

by Clarissa Morawski

“Nearly all the processors talked about the importance of the waste management hierarchy.”



Building a Recycling Guideline



This August, the Canadian Standards Association (CSA) posted a Notice of Intent to work on the development of a new guideline, SPE-750 — Recycling Process, Audit and Verification Guideline for Ontario. These guidelines will be a warm welcome by those in the waste management industry who for years have been frustrated by insufficient recycling standards and minimal enforcement.

As it currently stands, not everyone in the game is playing the same because there is no one enforcing the rules. Such lack of enforcement, particularly when it comes to on-site audits and mass-balance reporting of downstream processors, can create unfair competition for those fully adhering to the rules.

The problem was so severe that in 2009, the Ontario Waste Management Association (OWMA) wrote a letter to the Ontario Ministry of Environment stating:

“Without a common set of environmental standards for processors those who have invested in operating to high environmental standards — whether operating as service providers to EPR programs or generally operating in the waste diversion service market — are put at a competitive disadvantage to those that have not made such investment but are still allowed to receive waste (and in some cases simply dispose of that waste while claiming it as diverted).” 2009, Submission to MOE.

When it comes to selecting the right service provider and performing the necessary due diligence, most municipalities and commercial waste generators do not have the time or expertise to do this on their own. Nevertheless, this information is required, which is why they are in need of good standards and proper guidance. Governments and industry may not have the expertise to develop sound performance measurements, and so may just act in their own best interests.

In his article “Death to Recycling Rates” *Resource Recycling* maga-

zine Editor Jerry Powell describes how some of the methodologies used to calculate recycling rates have become meaningless. He describes, for example, how Florida expanded its definition of recycling to include material sent to waste-to-energy (WTE) facilities. As a result, the recycling rate of Monroe County, Florida rose from 10 per cent to a whopping 167 per cent, despite no change in effort.

Regarding the methodologies employed to calculate recycling rates, Powell maintains, “You’ll have to look far and wide to find an accurate rate,” and that “the level of hoodwinkery is mind-boggling.”

This summer, CM Consulting worked with OWMA to develop a draft recycling guideline for the CSA. The draft will be reviewed by a CSA committee of experts, industry and government, and will be used as a foundation for the eventual development of a final CSA Recycling Guideline for Ontario. Among others, the final guidelines could be used by federal and provincial governments, municipalities and commercial generators across Canada.

PROJECT APPROACH

The approach to this project was two-fold. First, interviews were conducted with a dozen processors and generators throughout Ontario to find out what they need in a guideline. Second, research was conducted into guidelines and standards used in other jurisdictions.

The interview results were surprisingly consistent. The majority of the processors articulated the need for clear and consistent definitions on what constitutes collection, diversion, and recycling rates, and where energy recovery fits in. Everyone agreed there should be no “wiggle room” for interpretation and that the definitions should form the basis for all audits, target and goal setting, performance reporting, and analysis.

Nearly all the processors talked about the importance of the waste

CSA PERSPECTIVE

An interview with CSA's Megan McGarrity

Megan McGarrity is Project Manager for the development of a Recycling Process, Audit and Verification Guideline for Ontario. (The project is funded by the Ontario Waste Management Association, OWMA).

CM: *Why do you think having the CSA develop the guideline is good for recycling?*

MM: CSA Group is pleased to be working with a diverse group of subject matter experts to facilitate the development of this new guideline. However, it's worthwhile to note that CSA Group doesn't write the content of standards or guidelines. It's our CSA Group volunteer members, who are subject matter experts, who dedicate their time to develop the content of the documents, while CSA Group facilitates the process. In the Sustainability Program, we have 2,050 dedicated CSA Group members who participate on 92 technical committees that have already published 300 standards.

These volunteer experts form a technical committee (TC) to develop standards using a "balanced matrix" approach, which means that each committee is structured to capitalize on the combined strengths and expertise of its members — with no single group dominating. The committee considers the views of all participants and develops the content of the standard by a consensus process that includes the principles of inclusive participation, and respect for diverse interest and transparency.

Standards committee volunteers are selected to represent various interest groups most likely to be affected by a standard, such as business and industry, regulatory bodies, science and academia, labour, and consumer groups (as applicable). Once a draft standard has been developed, it's submitted for a minimum 60-day

public review period and amended if necessary. CSA Group functions as a neutral third-party, providing a structure and a forum for developing the standard, but it is the committee members who write and update the standards.

In the case of the Recycling Process, Audit and Verification Guideline for Ontario, it is not a standard but a guideline, yet CSA Group will follow a similar process and form a working group of members who come from various stakeholder backgrounds.

