



Corporatewear Project 2008/2009  
Workplan (Public)

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The Centre has a website dedicated to the dissemination of information on remanufacturing activity in the UK. Here, interested parties can find resources for purchasers and (re)manufacturers, read case studies, engage in the debate, join the mailing list or view the news feeds and more.

Please visit: [www.remanufacturing.org.uk](http://www.remanufacturing.org.uk)

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# 1 Introduction

## 1.1 About the Centre for Remanufacturing and Reuse

The aim of Defra's BREW programme is to return additional landfill tax receipts, from April 2005, to business in a way that supports businesses in improving their resource efficiency and waste management. The Centre for Remanufacturing and Reuse, managed by Oakdene Hollins Ltd, is one of a number of delivery bodies undertaking initiatives within this programme.

The Centre's work programme was established to provide an in-depth examination of remanufacturing and reuse options and how they can contribute to an economy of sustainable production and consumption in the UK.

The first year of the Centre's work for BREW (2006/07) comprised a pilot programme that collected evidence as a basis for further intervention in Year 2. Over 16 product groups were examined in order to determine their remanufacturing potential and produce intervention strategies. This was backed by an industrial Stakeholder Event to test the findings and Year 2 priorities, as well as other fundamental work conducted on terminology, reuse, and decision support and policy action.

The second year of work (2007/08) addressed the actions identified in year one, working with groups of remanufacturers to tackle key barriers to progress, sometimes in conjunction with other BREW delivery bodies such as Envirowise and Action Sustainability.

Now moving into the third year of work (2008/09) the Centre is looking to support and implement practical solutions in key product areas, including clothing and textiles.

## 1.2 Terminology

Corporatewear, as defined in the report 'Corporatewear UK Market Study 2007 -2012', encompasses five product sub-categories; work wear, protective wear, career wear, casual wear and uniforms.

## 1.3 Background

Generally, clothing items are disposed of when they are no longer considered fit for purpose due to a change in:

- Technical performance;
- Aesthetics or appearance;
- Dimensions or fit; or
- User requirements, often as a result of fashion trends.

However, corporatewear is often discarded before a change in technical performance or appearance occurs. This is mainly due to corporate re-branding exercises or clothing contract renewals, which usually occur every 2-4 years.

Reuse and recycling of corporatewear in the UK is currently operating on a relatively small scale, at less than 5%. Key barriers to reuse and recycling include heterogeneous fibre composition, construction and garment design inhibiting disassembly and the strong individual identity of corporate uniforms, which can often pose a security issue if they are not removed. As such, corporatewear from high level security sectors (such as transport and public services) is often security shredded and disposed of to landfill.

End-of-Life corporatewear is, for the majority, an unattractive resource to textile recyclers due to severely limited reuse markets. For the few textile recyclers that do accept corporatewear, individual garments must be mixed in with ordinary bales of clothing. Simply put, buyers in overseas markets do not want large quantities of similar items since they are of little value.

To significantly reduce the environmental impacts of corporatewear at End-of-Life a number of different approaches need to be investigated including three key areas; design and construction, fibre composition and End-of-Life management.

The Centre for Remanufacturing and Reuse, a Defra funded initiative, has received funding (up to £100,000 inc VAT) to conduct a 12 month project to implement and test the opportunities for improving the reuse and recycling options for corporatewear to be completed by March 2009.

## 2 Corporatewear Project

### 2.1 Aim

***“To improve the reuse and recycling options for corporatewear through practical research and the development of supporting resources and trials.”***

This project has received approval from Defra due to its potential to impact on the resource efficiency of a key material stream, clothing and textiles<sup>1</sup>.

It is intended that this project will lay the groundwork to establish feasibility of actions that can be implemented in 2009/10 with tangible environmental and economic benefits for the corporatewear sector, and potentially reaching beyond this sector into the overall clothing industry.

### 2.2 Workplan

Within this project, a portfolio of sub-projects will be undertaken in four key areas:

- Garment design and construction (1 project)
- Fibre composition (1 project)
- End-of-Life management (2 projects)
- Policy (1 project)

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<sup>1</sup> Clothing and textiles have been identified by Defra as Priority Product, see: <http://www.defra.gov.uk/environment/consumerprod/products/index.htm>

Further details for each of these sub-projects are presented in this workplan, including:

- Summaries of sub-project and workplans including budget and deliverables; and
- Project team.

