

Focus Report: Re-Charge Arrangements for Waste and Recycling Services in Schools

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For: Zero Waste Scotland

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Zero Waste Scotland was established in January 2010 to provide a single, Scotland-focussed delivery programme, driven by and aligned to deliver the Zero Waste Plan. The new programme integrates the activities of the following programmes: Waste Aware Scotland; Envirowise Scotland; Remade Scotland; Keep Scotland Beautiful; NISP; and the Community Recycling Network for Scotland.

The Caledonian Environment Centre is part of the School of the Built and Natural Environment, Glasgow Caledonian University and is supporting environmental research and policy development in Scotland.

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Executive Summary

Since 2005, Local Authorities have been undertaking efforts to improve their internal waste management and reduce internal waste arisings. In previous work, re-charge mechanisms, the internal billing arrangements for the provision of waste services, were identified as a key factor to the successful, or otherwise, uptake of internal recycling programmes. Despite price incentives to encourage recycling, these re-charge mechanisms do not appear to be having a significant impact on the uptake and use of recycling programmes.

This report further explores the issue of re-charge mechanisms through the lens of schools. Schools are used as a case study because they have scope to improve recycling rates and because they serve as an accessible example to better understand the broader issues around re-charge arrangements.

The issue around re-charge arrangements and other barriers were explored through interviews with waste officers from eight Local Authorities and Head Teachers from seven schools within those authorities.

Discussions revealed that re-charge mechanisms are neither a major barrier nor an incentive for the uptake of recycling in schools. Waste services typically comprise a small proportion of a school's budget and waste charges are not visible to head teachers. Thus, potential cost savings are not the primary driver for the uptake of recycling programmes. Schools are more driven to recycle for the educational value of recycling, to enhance their reputation, and to demonstrate their commitment to civic and environmental issues.

These findings provide a useful framework for understanding the issue of re-charge arrangements for other local authority premises. In general, re-charge mechanisms are likely to have little impact on the uptake of internal recycling programmes amongst local authority premises.

Efforts to improve recycling in schools and other local authority premises should focus on addressing other common barriers such as a lack of information about available recycling services, the high capital costs of acquiring recycling equipment (i.e. classroom boxes, bins for hallways), and support in monitoring and reviewing waste arisings to optimise the financial benefits of recycling.

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1. Introduction

Since 2005, Local Authorities have been undertaking measures to improve internal waste management by developing Waste Prevention Action Plans (WRAPs) with funding support from the Strategic Waste Fund. Beginning in 2008, the former Remade programme began providing research and strategic support to LAs' efforts to reduce internal waste arisings.

In 2009, a further review of LAs' progress of WRAP initiatives was undertaken.¹ This work identified eight factors that contribute to the success, or otherwise, of internal waste minimisation programme:

1. High level commitment
2. Ownership
3. Data
4. Adequate Resources
5. Behaviour Change and Education
6. Procurement
7. Operational
8. Re-charge Arrangements

Re-charge mechanisms—the internal billing mechanisms within Local Authorities for recovering the costs arising from internal service delivery—were identified as one of the eight factors that required further research. A follow-up study, undertaken in July 2009, identified four primary waste-related re-charge systems:

- discounted recycling,
- free recycling,
- external recycling procured by premise, and
- external recycling procured on behalf of each premise.

The study also explored the impacts of different re-charge mechanisms on the uptake of internal recycling schemes. Conversations with local authority waste officers revealed that efforts to incentivise recycling through discounted charging did not appear to be positively impacting recycling rates.²

Building on previous work, this focus report further explores the impact of re-charge mechanisms using schools as a case study. The primary objective is to examine how re-charge arrangements may incentivise, or otherwise, the uptake and use of recycling programmes within schools. Schools provide a useful case study because a variety of re-charge arrangements are represented in schools allowing for

¹ Strategic Overview of the Waste Prevention Planning Project Within Scottish Local Authorities. Remade Scotland. April 2008.

