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**Is Waste Minimisation a Challenge
Too Far?: The Experience of
Household Waste Management and
Purchasing in the UK**



Louise Obara



Is waste minimisation a challenge too far?
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Abstract

The volume of household waste has grown rapidly in recent years and the amount that households are generating is increasing at an unsustainable rate. Despite various UK waste strategies highlighting waste minimisation as the top priority, the focus of attention and investment at the level of the householder has been on encouraging participation in recycling. A significant amount of research has been conducted on the dynamics of attitude and behavioural changes in household recycling at the expense of research on household waste minimisation. In light of this, the paper focuses on the attitudes and behaviours of householders in relation to waste minimisation. The findings from a large scale postal questionnaire, and semi-structured interviews conducted in Cardiff, a major city in Wales, are presented. Significant literature and research carried out to date on household waste minimisation is assessed and key recommendations outlined. The paper suggests that householders feel powerless to minimise many wastes, such as product packaging, but they considered themselves better equipped to minimise other wastes, such as plastic carrier bags and junk mail. The paper also suggests that the likelihood of waste minimisation taking place is significantly influenced by the degree of recycling activity taking place within the household.

About the BRASS Centre

In 2001, Cardiff University won £3.1 million in research funds from the Economic and Social Research Council to develop a Research Centre for Business Relationships, Accountability, Sustainability and Society (BRASS). The Centre is a joint venture between the University's Schools of Business, City & Regional Planning and Law. It brings together the three Schools' existing research expertise on issues of sustainability, business ethics, company law, corporate reporting and business communication.

The Centre started work in October 2001 under the leadership of Professor Ken Peattie of the Business School, Professor Terry Marsden of the Department of City and Regional Planning and Professor Bob Lee of the Law School. The funding of the Centre covers an initial five-year period, but this should just mark the beginning of BRASS' contribution to creating more sustainable and responsible businesses locally, nationally and globally.

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Introduction

This paper gives an insight into household consumer attitudes and behaviours concerning waste minimisation in the UK, and makes recommendations regarding the development of waste minimisation policies at the local government level. The paper focuses on the waste minimisation practices of householders as, although a significant amount has been published on industrial waste minimisation, the attitudes, justifications and behaviours of waste minimisation at the level of the householder remain poorly researched.

It is vital to consider the household waste minimisation issue, as although it appears that the UK will meet initial recycling targets for 2005 set by the UK Government in 2000 in the Waste Strategy for England and Wales (DEFRA, 2000), and for 2003/4 set by the devolved assembly in Wales in Wise About Waste: The National Waste Strategy for Wales¹ (Welsh Assembly Government, 2002), the sheer quantity of waste being generated could undermine the benefits achieved through recycling. Household waste has grown rapidly in recent years, and it is estimated that the current increase of 3% a year outstrips that of many other European countries. This paper is written at a time when despite various UK waste strategies heralding waste minimisation as the most preferable waste management option, the focus of attention and investment has centred on encouraging householders to recycle. In addition to this, a significant amount of research has been conducted on the dynamics of attitude and behavioural changes in household recycling at the expense of research on attitudes to waste minimisation.

To investigate the issues surrounding household waste minimisation behaviour, this paper draws upon existing literature on waste minimisation and refers to the findings of a large scale household waste survey conducted by the author in Cardiff, a major UK city. The context section of the paper provides background information on household waste management in the UK, reviews household waste minimisation literature, and describes the reasoning and methodology of the research. This is

¹ Hereinafter will be known as the Waste Strategy for Wales

followed by the presentation of key findings, together with its subsequent discussion and analysis, and finally, recommendations and conclusions.

