum quality/durability standard have clear synergies with resource tax, VAT reduction and wage subsidies, which also would also increase the competitiveness for businesses providing goods and services, based on reuse, repair and leasing. There is a clear synergy between policy instruments that increase quality (and thus price of new) and instruments like wage subsidies and VAT-reductions that attempt to reduce price differentials between the services provided by these business models and purchases of new textiles.

4.5 durability labelling

Obstacle addressed: Low quality and durability of products on the market

Description of the instrument

A durability label provides consumers with information on the minimum level of durability for a specific textile product under certain standard use cycles. Durability labelling would provide consumers with easily understandable information on textile quality and can change consumer preferences and behaviour (Ekvall & Malmheden, 2012). It could also allow those running leasing, hire and second hand models to select textile products with high durability ratings. A long life-time is central to the economic viability of such models.



This instrument is closely connected to the previous instrument on minimum standards for quality/durability. The key difference between standards and labels is that the latter aims to influence the consumer who then drives the producer to increase quality, whereas standards act directly on the producer and often consumers may not even be aware of them although they benefit from them. A label is a flexible mechanism that lets the market decide. This means that, unlike a mandatory minimum standard it will not necessarily achieve its aim of increasing durability across the market as a whole. A further key difference is that a label is a communication tool and therefore must be simple and easily understood and compared, whereas a minimum standard can be highly complex.

That is not to say that the factors that form the basis of a durability label cannot be complex but the way the result is communicated via the label must be simple. For instance the Nordic Swan, EU Flower or GOTS label for textiles all include minimum quality/durability standards, but the label is simple; 'this garment is certified with GOTS'. However, consumers may wish for a label that tells them how long a particular garment is expected to last so they can choose between garments according to their needs.

Critical factors in the design

Durability labelling needs to be visible and communicated to the public to have an effect. The label needs to be permanent and not just on the products original packaging. This is particularly important since many of the businesses adopting sharing leasing, second hand models may not be the original purchasers. Many of the models concern consecutive users who may (or may not) want to see that the product is durable.

Two overall forms of label can be imagined: 1) a voluntary label which is associated with a set of standard non-mandatory minimum quality/durability criteria, where the label is a simple quality stamp communicating that 'this garment meets 'LOGO' standards'; 2) a mandatory label that all garments (of a certain type) must carry and gives some indication of where the garment lies on a given scale of quality/durability.

Both types could be favourable for sharing, leasing, second hand models etc. The first type is a simple extension of a voluntary industry led minimum standard as identified under the previous instrument. The second-type is much more distinct and here we will focus on that alternative. Moreover mandatory durability labelling on all textiles is expected to have a more substantial effect on the average quality of textiles on the market.

The durability scale in this type could be a simple traffic light or any other unit-less scale like that used for energy labelling of energy related equipment like light-bulbs. This is simple and allows a consumer to compare between products that may be all they need to do. Such labels have had problems, however, concerning what to do should a new fibre be developed which has durability levels off the scale. This seems obvious but is apparently

not as can be seen from the unfortunately designed energy level that began at A, and has now had to be stretched up to A+++ for many white goods.

An alternative is to have a label, which communicates a value with a unit. For example, a given number of standard care cycles (i.e. 80 washes at 30 deg C), or standard wear cycles (i.e. 100 dry rub cycles) that a garment can survive before it fails in some way. This may be preferred for consumers since they can get an idea of how long it may last. On the other hand it could lead to disappointment and complaints to producers if the garment failed at 50 washes. This may not be because the garment did not meet the standard quality test but rather because the user had washed it with fabric conditioner or used it for gardening.

There are thus advantages and disadvantages to using units or unit-less labels and these would need to be considered carefully by industry and consumer groups along with government before choosing a final design. Under all circumstances the label would need to be supported by a set of standard tests that roughly reflect use and care patterns. Again these will need to be chosen carefully but the tests used by the Nordic Swan, EU Flower etc. could form a first basis of these.

Finally, it needs to be decided which product types should be covered. It might be a good idea to begin with basic clothing such as socks, T-shirts, underwear and jeans and then move on to other products with time.

Risk factors

Mandatory durability labelling is likely to meet resistance from at least some producers due to the costs involved in carrying out tests. On the other hand producers of higher quality clothing that can use the label to mark themselves out would welcome it. It could, however, seriously disadvantage small specialist producers/brands. A solution could be an exemption for small businesses or a production batch limit under which durability labelling is not required (Watson et al., 2015).

Multinational producers/brands may only be willing to engage in labelling if a standard is developed at international level, either global, EU or at the very least Nordic since the Swedish market may comprise a very small part of their overall sales of a given garment design. Moreover, durability labelling could potentially affect the speed by which new collections could be designed and put on the streets. This latter is perhaps anyway a necessary part of a transition to more sustainable business models, but needless to say it will cause initial resistance in the industry.

A further risk is that it could add to 'label overload' where consumers become overwhelmed by a forest of eco-labels and health labels that they must consider when shopping (DEFRA, 2011). There are, however, still only a few labels for clothing so this risk may not be high for this product area as it is for, for example, food.

Conflicts and synergies

This instrument would seem to be compatible with other instrument listed in this section, even a minimum quality standard since companies could wish to mark themselves out with higher quality than even a high minimum standard.

