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“RECYCLED TIGERS’ TEETH?” OBSTACLES TO UK DESIGNERS SPECIFYING RECYCLED PRODUCTS AND MATERIALS ¹

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¹ The title of the paper quotes a designer interviewed for the project, who expressed a concern over the uncertain content of recycled materials: “Recycled what? (laughing) Recycled tigers’ teeth?”.

ABSTRACT

This paper introduces findings from the Recycling by Design Research Project (Phase I), the aims of which are to raise awareness and understanding of recycled products and materials among UK designers and architects. The paper first establishes the importance of developing new markets for recycled products and materials in the UK. Selected research findings are then presented from a questionnaire survey response obtained from 142 UK designers, and follow-up interviews conducted with 10 of those respondents. These findings identify that UK designers do not currently specify recycled products and materials, and that there are a range of obstacles to their doing so. A concluding discussion briefly examines the UK Government’s current position on addressing such obstacles by exploring its recommendations for action to encourage the increased specification of recycle.

RESEARCH CONTEXT: UK WASTE STRATEGY

‘Waste policy is arguably the next biggest environmental challenge facing the UK after climate change’
 Cabinet Office (1991: 92)

Changes in the way the UK manages waste and resources are central to achieving 'one of the pillars of sustainable development - reducing the flows of resources in industrialised countries' (Von Weizsacker, Lovins & Lovins 1997:5). A principal focus of environmental concern by the media, activists and politicians has been the UK’s heavy reliance on disposing of waste into landfill when compared with other European member states (Chick, 1992; EC, 1999 (a):5; Girling, 2002; Elliott et al., 2001; Yarmey, 2001). The present situation cannot continue; the UK Government has international legal obligations under the EU Landfill Directive [1999/31/EC] to cut landfill of municipal waste by two-thirds of its 1995 level by 2020 (EC 1999 (b): 1-19).

400 million tonnes of waste was produced in England and Wales in 1998/99 (DETR 2000 (a): 10). Industrial, commercial and municipal (mainly household) waste accounted for just over 100 million tonnes of this total (Figure 1).

	Tonnes (m)
Industrial waste (excluding construction and demolition waste)	48
Commercial waste	30
Municipal waste (waste collected by or on behalf of the local authority)	28

Figure 1 Waste production in England and Wales 1998/99 (DETR 2000 (a): 10)

28 million tonnes was also the tonnage of municipal waste produced in England in 2000/1, of which 78% was landfilled (DEFRA 2002).

The Government’s *Waste Strategy 2000 for England and Wales* (DETR 2000 (a)), published in May 2000, is the framework in England and Wales for improving the management of waste and responding to the EU Landfill Directive. This document sets out a waste hierarchy, deriving from the relative environmental costs and benefits of available waste management options, with the most preferable first (DETR 2000 (a): 42):

1. Reducing waste;

2. Re-using waste;
3. Recovery (**recycling**; composting; energy recovery);
4. Only then: disposal.

This is represented graphically in Figure 2.

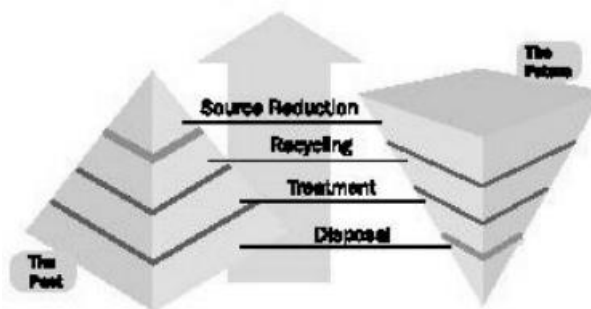


Figure 2: The Waste Hierarchy (Chick & Micklethwaite 2002 (a): 5)

In order to reduce the current reliance on landfill, DETR (2000 (a)) sets out a framework for action directed by the waste hierarchy. This involves making 'much greater efforts to':

1. Reduce waste;
 2. Substantially increase re-use, recycling, composting and recovery of energy from waste (through incineration).
- (DETR 2000 (a):12)

The influence of the Landfill Directive and lack of a clear sustainable waste management strategy means that the Government's current practices tend to focus on reducing waste once it has been produced, focusing lower down the waste hierarchy and making recycling a key goal (Read, 1999; Cabinet Office 2001: 91-93). The Government has set a target 'to recycle or compost at least 25% of household waste by 2005' (DETR 2000 (b): C15). The proportion of household waste recycled in 2000/01 was 11% (DEFRA 2002).

