

Post-evaluation of the
**HOUSEHOLD
INCENTIVE
PILOT
SCHEMES**



University of Brighton

WERG

Prepared for DEFRA by the Waste & Energy Research Group, WERG
University of Brighton
January 2007

EXECUTIVE SUMMARY	4
INTRODUCTION	6
1. SCHOOL INCENTIVE SCHEMES	7
1.1 Introduction	7
1.2 Discussion of standardised quantitative data	7
1.3 Discussion of apparently key factors	11
1.4 Conclusions and recommendations for future school schemes	11
2. PERSONAL REWARDS (CASH & NON-CASH)	12
2.1 Introduction	12
2.2 Discussion of standardised quantitative data	12
2.3 Discussion of apparently key factors	12
2.4 Conclusions and recommendations for future voucher schemes	13
3. COMMUNITY & CHARITY AWARDS	17
3.1 Introduction	17
3.2 Discussion of standardised quantitative data	17
3.3 Discussion of apparently key factors	17
3.4 Conclusions and recommendations for future community schemes	17
4. PRIZE DRAW SCHEMES	21
4.1 Introduction	21
4.2 Discussion of standardised quantitative data	21
4.3 Discussion of apparently key factors	21
4.4 Conclusions and recommendations for future prize-draw schemes	21
5. VARIATION OF INCREASES, WITH DEPRIVATION AND INITIAL PARTICIPATION	22
6. COSTS OF RUNNING DIFFERENT SCHEMES vs. EXPECTED BENEFITS	25
Appendix 1 SCHOOL SCHEMES: DETAILS OF QUANTITATIVE DATA	26
1.1 Brighton & Hove	26
1.2 West & East Sussex (schools project) - Lewes Scheme	27
1.2 West & East Sussex (schools project) - Rother Scheme	28
1.2 West & East Sussex (schools project) - Horsham Scheme	29
1.2 West & East Sussex (schools project) - Adur Scheme	29
1.3 Lancashire (schools project)	30
1.4 Durham	31
1.5 Leicester	32
1.6 East Staffordshire	32
1.7 Redditch	32

Appendix 2 CASH AND NON-CASH INCENTIVES SCHEMES: DETAILS OF QUANTITATIVE DATA	34
2.1 Vale Royal	34
2.2 Sunderland	35
2.3 West & East Sussex	36
2.4 Hampshire	39
Appendix 3 COMMUNITY SCHEMES: DETAILS OF QUANTITATIVE DATA	40
3.1 Calderdale	40
3.2 Nottingham	40
3.3 Breckland	40
3.4 South Norfolk	40
3.5 Bromley & Sutton	41
3.6 Alnwick	43
3.7 West & East Sussex	45
3.7 Hammersmith & Fulham and Lambeth	45
3.8 Haringey	46
3.9 Islington, Enfield and Hackney	46
3.10 Hampshire	47
3.11 Slough	47
Appendix 4 PRIZE DRAW SCHEMES: DETAILS OF QUANTITATIVE DATA	49
4.1 St. Edmondsbury	49
4.2 Newcastle-upon-Tyne	49
Appendix 5 LIST OF REPORTS PRODUCED BY SOME PARTICIPATING AUTHORITIES	50

EXECUTIVE SUMMARY

In 2005/6 DEFRA funded over 50 incentives projects proposed by local authorities to increase recycling performances. Initial timescales were very tight and initial reporting was done by the authorities, who used a variety of data types and analysis methods.

In this work the primary data from the schemes is visited and standardised for comparison. Headline points are:

- Some of the schemes caused significant increases in recycling. e.g. increases in participation rates of 10-30% were seen in a few.
- 80% of the schemes that had data six months later showed the increases were maintained; the other 20% showed slow lapses.
- Incentives and/or feedback is much more effective on an individual household basis.
- Feedback is at least as important as the incentive – individualised and frequent.
- Success of incentives only depends negligibly on deprivation levels.
- Householders already performing at over 65% participation rates do not improve much with these incentives.
- Householders initially performing badly showed most improvement – linear.
- If vouchers are used, shops must be very local or major supermarkets.
- Community strength can enhance any kind of scheme, and without it community-based schemes will not succeed.
- Schools schemes' successes depend strongly on champions and/or community spirit.
- Prize draw schemes are usually not effective at all for immediate increases in participation or tonnages collected. However, St. Edmondsbury focussed on contamination and was able to show significant improvements. Newcastle-Upon-Tyne was an exciting exception, showing a 16% rise in tonnages. It is suggested that this is because they used a community group to deliver the project, which, like other types of schemes reported above, caused a significant enhancement effect.

Householders greatly prefer feedback or incentives on an individual basis, i.e. rewarding households in blocks of flats together is less effective. Almost all of the voucher schemes involving house-by-house feedback were clearly effective, regardless of the incentive.

It seems that the incentive itself may not even be important; in several cases the feedback seemed equally important (at an individual level). In one case (Hampshire), a scheme of incentives for improved contamination levels was paralleled in a separate scheme which did not offer an actual incentive – and got the same excellent results.

Community-based, charity-based and schools schemes have successes very dependent on the strength of community identity or activity, or a champion. Without this they may not be successful – which makes planning difficult and results patchy. Similarly, any scheme can be enhanced with interaction from a strong community, so if

authorities have any kind of drive taking place it could be enhanced if they involve strong community groups in some way.

There were many additional corollary benefits such as increased awareness, education, publicity. However, this report has focussed on quantitative quantities. Several authorities stated that the attitudinal surveys they took gave results contradicting measured results e.g. number of householders participating. These were not seen as quantitatively useful except where used before and after a pilot in a comparative fashion.

Although the results indicate that incentives schemes of different types will be successful in different areas, it is important not to leave the impression that they cannot be used in a blanket fashion effectively.

For example, any scheme involving rewards to individual households which are redeemable in a supermarket could be very successful in all parts of a town. Households already performing very well will be less likely to improve, but otherwise no effort will be wasted. If local community groups were involved on the side, the impact would be enhanced where they are strong.

In summary, incentives schemes can be very effective, but must incorporate the lessons learned here to be successful. These guidelines have been determined by the failure of some schemes which did not incorporate all of them; they are clear lessons for the future.

INTRODUCTION

In 2005, DEFRA invited, funded and oversaw more than 50 different pilot schemes in various districts and counties across England. The scheme details were variously devised by the proposing local authorities, but can be broadly classed as schools based, community based, personal (cash and non-cash), and prize draw incentive schemes. Reports on each were sent to DEFRA, and a significant final report was produced summarising the general immediate results, with appendices providing condensed summaries of each scheme's details, characteristics, context and results.

All of the schemes were carried out in an ambitious time-frame, in that local authorities whose proposals were accepted for funding had to start almost immediately and completely finish within six months, i.e. by April 2006. This was achieved by most of the authorities, who were guided on the detailed design of their schemes by DEFRA staff early on and regularly checked on, with assistance from AEA Technology as a managing agent.

The types and parameters of schemes trialled was not predetermined by DEFRA, other than initial choice from the pool of original proposals. Rather, the initiative was left to the local authorities to be creative. However, on reflection of the initial summary report, when all of the schemes could be considered alongside each other, it became apparent that there were further lessons that could be learned other than from individual projects.

For example, the simplest seen was that prize draw schemes were generally not successful, and school schemes were. This was not obvious before the pilots, nor from consideration of any one project. Another example is that in some schemes data from multiple rounds were combined and then no overall effect was seen, but when the individual rounds were considered new knowledge was gained as to why schemes worked in some areas but not others. This suggested that other datasets should be kept at component level for examination, at least initially.

A major issue in comparing different schemes was the variation in the data collected and analyses used. Some used parallel control schemes, some used baselines taken immediately prior to the pilot, and some used control data from 12 months previous on the grounds that it would have similar seasonality. In a number of cases it was not at all clear if the results showed any effects or were inconclusive, or whether any effects seen were actually from the incentives or from other factors.

It was thus agreed to allow the University of Brighton's Waste & Energy Research Group (WERG) to study the scheme results in detail, with the overall remit to draw out what lessons can be learned by the entire programme of schemes that were funded by DEFRA. As the University of Brighton's WERG had managed and analysed the complex schemes of West & East Sussex involving 14 sub-schemes, they were keen to standardise the results of the other English schemes and draw comparisons. While re-contacting the local authorities for more details on their data it was also decided to collect any evidence of whether impacts of the pilot schemes had been maintained after they ended, and what plans the authorities currently had for new schemes.

This report summarises the findings of that work. Data from all of the English schemes were examined, standardised and compared in this work to determine which were successful and which were not, and which were inconclusive. This was done for each category of scheme:

- School based incentives
- Community and charity based incentives
- Personal (cash and non-cash) incentives
- Prize draws

Although previous reports of the schemes included some indications of measurable results, different baselines, controls and comparisons were used. To the extent possible, these differences have been removed. In particular, a baseline is taken for four weeks as close to the pilot period as possible, and not in an interim period, or for longer periods. Although some schemes have longer baseline period data available, many do not, and this method allows fairer comparison. Standard deviations are calculated and presented throughout to allow the reader to contextualise the result.

Details of the analysis used and special characteristics of individual schemes are given in an Appendix for each category.

Finally, an overview of the four types of schemes is taken to consider issues across the schemes like variations with demographics, the size of group rewarded, scheme costs, and longevity after schemes ended.

1. SCHOOL INCENTIVE SCHEMES

1.1 Introduction

Across England, ten school-based incentive schemes were tried and reported on separately (West & East Sussex had four independent schemes previously reported as one, i.e. seven in total). They fell into four general types:

- Community reward (no activity needed from the school but they received benefit from community efforts)
- Campaigns (Schools assisted to run recycling campaigns for communities)
- Bring bank sites – schools provide new sites
- Pledges (Schools have children collect pledges to recycle from adults)

The data from each scheme were examined to determine which were successful and which were not, and which were inconclusive. This was not a straightforward task, as waste data has inherent fluctuations and is affected by many parameters. To help pinpoint effects due to the incentives, baseline levels e.g. of tonnages were often obtained before the pilot. But if the data varied naturally, it might move above and below the baseline, giving a large associated uncertainty. To be certain there is a real effect, the average post-pilot values need to be considered alongside that uncertainty, which is measured by a quantity called the standard deviation.

1.2 Discussion of standardised quantitative data

Some schemes take place on the background of long-term changes continuing in the background (e.g. Brighton & Hove), and a simple approach using only a baseline would show an increase regardless of the scheme's success. In such cases, and

wherever possible anyway, increases over comparable control time periods are also calculated, and the results are provided alongside the pilot data. In those cases this permits the calculation of a *net* change due to the incentive, with appropriately calculated uncertainties (standard deviations).

From Table 1 it can be seen that five of the ten schemes showed clear positive results, indicating they were successful. In the case of Brighton & Hove an 8.5% (6.2) increase in kerbside recycling tonnages was seen against the baseline, taking into account behaviour of the control groups. Any scheme which delivers an increase of 8.5% is worthy of serious consideration, but unfortunately the data includes a large standard deviation – uncertainty – almost as big, at 6.2%. This means the true effect could be between 2.3% and 14.7%; it is uncertain. But what is clear in this case is that the incentive had a definite positive effect, and the ‘degree of success seen’ is thus listed as ‘good’ as opposed to ‘excellent’ or ‘uncertain’.

The next four schemes all show clear and excellent increases, though uncertainties are still inherently high. However, care must be taken in examining the results. For example, Rother appears to lead with 21.9% improvement, until it is noted that the quantity measured was volumes of recyclate, not tonnage. A significant achievement nonetheless, but Lewes and Durham show the most impressive increases for the most prized measurable – tonnages – even with their associated uncertainties in the figures. East Staffordshire’s success was almost inevitable, as it involved incentivising schools to allow bring banks on their grounds where there previously were none, making every kg ‘new’.

It is interesting that most of these schools schemes had a community element. Lewes was chosen for its strong community spirit and community commitment to its schools. Some of the schools in Brighton & Hove organised campaigns interacting strongly with the local communities in their vicinity, and other schemes had individual champions driving them forward, e.g. Rother. The themes of communities and champions are seen to recur throughout all the different incentives schemes, not just those for schools. They have been found to be worthwhile factors to consider in contributions to scheme successes.

A very important point to note is that in four of the five successful schemes it has been possible to determine whether the increases made with the incentives schemes were maintained or whether they stopped with the incentives. In all four cases the increases were maintained.

Table 1 also shows two schemes whose data clearly showed no positive effect, and it is important to ask if there is any particular reason why. In Adur it was felt that there was a definite lack of community identity or champions. There was little interest from the schools beyond the Assembly presentation. To make matters worse, the data was late arriving and thus schools did not get their first feedback until January. In Leicestershire no particular reason was obvious for the lack of success.

