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A critical review of a key Waste Strategy Initiative in England: Zero Waste Places Projects 2008-2009.

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Abstract

To help drive the required behaviour change for increased sustainable practice the Government in England launched a Zero Waste Places (ZWP) initiative to develop innovative and exemplary practice. By inviting places to bid for ZWP status, the successful applicants were then expected to become exemplars of good environmental practice on all waste issues. The ZWP programme commenced in October 2008 with the selection of 6 distinct places based upon an application by a partnership. The places ranged in size from the very small (one street of 201 properties) to a Region of England (5 million population). The funding was £70,258 and the mean was £11,709. The overall assessment suggests that the Local Authorities and their project partners rose to the challenge of zero waste and in most cases met or even exceeded their objectives (meeting at least 80% of aims and planned actions) and achieved high value for money in terms of Government funded initiatives. A Certificated Standard for ZWP was developed and is perceived as being both useful and valuable and it is hoped that it will spur a large number of new ZWP applications.

Keywords: Waste Management, Zero Waste Places, Waste Strategy, BREW, Standard.

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Introduction

Zero Waste Places in England

In 2007, in England, the Department of Environment, Food and Rural Affairs (Defra) published Waste Strategy 2007 for England (Defra, 2007a). This Waste Strategy and its Annexes is part of the implementation for England of the requirements within the European Framework Directive to produce waste management plans. Within the UK there are 4 waste strategies; one for England and one each for the devolved Assemblies / Parliaments of Northern Ireland, Scotland and Wales.

Since the previous Waste Strategy in 2000 (DETR, 2000), England has made significant progress. The key objectives in England include a decoupling of waste growth (in all sectors) from economic growth

and this is recognised through a new target to reduce the amount of household waste not re-used, recycled or composted from over 22.2 million tonnes in 2000 by 29% to 15.8 million tonnes in 2010 with an aspiration to reduce it to 12.2 million tonnes in 2020 – a reduction of 45% (Defra, 2007a). This is equivalent to a fall of 50% per person, from 450 kg per person in 2000 to 225 kg in 2020.

This progress has been driven by significant changes in policy. The landfill tax escalator and the introduction of the Landfill Allowance Trading Scheme (LATS) has created sharp incentives to divert waste from landfill. New delivery arrangements helped to drive the Strategy, including the Waste Implementation Programme (WIP), the Waste and Resources Action Programme (WRAP) and the Business Resource Efficiency and Waste (BREW) programme (Defra, 2007a).

Prior to the Waste Strategy in 2007, a number of influential UK environmental lobbying groups were making the clear case for a profound change in practice through a major zero waste development in England. The Green Alliance, in 2006, pointed out (Hill et al., 2006) that New Zealand and many other countries and cities around the world had gone as far as embracing the concept of a zero waste society. Zero waste means going further than maximising recycling, to stopping things being discarded and moving on to waste prevention. It was pointed out (Hill et al., 2006), that while the UK recycled only about 30% per cent of all waste at that time, in places such as San Francisco, Flanders and Kamikatsu, recycling levels were already around 70 per cent and rising. It was notable (Hill et al., 2006), that in many of these places the zero waste concept originated as a grassroots movement, driven by local activists and public authorities; the very partnerships proposed by Waste Strategy 2007 (Defra 2007a). The Green Alliance made clear (Hill et al., 2006) that “*A Zero Waste UK*” offers an alternative vision of a shared responsibility between government, product manufacturers, retailers and consumers to increase recycling and waste prevention. With the new Waste Strategy being worked on this report provided a timely contribution to the policy debate.

To help drive the required behaviour change the Government in England launched a Zero Waste Places (ZWP) initiative to develop innovative and exemplary practice (Defra, 2007a, 2009a). By inviting places (including cities, towns and rural communities) to bid for ZWP status, the successful applicants were then expected to become exemplars of good environmental practice on all waste issues. Participating places would be asked to fulfil a pathfinder role in identifying the barriers and illustrating solutions to enable others to adopt the most effective approach. It was hoped that these would develop and show exemplary partnership working between local authorities and other sectors including the third sector on waste and other environmental issues to drive towards zero waste. The ZWP initiative was launched in October 2008 (Defra, 2008a).

Zero waste in England is defined as (Defra, 2008a): “*A simple way of encapsulating the aim to go as far as possible in reducing the environmental impact of waste. It is a visionary goal which seeks to prevent waste occurring, conserves resources and recovers all value from materials*”.