Recycling helps to cut down on the adverse environmental impacts associated with landfill sites, by diverting reusable materials away from landfill, reducing disposal costs, and conserving resources, particularly energy (Denison 1996: 1ff). Recycling is definitely not an absolute solution to dwindling resources and pollution, but it can buy time and reduce the need for mining, felling or extraction.

Developing a more sustainable system of recycling means much more than just recovering or collecting reusable materials for recycling. It means a cyclical production and consumption process is required. Three elements need to be in place if we are to increase recycling and develop such cyclical systems:

- Greater provision of single material waste streams – through separation at source or sorting.
- Greater reprocessing capacity, to turn the waste materials into new inputs.
- More recycled materials used in production processes.

(DETR 2000 (a): 17)

This cyclical process requires a considerable change in practice across business, the waste industry, councils and individual householders.

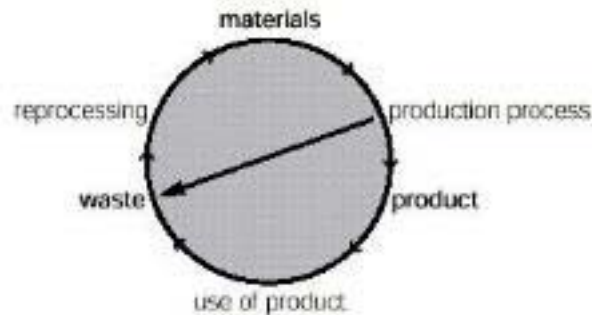


Figure 3: Cyclical production and consumption (DETR 2000 (a): 17)

Until recently, the missing factor in much of the recycling debate in the UK has been the question of markets for recycled materials (Watts, Probert & Bentley 2001:294-295; DEFRA 1999: Ch.5). As already mentioned, successful recycling is not determined solely by the amount of materials collected but also by the amount processed and reused in new products and materials. Without attention to this part of the equation, recycling would simply not work in the long-term and the UK will not meet its recycling targets. Encouraging manufacturers to incorporate recycled materials back into products and getting people to buy them requires significant shifts in a number of key stakeholders' attitudes and behaviours, including those selecting and specifying materials and products for use in products and buildings.

The Government has recognized that its recycling goals could not be achieved unless it develops an aggressive agenda to develop new commercial applications for the materials recovered from the waste stream. It acknowledged in DETR (2000) that it needed to develop various programmes to work with industry looking at new and innovative uses of recycled materials, to carry out research, and to offer guidance and encourage best practice.

In November 2000, the Government created the Waste and Resources Action Programme (WRAP) to develop innovative new markets for recycled materials and to work with businesses, manufacturers, researchers and local authorities to identify new opportunities (WRAP, 2000). A key objective for WRAP is to promote new markets and end-uses for recycled materials. The Government has committed over £40 million to WRAP for the period 2001 to 2004 (WRAP 2001: 2, 3, 5 & 22).

WRAP's remit is therefore to work with potential users of UK recycled materials and products and to identify why they do not use them now, and what would persuade them to do so. (WRAP, 2001: 3) The Recycling by Design Research Project (Phase I, see next section) sets out to investigate similar issues but has narrowed the scope by focusing on two potential 'user' groups – UK designers and architects. In this context, 'user' has been defined as an actor whose role involves the constant selection of materials and products, which action then influences the purchasing decisions of a broad group of other stakeholders, including their clients or suppliers (e.g., retailers, product manufacturers, printers and building contractors).

This definition accords with a description of the output of the product design process:

'The final result of the product design process is a package of technical drawings, describing all decisions concerning the product's shape and dimensions, *materials* and manufacturing techniques in detail.' (italics added)
(Rozenburg & Eekels 1995: 4)

The specification practices of designers have been neglected by previous research. The Recycling by Design Research Project, described in this paper, is at the forefront of identifying why UK designers do not specify recycle and what may motivate them to do so.

THE RECYCLING BY DESIGN RESEARCH PROJECT

OVERVIEW

The Recycling by Design Research Project aims to raise awareness and understanding of recycled products and materials among UK designers and architects. The project includes a programme of primary research (see below). The project has also sought to disseminate the best available information on recycled products and materials, their manufacturers and suppliers, and the issues surrounding their specification and use.²

RESEARCH PROGRAMME

The completed Phase I research programme investigated architects' and designers' specification of recycled products and materials, the obstacles they encounter in seeking to do so, and the availability of useful information. Multiple methods were used in this sequential research programme:

- Part 1 - Questionnaire survey of designers and architects
- Part 2 - Interviews with key questionnaire respondents
- Part 3 - Focus group with 'producers'

This programme was devised to fulfil two research aims, reproduced below with accompanying objectives and methods.

Aim 1

Investigate UK architects' and designers' practice and experience in specifying recycled products and materials.

