

Household Recycling Incentives – Do They Work?

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ABSTRACT

An incentive scheme aims to motivate people to recycle and reuse their waste by rewarding these actions with either a community or individual reward. The UK Government launched its Recycling Rewards and Recognitions fund in 2011, with up to £2 million available to support local authorities between 2011/12 and 2013/14. This reignited the incentives debate in the UK, which dates back to 2005, when Defra introduced their Household Incentives Pilot Scheme. This paper will look at the history of carrot and stick approaches to driving recycling improvements in the UK. A number of the 31 schemes funded to date will be analysed to consider the impacts of the incentive scheme and question the cost-effectiveness of this approach to enhancing local recycling performance. Initial findings suggest they work in areas with an already engaged public, but have struggled more in areas with more transient populations, lower incomes and more high-rise accommodation.

1. INTRODUCTION

Changing householder behaviour is vital to drive forward household waste reduction, reuse and recycling performance. The UK Government believes that household incentives can be an effective way to engage with householders and encourage them to manage their waste more sustainably. It believes that it is better to reward householders for doing the right thing with their waste than to penalise them for doing the wrong thing. An incentive scheme therefore rewards people who recycle or re-use their waste, giving them either a community or an individual reward with the aim of motivating people to take action (Defra, 2011).

As far back as November 2002, the UK Government Strategy Unit report 'Waste not, Want not' recommended that local authorities should be allowed to take forward household incentive and charging schemes. The Strategy Unit saw this as an important tool to effectively engage with householders and encourage them to manage their waste more sustainably. Subsequent research commissioned by Defra (see Maunder and Mitchell, 2005) on the Household Incentives Pilot Scheme revealed that local authorities in England already operated a wide variety of schemes rewarding householders for positive behaviour in the way they deal with their waste. Since then, Defra has funded two significant programmes, with a combined budget of over £5 million to support incentives and recycling rewards. Most recently the Department for Communities and Local Government (DCLG) has funded further incentive schemes as part of a wider programme supporting local authority waste management service provision, with £250 million available.

2. CASE STUDY 1: DEFRA HOUSEHOLD INCENTIVES PILOT SCHEME

Through the initial Defra pilot scheme (2005-06), more than 5.2 million households were included in specific trial areas, with the overall fund worth £3.1 million, which equates to an average of around £0.58 per household, although it was not possible to account for the amount of additional funding and staff time that individual authorities contributed to the development and delivery of the trials.

The pilots that were selected for funding involved a variety of different types of incentive, ranging from community league tables, where neighbouring areas competed to increase their performance with environmental enhancements for the winning area, to pledges to recycle leading to equipment for schools, although the most popular were lottery-style prize draws where recyclers were entered into a weekly or monthly prize draw. Several of the selected pilots proposed the use of waste weighing technology to further assist in the accurate measurement of the impact of incentives. In total 100 local authorities received funding to run pilots, as well as community groups and private sector organisations.

The proposals selected enabled the testing of incentive concepts on a whole range of different target populations, ranging from villages to high-rise estates, and from the highest recycling performers (where the focus was on waste minimisation and reducing contamination in recycling collections) to the lowest (where the focus was on increasing participation in the recycling scheme).

Local authorities assessed the outcomes and success of the pilot Incentive schemes by monitoring a number of different data sets, including: monthly recycling tonnage figures (e.g. for control and incentivised collection rounds); pre and post-project participation rate monitoring (e.g. of a sample of residents on both control and incentivised collection rounds); the percentage of households actively engaging in the incentive (e.g. registering pledges to recycle); measurement of contamination rate by waste analysis studies and/or monitoring the number of rejected loads at transfer stations and MRFs; coverage of the scheme by the local media; awareness and attitude surveys (e.g. via doorstepping); and direct feedback from project partners and stakeholders (e.g. school headteachers).

Authorities were encouraged to adopt the use of pilot and control areas in order to assess the specific impact of applying an incentive and also to consider performance against a baseline standard (e.g. from 12 months earlier) to investigate any difference in recycling trends observed.