² Best Practice Focus Report: Re-charge Arrangements for Local Authority Waste and Recycling Services. Remade Scotland. July 2009.

comparisons. In addition, schools provide a useful framework for understanding the wider impacts of re-charge mechanisms within other LA premises.

An emphasis was placed on understanding the issues around re-charge arrangements from the perspective of both *service providers (waste officers)* and *end users (school officials)*. Of particular interest, was understanding the role of re-charge arrangements in the overall decision to uptake and continue recycling programmes within schools.

In addition, it was hoped that data modelling could be used to illustrate the potential financial and recycling rate impact of various re-charge arrangements. However, this was not possible due to a lack of data for individual schools, further highlighting the need for regular data collection and monitoring of school waste.

2. Overview of Re-Charge Arrangements

Re-charge arrangements are the internal billing mechanisms within Local Authorities for recovering the costs arising from internal service delivery. For waste services, re-charge arrangements refer to the accounting procedure used by the Local Authority to bill individual departments for the collection and disposal of waste and recycling. Many local authorities provide a price incentive—such as discounted or free uplift fees—to encourage the uptake of recycling

Previous work identified four primary re-charge mechanisms and categorised them accordingly:

- Discounted recycling;
- Free recycling;
- No in-house recycling -- external contractor procured by premise; and
- No in-house recycling – external contractors procured centrally.

Both discounted recycling and free recycling re-charge mechanisms are intended to encourage the uptake of recycling and provide an incentive to reduce residual waste arisings. These re-charge mechanisms offer the premise a savings in their waste bills if they divert material from their residual bin to a recycling bin.

Some LAs do not offer any in-house recycling services to their internal departments or premises. Instead, the premise or department is responsible for securing their own recycling provision. In some instances, a large department, such as schools, external recycling services are procured centrally on their behalf. By offering no internal recycling programme, the uptake and effectiveness of recycling schemes is dependent on the commitment and knowledge of individual premises or departments.

Table 1 summarises the different re-charge arrangements and their expected impact on the uptake or continuation of recycling schemes.

Table 1: Expected impact of re-charge arrangements to incentivise recycling

	Number of Contacted Councils	Premise budget	Central office – premise budget	Central office – service budget
Discounted Recycling	2	If residual waste capacity reduced in line with increase in recycling then financial savings seen at premise level – some incentive.	If residual waste capacity reduced in line with increase in recycling then financial savings seen at premise level – some incentive.	If residual waste capacity reduced in line with increase in recycling then financial savings not seen at premise level – no incentive.
Free Recycling	5	Potential financial savings from implementing recycling is dependent on awareness of decision maker– some incentive.	Potential financial savings from implementing recycling – some incentive.	Potential financial savings from implementing recycling – no incentive.
No in-house recycling – external contractors procured by premise	1	Effectiveness dependent on commitment at premise level		
No in-house recycling – external contractors procured centrally	0	Ability to require all premises to have recycling facilities. May offer savings and efficiencies compared to local procurement e.g. economies of scale, staff time.		

3. Methodology

This study uses schools as a case study for two reasons. First, a previous Remade study revealed that schools produce 60% of all internal waste within local authorities, the highest proportion amongst all Local Authority premises.³ The largest component of school waste, paper and cardboard, is also the largest proportion of total LA waste arisings (52%). Increasing school recycling rates could have a large impact on reducing internal waste arisings within a council.

Scottish schools also typically have scope for increasing recycling rates. Exact recycling rates for schools are not known, however other sources indicate fairly low recycling rates for schools on average. A 2008 WRAP study found average recycling rates for 24 schools in England to be as low as 13% for primary schools and 20% for secondary schools.⁴

Second, schools are used as an example because they are common to all Councils allowing comparisons of the variations in re-charge and waste services arrangements between Councils. In addition, schools are likely to operate in similar fashion to other Council Departments and premises and therefore can provide insight to the issues of re-charge arrangements in general.