Aim 1/Objective

Obtain data in response to the following research questions:

- How often do architects and designers specify recycled products and materials?
- What types of recycled products and materials do they specify?
- What obstacles prevent them from specifying recycled products and materials?
- What are their information requirements for specifying recycled?

Aim 1/Methods

- Electronic questionnaire survey of architects and designers (Part 1).
- Follow-up telephone interviews with architects and designers (Part 2).

² For full details see the project website (www.recyclingbydesign.org.uk).

Aim 2

Investigate the perspective of other relevant stakeholders on architects' and designers' practice and experience in specifying recycled products and materials.

Aim 2/Objective

Examine the findings of the survey and interviews with a sample of product 'producers'.

Aim 2/Method

Focus group with product manufacturers (Part 3).

This paper introduces selected findings obtained from designers in Parts 1 and 2 of the research programme.³

THE QUESTIONNAIRE

INTRODUCTION

Part 1 of the research programme (February-June 2002) incorporated an electronic questionnaire survey of UK designers and architects. The questionnaire was completed and submitted by respondents electronically via the project website. An initial e-mail distribution of approximately 13,000 elicited a response from 539 architects and 142 designers, a response rate of just over 5% of the initial e-mail distribution. Such a response rate, while respectable, introduces the likelihood of considerable nonresponse error, in that respondents are potentially more likely to be sympathetic to the topic of the questionnaire than non-respondents. As with most surveys, caution should therefore be exercised in generalizing from the results of this questionnaire survey to the wider target populations.

The questionnaire obtained (i) basic factual data relating to the respondent and his/her organisation, and (ii) behavioural data relating to the respondent's practice and experience in specifying recycled products and materials.⁴ Selected data obtained from the designers responding to the questionnaire is presented here.⁵

FREQUENCY OF SPECIFYING RECYCLED

In the questionnaire, designers were asked: 'As a designer, how often do you specify recycled products and materials in your designs?' The findings obtained are shown in Figure 4.

³ Findings from Part 3 of the programme are available from the project website.

⁴ The questionnaire instrument completed by respondents is available from the project website.

⁵ The questionnaire is described in detail in Micklethwaite & Chick (2002 (a)).

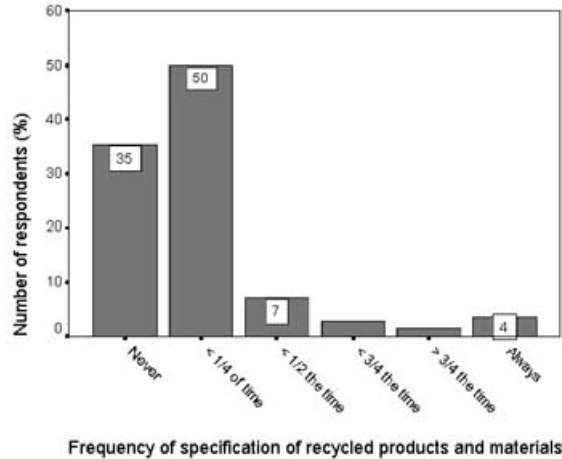


Figure 4 How often designers specify recycled

Specification of recycled products and materials is not commonplace among the designers responding to the questionnaire, with 35% (50 ♯) indicating that they never do so, and a further 50% (71 ♯) indicating that they do so 'less than 1/4 of the time'.

OBSTACLES TO SPECIFYING RECYCLED

The obstacles encountered by designers in seeking to specify recycled products and materials are identified as a key focus of the research programme (see above: Aim 1/Objective). In the questionnaire, designers were therefore asked: 'What obstacles currently prevent you from specifying recycled products and materials in your designs?' (Figure 5)

Question 7 - Netscape

What **obstacles** currently prevent you from specifying recycled products and materials in your designs?

Please rate all of the obstacles given below by selecting the appropriate box in each case.

	Major obstacle	Minor obstacle	Not an obstacle
Supply issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfamiliarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practice constraints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you select the "Other" option, please state what the obstacle is:

Figure 5 The 'obstacles' question in the electronic questionnaire (default setting)

The list of obstacles given was generated by a brief preliminary literature review of relevant sources.⁶ The findings obtained are shown in Figure 6.

⁶ The literature review is described in detail in Chick & Micklethwaite (2002 (b)).

