

WR1204

Household Waste Prevention Evidence Review: L2 m6 – Monitoring and Evaluating Household Waste Prevention

A report for Defra's
Waste and Resources Evidence Programme

October 2009

This research was commissioned and funded by Defra. The views expressed reflect the research findings and the authors' interpretation. The inclusion of or reference to any particular policy in this report should not be taken to imply that it has, or will be, endorsed by Defra

Table of Contents

1.1	Why monitoring and evaluation?	1
1.2	Coverage of the review	2
1.3	Setting the scene for monitoring and evaluation of waste prevention	2
1.4	Options and methods for measuring waste prevention	3
1.5	Issues with methods and approaches used	5
1.6	Barriers to monitoring and evaluation	7
1.7	Monitoring and evaluation successes	7
1.8	Implications	8
1.9	Bibliography	9

© Brook Lyndhurst 2009

This report has been produced by Brook Lyndhurst Ltd under/as part of a contract placed by Defra. Any views expressed in it are not necessarily those of Defra. Brook Lyndhurst warrants that all reasonable skill and care has been used in preparing this report. Notwithstanding this warranty, Brook Lyndhurst shall not be under any liability for loss of profit, business, revenues or any special indirect or consequential damage of any nature whatsoever or loss of anticipated saving or for any increased costs sustained by the client or his or her servants or agents arising in any way whether directly or indirectly as a result of reliance on this report or of any error or defect in this report.

October 2009

L2 m6 Monitoring and evaluating household waste prevention

This module provides insight into how waste prevention has been monitored and evaluated at a practical level, and what lessons have been learnt. The main topics covered are:

- Setting the scene for monitoring and evaluation of waste prevention
- Methods and approaches used to measure waste prevention
- Issues with methods and approaches used
- Barriers to monitoring and evaluation
- Opportunities for monitoring and evaluation
- Implications

Related modules are:

L1 m1 Executive Report (section 6)	L2 m1 Technical Report (section 6) L2 m2 Policy context L2 m7 Stakeholder engagement feedback L2 m8 Evidence gaps	L3 m6/1 (D) Approaches to monitoring and evaluation L3 m3/3 (D) Impacts of public campaigns and interventions L3 m5/2 (D) International review
------------------------------------	--	--

(D) denotes a briefing paper providing more background detail

1.1 Why monitoring and evaluation?

Waste prevention is at the top of the 'waste hierarchy': there is general consensus that it is the preferred option, and should take precedence over recycling, and particularly over the treatment and disposal of residual wastes. Local authorities have legally binding targets for the diversion of biodegradable municipal wastes from landfill, and face severe financial penalties if they fail to meet those targets. So if local decision makers are to invest in schemes to promote household waste prevention, and are to rely on that achieving measurable diversion from landfill, it is not enough to rely on waste prevention as being the 'preferable option'. Rather, it is imperative that robust and reliable methods are in place to monitor and evaluate the success of the waste prevention initiatives, so that their contribution can be demonstrated.

Monitoring and evaluation requires data collection, and all of the methods reviewed here have their own challenges. Any attempt by local authorities to collect information on the weight of waste generated by individual householders could be seen as potentially 'sensitive' (e.g. 'intrusive' or 'interfering') from a public relations viewpoint.

The aim of monitoring and evaluating household waste prevention is thus to enable policy makers, local authorities and practitioners to:

- collect robust and high quality data;
- ensure robust decisions are made about where to prioritise resources; and
- ensure that waste prevention is being effective and is delivering behaviour change.

At the same time, monitoring and evaluation of household waste prevention needs to be approached in a way that both addresses the challenges and manages the potential sensitivities. The evidence reviewed here focused almost exclusively on measuring the tonnage impact of household waste prevention; this

will in future need to be complemented by quantitative measurement of both the carbon and the cost impacts, and also by an assessment of the qualitative impacts which are not amenable to measurement.