The key findings from the pilot programme showed that the actual costs of offering a financial incentive are relatively low compared to the comparative costs of the scheme promotion and monitoring and evaluation. The barriers to implementing incentives should therefore not be wholly financial if a robust waste data collection system is already in place. Of the trials, 81% had a positive, attributable impact in raising awareness through offering an incentive. This was measured by a variety of attitudinal surveys, door stepping questionnaires, pledges recorded, and increased level of media coverage (Advertising Value Equivalent - AVE, Opportunities To See - OTS, Opportunities To Hear - OTH). Creating an awareness of the incentive being offered was clearly vital to achieving a motivation to take action by the target audience and generating a tangible improvement in performance.

The remaining 19% were reported as unsuccessful in recording a significant awareness of the incentive being offered. The corresponding measurement of impacts (contamination, participation, tonnage) demonstrated no determinable impact attributable to the incentive trial. Six trials were primarily focused upon individuals and three were community focused. This suggests that more localised, community initiatives are easier to promote than broader initiatives offered to a large number of individuals. Thirty of 53 (57%) of the trials had a positive, attributable impact increasing the tonnage of recyclables collected. The magnitude of these impacts however varied widely from small trials that yielded a few tonnes of additional recyclables or compostables to those that helped achieve increases of around 15% in recycle tonnage collected across a complete collection authority. Around half of the trials showed small (5-10%) but determinable increases in the levels of recycle tonnage collected. Table 1 identifies some of the most successful incentive trials, whilst Table 2 shows one of poorer performers.

Difficulties in eliminating the potential impacts of largely uncontrollable, external factors (such as seasonal waste variations, temporary closure of household recycling centres, vehicle breakdowns or strikes by collection crews) caused a significant degree of uncertainty when trying to accurately determine the specific impacts directly attributable to the offer of an incentive (Maunder, A.N., Rowland Jones, M. 2006).

Table 1: Successful Incentive Schemes

Authority	Detail	Outcome
Haringey Council	Over the course of the pilot 114 addresses (19 wards with 6 winners in each ward) were chosen at random. These addresses were checked on their day of recyclables collections to ensure they had actually recycled. If they had, they won £100. If they had not, their next-door neighbour's recycling box would be checked, and they would win the cash if they had recycled (and so on until winners were declared). All those whom claimed their £100 prizes would then qualify for the Grand Recycling Draws where seven entries were again chosen at random (one per Area Assembly) to win a further £500. This was heavily promoted through local literature to gain 'buy in'.	The borough surged past its official recycling target for 2005/6. With provisional recycling figures of 20% of refuse recycled, Haringey exceeded the 18% target it was set by Defra. It also increased its participation rate in kerbside recycling from 55% in July 2005 to 64% in February 2006.

Authority	Detail	Outcome
The London Borough of Brent	<p>The scheme concentrated on two kerbside green box recycling rounds chosen in a particular area. In both areas residents were given new green boxes with barcodes on them which were scanned on collection.</p> <p>In one area the residents were sent a leaflet offering a £10 incentive if they recycled at least half of the time over a six month period.</p> <p>In order to provide a control group, the second area was re-leafleted with similar materials but with no incentive.</p>	<p>Participation on the control round increased by 11% following the comms campaign and participation on the incentive round increased by 22%.</p> <p>Tonnages on the incentive round increased by ~34%.</p>

Table 2: Unsuccessful Incentive Scheme

Authority	Detail	Outcome
The London Borough of Havering	<p>This Incentive scheme covered 96,000 households in Havering and was designed to encourage householders to participate in the kerbside recycling scheme through the use of fortnightly prize draws enabling participating residents to win cash prizes or environmentally friendly products.</p> <p>Residents were encouraged to collect, from libraries and other access points, sequential numbered sticky labels (eight to a sheet) to attach to their filled orange kerbside recycling sacks. Leaflets explained the scheme, detailing what materials could be recycled at the kerbside.</p> <p>The sticky labels were removed from the sacks at the MRF and the labels from non-contaminated sacks were entered into 14 fortnightly draws, and three super draws.</p>	<p>Although there was an increase in recycling tonnages, and a decrease in residual waste tonnages, Havering was unable to gather data from neighbouring authorities with which to compare performance. Without this comparison data it was difficult to ascertain whether these trends were due to the incentive scheme alone or, if not, what the impact from external factors were, e.g. national recycling publicity. This reinforces the importance of monitoring and evaluating in assessing a scheme's impact.</p>

2.1 Lessons Learned

There is no 'one size fits all' when it comes to the design and delivery of incentive schemes. The authority must first and foremost consider the barriers to recycling that it needs to address, e.g. lack of participation; excessive contamination; infrequency of collection service; number / size of collection receptacles before a suitable scheme can be implemented. Only then can the right incentive be set and the associated campaign and communications designed.