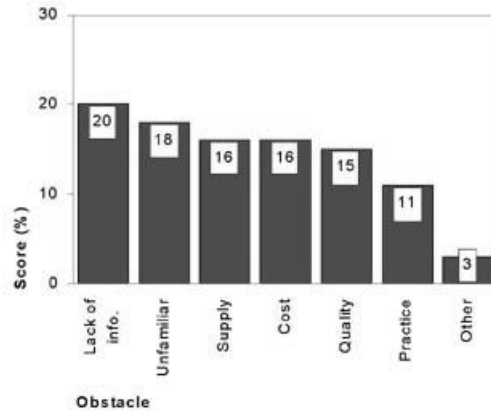


Figure 6 Obstacles preventing 142 designers specifying recycled products and materials⁷

The obstacle ranking shown in Figure 6 is presented below:

- 1 Lack of information (20%)
- 2 Unfamiliarity (18%)
- 3 Supply issues (16%)
- 4 Cost (16%)
- 5 Quality (15%)
- 6 Practice constraints (11%)
- 7 Other (3%)

There is no single dominant obstacle to the specification of recycled products and materials identified by the designers responding to this question. While lack of information is identified as the biggest obstacle, this is not sharply isolated from the other identified obstacles (unfamiliarity, supply etc.). The 'other' category comprises a number of additional obstacles suggested by respondents themselves, the most significant of which relate to client resistance.

The further charts given below (Figures 7 to 9) show separate obstacle rankings by the design specialisms identified by the questionnaire.⁸ The sequence in which obstacles appear on the horizontal axis in Figure 6, and in the ranking above, is preserved in all the following charts.

⁷ Each obstacle was rated by respondents as (i) a major obstacle, (ii) a minor obstacle, (iii) not an obstacle, and scored 2, 1, or 0 respectively. The percentage values shown represent the total score for each obstacle, as a percentage of the total combined score for *all* obstacles. This gives an indication of the weighting given to each obstacle across the respondent database. Thus, 'lack of information' gained 20% of the total score for all obstacles; this does *not* mean it was identified as an obstacle by 20% of respondents.

⁸ A fourth design specialism, Fashion/Textiles, was indicated by only 4 respondents; this does not support generation of an additional chart.

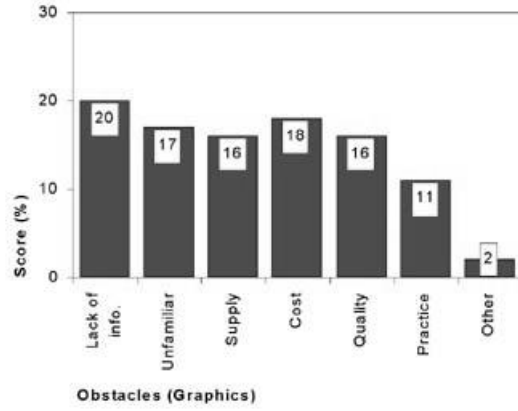


Figure 7 Obstacles preventing 57 graphic designers specifying recycled products and materials

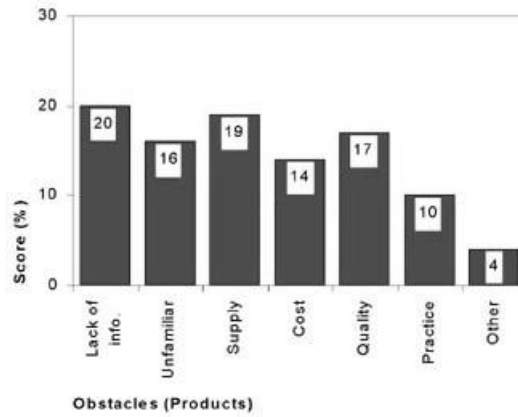


Figure 8 Obstacles preventing 44 product designers specifying recycled products and materials

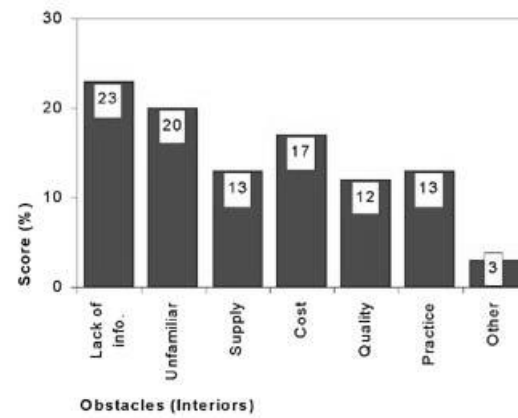


Figure 9 Obstacles preventing 31 interior designers specifying recycled products and materials

'Lack of information' remains the leading obstacle across the three design specialisms. There is considerable variation in the ranking of the other identified obstacles, however, as a visual comparison of the preceding three charts shows. The three top-ranked obstacles in Figures 7 to 9 are given in Figure 10.