There is a clear synergy between policy instruments that increase quality (and thus price) and instruments like wage subsidies and VAT-reductions that attempt to reduce price differentials between the services provided by these business models and purchases of new textiles.

There can also be synergies with existing warranty regulations for clothing although durability which lie at 2 years though in practical use only last for six months; after that the onus of proof that the product has failed due to low quality and not due to unusual wear and tear lies with the consumer (Watson et al 2015). It could be difficult to prove in court that the producer is to blame for an article wearing out before time. Durability labelling could be a supporting factor here.

4.6 government supported knowledge hubs

Obstacle addressed: Lack of producer awareness

Description of the instrument

Many entrepreneurs may be interested in working with green business models for textiles, but need support in different forms in order to be able to start-up and establish a business. Knowledge-hubs, which provide knowledge, expertise and guidance regarding green innovative business models for textiles, can support entrepreneurs and start-ups, reduce failures through bad business design choice by providing good examples and reduce perception of risk. The hubs could provide information on existing green business models, policies and measures, networks and available funding schemes.



In Denmark the government supported knowledge hub Green 21 provides support to entrepreneurs regarding green business models. Green 21 is a network and platform for development of businesses sharing of experiences and ideas. The hub also provides news updates, training material and tools, e.g. tools for calculating greenhouse gas emissions and increasing resource efficiency (www.green21.dk).

A useful knowledge hub that aids new business model start-ups within the area of clothing would not necessarily need to be restricted to this product area. There are for example many similarities between C2C sharing economy businesses and success and failure factors regardless of the product being shared. The same is true for leasing. The hub could be a sharing economy, longer product lifetime hub but with some textile cases angles etc.

Critical factors in the design

The knowledge hubs must be easily accessible, in order to be able to support existing and potential entrepreneurs. The information and knowledge provided by the hub must be easy to understand and communicated through different communication channels. The hubs need to provide on-line information and expertise via a website, but could also be complemented with physical meeting locations. Much information and tools can be provided via the website, but face to face meeting assist in idea generating, sharing of experiences and inspirational seminars etc.

The hubs should, via professional and unbiased staff or consultants, provide information and expertise on how to run a business, e.g. business planning, rules and regulations, and provide access to a network of entrepreneurs in the same business area. The hub should provide updated knowledge on successful business models for second-hand businesses, leasing schemes, repair services and other business models that extend active lifetimes of textiles (and other products). Cases, do and don'ts, and interactive tools for assisting in choosing between model types, setting prices etc. would be useful. Furthermore the hubs could provide information on available funding schemes, assistance on how to apply, and relevant policies and measures. The hub should function as a one-stop shop and provide the necessary information and support in order to start-up or transform to a greener business model.

A further critical factor would be on how the hub should be supported, via state/municipal funding, via funding allocated by the textile industry or via subscriptions. A textile industry run platform may better ensure a high awareness of the hub's existence and better tailoring with actual needs. On the other hand the industry.

Risk factors

A risk factor is that the knowledge does not provide the "right" expertise, network and information. The hub misinterprets the entrepreneur's needs and does not provide the information and expertise requested by entrepreneurs and others. The hub would then lose credibility and not be perceived as a facilitator. A key component here is that the hub must be open for stakeholder input on needs regarding information and expertise. As mentioned above a hub run with industry input ownership might automatically be better tailored to needs rather than a state run hub, but there is a risk that the hub may then be more biased towards models which don't challenge the current fast fashion business model i.e. closed loop/recycling approaches rather than those which extend lifetimes.

The information and expertise must be easily accessible and understandable. If the information is too complicated and/or not accessible, the information will not be used by the stakeholders. Especially information and applications for funding schemes need to be uncomplicated.

Conflicts and synergies

The knowledge hub function provides information and expertise on business planning, available funding schemes, and relevant policies and measures. Thus the hub reinforces the effect of other suggested policies and measures and facilitates the implementation of supportive measures.

4.7 labelling for green business models

Obstacle addressed: Lack of producer/consumer awareness

Description of the policy

Labelling for green business models could increase consumer awareness and willingness to pay for goods and services produced via green business models. This would be an example of labelling of a company rather than a product. This already exists via, for example, certification of companies that have adopted environmental management systems like EMAS or ISO14001. However, these are not related to particular business types but rather illustrates that a company has put a system in place that enables them to reach their own environmental targets.



Labelling of green business models would rather be the stamping of a certain kind of model as being green and would potentially open consumers' eyes up to these business models as being inherently greener than mainstream models.

There is one example which is close to this approach within textiles in Sweden: the Bra Miljöval (Good Environmental Choice) label criteria set for second hand textiles within the broader set of criteria for textiles. Although it is a product label and includes a comprehensive set of criteria for new textiles products the criteria for second hand textiles are very simple: all second-hand textiles can be labelled with Bra Miljöval apart from second-hand containing PVC. Thus it is effectively stamping second hand as a green business model within textiles. This approach could be extended to a label that was a label for a business based on the business type and could include leasing, repair, sharing, take-back and resell of own.

Critical factors in the design

The labelling needs to be visible and communicated to the public to have an effect. A critical factor is the market share of the label, since it is important that consumers understand and recognize the labelling.

