

Fibre to fibre recycling of textiles

WE Fashion



Rijkswaterstaat
Ministry of Infrastructure and the
Environment



Project supported by LIFE funding



Company: WE Fashion

Product or service: fashion
retailer

Pilot: Denim highlights

Key Facts

- Design, production and sale of four knitted styles for men as part of the denim highlights project
- Two types of yarn were developed in various colours
- The composition of one yarn comprises a mix of approximately 50-50% recycled cotton and Tencel. A few per cent of polyester was added to the mix in the other yarn.

Results

- The recycling of raw materials in this pilot achieved positive environmental impact. An indication of the profit in 2018 is:
 - Water savings: 84 m³
 - Energy savings: 10,665 kWh
 - CO₂ reduction: 1.7 tonnes
- In 2018 an estimated 1.4 tonnes of discarded waste were saved from incineration
- It is possible to develop specific yarns with recycled content for products that fit into a standard process
- Communication and planning are crucial for success and require extra attention
- The purchase price was ultimately higher than normal and requires additional work.

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Overview of the company

Introduction

WE Fashion is a Dutch fashion retailer with stores in various Northern European countries. The chain forms part of Logo International BV. Target audiences are individuals and families, men and women aged between 20-35. www.wefashion.com

Mission and vision

'WE design to connect' is our mission. WE Fashion stands for connection and a desire to provide clients with precisely what they need. Our clothing can be combined easily with all our own collections and those of other brands. And, by means of our brand, our communication and our attractive collections, we connect the customer with their environment. We are called WE and have the motto 'WE Get Together' for a very good reason.

Corporate social responsibility

WE has recorded its sustainable strategy in the 'Corporate Social Responsibility (CSR) Strategy 2015-2020'. It formulates a great many actions, with 'develop products made of recycled materials' being an example. A fundamental part of our strategy is transparency. We want to declare what we have achieved and show our words are backed up by actions.

Cooperation with suppliers and other stakeholders

WE uses various suppliers for the procurement of its products for men, women and children. Whether or not the relationships with the suppliers are long-lasting depends on the variation in products and fabrics in the collections, among other things. WE mainly has relationships with CMT businesses and not with suppliers of yarns and fabrics. The development of new yarns and fabrics normally falls outside the procurement process within WE.

Why ECAP?

ECAP – the European Clothing Action Plan – is a project part funded by the EU LIFE programme. The project aims to achieve waste prevention, a reduction in water and energy use and a reduction in CO2 emissions in the textile chain. ECAP uses FsF pilots to support businesses in their commitment to circular textiles and the reduction in the use of virgin materials. The pilots are intended to develop knowledge and insight into the use of recycled textile material in new clothing. For WE Fashion, this meant a stimulus to take the next step to high-quality recycling of textile.

Recycling of denims and T-shirts

The pilot aims to find out whether WE Fashion can set up a process with post-consumer recycled yarns with the current suppliers for men's fashion. A start will be made with discarded denims and white T-shirts for reasons of volume and experience with recycling.

**"Our ultimate goal is to deploy this yarn,
or a variant of it, for future orders"**

Joris Aperghis, CEO at WE Fashion.

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What we did

WE Fashion participated in a demonstration project in 2011-2013 to show that recycled fibres from textile material can be used to create new clothing. At the time, two old uniforms were used to produce two knitting styles for men which were sold in WE Fashion stores. With the ECAP pilot, WE takes the next step, where the lessons learnt in the former projects are put to use.

The ECAP pilot started up the internal process in early 2017 in order to develop the project and create support for this within the organisation. The products were in stores on 10 October 2018, the day of sustainability in the Netherlands. The project was completed in December 2018.

The following activities were carried out:

Selection of products

A knitted products for men was selected on the basis of a fine yarn. Two styles are developed in various colours. If this is successful, products for women and children will be considered as well.

Engage Supply chain partners

WE normally works with suppliers of producers (CMT). Cooperation with a spinner and a knitter will also be required in order to develop products with recycled content. An important lesson from the previous project was that the final product has to be the starting point for the development of the yarn and the choice of spinner. WE worked with the open innovation centre for textile recycling in the Texperium (www.texperium.eu) for guidance in the development of yarn and in order to find a spinner.

WE Fashion brought the spinner into contact with a trusted supplier, who offers both the knitting and the making-up of the pullovers. The yarn was jointly developed, subsequently produced in bulk by the spinner, and supplied to the knitter/pullover producer.

Development of yarn and fabric with recycled content

A fine yarn was required for the desired styles with a slub or moulaine effect. For the composition, the parties strove for a minimum of 50% recycled jeans, mixed with a sustainable viscose. Furthermore, recycled cotton from white T-shirts was used as a contrasting colour.