	Design specialism			
	All	Graphics	Products	Interiors
Obstacle 1	Lack of info.	Lack of info.	Lack of info.	Lack of info.
Obstacle 2	Unfamiliarity	Cost	Supply	Unfamiliarity
Obstacle 3	Supply	Quality	Quality	Cost

Figure 10 Obstacles preventing designers specifying recycled products and materials

'Practice constraints' and 'other' do not appear in any of these top-three rankings.

FOLLOW-UP INTERVIEWS

INTRODUCTION

Part 2 of the research programme (July-September 2002) incorporated follow-up interviews with key questionnaire respondents. The findings presented in the last section were investigated further in a series of follow-up interviews with 20 selected questionnaire respondents. These interviews gave a deeper understanding of respondent perspective on the obstacles identified by the questionnaire. Only data obtained from the 10 interviews with designers is presented here.⁹

A presentation of the data collected is given in the form of informant quotes and an accompanying authors' commentary. Informant discussion of each particular obstacle is presented separately, and in the same sequence as in Figures 5 to 8. The 10 informants are identified by the design specialisms already given: Graphics (4); Products (3); Interiors (2); Fashion (1).

OBSTACLE 1: LACK OF INFORMATION

The designer perspective given below is first summarized by the authors:

- Several types of information are lacking:
 - (1) What recycled products and materials are available?;
 - (2) Technical product-material information; and
 - (3) The environmental credentials of recycled products and materials.
- Preferred format of information delivery is also discussed.

A full presentation of this data now follows.

(1) What is available?

Informants have difficulty identifying what recycled products and materials are available, and from what sources.

⁹ Full interview findings are presented in Mickletwhaite & Chick (2002).

“basically there doesn’t seem to be many options for recycled products. I wouldn’t know where to go and who to contact to get them. There clearly needs to be more information, more, I think just more effort in general to push recycled products.”

(Graphics 4)

The manufacturers of recycled products are apparently ineffective in promoting them:

“generally, we don’t have recycled companies pushing their products”

(Graphics 1)

This has serious consequences for the uptake of new recycled products:

“unless we get a direct mailing, with a material sample, we probably won’t hear of it.”

(Graphics 1)

(2) Recycled product information

One product designer also needs technical product information, which is currently lacking:

“there’s no British Standard references when it comes to recycled materials.”

(Products 1)

This contributes to a prejudice against use of recycled materials:

“The whole specification system is geared-up with the assumption that you’re using new materials. So [...] you’re slightly taking a leap in the dark, and a question of faith.”

(Products 1)

(3) Environmental credentials

There is a desire for more information relating to the environmental credentials of recycled products.

“I think you need to have more information available about how environmentally-friendly recycled paper really is”

(Graphics 2)

In this situation, it is difficult for the designer to make environmentally-informed decisions:

“So we either scrabble around, and people say: ‘yeah, this is green, that’s green,’ but often you just don’t know, because there is just no evidence, and really we want to act on firm information”

(Products 2)

The information which does exist may be unclear:

“often what happens is that they will simply say ‘recycled paper’, and ‘recycled’ doesn’t mean a thing, there is no real true recycled paper, as far as I understand, there are just measures of it”
(Graphics 3)

A clear statement of recycled content, incorporating some form of badging system, is needed here.

“They need, really, to be able to say something like ‘recycled’ with a little symbol that means ‘this is good’. [...] maybe a simple star-marking system”
(Graphics 3)

One such system has not been successful, however:

“I know various members of industry have tried this as a ‘swan’ system, for instance, but it isn’t there yet. Not enough people have bought into it.”
(Graphics 3)

(4) Format of delivery

Existing recycled product information sources may not be ideal:

“Some of them are a bit misleading: the categorization’s not terrific.”
(Products 3)

A directory of recycled products and materials is needed.

“some sort of database [...] where there are products in there that come from a sustainable or recyclable background. [...] something like a directory or a website showing these products would be fantastic for us as a company”
(Interiors 2)

A model source already exists for one interior designer.

“it would be like a branch-off from the RIBA Product Selector that we have. That would be fantastic. Or even if they just marked in the RIBA Product Selector which companies did do that sort of product, that would make it easier as well. But, from my personal experience, there is no reliable source which gives you all the companies that do that sort of thing. I haven’t found anything yet.”
(Interiors 2)

One designer is unconcerned with the mode of information delivery, but clear on the need for concision in its presentation:

“it doesn’t really matter, just as long as I get the information. It would be helpful if it was as succinct as possible, to tell me what I needed to know in the least amount of time, obviously. But apart from that it doesn’t really matter.”
(Graphics 2)

OBSTACLE 2: UNFAMILIARITY

Designers may play safe, and only specify materials with which they are familiar.

