THE INFLUENCE OF PRODUCT ENVIRONMENTAL LABELLING ON INDUSTRIAL DESIGNERS IN THE UK

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Abstract
Environmental labels (also known as ‘Green labels’ or eco-labels) are applied to a wide range of products. These labels aim to inform consumers about the environmental credentials of the product, ultimately to influence purchasing decisions. Labels are generally applied to the finalised design at the marketing stage. Because industrial designers are rarely involved in this process it is unclear whether they are aware of the criteria required for various labels or the impacts their design decisions have from a labelling perspective.

This paper presents ongoing PhD research into the understanding that industrial designers have of environmental labels and whether labels influence design decisions.

A review of both organised labelling schemes and independent labels currently used in the UK uncovered a shortage of resources providing sufficient relevant information for industrial designers. The information available appeared to be aimed at marketing practitioners and tended to be either too basic with a few short lines outlining what the label represents or too detailed, giving the awarding criteria for each label. There was little information about the impact of design decisions or even which labels apply to specific products.

The key questions were whether industrial designers consider environmental labelling criteria during their design process and if this results in environmentally sensitive products with maximum marketing potential.

This paper presents the initial findings from an online survey and a number of semi-structured interviews with UK industrial designers, designed to investigate their relationship with labels. Conclusions regarding increasing understanding and use of environmental labels are given.

Keywords
Eco-labels, Green Labels, Environmental Labelling, Industrial Design
1. Introduction

Long standing public concern for the environmental damage caused by industry intensified in many European countries during the 1980s through increasing recognition and scientific evidence of problems such as the greenhouse effect and ozone depletion (Mackenzie, 1991; Proto, et al., 2007). This led to efforts being made to reduce this impact by following environmental strategies, starting with “green design”, developing into “eco-design” and evolving through to design for sustainability (Bhamra and Lofthouse, 2007). At the same time consumer awareness and understanding of the impact that human behaviour has on the environment was growing. This led to a demand for more environmentally sensitive products (Mackenzie, 1991). Increasing market-orientated approaches transformed “eco-friendly” characteristics from a novelty to a necessity for the ever-expanding “green consumer” sector (Mackenzie, 1991). One relatively recent response by manufacturers to this perceived consumer demand has been the introduction of environmental labels (Mackenzie, 1991; Harris and Cole, 2003). An environmental label is a visual method companies and manufacturers use to display the environmentally preferable features of a product in the marketplace (Goggin, 1994). These labels were ‘prompted in part by the generally poor performance of industry in providing enough information concerning the environmental credentials of products’ (Erskine and Collins, 1997, p.125). There are many different types of environmental performance labels in operation around the world and their use has increased in the last few decades (Global Ecolabelling Network (GEN), 2004). These schemes vary greatly and range from national to multinational, optional to mandatory, and third party certified to self-declarations.

The International Standards Organisation (ISO) created a “family” of standards involving non-compulsory participation environmental labelling types under the ISO14020 series. Defined within this are Type I eco-labels, Type II self-declaration claims (also known as “green” labels and claims), and Type III environmental declarations through information labels (GEN, 2004). Both the Department for Environment, Farming and Rural Affairs (DEFRA) and the Global Ecolabelling Network (GEN) make a clear distinction between Type I eco-labels that are third party certified, and Type II green claims and labels that are self-awarded by a company to their own product to raise awareness of the products environmental credentials. Type III labels are not considered in this study as there are no such schemes active within the UK to date.

The voluntary process of applying a certifiable eco-label to a product is known as “eco-labelling”. “Eco-labelling” refers specifically to the ‘provision of information to consumers about the relative environmental quality of a product’ (GEN, 2004 p.2). However the one
characteristic they all share is that they are aimed solely at “green” consumers and influencing their purchasing decisions (Goggin, 1994).

‘Designers can directly influence the decisions people make about what they buy and when’ (Bhamra and Lofthouse, 2007, p.37).

Environmental labelling is also thought to encourage industry to produce more environmentally sound products through harnessing consumer awareness and interest in environmental issues (Erskine and Collins 1997). However, currently there is little or no feedback for designers from these labelling schemes about their products or the design decisions they make. They have to work their way through the labelling criteria, legislation and standards, which tend to be presented in a formal manner and are not easily accessible. Although designers may use resources and design tools throughout their work, such as a materials database, currently there is not a process in place that facilitates the development of a product’s design in conjunction with a labelling scheme other than referring to standards or awarding criteria.