It is equally important that the label is trustworthy and robust. The definition and criteria of green business models needs to be clearly defined and transparent in order to be widely accepted and implemented. It would be a mistake to define a simple criterion that only concerned the broad class of model being pursued by a company. There should also be conditions within this since certain sharing models could in fact prove themselves to have a worse environmental profile compared to single ownership and discard models. This in particular concerns how clothing in the sharing model is distributed between consecutive users (see also under Shared Logistics later). If this occurs via private car use and over long distances then the model may well not be so green. If rather exchanges occur via collective distribution the green potential of the model could be preserved. Similarly repair models may also need criteria related to use of chemicals in repair processes.

Unfortunately not enough is yet known about what constitutes a green and non-green model within sharing to allow such criteria to be defined but information is on the way via a newly started Nordic Council of Ministers project and also a larger project about to be set off by the European Commission. These projects may provide the information needed to allow criteria to be selected.

Risk factors

If the definition of green business models is too broad, or do not include criteria which guard against undermining of environmental benefits of for example sharing models, this could lead to labelling of businesses models which are not sustainable. This would quickly risk that consumers and companies would lose confidence in the label. Care must be also taken that the labelled business model is the central model run by that business since the label would follow the business and not the product. This could challenge the popularity of the label.

As with durability labelling (see earlier) there is also a risk of eco-label fatigue amongst consumers. However, since this is labelling a business and not

Conflicts and synergies

In general this instrument seems to be compatible with the other instruments considered in this report though direct mutually supporting synergies are less obvious.

4.8 start-up/transition funding tailored to challenges

Obstacle addressed: High start-up costs

Description of the policy

Start-up funds can provide entrepreneurs with funding during the start-up phase, which facilitates market entry and business development. They can improve the chances of eligible businesses to develop to the point where they are self-supporting.

During the start-up phase of new innovative and relatively untried businesses it is often difficult for entrepreneurs to raise enough capital for starting and developing their business. Commercial loans are not always available for these entrepreneurs, since banks and other financial institutions consider the business to risky. If commercial loans are available, the terms can be too burdensome for a start-up company. Governmental start-up/transition funds offer generous terms that increase the chances that the businesses, which are eligible for funding, will survive until they can generate cash on their own.



Entrepreneurs and businesses that have secured their initial funding can focus on developing their business model, thus have greater chances of survival and expanding their business.

In the UK the Innovation in Waste Prevention Fund, with a total of £800 000 can provide local businesses, councils and voluntary groups with grants of up to £50 000 for creative ideas for preventing waste of the priority materials, outlined in the Waste Prevention Program for England. Textiles are one of the priority materials. The fund aims to boost voluntary opportunities and create job opportunities by promoting the introduction of new services and the adoption of alternative, anti-waste business approaches (WRAP, 2016). In Denmark the now defunct Fund for Green Business Development promoted resource efficiency in Danish businesses by giving grants to selected businesses. The Fund focussed in particular on exploiting the potential for growth in Danish businesses in the circular economy and the sharing economy. The Fund invested in projects related to six themes, one of which was Sustainable transition in the textile and fashion industry. Between 2013 and 2015, the Fund invested in 33 projects with a total of approx. EUR 7.3 million (Erhvervsstyrelsen, 2016).

Critical factors in the design

The application process for funding from the start-up/transition funds needs to be transparent and straightforward. If the application process is too bureaucratic and complex, entrepreneurs will not find it worthwhile and resource efficient to apply for funding.

The funds need to offer generous terms in to complement to commercially available loans. If the terms are too tough, the funding will not be sufficient for the start-up companies to overcome the period when they do not have a steady stream of revenue and can generate cash on their own (the so called "Valley of death"). On the other hand, care must be taken to ensure that these are not just cash bags for companies who in fact would not have had a problem in starting up without help. This requires very careful control of what specific activities carried out by the business are supported and which aren't. For example, funds might be earmarked to development activities, new software and platforms that assist the model but not as a flat subsidy income to the company, and perhaps also not marketing activities.

The funding scheme should have a long-term view by making the establishment of realistic long-term plans for continuation as a criterion for receiving funding. These should also be continually reviewed and updated during the funding period. The scheme could perhaps also include Lessons should be learnt from failures in earlier funding schemes in Sweden or elsewhere.

Risk factors

If the terms for funding are too generous a number of business, which have no chance of turning into successful businesses, will receive start-up funding. The terms need to be generous, in order to complement commercial loans, but there needs to be a carefully designed screening/application process in order to identify the most potential business ideas for funding.

Conflicts and synergies

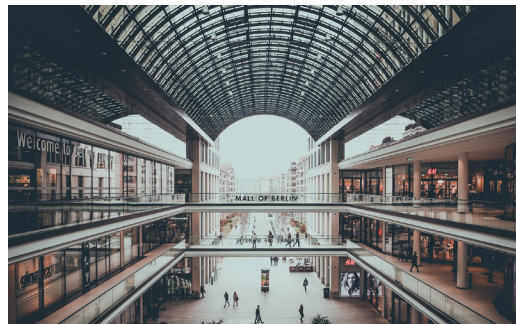
There is clear synergy between start-up/transition funding schemes and knowledge hubs and advice bureaus to ensure good and informed applications and business ideas, and in the other direction examples of good cases for new businesses that have resulted from the scheme.