“I only really think of a recycled material if I know I can get it. [...] I only specify it if I know I can get it.”
(Products 3)

An informed supplier is also needed.

“You ask a cardboard supplier if they use (laughs) – ‘what’s this?’, and they say: ‘it’s recycled material’, ‘yeah? what does that mean then?’, and they go: ‘ooh, I dunno, we bought it from Japan or somewhere,’ and you go: ‘oh,’ and round and round you go. Recycled what? (laughing) Recycled tigers’ teeth?”¹⁰
(Products 2)

OBSTACLE 3: SUPPLY

The designer perspective given below is first summarized by the authors:

- Designers encounter difficulties both in locating suppliers of recycled products and materials, and then obtaining a reliable supply.

A full presentation of this data now follows.

Designers can encounter difficulties in locating suppliers of recycled products and materials.

“basically there doesn’t seem to be many options for recycled products. I wouldn’t know where to go and who to contact to get them.”
(Graphics 4)

“I think that the major problem is actually getting hold of somebody who does supply such a thing in the first place.”
(Interiors 2)

Reliability of supply may also be an issue.

“the other thing is is actually matching the supply to the actual demand, as it were. Sometimes you don’t actually have a sufficient supply on the day that you can guarantee, so you have to bulk up with other and new materials.”
(Products 1)

“often they’re on huge lead-times, and often we need things now, and then you have to buy tonnes of it, and then when you’ve added all that up it’s simply not worth it.”
(Products 2)

One graphic designer discusses the ‘volatility’ of the recycled paper industry:

¹⁰ The title of this paper is taken from this quote.

“we have specified papers in the past which have been for something like a newsletter, something which is an ongoing project, and then we’ve found a year later that it either doesn’t still exist or it has changed its name, and the recycled, well environmentally-friendly paper market does seem to be a bit more volatile, a bit more susceptible to that.”

(Graphics 3)

OBSTACLE 4: COST

The designer perspective given below is first summarized by the authors:

- Recycled products and materials are often more expensive than non-recycled.
- The client is unlikely to be willing to pay a premium to use recycled.

A full presentation of this data now follows.

(1) Recycled is often more expensive

Recycled and non-recycled products and materials may be comparable in cost.

“It was the case, certainly five and more years ago, that recycled and the environmentally-friendly papers were much more expensive. They’re now sometimes a bit more expensive and sometimes cheaper.”

(Graphics 3)

Yet a majority of informants are of the opinion that recycled products and materials are still usually more expensive.

“the thing that we’ve found is that the more recycled or sustainable products are slightly more expensive in price.”

(Interiors 2)

“It can be double. It can be really, really expensive.”

(Graphics 1)

(2) Client unwillingness to pay more

Greater cost can become a bar to using recycled products with the introduction of the client.

“If there is a straight choice between one paper and another, often the recycled paper will be just a tiny bit more, often not very much, but that can swing it the other way.”

(Graphics 3)

“you’ve gotta persuade somebody to using recycled paper in the first place, and if it’s more expensive.. [...] if it costs so much more than normal paper you can’t really win the battle to persuade people to use it.”

(Graphics 2)

Clients are seen as driven by cost considerations.

“It’s a very competitive market, and if I went in with a price, say, for 5000 brochures at 7500 [pounds] [...] then somebody came in at 6000 pounds, basically because they’ve used a different paper stock, a better supplier or something, I would probably lose out, although my product might be better.”
(Graphics 1)

Recycled paper stock, for example, is then a ‘luxury’.

“clients don’t have increased budgets, so we can’t then have, I suppose, the luxury of looking at recycled stock”
(Graphics 1)

“it’s just the simple economics [...] if the cost of recycled paper is like 5 times the cost of normal paper, you’d have to be in a luxury situation to be able to afford it, it can’t really be argued as being cost effective, can it?”
(Graphics 2)

In high-end markets, perceived value may over-ride cost considerations. For most informants, however, the one case in which a more expensive recycled product may be used is when it offers some additional benefit:

DP3: Cost is a big factor. I use recycled materials where they’re cheaper.

R: But never when they’re more expensive?

DP3: I’m afraid not (laughs). Unless they’ve got some other feature that makes them more – if they’ve got better mechanical properties or something like that. I use them only where I can make a saving, really.
(Products 3)

OBSTACLE 5: QUALITY

The designer perspective given below is first summarized by the authors:

- The quality of recycled products and materials may not be as good as that of non-recycled.
- There is clear informant concern over a lack of accreditation for recycled materials.

A full presentation of this data now follows.

(1) As good as new?

The quality of recycled products and materials is considered inferior to that of non-recycled.