To explore the issue of re-charge mechanisms on recycling in schools short interviews were conducted with waste managers from eight Local Authorities—Aberdeenshire, Dumfries and Galloway, East Renfrewshire, Edinburgh, Falkirk, Fife, North Lanarkshire, and Stirling—and with head teachers of seven schools—three primary and four secondary—within those LAs. A standard set of questions was used and most interviews were conducted over the phone. In some instances, questions were answered via email correspondence. See Appendix 1 for a list of typical questions that were asked of local authority waste officers and head teachers.

Waste managers were asked to clarify the service and recharging arrangements for both residual waste and recycling within schools. Head teachers were asked questions about recycling arrangements and responsibilities, and how waste charges were arranged within the school. Head teachers were also asked to identify barriers and success factors around implementing recycling programmes.

4. Waste Services and Re-Charge Arrangements in Schools

Discussions with waste officers revealed that service provisions for schools were relatively similar between Councils, with all eight Councils offering a residual waste

³ Strategic Overview of the Waste Prevention Planning Project Within Scottish Local Authorities. Remade Scotland. April 2008.

⁴ The Nature and Scale of Waste Produced by Schools in England. WRAP. June 2008.

collection⁵ and all but one Council offering some degree of recycling service. For residual services schools are generally treated as commercial entities and charged trade waste fees accordingly. Recycling services tend to focus on dry recyclates such as paper, cardboard, plastic, and glass, and services range from the very basic of paper collection only to the full range of material collection. Some schools are collecting food waste for composting on site. Other materials such as ink cartridges and textiles are collected by community groups.

Despite the similarities of basic service provision, the re-charge and budgetary arrangements vary significantly between Councils. The following section discusses those variations and the impact they may have on the uptake and continuation of recycling programmes.

4.1. Funding for Waste Services

Funding for waste services in schools varies slightly across Councils but typically waste services are paid for in one of three ways:

- From a premise budget
- From a centrally held (education services), premise specific budget
- From a centrally held (education services), service budget

Premise budget

In two Councils waste services are paid from a premise-based budget. In these instances, budgets have been devolved to individual schools and they retain control of how their funding is allocated. The expected advantage of this approach is that decision makers are more likely to see waste bills and thus have an incentive to reduce residual waste bills by increasing their recycling rates.

In one Council, sites are billed individually on a quarterly basis, with each location having a designated contact responsible for paying bills.

Centrally held, premise budget

In two Councils waste services are paid from a centrally held, but premise specific budget meaning the funds are coming out of a school's overall budget, but a central office (usually education services) is making arrangements to actually pay bills. In this instance it is likely that waste bills are not as accessible to decision makers and thus this approach provides slightly less incentive to implement recycling because cost savings are not realised at the premise level.

Centrally held, service budget

In four of the contacted councils, school waste bills are paid on behalf of schools from a centrally held service budget. In this approach waste services are paid for all schools from one pool of money that has been allocated for school waste across the

⁵ The one exception being public private partnerships where waste services are arranged entirely by the managing company.

Council. This approach is thought to provide the least incentive for schools to divert waste from residual bins to less expensive recycle bins.

4.2. Recycling Services and Re-charge Arrangements

Whilst most Councils offer some degree of recycling collection, service arrangements and re-charge mechanisms vary amongst Councils. This is likely attributed to the fact that waste services are designed to meet locally specific needs and often depend on the resources of each LA and each school. Recycling service and re-charge arrangements can be categorised into four categories:

- discounted recycling collection;
- free recycling collection;
- no in-house recycling collection with contractors procured by premise; and
- no in-house recycling collection with contractors procured centrally.

Discounted Recycling

Three Councils offer a discounted price for recycling uplift as compared to the fees for residual uplift in an attempt to incentivise schools to recycle. In all three cases the discount applied to both the cost of the bin and the uplift service.