1.2 Coverage of the review

The scoping phase of the evidence review revealed that the majority of waste prevention initiatives, campaigns, plans and strategies across local authorities and third sector organisations do not produce evaluations of their work. The WREP portfolio of projects and a handful of others provide instructive examples of methodologies and approaches which have been tested, notably Project REDUCE (Waste Watch, WR0105), Dorset pilot project (AEA et al, WR0116), Small Changes Big Difference (Hampshire County Council & Brook Lyndhurst, WR0117) and GAP Eco Teams (Burgess & Nye, WR0114).

A full bibliography is given in Waste prevention bibliography (L3 m8/2 (D)). Modules providing further insight or detail in relation to monitoring and evaluation are listed below:

1.3 Setting the scene for monitoring and evaluation of waste prevention

Conceptualising waste prevention so that it can be measured

Waste prevention is at the top of the waste hierarchy; however, it is notoriously difficult to measure. The problem is simple – how do you measure something that isn't there? Key problems and barriers are:

- *We can't see it* – participation cannot be observed visually as it can be in recycling.
- *We can't know if it has happened even if the amount of waste collected falls* – it is difficult to attribute the changes to reduction separately from recycling, or to account for possible diversion to other channels (e.g. HWRCs, third sector reuse).
- *Even where we can attribute changes to waste prevention we can't know whether this is accidental* – if I buy a lightweight bottle this week because I like the brand, I may not the next.

Waste prevention, therefore, "can only be measured indirectly as a counterfactual (i.e. as the amount of waste that probably would have been generated in the absence of a waste prevention policy)"¹. In developing suitable methodologies all of the above factors need to be addressed in the research design (Hampshire County Council & Brook Lyndhurst, 2008, WRO117).

Existing guidance

WRAP's current Monitoring and Evaluation Guide explains that monitoring and evaluation are two distinct activities with monitoring being impartial and factual while evaluation aims to highlight more qualitative/interpretative impacts (i.e. telling the story of the impacts behind the monitoring data). 'Monitoring' means regularly measuring what's going on with schemes (e.g. measuring changes in weight). 'Evaluation' means drawing conclusions from the monitoring data on how well the schemes, initiatives or campaigns are performing as well as why people did or did not do those activities (WRAP, 2006).

The purpose of monitoring is usually to track progress against targets. Data is gathered as a baseline and monitoring and evaluation are undertaken on a regular and ongoing basis. There are two kinds of data gathering identified by Waste Watch (2006, WR0105):

- Outcome data to assess behaviour change and resulting impact on waste arisings, i.e. tonnage reduction; and

¹ As quoted and cited in (Waste Watch, 2006, WR0105): OECD, Towards waste prevention performance indicators, September 2004, p. 67.

- Output data on project deliverables, used as a proxy for impact, e.g. number of registrations to the Mail Preference Service.

WRAP uses different terms for data gathering in its current good practice guidance:

- Inputs (e.g. activities such as number of leaflets distributed, number of hits on the website);
- Outcomes (e.g. number of residents more aware of the scheme); and
- Impacts (i.e. number of residents participating in the scheme).

Quantitative or qualitative measures can be used, but both are recommended in order to get a full picture of the impact on waste arisings (Waste Watch, 2006, WR0105; Hampshire County Council and Brook Lyndhurst, WRO117).

1.4 Options and methods for measuring waste prevention

This section looks at what specific projects have done to monitor and evaluate waste prevention. It should *not* be understood that the methods and approaches assessed here are used as standard practice more widely. Table 1 (overleaf) highlights the main methods and approaches used to measure waste prevention in the documents reviewed with further information provided at [L3 m6/1 \(D\)](#). A detailed discussion of the waste prevention impacts of the various initiatives and methods used is presented in [L3 m3/3 \(D\)](#).