4.9 support for second-hand in central shopping malls (square metre scheme)

Obstacle addressed: Lack of convenience for consumers

Description of the policy

Such a scheme would provide support to second-hand/pre-owned clothing stores and businesses to enable them to locate in central shopping malls. This would make it more convenient for consumer to purchase pre-owned garments.



For many consumers shopping second-hand clothes can be less convenient than purchasing of new textile products, due to the fact that second-hand shops are typically located outside central shopping areas and malls in cities. Research shows that even though second-hand clothing is cheaper than new, when the total transaction cost, i.e. the sum of price, time, mental effort, energy and loss of alternative benefit, is calculated the cost is higher. For consumers it takes longer to find something that fits and meets their style needs in a second-hand store (Svengren et al. 2010 & Watson et al., 2015). Providing support to allow second-hand to locate in central shopping areas and malls, would help overcome this obstacle.

According to Svengren et al. (2010) consumers consider, Myrorna, a second-hand chain with several stores in Stockholm, both in the city centre and in the suburbs, as an accessible and comfortable alternative. Support to second-hand businesses in shopping malls is not completely unknown in Sweden. In 2015, an exclusively second-hand shopping mall opened in Exiltuna, 120 km west of Stockholm. Shoppers bring their own waste items to the shopping centre to be upcycled and resold by craftsman in the various shops. The project is a partnership between local non-profit organisations and businesses, and the municipality whose objective is to promote sustainability circular economy and reduce waste. The municipality owns the property and rents it to sustainable businesses at reduced rates. Sales in the 12 shops which employ 50 people totalled 8.1 million SEK in 2016².

Similar models could be supported in other shopping malls though not necessarily exclusivity. Shop spaces could be earmarked for second-hand, sharing, repair businesses or rents reduced for those types of businesses or both. Support could equally be made available to existing regular clothing stores in central malls to allocate some of their floor space to second hand – either run by other companies or by themselves selling their own pre-owned taken back clothing. TopShop in the UK has already engaged in this activity.

Opening the support up to existing brands and high-street chains could be extremely important in assisting established brands in transitioning to selling pre-owned clothing which would encourage a normalisation of pre-owned clothing purchasing amongst a segment of the population that otherwise never purchases second-hand.

Critical factors in the design

The support needs to be intelligently designed and implemented in order to have an effect and be cost-effective. It must be clearly communicated which businesses are eligible for funding and under which circumstances. One proposal is that the funds could be allocated to particular shopping centres and shopping malls. Via bidding rounds the funds would then be awarded to the businesses asking for the lowest support per square meter. This would encourage competition, keep down costs and maximize the number of square meters receiving funding. The bidding could be open to both dedicated second hand businesses and high street retailers/brands, which could receive support for floor area dedicated to second-hand (Watson et al., 2015).

² <https://www.curbed.com/2017/4/28/15472896/mall-sweden-recycled-second-hand>

It would be important to include a verification and penalty system within the scheme to ensure that that the businesses are selling second-hand within the floor areas for which they are receiving financial support and setting a minimum period over which they have to use these spaces for second hand sales.

Risk factors

There is a risk of misuse of support where winning businesses actually sell new clothing amongst their second-hand selection. This can be tackled by only supporting the floor area that is actually dedicated to second-hand but this may require careful and constant control that could be time-consuming and wasteful.

Conflicts and synergies

Square meter schemes for businesses providing second hand goods and services would strengthen their businesses competitiveness. This policy and measure has synergies with resource tax, VAT reduction and wage subsidies, which also increase the competitiveness and attractiveness for these businesses.

4.10 shared logistics

Obstacle addressed: Lack of convenience for consumers

Description of the measure

In the context of modern busy lifestyles, offering convenience to consumers can be a critical make or break element in gaining a viable base of consumers. For sharing models in particular with regular transactions and exchanges of clothing between successive users (C2C) or between the user and the service provider (leasing, hiring, conscription and even repair) it can be particularly important to make these exchanges simple and convenient. While many such services would like to offer door-to-door services the costs of logistics can be prohibitive. Shared logistics presents a potential solution to this problem.



Shared logistics is a system where businesses join forces and share logistic systems. This can drastically increase the efficiency of logistics reduce businesses cost and increase competitiveness as well as significantly reduce the environmental impacts of logistics which is otherwise a potential negative facet of sharing economy business models.

An example in Sweden is where, 8 municipalities have jointly launched the project Coordinated distribution of goods (Samordnad varudistribution), which aims to coordinate distribution of goods and reduce the number of unnecessary transports, which is beneficial for public as well as private actors and the citizens. Coordinated distribution of goods also aim to facilitate for SMEs to compete on the local logistics market. During 2016-2017 the socio economic impact, including the environmental impact, of the project will be evaluated (Huddinge, 2016).

Such models could provide the basis for shared logistics between businesses. Government can assist in the development of shared logistics through seeding or establishing a shared logistics system that companies can join and eventually take over. Support can also be given via easing regulation to allow more efficient door-to-door logistics. This may be particularly relevant in the future in terms of drone-based logistics (Danish Traffic Authority, 2015). There will be many issues to consider before easing regulations to allow such logistics.

Critical factors in the design

Shared logistics and platform can increase utilization rate of products by making possible shared use/access/ownership. Companies which have an overcapacity or underutilization of logistical capacity can increase effectiveness and revenues by letting companies with no, or insufficient, logistical capacity lease or rent logistical capacity which is not being used.