There were three schools where the data was, strictly speaking, inconclusive. For Horsham the lack of feedback to the schools was thought to be a hindrance to success; technical problems made it impossible to acquire data until January, giving first feedback in February. For Lancashire the tonnage data could not untangle the

Table 1. Quantitative data from the Schools Incentives Schemes

SCHOOL SCHEMES	Characteristics of the Incentive Scheme	Measurable % Increase seen (stdev)	Success seen? (degree)	main quantity measured	pilots measur'd against?	Increase maintained post-pilot?	Other comments
School Incentives Schemes which were measurably "successful"							
Brighton & Hove	10 Schools aided in recycling campaigns including visits to facilities, talks Awards to those with best kerbside increases in nearby rounds	8.5 (6.2)	yes uncertain	tonnage kerbside	baseline and controls	yes qualitatively	Activity levels varied in schools, as did increases on different rounds
West & East Sussex: Lewes	8 Schools rewarded for town increases No activity required of schools Community spirit relied on	16.3 (7.5)	YES excellent	tonnage kerbside	baseline and controls	yes same levels 6 months later	Lewes has a strong community spirit. Some rounds VERY high
West & East Sussex: Rother	School rewarded for rural village increases No activity required of school Community spirit relied on	21.5 (9.1)	YES excellent	volumes bring banks	baseline	yes half the effect one year later	Teacher in the school championed the scheme heavily
Durham	Schools rewarded for pledges collected Schools to arrange for pledges	20.9 (15.4)	YES excellent	recycling tonnage	baseline	not known	
East Staffordshire	Schools paid £12/tonne @ bring banks Schools paid incentive to host new bring banks	8.4 (2.7)	YES from zero	tonnage bring banks	zero baseline	yes same levels 12months later	Funding is maintained long term from recycling credits

School Incentives Schemes which were measurably "not successful"

West & East Sussex: Adur	2 Schools rewarded for 'urban village' increases No activity required of schools Community spirit relied on	-4.6 (7.5)	NO	tonnage kerbside & bring banks	baseline	not known	Community spirit was clearly lacking Feedback to schools was late; area deprived and lacking identity
Leicestershire	Schools rewarded for pledges collected Schools to arrange for pledges Children could win personal prizes	0.9 (8.3)	NO	recycling tonnage	baseline	levels steady	There was no clear reason for lack of success

School Incentives Schemes which were "inconclusive"

West & East Sussex: Horsham	2 Schools rewarded for village increases No activity required of schools Community spirit relied on	8.7 (9.4)	inconclusive	tonnage glass at bring banks	baseline	not known	Data clear but no positive effect seen. Late feedback to schools
Lancashire (with Cumbria)	Schools rewarded for pledges collected Schools to arrange for pledges	14	inconclusive	participation rates N=644	controls	not known	Tonnages not useful; Prize draw scheme operating also

Redditch	Schools paid £100 per extra tonne of mixed paper/card collected from bring banks	-1.1 (4.2)	inconclusive	tonnage bring banks mixed paper & card	baseline	levels steady	Increases in card probably were hidden by the much larger paper wts. Only paper & card collected.
----------	----------------------------------------------------------------------------------	---------------	--------------	----------------------------------------	----------	---------------	---------------------------------------------------------------------------------------------------

potential effects of a different scheme running at the same time (prize draw), and the uncertainties on specially designed participation rates restricted their usefulness. But for Redditch the problem was different; the expected effect would almost certainly have been too small to see anyway, because it involved the potential increase of corrugated card (which is lightweight) mixed in the same bring banks as paper (which is dense and more abundantly recycled).

1.3 Discussion of apparently key factors

One of the school based schemes was an unconditional success (East Staffordshire) because it incentivised schools to allow bring banks on their grounds, and it must certainly be considered a type of scheme that should be replicated elsewhere.

The ‘campaign’ scheme in Brighton & Hove was successful, though more lessons could be learned by looking at each of the schools and their affiliated recycling rounds in more detail; some showed no effect. For example, they might show whether school champions and/or strong community ties were crucial or not. Demographic variation might also be important, but detailed studies in the voucher schemes suggest they are not.

There were three ‘pledge’ schemes, in Lancashire, Leicestershire and Durham. Only one of which was a clear success (Durham). The reason why is not clear.

The four schemes in Sussex were fundamentally the same but had very different impacts. It is clear that a strong community linked to the schools makes a great difference. This was especially seen in individual rounds in Lewes where those near schools with stronger community ties clear outperformed others. However, another very important factor appears to be prompt feedback; the two schemes with delayed feedback were not successful.

Concerning effort, complexity and expense, the simplest was clearly East Staffordshire’s scheme to obtain new bring bank sites. The pledge and community reward schemes could be as simple as an Assembly each with posters and fliers, or as complex as desired and with/without a publicity campaign. The most complex was the campaign scheme in Brighton & Hove, where each school was offered individualised support, and must be seen as a longer-term investment with other returns such as new Eco-schools.

1.4 Conclusions and recommendations for future school schemes

Schools-based schemes can give clear and significant increases in measurable quantities like recycling tonnages. However, without some community link and/or champion their effects can be borderline. Prompt feedback seems crucial to sustained success. The increases in recycling made with these schemes seem likely to continue after the incentives have ended.

School schemes with minimal interaction with the schools, (e.g. some of the pledge schemes carried out via information packs), with no champions or strong community links, are unlikely to be worthwhile.

School schemes produce a range of positive immediate qualitative effects, such as raising awareness in homes, increasing understanding and knowledge, and providing

small but valuable funds for schools. They can also strengthen school and community ties, and unite otherwise diverse groups in a form of social cohesion. In the longer term they can enthuse and educate a new generation.

2. PERSONAL REWARDS (CASH & NON-CASH)

2.1 Introduction

Two basic types of personal reward schemes were piloted: those where householders received a reward after setting out correctly a target number of times, and those where they received a reward each set out. Both cash and non-cash rewards were used in each. Although only four authorities ran these schemes, West & East Sussex designed a suite of 15 independent schemes to explore parameters such as voucher value, deprivation and initial participation behaviour.

2.2 Discussion of standardised quantitative data

It is highly noteworthy that all but 2 of the sub-schemes (from West & East Sussex) had a measurable positive affect. Increases in participation rates of over 25% were common – this is a huge effect. Although some of the schemes look weaker, it is important to remember that some were being used to explore what parameters would NOT work.

2.3 Discussion of apparently key factors

Feedback – all of these schemes inherently involved regular feedback to householders. Most of the authorities reported that this feedback seemed important. In Hampshire feedback was given on contamination levels with a ‘traffic light’ system of stickers, and this authority did a very useful study immediately afterwards where they mirrored the incentive scheme in another area with the feedback but no incentives – and got the same high increases. Similarly, in West & East Sussex schemes with vouchers with low, med, high values depending on performance did better than expected; on other schemes once households did not set out they received no voucher at all and thus no feedback at a point when it would be useful. Overall, feedback must be seen as a very important factor indeed.

Individual reward/feedback – most of these schemes involved householders being rewarded on an individual basis. In some schemes larger groups were trialled e.g. rewards based on blocks of flats, or the performance of the entire round. These did not do so well; large groups had very little effect. This factor reinforces that of feedback; improvements are best with individualised rewards/feedback.

Cash versus non-cash – both worked well. Leisure vouchers worth 50p off a swim worked as well as vouchers of £1 or more, but cash vouchers seemed to have to be at least £1 for success. Leisure vouchers were surprisingly effective for less financial input.

Deprivation levels – later analysis, as shown in Section 5, showed conclusively that voucher success did not depend on deprivation levels except to a negligible degree.

However, the initial level of recycling made a huge difference – those already at >65% participation rate did not improve much in any schemes. Those with lower initial levels generally had much larger increases.

Distance to and type of shops/leisure centres – these need to be very local. Comments in Sussex indicated supermarkets would have worked better, and Vale Royal's project using Asda proved this point.

2.4 Conclusions and recommendations for future voucher schemes

Feedback may be sufficient without incentives!

Schemes are unlikely to show large improvements in recycling unless the value of cash vouchers is over £1 (less for leisure), the shops/centres they are used are very local or very major e.g. supermarkets, the feedback/reward is on an individual household basis, and the householders are not already participating at >65%.

As well as the public interest in incentive schemes involving supermarkets (West & East Sussex), the supermarkets may be quite interested in being involved; Vale Royal continued to receive support from Asda after the end of the pilot period and was very supportive throughout.

The scheme targeting contamination levels (Hampshire) appeared to be successful even though participation rates were very high (>80%).

Table 2. Quantitative data from the Personal Rewards Incentives Schemes (Cash & Non-cash)

CASH & NON-CASH	Characteristics of the Incentive Scheme	Measurable % Increase seen (stdev)	Success seen? (degree)	main quantity measured	pilots measur'd against?	Increase maintained post-pilot?	Other comments
Vale	"loyalty points" each set (chip data) up to £20 for max set out in 6 months could only be spent in e.g. Asda	20.1 (12.2) 23.8 (23.3) 39.8 (4.0)	yes excellent yes uncertain yes excellent	tonnage kerbside set out particip'n rate	baseline &controls baseline &controls baseline &controls	yes maintained not known yes up to 55%	Support was received from the super-market even after the pilot finished. initial SOR was 30-37% control and pilot initial PR was 35% pilot, 58% control final PR in pilot was 50%
Sunderland	£25 to all who set out 7/9 times	16.0 (15.0)	yes uncertain	tonnage kerbside	(baseline) &controls	unknown	clear effect in pilots but control varies also, making overall effect uncertain Tues 13.1(8.8) , Control -2.9(12.1)
West & East Sussex (cash)	<i>Many sub-pilots with different parameters Each is independent and different All obtained vouchers each set out</i> Castle £2.50 for recycled furniture or 50p shops	5.7 (1)	yes good	particip'n rate	baseline	unknown	50p in shops was more popular use
	Selden £2.50 for recycled furniture	6.2 (5.7)	yes good	particip'n rate	baseline	unknown	Recycled furniture shop paid 1/2 value
	Wick (Box) £1.25 for use in shops	26.0 (6.8)	yes excellent	particip'n rate	baseline	yes maintained	Excellent increase despite high initial PR
	Wick (volume)	16.2	yes	particip'n	baseline	yes	Requirement for FULL box no problem

	75p for shops, plus 50p more if box FULL	(3.2)	excellent	rate		maintained	
	Eastbourne Friday £1 for use in local shops	13.0 (6.1)	yes excellent	particip'n rate	baseline	unknown	Shops proved too far away
	Diplocks households 25p, 75p, 125p for fullness of box	13%	yes excellent	particip'n rates	baseline	yes maintained	no obvious trend to fill box more
	Diplocks flats 25p, 75p, 125p for performance of 10hh NB: even hh not setting out got vouchers	8	yes small	volumes paper,can	baseline	yes maintained	a smaller effect than the same scheme running with individual households HH not setting out got more feedback on other schemes they'd have none
	Town Farm 25p, 75p, 125p for performance of 660hh	2.0 (2.0)	uncertain	tonnages paper,can	baseline	unknown	group size too large (660hh); no effect
	Eastbourne Thursday 50p for use in local shops	2.7 (8.8)	no	particip'n rate	baseline	unknown	Shops proved too far away 50p proved too small to be effective
West & East Sussex (non-cash)	HaywardsWeds 3 vouchers for a swim	15.1 (6.5)	yes excellent	particip'n rate	baseline	yes maintained	The increase is similar to cash schemes! Also, unusual for initial high PRate area
	HaywardsThur 3 vouchers for a swim	2.3 (4.0)	no	particip'n rate	baseline	unknown	Swimming pool deemed too far away
	Ore 50p off swim;£1 off leisure card purchase	80.5 (13.2)	yes excellent	particip'n rate	baseline	unknown	Huge success helped by low initial PRate
	Braybrooke 50p off swim;£1 off leisure card purchase	37.5 (8.5)	yes excellent	particip'n rate	baseline	unknown	Good success helped by med initial PRate

	Old Hastings 50p off swim;£1 off leisure card purchase	33.0 (9.0)	yes excellent	particip'n rate	baseline	unknown	Good success helped by med initial PRate
	Conquest 50p off swim;£1 off leisure card purchase	4.9 (4.3)	yes small	particip'n rate	baseline	unknown	Initial participation rates already v high i.e. >65%.
Hamp- shire (Ports-- mouth)	£20Vouchers to hh for 2 green stickers i.e. no contamination in their recycling	39.6 (13.5)	yes excellent	less contamin	baseline	yes but lapsing	no increases in tonnages or PR seen (non expected) PR already v high>80% Feedback as important as incentive Pilot re-tried without cash; same results! green bins went up from 34% to 70%

3. COMMUNITY & CHARITY AWARDS

3.1 Introduction

The community schemes devised included ones where various nearby communities competed for prizes for improved recycling, and ones where a local charity or community benefited for ongoing improvements.

