

WR1204
Household Waste Prevention
Evidence Review:
L1 m0 – Executive Summary

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Waste and Resources Evidence Programme

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WR1204 Waste prevention evidence review

Executive Summary

Waste Strategy 2007 sets the context for household waste prevention policy in England. A key objective is to decouple waste growth (in all sectors) from economic growth and to support waste prevention, right across the production-consumption-disposal supply chain. In addition, the new European Waste Framework Directive came into force in December 2008, requiring all EU countries to draw up a waste prevention programme.

There are no specific targets for household waste prevention in England. Measures currently in place to encourage waste prevention include producer responsibility agreements (mandatory and voluntary), sustainability roadmaps for key products, national targets to reduce residual waste per head of population, local authority limits on landfill and new national performance indicators on waste, and provisions in the Climate Change Act 2008. In 2009, WRAP launched an updated waste prevention toolkit to support and help local authorities engage with the public.

To support action on waste prevention, in late 2008 Defra commissioned a review to consolidate the evidence base on **household waste prevention**¹. The review defined waste prevention as including **strict avoidance, reduction at source** (e.g. through home composting) and **reuse** (where products are reused for their original purpose). Recycling was excluded.

The review set out to answer questions about the extent to which waste prevention is practised at the household level; what the barriers and motivations are; and what options and measures exist to encourage waste prevention behaviour, either by engaging directly with households or through the products and services provided to them (including waste collection services).

The key finding – given the breadth and complexity of waste prevention behaviour; in the light of an extensive literature review; and in the light of considerable international experience – is that a **coherent basket of measures** will be required if waste prevention activity is to increase.

Over 800 literature sources were identified of which 88 were selected for detailed review, and 48 others for more summary review. An international review¹ drew on 106 sources. Target documents included reports to Defra and WRAP, together with academic papers and key pieces of practitioner research. The desk element was complemented by further evidence gathered from stakeholders (through web surveys, telephone interviews and workshops).

From a **householder point of view**, the review identified that there is no single activity involved in “waste prevention”, it being not one but many behaviours. On the basis of reported surveys these behaviours have very different levels of participation, with one source estimating that up to 60% of the public does at least one of them, at least some of the time. Detailed data are provided for each behaviour in the technical report and related modules.

The literature reveals a general hierarchy in the popularity of performing waste prevention behaviours, from donating goods to charity at the top; through small reuse behaviours around the home; to activities that involve changes in consumption habits at the bottom.

Barriers to engaging householders in waste prevention behaviour operate at both a societal level and an individual level. At the societal level, modern consumer culture is antipathetic to many of the behaviours required for household waste prevention to occur, in particular by conferring status through

¹ From Brook Lyndhurst, the Social Marketing Practice and the Resource Recovery Forum.

the acquisition of 'stuff'. Stemming from this, the public seems genuinely confused about what "waste prevention" means, and there is a general tendency to think that it is equivalent to recycling, and no more. The recycling norm is now so well developed that it is often hard for people to think beyond this.

At the individual level, barriers include feeling that waste is someone else's problem (retailers and manufacturers); not knowing specifically what to do to prevent waste; not feeling able to do what is required; feeling it could be too expensive or that alternative choices are sub-optimal; and being locked into existing habits. The different behaviours are shown to be subject to different (and sometimes unique) barriers so that each needs to be understood on its own merits.

Given the range of behaviours implicated in waste prevention, and the multiple barriers influencing those behaviours, a basket of measures will be required if waste prevention activity is to increase.

A key **opportunity to engage the public** in waste prevention activity is through campaigns, at both local and national level. Campaigns can comprise a mix of interventions, and are not restricted merely to communications. Local authorities and stakeholders think that more consolidated evidence is needed on two fronts: what interventions and approaches work; and what communication messages should be used. This evidence will need to be collected from future campaigns, not from past work, because historic data are often weak.

Stakeholders suggested that the messages getting through to the public are currently too incoherent and not sufficiently joined up across the producer/waste service/policy axes. The national *Love Food Hate Waste* campaign was frequently cited as an example where high level message development acts as a focus and resource for local and other stakeholder action.

On the **products and services** side, the review focused on three aspects: reuse infrastructure and the role of third sector organisations within it; retail development of product refills; and the provision of a service to substitute for appliance ownership (e.g. provision of laundry, garden, DIY services etc.) on new housing developments (referred to as "product service systems"). The first of these would appear to have particular potential to contribute to greater prevention of waste.

Many barriers were identified in relation to the further development of a **reuse infrastructure**. These included operational difficulties (funding, capacity, logistics), difficulties on the consumer side (attitudes towards second-hand goods, lack of knowledge), regulatory issues (concerning, for example, the relative price of waste treatment options) and institutional issues (notably the often poor relationship between stakeholders at the local level). Local authority bulky waste services (collections and HWRCs) are often restricted to poor quality items and only achieve reuse of around 2-3% of what they collect; while the approach adopted by third sector reuse organisations enables them to achieve high reuse rates.

The main opportunities for improving performance are to ensure more strategic planning for reuse in local authority services; and to foster better co-ordination and joint working between public bodies and the third sector. The review suggested that proper rewards and incentives for reuse activity (e.g. paying reuse credits, a higher cost of landfill compared to the costs involved in reuse) also need to be in place.