It needs to be examined, however, to what extent such shared capacity and use of underutilised capacity can assist sharing business models for clothing. Such shared logistics models as developed for the 8 Swedish municipalities are for large goods, or goods like fresh food that need special transport conditions. Clothing does not need special transport conditions and comprise only small packages, and shared models already exist for these such as ordinary postal and courier services. Even postal services can be too expensive for start-up sharing models. In this case it may make sense to latch on to other more established sharing or logistics models. Obvious examples would be to cooperate with supermarkets that offer food delivery services.

Clusters of start-up companies, can also join forces and from the beginning establish shared logistics. Sharing can maximize utilization of logistical capacity and reduce costs for all involved parties (Accenture, 2014). An efficient system for signalling and managing over and under capacity is needed, in order to make sure that free logistical resources are being put into work as efficiently as possible.

Risk factors

Risk factors include that the weaker partners in a shared logistics agreement may be vulnerable to prioritisation by the central partners and experience unreliable services to their customers resulting in customer dissatisfaction. Thus agreements have to be fair for all partners. All partners need to cooperate closely in problem solving and setting priorities for order of deliveries.

Conflicts and synergies

Shared logistics have synergies with the other policies and measure which aim to increase competitiveness for businesses focusing on reuse, lease and prolonged life cycle for textile products.



4.11 summary of policy instruments

The table below summarises some of the more important elements of the 10 policy instruments.

Table 2: Summary of evaluated policy instruments

Obstacle	Policy instrument	Need for new regulation?	Most appropriate level of implementation	Key Design factors	Risks/conflicts/synergies
Hard to compete on price	1. Resource tax on new fibres	Yes	EU	Level of tax should reflect externalities Needs to comply with WTO/EU trade regulations	Complex to administer Resistance from industry Risks reducing quality of garments Synergy with 4
	2. Remove VAT for sharing/leasing/repair	Yes	National	Level of VAT reduction Selection of alternative tax to fill revenue gap – Green Fiscal Reform? Needs clear definition of who is eligible	Complex to administer Some businesses would need double accounts systems Synergies with 3, 6, 7 and 8
	3. Wage subsidies for these models (as social support)	No	National	Careful setting of maximum subsidy periods Level of subsidy needs to have an effect but without excessive cost Compatibility with collective employment agreements	Risk of abuse/ cheating Risk that existing employees are replaced Potential for bureaucracy Synergies with 2, 6, 8 and 9
Low quality/durability	4. Minimum quality/durability standards	Yes	EU	Choice between mandatory/voluntary Need to fit functional needs for different product groups Use/adapt existing test standards Design in close cooperation with industry	Resistance from industry if mandatory Might lead to increased product cost, but not necessarily increased life cycle costs Costly for small businesses Synergies with 1, 2, 3 (and 5 if voluntary)
	5. Durability labelling	Yes	EU/Nordic/national	Label needs to be permanent Choice between voluntary stamp of high durability and mandatory with traffic light scale of durability Careful choice of product groups Adapt existing test standards	Risk of label overload Initial resistance from industry if mandatory Costly for small businesses if mandatory Synergies with 1, 2, 3 (and 5 if voluntary) Synergies with minimum warranty regulations

Lack of awareness/knowledge	6. Government supported knowledge hubs	No	National/regional	Need to use different media Needs to be constantly updated with new experiences Knowledge on regulations, funding pools, dos and don'ts, best practice examples Run by industry/state partnership	Risk that not used if isn't constantly updated and tailored to needs High synergy with 8
	7. Labelling for green business models	Yes	Nordic/national	Needs to be transparent, trustworthy and robust in terms of eligibility and what it covers Needs system for determining that business model is greener than regular	Consumers may not understand a business model label Risk of label overload Lack of knowledge on which conditions ensure sharing models are green
High start-up costs	8. Start-up/transition funding tailored to challenges	No	National/regional	Needs to be relatively simple application procedure Support needs to be tailored to needs Concrete plans for continuation of business	Risk of cash cow for companies that didn't need the support
Lack of convenience	9. Municipal support for second-hand, leasing in central shopping malls	No	Regional/local	Intelligent design to ensure cost-effective but with impact Should be open to established high street brands with pre-owned sales	Difficult to police – if shops also selling new garments Synergies with 2, 3, 6 and 8
High cost of logistics	9. Platforms for shared/public logistics	No	Regional/local	Needs careful mapping and matching of business delivery needs Should eventually be a business without need for support	Platforms may be dominated by bigger businesses Consumer dissatisfaction if services unreliable

