

Peer review statement

Research Project - EV0421: Maximising the Reuse and Recycling of UK Clothing & Textiles

Report reviewed: Final Report (including both Technical and Summary Reports)

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Peer reviewers: Søren Laursen, Bestseller and formerly of the Danish Textiles Institute
Cecilia Malvido, Condiseño (design consultancy) and co-author of the "Well dressed? The present and future sustainability of clothing and textiles in the United Kingdom" report

Introduction

The role of peer review is to provide an independent challenge to the science commissioned by Defra, to ensure that policy is informed by a high-quality, robust evidence base and to raise the perceived standard of Defra-funded science among stakeholders.

Peer reviewers have been asked to rate the report in 10 categories and provide comments to justify the scores given. These reports have been used as the basis for this summary report, which has been compiled by Defra.

Objective of the research project

Under the UK Defra led [Sustainable Clothing Roadmap industry initiative](#) to improve the environmental and ethical impacts of clothing, Defra has commissioned a series of industry informed evidence projects in key areas, one of which is "**Maximising Reuse and Recycling of UK Clothing and Textiles**". The aim of this project was to report up-to-date, comprehensive and robust data on the quality and quantity of post consumer clothing and textile waste in the UK, and present and evaluate strategies for increasing reuse and recycling in order to divert them from landfill. This included a detailed assessment of the barriers and opportunities to maximise reuse and recycling, the technical and economic feasibility of different options, the infrastructure requirements, and examples of best practice from overseas.

Summary of reviewers' responses

Reviewers were asked to rate the report on the following headings:

REPORTING AND METHODS

- 1) **Scope and Objectives.** Does the report address all aspects of the objectives of the study stated in the agreed specification?
- 2) **Quality of Approach.** Do the approach and methodology adequately address the objectives? Are there any weaknesses that could cast doubt on the conclusions?
- 3) **Assumptions.** Are any assumptions made in the report sound and clearly identifiable?

DATA AND ANALYSIS

- 4) **Evidence Base.** Does the evidence on which the analysis is based draw on appropriate, recent and relevant studies in this field? Is the evidence considered representative of the evidence that exists?
- 5) **Analysis.** Is the analysis sound, clear and appropriate for the report?
- 6) **Presentation of Evidence.** Are the figures and tables clear, adequate, not actually or potentially misleading, and do they support the inferences drawn from them?

CONCLUSIONS

- 7) **Use of Evidence.** Is effective use made of relevant subject matter and evidence - is any evidence ignored or under-represented? (Include evidence from within or outside the report – please give details).
- 8) **Conclusions and Recommendations.** Are the conclusions, policy implications, and recommendations clearly set out, based on the evidence gathered and logically argued? Are there any gaps or omissions?
- 9) **Reasoning.** Are conclusions based on judgement rather than evidence clearly recognisable?

OVERALL

- 10) **Rigour and Robustness.** Does the work represent sound and robust science and are the conclusions supported by the evidence and analysis presented?

Reviewers rated each aspect on a scale of a-e, where 'e' is *'not applicable'* and the 'd' and 'e' grades are sometimes not available. The table below shows the distribution of reviewers' grades for each aspect. The detail of the criteria set for each question and grade and a summary of reviewers' additional comments is provided on the following pages.

Søren Laursen
Cecilia Malvido

	a	b	c	d	e (not applicable)	Average score (MODE)
1. Scope and Objectives	✓	✓				a/b
2. Quality of Approach.	✓	✓				a/b
3. Assumptions	✓	✓				a/b
4. Evidence Base.	✓✓					a
5. Analysis	✓✓					a
6. Presentation of Evidence	✓	✓				a/b
7. Use of Evidence	✓✓					a
8. Conclusions and Recommendations	✓✓					a
9. Reasoning	✓✓					a
10. Rigour and Robustness	✓	✓				a/b

Full text of questions and summary of reviewers' comments.