Context

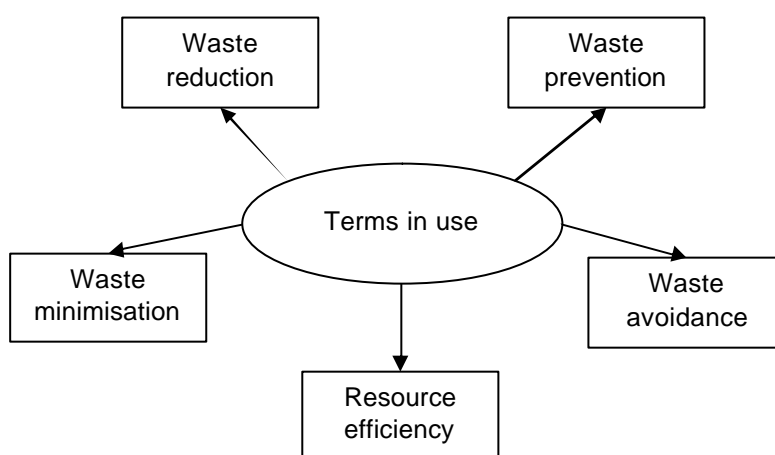
The issue of household waste minimisation has particular resonance in the UK because it has been suggested that it has one of the fastest growing rates of municipal² waste in Europe (Recycling World, 2003). Of greater concern is the implication that even though the proportion of municipal waste sent to landfill is decreasing, because of the annual growth in waste, the actual amount sent to landfill has increased in absolute terms (Ernst and Young, 2002). If the current rate of household waste continues to grow at 3% a year, the economic and environmental impact will be considerable. For instance, it is predicted that household waste will double by 2020, costing £3.2 billion per year; twice as much in real terms as is currently spent (Strategy Unit, 2002). It has also been anticipated that with more waste generated and landfilled, the amount of harmful landfill gases, such as methane emissions, will more than double in the next twenty years (*ibid*). Hence, the production of waste and the current methods by which it is managed in the UK is simply unsustainable in the long-term. Minimising waste is therefore seen as vital to prevent the substantial economic and environmental repercussions that will ensue if current household waste practices are left unchecked.

Given the importance that waste minimisation plays in sustainable waste management, it is surprising that there is confusion over what the term actually means. For example, it is argued by some (National Resource and Waste Forum, 2004) that household waste minimisation refers to any activity which ultimately minimises the amount of waste that is landfilled; therefore recycling, composting and reuse activities are included in this definition. Other definitions classify household waste minimisation much more narrowly and this is the preferred approach of this paper. Here household waste minimisation is seen as the way in which householders actively seek to minimise the amount of waste they generate in the first place by the decisions they make at, or before, the point of purchase. This definition does not

² Municipal waste refers to waste that is collected by LAs, and although it includes some commercial waste, the majority comes from household sources.

include ‘end of pipe’ activities, such as recycling and composting, because these activities manage waste that has already been produced, and does not require, or indeed encourage, householders to consider the link between their purchasing practices and the amount of waste that is generated as a consequence. To further this potential confusion, many different terms are currently in use (see Figure 1), and even though the three most frequently used terms in the UK, in discussions of household waste, are waste minimisation, waste reduction and waste prevention; for the sake of consistency this paper will predominantly use the term waste minimisation.