Literature on the relative success or failings of environmental labelling schemes in the past has tended to focus on elements such as market share, consumer awareness, and responsibility (Erskine and Collins, 1997; Bruce and Laroia, 2006). Goggin (1994, p.459-460) said of the relationship between designers and environmental labels,

‘Given the role of designers in the development of ecolabelled goods […] ecolabelling could increasingly impact on product design’.

Certain sustainability features have proved successful with consumers in recent years. Ethical aspects such as organic and Fairtrade have enjoyed increasing recognition and market share. Sales of both product groups continue to rise as they are becoming more accessible and receive higher levels of support in the grocery industry (Nielsen, 2007). Examples of the increasing interest surrounding environmental aspects of products among consumers include information on the fuel efficiency of cars and the energy efficiency of electronic products. The reason for this increased interest is usually economical, as consumers understand that less efficient products will cost more to use. This is becoming a more important consideration to many during the recent global economic downturn. Additionally, some consumers are also aware that taking steps such as choosing more energy-efficient products will help to lower their ‘carbon footprint’ and reduce their negative impact on the environment.

However, there appears to be a void in the knowledge concerning what impact these environmental labelling schemes have on designers and the design process today. Do designers simply ensure their products meet the minimum criteria or focus on one positive
environmental aspect to declare? Are designers involved in the process of applying labels to the products they design? Are they aware of the range of labels available, the awarding criteria and what they actually mean? This work seeks to answer these questions and fill the gap in the literature on the subject of environmental labelling and aims to determine whether environmental labelling has the potential to provide design guidance and give meaningful feedback to designers.

This study focuses primarily on ‘in-house’ industrial or product designers working in the white goods and/or consumer electronics market and will concentrate on environmental labels that are currently available in the UK. ‘In-house’ designers are believed to be more likely to have a deeper understanding of the sector they are working within. The design process they follow (from brief, concept production, development, testing, through to manufacture and marketing) is, perhaps, more structured, and individual company policy followed closely. They are also likely to have more contact with both the ‘brief-setters’ (usually the sales department) and marketing department, as designers are being increasingly asked to contribute to the overall strategy for promoting their product (McDermott, 2007). In contrast, many freelance designers and design consultancies pride themselves in providing a whole solution rather than purely an exercise in styling (McDermott, 2007).

From this study it is anticipated that a greater understanding of what designers want and need to know about labels and labelling schemes for their work will be gathered and methods of providing or delivering this information to them in a suitable way can be established. It is hoped that this will have a positive impact on the designers’ experience, the products they design, consumers and the environment.

designers.

2 Research Methodology

Following a review of existing literature it was deemed necessary to collect primary data in order to address the research questions. Largely qualitative data collection and analysis techniques were decided upon, in order to yield valuable detailed responses (Patton, 2002). This paper outlines the pilot study of this research project, in which an online survey of individual designers and semi-structured interviews with designers were carried out in order to develop case studies within companies. These case studies outlined the internal structure of different companies, which proved especially valuable in learning how the design brief is formed and treated throughout the design process. It also provided an insight into how different professionals interact through the various stages of the design process. A successful test of the questionnaire and follow-up interviews was completed using practicing professional designers within a UK-based packaging company in February 2009.
2.1 Online Surveys

An initial survey of practicing industrial designers in the form of a questionnaire was considered to be the most suitable method of gathering data from a large number of designers in a short period of time. The questionnaire was constructed online using Bristol Online Survey (BOS) software. Advantages of an online survey over postal paper copies included ease of distribution, increased opportunities to advertise the survey, a better chance of being completed by designers in their workplace, cheaper, and the instant receipt of completed questionnaires. The first online survey was launched in April 2009, with a simplified, shortened version replacing it in August 2009. When the survey closed in September 2009 completed responses were thirty for the first and fourteen for the second, totalling forty-four.

The data from the completed online surveys were combined and analysed using both qualitative and quantitative techniques. These data were processed through tables, charts, diagrams, and coded responses. This was done using a combination of the Bristol Online Survey (BOS) analytical software and manually using Microsoft Excel. The processed data were used to identify trends, draw initial conclusions and help form questions to be used in planned follow-up semi-structured interviews of designers.

