



## Incentives, rewards and behavioural change - Royal Borough of Windsor and Maidenhead

In 2009 the Royal Borough of Windsor and Maidenhead (RBWM) pioneered a recycling incentivisation scheme to test whether incentives are an effective means of encouraging and motivating households to increase the amount of waste recycled and decrease the amount of residual waste. They did this by rewarding households for positive and sustainable behaviour by partnering with incentives and rewards company RecycleBank. By the end of December 2010 all properties throughout the Borough had access to the scheme. This case study looks at the theory behind the scheme, the staged roll-out as well as the results to date and the challenges they have faced. Read on to find out more:

- The first scheme of its kind in the UK
- A scheme that aims to divert waste from landfill by incentivising households to increase recycling through a community and individual behaviour change programme
- 61,000 households on the scheme
- Revenue neutral scheme for RBWM
- Average increase of 35% in the weight of recyclable materials collected over course of pilot period
- Capture rate for all recycling materials = Scheme households - 83%, Non-scheme households – 65%
- An average of £135 of rewards per year earned by each household
- Over 100 local Reward Partners
- 70% of residents say they are recycling more since the start of the programme
- 55% of residents said they will try to recycle more because they can receive rewards



---

## Contents – Quick links

### [Background, aims and objectives](#)

### [The technology, how the scheme works and rewards](#)

### [Costs](#)

### [Roll out timetable and collection arrangements summary](#)

### [Results of the pilot](#)

### [Full roll-out and future plans](#)

### [Links and contacts](#)

## Background

The Royal Borough of Windsor and Maidenhead (RBWM) is a unitary authority with 144,000 residents and 61,000 households on the scheme. The social demography of the area is predominantly Acorn classes A, B and C; being perceived as an affluent area.

In terms of recycling performance RBWM is currently (December 2010) at 39%; has high consumption value generating ~700 kg/hh pa of waste arisings; and sending some 42,000 tpa to landfill. In terms of performance their key figures are:

**NI 191** residual household waste per household (2009/10) 693kg/hh

**NI 192** percentage of household waste that is sent for reuse, recycling or composting (2009/10) 35.13%

**NI 193** percentage of municipal waste sent to landfill (2009/10) 64.7%

## The first of its kind

The recycling incentivisation scheme was the first of its kind in the UK and generated substantial interest from the industry media, other local authorities and the Government. The perceived benefits of the system for RBWM was a rewards programme that linked the amount of recycled material (by weight) to earning reward

points which were redeemable through a network of national and local reward partners. In other words, the more recycled, the greater the rewards earned with the average being £135 per year per household.<sup>1</sup>

## Aims and objectives

The strategic objective is to divert waste from landfill by incentivising households to increase the amount of residual waste recycled through a community and individual behaviour change programme. The programme is focussed on positive encouragement rather than legal sanction or the imposition of penalties, with the net effect being to:

- Save the avoidable cost of Landfill Tax
- Reduce the impact upon Council Tax
- Encourage sustainable behaviour
- Increase recycling
- Demonstrate community leadership and 'exemplar' status
- Encourage community-based environmental stewardship
- Stimulate the local economy

The scheme is based on four pillars of behavioural change: Design, Communication, Measurement and Rewards. See [Appendix](#) for more detailed information.

## Key relationships

RBWM approached loyalty and rewards company RecycleBank in 2008 and subsequently introduced them to their contractor Veolia Environmental Services (VES). RecycleBank operate through VES as a subcontractor with the key relationships working as follows:

**RBWM < > Veolia < > RecycleBank**

**Veolia < > RecycleBank**

**RecycleBank < > Reward Partners**

---

<sup>1</sup> £135 is the average a householder can earn (It is possible to earn more through promotions etc. - which happened during the pilot in RBWM).

---

## The technology

A Radio Frequency Identification Device (RFID) chip is embedded in a wheeled bin. The chip has a unique identification number that is scanned and assigned to the Unique Property Reference Number (UPRN) and encrypted codes which prevents unauthorised access to personal data. The waste collection vehicles are fitted with scanners and calibrated weigh cells that enable the bin to be lifted, scanned, identified and assigned to a property, weighed and emptied. The weight is captured and automatically entered on to a database using the MuniData system. Once activated, household RecycleBank accounts are matched up with the weight data and reward points allocated. RBWM monitor the recycle collected and RecycleBank then have access to this data.