Figure 1: Common Terms Currently in Use

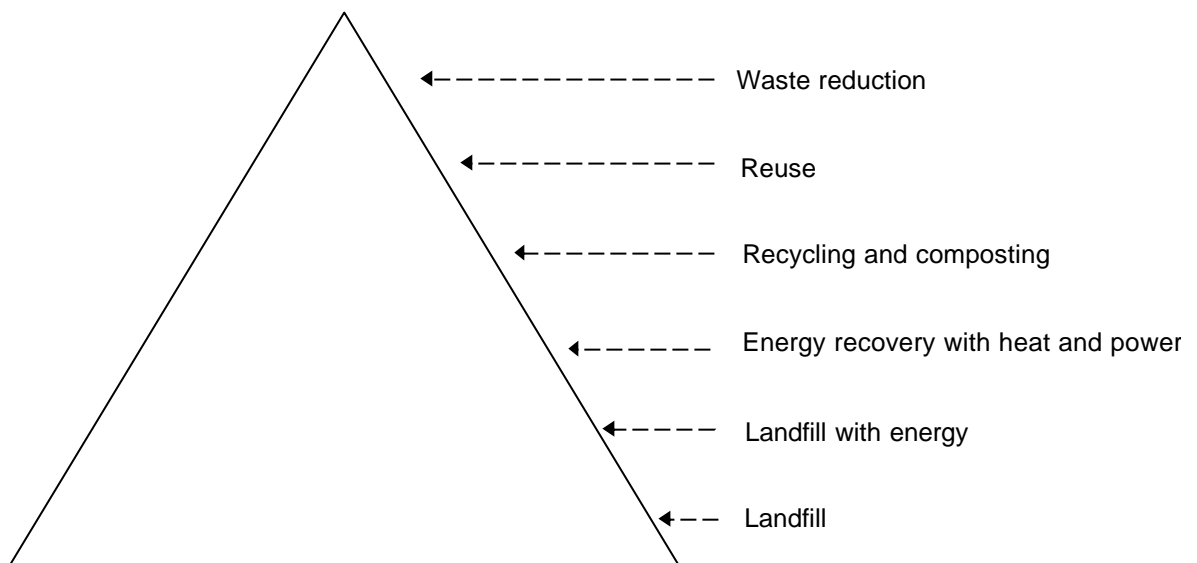


Attempts to address the unsustainable growth and management of household waste have been initiated predominantly by national governments via national policies and strategies. The waste strategies published in the UK are based on the concept of the waste hierarchy (see Figure 2), which lists waste management options in order of preference or decreasing environmental impact. Therefore, the higher up the waste hierarchy, the more sustainable the waste option; and as waste minimisation is located at the top of the hierarchy, it is considered to be the most preferred and sustainable method. For this reason the top priority for the two most influential waste strategies in the UK – the Waste Strategy for England and Wales (DEFRA, 2000), and the Waste Strategy for Wales (Welsh Assembly Government, 2002) – is the need to significantly reduce the volumes of waste produced, decouple the generation of waste from economic growth, and to shift towards more sustainable consumption patterns. Indeed, the significance of the waste hierarchy concept, including the importance of

waste minimisation within this hierarchy, is heralded not only in UK waste policies but further afield, as the following suggests.

Waste minimisation is at the top of almost every version of the waste management hierarchy around the world, and is considered by many to be the most important management technique to be applied to solid wastes (cited in Read et al. 1998:79)

Figure 2: The Waste Hierarchy



Source: Strategy Unit, 2002:10

The waste strategies in the UK, therefore, purport to concentrate on waste management options that are further up the waste hierarchy, and as a result the Strategy for Wales (2002) has set specific targets for the amount of waste to be minimised by Welsh households (Figure 3). The responsibility for achieving these targets rests with local authorities (LAs) as due to their long standing legal obligation to collect waste from residents in their vicinity, they are seen to be in the best position to address, and ultimately change, the waste management practices of householders. The publication of the Waste Strategy for Wales (2002) – with its household waste minimisation, recycling and composting targets – has led to a flurry of activity from LAs, although predominantly to increase recycling rates, and a variety of initiatives, schemes and trials have been introduced to encourage residents to recycle their waste. The strategy and the injection of financial support from the Welsh Assembly

Government has had a desired effect on the recycling and composting statistics (although perhaps not as much as was hoped), with 17.6% of waste recycled and composted in Wales for 2003/2004; up from 12.7% in 2002/2003, 8.4% in 2001/2002 and 7% in 2000/2001 (National Assembly for Wales, 2004). Despite these improvements household recycling in Wales and the rest of the UK still falls considerably short of the household recycling figures of many European countries. In addition to this, the amount of waste that Welsh, and UK, households are generating is still increasing at an unsustainable rate, and as one author notes, “(r)ecycling is being outstripped by household waste growth in many areas of England and Wales” (Recycling World, 2004). Recent figures show that in 2003, 610kg of municipal waste was generated per person in the UK (of which 460kg – 75% – was landfilled), which represents a 30% increase since 1995³. Even though this figure is for the UK as a whole, and as the figure for Wales is not available, it can be presumed that Welsh households generate a similar amount; therefore, the challenge that faces LAs and households in Wales is immense given the target the Welsh Assembly Government has set that by 2020 waste arisings should not exceed 300 kg per person per annum (Figure 3).

Figure 3: Household Waste Minimisation Targets of Wise About Waste: The National Waste Strategy for Wales.

Waste minimisation targets for households in Wales
<ul style="list-style-type: none"> • By 2009/10 waste arisings per household should be no greater than those (for Wales) in 1997/98 • By 2020 waste arisings per person should be less than 300kg per annum

There is no doubt that the amount of waste and the speed with which it has grown in recent years represents a significant challenge for the UK, but of interest to this paper is that fact that household waste minimisation is *perceived* to be a greater challenge than recycling. Despite widespread acceptance that waste minimisation is the most sustainable and preferred method for dealing with waste, many reasons have been put forward by various stakeholders as to why household waste minimisation is considered to be an extremely difficult issue to tackle and achieve. Firstly, LAs may argue that there is confusion over how to effectively measure household waste

³ <http://www.sustainable-development.gov.uk/performance/Waste.htm> Accessed July 13 2005

minimisation. Secondly, there is a rather retrograde concern that waste minimisation will have an adverse effect on recycling rates as there will be less waste available to recycle. There is also an underlying belief shared by LAs and householders alike that waste minimisation is a relatively pointless activity at the household level and one that LAs should not be expected to address because,

- (a) businesses can make a greater environmental impact in minimising waste than individual households (Holdsworth, 2003)
- (b) householders and LAs believe they are powerless to minimise significant amounts of waste and are locked into unsustainable consumption patterns “*through a mixture of habit, institutional constraints and social norms*” (Jackson, 2005).