3.2 Discussion of standardised quantitative data

The data from these schemes were by far the most difficult for everyone to analyse.

The main reason is that each community in every sub-scheme had different dominating characteristics, and so they could not really be considered equivalent enough to lump data together to get overall results. However, some schemes involved tens of small groups, and keeping track of the dominating features in each would have been onerous. Although there is much anecdotal information, in most cases schemes had to have their results combined, thus losing detail.

This accounts for the large number of 'uncertain' results; if there are 3 schemes and one does very well, one borderline and one no effect, then the overall effect will have large uncertainties in the result. But this was the case in most schemes; some worked very well and others did not.

It should be noted that this type of scheme seemed more difficult to plan well, with several authorities not providing suitable data to evaluate them. Also, in three cases technical difficulties, especially with chipped bins, prevented proper evaluation of the schemes.

3.3 Discussion of apparently key factors

From feedback in many of the schemes, and in particular from West & East Sussex which had detailed analysis, it was clear that schemes' successes depended very much on the strength of the community involved, or the champion behind it.

In the case of Haringey it seems likely that their multi-pronged approach was successful, but without appropriate data this cannot be verified.

The schemes had quite different feedback frequencies. Several did not announce winners of any kind until the end of the scheme. Others had monthly winners or feedback. It seems that the more effective the feedback, the better the improvements. Similarly, some schemes had Champions to interact with householders, and e.g. in Bromley and Sutton it was felt that the more of these, the larger the increases seen.

3.4 Conclusions and recommendations for future community schemes

Can be used to get communities active, but if maximum and immediate improvements are the goal, use existing strong communities.

Feedback is very important, and one-on-one works best e.g. doorstepping or Champions locally.

Communities which are already performing very well will not be able to produce as large increases as others.

Table 3 Quantitative data from the Community & Charity Incentives Schemes

COMMUNITY & CHARITY	Characteristics of the Incentive Scheme	Measurable % Increase seen (stdev)	Success seen? (degree)	main quantity measured	pilots measur'd against?	Increase maintained post-pilot?	Other comments
COMMUNITY AND CHARITY SCHEMES do not easily fall into categories of successful/not. Each subset showed mixtures.							
Hampshire	1Community receives £50,000 if targets met	26.8 (22.5)	yes good/exc	recycling tonnages	baseline	not clear	Community action group required to form Volunteer champions supported
Haringey	4 simultaneous types of incentives: rewards to pool of charities rewards to seven assemblies "Recycler of the Year" for people/groups Random prize draws for hh	^ to 20% ^ to 65%	good excellent	rec. rates part.Rates		yes	Results clearly excellent but... Data only provided from start and end so it is NOT standardised to others as reported in this report Need more primary data...+controls
Breckland	Gold stars for no contamination; traded in redeemable at community centre/school Replaced 'yellow card' and 'red card' stayed	10.1 (2.2)	yes good	contamin- ation level	none quasi-baseline	unknown	At start most loads were too cont'd All through scheme, all loads OK No tonnages
South Norfolk	1 urban, 1rural, 1 control for community ££ ditto for prize draw - but not clear which! *Data for both was 'blended' Thus I have stated data 'uncertain'	1.3 (1.7) -4.7 (3.4)	no uncertain* yes uncertain*	recycling tonnages residuals tonnages	none quasi-baseline none quasi-baseline	n/a unknown ?	Data recording caused major problems This data was in kg/hh NB prize draw and community BLENDED Need more baseline to be sure real effect Urban and rural showed same decreases
West &	2 sets competing for community rewards						

East Sussex	3 villages (monthly rewards)	-3.2 (7.9)	no	participat'n rates	baseline	n/a	two of three had no effect
	3 blocks flats (fortnightly rewards x3)	36.3 (34.6)	yes good	recycling volumes	control	unknown	one each of no, uncertain and good effect Overall, results strongly correlated with community spirit and identity
Hammer-smith & Fulham Lambeth	4 estates pilots, 4 controls each	uncertain	uncertain	tonnages	baseline	unknown	Lots of 'blanks' in data; technical probs Feedback - Rewards decided at end Rewards shared equally in end Well planned project let down by tech Detailed analysis may recover trend data
	Top two estates in each get reward c£10k	uncertain	uncertain	recycling	& controls		
Islington, Endfield Hackney	12 pilots, 18 controls across 3 boroughs Best scheme in each borough gets £1500 (one=off, at end of scheme)	6.8 (64.8)	uncertain*	recycling tonnages		unknown	*The fig is avg across all three boroughs *Actually one each good, no, uncertain *If schemes not similar, re-do data anal.
Bromley (& Sutton)	Recycling Champions trained & rewarded	5.4	no	volumes	none	n/a	Champion recruiting was slow (delay??) Data calc'd twice, 2nd assumes delay No data from Sutton; says no effect seen
	Communities from blocks etc rewarded 1 champion per 900hh Bromley; 250 Sutton	(11.2) 11.7 (12.1)	uncertain* no uncertain*	recycling	quasi-baseline	n/a	
Alnwick	19 groups of <200hh =premier/2 nd League Top 6/19 group each month receives £100 Monthly leaders get extra £100; also winner	-0.2 (54.3) 6.6 (18.3)	no no uncertain	avg urban Rec Rates avg rural Rec Rates	baseline baseline	n/a n/a	Data is available for all 19 communities: Could be analysed separately Feedback every month
	Slough	Best performing/ improved wards: £2,500	-8.2 (19.0)	no	recycling tonnages	baseline	n/a
Calderdale	£25 per extra tonne of recyclables TO the "community" x1 And occasional snap prize draws for hh	no data given	no rise/fall	tonnage kerbside	baseline & controls	unknown	BVPIs given; no tonnage numbers need actual data, and the control stated!

Nottingham	At end of trial, best performing communities to win prizes of £5000, £3000 and £1000 And occasional snap prize draws for hh	no data given	no mixed	tonnages: kerbside residuals	baseline & controls	unknown	capture rates reported; diversion rates changes in recycling, residual weights are calculated very crudely pilot 1: resids -8.5%, recycl +14.5% control 1: resids -3.8%, recyc -12.9% pilot 2: resids -10.6%, recyc -2.7%, control 2: resids -0.2%, recyc -5.9%
Rochdale & Salford	Disadvantaged child gets 'Dream come True' If community recycled more Xmas trees Two sub-schemes	up 60^ up 20%	yes; excellent yes: good	number of Xmas trees	cf last year cf last year	n/a	Tighter community did better Use of charities increased dissemination
Sefton	Visit local Recycling Park gets £5 voucher Can go to charity or self, claimed in town	uncertain 60 done	no	no. claimed		n/a	To claim, had to go to Park, then town Car parking charged in town! 50% of those claimed were for self
Stockport	Charities benefited from increased tonnages	86% (143)	yes	kerbside & bbank	2004 data	n/a	Public voted online/post etc for charities Increases of -5% to 300% seen
Shropshire	Prize Draw - but £1000 goes to your charity	no data given	no	recycling ks&HWRC	2004 data	uncertain	Primary data in graph but not given (No effect seen on graph) Lots of free adverts esp. on local radio Scheme produced 32% of equiv. costs from free publicity

4. PRIZE DRAW SCHEMES

4.1 Introduction

Across England, twenty different prize draw incentive schemes were tried and reported on separately (some authorities had more than one type).

Variations included the amount of prize money, the methods and extent of publicity, methods of becoming eligible, complexity, and size of pool of householders, as well as the deliverable targeted e.g. improved weights or contamination levels.

4.2 Discussion of standardised quantitative data

At this time, the data for each of the twenty schemes has not been standardised. It is questionable whether it is worthwhile, because initial reports show only two of the twenty schemes as having clear positive effects;

St. Edmondsbury targeted contamination levels and saw a rise from 5 to 40% of 'perfect bins' across 12,600 households.

Newcastle-upon-Tyne showed a tremendous rise in tonnages of 16%. This scheme enlisted a local community group to run the scheme, which was a unique feature. Newcastle-upon-Tyne also secured sponsorship for at least a further six months from Ban Waste.

4.3 Discussion of apparently key factors

Given the consistent ineffectiveness of these schemes, it seems that the amount of reward and other factors were not very important. The St. Edmondsbury scheme may have been successful because the requested activity, registration and claim processes were all relatively simple. With the Newcastle scheme, it is reported that having a local community group involved had many add-on effects, and in light of the lessons learned in the other types of schemes, where strong community interaction has shown enhanced effects, this seems likely the reason it was so successful.

4.4 Conclusions and recommendations for future prize-draw schemes

From the data presented here, it is clear that prize draws are certainly the least effective type of incentive for the immediate and measurable results often looked for – with St. Edmondsbury and Newcastle-upon-Tyne as exceptions. However, prize draw schemes may well contribute to general raising of public awareness and positive association of recycling.

5. VARIATION OF INCREASES, WITH DEPRIVATION AND INITIAL PARTICIPATION

(Information gleaned from studies of the West & East Sussex schemes)

In each of the individual schemes there was insufficient data to draw statistically clear conclusions. In this section a review of information on all the participating households in the Sussex voucher schemes is presented. The census data includes information on the Index of Multiple Deprivation (IMD) for all the census areas, called output areas. These could then be assigned to individual households, and correlations with set out rates, participation rates and increases could be investigated.

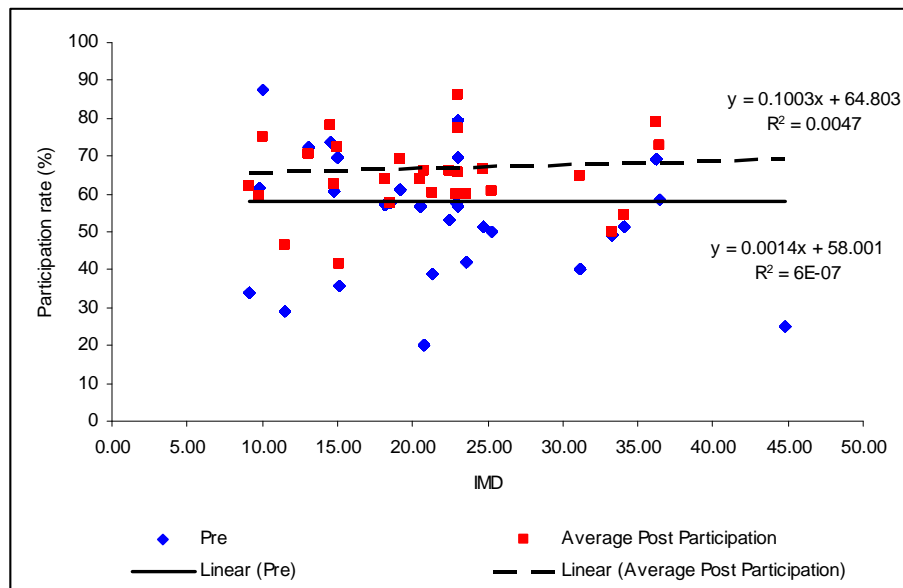


Figure 1 Variation of participation rates with Index of Multiple Deprivation (IMD) for all voucher schemes, with weighting for points representing one sample. The slight correlations are not statistically significant

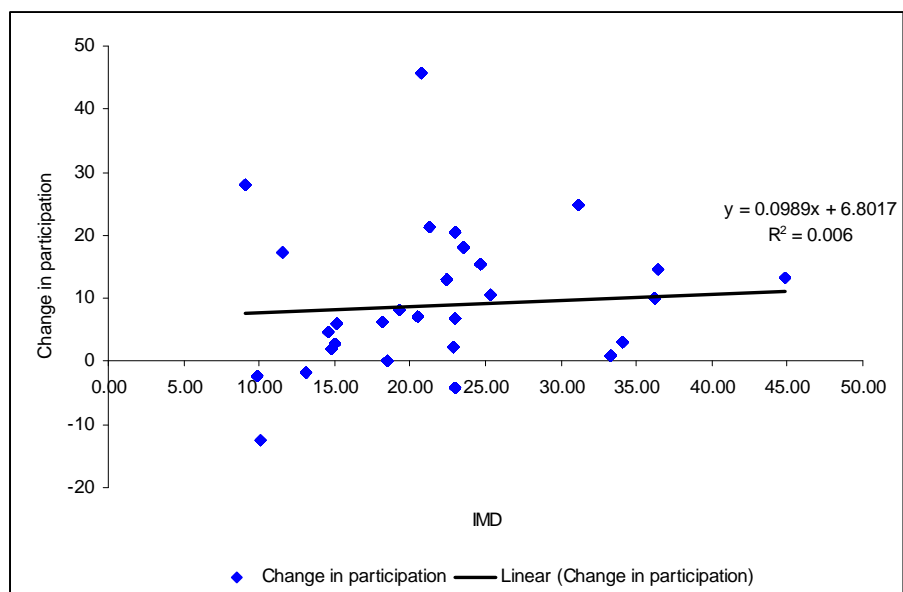


Figure 2 Variation of the change in participation rate with IMD, for all voucher schemes, with data points weighted $N=3367$, giving a highly statistically significant

correlation, $p < 0.001$, which is nonetheless very small. Participation rate changes only change from 9% to 11% across the IMD range.