## Opting in

On launching the service, households within the area covered were sent details of the service and provided with a personal activation code. Participation is voluntary, though all properties in the area covered by the scheme are provided with a wheeled bin so that they have the opportunity to opt in or out at any time if they so wish. Households that wish to participate in the scheme must first 'activate' their personalised household accounts by either registering online or over the phone using their code.

On-line access to personalised accounts provides details on the reward points earned and participants choose from a list of rewards available offered by the local Reward Partners – around 115 in RBWM.

## Rewards and reward partners

Residents can claim rewards based on the number of points that they are awarded for recycling.

- The average household receives £135 of rewards per year.
- Activated customers on the green waste subscription service received 25 RecycleBank Points per presentation
- For mixed waste activated customers received 5.5 RecycleBank Points per kilo of recycling collected.

- The maximum number of points that can be collected per household, per year is 450 per month – 5,400 per annum.

In Windsor and Maidenhead there are over 100 reward partners with whom reward points can be redeemed. These include:

- 5 fashion retailers
- 10 health and beauty retailers
- 2 beer and wine retailers
- Donations to 2 local schools
- 2 electronic retailers
- 3 entertainment venues (e.g. theatres)
- 2 florists
- 1 gift shop
- 7 grocery and food retailers
- 13 home wear retailers
- 2 jewellery retailers
- 1 children's retailer
- 1 music store
- 2 office supply/stationery retailers
- 1 pharmacy
- 4 'professional service' providers – e.g. dry cleaners/opticians etc.
- 33 Restaurants
- 12 sports and recreation retailers
- 1 travel agent

RBWM do not pay anything to the Reward Partners. National partners (such as Marks and Spencer) pay RecycleBank a sponsorship fee for additional exposure on the website, through mailshots to residents and inclusion in press around the scheme.

The local reward partners (such as local businesses) do not pay to be in the programme, but are responsible for covering the cost of the rewards that they offer in the scheme. There is no cost to RBWM.

The most popular reward with residents in RBWM currently is money off at Marks & Spencer.

## Costs

The scheme for RBWM is revenue neutral. The costs associated with the Recyclebank scheme can be based on one of two models.

(a) a flat subscription fee levied per household irrespective of whether the account is 'activated'.

---

This is also subject to a performance based sliding scale should the percentage of weight collected above a stated threshold be exceeded.

(b) a percentage of the landfill diversion savings.

RBWM opted for the former, i.e. flat fee option. This was chosen for reasons of simplicity, given that at the outset the council were pioneering and had no idea what to expect.

The costs to RBWM have been as follows:

- Purchase of bins - £900k capital (but these were required anyway to reduce the old twin box system that has reached the end of its useful life and for which capacity was constrained - therefore the purchase of new bins is not considered as part of the RecycleBank costs). The bins were procured through a procurement framework to speed up the process of acquisition and roll out of the project.
- Retrofitting bin lifts, scanning equipment and weigh cells to the vehicles (£~350k) but these can be taken off and reused on any future new fleet and have an estimated life of nine years. These were also procured via a procurement framework using capital. This worked out to be a cheaper option and RBWM have recommended that other councils consider this procurement route as an option.
- Revenue costs to the Borough i.e. subscription costs, publicity and additional net processing savings have proved to be cost neutral based on a 'sensitivity analysis' using a 25% increase in weight of recycled materials against an established baseline of 6 kg/hh/wk based on waste composition analysis of the previous box collection scheme. The Borough is currently experiencing a 46% increase in collected dry recyclables.
- Revenue - £96,000 (revenue income)

Capital costs relate to the cost of the new bins; bin lifts and on-board scanning equipment and weigh cells. These costs need to be amortised over 10 and 8 years respectively, with the

equipment capable of being fitted to a new fleet planned in 2012.