It is interesting to note that the Waste Strategy for Wales (2002) itself advocates the latter point, and as a consequence gives authority to this reasoning, when it states, “(M)any of the factors controlling the amount of waste discarded by householders are largely beyond the control of individual local authorities” (Welsh Assembly Government, 2002:35). An additional factor that is considered by many to be the biggest challenge for waste minimisation, is the link between consumption, status and identity. As Jackson (2005:v) aptly summarises:

“This symbolic role of consumer goods facilitates a range of complex, deeply engrained ‘social conversations’ about status, identity, social cohesion, group norms and the pursuit of personal and cultural meaning”

In other words, the consumption and purchasing of goods by householders is not simply a functional, needs-based activity, but one which holds symbolic meaning. Hence encouraging householders to consume and purchase goods in a more sustainable manner, including waste minimisation, is perceived as a significant challenge – far beyond that of recycling – because it will require householders to ask themselves, possibly even confront, fundamental questions about their identity, status and lifestyle. Thus, it may not simply be a matter of perception of difficulty of achieving behavioural change amongst householders, but may in fact be a challenging mixture of cultural and social factors that will need to be addressed and influenced not

only at the LA level, but also from central government and through a variety of other media that affect social norms in relation to waste management behaviours.

Waste minimisation is an issue that LAs have generally shied away from. Although, it is worth highlighting that a very small number of LAs in the UK have attempted to address waste minimisation and have formulated and/or implemented their own waste minimisation policies and targets. For example Yorkshire and Humber is proposing to minimise growth in municipal waste (the majority of which is household waste) to 2% per annum by 2006/7, 1% in 2007/8 and 0% thereafter (ENDS report, 2003:13); although some of the focus of this strategy is on design of products and changes in the supply chain, rather than concentration on changing the behaviour of the individual or householder. However, more guidance on the issue of waste minimisation has recently become available to LAs via the work of the National Resource Waste Forum (NRWF). This represents the major investment into waste minimisation at the household level, and the NRWF is a

“unique forum for action where Government bodies have seats alongside representatives of many other organisations and people across the public, private and NGO sectors involved in delivering sustainable waste management”
<http://www.nrwf.org.uk/index.htm>.

The NRWF has been working to provide a UK wide waste prevention framework, part of which is focusing on waste prevention at the household level. Its Household Waste Prevention Toolkit provides guidance for LAs to develop and make the business case to win the support of elected members and community based organisations; to select, plan and implement waste prevention schemes and to create and run a waste prevention communication campaign and change consumer behaviour. It focuses specifically on home and community composting, smart shopping, reducing junk mail, encouraging repair and reuse of products and the development of product and professional service systems for consumers. This work, which represents the first steps towards a clearer focus on household waste prevention, was introduced in August 2004, but little evidence can be found to date of actual use and implementation of this new toolkit.

Research on household waste management has on the whole overlooked waste minimisation and concentrated on the behaviours, attitudes and motives of recycling at the household level. Information on household waste minimisation behaviour and attitudes is vital if the waste minimisation targets are to be realised and the study undertaken in Cardiff aimed to provide such information. Of the limited academic literature on household waste minimisation the three most recent and noteworthy publications are that of Tonglet et al. (2004), Barr et al. (2001) and Ebreo and Vining (2001). These three studies compare and contrast the underlying motives, attitudes and behaviours of householders involved in recycling and waste minimisation activities. In the most recent study, Tonglet et al. (2004) explore these relationships by applying a cognitive model from social psychology, known as the theory of planned behaviour. They found that recycling and waste minimisation represent two distinct dimensions of waste management behaviour, with recycling activity most likely to be influenced by appropriate opportunities, and waste minimisation most likely to be influenced by environmental and community concerns. In addition to this, the study found that compared to recycling performance, significantly fewer respondents actively minimised their waste. The findings of their study were also confirmed in the research conducted by Barr et al. (2001) and Ebreo and Vining (2001). However, all three studies lack data specifically on householder attitudes towards waste minimisation. Therefore the survey conducted in Cardiff aimed, amongst other things, to provide this information by exploring waste minimisation from the perspective of the householder.