This approach is thought to provide the most incentive for the uptake of recycling because it has the potential to offer users savings in their waste bills if they divert material from their residual bin to a recycling bin. However, officers noted that many schools have failed to make significant reductions in the amount of residual waste they produce.

Free Recycling Collection

Three Councils offers a full range of free in-house recycling for schools. One Council offers free collection for paper recycling only, and does not provide internal classroom boxes for collecting paper. The same Council provides free recycling to schools that agree to be a public recycling point, however the waste officer estimates that only 15-20 schools out of 110 are serving as a public recycling point.

In theory, this approach presents a huge incentive to implement recycling programmes because of the potential cost savings from diverting waste from residual bins to recycling bins. However, waste officers report there is scope for improvement as there has not been significant reduction in residual waste capacity and schools are still incurring the full cost of residual waste services. In one Council, the officer reports that some schools seem to be producing *more* waste since the addition of recycling bins. In effect they are now using the recycling bins, but are still filling their residual bins to the same capacity as before they received the free recycling bin.

No In-House Recycling Collections

Only one of the contacted LAs does not offer any in-house recycling collection. In this Council, recycling services are provided by a local community group for free and the Council felt that offering the same service for free wouldn't be cost effective and there may not be sufficient demand. In addition, this Council is having no trouble meeting recycling targets through their household recycling scheme and have little incentive to include schools to raise their recovery rates. However, they are beginning to collect food waste in their kerbside recycling scheme and may eventually collect food waste from schools since it is a fairly large proportion of school waste.

In this Council recycling services were procured externally on a premise basis meaning that the uptake of recycling is dependent on commitment levels of premise decision makers. Alternatively, external recycling services could be procured centrally by education services or an equivalent department, which could help ensure that all schools take up recycling. In addition, central procurement may present opportunities for efficiencies and savings as compared to individual school procurement.

This approach provides the least incentive to take up recycling as schools have to go to the trouble of finding an external contractor and may not see any cost savings as a result of recycling.

5. Impact of re-charge arrangements

Despite efforts to encourage recycling through price incentives, re-charge mechanisms do not appear to be encouraging the uptake and continuation of recycling programmes within schools. Waste officers attribute this to a lack of awareness amongst end users (head teachers and decision makers) about the potential cost savings.

Discussions with Head Teachers confirmed this. Head Teachers from six schools within the eight contacted Local Authorities revealed that they *do* lack information about waste about re-charge arrangements and potential cost savings of diverting residual waste to recycling. Five HTs indicated that waste charges were not accessible to them at all and did not recognise the potential cost savings involved.

However, it is not HTs' lack of awareness that contributes to re-charge mechanisms failure to incentivise recycling. Rather, it is the fact that HTs do not recognise cost savings as a primary driver in the first place and therefore are not likely to respond to variations in price mechanisms.

Head Teachers do not view potential cost savings as a major driver for two reasons. First, waste charges do not comprise a significant proportion of a school's budget. Six schools indicated that waste charges were not very significant. Only in one of the seven contacted schools did the head teacher say that waste services were both visible and significant. This may be however, due to the school being more engaged

with waste issues in general. This school also had a formal monitoring system in place, a practice that was not undertaken by any of the other contacted schools.

Second, schools are primarily driven to take up recycling programmes for their educational value and to demonstrate their commitment to civic and environmental issues. Most HTs directly stated they don't feel that cost savings *should* be an incentive to recycle.

Furthermore, conversations with waste officers and head teachers reveal there is a disconnect between decision makers, such as head teachers, and those who are responsible for maintaining and monitoring waste collection and disposal, such as janitors. Even if head teachers recognise the financial benefits of diverting waste from residual bins to recycling bins, this may not get communicated down to the janitors. Janitors may not be actively monitoring how full the bins are or they may be compelled to suggest adjusting the residual bin capacity or collection.