Given this was a 'pioneering' project all financial projections were founded upon sensitivity analysis.

### **The pilot: Implementation costs**

£194,400 (revenue) which consisted of subscription fees to Recyclebank (Borough-wide) and publicity material. However, it is projected to be cost neutral over the first two years as the costs are offset by savings in waste disposal costs. The costs are assumed to be over two years as the first year's roll out realises only a half year effect because of the phased implementation over seven months.

Further information regarding costs is available from RBWM to other local authorities on request.

### **The pilot**

RBWM chose to pilot the incentive scheme for 3,800 households before rolling out to the whole borough, starting with a participation green waste subscription service. This allowed the council to fully explore how the scheme would work; reliability of the technology and reward scheme processes; and the potential benefits as well as any challenges they would need to overcome.

To facilitate the pilot, from September 2009 RBWM supplied larger capacity (240 litre) wheeled bins to households for recycling (paper, cardboard, cans, glass and plastic bottles) replacing the existing twin 56 litre boxes.

Infrastructure changes were implemented by RBWM through their own expertise with VES given the operation and hardware requirements and considerations.

Activated customers on the green waste subscription pilot service received 25 RecycleBank Points per presentation and for mixed waste, activated customers received 5.5 RecycleBank Points per kilo of recycling collected.

---

## Roll-out timetable

### June 2009

Pilot of green waste subscription service covering 2,850 households (this scheme was not weight based, but participation through presentation of green waste)

### September 2009

Piloted with households for mixed dry recyclables targeting 3,800 low rise households

### November 2010

Rolled out to remaining 46,500 properties completed. Full completion date of end January 2011

#### Please note:

November 2010 – rolled out Phase II included ~14,000 multi-occupancy, narrow access and households with refuse sacks collections. This is not a 'chip & bin' scheme, but a Community Participation scheme under the brand name of 'I Recycled' and is based on participation and self declaration of engagement in recycling. Points are allocated against the total collection round weight based points shared out equally amongst those participating. This is an alternative scheme to 'chip & bin' facilitating equality of access by all households in the 'incentivisation' scheme.

## Summary of collection arrangements for incentive scheme households

**Working week:** 5 day week - Monday-Friday

**Collection container (individual hhs):** 240l wheeled bin (standard issue) for commingled recyclables (paper, cardboard, glass, plastic bottles, cans); 240l wheeled bin for green waste, 180/240l wheeled bin for refuse

**Collection container (communal/HMO):** all sizes dependent upon individual circumstances ranging from 240l up to 1100l banks

**Collection frequency (residual):** Weekly

**Collection frequency (recycling):** Weekly

**Collection vehicles:** 6 x 4, 26t gvw.RCVs fitted with split auto lifts

**Contractor:** Veolia Environmental Services

## The pilot: Recycling performance results

Over the course of the pilot period (as of 30<sup>th</sup> June 2010) RBWM saw an average increase of 35% in the weight of recyclable materials collected. This takes RBWM's figures to:

- Pilot = ~37%
- Full roll out currently achieving >39% and rising

Please also refer to the recycling performance results graph in the [Appendix](#).

## The pilot: Participation & Economic Activity Summary

85% of eligible green waste customers have activated their RecycleBank accounts, whilst over 68% of mixed waste customers participated. Overall activation in the Borough for

the two pilot schemes peaked at 71% of all eligible customers.

*(Latest figures as of 27/12/10)*

One of the objectives of the pilot scheme was to establish whether incentivisation was an effective intervention for stimulating economic growth. The [Appendix](#) sets out some of the headline results (as of end April 2010) that strongly suggest that the scheme has had a positive impact upon the local economy and is well supported by local residents earning and redeeming points through local outlets.

- Total number of potential HH - 6,309
- Activation Rate - 71%
- Reward Points earned - 7,510,000
- Reward Points spent - 712,000
- Spent Points value (PV) - £47,500
- 'PV' of Reward Points earned -£500,600
- 'PV' earned per HH - £111

### The pilot: Independent Validation Study

Towards the end of the pilot scheme (Feb 2010) RBWM commissioned an independent waste composition analysis (by MEL consultancy) the objective of which was to ascertain whether there are positive changes in the waste disposal behaviour of residents who have actively registered themselves onto the scheme. The results were used to inform whether the trial had been effective enough to roll-out to the rest of the Borough.