Delivering effectively in a ZWP project will be challenging for all players as a review for Defra (2009b) found that there is no standard set of behaviours which underlying household waste prevention for zero waste. In practice, it can include: rejecting junk mail; reusing food leftovers; home composting; donating electrical goods to charities (Derby and Obara, 2005); buying second hand clothes; and avoiding single-use bags etc (Barr, 2004; Biswas et al., 2000). Waste prevention (Barr et al., 2004), unlike recycling (Barr et al., 2003; Ebreo and Vining, 2001) which is a more singular and well defined act (Tonglet et al., 2004), comprises many small individual behaviours (De Young, 2000), which tend to be private and invisible which makes the development of a social norm and the monitoring of behaviour more challenging (Read et al., 2009). New approaches to campaigns that promote pro-environmental behaviour (Gilg and Barr, 2005) are needed as is an understanding by practitioners that wider campaigns than just solid waste management issues need to be designed (Cleveland et al., 2005).

Zero Waste Places Projects in England 2008- 2009

Zero Waste Places and Funding

The Zero Waste Place programme commenced in October 2008 with the selection of 6 places (Table 1). These 6 were chosen from an initial list of 12 applicants via a rigorous selection process. The funding is shown Table 1. The total spend was £70,258 and the mean was £11, 709. The essential requirements for selection as a ZWP in 2008-2009 are in Table 2. These enabled the applicants to design a project that would reflect the aspirations of the initiative. The criteria used to judge the applications and the weightings given are in Table 3.

Results

The six Zero Waste Place Projects 2008 - 2009

London Borough of Brent - Green Zones outputs and wider benefits

Table 4 contains information on the major outputs and wider benefits for the London Borough of Brent - Green Zones project. Over 80% of the aims and planned actions were delivered to a satisfactory degree during the project. Some main actions not fully reached were the establishing of at least 20 green zones and 30% of houses using sustainable transport. A main lesson coming out of evaluation that will guide future projects is that “one-size does not fit all and setting up and promoting Green Zones in different areas needs to have targeted communication depending on what the residents most value. For example, in several cases it was found that cost savings and community cohesion was a greater incentive for people to become involved than the environmental benefits”.

London Borough of Lewisham - Green Street outputs and wider benefits

Table 5 contains information on the outputs and wider benefits for the London Borough of Lewisham - Green Street project. Over 80% of the aims and planned actions were delivered to a satisfactory degree during the project. Some main actions of particular value were the pre and post recycling rate surveys. Pre participation surveys shows an overall participation rate of 68% and the post participation an overall participation rate of 80%, which was an increase of 12%. A main lesson coming out of evaluation that will guide future projects is that it is “beneficial to have a launch event at the beginning of the project to raise people’s awareness of what the council were looking to achieve”.

Milton Keynes - Shenley Church Urban Estate outputs and wider benefits

Table 6 contains information on the outputs and wider benefits for the Milton Keynes - Shenley Church Urban Estate project. Over 80% of the aims and planned actions were delivered to a satisfactory degree during the project. A aim not fully reached was the increase of the kerbside recycling rate to 50%. A main lesson coming out of evaluation that will guide future projects is that “the door- stepping campaign helped to increase the number of people recycling although it did not increase the overall quantity of recycling collected and was more successful in areas of more basic housing with a lower tax band”.

Peterborough - Central Shopping Area outputs and wider benefits

Table 7 contains information on the outputs and wider benefits for the Peterborough - Central Shopping Area project. Over 80% of the aims and planned actions were delivered to a satisfactory degree during the project. A main aim that caused problems was “Encourage business”. A main lesson coming out of evaluation of this aim, that will guide future projects, is “the time it takes to engage fully with businesses takes longer than anticipated. This is overcome through enlisting more staff support”.

Kings Lynn - Tuesday Market Place outputs and wider benefits

Table 8 contains information on the outputs and wider benefits for the Kings Lynn - Tuesday Market Place project. Over 80% of the aims and planned actions were delivered to a satisfactory degree during the project. A main aim that was not fully met was “closer working partnership with waste services”. A main lesson coming out of evaluation of the aims, that will guide future projects, is “the barrier to national chains recycling waste remains a problem. This is due to centrally managed contracts and/or remote decision making and the frequency of service that the council can sustain”.

West Midlands Region - Zero Waste to Landfill outputs and wider benefits

Table 9 contains information on the outputs and wider benefits of the West Midlands Region - Zero Waste to Landfill project. Over 50% of the aims and planned actions were delivered to a satisfactory degree during the project. This very ambitious project had some very challenging aims and planned outcomes. A main lesson coming out of evaluation of the achievement of the aims and planned actions, that will guide future projects, is “there was significantly more interest from Regional partners in the initiative than originally anticipated. Additional resource had to be seconded in to ensure that opportunities were not missed”.