5. stakeholder evaluation of the policies

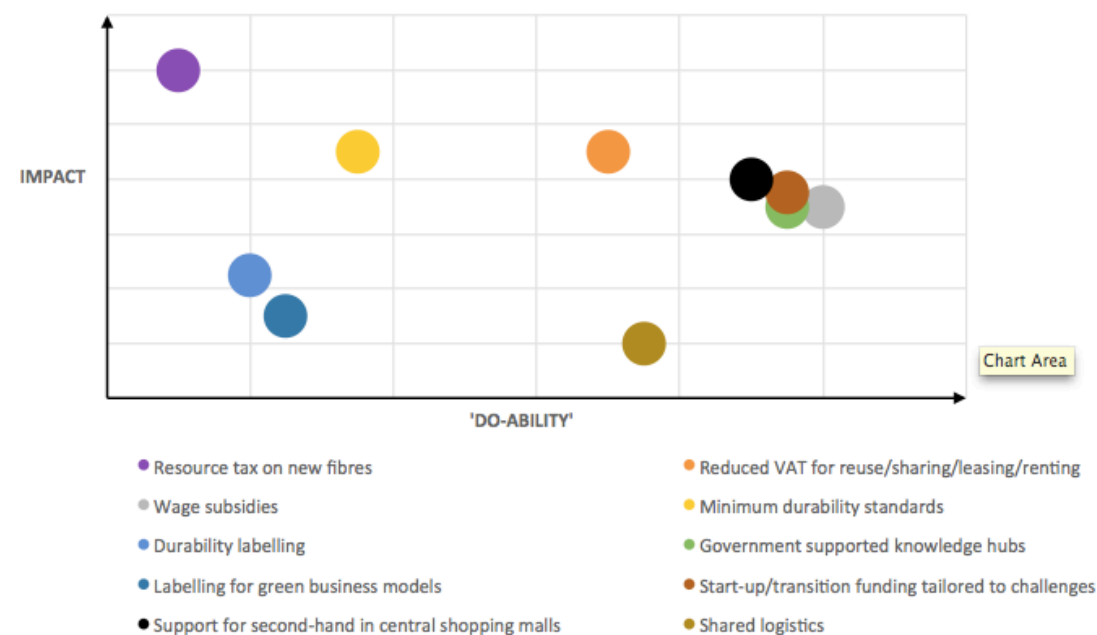
5.1 plotting impact and do-ability

Participants at the 12th October workshop were asked to plot the 10 instruments presented under Section 4 against two dimensions:

- **Impact** – the level to which the instrument would positively impact on the growth of business models for extending active lifetimes
- **'Do-ability'** – a combination of the acceptability of the instrument to important stakeholders, and how easily it could be implemented and administered

The results of this exercise are shown in Figure 3. This plot should be read with reservation since it only represents the combined estimate of a limited group of stakeholders.

Figure 3: Level of positive impact (on green business models) and do-ability of the different policy measures according to Workshop participants



A general result is that there is no silver bullet that would both have a high impact and be relatively easy to get accepted and implemented. Instruments, like a resource tax on new fibres, which are expected to have strong positive impacts on the targeted business models, are also likely to meet strong opposition from some groups of stakeholders.

Conversely, there are instruments towards the right hand of the graph that participants felt would be easier to implement, but would have a more moderate positive impact on the 'green' business models. In general, however, the group of instruments towards the top-right of the graph were evaluated by the participants to be of most interest, namely:

- Reduced VAT for reuse, sharing, second-hand, repair, leasing
- Support for second-hand in central shipping malls

- Start-up transition funding for tailored to challenges
- Government- supported knowledge hubs
- Wage subsidies targeted at these models

The following inputs were provided on the various models during the plotting process:

1. Resource tax on new fibres

Participants agreed that this would be a game-changer for the industry and market as a whole if the tax was set at a level that could be felt by brands and importers and eventually the consumer. The instrument may have more of an impact on increasing recycling and use of recycled fibres than on increasing the quality and life expectancy of clothing. It was even suggested that the instrument could have negative impacts on quality if it encouraged brands to cut costs further to keep the price the same for the consumer. It was also suggested that the tax could have the effect of promoting the use of fibres such as polyester with greater potential for circularity than natural fibres such as cotton which has limited recyclability (under current technologies) and must be mixed with a high share of virgin fibre. Some suggested that many in the industry would argue that for the sake of fairness, the level of a resource tax should be dependent on the impacts of the production of the particular fibre. This would drastically increase the complexity and administration costs of implementing the tax. The general feeling was that such a tax would meet high levels of resistance from industry.

2. Reduced VAT for reuse/sharing/leasing/renting

This was viewed as a moderately challenging initiative due to political decisions on freezing of tax levels. However, VAT reductions have already been adopted for repair of bicycles, clothing and footwear and therefore political resistance may already have been partially reduced at least in Sweden. Decisions would be needed on how to replace the reduced government revenue. This policy would be reinforced by wage subsidies and support for second-hand, leasing etc. in central shopping areas/malls.

3. Wage subsidies

This instrument was generally perceived as bringing societal benefits as well as strong benefits for the valid businesses. It would provide a pathway into the job-market for those with difficulties getting employed. The ease of implementation for companies would depend on the potential contract length; current subsidy periods for individuals are quite short at around 3 months which reduces its usefulness for small companies due to associated means bureaucracy and the time needed to constantly train up new staff. The do-ability was perceived as high as this model has already been implemented by many governments though not for these specific business types. Some felt that it would be hard justifying wage subsidies only targeted at clothing business models. If it targeted second-hand, leasing, repair etc. for all goods this seems more realistic.