Household Waste Minimisation: Attitudes and Behaviours in Cardiff

In order to understand the attitudes and behaviours of householders towards waste minimisation, information was collected as part of a research project in Cardiff, the capital city of Wales, a city of nearly 300,000 residents. This was initiated in the autumn of 2002 when Cardiff County Council funded the BRASS Centre at Cardiff University to undertake research exploring the waste management and purchasing behaviour of householders involved in a kerbside recycling scheme. The primary research aspect consisted of a large scale questionnaire survey and follow up interviews with a small number of residents.

Cardiff's reported recycling rate in January 2005 was 14.2% and the city is undergoing a transition in terms of its recycling services with the introduction of a new kerbside recycling scheme, operated by Cardiff County Council, which aims to meet the ambitious municipal recycling targets set by the Welsh Assembly, i.e. 25% by 2006/7 and 40% by 2009/10. A new twin bin collection scheme has been introduced which involves a green bin for green waste, green bags for dry recyclables and a black bin for residual waste, with a choice over the size of these bins. The new kerbside recycling scheme was first introduced to selected areas of Cardiff in 2001, and 19 out of 29 electoral wards in Cardiff currently participate in the kerbside recycling scheme, equating to 17,000 properties. Additionally by the end of 2006 every household in Cardiff will receive this service. In the summer of 2003 a questionnaire was sent to each household in four wards across Cardiff, which were at different stages of the kerbside recycling scheme. These wards were chosen due to their varying recycling provision and Figure 4 details the recycling provision in each area.

Figure 4: Ward Areas Involved in the Research

Ward A is an area where the recycling scheme has been in operation for nearly 2 years
Ward B is an area where the recycling scheme has been in operation for about 6 months
Ward C is an area where the recycling scheme is about to begin
Ward D is a control area which has never received a kerbside recycling service

By targeting wards in different stages of the recycling scheme it allowed comparisons to take place and information to be gathered on whether the scheme impacts on other areas of waste management such as waste minimisation. The initial fieldwork in 2003 was followed with a further survey in 2004 to those households who responded to the first questionnaire in order to 'track' waste management behaviours and attitudes and provide rather more longitudinal data, which is frequently lacking in the household waste management literature. This paper will present the findings from the first survey in 2003 as the data collected from the follow up survey in 2004 is still undergoing analysis.

The questionnaire explored all aspects of household waste management behaviour and attitudes, and was sent to nearly 5000 households. The method of using questionnaires assured a wide coverage of the general issues relating to waste and enabled a large amount of data to be gathered. The overall response rate was 30%. Figure 5 breaks down the response rate according to each of the four wards.

Figure 5: Response Rates for the Four Wards Included in the Research

Area	Questionnaires Sent	Questionnaires Returned	Response Rate (%)
A	1070	364	34
B	1341	450	34
C	1260	305	24
D	1267	358	28
TOTAL	4938	1477	30

To supplement and explore the trends identified in the quantitative data nearly thirty semi-structured interviews were conducted with Cardiff residents. These were randomly chosen from those who returned the questionnaire as it was necessary to explore in further depth the answers given in the survey.

Figure 6 : Survey Questions Relating to Waste Minimisation

Waste minimisation questions	Survey response options
Do you try to reuse plastic bottles such as water bottles? Have you taken steps to try and stop junk mail?	1. Yes 2. No 3. Sometimes
Do you try to avoid buying items which have a lot of packaging on them? Do you try to buy loose products, such as vegetables and fruit, and refuse to use plastic bags? Do you take your own carrier bags instead of using new ones from the shop?	1. Most of the time 2. Sometimes 3. Hardly Ever 4. Never 5. Don't know

The questionnaire contained five questions relating to waste minimisation (Figure 6). These were explored in further depth during the semi-structured interviews to

establish, for example, why householders attempted to minimise certain waste streams but not others.

One criticism of the research design that needs to be highlighted at this point relates to self reported behaviour. It has been documented that respondents tend to exaggerate their waste management behaviours especially when these are perceived to be ethically sound (Woollam et al. 2003; Williams and Kelly, 2003; Tucker, 2003). It is anticipated that respondents are likely to exaggerate their recycling behaviour in this survey, but it is difficult to determine if respondents have exaggerated their waste minimisation behaviour as this is an issue that has not received a great deal of attention in the UK, either by the media or by local authorities. However, the limitations of self reported behaviour need to be taken into consideration when the findings are outlined.