2.2 Trends

A number of common themes were identified through the survey results. It is clear that the Design Brief has a significant impact on the work of the designers and their designs, with the most influential aspects of the Design Brief highlighted as costs and time. These two pressures dominate the design decisions made throughout the Design Process. There was a clear correlation between what designers felt was their input into the setting of the Design Brief and their influence on the product through the Design Process. This appeared unique to each individual designer and ranged from them being the most important and influential professional involved to having little or no authority or control over the product outcome.

The next theme identified was knowledge and understanding of environmental design and environmental issues. Most respondents claimed to recognise different forms of environmental design (green design, eco-design, sustainable design), but very few provided correct definitions. Of those that did, the vast majority of them had had a recent university education, indicating that environmental issues have been increasingly included in undergraduate design courses. A few also cited personal research into the area of environmental design in their own time.

The majority of respondents agreed that at least some elements of environmental design principles relate to their work. This most commonly takes the form of maximising the use of
resources to reduce waste and to be more economical. However, this general agreement was not matched by respondents’ attitudes and opinions on individual designers’ responsibilities towards the environment and society, with many claiming the responsibility to be on customers, consumers, and those involved in setting the Design Brief.

Few designers had used resources available to assist them with environmentally sensitive design. This is despite a high proportion of respondents who said they use resources to assist them with other aspects of their design work such as to find information about materials, components and suppliers.

When asked if they thought that they should be made aware of resources such as databases of the new environmentally sensitive materials available, most agreed that it would be beneficial to their work.

Another important theme was the relationship between respondents’ recognition and understanding of environmental labels and labelling schemes. Clearly some labels such as the Green Dot were recognised by the vast majority, whereas others, including the European Ecolabel, were not. However, the results indicate that even if a label is familiar does not mean that it is understood correctly. Although many participants showed some level of knowledge of environmental labels and schemes, it was very limited and often misinformation or even incorrect.

When asked what or who would benefit from the use of environmental labels, a high number of participants indicated marketing and consumers. Although some environmental labels such as the Universal Recycling Symbol appear on the products that most respondents design, only a few said that they currently use them to aid their design decision making. For those that did, this was mainly due to compliance with legislation such as the Waste Electrical and Electronic Equipment (WEEE) Directive logo. However, a number of participants did indicate the importance of recycled and recyclable packaging to their company.

The majority of respondents stated that they believe designers, marketing practitioners, companies and consumers could all profit from knowing the criteria required for various environmental labels. Most of them indicated that a tool or methodology which ensures the products they design are eligible for specific environmental labels would be most beneficial to designers and their company. Even more said that benefits would come from having guidelines advising ways to design with environmental labelling in mind.

2.3 Interviews

It was anticipated that interviewing designers who completed the questionnaire would assist in providing context to their responses, and yield valuable detail and clarity. The intended
outcomes from the interviews conducted were to find: further detail about designers’ knowledge and experience of environmental issues and environmental labels; more depth specifically about environmental issues and environmental labelling in the Design Brief; what influence if any they have on the designer during the Design Process; how well designers understand the concepts of environmentally sensitive design they claimed in the surveys; and specific and personalised requirements the designers had for a resource on labelling to assist them, including content and how it could be delivered.

The interviewees and companies were selected from the participants of the online surveys who had indicated that they were willing to be involved in further research activity connected to the project. Each company agreed that other designers who had not previously completed the online survey could be interviewed. Because of time and financial pressures selection was limited to designers working within the UK. Interviews were arranged with a total of twenty-five designers within seven companies based in the UK. It was considered that this number would provide sufficient depth and variation of data to ensure all areas of concern were addressed and to support trends identified through the questionnaire (Lofthouse, 2001).

The interviews were semi-structured, allowing the researcher flexibility to change the order of questions to follow the flow of the conversation, ask additional questions for clarification or further explanation to answers given, whilst still ensuring that all important areas were covered through the questioning (Silverman, 2004). It was anticipated that a conversational approach would also help to put the designers at ease and be more open; interviews opened with a brief informal conversation and interviewees were able to ask the interviewer any questions they had (Kvale, 2007). Interviews were audio recorded to allow the conversation to run smoothly. Notes of interesting points and follow-up questions were taken at time of interview so as not to interrupt the designers’ free-flowing responses.