This workplan has been devised by the CRR in collaboration with key stakeholders from the corporatewear sector. Feedback was obtained from industry representatives in two stages;

1. Draft proposal review and comment submission (by Friday 18th April 2008 see documentation in Appendix 1); and
2. Pre-project workshop (held in Long Eaton, Nottingham on Thursday 8th May 2008 see Appendix 2 for documentation).

The Centre is seeking to provide practical solutions to the corporatewear industry. Therefore, this project will continue to involve active stakeholder engagement as a key element. By maintaining an open dialogue with the corporatewear industry this will ensure that relevant and practical results are delivered in the short to medium term.

## 2.3 Proposed Benefits

The UK corporatewear sector, as whole, was valued at approximately £446m (at wholesale prices) in 2007. In total, the combined unit volume of all corporatewear categories was estimated to be 33.4 million garments in 2007, with around 10.94 million wearers<sup>2</sup>.

The proposed corporatewear project will bring a number of benefits, in both the short to medium-term, to a range of stakeholders. These benefits are presented in Table 2.3 and are aligned with the standard BREW metrics methodology.

## 2.4 Project Dissemination

As previously mentioned the Centre is committed to providing practical solutions for the corporatewear industry. The dissemination of both the progress and outcomes of this project are essential to raising awareness of and creating demand for opportunities to improve resource efficiency in the corporatewear sector and the wider clothing sector in the UK and overseas.

Therefore, opportunities for the dissemination of information will be explored and utilised at appropriate times by the Centre and project partners, without compromising sub-project confidentiality agreements. Project information will also be placed on the Centres dedicated remanufacturing and reuse website<sup>3</sup> and in the bi-monthly newsletter.

Samples, proof on concepts and demonstrations from sub-projects will be disseminated wherever possible to both the corporatewear sector and to the wider clothing industry.

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<sup>2</sup> Corporatewear UK Market Study 2007 -2012, 6th edition, Company Clothing

<sup>3</sup> <http://www.remanufacturing.org.uk>

**Table 2.3 Proposed Benefits of CRR Corporatewear Project 08/09**

Target impact				CO <sub>2</sub> saved (t)	Virgin material displaced (t)	Materials diverted from landfill (t)	Water conserved (mt)	Savings to business (landfill costs £)	Assumptions
Year	% Reused	Approx no. of garments (millions)	t						
1	2	0.66	220	4,400	220	220	2	8,800	<ul style="list-style-type: none"> <li>• Total corporatewear = 11,000 tpa based upon average of 1 tonne per 3000 garments and total unit volume of 33.4 million garments<sup>4</sup></li> <li>• Carbon impact based on 20t CO<sub>2</sub>/t textile average<sup>5</sup></li> <li>• Water impact 10,000 t/t textile average</li> <li>• Landfill cost based on average £40 pt</li> <li>• Manufacturing inefficiencies not included</li> </ul>
2	4	1.32	440	8,800	440	440	4	17,600	
3	7	2.31	770	15,400	770	770	8	30,800	
<b>Total to end of Yr 3</b>		<b>4.29</b>	<b>1,430</b>	<b>28,600</b>	<b>1,430</b>	<b>1,430</b>	<b>14</b>	<b>57,200</b>	
4	11	3.63	1,210	24,200	1,210	1,210	12	48,400	
5	15	4.95	1,650	33,000	1,650	1,650	17	66,000	
<b>Total to end of Yr 5</b>		<b>12.87</b>	<b>4,290</b>	<b>85,800</b>	<b>4,290</b>	<b>4,290</b>	<b>43</b>	<b>171,600</b>	

<sup>4</sup> Internal documentation from CRR Sponsored feasibility project 'RECO' SATCoL, NIRI and Matthias and Sons 2007

<sup>5</sup> Annex A, Defra Waste Strategy for England 2007 p71

## 3 Sub-Project Workplans

### 3.1 Garment Design and Construction (1 project)

#### **Title**

Alternative Joining Methods to Enable Reuse of Corporatewear (Ref: 2.1.2)

#### **Aim**

To assess the feasibility for using reversible alternative joining methods in corporatewear to enable garment disassembly for reuse and recycling at end-of-life.

#### **Overview**

This project will investigate the use of reversible alternative joining methods in commonly used corporatewear fabric types as opposed to conventional sewn seams and assess the potential for improving the reuse of corporatewear garments at end-of-life.