SPSS Version 11 was used to collate and analyse the data. At this stage of the research, simple cross tabulations have been conducted as more comprehensive statistical analysis of this data together with the data from the follow up survey in 2004 is currently being performed. The data gathered from the questionnaires and interviews was assessed to investigate four main areas.

- a) To explore the current level of waste minimisation behaviour of respondents.
- b) To explore attitudes of householders towards waste minimisation
- c) To ascertain if the presence of the kerbside recycling scheme impacts on waste minimisation behaviours.
- d) To determine the most effective ways to engage householders to minimise their waste.

Data Analysis and Findings

The survey and interviews generated a number of valuable findings. The data collected from the five waste minimisation questions in the questionnaire show that *some* waste minimisation activity is taking place, but not to the same extent as recycling. This supports the findings of the Tonglet et al. study in 2004. For example,

of those that receive the kerbside recycling scheme, 92% stated that they recycle regularly (every 2 weeks). In comparison, many of the waste minimisation questions received a much lower response in terms of reported waste minimisation behaviour (Figure 7). For example, just over a third of respondents reported that they had taken steps to minimise the amount of junk mail. On the other hand, a high number of respondents claimed that they had minimised the amount of plastic bottles they generated with nearly 77% reusing their plastic bottles either sometimes or most of the time; although it must be highlighted that the question did not explore what was actually meant by reuse, and further detail on such activities may reveal less actual reuse, or reuse of a very limited number of times, thus affecting the positive message that the initial statistic appears to provide.

Figure 7 Results of the Waste Minimisation Questions

Waste minimisation questions	Percentage of respondents who most of the time or sometimes minimise waste	Percentage of respondents who hardly ever or never minimise waste
Have you taken steps to try and stop junk mail?	36.5	62.1
Do you take your own carrier bags instead of using new ones from the shop?	48.5	48.9
Do you try to avoid buying items which have a lot of packaging on them?	57.3	37.3
Do you try to buy loose products, such as vegetables and fruit, and refuse to use plastic bags?	60.9	35.9
Do you try to reuse plastic bottles such as water bottles?	76.5	20.7

The initial results offered by the survey would seem to be quite positive, with large numbers of people apparently refusing extra packaging or plastic bags, and making real efforts to minimise waste at the point of purchase. Even the figure of nearly 50% of those surveyed who reported taking their own bags when shopping, provides a somewhat rosy picture of how consumers are seeking to minimise their waste. A note of caution should be raised, however, as self reporting may well colour responses (as

identified earlier in this paper), and while people state that they carry out these activities, the option of most or sometimes in terms of frequency may allow respondents to feel as though they are engaging in these activities more often than in fact they are (as sometimes may be interpreted very subjectively in a case such as this). Having raised a cautionary note, even if the figures are somewhat inflated due to these factors, there remains quite a positive picture of the waste minimisation actions that residents in the city undertake.

These findings were also explored in greater depth during the follow-up interviews and here it was found that the majority of householders believed that for many waste streams they had a limited ability to minimise. A common complaint by households related to product packaging, and one individual remarked, which is reflective of many of the comments, *“it would be very helpful if products don’t come with multi-layers of wrapping. It is not necessary and obviously adds to the product cost and recycling costs”*. In addition to this some interviewees highlighted that they often did not have the time to choose an alternative item that was packaged less. Therefore packaging waste is an issue that respondents feel they have no control over and are largely powerless to minimise. Related to this, a number of respondents believe that some products, such as small electrical goods, are manufactured in such a way that if they become faulty it is often cheaper to replace the product rather than have it repaired. Some residents went even further in their criticism and suggested that manufacturers *intentionally* make products difficult to repair so that consumers are forced to dispose of the faulty item and purchase a replacement. Therefore, householders stated that producers should take responsibility for unsustainable product designs.