Interviews were transcribed verbatim and notes made by the interviewer during the conversation were also recorded on the transcript. The interviews were analysed manually using Microsoft Excel and Word to code and cluster the transcriptions (Gibson and Brown, 2009). Codes relating to the research questions were created. The codes were clustered to identify key themes and highlight connections and relationships among the data. The coding framework was continually revised to take in account data that did not fit into the existing framework (Gibbs, 2007). These were used as the foundations for producing the results.

In the following section on findings, survey respondents will be referred to as “respondents” and interview participants as “interviewees” or as “Designer X”.

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3 Findings

3.1 Environmental Issues in the Design Process

The interviewees’ and questionnaire respondents’ knowledge and understanding of environmental design and environmental issues were varied. All participants showed some basic knowledge about environmental design principles such as reducing waste, using renewable materials where possible. Most of those questioned recognised the names of the different environmental design types (green design, eco-design, sustainable design), but upon further investigation through the interviews very few could provide correct definitions. Of those that could, the vast majority of them appeared to have a recent university education, indicating that environmental issues have been increasingly included in undergraduate design courses.

Almost all of the designers said that they are not asked to consider environmental issues during the design process by their company. ‘Not much sort of life cycle kind of stuff unfortunately’ (Designer 2).

Many interviewees said they personally don’t and wouldn’t consider environmental issues through the idea generation or concept development stages, with some saying they would not consider them at any stage of the Design Process. This appears to be the result of time pressures and their opinions towards their responsibility of environmentally sensitive design. Designer 1 said they do not consider environmental issues during the early stages of the Design Process:

‘Because it would be an extra time pressure and already we [designers] have enough to think about […] it’s always tough, even when you’re not in a recession, and time is always tight, so to have to then think about an extra thing which you don’t really have to think about. The product will still be sold and be successful whether you think about it or not arguably. So it’s an extra thing which is really not needed during the design process’ (Designer 1).

It was suggested by Designer 1 that actually implementing an eco-design or sustainable design strategy depends upon the background, previous education and personal interests of the individual designer. They clarified this by saying:

‘I would suggest that the only reason I would even consider the eco-impacts or the sustainability of a product at the development and material selection stages is because I have a background in it. I would suggest that other people
[Designers] who don't have such an involved background in it probably might not even consider it at those stages either' (Designer 1).

3.1.1 Environmental Issues in the Design Brief

The results from both the questionnaires and interviews show that environmental issues are rarely raised in the design brief. A number of designers commented that they have noticed that in recent years concerns for the environment from customers have dropped steadily alongside the decline in the global economy. The importance of money was a common feature with all those interviewed and was often repeated throughout each interview. Everyone questioned appeared to understand and accept that their customers wanted “value for money” as they have profit margins and budgets to meet. Companies’ need for profit to survive and thrive was also clear to everyone, which had been especially highlighted to some because of the ongoing global economic situation. Considering environmental issues, at least in the eyes of customers, is seen as an additional cost, as well as time consuming.

Investigation through interviews revealed that when environmental issues are specified within the Design Brief, they tend to be for product or company marketing purposes. For example, with the packaging that companies use for their products, decisions can be easily made (sometimes not by the designer) to make their designs more environmentally sensitive. Designer 25 gave the example of this from their own work: ‘Using carton board is better than petroleum-based plastic for the environment, and that there are a number of “environmentally-friendly” types of carton board available such as FSC certified, x% recycled content board, and recycled foil-backed board’.

Many interviewees cited that the extent of flexibility or “openness” of the Design Brief has a significant influence on what the designers felt they were able to do in terms of personal design decisions. The more tight or closed the brief, the more they felt that they were being prescribed what to design rather than making design decisions themselves, to the point where briefs are effectively telling the designer exactly what design decisions they should make and/or what the outcome should be:

‘…although it’s a very narrow brief […] the size, the shape, the colour, and so on is still up for debate […] The reason for that is the management needs to know that there is going to be an outcome at the end of it[…] they know that after six months we will have a product that they can sell’ (Designer 1).
More open Design Briefs were seen as risky:

‘Because the more open the brief, the higher the risk of not delivering it on time or on budget and so on.’ (Designer 1)

Another issue is when a brief contains insufficient detail for designers to act upon. Designer 6 said that technically there should be a design specification, but briefs are often insufficiently detailed.