Question		Reviewer Comments
REPORTING AND METHODS		
1) Scope and Objectives. Does the report address all aspects of the objectives of the study stated in the agreed specification?		<ul style="list-style-type: none"> - UK legal policy issues are stated clearly in the report, although legal issues at EU level related to unsorted textiles have to be further clarified, see para 36 in the summary report. - Design for disassembly was poorly mentioned - see para 72 in the summary report (e.g. Companies should be more aware and encouraged to manufacture garments that could be easily disassembled in order to be easily recycled into "new" textile materials and with fibres that are not blended). Maybe search for best practices besides vaude in Germany.
a) all of the stated objectives addressed satisfactorily	✓	
b) most of the stated objectives addressed satisfactorily	✓	
c) few of the stated objectives addressed satisfactorily		
2) Quality of Approach. Do the approach and methodology adequately address the objectives? Are there any weaknesses that could cast doubt on the conclusions?		<p>Weak parts:</p> <ul style="list-style-type: none"> - International best practices: other examples in other countries could be added (e.g. Denmark http://www.dantextil.dk, http://www.bir.org/conventions/dubai2009/presentationslist.asp) - Collection and Recycling in other countries analysed in order to compare practice in the UK. E.g. www.robaamiga.cat and others <p>For 'Technical feasibility of options', I recommend to see and/or add a technology review of some sort. An example is: In France Laroche manufactures/sales machinery specifically to recycle textiles. http://www.laroche.fr/?pge=&lang=en</p> <p>See also news section: http://www.laroche.fr/domaine-activite-recyclage.php?pge=1&lang=en & http://www.laroche.fr/notre-actualite.php?pge=5&lang=en&id=14</p>
a) Quality of the approach is sound and robust. It is optimal for the scope / nature of the project.	✓	
b) Quality of approach generally sound. Some parts weaker than others.	✓	
c) Weaknesses in approach could draw doubt on some of the conclusions.		
d) Approach is such that conclusions could be flawed.		
e) Not applicable.		
3) Assumptions. Are any assumptions made in the report sound and clearly identifiable?		<ul style="list-style-type: none"> - e.g. "186 million metres of domestic carpet were sold in 2007 in the UK. Assuming carpet is replaced as sold; the same figure will be used as entering the waste stream." Technical report p.22 <p>Justifiable because there is no data about this to be sure. But carpets are not replaced by carpets always.</p> <ul style="list-style-type: none"> - Assumptions on the "national wardrobe" data. Technical report p.30
a) Assumptions are clearly identified and sound	✓	
b) Assumptions are identifiable and broadly in line with current thinking and/or are justifiable in the circumstances.	✓	
c) Assumptions are hard to identify and/or could lead to conclusions being incorrect.		
d) Assumptions are not identified and/or are not based on sound judgement.		
e) Not applicable.		

DATA AND ANALYSIS		
4) Evidence Base. Does the evidence on which the analysis is based draw on appropriate, recent and relevant studies in this field? Is the evidence considered representative of the evidence that exists?		<p>There are recent and relevant studies published and data was drawn from them. Recent publications have demonstrated that data in the field is hard to find in an accurate way (in some cases there is little traceability and in others, double counting is hard to avoid) and they represent an important effort to bring to the public a way of evidence.</p> <p>Yes there is a paucity of evidence and lack of sound track evidence in general in the field so the data that can be used generally is limited.</p>
a) Evidence for the analysis is drawn from appropriate, recent and relevant studies in the field.	✓✓	
b) Evidence for the analysis mostly draws on appropriate, recent and relevant studies in the field.		
c) Evidence for the analysis is frequently drawn from inappropriate, dated and/or irrelevant sources.		
d) Evidence for the analysis is not representative of the evidence that exists.		
e) Not applicable.		
5) Analysis. Is the analysis sound, clear and appropriate for the report?		
a) Analysis is logical and robust. The most appropriate techniques / analyses have been used throughout.	✓✓	
b) Analysis is generally sound although more up to date / appropriate techniques could have been used.		
c) Analysis is frequently inappropriate.		
d) Analysis is incomplete or flawed. It may have led to incorrect conclusions being made.		
e) Not applicable.		
6) Presentation of Evidence. Are the figures and tables clear, adequate, not actually or potentially misleading, and do they support the inferences drawn from them?		<p>Executive Summary: Table numbers: Overall the letters need to be a bit bigger in order to be clearer. Para 1 (diag): Stored –.... Meaning: Nations Wardrobe in use + stored and not used? Please clarify. Definition of sorting (which is the definition used in the study) as indicated by: + “figure varies largely depending in the definition of sorting used”.</p> <p>Glossary of terms CA is not there (P. i) Non-Bank CA site MSW and DFCS are not in the Glossary (introduction)</p> <p>Figure 7.1 is clear but I suggest re-design or colour inside the squares so the groups can be differentiated at a glance.</p> <p>Figure 9.2 The headings in the rectangles “Automotive” and “Concrete strengthening” do both belong to the same circle...? If not there is a circle lacking and this creates confusion. I suggest the use of a star (*) to indicate so.</p> <p>Figure 5.2 (technical report) says Recycacle textiles instead of Recyclable textiles. P.32</p>
a) Figures and tables add value to the report and aid interpretation of the results.	✓	
b) Figures and tables are broadly sound and assist the reader. They could be improved to add clarity.	✓	
c) Figures and tables do not add value and in some cases may mislead the reader.		
d) Figures and tables are misleading and do not support the inferences made from them.		
e) Not applicable.		