The interviews also revealed, conversely, that householders felt they could exert more control over minimising some items, such as plastic bags and junk mail. Regarding the latter, a significant number of respondents indicated, either in the interview or in the questionnaire, that they would like more information about what they could do to reduce the amount of junk mail they receive. Hence, there is a perceived lack of information amongst households about how to reduce this waste. When the issue of plastic bags was explored in interviews, it emerged that the majority of respondents believed that reusing plastic carrier bags was one of the most straightforward measures they could take to minimise their waste. This attitude was held both by those

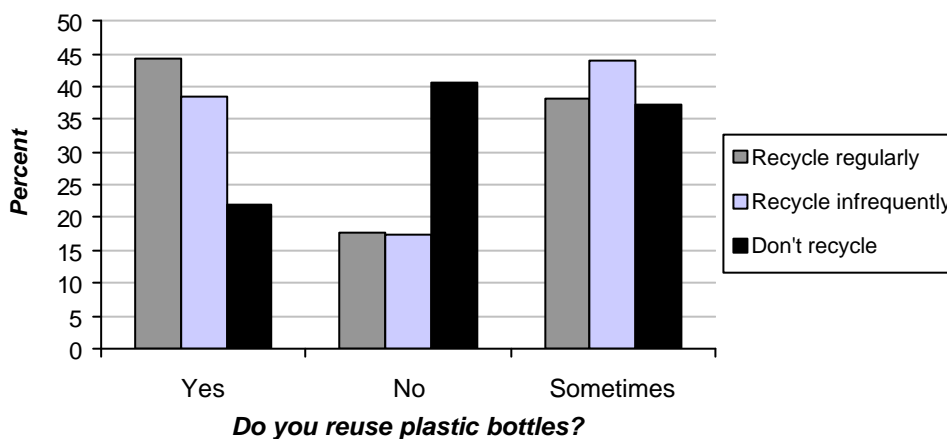
who reused their plastic bags and those who did not, and respondents stated that reusing plastic bags would not be difficult once they were in the habit of remembering to take their plastic carrier bags with them when shopping. In addition, there was widespread support for a plastic bag tax as “this will make people reuse their bags” and the majority of householders felt this would be more effective than incentives such as money back. Also the majority believed that a charge of nine pence per plastic carrier bag, as in the Republic of Ireland, is a reasonable amount to pay.

It is apparent that a contradiction exists between the information gathered during the interviews and the results of the questionnaire. For example, householders revealed in the follow up interviews that they believed themselves to be largely powerless to minimise packaging waste; however, the questionnaire data showed in fact that a high number of respondents – some 77% - claimed to have minimised plastic bottle waste by reuse sometimes or most of the time. It is unclear why this inconsistency between the interview and questionnaire data exists and further research is needed to explore this. Similar trends were also found with questions relating to plastic carrier bags and junk mail. The follow up interviews revealed that householders felt they had more control over these wastes and therefore could minimise in theory; although the questionnaire data did not reflect this. The most plausible reason for this contradiction with, firstly, plastic carrier bags is for the most part householder ignorance. Householders on the whole do not think about the generation and management of plastic carrier bags, as reflected in the questionnaire data; however, upon further examination during the interviews householders recognised the potential ease with which they could minimise this waste by reusing their carrier bags. Similarly, with junk mail, householders revealed, both during the interviews and on the questionnaire form itself, that they lacked knowledge about how to minimise junk mail. This finding is particularly interesting as, unlike packaging waste, householders seem prepared to take control and address this waste stream rather than putting the responsibility on businesses.

A further area of investigation was to ascertain if the presence of the kerbside recycling scheme impacted on waste minimisation behaviours. For example, whether householders who receive kerbside recycling services are more likely to minimise their waste than those respondents who are not involved in kerbside recycling

schemes. The findings indicated that there were no significant differences in waste minimisation behaviour depending on the kerbside recycling scheme service provided. However, it was found that respondents who claimed they recycled frequently were more likely to minimise their waste than those who infrequently or never recycled. For example, in Area D, nearly 45% of respondents who recycle regularly claimed they reused their plastic bottles, whereas amongst those who do not recycle only 22% reported that they reused plastic bottles (Figure 8). Respondents were also asked to report on the amount of waste they recycled and again it was found that those who recycled most of their waste tended to minimise waste as opposed to those who recycled only some or none of their waste.

Figure 8 Relationship Between Householders in Area D Reuse of Plastic Bottles and Their Recycling Behaviour



It appears that the act of recycling household items has influenced the behaviour of respondents in relation to waste minimisation. If this finding is supported in the follow up data collected in 2004 it is an encouraging sign as it illustrates that not only has the act of recycling produced an unexpected secondary effect, but it demonstrates that householders want to minimise their waste despite being currently unable to do so with ease.