There will be 4 stages in this project:

1. Identify & source commonly used fabrics in corporatewear
  - Based on the analysis of commonly used fibre/fabric types from project 2.1.2, samples of these will be sourced from consortium members.
  - The suitability of these fibre types for heat bonding will be determined at this stage.
2. Samples of conventional and alternative joining methods
  - Samples of conventionally sewn and heat bonded seams using fabric types suitable for heat bonding will be produced.
  - A comparative lab test will then determine the performance of the heat bonded seams against stitched seams.
  - Attempts to 'reverse' the heat bonded seams will then be undertaken and documented.
  - Samples of seams before and after heat bonding and conventional seams will be produced for use in dissemination activities (to be labelled with relevant product and technical data, laboratory + Sally Cowan info).
3. Feasibility report
  - A final report detailing the methodology applied and results will be produced including illustrations of the samples and technical data.
  - The report will also determine the feasibility for applying heat bonding techniques on a larger scale to enable recycling and reuse at end-of-life.
4. Follow-on
  - The CRR will hold an end of project meeting with Sally Cowan to discuss the results and, if feasibility is proven, additional funding will be utilised to fund a follow-on project. £10k has been ear-marked for a potential follow-on project.

The key output from this project will be physical 'Proof of Concept' samples of heat bonded and sewn fabric types, accompanied by a report detailing the methodology applied and results of testing and reversal of the heat bonded seams. The report will also outline the feasibility of applying this commercially along with identifying next steps for taking this work forward (i.e. wearer trials).

### **Outcomes**

1. Results disseminated to the corporatewear sector via online resource (see 2.3.3).
2. Uptake by the corporatewear manufacturing industry and textile recyclers.
3. Decrease in the amount of clothing sent to landfill.
4. Increase in the amount of clothing reused or recycled, providing carbon benefits.

### **Timescale**

- 6 months (feasibility study) August – October 2008
- Follow-on to be determined at the end of the project

## **3.2 Fibre composition (1 project)**

### **Title**

Use of Alternative Fibres in Corporatewear (Ref: 2.2.1)

### **Aim**

To build a database and provide a resource detailing alternative fibres types suitable for corporatewear including comparison against conventional fibre types.

### **Overview**

Drawing on the experience of team members and through contact with others within and outside the project consortium, information will be gathered to provide a database of the fabrics that are currently used within the corporate clothing industry. This will be expanded through a desk based investigation to include potential alternatives. Performance data, available from manufacturers and academic partners within the consortium, will be included in the database along with potential end-of-life recommendations.

Information generated by this project will be made available through the web resource developed in project 2.3.3.

This project will consist of 4 key work stages:

1. Identify commonly used fabrics in corporatewear
  - It is necessary to understand the range of fabrics that are currently used in corporate clothing. These details will be acquired using data from users and suppliers within the project partners and external companies known to be involved in the relevant areas. The information collected from these sources will also provide an appreciation as the reason behind the selected fabrics. Data will be collated by DMU to form the centre of the materials database.
2. Potential alternative fabrics

- A review will be carried out using the information from the initial survey and augmented with data relating to potential alternatives materials collecting data from fibre/fabric manufacturers.
3. End-of-Life possibilities for corporate clothing
    - The potentials for end of life uses of the fabrics, whether this is reuse, recycling, remanufacture or sending to land fill will be reviewed in conjunction with companies involved in these end of service activities to provide information for the corporate clothing user and supplier. This will include a brief economic assessment of the various options.
  4. Database
    - Data relating to the materials available, their properties and end of life potentials will be brought together to provide a single database that can be accessed by users, suppliers of designers and hosted by the CRR

### **Outcomes**

- Results disseminated to the corporatewear sector via online resource (see 2.3.3).
- Uptake of alternative fibres in corporatewear manufacture.
- Increase in recycling and reuse of corporatewear and development of end markets.
- Decrease in amount of corporatewear sent to landfill.

### **Timescale**

- July 2008 – January 2009 (6 – 8 months)

## **3.3 End-of-Life management (2 projects)**

### **PROJECT A**

#### **Title**

Product Labelling for Improved End-of-Life Management (Ref: 2.3.1)

#### **Aim**

To develop a concept for a single product label that will simplify reuse and recycling at end-of-life.

#### **Overview**

This project will consist of an investigation (primarily desk based but also including stakeholder interviews) to determine the feasibility of corporatewear garment labelling to enable improved End-of-Life management.

1. Literature review
  - Literature review of labelling systems from around the world, including:
    - Different types of labels (RFID, barcodes, colours)
    - Label contents (information, symbols)
  - Summary of information in tables categorising and comparing global industry standards.