3.1.2 Designers’ Responsibility towards Environmentally Sensitive Design

Approximately half of the participants regarded the protection of the environment to be important, but the other half did not express much of an opinion as they were more concerned with money and profit as a professional. Designer 12 said ‘Every process has its own key performance criteria. Sometimes cost, mostly cost I would have thought.’ The attitudes and opinions of individual designers about their responsibilities towards the environment and society, varies greatly even amongst designers within the same company. When asked about designers in general, Designer 22’s response was ‘It should be designers who push environmental design’, while Designer 24 within the same company (Company G) said that designers were ‘…no more responsible than other people in the general public [consumers]’.

What was of real concern was that designers who received the most open briefs were often resigned to the fact that they couldn’t make a difference even if they wanted to try. When asked to explain this further, one (Designer 24) became defensive and slightly upset and said that people ‘…shouldn’t be having a go at me’. They pointed the finger of blame at the customers, saying that they were only concerned with the environment if it was to improve their corporate image. Other designers expressed that although they provide different solution options wherever possible, ultimately the final decision rests with the customers because ‘at the end of the day it’s their business. We can only take them so far down the process’ (Designer 12).

3.2 Environmental Labels in the Design Process

When asked at what stage(s) of the design process they would consider environmental labelling, a respondent answered ‘things like this have to be considered from the start. The company has to be on it as the individual is virtually powerless to change a company due to existing systems and hierarchies in place’. The influence of environmental labels may be

The 14th European Roundtable on Sustainable Production and Consumption (ERSCP)
The 6th Environmental Management for Sustainable Universities (EMSU)
present at several stages of the design process even before the design process starts, including attracting initial business, the Design Brief, materials selection and marketing. The use of environmental labels can attract business. It was suggested by Designer 22 that more companies are specifying that they want to use sustainably sourced material to ‘reflect well with customers’. Designer 7 explained that as well as his/her company’s own in-house standards they now follow ISO14001 guidelines as well. ISO14001 ‘sets out how you can go about putting in place an effective Environmental Management System (EMS). The standard is designed to address the delicate balance between maintaining profitability and reducing environmental impact’ (International Standards Office, 2010). Designer 7 spoke about how appearing to be environmentally sensitive benefitted companies by increasing the potential for tendered work, especially from the government, by complying with ISO14001:

‘Well it’s a cynical way of getting more business because a lot of tenders, certainly government organisations that tender out work, they will fast-track you in if you’re seen to be environmentally friendly, if you have certain ISOs and stuff, you will be shortlisted for certain work to the extent that if you haven’t got it [ISO compliance] you won’t get it [the work being tendered]. So it’s not because everyone wants to save the planet it’s because they want a bit more money’ (Designer 7).

3.2.1 Environmental Labels in the Design Brief
Environmental labels appear in the design brief for a number of reasons:
1. Those related to legislation and standards that must be applied e.g. WEEE
2. Those required for markets they are to be sold in e.g. Green Dot
3. Specific labels requested by client /customer.
4. Labels suggested by marketing practitioners

Designer 25 explained that there are still some customers and companies who are specifying environmental criteria such as using FSC certified carton board, but this is part of their corporate image that they wish to uphold as a marketing tool.

3.3 Relationship between Designers and Environmental Labels
Few of the designers interviewed had professional experience of applying environmental labels to the products they design, so many were relying on their personal opinions and preconceptions of labels and labelling. There were a number of negative opinions initially
towards environmental labelling from designers. Some were wary of using any environmental labels on their products for fear that it could make them look bad if they did not match the performance of their competitors. Another concern shared by several was that it would be very easy for a company who did not perform well against other businesses on the labelling criteria to simply not apply the label to their products. For voluntary schemes to be successful Designer 1 said:

‘I would suggest that kind of approach would only be adopted by the majority of manufacturers if everybody were to do it or for it to become a legislative thing where you are forced to do it’ (Designer 1).

Designer 7 revealed that he/she is ‘quite cynical about the whole thing so it’s kind of like a pat on the head.’ However they then went onto say ‘I guess it’s worth having if you’re a company and other people recognise it then yeah I guess it’s a good thing, but it’s like any other reward isn’t it.’

Most other designers looked to the positives once they had a period to think about how knowing about labelling schemes could benefit themselves and their company.