One of the WREP projects undertaken by Waste Watch, through a desk review and a selection of 15 case studies assessed the possibility of producing a common set of indicators which could be used in a range of situations to measure the relative and absolute impact of waste prevention initiatives (Waste Watch, 2006, p. 23, WR0105). Key findings from that study were:

- There are no accepted monitoring and evaluation methodologies that could be identified;
- Few projects budget explicitly for monitoring and evaluation;
- Many of the initiatives were monitored using output focused techniques (e.g. number of publications disseminated, number of individuals contacted, etc.) and therefore few reported tonnage impacts;
- It was impossible to identify a set of waste prevention indicators that could be used across the board.

Similar findings were reported in WR0504, *Establishing the behaviour change evidence base to inform community based waste prevention and recycling*. The scoping phase of the review shows this to remain largely the case though the WREP portfolio and some more recent campaigns have added to the small evidence base on impact (shown in section 3).

More recently, WRAP has developed consumer behaviour metrics for waste prevention (see the WRAP toolkit). WRAP has devised a new 'Committed Food Waste Reducer' (CFWR) metric. This is used by Local Authorities to provide a measure of those who are actively reducing food waste, i.e. as a baseline and to evaluate the impact of Love Food Hate Waste campaigns. The following three survey questions are asked of households from which the potential for food waste diverted from landfill is calculated (further detail on the metric provided in [L3 M3/3 \(D\)](#)):

How much uneaten food, overall, would you say you generally end up throwing away? [Response: 'hardly any' or 'none']

How much effort do you make to minimise the amount of uneaten food you throw away? [Response: a great deal]

To what extent, if at all, does it bother you? [Response: a great deal]

To qualify as a CFWR a respondent has to satisfy all three conditions.

Monitoring and evaluation approaches	Context applied	Sources from the evidence base
Self-weighing, monitoring or reporting	Working with volunteer households to prevent waste. Households weigh, or observe, or audit the amount of waste they produce and record this using diaries or feedback sheets.	<ul style="list-style-type: none"> Waste Free Households, RoWan EcoTeams, GAP North London Watch your Waste Week Love Food Champions and the WI What not to Waste, Western Riverside Small Changes Big Difference, Hampshire County Council
Use of collection round data to accurately measure waste arisings	Uses a mix of monitoring techniques, e.g. tracking waste arisings via waste tonnage / collection round data and surveys, upon which to evaluate impact of campaigns.	<ul style="list-style-type: none"> The Waste Wise Armadale Project, Changeworks Household Waste Prevention Activity, Dorset County Council North London Watch your Waste Week
Control and pilot groups	Control and pilot approaches compare performance in an area targeted with an intervention with a comparable area where no intervention happens.	<ul style="list-style-type: none"> Only two of the sources undertook pilot & control experiments (WR0116 and Changeworks); a third considered the option but discounted it as impractical for the particular delivery model (WR0117).
Attitude and behaviour surveys including metrics, interviews and focus groups (<i>outcome focused</i>)	Before, during and after surveys which are based on <u>declared</u> participation, attitudes, behaviours. At times attitudes and behaviours are also captured through diaries. Surveys are typically used to estimate <i>how many</i> people do a particular action; focus groups are used to uncover <i>why</i> they act and/or their <i>response</i> to campaign material.	<ul style="list-style-type: none"> Waste Free Households, RoWan EcoTeams, GAP The Waste Wise Armadale Project, Changeworks Household Waste Prevention Activity, Dorset County Council Test the Water Campaign, Waste Watch North London Watch your Waste Week Love Food Champions and the WI What not to Waste, Western Riverside Small Changes Big Difference, Hampshire County Council WRAP's 'Committed Food Waste Reducer' metric
Participation surveys (or participation monitoring) including enquiries to help lines, web statistics, number of registrants, publications disseminated, etc. (<i>output focused</i>)	To gauge the reach of the initiative proposed – at times this can be either actual (e.g. web hits) or claimed participation. Also monitors the uptake of incentives, e.g. nappy vouchers, sale of home compost bins, or registrations to the Mail Preference Service.	<ul style="list-style-type: none"> Household Waste Prevention Activity, Dorset County Council WRAP home composting work (WRAP, 2007c)
Compositional analysis	To understand the impacts of initiative across different waste materials.	<ul style="list-style-type: none"> WRAP home composting work (WRAP, 2007c) Waste Aware Scotland Prevention Programme Small Changes Big Difference, Hampshire County Council (small scale trial of method)
Conversion factors, estimates and modelling	Using conversion factors, proxies and ratio model with available detailed figures on consumption and waste generation.	<ul style="list-style-type: none"> Potentials for the prevention of municipal solid waste, Vienna case study FRN average weights database North London Watch your Waste Week Love Food Champions
Hybrid - a combination of any one or more of the above approaches	Uses a mix of monitoring and evaluation techniques.	<ul style="list-style-type: none"> North London Watch Your Waste Week What not to Waste campaign, Waste Watch Small Changes Big Difference, Hampshire County Council A Good Practice Guide to Monitoring and Evaluation, WRAP