Incentives should be seen as a means of maximising the efficiency of the existing waste management / collection infrastructure and the service being provided to householders. The best solution may be to actually introduce a service / infrastructure change, e.g. collect more material types rather than an offering an incentive alone.

This needs careful assessment of the costs and benefits of alternative solutions before embarking on any change, whether it be an incentive scheme or a service alteration.

If incentives are to be used they must be targeted at the intended audience, which requires an appreciation of their socio-demographics, and address the identified local barriers to higher recycling participation. This is particularly relevant for authorities that have almost total kerbside collection round coverage and are looking to enhance recycling performance through either increased participation or capture rate or by reducing contamination. Schemes aimed at raising awareness but that do not provide the necessary supporting infrastructure will lead to a frustrated target audience unable to carry out the intended action. Alternatively a poorly promoted scheme with an excellent delivery system in place will simply result in lack of understanding and commitment.

3. CASE STUDY 2: DEFRA HOUSEHOLD REWARDS & RECOGNITION SCHEME

Defra's Rewards and Recognition Fund was launched in 2011. A total of 31 schemes were awarded funding totalling £2 million between 2011/12 and 2013/14. Again a wide range of schemes were funded, and continue to operate, a few of which are detailed below.

In Birmingham City Council, Nectar Points are being awarded to residents for recycling paper and card (Figure 1). Nectar points are a point collections scheme; a shopper is issued a card and collects points on everyday shopping at UK high street and online retailers. For every £1 spent, 2 Nectar Points are received, people can then spend accumulated points back in the participating stores. In Birmingham, to date, 1,120 households out of a possible target group of 4,500 have signed up to the scheme and over 500,000 Nectar Points have been awarded. As yet the pilot project has not reported on the impact on local recycling tonnage collected or rates.



Figure 1: Birmingham City Council Paper and Card Recycling Box Being Scanned

The West London Waste Authority has a loyalty card for businesses and charities, encouraging reuse behaviour across 7 West London local authority areas (West London Waste 2012). Here, as residents accumulate credits through buying from a charity, repair or reuse shop, they can add to their reward card online. Once they have collected 10 credits, they will receive a voucher for £5 which can be spent in one of the participating businesses or charities or alternatively, or they can choose to donate the money to selected community groups. Again, no published data is currently available on the impacts of this scheme on recycling levels in the target areas.

A 'Bin, Scan, Win' campaign offering a prize draw using mobile phone technology to scan the barcode on a recycling bin in a specific street is currently operating in the London Boroughs of Westminster and Camden.

In 2012, Westminster reported 2,500 entries for the prize draw and had noted an increasing number of entries per day over time. The scheme has generated a lot of positive media coverage and, as a result, Westminster are exploring new target audiences for the scheme, are considering adding various other types of materials and are trialling the use of new mobile technology that acts as the basis for the scheme (Marsh, 2012).

The final results and a review of the all the schemes supported will be published mid-2015, whilst a series of other UK sector based analysis and insights will be published in mid-2014.

4. CASE STUDY 3: DCLG WEEKLY COLLECTION SUPPORT FUND

In February 2012, the UK Government launched a new Weekly Collection Support Fund, worth up to £250m, to help councils retain or reinstate weekly waste and recycling services, and counter the common trend in the UK of fortnightly residual waste collections to help make financial savings and drive recycling behaviours.

The Scheme had £50 million available in 2012/13, £100 million in 2013/14 and £100 million in 2014/15, to help make recycling simple, accessible and easy for residents to engage with.

Of the 90 successful bids from 85 local councils, 27 featured incentives and rewards - clearly incentives remain a priority opportunity for many local authorities in the UK.

In most cases, the incentive scheme is part of a package of changes rather than a stand alone intervention, and therefore the impacts recorded are not reflective of the incentive scheme alone.

A selection of the schemes and the number of households affected are shown in the Table 3 below.