‘So enhancing my experience would be knowing that products were more recyclable at the end of their life, would be knowing that the materials we are making the products from are less damaging in the first place [...]’ (Designer 1).

‘I suppose so in a way because if someone that’s environmentally aware looks at the product and it says ‘this product is environmentally sound’ then they might be more likely to buy it. So in that respect yes. But as I say, I think it’s a good thing to be - environmentally friendly - as best we can’ (Designer 6).

‘I think it would be a good positive thing for the company. I think if you’re asking about an economic benefit I’m not sure. I personally think it’s a good thing to do’ (Designer 20).

Concerning the notion of an environmental label that could be awarded to companies and/or individual designers, most seemed positive.
‘I think it would only boost people’s confidence in your company if they thought that you were accredited with whatever the scheme is’ (Designer 2).

‘Yes because of in terms of environmental labelling I don’t think we have anything that suggests that we design with that intent, and its more safety labelling and disposal labelling we have’ (Designer 4).

Designer 2 talked about the satisfaction they would feel if their company were to employ a recycling “take-back” strategy with related labels on the products they design:

‘Some companies [in their industry sector] are doing product recycling schemes where you bring back your old [products] and they recycle it. So some people […] are doing it and I would like us to do that too and if we did do that yeah it would enhance my whole kind of warm fuzzy feeling about doing a decent job, not just creating tat for people to bin’ (Designer 2).

3.3.1 Designers’ current knowledge and understanding
During the questionnaires respondents were shown a range of environmental labels currently active in the UK and EU and asked whether they recognised and could identify. There was a varied response. Some labels clearly stood out as being recognised by the vast majority of designers, including the Universal Recycling Symbol, WEEE logo (Figure 1.), Tidyman logo (Figure 2) and Green Dot, whereas some were hardly recognised at all, most significantly, out of all the sixteen examples, the EU Ecolabel. However, when it came to their understanding of what information the label was trying to transmit, there was quite a gap. The meaning of some labels can be ascertained through their design and hence making an educated guess. Examples of these include the WEEE Directive (do not dispose of product in general waste stream) and the Tidyman (place litter in a bin) logos which both visually represent the information they are trying to deliver.
Other labels use text such as the Soil Association’s Organic Standard logo (Figure 3) to enable their message to be easily identified through the text explanation. This is in contrast to labels such as the EU Ecolabel (Figure 4).
Similarity between label designs seemed to cause some confusion, particularly highlighted by the Green Dot (Figure 5) and the Universal Recycling Symbol (Figure 6).
The exception to this trend appeared to be the Carbon Trust’s Carbon Reduction Label (Figure 7). Most designers seemed to work out that it was displaying the Carbon Footprint of the product, although further questioning revealed that they were not conscious of what was a “good” value or where the most significant areas of impact during the life cycle are.

![Figure 7: Carbon Trust’s Carbon Reduction Label.](image)

### 3.4 An Environmental Label-based Resource for Designers

One clear requirement for designers appears to be knowing which labels are applicable to the products they design. They also want to know what each label means. Designers were asked whether they required more information about labels, and subsequently how they would like to receive that information. These questions were left open-ended in order for interviewees to offer their responses unprompted, although prompts were on occasion given if the interviewee asked for an example. Results clearly show that the majority of designers believe that a resource based around environmental labels would be beneficial. Considering these key findings, it may be possible to find a way to incorporate the features and benefits of environmental labels into eco-design strategies employed by companies. Alternatively it might be more beneficial to develop an eco-design tool or methodology based around environmental labels, improving the design as well as facilitating easy labelling of products.

#### 3.4.1 Format

A number of methods and strategies were discussed in the interviews for delivering the information that designers felt they needed to know about environmental labels.