Table 1 Methods and approaches used

1.5 Issues with methods and approaches used

The following is a summary of the main insights on methods and approaches used (see **L3 m3/3 (D)** for further discussion).

- Self-weighing and diary data are widely used as an alternative to waste collection round data. It can be used effectively, in small group activities especially (e.g. Love Food Champions, GAP Eco Teams). It's use on a larger scale carries risks because it is labour intensive if done properly and data quality can be poor if it is not (Hampshire County Council and Brook Lyndhurst, 2008, WRO117).
- Any weight data used, resources permitting, needs to be complemented by qualitative and survey evidence – in a behaviour change project, *knowing why* is just as important as *knowing how* things have changed.
- Surveys in most cases worked well, however various issues need to be taken into account:
 - Good sample design, including large sample sizes
 - The risk of small samples in some engagement models
 - Self selecting and unrepresentative samples
 - Self reporting bias, including a tendency to over-estimate waste reduction impacts
- It is too early to say how effective the CFWR metric might be in establishing the amount of food waste diverted from landfill.

Table 2 (overleaf) highlights some of the main strengths and weaknesses for the main evaluation methods and approaches highlighted in the evidence reviewed.

Case Study Box: Waste Aware Scotland's Waste Prevention Programme has taken a holistic, whole-package approach and is looking at product life spans/purchasing decisions, food waste, packaging, unwanted mail, home composting, real nappies, reuse framework and organics programme. Each initiative has its own evaluation and monitoring stream including attitudinal surveys, web statistics, compositional analysis and participation surveys. <http://www.wasteawarescotland.org.uk/html/index.asp>