CONCLUSIONS		
7) Use of Evidence. Is effective use made of relevant subject matter and evidence - is any evidence ignored or under-represented? (Include evidence from within or outside the report – please give details).		The evidence provided in the study is very clear, sound and complete.
a) All relevant evidence is considered and given due weight	✓✓	
b) Generally most evidence is given appropriate consideration with one or two minor exceptions		
c) There are some gaps in the evidence given and some evidence is given inappropriate weight		
d) The report ignores or significantly under-represents pertinent subject matter or evidence		
e) Not applicable		
8) Conclusions and Recommendations. Are the conclusions, policy implications, and recommendations clearly set out, based on the evidence gathered and logically argued? Are there any gaps or omissions?		Conclusion and recommendations in the study are very clear, sound and complete. e.g. paras 42, 63, 70, 89, 92 (Summary report)
a) Conclusions, policy implications and recommendations are well presented, evidence based, logically argued and comprehensive	✓✓	
b) Conclusions, policy implications and recommendations are generally well presented, logically argued, evidence based and comprehensive with some minor exceptions		
c) Conclusions, policy implications and recommendations are frequently not well presented, logically argued, evidence based or comprehensive		
d) Conclusions, policy implications and recommendations are very poorly presented, and are not logically argued, evidence based or comprehensive		
e) Not applicable		
9) Reasoning. Are conclusions based on judgement rather than evidence clearly recognisable?		The conclusions of the study are based on the provided evidence all through the report. e.g. para 60 (summary report)
a) Yes there is a clear distinction between the two	✓✓	
b) Broadly it is possible to distinguish between judgement and evidence based conclusions		
c) It is not clear whether conclusions are based on judgement or evidence		

OVERALL		
10) Rigour and Robustness. Does the work represent sound and robust science and are the conclusions supported by the evidence and analysis presented?		Excellent and very transparent work/reporting!
a) Sound and robust science. Conclusions are wholly supported by the evidence and analysis presented	✓	I would just like to comment on an essential mass-balance issue - the increasing “national wardrobe” assumption / explanation. E.g. on p. 32/33 in the technical report it’s stated:
b) Sound science. Conclusions largely supported by the evidence. Some improvements in the approach, analysis and interpretation would improve confidence in the conclusions	✓	“As found with the previous report, a considerable quantity of textiles was unaccounted for, and believed to be part of the ‘national wardrobe’. This tonnage has decreased from 397,000 tonnes in 2004/5 to 310,000 tonnes in 2007”
c) The evidence provided does not fully support the conclusions		If I understand this correctly this is equivalent to about 5 kg textile per UK capita (population of about 60 million in the UK) and about 15% of the total UK consumption of textiles per year (of about 2 million tonnes). With an UK population growth-rate of less than 1% per year http://www.optimumpopulation.org/opt.more.ukpoptable.html is it really realistic to assume/believe that the “wardrobe” for every single person in the UK is / has been growing with about 5 kg every single year?
d) The evidence is of poor quality. It is not a sufficient base from which to draw the conclusions made		Could another reasonable assumption be that a large part of the unaccounted about 300,000 tonnes is going to e.g. landfill via unknown and/or not correctly data-registered routes and thus e.g. increasing the estimate of the amount for landfill/waste incineration by about 300,000 tonnes? The study represents robust, sound and scientific research. Nevertheless as stated data (and clear evidence) is hard to find in most stages of the field or it does not exist. Improvements on data traceability are considered important to pursue on this work to become common practice. e.g. See paras 37, 42, 44 & 51 (summary report)