Table 3: DCLG funded projects with incentive schemes

Council	Description of Incentive scheme	No of households affected
Barnet	A reward scheme to encourage 'dry' recycling is to be introduced across the borough.	140,000
Bath & North East Somerset	Rewarding environmental improvements in communities and increasing recycling levels.	73,993
Bedford	Supporting weekly residual waste collections whilst encouraging residents to recycle more, for example through introducing a recycling reward scheme.	67,690
Bournemouth	Introducing an incentivised 'opt-in' weekly food waste collection.	86,170
Coventry	Introducing a recycling rewards scheme to every household and University halls of residence in Coventry.	134,620
Ealing	Introducing a borough wide recycling rewards scheme.	127,600
Merton	Introducing a multi-stranded recycling encouragement and incentivisation programme.	80,860
North Tyneside	Introducing a recycling rewards scheme.	95,000
Nottingham	The proposal includes the development of a community based recycling rewards scheme for people living in flats.	15,000
Portsmouth	Introducing a recycling rewards scheme.	88,317
Reading	Supporting weekly residual waste collections for 11,435 flats and introducing a recycling rewards scheme for them.	11,435
Sandwell	Introducing additional weekly recycling collections and rewarding communities for recycling - benefitting their local schools, community projects, voluntary sector or faith group schemes, and supporting weekly residual waste collections.	128,000
Sunderland	Enhancing an existing recycling rewards scheme.	124,850

5. CASE STUDY 4: RECYCLEBANK

RecycleBank is an American scheme, first set up in Philadelphia, whereby residents are rewarded for green actions. Under the system, the amount of material residents put out for recycling will be weighed and residents are awarded points which they can redeem at local and national stores such as Marks & Spencer.

Windsor & Maidenhead was the first UK council to introduce a RecycleBank scheme. The roll out of the scheme to 60,000 properties followed a successful pilot in 2009 when more than 6,500 households tested the process, earning RecycleBank points for their recycling efforts. Since then, 61% of eligible households have activated their rewards accounts; more than twenty million RecycleBank Points have been earned for discounts and offers at over 100 shops, leisure centres, businesses, attractions and cafés/restaurants; and many residents have given their Points to schools projects. Residents in the trial increased their recycling tonnage collected by 35%.

Residents of the Royal Borough of Windsor and Maidenhead are now able to earn rewards in return for separating and recycling their food waste. Funded through the DCLG Weekly Collection Support Scheme, in return for recycling food waste, participating householders can earn 25 points a month in exchange for a pledge to recycle food waste on the RecycleBank website. At the end of the quarter, they can earn a bonus for the amount of food waste recycled in the whole borough. This is the same number of points participants can collect for dry recycling.

In the London Borough of Lambeth, the RecycleBank rewards programme was launched in May 2011, in partnership with its waste collection contractor Veolia Environmental Services. It is available to 51,000 households in the borough with shared recycling containers – mostly flats.

The council has commented that 'over the last year it has seen an increase in recycling participation rates with an additional 26 tonnes of recyclables collected every week'. In addition, it has been noted that the amount of residual waste collected on the same rounds has fallen by an average of 89 tonnes per week.

6. OTHER INCENTIVE SCHEMES

The Scottish Government through Zero Waste Scotland (ZWS) released £900,000 in funding in 2013 to develop pilot 'deposit return' and 'reverse vending' facilities. Eight schemes have been approved to date: 6 reverse vending schemes and 2 deposit return schemes; these include a mix of retailers, schools, Household Waste Recycling Centres (drop off sites), and higher education sites.

Lessons learned to date are that low cost (GBP £0.03- £0.05) rewards are working; upfront and on-going communication is key to grab attention; buy-in from multiple stakeholders on-site is vital; and community ownership is a powerful motivator (Gulland, I, 2013).

The London Waste and Recycling Board (LWaRB) funded an incentive scheme for flats through London Green Points in the London Borough of Bexley. Under the scheme, Bexley measures the waste and recycling levels in the trial areas every three months. If a reduction in residual waste tonnage and an increase in recycling levels are recorded then it awards green points. Those residents who then activate their accounts online are offered money-off vouchers at more than 60 local retailers. Alternatively participating residents can redeem their points against more than 1,000 'environmentally friendly' products or donate them to one of three local charities. As of December 2012, 2,651 households had activated their accounts, representing 18% of all purpose built flats in the target area. In the phase 1 Thamesmead area, the number of activations is higher at 29% of properties. Bexley are very pleased with the level of activations, particularly as the Thamesmead area suffers from high levels of social deprivation and has a highly transient population.