Type	Strengths	Weaknesses
Self-weighing, monitoring or reporting	<ul style="list-style-type: none"> Visible, immediate and can provide measurable tonnage reduction People have been found to value the 'personal' approach/direct contact – puts participants 'in touch' with their waste – visibility impact Provides motivational feedback to participants Auditing is supported by education and promotion Observational monitoring can provide alternative to weighing Diaries tend to work better with regular feedback on performance 	<ul style="list-style-type: none"> Inconsistent data can be derived due to different start / stop times, new entrants, incomplete diaries, and lack of buy-in from participants for weighing waste Conversion factors are needed to translate measurements (from observational analysis) High drop-out rates are experienced as project progresses (up to 50%) Is a resource intensive approach, with regular data collection and processing required There are risks of self-selecting samples Sample sizes can be too small to be statistically robust
Collection round data	<ul style="list-style-type: none"> Allows accurate measurement and comparison of changes in waste arisings 	<ul style="list-style-type: none"> Can only be used to monitor waste arisings in a specific geographical location The way in which local authorities collate and use collection round data for Waste Data Flow does not provide the level of detail or quality required to monitor waste prevention
Control and pilot groups	<ul style="list-style-type: none"> Can provide sufficient timeframe and planning for a number of different evaluations to take place e.g. participation monitoring of Mail Preference Service, home compost bin sales, several inter-linked campaign activities and intervention tools to be measured Large sample sizes can provide representative populations which are likely to be more statistically robust Allows for comparison between monitoring weight-based data and campaign outputs to be made (but evidence found this to be subjective in some cases) Can help to reduce bias as target groups are pre-selected 	<ul style="list-style-type: none"> Data analysis can be distorted and compounded by considerable fluctuations due to external factors - difficult to identify and impossible (in some cases) to quantify Detailed and careful planning is needed to ensure similar populations/collection systems where there are no future interventions or changes envisaged in the control Quality and detailed waste collection data is essential but challenging to derive Difficulties can be experienced using ACORN to accurately match populations This approach cannot be used if communities are not geographically defined
Attitude and behaviour surveys	<ul style="list-style-type: none"> Provides a baseline for monitoring change Provides both quantitative and qualitative data and information for evaluation Data can reveal participation and notable shifts in reported behaviours Provides valuable input to design of campaigns, interventions, actions plans and targeted materials Allows for large-scale surveys to be conducted Focus groups can provide insight into attitudes and behaviours which can be relatively easy to organise and are cost effective 	<ul style="list-style-type: none"> Small sample sizes or low respondent rates can be insufficient to be representative or robust Requires careful survey design to provide comparative analysis with waste data Can be swamped by data with little resource to evaluate effectively Using a Citizen Panel can bias the sample Self-completion surveys can give potential for bias Focus groups are not suitable for collecting weight data
Hybrid approaches	<ul style="list-style-type: none"> Provides the context for built-in pre and post surveys with interim self-weighing or observation reporting Enables mixed approaches to be used in both short and long-term monitoring and evaluations Caters for longer term studies, interim monitoring and evaluation, e.g. surveys and waste tonnage data The results from one method can be used as a check on another (e.g. focus groups acting as check on survey data) 	<ul style="list-style-type: none"> Can be complex and resource intensive Evaluation of data monitoring, surveys and self-weighing / observation needs to be integrated which requires careful planning at the outset which can be daunting for small-scale projects

Table 2 Issues with methods and approaches used

1.6 Barriers to monitoring and evaluation

The more general monitoring and evaluation barriers discussed in the evidence included:

- Even where changes in waste arisings or behaviour can be reliably measured, it can be difficult to distinguish the impact of a waste prevention initiative from the impact of other, external factors (Waste Watch, 2006, WR0105; NLWA, 2009);
- Furthermore when a local authority is running a programme it is difficult to identify the impact of different initiatives (AEA et al., 2008, WR0116);
- There are many problems of using collection round data: its quality and it being inappropriate for non-geographically based interventions;
- The need for longitudinal data for monitoring and evaluation can pose a problem. One source recommended that baseline data for at least a year should be gathered before a waste prevention initiative is launched and the evaluation should track progress over time to see if change is sustained (Waste Watch, 2006, WR0105). The timeframes of the evaluation projects reviewed ranged from one week (NLWA 2009) to five years (Woodard & Harder, undated);
- It is often difficult to measure the impact of social enterprises and community waste sector when looking at their overall contribution to recycling and reuse. Data quality issues and a tendency of many organisations to focus on social impacts rather than waste diversion are the main barriers (Hines et al., 2008d, WR0502).
- The notable exception is for reuse, where the FRN's average weights benchmarks are widely used and provide a consensus basis for measuring the tonnages achieved by reuse organisations.
- Lack of funds, lack of staff capacity, lack of skills (including data analysis), non-availability or unsuitability of data, unexpected problems (Waste Watch, 2006, WR0105; Brook Lyndhurst, 2008, WR0117);
- Projects were also not always able to estimate the cost of monitoring, the resources required, or likely sample sizes before starting, meaning that monitoring had to be abandoned or revised (e.g. leading to having baseline data, with no or very small sample sizes in follow up). (Waste Watch, 2006, WR0105; Brook Lyndhurst, 2008, WR0117).