4. Minimum durability/quality standards

This policy was viewed as having far-reaching positive impacts on the expected lifetimes of average textile products, but would be challenging to adopt, implement and enforce particularly if the intention was only to make these requirements at Swedish or even Nordic level. To make sense in a global clothing industry, the standards would need to be adopted at European level, perhaps as criteria under the EcoDesign Directive. This could take several years to agree on. Stakeholders pointed out that standards would need to be backed by robust test procedures. Testing standards exist for durability but not for quality – quality is in general subjective. There are, however, companies that have acted as frontrunners in setting their own quality standards.

5. Durability labelling

Participants agreed that the key design choice would be the decision on whether the

labelling was adopted as mandatory for all textiles, or a voluntary label which only the better quality brands would be likely to adopt. A voluntary high durability stamp would be more easily accepted by the industry but would likely have lower impacts on the expected lifetimes of the average garment. It was pointed out that voluntary labels like the Nordic Swan and the EU Ecolabel already include durability criteria. Perhaps these need further strengthening. The same comments were made concerning testing procedures as under the previous policy instrument.

6. Start-up funding + knowledge hubs

Stakeholders suggested grouping start-up funding and knowledge hubs together into a single instrument as they are obviously strongly connected. The same organisation that administered a start-up finding pool could also act as an exchange hub of information for start-ups, a knowledge base that could be built up from the brands that it had assisted. The impact might be moderate in the beginning but increase with time as momentum was gathered and best practice accumulated. Do-ability was considered high because such initiatives already exist, though not specifically tailored to green clothing start-ups, and no changes in legislation would be needed. Participants noted that the funding would need to be designed to target the specific needs of business models like leasing/sharing/repair and suggested that innovation should be highlighted as a central element.

7. Labelling for business models

Some participants felt it might be difficult to label business models compared to labelling products and to communicate the label to consumers, although there are Swan labels for various service types. There was also concern that consumer interest may be limited due to the forest of existing labels that this would add to. It was suggested that this might fit better into an existing label such as Bra Miljöval since it takes time to build up credibility and awareness of a new label. Under any circumstances the general impression of participants was that the impact of such a label would be low.

8. Support for second-hand in shopping malls

Workshop participants proposed that the support should be extended so that businesses offering leasing services and repair services could also be valid for support. Participants felt that the policy would be reasonably simple to administer not requiring any changes to existing regulatory structures. There was also a general feeling that the policy would have a positive effect both in changing norms of shoppers, and in allowing easy entry into the marketplace for small businesses. The impact could be strengthened if combined with VAT reductions, and wage subsidies for the same businesses. Potential negative responses of mainstream shops in the mall would be reduced by giving them opportunities to apply for the support for their own resell of pre-owned, leasing etc.

9. Shared logistics

One participant reported on trials in Uppsala to develop a hub for shared logistics to avoid too many delivery trucks in the city. However, the project failed due to lack of compatibility of shop owners' individual needs in terms of time of day, speed, size and types of deliveries. There is perhaps need for a central service provider to tailor and fit company needs to each other. Do-ability could be reasonably high if a good system was developed since there would be no need for any legislation change and resistance from the business community, consumers and government would be low. However, many felt that the impact may also be limited unless this initiative was included as part of a package of instruments.



5.2 stakeholder analysis of two instruments

The participants selected two instruments for further analysis within groups, with starting point in the questions posed in Section 1. Interestingly one of these – durability labelling – was not one of those that the plotting of impact against do-ability would necessarily have favoured. The results are summarised below.

Durability labelling	
Opportunities <ul style="list-style-type: none">The instrument could create incentives for brands and producers to make garments better suited to a longer active lifetime. This could in turn potentially reduce consumption of new garments and create a push towards increased consumption of second-handIt would increase consumer awareness of the issue of longevity and give consumers information necessary to select more durable clothingThe instrument could indirectly open the door for businesses and brands to promote or implement leasing models and could create better incentives for moving to local production to have better control over quality	
Winners <ul style="list-style-type: none"><i>Consumers</i>: they will be able to make a choice based on the durability of garments<i>Established producers/brands of high quality/durable garments</i>: they will not need to make a lot of changes in their production and use of materials	Losers <ul style="list-style-type: none"><i>Fast fashion companies</i>: It will be expensive to change production processes and materials for producers and brands that currently don't make garments for a long active lifetime (should consumes demand durable products)<i>Producers in developing economies</i>: could be negatively affected if brands move to local production.
Obstacles <ul style="list-style-type: none">It will be quite challenging to agree on a common standard and to define quality/durability.The national economy could be affected negatively if the consumption of new products is reduced significantly.The instrument will require complex administrative and control measuresThe instrument would increase costs if the label was mandatorySocial and environmental impacts need to be addressed first	Solutions <ul style="list-style-type: none">The benefits from durability labelling must be simple and clearly communicated to the consumer and the producer.The bottom line should be low from the beginning and then gradually increase step-by-step.The standard/label should include criteria on social and environmental aspects/protection
Stakeholders and first steps <ul style="list-style-type: none">The key stakeholders would be brands and industry branch organisations as well as public authorities providing funding for administration and development of criteria and definitions of the label.	