“Sometimes they don’t have the same trusted, tried-and-tested durability. Well not sometimes – always.”
(Interiors 1)

“I think the consistency is more a problem than anything. Is that if you have got a recycled product, then you want it to be consistent. If you’ve got a floor or glazing, then you want it to be consistent in appearance the whole way through the store. You can’t have one batch from one area and one batch from another area and for them not to match up.”

(Interiors 2)

Such variation may not always be critical, however.

“in general I think it’s fine. Unless you’re going for something really, really high-end [...] Most of the time people can’t tell the difference”

(Graphics 4)

“there are some areas where you can use recycled materials and they’re exactly as good as new.”

(Products 3)

(2) Lack of accreditation

There is clear concern over a lack of accreditation for recycled materials.

“That’s the big issues that I’ve run into with recycled materials, is basically that - at the specification stage, and quality control: is really quality assurance.”

(Products 1)

Without proper accreditation, materials are unlikely to be used.

“one of the problems you have with recycled is [...] how do you guarantee the actual material is actually clean, free of deleterious materials and all the other issues.”

(Products 1)

OBSTACLE 6: PRACTICE CONSTRAINTS

The designer perspective given below is first summarized by the authors:

- Several practice constraints are associated with using recycled products and materials:
 - (1) greater time commitment;
 - (2) greater designer liability; and
 - (3) a lack of guidance.

A full presentation of this data now follows.

(1) Time

Using recycled products and materials may entail a greater time commitment for the specifier, which may make them less likely to be specified.

“something like a directory or a website showing these products would be fantastic for us as a company, because we could automatically look at that, instead of having to do all the work ourselves, which sounds quite lazy, but as a company we have to get the projects done first before we go into doing research on our own time.”

(Interiors 2)

“I think there’s more an emphasis on time-is-money, basically, and: ‘we don’t have time to recycle things,’ or ‘we don’t have time to address this issue’.”

(Fashion)

(2) Liability

Designer liability is manifest in professional indemnity insurance, and relates to the lack of quality assurance for recycled products and materials.

“my feeling of it is that second-hand materials, although it’s very noble, you’re sticking your neck in a noose regarding your professional indemnity, in terms of specification. Because you’re into what is regarded as a, potentially a high-risk area.”

(Products 1)

(3) Lack of guidance

Informants request guidance on the use of recycled products and materials.

“I think we should use a lot more recycled materials, I’m all for that; it’s the practicalities, it’s actually having the mechanisms in place to actually achieve it. And I don’t think at the moment we actually have an industry-wide recognised methodology on it.”

(Products 1)

An advice office on the use of recycled materials is suggested:

“You just ring ‘em up and say: ‘we’re gonna use these materials in our latest products, what’s the codes, what’s the code of practice about it?’”

(Products 2)

ADDITIONAL OBSTACLE: CLIENT

‘The client’ was proposed to informants as an additional possible obstacle to the specification of recycled products and materials. This was in response to a concern of the authors that the client was not included as a designated obstacle for selection in the original questionnaire (Micklethwaite & Chick, 2002:6). The designer perspective given below is first summarized by the authors:

- The client can be a major obstacle to the specification of recycled products and materials.
- The Government and charities are nevertheless identified as being particularly disposed to asking for recycled.

A full presentation of this data now follows.

A common view among the informants is that clients are primarily motivated by cost considerations.

“The main one [obstacle] being, clients aren’t interested. And it’s money. It’s quite simple.”
(Interiors 1)

“I don’t think they [the client] really care. They just wanna get the cheapest, if possible.”
(Graphics 4)

There are clients, however, who ask for the use of recycled alternatives.

“You do occasionally get the larger companies [...] that say: ‘if you’re gonna be using timber, then we want it to come from a sustainable source,’ that sort of thing. But it’s very rare that you do get that.”
(Interiors 2)

Such a request may serve a promotional purpose.

“they would probably want to use a recycled paper stock because it’s good for their business, and it’s a good selling feature.”
(Graphics 1)

“charities, quite often, want - have a recycling policy - and also want to use stock that looks cheaper, because they don’t want to be seen as though they’re using really posh paper and are wasting lots of money on really expensive paper.”
(Graphics 2)

“If a client is particularly proud of its environmental concerns, and he wants to say so, wants to trumpet the fact that it’s using an environmentally-friendly paper”
(Graphics 3)

Government is seen as particularly disposed to asking for recycled .

R: So was it the client who actually said; ‘we want you to use recycled stock?’