The choice of a high level of recycled content meant that dyeing was ultimately required to get the right colour. This meant that less water was saved. In the event of a lower percentage and a different fibre mix, there are other options for sustainable colouring, for example by colouring the viscose fibres in the production process. This does not require any extra water. If you mix the coloured fibres, you will be able to create a vast pallet of coloured yarns.

Communication plus engaging clients

The intention was to present the pullovers with recycled content and the story of denim recycling during a promotional action for denims Summer 2018. So they decided to launch in the Netherlands on the day of sustainability. Special hang tags were designed in order to indicate the environmental impact. The pullovers are easily recognisable as being sustainable in the web shop, and social media were used to promote them.

Tip:
First consider design



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Challenges

- Long-term strategy, required to follow-up the pilot
- Volume in combination with the purchase price
- Lack of time and options for the development of new yarns with spinners. It has to be done in between production
- Mutual coordination of planning and deadlines for the various parties
- Training of (store) staff due to work pressure and working hours. Infrastructure or resources are not available for online solutions.

“We want to show everybody that we can create great products with recycled materials”
Marijke Willemsen, CSR manager WE Fashion

Results and impact

- The pilot formed part of the standard production process. All departments are involved.
- Two knitting styles in various designs were produced and sold in stores
- The pullovers were provided with a hang tag with information on the environmental impact
- The pullovers were presented separately on the website with the slogan “recycled cotton”
- Despite the higher purchase price, the pullover was priced in line with other similar items
- The original launch simultaneously with the other denim products failed due to late delivery of the yarns
- Disappointing sales figures.

Fabric composition	product	number	Total re - cotton weight kg
Re-Cotton from post-consumer denims/T-shirts Yarn 1: 51% Re-Cotton from denims, 49% Tencel Yarn 2: 50.5% Re-Cotton from T-shirts, 45% Tencel, 4.5% Polyester	Garment 1 (2 styles)	2,998	722.5
	Garment 2 (2 styles)	2,994	733.5
Total			1,456

Indication of environmental savings
 (Source: Texperium, except for the waste figure)

	Per kg	Total ECAP pilot	
Water	3,485 litres	584	M3
CO2	1.58 kg	1.7	tonnes
Energy	6.32 kWh	10,665	kWh
Waste		1.4 kg	post-consumer textiles

Business case

- The pullovers came in store too late due to a delay in the production of the yarns
- POS material in-store was not developed for table presentation, so items did not gain the required attention
- The pullovers were presented next to other pullovers in a promotion so we had to accept immediate markdown.

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Next steps - long-term strategy of the company

WE intends to continue to develop yarns in the future. Various options not explored in the pilot are interesting and worth further consideration. The spinner also continued to develop yarns with recycled content and wants to put them on the market with standard quality and labels. Plans for this still have to be worked out. As for now, opportunities within the current working method will have to be seized, for example the procurement of yarns and the fabric on the market.

“We as a company are confident we can start developing yarns with other parties for future collections!”
Marijke Willemsen, CSR manager of WE Fashion

Success factors

- Selection of a product based on long-term relationships with the supplier and sufficient internal turnover
- Design needs to be considered first. The development of yarns should tie in with the specific requirements and designs of WE. The designer should be involved from the first meeting. The look should fit with WE.
- Inclusion in the regular process: the look and feel should suit the look of WE designs (design director decides)
- Support of CEO
- Suppliers should have experience with recycled industrial waste
- Integral approach of Texperium.

Lessons learnt

- Working with the recycling and C2C business is very difficult for fashion retailers. The agendas of the companies do not match and there is little understanding of limits in each other's worlds. Developing a better understanding by communicating better is indispensable.
- Planning and logistics are of great importance for the commercial success of these new products
- The support of company management is required to ensure that all departments are involved in the pilot
- The consequences of technical choices during the development process for the ultimate yarns are difficult to assess for the retailer
- A retailer can only contribute towards the development of new yarns at an affordable price in case of high volumes
- Elastane is not a problem for mechanical fiberising according to Texperium.



Tip: Align your pilot with your standard process.

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ECAP is €3.6 million EU LIFE funded project which aims to reduce clothing waste across Europe and embed a circular economy approach.

ECAP mission

Cutting the environmental impact of clothing across the supply chain. Generating value for business through collaboration, measuring and sharing best practice

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Case studies were generated as a result of pilots carried out for ECAP by the Dutch Ministry of Infrastructure and the Environment and the specified organisations from 2016 to 2018.

THIS GARMENT IS MADE FROM POST-CONSUMER RECYCLED COTTON. WE HAVE ADDED TENCEL TO MAKE THE YARN STRONGER. BY OPTING FOR THIS MATERIAL, WE USE LESS WATER, CHEMICALS AND ENERGY.



92%
WATER SAVINGS
PER PRODUCT



12%
CHEMICALS SAVINGS
PER PRODUCT



8%
ENERGY SAVINGS
PER PRODUCT

RECYCLED COTTON