1.7 Monitoring and evaluation successes

Despite the many difficulties facing effective monitoring and evaluation, several studies were able to deploy the techniques outlined in table 1 and were able to demonstrate significant successes. For example:

- GAP has calculated that EcoTeams, achieves a reduction in total household waste arisings of 0.62kg/hh/wk (sample of 3,602 people) (GAP, 2008).
- RoWan, a 13 month project monitored 50 households (objective was 100), achieved a 22% reduction of total household waste arisings equivalent to 1.87kg/hh/wk (RoWan, 2005).
- Love Food Champions, a 4 month project monitoring between 40-80 participants, achieved a 50% reduction in their food waste equivalent to 2.5kg/hh/wk (WRAP & WI, 2008)².

² The fact that the Food Champions were given ownership of collecting the data and reporting this reportedly instilled a sense of ownership of and accountability for the data produced.

- Armadale achieved a total waste reduction, in its target area of 1,150 households, of 6.1% equivalent to 0.98kg/hh/week (Fletcher, Tucker & Speirs, 2008)
- Dorset achieved a total waste reduction, in its target area of 1,577 households of 2% equivalent to 0.5kg/hh/wk (AEA et al., 2008, WR0116).

While there appear to be no accepted or common indicators for monitoring and evaluation of household waste prevention (Waste Watch, 2006, WR0105), it is clear from analysing the more successful approaches to M&E, both separately and collectively, that a 'standard practice' is emerging, i.e. a 'hybrid' approach. This comprises:

- A baseline survey (and or interviews / focus groups);
- Householder monitoring – comprising either self-weighing or observation analysis;
- Local authority (or delivery organisation) monitoring – comprising waste composition analysis, waste audits or tracking waste arisings via collection data (this is less frequently done);
- A follow up survey
- (Sometimes) qualitative feedback (interviews / focus groups);
- Depending upon the timeframe and resources, interim surveys are also conducted.

1.8 Implications

There is potential to explore the following opportunities (see also [L2 m8/1 \(T\)](#) Evidence gaps & signposts):

- Follow-up evaluation surveys on selected past projects to see if behavioural change / tonnage reductions have been sustained.
- Provide updated guidance on 'hybrid' approaches or a suite of monitoring approaches for household waste prevention (WRAP is currently revising its monitoring and evaluation guidance) that can be adapted to suit different project designs.
- Investigate the cost implications for each method and approach to present a 'pick and mix' selection to operators.
- Provide a steer for local authorities and other delivery organisations on priorities for evaluating and reporting carbon, tonnages, volume and cost³.
- Develop further waste prevention metrics (e.g. beyond WRAP's 'committed food waste reducer').
- Explore the benefits of linking waste prevention on a national level to personal consumption expenditure rather than GDP (as the Environmental Protection Agency does in the USA). Though this would undoubtedly be a significant undertaking, it would allow for measurement of impacts of changes in product groups or market activity - for example, what is the impact of a change in packaging on waste arisings (Waste Watch, 2006, p. 29 WR0105).

At local level, sources in the review, and the present authors, concur that there is no further benefit to be obtained in trying to collate evidence on monitoring and evaluation approaches from past waste prevention projects. The quality of data and reporting likely to be found does not justify the effort. A more promising way forward is to ensure that new campaigns and initiatives are being properly evaluated

³ Though the issue of carbon when it came to monitoring and evaluating waste prevention initiatives was not common place in the literature it was an issue raised by stakeholders attending the regional workshops.

(by providing support if necessary) and that the evidence is captured and collated into a common resource as it is completed. Funding action research through evaluation of local authority initiatives seems a promising route. This points to a role for WRAP's ROTATE local authority support programme, perhaps in conjunction with WREP.

