This summary report provides an overview of opportunities to improve the environmental impact across the supply chain from manufacture to end of life of household textiles.
WRAP’s vision is a world in which resources are used sustainably.

Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

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Report overview

In 2014/15, WRAP undertook a small programme of work looking at non-clothing or household textiles. This involved undertaking three projects to gain an understanding of:

- the household textiles market;
- consumer behaviour in relation to the purchase, use and disposal of household textiles; and
- the opportunities for businesses to reduce the environmental impact of household textiles.

This summary report provides an overview of this work and identifies opportunities to improve the sustainability of household textiles.

The household textiles focussed on included:

- bedding (e.g. duvets and pillows);
- bed linen (e.g. bedsheets, duvet covers and pillow cases);
- curtains (fabric);
- cushions;
- cushion covers;
- mattress covers;
- tea towels; and
- towels.
Key facts

- The value of the UK household textiles market was approximately £3.44bn in 2013\(^1\).
- Of this, bedroom textiles was the largest component with approximately 50% or £1.7bn of the total market.
- The total UK market size for household textiles is approximately 270k tonnes per annum out of approximately 2.5-2.7 million tonnes of total textiles consumed.
- Industry surveys indicated that only approximately 5% of household textiles are collected for re-use and recycling.
- However, from the consumer research work WRAP undertook, between 1/5 and 3/10 of respondents stated that they recycled household textile items – highest for tea towels and towels at 29% and lowest for curtains at 20%; and
- Between a tenth and a third of respondents donated items to charity organisations – highest for curtains at 36% and lowest for tea towels at 12%.

Household textiles: consumer behaviour

Investigating consumer practices around purchasing, cleaning, repairing and discarding of household textiles

The general lack of data on consumer practices, in terms of reasons for disposal, washing patterns and life expectancy of items, impedes developments within the industry to reduce the environmental impacts and extend longevity and active use of household textiles. In February 2015, WRAP commissioned research to explore practices around purchasing, cleaning, repairing and disposing of household textiles to fill this evidence gap.

The research objectives were to:

- gather detailed insight into consumers’ current practices in relation to household textiles in order to understand opportunities; and
- establish a baseline against which to compare future results enabling tracking of consumer behaviour change and associated attributable impacts over time.

Informed by data from a bespoke omnibus survey and cognitive interviews to iteratively test and review the questionnaire, the end results are from a 3,406 strong, UK representative online panel sample administered by Populus.

The questionnaire was structured around the lifetime of products from purchasing and ownership to cleaning to repairing and to discarding. It focused on eight key items: bedding (e.g. duvets and pillows); bed linen

\(^1\) Keynote, 2014, Market Report 2014 Home Furnishings
Household textiles

(e.g. bedsheets, duvet covers and pillow cases); curtains (fabric); cushions; cushion covers; mattress covers; tea towels; and towels.

The infographic (Fig 1) summaries the key facts and insights from the consumer research conducted.

Figure 1: Consumer habits of household textiles.

Recommendations (consumers)

Consumers can make their household textiles last longer and increase their active life by considering options for passing these on at the end of their use.

The key opportunities for consumers identified from the research work which would help to increase the life and extend the active use of household textiles (consumers)

- Curtains
- Tea towels
- Pillows
- Mattress covers

Figure 1: Consumer habits of household textiles.

1. Consumers can make their household textiles last longer and increase their active life by considering options for passing these on at the end of their use.

The key opportunities for consumers identified from the research work which would help to increase the life and extend the active use of household textiles (consumers)
Household textiles along with reducing the environmental impact, and reducing costs are:

- Encouraging purchasing of second hand textiles;
- Supporting consumers to wash at lower temperature and less frequently, saving money on laundering and also helping increase the active life of household textiles;
- Dissuading consumers from using fabric softeners when washing towels and tea towels;
- Encouraging a shift away from discarding household textiles via waste bins where appropriate. For instance consumers should look to reuse, sell / pass on or give to charity;
- Focusing on younger consumers who want to reduce their impact on textile waste; and
- Ensuring that any communication and future research is sensitive to the strong gender bias present in most practices involving household textiles.