Support for second-hand, sharing, leasing, repair in shopping malls	
Opportunities <ul style="list-style-type: none">Would open mainstream consumers eyes to alternative means for accessing clothingPresents an opportunity for shopping centres to increase the diversity and interestCould provide an alternative (and greener) source for fast fashion	
Winners <ul style="list-style-type: none"><i>Consumers</i>: greater possibilities for accessing greener clothing<i>Shopping malls</i>: green(er) profiles<i>Sharing, second-hand, leasing, repair businesses</i>: would gain access to a broader consumer spectrum	Losers <ul style="list-style-type: none"><i>Fast fashion retailers</i> may feel like they have unfair competition
Obstacles <ul style="list-style-type: none">There may be an issue in terms of 'fitting' with the style of surrounding shopsMay be difficult for organisations relying on voluntary labour to meet minimum opening hoursHard to define eligibility or set boundaries for which organisations to fund. The criteria would need to be strict to counter accusations of cash cowsIt may be a challenge to administer the scheme	Solutions <ul style="list-style-type: none">Administration would be easier if shopping malls themselves took the initiative to set up differential pricing structures and reserve a limited number of cheaper spaces for green businesses. The shopping centres could use this for green profiling.Accusations of unfair competition could be countered by making support available for companies including high street brands, conditional on them setting aside part of their floor space for second-hand sales, repair areas. This would professionalise and normalise these business modelsWell-designed communication strategies by shopping centre administrations and/or municipalities emphasising the green goals could reduce resistanceShops run by non-profit organisations, could tackle the problem of long opening hours if the support was launched in combination with wage subsidies
Stakeholders and first steps <ul style="list-style-type: none">Key stakeholders would be owners/administration of central shopping centres along with municipalities and/or state authorities providing funding if necessary. Branch organisations such as Svensk Handel could also be involved to ensure fairness in the system and acceptance amongst high street brandsA progressive green municipality could be a first mover and engage shopping centres in such a support/price structure scheme. Alternatively It could be initiated by a real estate company with a stake in several shopping centresMunicipalities could assist via making provisions for reserved shopping spaces for second-hand, repair, leasing businesses in Local Plans	

6. conclusions and next steps

A first evaluation has been carried out on ten potential policy instruments that can support business models that extend the lifetimes of garments through sharing, reuse, and repair. Each of the ten instruments overcome one or more of common obstacles that are faced by businesses that which to adopt and expand these models.

The 10 instruments represent a wide range of possible actions. Some of them would require regulation changes to implement, others are economic or information-based but all would have some cost to the administering body, either through loss of revenue, administration costs or direct funding costs. These costs have not been calculated under this task. The magnitude of positive impacts of each instrument on the business models in focus would vary but can be increased in each case by careful design of the instrument. Critical design factors to increase impacts, reduce bureaucracy, risks of abuse, and levels of resistance from industry stakeholders are described for each instrument.

While there is room for manoeuvre in terms of careful and intelligent design, there are overlying differences between instruments in the potential magnitude of their positive impact and in the so-called 'do-ability': the degree of acceptability of the instrument to various stakeholders, and the ease of implementation and administration of the instrument.

A small group of stakeholders plotted potential magnitude of impact against do-ability. The results found that there is no silver bullet that would both have a high impact and be relatively easy to get accepted and implemented. Instruments like a resource tax on new fibres, which are expected to have strong positive impacts on business models aiming at extending active lifetimes, are likely to meet strong opposition from industry. Conversely, those instruments that would be easier to implement, would have a more moderate positive impact on the 'green' business models.

The stakeholders found the instruments listed below most favourable. It should be remembered, however, that this was a small group of stakeholders and the results should be considered with caution.

- Reduced VAT for reuse, sharing, second-hand, repair, leasing
- Support for second-hand in central shopping malls
- Start-up transition funding and government-supported knowledge hubs
- Wage subsidies targeted at these models

These are all instruments that can be carried out at national or local level in Sweden, rather than being more appropriate at EU level. Moreover, there is strong level of synergy and compatibility between the instruments. They should not be seen as mutually exclusive. As a package they could provide considerable support to business models for extending the lifetime of garments.

Workshop stakeholders selected two instruments for further analysis in groups. Interestingly one of these – durability labelling – was not one of those that plotting magnitude of impact against do-ability would necessarily have favoured. The stakeholders mapped out winners and losers, obstacles to adoption and implementation and solutions to these obstacles. They also described a first implementation roadmap.

Under the next task (3.2.5) in the Mistra FF User Programme, a selection of the 10 policy instruments will be studied at a more detailed level. Options for how they can be designed and implemented in Sweden will be examined, and their likely impacts and benefits evaluated. Where they exist, experiences with similar instruments in other countries may provide important input to this evaluation.

ned and implemented in Sweden will be examined, and their likely impacts and benefits evaluated. Where they exist, experiences with similar instruments in other countries may provide important input to this evaluation.

The first step will be to select which instruments should be evaluated. This will take account of the selection made by the workshop stakeholders but will also take account of other factors such as whether the instruments would best be implemented at national and local level or whether it would be most appropriate at EU level. Instruments that can be implemented within Sweden will be prioritised due to the nature of the Mistra Future Fashion Program.

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Mistra Future Fashion is a research program that focuses on how to turn today's fashion industry and consumer habits toward sustainable fashion and behavior. Guided by the principles of the circular economy model, the program operates cross disciplinary and involves 50+ partners from the fashion ecosystem. Its unique system perspective combines new methods for design, production, use and recycling with relevant aspects such as new business models, policies, consumer science, life-cycle-assessments, system analysis, chemistry, engineering etc.

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