Overall Defra assessment

An internal Defra evaluation suggested that Local Authorities and their project partners, in the 2008 - 2009 projects, rose to the challenge of zero waste and exceeded their objectives. In addition they achieved high value for money in terms of government funded initiatives. The expenditure of small sums (Table 1) of ‘seed corn’ funding seemed to provide sufficient resource. In addition, high levels of positive media attention were generated and there were substantial international enquiries from organisations looking to replicate and/or learn from this initiative. Above all, zero waste status acted as a catalyst for further action within these places with all the projects continuing their work after the funding period ended.

Discussion

There has been rapid development in zero waste thinking and planning in the UK. England, in 2007, commenced Zero Waste Place development through a clear strategic intent (Defra, 2007a). Wales (Wales Assembly Government, 2009) and Scotland (Scottish Parliament, 2009) have announced, in their consultations on new Waste Strategies, that they are aiming to move towards becoming zero waste by 2050. These bold moves are underpinned by substantial resources and in the case of Scotland by a fund of some £154 million.

The ZWP initiative in England commenced with 6 projects in 2008 -2009 (Table 1). The overall funding was £70, 258 (Table 1) with a mean of £11, 709. This level of funding does raise the question whether it was large enough to support all 6 places in their project delivery? Did it cover all costs such as staff time? Was it the only funding available to the project team? BREW funding, at the time (2008 – 2009), to Local Authorities for a delivering a wide range of projects had a mean >£30,000. Typical Defra research projects (2007) in sustainable waste management, for the Waste and Resource Research Strategy programme (Defra, 2003) were funded up to a value of £250 000 (Read et al., 2009), at this time, with a mean around £100, 000 (Defra, 2008b). Small levels of funding may be thought sufficient to support small projects but in the UK, to obtain detailed outcomes, for a small number of homes (50), the funding often reached £2 000 per home (Maycox, 2003). This is to be compared to the 201 properties in Lewisham that utilised £10, 058 at a mean of £50. Is the sum of £10, 000 sufficient for a project the size of a region (West Midlands Region) in England, especially as the outputs were

going to be used to promote a cascade of ZWP uptake? However, It is possible that the project may have been underpinned by other resources that were 'In Kind' - by the Development Agency.

But is it always essential that Government put large sums into new developments especially if they are bottom-up and driven by the local population? Government spending is not always effective or efficient. A recent National Audit Office (NAO) report on the BREW programme (2005-2008) addressing business waste (National Audit Office, 2010) pointed out that it was not possible to conclude that the £240 million of expenditure delivered value for money for a host of reasons including no quantified objectives.

When any government policy, programme or project is completed or has advanced to a pre-determined degree, it should undergo a comprehensive evaluation. Major or on-going programmes, involving a series of smaller capital projects, must also be subject to ex post evaluations (HM Treasury, 2003). Evaluation examines the outturn of a policy, programme or project against what was expected, and is designed to ensure that the lessons learned are fed back into the decision-making process. This ensures government action is continually refined to reflect what best achieves objectives and promotes the public interest (HM Treasury, 2003).

The results of an evaluation should summarise how effective the activity was in achieving its objectives, the cost effectiveness of the activity; and what the results imply for future management or policy decisions. The results obtained for the projects should generally lead to recommendations for the future. The overall Defra assessment suggests that "local authorities and their project partners rose to the challenge of zero waste, exceeded their objectives and achieved high value for money in terms of government funded initiatives". This response was considered after a review of all outputs and wider benefits achieved compared to the aims and planned actions that themselves were based upon the essential requirements (Table 2) and criteria for acceptance (Table 3). Overall, in light of the very small funding (Table 1), it seems likely that the projects did surpass expectations and delivered clearly on aims and planned actions.

The "high value", cost effectiveness comment, is, however, difficult to verify as much of the outputs and wider benefits are hard to quantify so that cost effectiveness cannot be used with any certainty. In the case of resource efficiency clubs, in the UK, for commercial and industrial waste (Coskeran and Phillips, 2005) it is possible to use this metric as the key performance indicators were developed for the projects so that they would provide detailed financial savings to compare to costs. The "seed corn" funding comment is key. It enables Defra to say with some precision that large funding is not always essential and a range of carefully designed projects can run in the future with very small resource. This is evidence to break the cycle of large spending on, sometimes poorly designed, programmes (National Audit Office, 2010). The high levels of "media attention" are difficult to verify, there being no baseline to compare to. However, "catalyst for further action" is accurate as the places continue their activities.