2. Case studies
  - Conduct case studies to model existing end-of-life processes that incorporate labelling schemes (e.g. Royal Mail).
3. End user survey
  - Survey consumers to identify current impact of labels and determine the type and level of information required.
4. Concept development
  - Develop single label concept models and identify the impact that this would have upon:
    - Government policies
    - Corporatewear industry (including benefits)
    - Environment (routes used, i.e. zones 1, 2, 3; labour cost; profit; time)
    - Process models
    - Development and implementation costs
5. Report
  - Containing all of the above information and recommendations for Government policy and industry.

### **Outcomes**

- Results disseminated to the corporatewear sector via online resource (see 2.3.3).
- Depending on acceptability by industry, formalisation of information requirements for label.
- Commitment from corporatewear manufacturers to uptake End-of-Life label.
- Development of a useful labelling system to enable increased recycling and reuse.
- Decrease in corporatewear sent to landfill.
- Increase in corporatewear recycling and reuse.

### **Timescale**

- 6 months

## **PROJECT B**

### **Title**

Managing End-of-Life Corporatewear Garments (Ref: 2.3.3)

### **Aim**

To develop an online resource which will educate the corporatewear sector about the availability of garment reuse operations in the UK and how to increase reusability by making key considerations when buying. The website will also disseminate information from the other corporatewear projects.

### **Overview**

The key output from this project will be an online resource which will serve as a 'one-stop' site for the corporatewear industry. The content of this website will consist of information to educate the entire corporatewear supply chain in order to improve and

increase reusability of corporatewear (present and future) and divert garments from landfill.

There are six key objectives which will be addressed in this project:

1. Background information
  - The website will feature a section on background information which will include:
    - An introduction to the CRR Corporatewear project;
    - List of contributing project partners (+logo and links) by sub-project;
    - Analysis of current volumes and future predictions of corporatewear; and
    - Key barriers and opportunities to reuse of corporatewear.
2. Best Practice case studies
  - Interviews and site visits will be conducted by the CRR with contacts who are identified as leaders in Best Practice by the project team. It is anticipated that these contacts will include companies from production to end-user stage of the supply chain and address key issues such as reverse logistics/take-back, reuse and leasing. From this information, a series of case studies will be produced for dissemination on the CRR website.
3. Best Practice Guideline
  - A Best Practice Guideline for buyers who wish to improve the reusability of corporatewear in the future will be produced. This will include:
    - Highlighting areas which prevent reuse and ways to avoid these;
    - Take-back strategies including staff incentivisation schemes; and
    - Detailing sustainability benefits for that can be achieved through reuse.
4. Online resource
  - The online resource will be developed and managed by the CRR in liaison with the core project team for this project. Information generated by projects 2.1.1, 2.2.1, 2.3.1 and 2.4.1 will also be disseminated via the website.
  - A directory of companies (across the supply chain) who can assist those who want to dispose of their corporatewear in a sustainable manner or develop/purchase more sustainable clothing will be integrated into the website.
5. Dissemination
  - Various ways of disseminating the website and will be discussed by the project team and followed up wherever possible.

### **Timescale**

- 9 months (June 2008 – March 2009)

## **3.4 Policy (1 project)**

### **Title**

Taxation Issues in Corporatewear

## **Aim**

To review current HMRC policy for taxation of corporatewear, submit and obtain a response from HMRC on an evidence paper regarding the tax implications and benefits.

## **Overview**

For some time, the Inland Revenue has imposed what is often described as a 'wearer tax' on corporatewear garments that are issued to employees that do not carry a permanent corporate logo.

Plain clothing that is issued without charge to the employee is considered a 'benefit in kind' if it is able to be worn outside of the workplace without being able to be clearly identified as a workwear garment. As such this can incur taxation charges of 25% of the cost price to either the employee or employer if the issued clothing has not been visibly logo'd.

This means that workwear often carries a permanent, highly visible and identifiable logo, either printed, embroidered or in the form of a woven 'tax tab'. It would appear that temporary logos such as pin badges do not satisfy the requirement as the clothing is unmarked once these are removed.

The use of logos often restricts the reusability of a garment, particularly if security poses a serious issue, and this tax is seen by the sector as being somewhat out of date and a major barrier to reuse.

The project will primarily involve gathering data for an evidence paper which will be submitted to HMRC. A meeting will be held with HMRC to discuss the official response.

## **Outcomes**

- Results disseminated to the corporatewear sector via online resource (see 2.3.3).
- Change in HMRC policy.
- Increased reuse of corporatewear.

## **Timescale**

- 6 months (June 2008 – January 2009)

## **4 Further Information**

For further information about this project please contact:  
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