7. KEY CHALLENGES

Authorities have a number of considerations to take into account when choosing whether to trial an incentive and what form it should take. There is, unfortunately, no 'one size fits all' solution. The authority must, first and foremost, consider the barriers to recycling that it wants to address, e.g. lack of participation or excessive contamination for example, and the level of incentive required to make a difference to the target audience. Authorities then face many further challenges once an incentive based approach has been agreed upon; some of these are discussed below.

7.1 Engagement

One key question for all Incentive schemes is how do we reach those that don't engage or aren't already participating? Perhaps it's through an alternative route such as community composting. Offering a local solution that gets individuals involved at a community level. In some cases it may actually be the engagement that persuades people to participate and not the reward offered at the end.

Another engagement issue relates to the financial implications, how much will the incentives cost, what level should they be set at to drive behavioural change and will the predicted increase in tonnage recycled pay for the scheme in the long run?

Local Authorities want to spend the majority of their funding on planning and implementing the actual Incentive scheme, not on the advertising of it, thus providing a bigger reward for the participants. However, a certain amount of communication is required to raise awareness, and this must be done as cheaply as possible, whilst remaining effective. The production and distribution of leaflets can pose a problem, as this is creating more waste that needs to be recycled. Therefore innovative ideas need to be sought to communicate the changes in services and the implementation of new schemes and incentives to the residents, perhaps through online, social media and text messaging, without excluding those who do not have access to technology.

7.2 Monitoring and Evaluating

Once the incentive has been implemented and residents are participating in the scheme, the Local Authorities need to monitor and evaluate the participation, capture rates and attitude of the residents in order to determine if the incentive is working effectively and if it is relevant to the geography and demographics of a particular area.

Monitoring and evaluating the success of an incentive scheme ensures the Local Authorities record lessons learnt and encourages good practice across the sector. However, the cost of the monitoring and evaluation of the scheme must be balanced with the actual cost of the trial.

Pilot schemes are a good way of trialling an incentive on a smaller group of residents to determine if it is worth rolling out to the whole area. Not only does this give a better understanding at a local level to help council's find the right option for them as part of their overall strategy for managing waste more sustainably, but at a national level too, influencing behaviour to help with future policy in this area. Setting a base line prior to any new incentives or changes in service is important, as is having a control group in order to compare results after the scheme has ended its trial.

8. WHAT NEXT FOR INCENTIVE SCHEMES

Incentive schemes are set to increase across the UK as the DCLG-funded schemes are implemented, data gathered and schemes reviewed. The increasing popularity of RecycleBank and Green Points type schemes provide regular data enabling other local authorities to make more informed decisions about what is likely to work for them.

However, RecycleBank type solutions must be careful, as there have been instances of people registering who are not participating, and who are falsely entering details in order to receive the reward. In these instances, data will be skewed when the number of participants in a scheme is compared to the tonnages collected per household. This check is vital to ensure a scheme continues to have the desired impact.

9. CONCLUSIONS

The main outcome of the 2006 Defra programme was that community incentives don't work as it was difficult to determine if improvements were directly linked to the incentive, whilst it was difficult to set the level of incentive sufficiently high to motivate change, and not simply reward the good recyclers. Incentives went off the radar for a number of years, but have been returning to the sectors attention in recent years.

Defra are gathering further evidence on which schemes work and which don't (and why) and assessing how local authorities and other parties can go about making schemes self-sustaining, offer value for money and deliver a positive impact on performance. In developing key messages, any Incentive scheme must appeal to the values of a defined target audience to move them from a position of limited awareness and activity through to motivation to act and, ultimately, performance improvement.

The best solution may then actually be to introduce a service or infrastructure change, for example, collect more material types rather than an offering an incentive alone. Incentives should be seen as a means of maximising the efficiency of waste management infrastructure and service provision that is already available to householders.

Incentives must eventually be self-sustaining with a longevity to last and become ingrained in services, behaviours and attitudes to be sustained over a long period in order to succeed. In summary, Incentive schemes remain a popular tool, more popular than fines, enforcement and harder line types of engagement, and they can achieve significant improvements, but many of these approaches have failed to engage non-recyclers. The outcomes of the recent pilots are eagerly awaited by Defra and the UK's recycling officers, and data should be available soon.

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