CONTINUOUS IMPROVEMENT FUND

Project Synopsis

CIF Project # 924 - Hamilton Recyclable Material Cost Allocation Study

Background

What is this project?

A Material Recovery Facility (MRF) processing cost allocation study, which resulted in the development of a processing Activity Based Cost (ABC) model.

What does it provide?

It provides an agreed upon methodology for:

- Calculating material specific processing costs
- Evaluating the impact(s) of adding/removing materials to/from a residential Blue Box program

Why was this needed?

Ontario municipalities did not have any sort of comparable, publically accepted process for determining the costs of managing materials in their processing operations.

Information gathered through informal networks varies considerably depending on local circumstances and is more a reflection of the negotiations with a private contractor than the actual cost to manage the material. This frequently leads to confusion over the real cost of managing materials in the Blue Box program.

Use of a standardized model will aid municipalities in the management of their programs. Particularly in:

- Understanding the specific processing costs associated with individual materials when collected within varying mixes of targeted recyclables
- Assessing the impact of potential changes to their material mix
- Comparing/contrasting their costs and operations with those of their municipal colleagues to determine opportunities for improvement

It will also aid in negotiations with local contractors about potential program changes, particularly a shift to Full Producer Responsibility.

Project Stakeholders

While City of Hamilton was the project sponsor, the model was developed through collaboration with Ontario municipal residential Blue Box program MRF staff. Representation included programs with variations in design and operations including:

- Single or dual stream
- Small to large programs
- Compaction and non-compaction collection
- Carts or boxes
- Single-family and multi-family mix
- Regional operations servicing multiple municipalities

Participation from this municipal working group was essential to development of a model that was robust enough to meet the needs of all Ontario programs.

ABC Model Development

Consultants from Reclay StewardEdge (RSE) led the model development with project working group administration and facilitation provided by the CIF. The work was carried out in three phases:

1. Cost Allocation Principles and Methodology 'Consensus Building'
    - Establishing agreement on a set of cost allocation principles and information requirements to serve as the foundation for developing the calculations for the model
2. MRF ABC Model 'Construction'
    - Building the model in Microsoft Excel
3. Test MRF ABC Model 'Ground-Truthing Exercise'
    - Testing the functionality of the model as well as the reasonableness and utility of its outcomes through the use of actual hard data from participating group members

Summary of Results

There were three main outcomes from this project:

1. ABC MRF Model
    - An Microsoft Excel based tool to be populated with data specific to the individual user.

    A blank copy of the model is available to municipal Blue Box program operators upon request to the CIF.

2. ABC MRF Model Guide including Model Description and Data Needs
    - A guidance document, which provides detailed step-by-step written instructions on how to populate the model. The guidance document:
        - Lists and explains the cost allocation principles
        - Details information requirements (e.g. tip floor audits, time & motion data, capital costs, operating costs)

    A copy of the ABC MRF Model Guide is available to municipal Blue Box program operators upon request to the CIF.

3. Webinar Training Series
    - A 12-part webinar series that demonstrates how to fill in the model tab by tab.

    The webinars were available to any municipality interested in using the model. The purpose of the webinar series was to break up the 'how to' instruction for the model into guided, manageable, weekly hands-on working sessions. The sessions were organized by the CIF. It was anticipated that this would assist in building municipal capacity to use the model. The sessions helped identify areas within the model that required correction and improvement. Each week RSE was consulted on feedback received from the municipal participants and refinements to the model were made. Work is currently underway to edit the recordings so they can be used as a training resource.

Learnings

This project has potential to assist municipalities in negotiations with their contractors and to help them make better, more informed decisions about the long-term impact of program changes.

The model will help municipalities make sound decisions about future program design, equipment investment, materials collected, procurement and contracting. If municipalities want to compare and contrast their programs, it is important for municipalities to work from a set of agreed upon material allocation principles and methodology and to have cost allocations accurately reflect their processing operations and respective mix of materials being collected.

Further outreach and engagement is needed to encourage greater uptake of the model. Collecting the information needed can be time consuming if records are not easily accessible. It is recommended that responsibility for launching and maintaining the model be formally adopted into the job description of those responsible for MRF contract oversight. The information can be difficult to obtain if activities such as tip floor and bunker audits or time and motion studies are not part of regular operating procedures. It is recommended that the cost of these be built into MRF annual operating budgets.