Head Teachers may also be failing to respond positively to re-charge arrangements because of the way waste service agreements are arranged. Usually services are arranged on an annual basis and not reviewed on a regular basis. Schools may lack resources to monitor their own waste arisings and may not be aware that they could reduce their number of uplifts. In addition, potential savings may not be realised until a year later when services can be adjusted to reflect the diversion of waste from the residual bin to the recycling bin.

Though most Waste Officers stress that service agreements can be reviewed and adjusted as necessary, interviews with Head Teachers revealed that most decision makers are not aware that service agreements can be modified to reflect a change in waste arisings.

6. Barriers and Success Factors According to Head Teachers

6.1. Additional Barriers

In addition to exploring the issue of re-charge arrangements, Head Teachers were asked to identify potential barriers to the uptake and continuation of recycling programmes.

Financial Barriers

Discussions revealed that capital costs for setting up a recycling programme can be a major barrier to the uptake of recycling programmes. Some Councils do not provide any internal equipment for recycling even when they offer free collection services. For example, one of the schools is in the process of setting up a recycling programme and estimated it would cost roughly £3000 to purchase all the internal bins and classroom bins. In that instance the head teacher secured funding for the equipment from the local Council in exchange for serving as a pilot programme for the start of recycling programmes.

The issue of free recycling also came up in conversations with Head Teachers. Though in general HTs did not see cost savings as an incentive or a barrier, some suggested that recycling should be provided free to schools to underscore the Councils' commitment to waste minimisation. This issue is further supported by Eco-Schools who emphasise the perceived barrier of having to pay for recycling.

On a related note, many Head Teachers expressed frustration about red tape and lack of information about available recycling services. Many found it confusing that the Council offered collection for some materials, but not others. In at least three cases, this has led to staff taking home recyclable material to dropping it off at a recycle point, putting undue pressure on staff and undermining the long term sustainability of a recycling programme.

Operational barriers

Some Head Teachers identified operational barriers such as having enough space for recycling equipment and the safety issue of students recycling cans and glass. One school struggled with contamination issues since many of their students discard plastic bottles that are half full.

Eco-Schools pointed out that Head Teachers who want to start a recycling programme find it difficult to get information about available recycling services. Of particular concern is the fact that some Councils collect all recyclable materials while others do not. When full recycling isn't offered, schools often don't have the time or resources to procure additional services resulting in many schools only recycling whatever the council will collect, such as paper.

Eco-Schools also expressed concern that sometimes too much emphasis is placed on recycling whilst reduction and reuse strategies are being forgotten. Accordingly they would like see more programming and emphasis placed on those aspects of the waste hierarchy. They also pointed out that schools are not realising the cost savings of simply reducing their consumption (of paper for instance) and that this could potentially be used as an incentive to reduce waste.

6.2. Success Factors

Head Teachers were also asked to identify additional factors that contribute to the successful uptake and continuation of recycling programmes in schools.

Support from Eco-Schools was identified as the most important success factor, and often the driving force, for recycling programmes. Five out of the six contacted schools receive support from the Eco-Schools programme and most credited Eco-Schools as the reason they began recycling programmes in the first instance. Most HTs suggested that their commitment to recycling is supported by the broader environmental agenda of Eco-Schools.

Many HTs stressed the importance of commitment and involvement from staff and students. A staff champion and core support team was viewed as essential for maintaining high recycling rates. In most schools the ultimate responsibility for

ensuring that bins are ready for collection rests with janitors. Continual involvement and engagement is required to keep everyone on board.

One contacted school did not have a formal recycling programme due to a lack of interest and time from staff and students. In that case, the HT suggested that recycling was difficult to initiate because no one had the remit for recycling as part of his or her job description.

Devolving responsibility to students was also cited as an essential component of a sustainable recycling programme. In one school, each class takes turns collecting paper waste from classrooms counting the number of full boxes.