From this data analysis it can be concluded that there were correlations of participation results with both deprivation and the initial participation rates. The lower the initial participation rate, the higher the increases were seen, when data from all of the schemes was considered together. Similarly, the higher the deprivation index, the higher the increases in participation – though this variation was only slight.

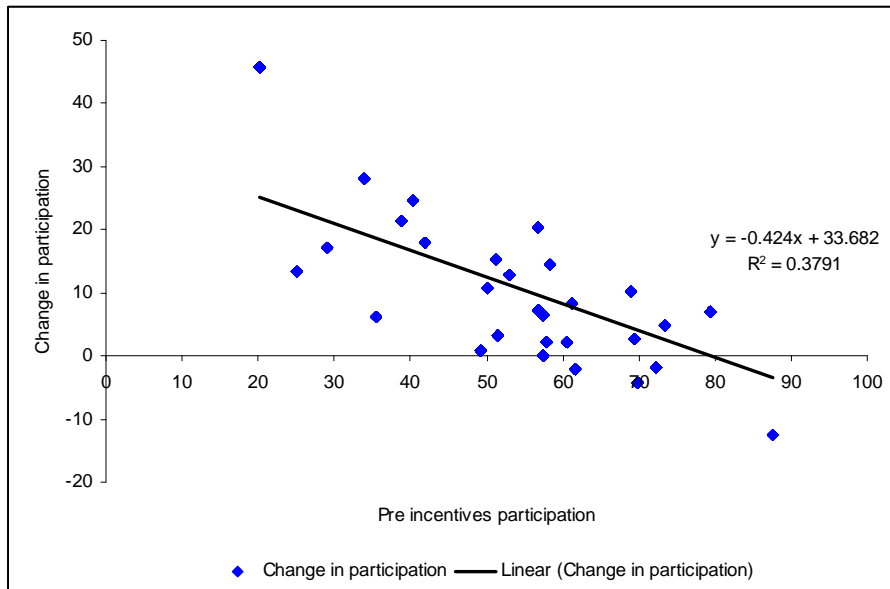


Figure 3 Variation of change in participation rates with the initial baseline participation rate, for ALL relevant schemes, with weighted data points (N=3367). A highly significant statistical correlation is seen

Somewhat unexpectedly, the increases in set out rates did not vary significantly with IMD, as shown in Figure 2. However, the increases in set out rates were found to be strongly related to the initial baseline set out rates: those initially setting out less often increased the most during the schemes, as shown in Figure 5

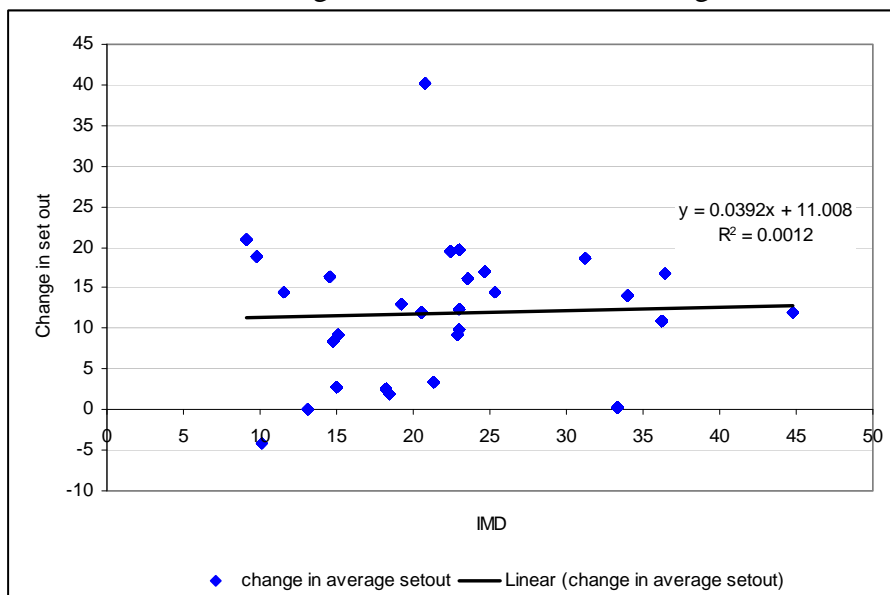


Figure 4 Variation of changes in set out rates with IMD

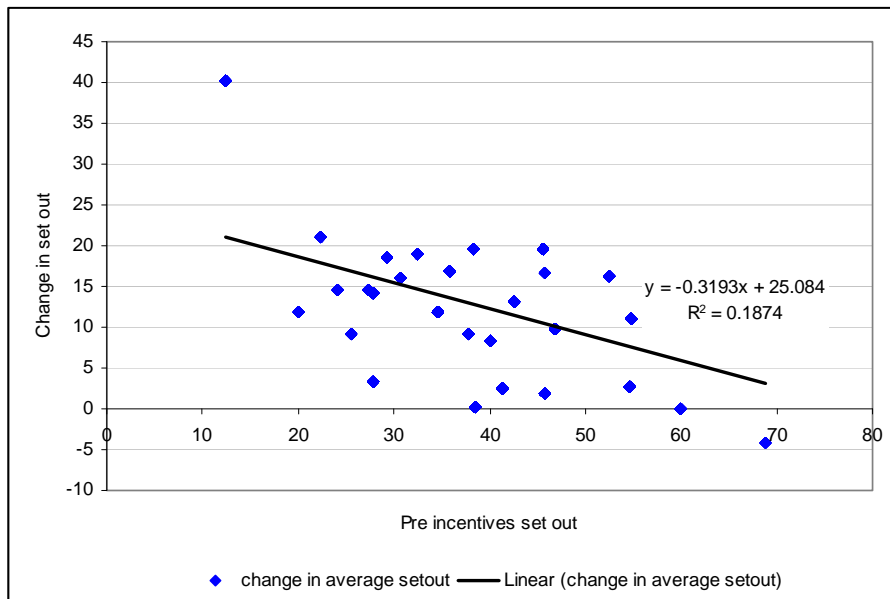


Figure 5 Variation of increases in set out rate with baseline values

6. COSTS OF RUNNING DIFFERENT SCHEMES vs. EXPECTED BENEFITS

(Information gleaned from studies of the West & East Sussex schemes)

The costs of different schemes can vary hugely. Below are estimates from the West & East Sussex schemes, on the basis of a three-month scheme. Note that the monitoring is often a large element of such schemes, so if that were not necessary the costs might reduce significantly.

There are infinite variations on these schemes possible, but these are given as indicative costs. They are more useful than the DEFRA funding given out averaged per household for the schemes, as those incurred costs that would not be expected with a cleanly planned 3-month scheme.

Resource Costs	Shop Vouchers			Leisure Vouchers	Community: Three-Way Competitions			School Communities	
	hh	flats	round	hh	PR	vol	tonnes	village	town
Project planning	4	4	4	3	2	2	2	2	0.25
Shop recruitment	1	1	1	1	3			1	0.25
<i>Distribution of 7am reminders*</i>	2	2	2	2	2				
Visiting schools/ groups					1.5	1.5	1.5	1	0.25
Distribution of introductory flyers	2	2	2	2				1	0.5
<i>Monitoring and voucher distribution*</i>	34	34	17	34	17	11	2		
Database set up and management	5	5	2	5	2	2	2	1	0.5
Project management	9	9	9	4	1	1	1	2	0.5
TOTAL DAYS TO COST	57	57	37	51	28.5	17.5	8.5	8	2.25
DIRECT INCENTIVE COSTS		£438 - £1063		£270		£700		£450	£450
FULL COSTS per 1000 hh	£ 12,100	£ 12,100	£ 8,100	£ 10,470	£ 6,400	£ 4,200	£ 2,400	£ 2,050	£ 900
FULL COSTS per 1000 hh with savings*	£ 9,724	£ 9,724	£ 6,846	£ 8,524	£ 5,146	£ 3,474			
Expected Benefits									
Participation Rate increases	11% to 13%			10% to 21%	4%				
Set out rate increases	13% to 21%			11% to 20%					
Volume increases	8%				47% to 98%			14%	
Tonnage Increases				2%					17%

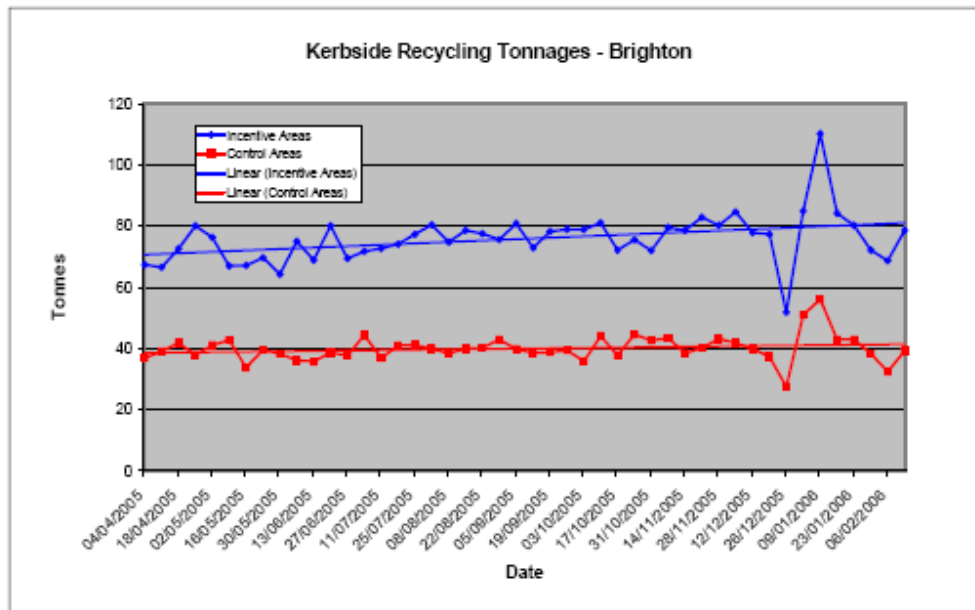
Appendix 1 SCHOOL SCHEMES: DETAILS OF QUANTITATIVE DATA

1.1 Brighton & Hove

Across: ten schools covering 26,900 hh; kerbside recycling tonnages.

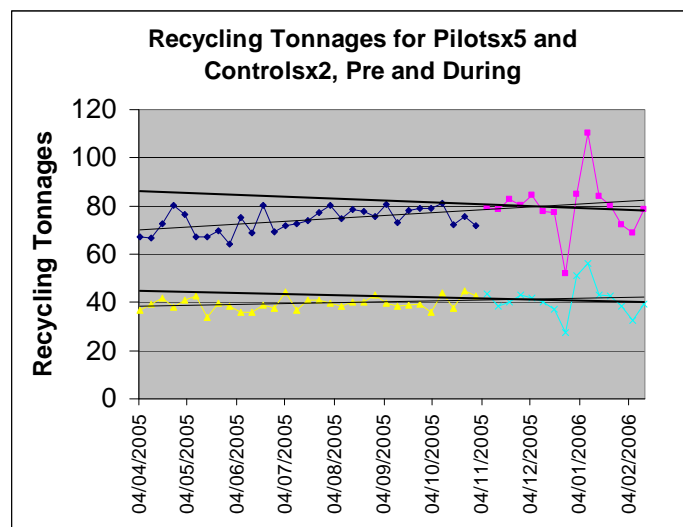
Data Summary – net increase in recycling tonnages overall, in areas near schools, of 8.5% (6.2 stdev)

B&H in their Final Data file show they took increases since April 2005 for controls vs pilots and got increases of -5.8% and 9.9% respectively. Note: Project Launch was: 4/11/05.



WERG analysis of data:

All the data clearly shows a systematic climb of recycling tonnages throughout 2005/6. In fact, if trend of pre-data is extrapolated it shows the climb slowed down during pilot period for both controls x5 and pilots x2 (bottom line):



I have decided to use the standard method for all data from all local authorities where possible: use 4 weeks Pre against actual Pilot period. For Brighton this gives 5.5(3.7) % increase versus a 2.8(4.3)% decrease for the controls, giving a net effect of 8.5% increase. The standard deviations for each number are given in brackets, and their combination gives a net uncertainty (standard deviation) of 6.2%.

