KERBSIDE RECYCLING SACKS

UNIVERSITY







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Between November 2019 and April 2020 The University of Hull, as part of 'Evolving a Circular Plastics Economy', worked with Scarborough Borough Council to consider alternatives to the single use plastic sacks used by households (flats and terraces) that have no space for a wheeled bin. This research project supports the Council's strategy to be a 'single-use-plastic-free authority'. Waste collection from flats and terrace properties can present challenges. The change of lifestyles resulting from Covid-19 add to difficulties. Recycling Magazine reported (June 2020) a 20% increase in municipal waste and a 30% increase in recycling from households, due to more time being spent at home. This exacerbates an already challenging situation. Edie (September 2019) published results of a survey of adults and attitudes to recycling. 87% of respondents admit to feeling confused about recycling packaging and 9/10 respondents said 'all councils should use the same recycling scheme to avoid confusion.' However, this is not necessarily possible for all households in the same local authority. The research considered the alternative options available for collecting recycling. Using interviews, workshops and discussions with interested parties, including other Local Authorities, we gathered their views. The analysis reviewed the alternative options for their environmental impacts (lifecycle impact assessment), costs and benefits. The study assumed a usable life of 2 years (for reusable options) and considered the costs and benefits over a five year period.

Alternative Options

- Paper sacks
- Plastic crates / boxes
- Reusable polypropylene bags

Interested **Parties**

Analysis

- Households
- Council Members
- Waste collection crews
- MRF (Materials Recycling Facility)
- Local Authorities

Review of the options

Assessment

The interested parties, with the exception of households, were shown the alternative options, with opportunities to handle the receptacles. We eliminated the plastic crates and boxes from the study, due to manual handling and household storage space concerns.

Local Authority views - opportunities and challenges:

- Health and Safety manual handling, sharps, operative safety
- The need for clean streets.
- Communal bins fly tipping / incorrect disposal of waste
- Road access and narrow roads in some areas
- Global markets e.g. market/price of paper
- Wet paper acceptability and price are impacted
- Use of bespoke collection vehicles potentially limits change
- Requirements of MRF or waste service contracts
- Contamination of recycling
- Cost / Budget challenges
- Opportunities: use the planning system for new and redevelopments, making waste storage space a requirement; and getting communication right, e.g. messaging on sacks.

Households need a convenient, easy to use receptacle that is easy to store. Small properties have limited space to store containers.

Council members identified the need for clean, litter-free streets and a gull/pest proof receptacle. A strength is the drive and strategic commitment to eliminate single use plastics.

Waste crews need to be able to visually inspect recycling; carry multiple bags; have sealed and gull proof sacks they can load into the back of a lorry; and have bags that, when full, are a manageable weight.

The MRF needs to receive clean, ideally loose recycling.

Lifecycle Impact

Cost Benefit Analysis

The environmental performance of the alternative options is included in the table (where order of environmental impact is from green (low) to red (high). The LDPE single use plastic sacks are the current receptacle used. The reusable polypropylene sack performs best in the categories considered. The lifetime costs were included, assuming a 'usable lifetime' for reusable options. Any additional costs, e.g. the gate fee for presenting recycling in plastic sacks were also considered and included in the analysis.

Alternative Options	(Receptacle)	Climate change	Ecotoxicity	Water use (m3)
Paper sack				
LDPE Single use plastic sacks				
Reusable polypropylene Bags				

A key recommendation of the research was to consider introducing reusable polypropylene sacks, eliminating single-use plastics and the environmentally preferable option.