Parallel to student involvement is the issue of ongoing education and outreach. Many schools incorporate recycling and environmental issues into their lesson plans to reinforce the message. At least three of the schools take care to count the number of full recycling bins and graph their progress to demonstrate the impact students are having. Unfortunately these efforts do not extend to a formal monitoring system that could be used to calculate recycling rates or track savings.

A supportive community is also crucial to the success of a school recycling programme. Many schools supplement their Council recycling service with collection by community recycling groups. One school collects cans and donates the money to a local mental health organisation. Another school benefits from local senior groups who volunteer time to lead programmes about the benefits of recycling. Conversely, one HT explained that the local community and parents did not encourage recycling and that littering was a major problem near the school. He felt that before a major recycling programme could be launched those issues would need to be addressed.

7. Conclusions

Further investigation into the recharging issue through the lens of schools reveals that recharging mechanisms are *not* a major barrier or driver for the uptake and use of recycling programmes in schools. However, the conversations with waste services officers and head teachers identified that capital costs, red tape, and a lack of information and review process may present barriers to the successful uptake of recycling programmes.

Because various types of re-charge mechanisms were represented amongst the contacted councils and schools, these findings provide a useful framework for understanding the role of re-charge arrangements in other LA premises and departments. In general, re-charge mechanisms do not have an impact on internal recycling programmes. Just as it is the case with schools, incentive-based re-charge mechanisms are unlikely to encourage the uptake or continuation of recycling schemes in LA premises. This study confirms that intangible factors such as high-level commitment, ownership, and behaviour change and education, may play a larger role in influencing the uptake of internal recycling schemes.

Though there is scope for improving how re-charge mechanisms function and for raising awareness of cost savings, efforts may be better spent addressing the other above-mentioned factors to encourage the successful uptake of recycling in schools. Namely Councils should focus on offering advice and support for navigating the available recycling collection options. Recognising resource limitations, Councils and schools will need to work together to identify sources of funding for capital costs associated with the upstart of recycling programmes.

8. Acknowledgements

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Appendix 1

Typical Questions asked to Local Authority Waste Officers:

1. *Can you clarify how waste services for schools are funded?*
 - e.g., centrally through a departmental budget, centrally from a school specific budget or, locally by the schools themselves using their own budgets?
2. *Are budgets ring-fenced?*
3. *What recycling services are offered to schools? Any there any restrictions on recycling offered?*

If council IS providing recycling services:

1. *What are the re-charging arrangements for schools? In other words how are schools charged for both their residual waste services and their recycling services?*
 - e.g. variable charging (if yes, details of charges) – recycling at free or discounted rate to residual waste or fixed uplift fee – fixed cost for residual waste and recycling
2. *Are re-charging arrangements set for the financial year or are they flexible?*
3. *Do you differentiate between container rental and uplift?*
4. *Does the provision of residual and recycling bins get reviewed between schools and trade waste officers? How regularly?*

If council is NOT providing recycling services:

1. *Are external contractors procured on a premise by premise basis or centrally?*
2. *Do you provide any advice on what contractors should be used?*
3. *Has the organisation of contractors centrally been considered? Is there any particular reason why contractors are not organised centrally?*
 - e.g. Procurement issue, resources within waste services not available

Typical Questions asked to Head Teacher of Contacted Schools:

1. *What are the waste arrangements for the school? i.e. Who collects residual waste? What materials are being recycled and who provides recycling collection?*
2. *Are waste charges visible to you? Do you consider them significant?*
3. *Who is responsible for organising waste and recycling arrangements within the school?*
4. *How long has recycling been taking place at the school?*
5. *Who is responsible for ensuring that the bins are available for collection?*

6. *Do you have any systems for monitoring how full the bins are when they are collected?/Is there a reporting mechanism between those responsible for organising recycling and those responsible for ensuring bins are put out for collection?*
7. *Do you have the ability to adjust service arrangements to accommodate changes in waste output?*
8. *Do you perceive that there are any barriers, financial or operational, to increasing recycling in the school?*
9. *Are any other factors contributing to the success or otherwise of recycling?*