Many of the outputs and wider benefits for ZWP were qualitative (e.g. general comments by say a public body representative) with no numerical support (e.g. % of population). These must not however be neglected as they reflect how the local population perceived change / improvement and this is central to obtaining evidence for policy makers from a bottom-up designed project (Defra, 2007b).

Not every project had the same degree of success. The West Midlands Region – Zero Waste to landfill did not reach more than 50% of aims and planned actions. This is a case where targets were too ambitious and on a very large scale so that slippage was to be expected. In any future funding rounds clear criteria (Table 3) must be developed to risk assess whether the targets are too ambitious in any one bid. On the positive side, the London Borough of Brent managed to attract some 1,000 homes to participate in regular recycling and drive up the recycling rate by 13%. The London Borough of Lewisham managed to help drive food waste down by 39% as well as lever in some 85% of the total funds used. Milton Keynes recruited 165 residents to a zero waste mailing list. Peterborough diverted 3,050 tonnes from landfill and Kings Lynn used the ZWP to replicate the project in other street markets in the area. It is not a simple question of what was not achieved but perhaps what alternative activities the teams adopted during the projects to deliver more than was simply required.

What must be taken into account is that the drive for many of these projects was that of a bottom-up approach (Golobic, 2010). Top-down approaches by government often lend themselves to detailed evaluation as the projects are designed to be evaluated. Not always so for bottom-up, which is based upon the views of those who are most affected but not part of an established hierarchy (Meslin, 2010). Government has to develop a new approach to listen to and absorb the voice of those who drive a bottom-up approach (Sevenant and Antrop, 2009) and learn to extract lessons from the disparate evidence base (Defra 2007b). Since the loss of Landfill Tax funding for waste management projects by the general population in England (Phillips et al., 2004) much less funding is available for innovative bottom-up approaches and so the number of such projects has dropped dramatically, top-down has become the norm in England.

Conclusions

To help drive the required behaviour change by the public for increased pro environmental practice in municipal solid waste management in England, the Government launched a Zero Waste Places (ZWP) initiative to develop innovative and exemplary practice. In 2008, places (including cities, towns and rural communities) were invited to bid for ZWP status; the successful applicants were then expected to become exemplars of good environmental practice on all waste issues. Participating places would be asked to fulfil a pathfinder role in identifying the barriers and illustrating solutions to enable others to adopt the most effective approach. Some 6 places were selected from a total of 12 applications. The total funding was £70, 258 with a mean of £11, 709. The overall assessment was that the partnerships achieved very satisfactory results and in most cases met or even exceeded their objectives. The level of

funding was way below the typical project funding for BREW projects at the time (>£30, 000). A fundamental question is whether this was sufficient for ambitious projects to drive a new Waste Strategy initiative? The success of the projects shows that large sums of public money are not always essential for the delivery of project based upon a bottom up approach led by a local partnership; creative ways are found to level in resource. To avoid public overload with too many initiatives the next stage for ZWP is to link with a number of new developments in England including Transition Town, Eco-Towns and Total Place to create a new acceptable brand image. Can ZWP uptake be encouraged in every Local Authority area of England? To promote ZWP a Certificated Standard was developed to confer accredited status on successful applicants.

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Tables

Table I
Zero Waste Places and Funding 2008 - 2009.

Project	Funding
London Borough of Brent- Green Zones	£15,000
Milton Keynes- Shenley Church Urban Estate	£10,000
Kings Lynn and West Norfolk Borough Council - Tuesday Market Place	£8,400
London Borough of Lewisham- Green Street	£10,058
Peterborough City Council- Central Shopping Area	£16,800
West Midlands - Zero Waste to Landfill	£10,000
Total	£70,258

Table 2

Essential and desired requirements for consideration as a Zero Waste Place 2008 – 2009.

Essential requirements	Desired requirements
Clear actions for achieving zero waste	Precise focus for each action Precise timings for completion of each action Size of the 'place' (e.g. a region, authority boundaries, a city, a town, a market place)
For each action, a commitment on which partners will lead or contribute to its achievement and evidence that the responsibility for the commitment is mainstreamed in each participating organisation	Precise commitments for each action How project will be funded
Challenging, measurable goals or targets as part of the actions	How the actions will be measured (and the precise way of measuring)
Commitment to spread good practice	Precise form of commitment
Commitment to attract media coverage and popular support for campaign. Ensure arrangements in place for ZWP status to be discussed with key players in monitoring and evaluation	Precise methods of dissemination Precise forms of media

Table 3

Criteria and weighting used to judge the application 2008 - 2009.