Turning to look at **retail solutions** that could help households reduce their waste, the review focused on studies that had scoped the potential of refill markets in the UK for everyday products, and of in-store self-dispensing systems. It did not examine mandatory deposit-return schemes for refillable containers (which are covered in other Defra research) or 'upstream' issues such as lightweighting packaging or eco-design.

The evidence identified potentially significant environmental benefits from refills if taken up on a mass market scale. The benefits are specific to each product examined and need to be considered individually (though it seems generally the case that replacing glass containers offers the greatest weight savings).

The main barriers to take up of refills are consumer price sensitivity, market perceptions and logistical issues (producer, retailer and in the home). Consumers tend to see the environmental benefits as an 'add on' to the consumer offer rather than the primary reason for purchase (which was, as usual, price and quality). The main opportunity is to build demand on the basis of the consumer and producer benefits identified in the studies – including potential cost savings (or better value 'premium' products) and environmental benefits.

Just one study in the review looked at the role of **product service systems** (PSS), in this case the provision by a housing developer of laundry, garden and DIY services as a substitute for the ownership of appliances.

Based on concept testing of 'what if' scenarios with consumers and suppliers, its conclusions were tentative – suggesting that both a business and environmental case could be made for PSS, as long as consumers behaved very differently from how they do now. A further barrier came from consumers in the study often wanting the service *as well as* owning the appliance, because they wanted to retain flexibility over when the activity could be done. The authors of the study nonetheless suggest there are grounds for further testing of the concept in real world situations, such as eco towns.

Finally, the review examined literature that reported the impacts or potentials (based on scenarios) of **various policy measures** designed to influence either household behaviour directly or the products and services provided to them. This included both UK and international evidence.

Inclusion of a policy measure in this evidence review should not be taken to imply that it has been or will be endorsed by Defra as an option for England. Further, in many cases Government provides a suite of measures or a 'toolkit' of options, from which local authorities can then select those most suitable for dealing with the challenges they face. Having provided the tools, Defra does not seek to force their take-up by authorities, preferring that they make decisions about what will work for them locally. For example, powers to pilot financial incentives schemes in England were introduced in the Climate Change Act 2008. So far no authorities have chosen to put forward a proposal for a scheme, though the powers remain on the statute book for use if an authority decides that such an approach is right for its own circumstances.

The review found little that was new or different from existing policies in England, though differences were identified in the way these were, or might be, implemented. A few novel producer-focused policies were identified – such as extended product warranties – but the principal point of difference with other countries was direct variable household charging.

Studies of international practice have shown that charging typically occurs as part of a basket of measures and can be an effective means of both increasing recycling and achieving waste prevention at the household source – perhaps in the order of 10% less total household waste overall, or up to ~2.5 million tonnes pa (though studies report higher and lower rates than this). Some studies have demonstrated how charging can save costs to both waste services and households.

Setting aside charging, the following measures appeared to offer the most potential on the basis of the studies reviewed (and subject to data limitations and the need for further verification identified in the technical report):

- Local consumer campaigns – **0.6 million to 1.1 million tonnes pa**

- Organisation of collection regimes, including alternate weekly collection/residual bin restrictions combined with extensive recycling provision – **~0.7 million tonnes pa**
- Including home composting in LATS – potentially **1.4 million tonnes pa** by 2020
- Waste prevention targets, potentially backed up by levies for residual waste - **>3 million tonnes pa**

Some other potentially important options were largely unquantifiable, including strategic planning for waste prevention, development of a reuse infrastructure, and deepening producer responsibility. For local level interventions, WRAP suggest that if the target is tonnage reduction through waste prevention, then the priorities should be to focus on food waste, home composting and bulky waste.

Some studies and many stakeholders thought that current frameworks (e.g. LATS generally, and the exclusion of home composting in particular) create perverse system incentives that favour recycling over waste prevention. This can sometimes makes it difficult for waste officers to make the case within their authorities (and elsewhere) for sufficient expenditure to address waste prevention. To address this, it may be possible to incorporate carbon alongside waste tonnages for the purpose of calculating costs and benefits; and Defra, EA and WRAP are working together to consider whether a robust and accountable mechanism can be developed for home composting to be included in LATS.

The international review suggested that it is the **overall package of policy measures**, and how they complement each other, which is the key to successful waste prevention. The package in other countries tends to combine the following: prevention targets, producer responsibility, householder charging, public sector funding for pilot projects, collaboration between public, private and third sector organisations, and intense public awareness/communications campaigns.

Centrally funded and developed communications campaigns (like *Love Food Hate Waste*) are not normally seen as a high level 'policy measure' but they can be an effective lever for building new social norms and a common platform for action at the local level.

In addition to identifying options for enhancing waste prevention, the review was charged with identifying **gaps in the evidence**. The principal gap – identified in both the literature and by stakeholders – is robust and comprehensive quantitative data.

This applies to almost all aspects of household waste prevention and the situation is probably not dissimilar to that which existed in the early days of recycling. The challenge will be to put in place systems now that can capture evidence as it is generated from new local interventions; to develop best practice evidence from leading local authorities; and to continue to investigate key topics at strategic level (e.g. extended product warranties; product lifecycle impacts; waste arisings and collection arrangements; consumer attitudes and behaviours to particular waste prevention activities, and so on).

Stakeholders in particular want evidence of what actually works on the ground to promote waste prevention, and what outcomes (weight, carbon and costs) can be expected from different measures. Work is still required, too, to ensure sensitive and effective monitoring and evaluation mechanisms are in place to gather the evidence that will be needed for the development of the required basket of future policy measures at local and national level.

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