The overall evaluation of the scheme from looking at a range of key performance indicators and set targets confirmed to RBWM that incentivisation was an effective means of stimulating positive behaviour change in 6,300 participants in the pilot project.

The indicative results indicated:

#### In terms of waste diversion:

	Activated households	Non-activated households
% of hh presenting residual waste for collection	95%	82%
Kg/hh/wk of residual waste	9.6kg	11.5kg
% of residual waste that could have been diverted to mixed recycling	14%	24%
% of green waste in residual	3.1%	4.8%

#### In terms of recycling:

	Activated households	Non-activated households
% of hh presenting recycling bins for collection	88%	82%
Kg/hh/wk of recycling set out	6.8kg	5.0kg
% of set out recycling contaminated	7.7%	16.2%
Capture rate for all recycling materials	83%	65%
<i>Individual capture rates for recyclables</i>		
Glass	92%	68%
Cardboard	83%	57%
Paper	82%	60%
Plastic bottles	76%	69%
Metals	70%	65%

## Claimed Behaviour Change resident survey

During April 2010, a survey of 687 residents who had participated in the scheme was carried out

to understand the behavioural and attitudinal impacts of the trial. In total 142 responses were received, a response rate of 21%. The results were as follows:

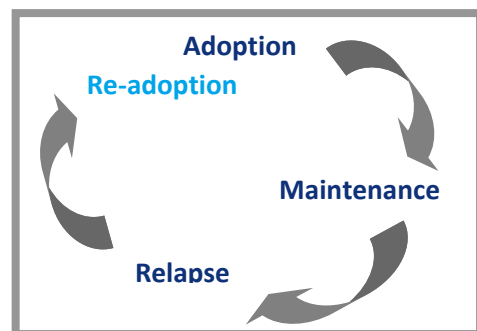
Survey question	Yes	No	Unsure/ probably
Are you recycling <i>more</i> since the start of the programme?	70%	29%	1%
Are you recycling <i>more frequently</i> since the start of the programme?	51%	49%	-
Are you being more careful now of what is being recycled?	65%	34%	1%
Is everyone else getting involved in recycling now?	77% (everyone)	15% (adults)	8%
Will you try to recycle more because you can receive rewards now?	55%	15%	30%
Have you ordered rewards since joining the programme?	66%	34%	-
Does receiving Reward Points encourage you to recycle more?	50%	15%	35%
Would you say that rewards are a good reason to recycle?	78%	20%	2%

## Win-win-win...

This scheme has pioneered an approach to changing people's behaviour through the use of incentives within the borough. At a local level it is perceived as a 'win-win-win' situation in terms of society-economics – environmental stimulus.

There are a number of theories and models relating to behaviour change that might help explain the relative success of this particular program. However, RBWM believe that few have given attention to models or theories that attempt to understand behaviour change within groups, organizations and whole communities. The design of programs to reach populations requires an understanding of how those communities work, their barriers and constraints and enablers to change and what influences behaviours in general.

Evidence cited by RBWM suggests that behaviour change occurs in stages and movement through these stages is likely to be cyclical in nature, progressing through the stages of adoption, maintenance, relapse and re-adoption over time.



The cycle of behavioural change (IPSOS MORI, 2010)

The objective must be to instil a sense of habituation such that behaviours become subconscious and 'a way of life'. Certainly, an examination of the reasons for the success of the RBWM scheme when cross checked against a number of behaviour theories (summarised in the Appendix under 'design' suggest there are strong links between the theoretical factors and the approach adopted by RBWM, consciously or otherwise.