	Pilot Rounds					Sum of Pilots	avg Pilot	Control Rounds		Sum of Controls	avg Control
	Pilot 1	Pilot 2	Pilot 3	Pilot 4	Pilot 5			Control 1	Control 2		
Average Tonnages of 4wks Pre-period	20.4	16.9	10.7	12.9	14.3	75.2	15.0	19.6	22.7	42.3	21.1
standard deviation	1.6	3.3	0.4	1.2	1.6	4.3	0.9	1.3	2.9	3.1	1.6
Average Tonnages of 15 weeks Pilot	21.5	17.7	10.7	14.1	15.6	79.5	15.9	19.6	21.4	41.0	20.5
standard deviation	2.4	3.7	2.2	2.5	3.4	11.9	2.4	2.9	4.4	6.7	3.4
%increase of Pilot over Pre-period	5.3	4.5	0.0	9.2	8.6		5.7	0.2	-5.9		-3.1
average % increase of Period over Pre-period	5.5 (stdev 3.7)							-2.8 (stdev 4.3)			
Overall effect of incentive						8.5 (stdev 6.2)					

1.2 West & East Sussex (schools project) - Lewes Scheme

Across eight primary schools covering 20,000 hh; kerbside recycling tonnages. Data Summary – net increase in recycling tonnages at kerbside throughout town of 16.3% (7.5 stdev)

Evaluating and standardising the data with 4 weeks of baseline (Sept), the pilot from Nov-Feb inclusive, gives an increase over baseline of 18.3% with a standard deviation of 7.2. Considering the control rounds, it is now known that a major change occurred in January (change in rounds), so the control data is only valid up to end of December, during which time an increase of 1.9% (standard deviation 2.2) is seen. Overall, the trials increased 16.3% more, with a standard deviation of 7.5.

Recycling (kg) Collected before, during and after Pilot scheme

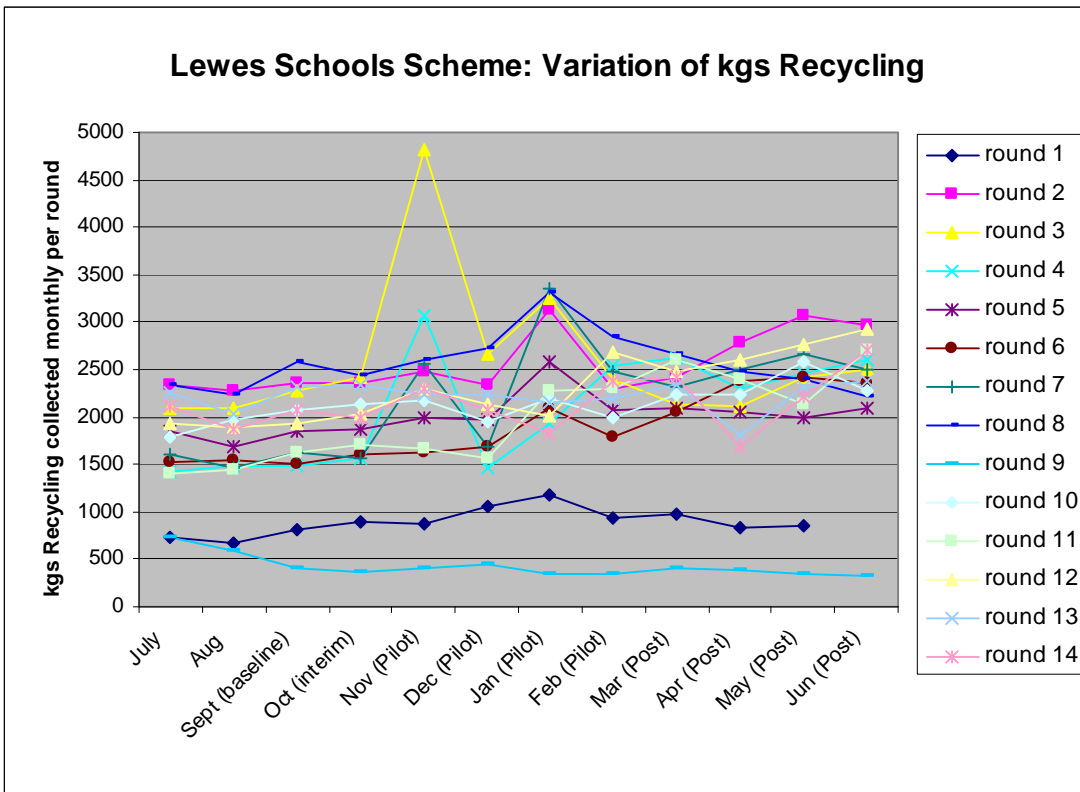
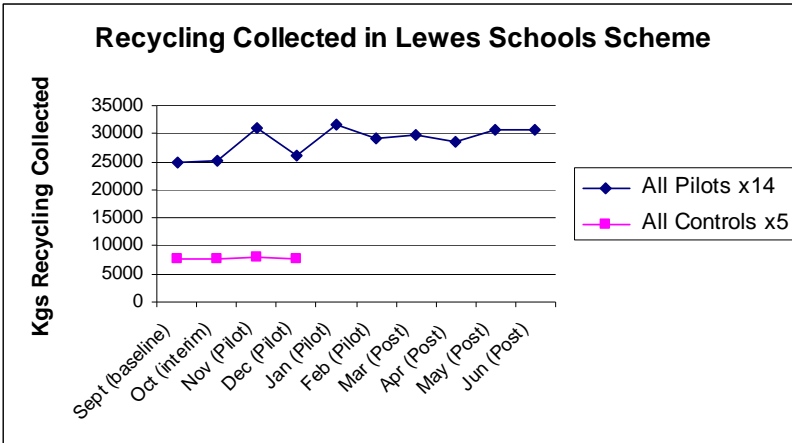
	Sept baseline	Oct interim	Nov Pilot	Dec Pilot	Jan Pilot	Feb Pilot	Mar Post	Apr Post	May Post	Jun Post
All Pilots x14	24940	25301	31126	26020	31662	29239	29740	28586	30653	30555
All Controls x5	7669	7718	8010	7726						

Percentage Changes in Pilots and Controls

	Sept baseline	Oct interim	Nov (Pilot)	Dec (Pilot)	Jan (Pilot)	Feb (Pilot)	Mar (Post)	Apr (Post)	May (Post)	Jun (Post)

All Pilots (x14)	0	1.4	24.8	4.3	27.0	17.2	19.2	14.6	22.9	22.5
Control x5	0	0.6	4.5	0.7						

avg inc	stdev	net inc
18.3	7.2	16.3
1.9	2.2	7.5



1.2 West & East Sussex (schools project) - Rother Scheme

Across one village primary school covering all 1,400 hh; bring bank recycling (materials not collected on kerbside scheme in village)

Data Summary – net increase in recycling volumes at village bring bank site of 21.5% (9.1 stdev).

Oct (Baseline)	573	
Nov (Interim)	580	1.2
Dec (Pilot)	669	16.8
Jan (Pilot)	756	31.9
Feb (Pilot)	663	15.7
Nov '06 (Post)	642	12.0

21.5 average
9.1 stdev

1.2 West & East Sussex (schools project) - Horsham Scheme

Across two sub-primary schools covering 800 hh; tonnages of glass in bring banks (not collected at kerbside).

Data Summary – net increase of 8.7% (9.4 stdev) in glass recycling tonnages at bring banks in large rural village. The data is considered weak for this project due to technical difficulties in getting Nov and Dec data, and large range in the only two measurements taken.

The AEA Report quotes results as 9% tonnage increase relative to initial baseline – the same. The value quoted here uses standardised analysis for comparison; 4 weeks for baseline prior to pilot.

STEYNING

	tonnes (approx)	% change
Oct (Baseline)	3.45	
Nov		
Dec		
Jan (Pilot)	3.98	15.4
Feb(Pilot)	3.52	2.0
		8.7 avg
	0.3	9.4 stdev

1.2 West & East Sussex (schools project) - Adur Scheme

Across two sub-primary schools covering 1600 hh; tonnages of kerbside plus bring bank recycling in the urban village.

Data Summary – net DECREASE in glass recycling tonnages at bring banks in large village of 4.6% (7.5 stdev). The data shows the incentives did not work here.

The AEA Report quotes results as -5% tonnage increase relative to initial baseline – the same. The value quoted here uses standardised analysis for comparison; 4 weeks for baseline prior to pilot.

Sompting Data		from full WERG report	
		Weight	% change
Baseline	2.6	2619	
Nov	2.8	2793	6.656485
Dec	2.4	2405	-8.15258
Jan	2.4	2405	-8.15258
Feb	2.4	2385	-8.93471
			-4.6 average
			7.5 stdev

1.3 Lancashire (schools project)

Across schools covering c90,000 hh in Lancashire and Cumbria; kerbside recycling tonnages.

Data Summary – pledging households had a participation rate of 77% (N=644) versus non-pledging households with 63% (N=20,348) suggesting increase of 14%. Recycling tonnages went up relative to same period last year but more recent baselines are not available, service changes occurred and a prize-draw scheme operated at the same time, making this data unsuitable.

There were two schemes piloted in Lancashire, one distributing scratch cards to people participating in their kerbside recycling scheme and the second encouraging people to “pledge to recycle” in order for their schools to benefit.

The effects of the two schemes will be intrinsically impossible to separate, and the data is further affected by significant changes to services in some areas. For example during 2004 Burnley withdrew their kerbside recycling services, reinstating them in March 2005, leading to their apparently large increase in performance. However, dry recycling figures are still provided for the trial period and same period one year earlier.

Dry Recycling tonnages October – March

District	2004/05	2005/06	% change
Burnley*	1,412	3,650	158
Chorley*	2,204	4,079	85
Fylde	2,026	2,311	14
Hyndburn	2,321	2,413	4
Lancaster	2,914	2,967	2
Pendle*	1,846	3,174	72
Preston	3,021	3,653	21
Ribble Valley	868	924	6
Rossendale	1,999	2,113	6

South Ribble	2,538	3,120	23
West Lancs.	1,955	2,801	43
Wyre	2,207	3,710	68

*see text for comments

The largest improvements in performance can be seen to be in areas where service has been improved e.g. Pendle and Chorley. However where there have not been major service changes there have still been improvements in tonnages for the comparable period.

The average change in tonnages since previous year is 21% (stdev22), not counting the areas with reported service changes. However, this data cannot be used as an indication of effects of the incentives schemes as too many other things are likely to have influenced it since the previous year.

1.4 Durham

Across schools covering 22,000 hh in five areas; kerbside recycling tonnages. Data Summary –Recycling tonnages went up 21% relative to a pre-scheme baseline (standard deviation 15). In comparison, in the same period the previous year a rise of 5% (7stdev) was found. This indicates a clear effect.

The AEA Report quotes results as 13% tonnage increase relative to previous year. The value quoted here uses standardised analysis for comparison; 4 weeks for baseline prior to pilot.

	2005/6 tonnages	% changes
Sept (baseline)	1776	
Oct (baseline)	1729	
Nov (interim)	1839	
Dec (pilot)	1826	6
Jan (pilot)	2521	46
Feb (pilot)	1925	11
Mar (pilot)	2095	21
avg	1959	21
stdev	255	15

1.5 Leicester

Across schools covering 245,000 hh; kerbside recycling tonnages

Data Summary – Recycling tonnages did not change, with data showing 0.9% increase within a standard deviation of 8.3%. This indicates a non-effect. Participation rates were taken post-scheme (March 2006) to show 67% (12stdev) across the county (detailed by area) to compare with rates of 59% (17stdev) in 2004 and a reported 72% for 2005/6. Overall, these show not clear change.

The AEA Report suggests qualitative recycling tonnages relative to the previous year, suggesting possible increases. These are not borne out, on further investigation. The report also mentions participation rates that will be available; these have not been given (but are unlikely to have been useful as the baseline rate was already rather high at 72% averaged across the county.)

2005-06	tonnages	%change	
Sep	4326		baseline
Oct	4127		interim
Nov	4384	1.3	pilot
Dec	4048	-6.4	pilot
Jan	4869	12.6	pilot
Feb	4002	-7.5	pilot
Mar	4530	4.7	pilot
avg		0.9	
stdev		8.3	

1.6 East Staffordshire

Across three rural wards covering 2,400 hh; bring bank tonnages in areas with no kerbside scheme.