**Methodology.** Only Designer 6 said that a design methodology that they could follow in order to know how far along the design process they were would be beneficial. All other
interviewees stated that they did not want a methodology to follow. Most designers said they work by using their own personal approach to designing and others a process set by their company. The idea of telling designers what to do was not popular: ‘... have to be careful not to lecture designers on how to design’ (Designer 7). Others claimed that using a methodology could be more time consuming and not practical:

‘should you go back to say being at university and all of the theory stuff that was taught about how to choose and narrow down concepts and all that stuff, all that sort of methodological approach just doesn’t apply in my experience to the real world scenario.’ (Designer 1)

Reference tool. Alternatively a reference was more popular. Interviewees had experience of using reference materials such as to find information on materials in catalogues; component specifications from manufacturers or suppliers; and product comparison and inspiration through online searches. Designer 2 said that the reference resources they use are ‘really good, it’s quite often the case that there is just one bit of information that is relevant to what I am designing, so it’s quite specific.’ Designer 8 suggested a search function that could perform very relevant searches and allow them to filter results to find the specific information required quickly. References can be used intuitively and are then already a part of designers’ experiences. However, due to time pressures it is clear that specific information must be easy and quick to find if a reference tool were to be used regularly. A reference tool could enable designers to find out which labels are relevant to their project before they start designing, and to have information on what label criteria means for their designs before and as they are designing.

Interactive tool. The most exciting potential in terms of benefits could be delivered through an interactive tool which the designer engages with throughout the design process. One benefit for this that was suggested by interviewees was for them to see how their design decisions impacted on the product and the labels that could be applied to their design in real time. The interactive tool could also suggest different design ideas and solutions such as considering a different material or alternative label. An example Designer 4 gave:

‘I would like to see something that is a bit more organised in that you have a certain product and you have a list of all the labels so that when it went through production and you have a works order where you pick all the parts
for the job, at that point it prints you off a works order it prints you off all the labels needed for that batch of products with the correct serial numbers on and so forth so that’s it’s all there and you can’t not put the labels on’ (Designer 4).

This type of interactive design tool should encourage informed design decision making throughout the Design Process.

### 3.4.2 Content

Explain in plain English. A number of interviewees said that they find Standards difficult to use as a result of the language in which they are written:

‘They are very difficult to use. The standards for example are very difficult to read firstly, which puts you off trying to use them, but you have to […] they are extremely difficult to read and the wording is very difficult to try and work out what they are actually intending’ (Designer 4).

There appears to be a need for presenting information about standards, legislation and labelling criteria in an accessible way using familiar language. By way of example, we might think of the way in which learner drivers in the UK find out the important information they require from the Highway Code rather than reading the many Road Traffic Acts. Another problem Designer 4 highlighted was that ‘with British Standards you have to buy them before you can read them. You have got to really outlay before you understand whether it was or wasn’t relevant to what you’re trying to do.’ This was echoed by Designer 2 who said:

‘I need to know which sort of which labels […] apply. Are any compulsory for certain end outcomes or depending what I am trying to achieve I guess? So I would need to know the legislation and the thinking behind them’ (Designer 2).

Using the Highway Code example again, drivers intending to learn to drive a car do not need to know about rules and regulations associated with driving a HGV. So the resource should tell the designers which Standards, legislation and labelling criteria is relevant to the product they are designing. This could save time and money spent purchasing irrelevant standards information and help avoid confusion in the future.
Other features that an interactive tool might comprise, the interviewees recommended, include:

1. Examples of products designed with environmental labelling criteria in mind
2. Good and bad examples of environmental labels applied to products
3. “Ask an expert”
4. Forum
5. Frequently Asked Questions (FAQs)
6. Rating of labels e.g. which are the best, the easiest to apply, the most recognised or respected
7. Costs e.g. application, annual subscription, % profits
8. Access to labels and labelling schemes

3.4.3 How to deliver

**Online.** Most interviewees suggested that the resource should be internet-based for numerous reasons:

> ‘Well possibly a website would probably be more something more relevant [than a book] that I would actually find the information more quickly I guess.’
> (Designer 2)

Interviewees indicated that they already use the internet for other research including on new materials (Designers 2, 6), market research (Designer 1), component specifications (Designer 6). Designer 7 said the ‘internet is quicker and easier to use [than other sources].’ An online tool may also link to other sites for more information, such as label-awarding bodies’ sites.

**Paper-based.** Catalogues and samples from suppliers are used, especially for materials selection decisions. Designer 2 said ‘they’re really handy. They [suppliers] send us the new ones every season for finding out about all the new technologies, the new materials, so yeah I wouldn’t be able to do my job as effectively without them.’ Although a physical catalogue of environmental labels could become outdated quickly, the idea of receiving updated information about the latest scheme developments and new label information could be beneficial. One way this could be delivered is through a regular newsletter. Other sources of information that designers said they used include books and libraries. However, Designer 2
said ‘I’ve got all the standard books about ergonomics and sort of standard heights and anthropometrics and all that kind of stuff but to be honest they sit on my desk and don’t get used as much as they should’ and Designer 8 said that books are not very suitable for their requirements because of the specific areas being investigated.