G3: In that case, yes. It’s a government agency, and that’s one of their priorities.
(Graphics 3)

“often we get asked for it. Because, for example, government agencies won’t purchase off you unless you can demonstrate that you are doing certain things: recyclable, sustainable or something.”
(Products 2)

DISCUSSION: ADDRESSING THE OBSTACLES TO SPECIFYING RECYCLED

This paper has established the importance of developing new markets for recycled products and materials in the UK. It has identified that UK designers do not currently specify recycled products and materials, and that there are a range of obstacles to their doing so.¹¹ This concluding discussion briefly examines the UK Government's current position on addressing such obstacles by exploring its recommendations for action to encourage the increased specification of recyclate.

DEFRA's Market Development Group was set up to consider the development and expansion of markets for recyclate (DEFRA 1999: sec. 3.2). It has therefore considered

'how encouraging product designers to take into account the environmental impact of a product's life, as a basic element of product design, might help to expand the markets for recycled goods.'
(DEFRA 1999: sec. 6.3.1)

This report acknowledged the importance of design and the eco-design work undertaken in the commercial and academic fields, but identified

'some difficulty in integrating the good practice into companies' design strategies. One reason for this is the lack of practical tools for designers to use.'
(DEFRA 1999: sec. 6.3.6)

In conclusion:

'The [Market Development] Group considered that more work was needed to deliver the eco-design message.'
(DEFRA 1999: sec. 6.3.7)

The Market Development Group made four eco-design recommendations concerning these issues (DEFRA 1999: sec. 6.3.7). These address the need for more work in delivering the eco-design message, but not specifically the specification of recyclate, which would have an immediate impact on the development of markets.

If DEFRA and the DTI¹² are to encourage designers to specify recyclate, they need to develop specific actions separate from their eco-design recommendations. The actions required to overcome the obstacles to designers specifying recyclate are connected to, but distinct from, the agendas of both eco-design and Designing for Recyclability, each of which requires its own *specific* set of actions.

In the view of the present authors, other key recommendations of DEFRA's Market Development Group are of greater relevance to addressing the obstacles which designers face in specifying recycled:

- Promote better understanding of the potential uses of recycled materials.
- Develop improved quality in and standards for recycled goods and materials.

¹¹ A survey of obstacles to specifying recycled products and materials identified by other sources is contained in Chick & Micklethwaite (2002 (b)).

¹² The Department for Environment, Food & Rural Affairs (DEFRA), and the Department of Trade and Industry (DTI); the two UK Government departments charged with addressing this issue.

- Stabilize the markets for recycled materials and reducing price volatility. (DEFRA 1999: Ch.2)

The key recommendation in DEFRA (1999: Ch.2) was the development of a national body to act as a focal point for the development of markets for recycle. This resulted in the establishment of WRAP (see above), which has begun to address this agenda by, for example, producing easily accessible information for material specifiers. This has resulted in tentative investigations into the activities of the UK design profession.¹³ A second government-funded body highlighted in these recommendations was the Design Council, whose 'Design for a Better Environment' programme has developed research, events and other services in the eco-design area (e.g., Design Council 2001 (a) (b)), but has yet to specifically address the markets for recycle agenda.

The authors therefore recommend WRAP and Design Council jointly investigate how they might expand their work to address designers' concerns and motivations regarding specifying recycled products and materials. By drawing upon their combined experience and knowledge the likelihood of developing successful actions is greatly increased. The findings of this study show, however,¹⁴ that appropriate responses to obstacles to the use of recycled products and materials may be in some sense domain-specific, rather than universally applicable.

NOTE

Further information on the Recycling by Design Research Project, including all project reports, can be obtained from the website: <http://www.recyclingbydesign.org.uk>.

ACKNOWLEDGEMENTS

Phase I of the Recycling by Design Research Project was conducted in partnership with Business Eco Logic (www.eco.uk.com), an environmental consultancy, and would not have been possible without the kind support of the following organisations:

- British Hardware and Housewares Association (BHHMA) (www.bhhma.co.uk)
- European Design Innovations Ltd (EDI) (www.designdirectory.co.uk)
- Royal Institute of British Architects (RIBA) (www.architecture.com)
- Riverhouse Films (www.riverhousefilms.com)

The majority of funding (£97,947) came from Biffaward (www.biffaward.org), a multi-million pound environment fund managed by RSNC, which utilizes landfill tax credits donated by Biffa waste services. The grant was to fund a one-year project under Biffaward's 'Sustainable Waste Management' concept that aims "to contribute to the redirection of material sent to landfill and encourage efficient resource use".

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¹³ WRAP and the Designing for Sustainability Research Group, Kingston University Conference (28 January 2003) *Thinking Beyond the Box: Designing Recyclability into Packaging*, Imagination Gallery, London.

¹⁴ Figures 7 to 9.

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