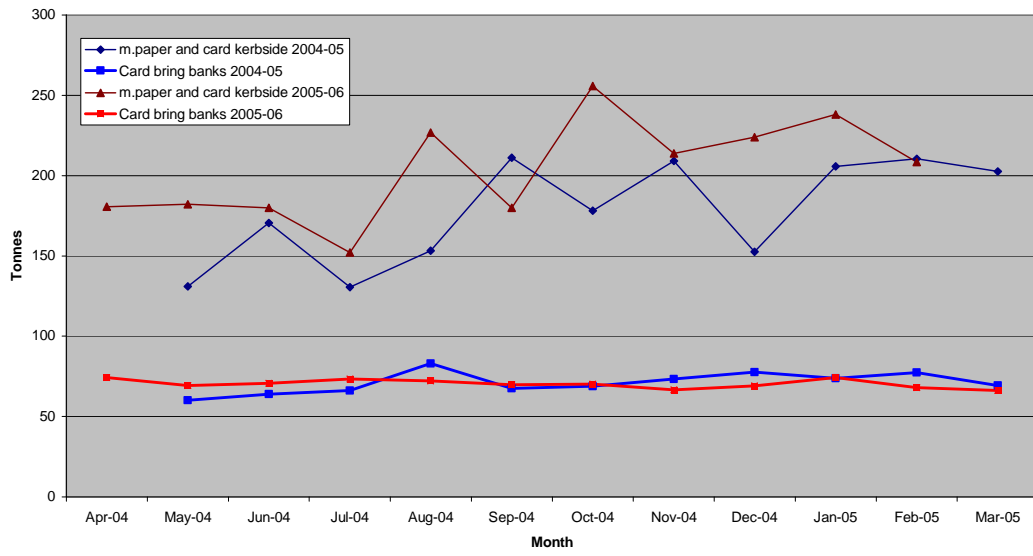
Data Summary – new bring banks sites were arranged for in three rural parishes where previously they were difficult. New tonnages totalled 2-3t per month per parish by March 2006, and as scheme is an ongoing one, they have continued, with levels maintained one year later. Data is not reported for tonnages at new sites outside those three parishes.

1.7 Redditch

Across 8 schools and 79,000 hh; bring bank tonnages for card, now to include corrugated card (which is not collected at kerbside).

Data Summary – tonnages of bring bank card did not change during pilot period – average of -1.1% change with standard deviation of 4.2. Tonnages of kerbside paper was also monitored in case it dropped with potential increased bring bank recycling, but at the same time new households were added to the scheme, so that data is unsuitable for this use.

Kerbside and Bring Tonnages - Reddich



Appendix 2 CASH AND NON-CASH INCENTIVES SCHEMES: DETAILS OF QUANTITATIVE DATA

2.1 Vale Royal

Every two months residents will receive a summary of their account showing their current total and what would be needed for the next voucher. An ASDA shopping voucher **up to** the value of £20.00 would be available to each property in the trial area if they fully participated in the kerbside scheme, during the six-month period.

		Tonnages (kg) collected each cycle (2 weeks)					
	Date	Control	%chan ges	Incentive A	%chan ges	Incentive B	%chan ges
baseline	09/11/2005	8324		8090		7760	
interim	23/11/2005	8260		6950		8650	
pilot	07/12/2005	8750	5.1	8610	6.4	7970	2.7
pilot	21/12/2005	6840	-17.8	9220	14.0	8300	7.0
pilot	04/01/2006	8100	-2.7	9030	11.6	9750	25.6
pilot	18/01/2006	8130	-2.3	9140	13.0	9780	26.0
pilot	01/02/2006	8160	-2.0	9250	14.3	9220	18.8
pilot	15/02/2006	8180	-1.7	9390	16.1	9430	21.5
pilot	03/03/2006	7870	-5.5	9880	22.1	9630	24.1
pilot	15/03/2006	8380	0.7	9300	15.0	10190	31.3
pilot	29/03/2006	9160	10.0	9560	18.2	11040	42.3
average			-1.8		14.5		22.2
stdev			7.6		4.3		11.9
net pilot					16.3		23.9
(- control)					8.8		14.2

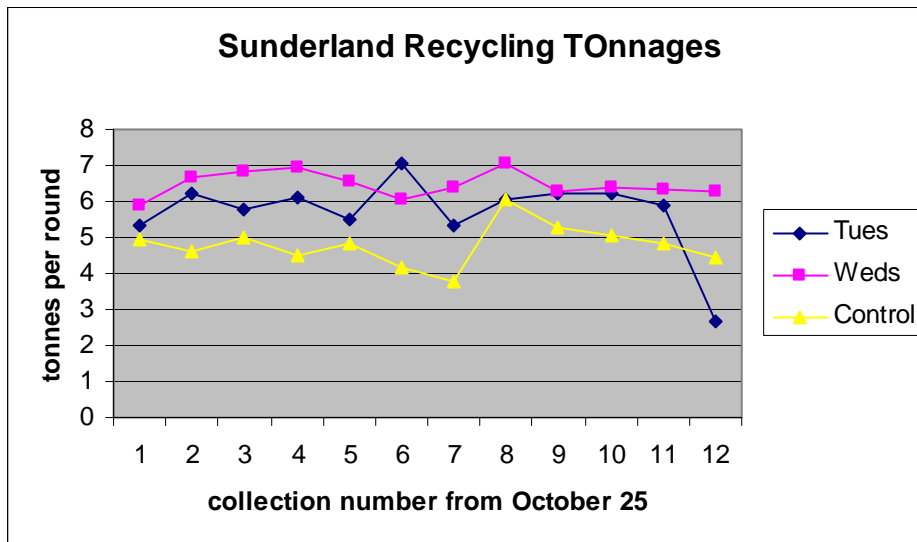
It is not clear why there are two Incentive/pilot sets of data; if they are actually two parts of the same pilot then their effects can be combined to give 18.3(9.6) for the pilot and 20.1(12.2) for the net effect (-control effect).

		Set Out Rates				Participation Rates			
	Date	Control	% chg	Pilot	% chg	Control	% chg	Pilot	% chg
baseline	09/11/2005	37		30		58		35	
interim	23/11/2005	37		35					
pilot	07/12/2005	41	10.8	34	13.3				
pilot	21/12/2005	21	-43.2	28	-6.7				
pilot	04/01/2006	39	5.4	34	13.3	58	0.0	50	42.9
pilot	18/01/2006	33	-10.8	41	36.7				
pilot	01/02/2006	37	0.0	39	30.0				
pilot	15/02/2006	39	5.4	41	36.7	62	6.9	51	45.7
pilot	03/03/2006	42	13.5	37	23.3				
pilot	15/03/2006	34	-8.1	36	20.0				
pilot	29/03/2006	43	16.2	41	36.7	61	5.2	50	42.9
avg			-1.2		22.6		4.0		43.8
stdev			18.2		14.5		3.6		1.6
net pilot	(-control)				23.8				39.8

2.2 Sunderland

Across 1500 hh, with 1000 control hh. £25 cash for 7/9 set outs.

Sunderland’s results were reported as recycling rates, which involves measuring recycling tonnages as well as residual tonnages. The latter especially can vary substantially from collection to collection, with this variation potentially easily wiping out the small changes potentially expected from the scheme. WERG has thus gone back to the more specific data; recycling tonnages on each of the rounds, as shown below. There is no proper baseline, but an approximation has been made by using the first point, as pilots and controls have a similar value, and the scheme is unlikely to have fully started. This is not ideal, but should be acceptable to then allow comparisons of pilot vs control. NB: Sunderland ran a prize draw scheme which is discussed later in Section 5: the data is included below as the Weds scheme. The Tues scheme is relevant to discussion here on cash incentives.



Tues	Weds	Control
wts	wts	wts
%chg	%chg	%chg
5.34	5.88	4.93
baseline	baseline	baseline
6.24	6.66	4.62
16.9	13.3	-6.3
5.78	6.81	4.98
8.2	15.8	1.0
6.12	6.94	4.51
14.6	18.0	-8.5
5.52	6.54	4.82
3.4	11.2	-2.2
7.04	6.08	4.18
31.8	3.4	-15.2
5.32	6.38	3.8
-0.4	8.5	-22.9
6.08	7.06	6.08
13.9	20.1	23.3
6.2	6.28	5.28
16.1	6.8	7.1
6.22	6.37	5.06
16.5	6.37	2.6
5.9	6.35	4.86
10.5	6.35	-1.4
	6.29	4.472
	7.0	-9.3
avg	13.1	10.9
stdev	8.8	5.2
		12.1

net effect	16.0	13.8
stdev	15.0	13.2
	(Cash Scheme)	(Prize draw Scheme)

Similarly, set out rate data for each road in each set was analysed, but it showed no effect.

2.3 West & East Sussex

This project actually consisted of a suite of different pilots, carried out with different parameters. For example, the value of the vouchers was different on different schemes, as was the initial baseline participation rate, and the demographic makeup. These parameters were analysed across the suite of pilots, to allow correlation with levels of increased performances.

Thus, it is not suitable to report the results of these sub-pilots grouped together; they have different characteristics yielding different conclusions. They really are individually valid and some of the rich information they yield is noted in the summary table.

In Section 6 of this report the conclusions from detailed analysis of trends in the Sussex data are presented. In particular, that increases do not depend on deprivation levels, and that further increases in participation rates already above 65% is unlikely through these incentives. Also, rewards based on individual household performance are much more successful than those on large groups such as collection rounds, or even blocks of flats. Vouchers need to be worth around £1 or more to be effective, and shops need to be nearby or supermarkets. Lastly, individual feedback was seen to be an important factor.

A full analysis of all the West & East Sussex schemes is available on the website: www.brighton.ac.uk/WERG. These particular sub-pilots have been written up for an academic journal and are in press with Resources, Conservation, Recycling.

Data on Cash Vouchers

Participation Rate Data			Selden		Wick (Box)	
Castle			£2.50		£1.25	
£2.50 or 50p						
Pre	58	baseline	54	baseline	59	baseline
Post						
1	61	5.2	60	11.1	78	32.2
Post						
2	61	5.2	58	7.4	75	27.1
Post						
3	62	6.9	54	0.0	70	18.6
Post						
4	-		-		72	
Avg						
%change		5.7		6.2		26.0
stdev		1.0		5.7		6.8
Participation Rate Data						

	Wick (volume) 75p plus 50p	Eastbourne Th 50p	Eastbourne Fri £1
Pre	72 baseline	56 baseline	46 baseline
Post 1	81 12.5	61 8.9	54 17.4
Post 2	85 18.1	54 -3.6	50 8.7
Post 3	85 18.1	-	-
Post 4	86	-	-
Avg			
%change	16.2	2.7	13.0
stdev	3.2	8.8	6.1

Set Out Data			Selden £2.50		Wick (Box) £1.25	
	Castle £2.50 or 50p					
Pre	34 baseline		32 baseline		47 baseline	
Post 1	39 14.7		47 46.9		59 25.5	
Post 2	48 41.2		46 43.8		62 31.9	
Post 3	51 50.0		47 46.9		59 25.5	
Post 4					59	
Avg						
%change	35.3		45.8		27.7	
stdev	18.4		1.8		3.7	

Set Out Data						
	Wick (volume) 75p plus 50p	Eastbourne Th 50p	Eastbourne Fri £1	Diplocks 25p,75p,125p		
Pre	53.3 baseline	43 baseline	34 baseline	48 baseline		
Post 1	69.4 30.2	48 11.6	37 8.8	49 2.1		
Post 2	75.05 40.8	42 -2.3	37 8.8	55 14.6		
Post 3	76.55 43.6			35 -27.1		
Post 4	71.94					
Avg						
%change	38.2	4.7	8.8	-3.5		
stdev	7.1	9.9	0.0	21.4		

In two areas the vouchers were given out depending on the participation of a group the previous collection. In Diplocks it was by apartment blocks with about 10 households; in Town Farm it was by all households on the collection round i.e. c660. The increases shown below show that a small increase (in volume terms) is obtained for the flats but no significant increase for the round:

Other Quantities measured			
	Volume units	Volume units	Increase
Diplocks Flats	730	789	8%
Town Farm	Tonnes collected	Tonnes collected	Increase

Paper	3.80	3.89	2%
Cans	0.42	0.48	14%

West & East Sussex Data on Leisure Vouchers

As for the cash vouchers discussed in the section above, leisure voucher schemes in West & East Sussex were designed as a suite which would yield rich comparative data across a range of varied parameters, this time including type of leisure reward, deprivation level, distance from leisure centre, and initial participation rate.

Baselines were always taken, usually for one month.

Briefly, the leisure centre needed to be moderately close by, and the initial participation rates would improve more the lower they started; those above 65% did not increase much further. The scheme requiring three vouchers for one reward – a free swim – was not as successful as the scheme where each voucher was worth 50p off a swim (and could be used together).

Further details are given in Table 2 in main section, and in the fuller reports on the University of Brighton's website:

<http://www.brighton.ac.uk/werg/incentives/incentives.html>.