Love Your Clothes\(^2\) has a range of easy and practical tips and advice on how to, make your clothes last longer, reduce the environmental impact of laundering your clothes and deal with unwanted clothes. Many of these tips could be replicated in the household textiles area.

**Household textiles: business case for reducing impact**

**Investigating opportunities to reduce the environmental impact of household textiles**

This project was commissioned in November 2014 to identify cost-effective actions that if implemented could reduce the environmental impact of household textiles. The project evaluated the arisings of household textiles using desk-based research methods and used supply chain interviews to assess opportunities for environmental improvements.

**Key product opportunities:**

**Bedding**

- The removal of bleaching of the outer fabrics that would reduce the environmental impact of processing but would require consumer education to accept off-white covers; and
- The addition of siliconised finishes to synthetic fillings that could double the life of a duvet or pillow by stopping clumping of fillings.

\(^2\) http://loveyourclothes.org.uk/
Towels

- Retailers already offer consumer advice about the use of fabric conditioners which can affect the absorbency. However, the take-up of this is variable. Therefore, there is an opportunity to increase the product life of coloured towels through consumer education about avoiding detergents containing bleach and optical brightening agents; and
- Fabric thinning was identified as a reason for product discard and could be addressed through the use of biopolishing to remove surface fibre and reduce fibre shedding in use.

Kitchen linens

- An opportunity to increase product life of coloured linens exists through consumer education about avoiding detergents containing bleach and optical brightening agents; and
- Higher use of pigment printing and biopolishing of kitchen towels could help reduce processing impacts and extend their life.

Window dressings (including curtains)

- The category of window dressings is the most difficult to assess as a significant proportion of this sector is made to measure. Whilst ready-made window dressings go through retailers’ regular ordering and sales systems, the made to measure market is not captured in the same way so little information is available;
- Pigment printing could be used to reduce the impact of processing in this product category;
- End of life collection and take back schemes could provide an opportunity to re-use through the re-styling of made to measure window dressings.

Recomemendations (business)

There are a number of cost effective opportunities that could be undertaken by business and improve the environmental impact across the supply chain of household textiles.

Household textiles are in some ways an attractive recycling opportunity due to more consistent colours, larger size items and fewer fastenings and additions but is currently limited through a lack of markets and financial benefits.

With the exception of towels, products within the sector tend to be long-lasting and less frequently updated than clothing. There is a lack of variety of technical skill in the supply chain and a general reluctance to add chemical finishes through supply chain due to effluent treatment concerns. There is little understanding of how chemical finishes could help increase product life.

Although more recommendations were identified, the three which had the strongest business case for implementation based on the criteria used within this project were:

- Use of anti-bacterials (applicable to all products with the exception of curtains);
• Use of siliconised fillings (applicable to bedding only);
• Biopolishing (applicable to towels and bed linen).

If all three of these opportunities were implemented there would be potential environmental savings of up to:
• 1,951kt CO2e or a reduction of 34% of the sector’s footprint;
• 267Mm3 water or a reduction of 19% of the sector’s footprint; and
• 29kt waste or a reduction of 9% of the sector’s footprint.

A further seven opportunities were deemed to have a case for implementation and these are:
• Pigment printing (applicable to all products except bedding);
• Right first time application of dyes and finishes (applicable to all products);
• Industry education on available technologies (applicable to all products);
• Use of high fixation dyes (applicable to all products except bedding);
• Use of easy care resin (applicable to bed and kitchen linens);
• Polyester cotton blends (applicable to all cotton products); and
• Alternative cottons (applicable to all cotton products).

In implementing these opportunities, the following observations should be borne in mind:

• Cultural differences around the world can make the implementation of these actions difficult, for example where there are little or no restrictions on effluent discharge or treatment;
• Staff turnover in dyehouses can be very high, meaning any process changes and controls implemented can be lost quickly;
• Anti-bacterials have a potential unknown negative impact on the sewage system; and
• Regional variations in commodity prices, such as water and energy, can make some of the opportunities less attractive in some areas.

Further details can be found in the full reports, which are available on the WRAP website:

• Non-clothing textiles: consumer purchasing, use and discard practices, WRAP, 2015 (REC601-001)