Criteria	Weighting	Criteria	Weighting
Background	5	Targets and Milestones	10
Scope	15	Value for Money	10
Objectives	15	Longevity	10
Outcomes	15	Co-ordination/Partnership Working	15
Outputs	15	Expansion Plans	5
Deliverables	10	Commitment	10

Table 4

London Borough of Brent - Green Zones. Some key outputs and wider benefits.

Some key outputs and wider benefits
1,000 homes were given three low energy lightbulbs; 18.2 tonnes of CO ₂ savings have been made by households converting to energy efficient lightbulbs; In the current Green Zones, 1,000 households are now recycling; Green Zones saw an increase in recycling participation, with at least a 13% increase; One household which qualified for a Warm Zones grant saw a fuel bill savings of almost £200; One street started to grow their own food in a bid to reduce the amount of packaging waste; Using volunteers who are out of work to develop skills to get them back into employment; Increased community cohesion – including the involvement of Brent's Refugee Forum.

Table 5

London Borough of Lewisham - Green Street. Some key outputs and wider benefits.

Some key outputs and wider benefits
The total project budget was £67,000, Defra contributed £10,058 (15%);
The average weight of waste showed a 37% reduction over 3 month period;
The weight residual waste went from 1.5kg/hh/week to 0.8kg/hh/over 3 months, a reduction of 53%;
The weight of food waste found in the residual waste was down by 39%;
Overall recycling participation rate was 80%, a 12% increase from the previous 68%;
The drop in residual waste could save the authority approximately £40,000 per year if all 201 properties reached the same level of performance as the best practice ones;
If the benefits of the wider Zero Waste campaign were to be measured against the benefits of the intensive waste auditing and advice, Lewisham recommends opting for the intensive approach as it is more targeted and direct and yields better value for money;
Residents commented that there was clearly greater community cohesion.

Table 6

Milton Keynes - Shenley Church Urban Estate : Some key outputs and wider benefits.

Some key outputs and wider benefits
A reduction in the number of households who were non-recyclers from 81 to 50;
15 tonnes of material diverted from landfill from the 'new' domestic recyclers;
15 tonnes of organic waste diverted from landfill through the new composters;
Contact with 40% of the 1,457 households was achieved whilst doorstepping;
Over 300 people attended the 'Zero Waste Day' event and 50 compost bins were sold;
Campaign resulted in 165 joining the Zero Waste Mailing list and 59 joining a Facebook group;
Guidance for local businesses which could achieve a diversion rate of 64% from landfill;
Residents commented that they had noticed an improvement to street cleanliness.

Table 7

Peterborough - Central Shopping Area. Some key outputs and wider benefits.

Some key outputs and wider benefits
Business Engagement:
Over 50 opportunities to reduce waste were identified through the waste audit questionnaires;
7 office based organizations which took part in the Zero Waste Fortnight produced less than 1kg of waste each during the period. Staff also confirmed behavioral changes that extended beyond the period challenge and carried through to affect choices and decisions made at home.
Redevelopment of Cathedral Square:
The redevelopment firm achieved Zero Waste to landfill at the end of the project ;
3,050 tonnes of material was saved from landfill;
1,500 tonnes of carbon emissions prevented;
£20,000 of cost savings for businesses;
Funding awarded by Coca Cola to install the public recycling bins;
Reusable materials produced from the regeneration of the Cathedral Square were delivered to local community groups and clubs.

Table 8

Kings Lynn - Tuesday Market Place. Some key outputs and wider benefits.

Some key outputs and wider benefits
40 Businesses visited;
5 Businesses beginning to recycle using private waste companies;
8.92 tonnes of cardboard was recycled in 1 year from the Tuesday Market Place street market;
40.24 tonnes of glass was recycled in 9 months from Businesses;
6.1 tonnes of glass was recycled in one year from domestic properties;
A glass recycling service was launched for resulting in 18 businesses joining, this included the take-up of the service by the Royal Household;
An event was held, promoted local radio station KLFM, to promote waste prevention and recycling and 75 people attended;
The ZWP initiative acting as a catalyst to replicate street market recycling in a second area.

Table 9

West Midlands Region - Zero Waste to Landfill. Some key outputs and wider benefits.

Some key outputs and wider benefits
The Defra Zero Waste pilot lead to a positive post bag from a variety of organizations including waste infrastructure operators and major retail site managers.
The updating and mapping of data on actual recycling and reprocessing capacity in the region has allowed the Waste Planning Authorities to study the impact of the Landfill Tax and make appropriate assessments.
The results from data collected to assess the quantities of waste arising in the region was launched at a major event attended by over 110 representatives of the waste industry and local authorities in the West Midlands.