## The final rollout and future plans

As a result of the independent validation study carried out across the pilot area, RBWM agreed

---

to roll out the scheme to all households in the Borough in two phases:

**Phase I** covering ~46,500 households completed at the end of November 2010

**Phase II** covering the remaining 14,000 households comprising multi-occupancy properties, narrow access, and properties receiving residual collections using refuse sacks. Phase II was rolled out and completed between November - December 2010 and is based on a community-based, participatory scheme rather than one which is weight based. The householder texts, e-mails or telephones RecycleBank each time they use the recycling facilities, following which a pre-set number of points will be allocated to their personal RecycleBank account. This represents a new technological solution to ensure there is community equality and fairness. This should provide interesting data around a scheme based on 'trust' and 'honesty'.

Although the RBWM scheme so far has been based on recycling, the council are aware that opportunities exist to expand the concepts of this scheme to other areas once the system becomes publicly accepted and trusted. These opportunities might include, for example:

- Targeting incentivisation at 'reducing consumption' in more general terms.
- Waste minimisation – residual; launching organics collections;
- Carbon reduction;
- Contribution to climate change i.e. mitigation/adaptation;
- Transport – modal shifts;
- Health agenda – e.g. 'Get Fit'; CHD & obesity;
- Council tax rebates on a wider scale;
- School curricula;
- Wider sustainability agenda
- 'Big Society' agenda

The use of incentives as part of the evolving 'Big Society' agenda is being explored in more depth.

### Links and Contacts

#### Royal Borough of Windsor and Maidenhead Council

Terry Gould – Head of Public Protection

[Terry.Gould@RBWM.gov.uk](mailto:Terry.Gould@RBWM.gov.uk)

01628 683501

[www.RBWM.gov.uk](http://www.RBWM.gov.uk)

#### Waste Improvement Network

[www.win.gov.uk](http://www.win.gov.uk)

[win@southeastiep.gov.uk](mailto:win@southeastiep.gov.uk)

#### RecycleBank's website

---

# Appendix

## The incentivisation scheme at RBWM is based on four pillars of behavioural change:

### Design:

- Making life easy (convenience) to the point of instilling habitual behaviour;
- Making recycling accessible and offering choice;
- Using community based marketing techniques;
- Focusing upon 'encouragement' and positive behaviours such as incentives, feel good factors and WIIFM?
- Taking into account past and present experiences through examining complaints, past experiences and problem resolution strategies.

### Communication:

- Information and Education – Targeted and strategic press campaign coordinated with household outreach through letters from the council, and registration information that is consistent with the measurement;
- The use of language - How the desired action, the measurement and the achievements are described and communicated to the public. The belief was messages not only have to be relational to the achievements or actions made by the members, but also needed to speak to the self serving side of the rewards scheme while also positioning the resident as part of a bigger communal effort, as a socially conscious programme that has direct impact on the environment and communities. Essentially, the scheme makes it OK to be selfish, taking the guilt out of greed.

### Measurement:

- A pre-occupation with relevant metrics was deemed important in order to demonstrate to participants the sense of achievement.
- To gauge the effectiveness of the scheme and to ensure objective evaluation of the key parameters of success the following basket of measures were agreed: reliability (chips and technology); weight-based data; activations; redemptions; reward points earned and redeemed; perceived monetary value earned; numbers of Reward partners; customer perception indices.
- Access to on-line accounts with real time measurement statistics of an individual's efforts translated into rewards and personal contribution to reducing environmental impacts.

### Reward:

- Targeting local retailers and businesses, making sure that the local economic factor was considered when seeking out Reward Partners, focusing upon a mix of rewards to serve all residents, including donations to local schools.
- An appreciation of what works in Windsor may not necessarily work in Wales or Wigan so in terms of consumerism ensuring a blend (choice) of rewards that reflect the characteristics and demographics of the local community.

## More information on Behavioural Change Theory

[http://ipsos-rsl.com/Assets/Docs/Scotland/Scotland\\_eBulletin\\_Approach\\_Spring2010.pdf](http://ipsos-rsl.com/Assets/Docs/Scotland/Scotland_eBulletin_Approach_Spring2010.pdf)

## Recycling Performance

This graph shows a running average from the onset of the pilot co-mingled scheme to December 2010 and includes some of the Borough-wide roll out that commenced collections on 7th June 2010. **Please note:** This is based on the household participation average weight and not total tonnage.