There are further indications revealed in this study that householders would like to minimise their waste even further. The questionnaire included the hypothetical question, “would you return bottles and containers to the supermarket if they accepted them or gave you money back?”. Overall, 79% of respondents claimed they would

return bottles and containers to the supermarket, and this figure rises to 90% if those respondents who replied 'sometimes' is also considered. This sends out a clear message to those involved in encouraging more sustainable waste management behaviours at the level of the household as, similar to recycling, people will minimise their waste if there is an opportunity to do so.

Conclusions and Recommendations

To date, household waste management policy, implementation and investment in the UK has largely focused on developing the appropriate infrastructures to increase participation in recycling. As a result significant increases have been observed in household recycling rates, and although the UK looks set to meet the recycling targets established by the UK Government and Welsh Assembly, the sheer volume of waste generated by householders could undermine the benefits gained through recycling. Waste minimisation at the level of the householder has been somewhat neglected by local government and LAs; notwithstanding the number of LAs that have formulated and implemented their own waste minimisation strategies, and the NRWF work should redress the balance to some extent once the Household Waste Prevention Toolkit becomes a more commonly used tool. Academic literature also reflects the current spotlight on recycling and limited information is available on the attitudes, motives and behaviours of householders specifically in relation to waste minimisation. Attention is slowly moving towards this issue and information on household waste minimisation is vital in order to provide essential guidance to those involved in initiating and sustaining household participation in waste minimisation behaviour, which the study undertaken in Cardiff aimed to provide.

As outlined earlier waste minimisation is a difficult issue, and appears to be one that policy makers at national, regional and local levels have shied away from. However, there is little concrete advice from national Government for LAs and other organisations as to how they can encourage waste minimisation behaviour and change the current consumption practices of householders. For example, the Waste Strategy for Wales (2002) recognises waste minimisation as the top priority but only gives firm proposals how LAs can develop the infrastructure to encourage households to segregate their waste for recycling. There is a need for government agencies to take a

lead on this issue, which includes supporting LAs to address the increasing volumes of waste, such as coordinating and providing guidelines across the board for how LAs can promote household waste minimisation behaviour. National Government also plays a pivotal role in addressing the underlying causes of the growth in waste, for example influencing the multi-faceted structural factors that “lock in” individuals to unsustainable consumption patterns (see Jackson, 2005). It has been beyond the scope of this paper to analyse in more detail the drivers behind the substantial growth of household waste in recent years. However, the findings of the Cardiff study highlight the need for further research to explore in greater depth the myriad of factors that prevent householders from consuming sustainably. Linked to this is the need to understand the dynamics and processes of consumption and in particular the symbolic meaning that individuals place on material goods, and the implications this has for sustainable consumption and waste minimisation. Further research could also be carried out on aspects of individual responsibility and the acceptance by individuals of the need to work towards common societal sustainability goals, thus underlining the need to extend the understanding of why individuals seek to define their aims and objectives in life through the consumption of material objects and services.

It is perhaps reasonable to suggest that it is beyond the power and capability of individual LAs to address the structural causes of waste increases; however, they are pivotal in addressing and influencing the waste practices of households within their vicinity. Hence the Cardiff study aimed to provide LAs with information on current household waste minimisation activity as well as the attitudes of householders on this issue. The findings of the research showed that some waste minimisation is taking place although not to the degree of recycling behaviour. However, of significance to this paper is that respondents are taking measures to minimise some waste items without media and LA involvement or direct campaigns encouraging this type of behaviour. Therefore, local authorities, and those responsible for initiating and encouraging household participation in waste minimisation, should foster this behaviour by concentrating on those waste streams that householders believe they are able to minimise. Two particular wastes that householders identified in this study were plastic carrier bags and junk mail. Regarding the former it is clear that householders need to be made aware of the unsustainable nature of disposable plastic carrier bags, as it is the case that many respondents had not considered this particular

waste stream before. Secondly, this message should be promoted simultaneously with information on how this waste can be minimised, perhaps highlighting the different types of reusable plastic bags that are available. Additionally, it is apparent when considering junk mail that numerous respondents did not know, or were not aware, of the measures that can be taken to minimise this waste, therefore information detailing how this can be achieved is required. The research also found that respondents who frequently recycled most of their waste were more likely to engage in waste minimisation, and therefore local authorities and those responsible for promoting waste minimisation behaviour, may wish to target their campaigns at these people as they will be more receptive to the waste minimisation message than households who do not recycle regularly.

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