1.9 Bibliography

- Brook Lyndhurst (2006) Establishing the behaviour change evidence base to inform community based waste prevention and recycling (CBBC). WR504.
- Brook Lyndhurst (2007) Replicating Success: Social Enterprises & the Waste Sector in London. WR0501.
- Brook Lyndhurst for Hampshire County Council (2008) Small Changes Big Difference Towards a Materials Resource Authority: Promoting Practical Waste Prevention and Exploring Options for Resource Management. WR0117
- Burgess, J. (2006) Foundation Document – An International Academic-Policy Review of Demand Side Waste Management Behaviour Change Projects, 2006-2008. WR0114.
- CAG Consultants, in association with Eunomia Research and Consulting (2008) Appraisal of the CRED Programme.
- Changeworks (Fletcher, S.I., Tucker, P. Speirs, D.) (2008) The Waste Wise Armadale Project. Final report.
- Dorset County Council , AEA, The Social Marketing Practice, Mike Read Associates and the University of Northampton (2008) Household Waste Prevention Activity in Dorset. WR0116.
- ERM (Environmental Resources Management) (2007) Evaluation of the Big Lottery's Transforming Waste Programme. For the Big Lottery Fund
- FRN (Furniture Reuse Network) (2009) FRN Average Weights. <http://www.frn.org.uk/statistics.asp>
- Global Action Plan, Nye, M. and Burgess, J. (School of Environmental Sciences, University of East Anglia) (2008) Promoting durable change in household waste and energy use behaviour. (WR0114)
- Global Action Plan (2008) EcoTeams Evaluation Report for Defra's EAF (unpublished).
- NLWA (North London Waste Authority) (2009) North London Watch Your Waste Week 4th to 12th October 2008.
- Hampshire County Council and Brook Lyndhurst (2008) Towards a Materials Resource Authority: Promoting Practical Waste Prevention and Exploring Options for Resource Management – Small Changes Big Difference.
- Salhofer, S., Obersteiner, G., Schneider, F. and Lebersorger, S. (2008) Potentials for the prevention of municipal solid waste. Waste Management 28: 245-259.
- Salisbury, V. (2008) Performance Evaluation of the Waste Challenge Team. For Worcestershire County Council and Herefordshire Council [Unpublished].
- SISTech (2008) Waste Wise Armadale Project Evaluation.
- SWAG (Scottish Waste Awareness Group) Research Team (2007) Waste Aware Grampian Reduce Reuse Recycle Campaign.
- Waste Aware Scotland Waste, Prevention Programme Briefing Note (no date).
- Waste Watch (2006) Project REDUCE Monitoring & Evaluation - Developing tools to measure waste prevention. WR0105.
- Waste Watch (2007a) Project REDUCE Monitoring & Evaluation - Developing tools to measure waste prevention. Campaign evaluation report: 'What not to waste'. WR0105.
- Waste Watch (2007b) Project REDUCE Monitoring & Evaluation - Developing tools to measure waste prevention. Campaign evaluation report: 'Test the Water'. WR0105.
- Wickens, S. (RoWan - Ross-shire Waste Action Network) (2005) Waste Free Households project. Final report.
- Woodard, R. and Harder, M. (undated) Waste Prevention in the UK – A Review of Current Initiatives.

WRAP (2006), Improving the Performance of Waste Diversion Schemes, A Good Practice Guide to Monitoring and Evaluation.

WRAP (Gray, S.) (2007c) Possible Method for Estimating the Landfill Diversion Attributable to Home Composting for use in LATS Calculations: a discussion paper by WRAP.

WRAP (2007d), Updating the Waste Prevention Toolkit & Taking Waste Prevention Forward. Survey report.

WRAP and the Women's Institute (2008) Love Food Champions.

Basis of this report

The material in this paper is derived from a large scale evidence review of household waste prevention conducted by Brook Lyndhurst, the Social Marketing Practice and the Resource Recovery Forum for Defra's Waste and Resources Evidence Programme.