4. Discussion and Conclusions
4.1 Potential for Environmental Labels to Inform Design Decisions
The most significant outcome from the surveys and interviews has been the identification of a need for designer to know more about environmental labels and how to use them through their work. Following the conclusions drawn from the data a greater understanding has been gained of what aid designers require. This includes what they need to know to facilitate their design work, and how they want that information presented to them. The results have also given a taste of the thoughts and opinions of designers on environmental labels, their knowledge and their misunderstandings of them. The results add to the debate on the shortcomings and failings of past and current eco-design resources, as well as those which have worked. Goggin’s (1994, p.459) prediction that ‘eco-labelling could increasingly impact on product design’ has proved true through compulsory labels associated with legislation and standards, and when the application of other label(s) are specified within the design brief. If designers know more about labelling, they will be able to ensure that their products can be awarded eco-labels, find it easier to work with Standards, and boost consumers’ confidence in the company and brand.

Through interviewing various practitioners it was possible to map the design process and the influences that consumers, the customer, sales representatives, and industrial designers have on this process. The Pilot Study has revealed restrictions on designers’ ability to design, that problematise moves to bring environmental labelling into the design process. It could be argued that interviewees’ personal inability to influence many of the products they design had a major impact on the answers given about the responsibilities that they as individuals felt they had towards the environment and society, in which many rejected having any real responsibility. The results also clearly show that briefs themselves are restricted by the customer’s specifications due to their perceptions of consumers in their target markets. It was recognised by a number of interviewees that as the economy contracted, so did concerns about the environment from customers. One of the most significant labelling schemes does not appear to be recognised by industry, and many other labels misunderstood, which reduces the likelihood of them being applied to products correctly. A closed brief could potentially prevent designers employing environmental design strategies
and/or applying environmental labels. Not only does this set-up appear to restrict the creative output from designers and reduce the innovative concept solutions that they may produce (Goggin 1994), it also results in the designers feeling restricted and unsatisfied because of their inability to express themselves through their work. What was stressed by the majority of designers at this point was again the impact that costs, the customer, and the removal of design decision making through set briefs had on designers – that they have very little control.

A number of issues raised by Goggin (1994) suggest that a voluntary market-based approach may not be ideal with regards to long-term environmental protection. This was supported by Designer 1’s expression that labelling would only work if mandatory in industry. However, it has been suggested that voluntary eco-labelling schemes are important tools for environmental management in both developed and developing nations and that the removal of voluntary eco-labelling schemes would have a negative impact on the efforts to protect the global environment (Tietje, 1995 cited by Erskine and Collins, 1997). Erskine and Collins (1997, p. 125) conclude that ‘while the concept of eco-labelling is good, the practical application of the concept is not straightforward’.

Further research may wish to ask, what level of freedom do designers want from a brief? Is there a price for creativity? Would allowing designers more freedom within briefs produce more innovative and/or cost-effective designs? If labelling is to be brought into design decisions, an approach targeting not only designers but marketers may go some way to addressing the above issues.

4.2 Future Work
A design resource primarily for designers is currently being developed with the assistance of practicing professional designers in the UK. The resource is electronic rather than paper-based, and is likely to become an online source. Early indications suggest that published paper-based resources are not favoured by design companies because of costs, physical space of storing, and how quickly they can become outdated. The advantages of an online tool or resource include the ability to link to further information and applications for various labelling schemes. It also allows the resource to be updated as new criteria are added to labelling schemes.

The resource will be finalised shortly and will undergo initial testing with final year undergraduate design students at Loughborough University before widespread testing by practicing professional designers, ideally being used on real life projects. Other possible methods of testing include design workshops and focus groups. The majority of the
designers interviewed consented to taking part in future interviews and/or workshops to test and develop the tool. A number of the companies also agreed to help with the development and actually test the resource tool on live real-world projects. The results from this testing will be analysed and form final recommendations to be written up as part of the researcher’s doctoral thesis. It is also hoped that this information can be used to further develop the resource to the stage where it can be launched and used by designers worldwide.
References