Participation Rate Data		HaywardsWeds		HaywardsThur		Ore	
		3 for a swim		3 for a swim		50p off swim;£1leisure	
Pre	62	baseline	43	baseline	26.6	baseline	
Post 1	75	21.0	43	0.0	48.4	81.8	
Post 2	72	16.1	43	0.0	44.4	66.7	
Post 3	67	8.1	46	7.0	51.3	92.9	
Post 4	-		-				
avg change		15.1		2.3		80.5	
stdev		6.5		4.0		13.2	

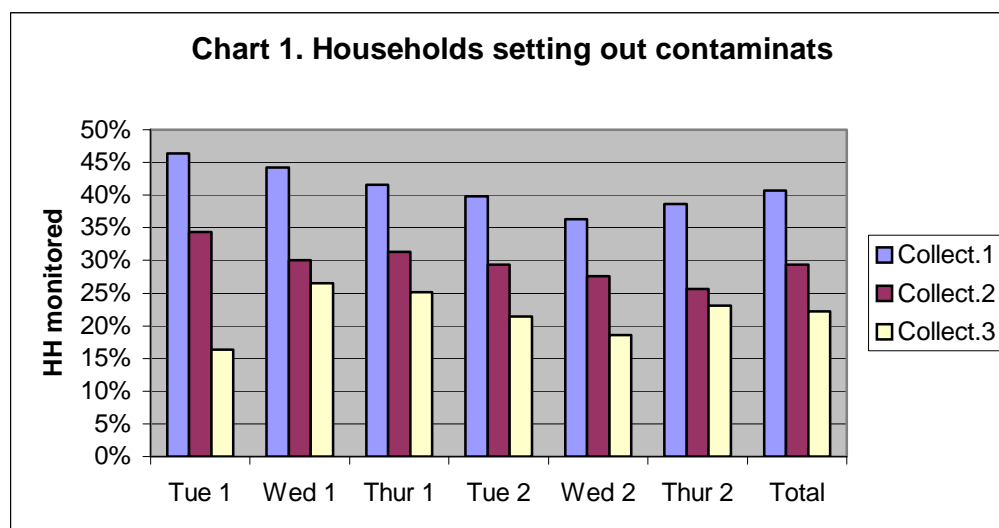
Participation Rate Data		Braybrooke		Old Hastings		Conquest	
		50p off swim;£1leisure		50p off swim;£1leisure		50p off swim;£1leisure	
Pre	47.87	baseline	47.39	baseline	65.6	baseline	
Post 1	64.41	34.6	64.66	36.5	67.9	3.5	
Post 2	70.43	47.1	66.24	39.8	72.1	9.8	
Post 3	62.66	30.9	58.16	22.7	66.7	1.6	
Post 4			-		-		
avg change		37.5		33.0		4.9	
stdev		8.5		9.0		4.3	

2.4 Hampshire

Hampshire ran two independent incentives schemes. This one offered householders a green or red sticker depending on the level of contamination in their recycling bin. Those achieving 2 green stickers could ask for a £20 voucher towards an experience.

The main objective was realised; over 50% increase in uncontaminated bins was achieved. No increases in participation rates were seen, but in hindsight this is not surprising as across the schemes it was found that rates of over 65% were not much affected by these incentives.

There is data on tonnages showing no change in them, which is understandable. However, there is no continuous data on changing contamination rates, only an initial value (36%) an interim value (increase of 50%) and a final value (70%). Thus it is not possible to represent this scheme in the standardised manner of the other schemes in this report. However, there is no doubt that the increases are excellent.



Collection 1	baseline	baseline	baseline	baseline	baseline	baseline	baseline	baseline
Collection 2	27.5575	22.8248	26.6055	41.9807	18.6516	-23.245	33.0375	24.3113
Collection 3	33.1049	30.1983	41.7906	53.5495	33.0264	24.2891	47.0237	40.1826
Collection 4	55.9471	58.0534	50.6485	-64.943	-53.371	41.4755	56.5417	49.0711
avg change	38.8699	37.0255	39.6815	53.4911	35.0163	29.6698	45.5343	-37.855
avg of all	-39.6							
stdev	13.5							

There were many interesting lessons learned in this scheme, and well documented.

Appendix 3 COMMUNITY SCHEMES: DETAILS OF QUANTITATIVE DATA

3.1 Calderdale

Across: 1 community of c5,000 hh; control of similar size; kerbside recycling tonnages.

Data Summary –recycling tonnages appeared to rise and then fall; no net effect seen.

3.2 Nottingham

Across: 6 communities of c1,000 hh each; 2 controls of similar size; kerbside recycling weights vs. same round residual weights; set out rates.

Data Summary –many months of pre-pilot data collected, late start in Feb 2006 followed by strike in one area.

Much pre- data is supplied.

Nottingham’s Own Report provides an approximate calculation of increases.

Rushcliffe pilot: residuals -8.5%, recycling +14.5% (from three at +55, +22.6, -6)

Rushcliffe control: residuals -3.8%, recycling -12.9%

Mansfield pilot: residuals -10.6%, recycling -2.7%,

Mansfield control: residuals -0.2%, recycling -5.9%

3.3 Breckland

Across: 1 community of 1,148 hh; % of non-contaminated set-outs measured.

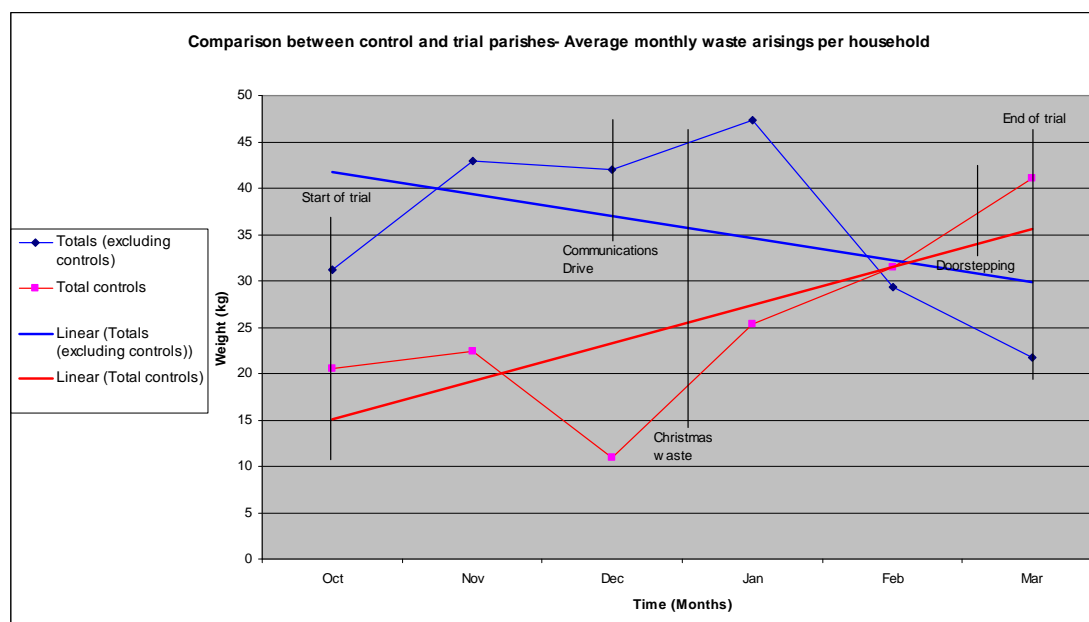
Quasi-baseline	% not contaminated	% increases
86.2		
82.6	84.4	baseline
	90.6	7.3
	93	10.2
	92.6	9.7
	93.5	10.8
	95	12.6
	95	12.6
	90	6.6
	93.6	10.9
Avg		10.1
stdev		2.2

3.4 South Norfolk

**Across: 4 communities (2 rural, 2 urban) and 2 controls, totalling c4000 hh
Half offered community incentives, half offered individual level (prize draw).**

Technical problems with bin weighing lost all but three trial data sets.

Basically, as not all data were recorded, the analysis focussed on kg/hh each for residuals and recycling. Interestingly, the pilots showed a DECREASE in residuals waste, and this data was also available for the controls which showed INCREASES. However, without seeing longer term variations I think it would be unwise to say this was due to the incentives – the data looks like it is about to turn.



Note; the urban and rural areas apparently had the same behaviour in reduced waste arising – there is a good figure in the Own Final Report.

Note: the reports say the councils will continue further two months but this data is not yet ready. It will be quite helpful.

In the meantime, there is data on the recycling and residuals for the three pilots; just on its own the recycling data shows a small increase. I took the numbers from this graph to calculate a standardised overall change (using Oct as a quasi-baseline):

	kg/hh recycling		kg/hh residuals	
Oct	9.6	~baseline	19.4	~baseline
nov	9.7	1.0	19.4	0.0
dec	9.7	1.0	18.8	-3.1
jan	9.6	0.0	18.3	-5.7
feb	9.6	0.0	18.3	-5.7
mar	10	4.2	17.6	-9.3
avg		1.3		-4.7
stdev		1.7		3.4

3.5 Bromley & Sutton

Across: Several small communities e.g. blocks of flats. Champions trained and rewarded, and communities rewarded for improvements.

The volumes from each were recorded weekly and averaged fortnightly. Summed pilots and controls are given below, where data is processed in the standardised method.

Below is data assuming the scheme properly started after first fortnight. I think it was slow starting, and so I have also worked out as if start was when the champions first met, which would make fortnights 1-4 baseline and pilots 5-11. Either way, it is not possible to show a net increase.

	Pilots vols		Control vols	
fortnight 1	29105	baseline	11840	baseline
fortnight 2	27960	-3.9	12525	5.8
fortnight 3	29610	1.7	11325	-4.3
fortnight 4	28750	-1.2	12465	5.3
fortnight 5	31255	7.4	12825	8.3
fortnight 6	27600	-5.2	10390	-12.2
fortnight 7	33245	14.2	12525	5.8
fortnight 8	28815	-1.0	10100	-14.7
fortnight 9	29400	1.0	10400	-12.2
fortnight 10	32315	11.0	12380	4.6
fortnight 11	32390	11.3	11228	-5.2
	avg	3.5		-1.9
	stdev	6.9		8.9
	net effect (w/ control)	5.4		11.2

Below is the data assuming fortnight 5 was first real one:

	Pilots vols		Control vols	
	28856	baseline	12039	baseline
	31255	8.3	12825	6.5
	27600	-4.4	10390	-13.7
	33245	15.2	12525	4.0
	28815	-0.1	10100	-16.1
	29400	1.9	10400	-13.6
	32315	12.0	12380	2.8
	32390	12.2	11228	-6.7
	avg	6.4		-5.2
	stdev	7.4		9.6
	net	11.7		

**effect
(w/
control) 12.1**

Many of the residents who acted as Recycling Champions have maintained contact with the Bromley officer who co-ordinated the trial. This contact is largely to do with operational issues (damage to containers, questions from other residents, emptying schedules etc), but demonstrates continuing commitment and ongoing communications with other residents.

3.6 Alnwick

Across: 19 communities over 2604 urban and 984 rural hh; localised recycling and residual weights used to produce mini-recycling rates.

The data was provided for all 19 communities, and WERG has analysed it in standard format. The result is shown below in bold: overall increase of 2.7 but with standard deviation of 57.3. Separated into rural vs urban, both have huge stdevs, but the urban shows more increase.

