



Glasgow Recycles Executive Summary

Project Sponsor: Danone Waters UK and Ireland

May 2009



Executive Summary

Conclusions

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- **The Glasgow Recycles model can effectively create and support the UK's growing requirement for green jobs;** the provision of green jobs opportunities not only tackles unemployment but also provides solutions to help address UK waste issues.
 - **The Glasgow Recycles model is an economically sustainable opportunity for realising corporate social responsibility;** the private sector can financially catalyse this model, but must include combined social, economic and environmental dimensions to achieve a truly sustainable project.
 - **Cross-sectoral partnership working is crucial for the transferability and overall success of the project model;** the positive NPV is achieved by combining the project's social, environmental and economic impacts which can only be realised through cross-sectoral partnership working.
 - **Glasgow Recycles proves that carbon savings are made by 'recycling on the go';** the provision of city centre recycling banks to capture 'away from home waste' results in carbon savings.
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Recommendations

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The Glasgow Recycles model should be jointly considered by the private sector, Scottish and UK Governments as a cross-sectoral, sustainable solution to enabling recycling on the go, creating green jobs and offering corporate social responsibility opportunities.

Introduction

Background

The Glasgow Recycles project operated in Glasgow between 1 January and 31st December 2008. It was developed as a practical model of sustainable development, which would enable Danone Waters to reach beyond its packaging obligations into the arena of extended producer responsibility.

To this effect, the project was designed to tackle not only Glasgow's away from home waste problems, but to provide training and green job opportunities for some of Glasgow's most disadvantaged residents.

Glasgow Recycles: Objectives

Objective 1: Installation of Recycling Banks To identify optimum locations for installing 15 Rescape Recycling Banks throughout Glasgow City Centre to capture co-mingled paper, cans and plastic bottles.

Objective 2: Recycling Awareness Raising To develop and run a series of Glasgow Recycles training and awareness raising sessions for Glasgow City Centre workers, alongside undertaking two perceptions studies to assess consumer waste habits.

Objective 3 – Green Jobs Opportunities To create three training places for unemployed Glasgow residents to help them progress into sustainable employment.

Objective 4: Economic Modelling To create an economic model of the project, factoring in values for social, economic and environmental impacts, in order to assess its overall sustainability using economic measures.

Glasgow Recycles: Partnership Model

Cross-Sectoral Partnership Valpak Consulting directed the introduction and co-ordination of the following five cross- sectoral organisations; each with a key strength in at least one of the economic, social and environmental spheres of sustainable development:

- Danone Waters UK and Ireland
 - Valpak Consulting
 - Glasgow City Council
 - Wise Group
 - Waste Aware Scotland
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Glasgow Recycles: Key Activities

Development and Operational Activities

- Glasgow Recycles was approved by the Leader of Glasgow City Council's Executive Committee in early April 2008.
- 10 City Centre Rescape sites were approved by Glasgow City Council in late April 2008, with the full 15 sites approved by October 2008.
- The weekly servicing of the banks was attached to an existing domestic collection service to minimise the environmental impact.
- Three employment placements for long term unemployed Glasgow residents were created; one with the Wise Group to promote the project and two within Glasgow City Council's MRF on the plastic bottle sorting

line.

- A recycling awareness training programme was delivered to businesses and workers in and around Glasgow City Centre alongside a perceptions study to assess the public's attitudes to recycling and encourage them to use the rescape banks.
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Glasgow Recycles: Key Performance Indicators

Project KPIs The KPIs that were set for Glasgow Recycles were split between quantitative or 'hard' indicators and qualitative 'soft' indicators, as follows:

- **Hard Indicators**
 - Number of trainees gaining qualifications
 - Number of trainees gaining employment
 - Recyclate tonnage captured by the banks
- **Soft Indicators**
 - Recycling awareness raised (measured via perceptions study)
 - Recycling barriers reduced (measured via perceptions study)
 - Number of trainees reporting increase in self confidence, reduction in employment barriers, etc.

In addition to these indicators, a carbon footprint and economic assessment of the project was undertaken to ensure that all three spheres of sustainable development were being evaluated.

Glasgow Recycles: Project Outputs

Project Outputs The outputs achieved by the project over the duration of its operational phase were as follows:

- 15 Rescape banks installed in Glasgow City Centre¹
- 32.85 tonnes of recyclate collected²
- A waste composition analysis of the recyclate
- Three trainees moved into sustainable employment (two within Glasgow City Council's Land and Environment Service Department)
- All trainees successfully achieved their ascribed training
- All trainees reported positive progress (confidence levels, etc.)
- The prescribed number of awareness raising activities and perceptions studies completed
- A carbon footprint of the service
- Productivity within Glasgow City Council's MRF plastic bottle line increased

¹ 10 banks were in place between April and July 2008, two were removed in July 2008 and re-installed along with the remaining five banks in October 2008.

² This tonnage is based on actual collection figures between April and December 2008. For the majority of this time, fewer than 15 banks were sited as referenced above.

- Economic model of the project demonstrating its overall sustainability

Glasgow Recycles: Carbon Footprint

Carbon Footprint

A carbon footprint study of recyclate collection, transportation, separation and reprocessing was conducted using Life Cycle Assessment (LCA) methodology, in specialist software WRATE. The goal of the study was to establish what the carbon benefit was of collecting and recycling 'on the go' material, in comparison with its disposal to landfill.

It was found that the collection of 50t of material³ from the rescape banks produced carbon savings of 17t CO_{2e}, in comparison with a 16t CO_{2e} deficit if sent to landfill.

This means that the carbon savings attributable to 50t of material collected, transported, separated and reprocessed would be approximately 206% higher than if it were landfilled.

Glasgow Recycles: Economic Model

Net Present Value

A cost benefit analysis was carried out on Glasgow Recycles to establish its **Net Present Value** (NPV), which is the total value of the project over 10 years, discounted in line with the UK Governments Green Book on Appraisal and Evaluation in Central Government (3.5%) and given in today's prices.

The calculations were based on a variety of operational and circumstantial project factors and assumptions, including:

- Bank capacities, fill levels, collection frequency and recyclate tonnages
- Proportions of materials (based on a waste compositional analysis)
- Market values for materials (based on mean material values⁴ between January and December 2008)
- Social return on investment per trainee⁵
- Increased productivity within the MRF through additional staff (trainees)
- Financial values for tonnes of carbon saved

Over 10 years it was found the project would have a **Net Present Value of £79,046**, which equates to an average annual value of **£12,673** (excluding year zero of the project due to the initial set up costs).

³ This is an annual tonnage figure which has been produced based on the actual material quantities collected over eight months and factoring in the gradual installation of all 15 banks. It equates to a weekly fill level of 32% per bank.

⁴ Material values taken from www.letsrecycle.com

⁵ These figures were taken from: The Wise Group: Cadder Environmental Impact Report – Social Return on Investment Report (December 2007). They were adapted to fit the three Glasgow Recycles trainees who moved into employment, but also included adjusted and proportioned values for an additional three trainees who were recruited to the project but did not move into employment.