Team	RecRate Shilbottle Rural	%increase Parish	RecRate Acklington Rural	%increase Parish	RecRate Warkworth Rural	%increase Parish
baseline	0.28431	baseline	0.18239	baseline	0.22622	baseline
November	0.186	-34.658	0.206	12.986	0.225	-0.650
December	0.191	-32.780	0.251	37.398	0.251	11.006
January	0.187	-34.109	0.213	16.657	0.197	-13.084
February	0.162	-43.138	0.206	12.753	0.261	15.320
March	0.160	-43.784	0.226	23.672	0.196	-13.446
avgs		-37.7		20.7		-0.2
stdev		5.3		10.3		13.3
stdev ²		28.2		106.7		177.0

avg ALL **2.7**
stdev **57.3**

avg rural **-0.2**
stdev **54.3**

avg town **6.6**
stdev **18.3**

RecRate	%increase	RecRate	%increase	RecRate	%increase	RecRate	%increase
Lesbury Parish Rural		Edlingham Parish		Hedgeley Parish		Eglington Parish	
0.25817	baseline	0.24174	baseline	0.28752	baseline	0.20043	baseline
0.254	-1.688	0.264	9.156	0.246	-14.445	0.265	32.163
0.241	-6.503	0.215	-11.265	0.209	-27.200	0.232	15.903
0.223	-13.764	0.227	-6.044	0.173	-39.702	0.192	-4.358
0.301	16.566	0.205	-15.128	0.182	-36.629	0.173	-13.665
0.276	6.734	0.194	-19.735	0.185	-35.591	0.197	-1.642
	0.3		-8.6		-30.7		5.7
	11.8		11.1		10.2		18.3
	138.5		123.9		104.1		333.6

RecRate	%increase	RecRate	%increase	RecRate	%increase	RecRate	%increase
Rennington Parish		Longhoughton Parish Rural		Newton by the Sea Parish Rural		Rural combined	
0.20261	baseline	0.19861	baseline	0.21211	baseline	0.22941	baseline
0.224	10.390	0.251	26.208	0.241	13.493	0.236	2.882
0.265	30.849	0.236	18.847	0.222	4.832	0.231	0.861
0.366	80.499	0.156	-21.403	0.180	-14.942	0.211	-7.861
0.268	32.142	0.136	-31.665	0.175	-17.663	0.207	-9.872
0.373	83.862	0.231	16.301	0.205	-3.163	0.224	-2.271
	47.5		1.7		-3.5		-3.3
	32.8		26.2		13.1		[5.5]
	1075.4		688.7		172.4		

URBAN

Team	RecRate	%increase	RecRate	%increase	RecRate	%increase
	Chapel Lands		Alnwick Central		Clayport	
baseline	0.27857	baseline	0.27439	baseline	0.20797	baseline
November	0.298	7.014	0.296	7.960	0.241	15.969
December	0.313	12.306	0.326	18.822	0.214	3.029
January	0.317	13.747	0.288	4.911	0.233	12.085
February	0.315	12.922	0.273	-0.603	0.223	7.367
March	0.293	5.184	0.265	-3.531	0.206	-1.031
		10.2		5.5		7.5
		3.9		8.7		6.8
		14.9		75.7		46.4

RecRate	%increase	RecRate	%increase	RecRate	%increase	RecRate	%increase
Barresdale & Alwynside		Allerburn Lea		Alnwick south east		Cornhill	
0.18103	baseline	0.28324	baseline	0.29463	baseline	0.22267	baseline
0.194	7.207	0.314	10.877	0.306	3.694	0.246	10.349
0.199	9.745	0.312	10.047	0.320	8.649	0.252	13.127
0.207	14.076	0.303	7.019	0.304	3.088	0.263	18.296
0.185	2.471	0.305	7.651	0.311	5.452	0.268	20.409
0.182	0.751	0.291	2.882	0.301	2.302	0.265	19.033
	6.9		7.7		4.6		16.2
	5.4		3.1		2.5		4.3
	29.3		9.8		6.4		18.5

RecRate	%increase	RecRate	%increase	RecRate	%increase
Lindisfarne		Fairfield		Alnwick combined	
0.31538	baseline	0.25742	baseline	0.25725	baseline
0.323	2.355	0.290	12.704	0.279	8.314
0.299	-5.279	0.275	6.938	0.279	8.390
0.308	-2.423	0.270	4.939	0.277	7.653
0.274	-13.053	0.263	2.089	0.269	4.385
0.235	-25.572	0.271	5.383	0.257	-0.237
	-8.8		6.4		5.7
	10.9		3.9		3.7
	119.2		15.4		

What is clear is that if all the schemes are considered similar, the data shows not clear effect. But if the individual schemes have significant differences, not noted so far, like different deprivation levels, initial recycling activity, size of community, etc, then they really should be analysed separately. Certainly the huge variation in effects from individual schemes suggests a closer look at these is worthwhile. This suite of data could actually provide a rich set of lessons if more information on each scheme is available.

3.7 West & East Sussex

Across: 3 village communities (using participation rates) and 3 urban communities in flats (+1 control) using recycling volumes.

The villages, unexpectedly, did not have strong community interaction via the Parish Councils. The blocks of flats, however, had active groups which interacted much with the pilot organisers.

Variation in Recycling Volumes Hastings

	Halton		Bevin/Roosevelt		Kennedy/Churchill		Alex(control)	
Pre	25.3	baseline	16.8	baseline	9.0	baseline	14.5	baseline
Post 1	25.6	1.4	20.8	24.2	14.2	57.6	14.8	1.8
Post 2	22.8	-9.8	18.6	10.6	15.0	66.4	14.4	-0.8
Post 3	22.2	-12.0	28.8	71.5	22.6	151.7	16.1	10.7
avg inc		-6.8		35.4		91.9		3.9
stdev		7.2		32.0		52.0		6.0
net increase		-10.7		31.5		88.0		
stdev		9.4		32.5		52.3		
		no		no		yes		
avg scheme		36.3						
stdev		34.6						
		no						

Variation in Participation Rates: MidSussex

	Cuckfield		West Hoathly		Handcross	
Pre	62	baseline	61	baseline	63	baseline
December	63	1.9	68	11.9	56	-11.8
January	64	4.2	63	3.4	56	-10.9
February	57	-6.8	64	5.1	47	-25.5
avg inc		-0.3		6.8		-16.1
stdev		5.8		4.5		8.1
		no		no		no
avg scheme		-3.2				
stdev		7.9				
		no				

3.7 Hammersmith & Fulham and Lambeth

Across: 4 estates and 4 controls in each of the two boroughs; some high, med and low rise flats; tonnages recorded (but severe recording problems)

This project had significant recording data problems and had blanks peppered throughout. As it stands, the data does not show any clear effect. I believe it is possible to rework this data if it is assumed that any collection in a given month is representative of that month.

See data file for more information. One particularly good aspect of it is that detailed data is provided for every estate separately.

3.8 Haringey

Across: all 95,000 hh; FOUR types of incentives used simultaneously;

- **two-tier random prize draw,**
- **pool of charities benefit if recycling rate targets are met,**
- **Area Assemblies receive extra £5000 more each if participation rates go up past 60%,**
- **individuals and organisations can compete for “Recycler of the Year” awards.**

(This scheme is classed as ‘community’ in this report as it is now known that most of the prize draws had little effect.)

The data that is provided clearly shows that this project was very successful. However, only baseline and final values are given, so it has not been possible to standardise the data to the same format as the other schemes in this report.

3.9 Islington, Enfield and Hackney

Across: 12 pilots and 18 controls across the three boroughs; including high, med and low rise flats; tonnages recorded and converted to kg/hh. Prize of £1,500 per borough (once, at end).

Much variation was seen between different schemes, and overall one borough each gave good, no and uncertain increase results. It is possible that more lessons could be learned by exploring why some estates did well and others did not; an idea for further work (which assumes information on the qualitative differences is available).

	Islington pilot		Islington Control		Hackney pilot		Hackney control		Enfield pilot		Enfield control	
	ton	increase	ton	increase	ton	increase	ton	increase	ton	increase	ton	increase
Sept	3.4	baseline	5.4	baseline	4.2	baseline	5.2	baseline	7.5	baseline	10.0	baseline
Oct	2.8	-17.3	5.7	4.8	3.6	-12.4	5.2	0.0	11.3	52.1	8.5	-15.0
Nov	2.5	-26.8	5.1	-6.2	3.4	-17.5	4.8	-7.7	9.6	28.4	9.2	-8.0
Dec	2.5	-27.9	4.8	-12.1	5.0	19.5	5.9	13.8	12.1	62.9	11.3	12.2
Jan	3.3	-2.9	5.3	-2.5	4.5	8.7	4.3	-17.5	10.1	35.7	12.7	26.4
Feb	5.9	73.2	9.3	70.2	4.8	16.4	4.5	-13.2	9.8	31.0	11.5	14.1
Mar	3.0	-13.3	6.9	26.9	6.2	48.9	7.5	43.4	10.4	40.1	14.7	46.8
inc each scheme		-2.5		13.5		10.6		3.1		41.7		12.8
stdev		38.2		30.9		24.1		22.6		13.3		22.6
net inc		-16.0				7.5				28.9		
stdev		49.2				33.0				26.2		

avg net inc 6.8
 stdev 64.8

3.10 Hampshire

Across: 4400 hh, a specific and reasonably isolated community could receive £50,000 towards environmental gear if they met recycling targets.

The data shows a clear increase, but the size depends much on the baseline chosen. Using the standard method in this paper of only taking one previous month gives:

Monthly figures	Recycling	
June	51.73	
July	61.29	
August	55.87	
September	61.35	baseline
October	89.66	46.1
November	62.23	1.4
December	61.29	-0.1
January	93.73	52.8
February	84	36.9
March	75.99	23.9
		26.8
		22.5

For interest, using the August figure gives 39.3% (24.7) and using an average July-Sept inclusive gives 31.1% (24.4).

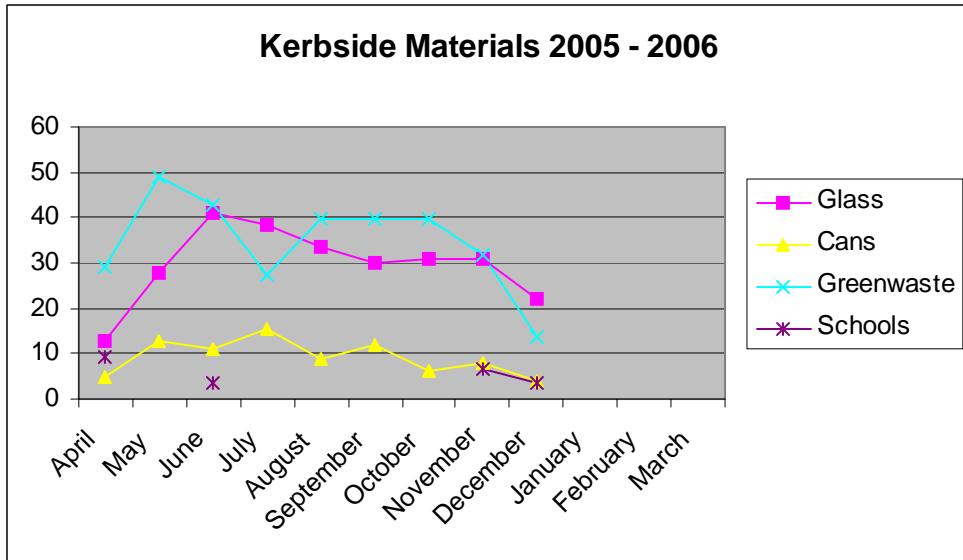
3.11 Slough

Across: blanket publicity; wards to have highest and most improved recycling to receive £2,500.

	Total Kerb (cans glass Paper)	
April		
May	281.1	
June	313.9	
July	312.9	
August	318.6	
September	380.2	baseline
October	333.4	-12.3
November	381.0	0.2
December	408.9	7.5
January	210.5	-44.6
February	390.0	2.6
March	370.0	-2.7
		-8.2
		19.0

This shows no clear effect was seen.

The data below was not used, but is interesting to show a general downward long term trend before baseline in Sept 06. Note paper and card are not given here; in separate graph used for them; mirrored in overall changes.



Appendix 4 PRIZE DRAW SCHEMES: DETAILS OF QUANTITATIVE DATA

4.1 St. Edmondsbury

Householders in five areas were able to place entry forms (hangers) on their bins if they thought they had set out one with no contamination or incorrect materials.

Winners in the prize draw could be individuals or schools.

Results for five areas:

	pre	Post	pre	Post	pre	Post	pre	Post	pre	Post
PERFECT bins	4369	3689	1072	1383	1868	2056	1074	1540	550	612
NOT perfect bins	2261	781	938	682	1194	909	493	472	243	185

Overall results:

PRE	PERFECT bins	8933	
	NOT perfect bins	5129	57%
POST	PERFECT bins	9280	
	NOT perfect bins	3029	33%

Clearly the scheme was a success with the number of imperfect bins reducing from 57% to 33%.

4.2 Newcastle-upon-Tyne

Across 102,000 households in Newcastle City. Prizes of varying value were available to individuals, who could nominate a local charity for an additional £100 if they won the £1000 prize. The scheme was run by a local NGO called Bin Waste, and the prizes offered were 'green'.

tonnages	
299.28	<u>%chg</u>
300.42	baseline
291.46	-3.0
252.98	-15.8
371.84	23.8
320.1	6.6
323.4	7.6
315.09	4.9
320.24	6.6
321.54	7.0
	4.7
	11.1

Thus, after four months of the trial there was a possible increase of 4.7% (11.1) in tonnages. But Newcastle was able to obtain support to continue the pilots, and after 12 months the data showed 5.9% (6.9).

Appendix 5: LIST OF REPORTS PRODUCED BY SOME PARTICIPATING AUTHORITIES

All of the following reports are available on this website:

<http://www.brighton.ac.uk/werg/incentives/hips.html>

Essex

Hampshire (Portsmouth) <http://www.portsmouth.gov.uk/media/et20061009r07.pdf>

Haringey

Lambeth (in preparation)

Lancashire

Leeds

Leicestershire Schools

Leicestershire - Participation Rates

Newcastle-upon-Tyne

Nottingham - Waste Composition

Vale (briefing note)

West & East Sussex