CM: *How does the CSA manage the various interests and their positions?*

MM: The CSA consensus process is the foundation for the development of CSA consensus standards, guidelines and information products. Our policies governing standardization and directives guide the application of our consensus-based approach to the development of standards and guidelines. To ensure a balance of representation, ensure that interests are represented and that the Work Group of subject matter experts can function efficiently, we apply a matrix of interest categories to the Work Group. The composition of the Work Group will be set with the objective of ensuring that all points of view relevant to the subject matter are represented in reasonable proportion.

CM: *What are the next steps?*

MM: We're currently recruiting subject matter experts to the Work Group. Once this process has been completed the development of the guideline can begin! Expressions of interest in participating in the Work Group can be directed to me, Megan McGarrity, at megan.mcgarrity@csagroup.org or by calling 613-565-5151 x59224.

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management hierarchy and how it should be supported in law, standards, and tender selection criteria. In their view, operating standards should be applied uniformly to the entire material-category stream, irrespective of where it came from: a stewardship program, commercial generators, or imported. In addition, they believed that occupational health and safety and environmental management systems should be in place with downstream markets, both here and abroad.

Most noted that standard setting and monitoring and oversight activities should be undertaken by a non-vested organization, like the government or an independent agency of government.

Finally, material tracking throughout the chain of custody gives processors the ability to report the accurate final disposition of the material sent to downstream processors. Customers and auditors can also run mass balance verification.

DISCOVERIES & DESIGN

An abundance of resources offer valuable advice and ideas for devising a robust guideline.

For example, the United Nations Environment Programme’s International Resource Panel has done extensive work in the area of metals recycling. It proposes a logical method to calculating recycling rates, which simply follows the flow of material as it passes through the recycling chain, capturing any losses to thermal treatment, non-functional recycling, and disposal. While originally conceived for metals, the approach and methodology could be adapted to all materials in Ontario and Canada.

The consultants discovered a series of standards and certifications in use around the world for recyclers of waste electrical and electronic equipment (WEEE).

In addition, in the United Kingdom, the

Department for Environment Food & Rural Affairs is developing a Code of Practice for MRFs which will require them to have in place quality sorting systems to yield a minimum output level of contamination. The Code specifies requirements for reporting, auditing and verification. And, Wales and the United Kingdom governments, released guidelines on how to apply the waste hierarchy in 2011 and 2012.

Life-Cycle Assessment (LCA) makes it possible to develop a recycling hierarchy that can be used as guidance when determining what constitutes recycling and what does not. In short, the waste hierarchy clearly defines which end-of-life disposition options are most favorable in terms of environmental impact.

The “pyramid”-shaped hierarchy places prevention on top, followed by reuse and refurbishment, and then recycling. Recycling is broken down into two groups: “upcycling” and “downcycling”. Upcycling — also called “functional” recycling — ranks higher up on the hierarchy and is the process of converting waste materials into new or higher quality materials for increased functionality. It is recycling in a closed-loop system.

Downcycling — or “non-functional” recycling — converts materials into new materials of lesser quality and reduced functionality, which

cannot be recovered following its next use as part of an open-loop system. For this reason, downcycling ranks lower on the hierarchy.

Lower still is thermal treatment and landfill with gas recovery; the ranking of these to be determined in the Ontario context.

MEASUREMENT, REPORTING & STANDARDS

The Ontario recycling guideline offers a new approach to calculating different recycling rates. For one, it distinguishes between collection, diversion from landfill, energy recovery, and actual recycling. It clearly defines what each term means, how differ, and explains how each of them can offer valuable insight into program performance and be useful for target-setting purposes.

All the measurements are based on the flow of material through the recycling chain, and so can be verified through a mass balance approach, which takes into account all incoming and outgoing material. Mass balance is a useful tool for auditors to verify the accuracy of downstream reporting.

The guideline also contains provisions for due diligence when it comes to the selection of downstream processors by primary processors. As well as calling for processors to





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require that their downstream vendors permit scheduled and unscheduled audits of their facilities, it requires that those secondary processors be held accountable to the same requirements.

With the proliferation of stewardship programs, operating standards have also emerged. Given the toxic nature of MHSW and WEEE, stewards have been forced to devise a standard that defines the operating requirements beyond what's required under law. The standards are not low; in fact, the minimum operating requirements set out in Stewardship Ontario's

MHSW and the Electronics Product Recycling Association's Recycler Qualification Program's WEEE standards are considered quite high. The problem lies in the fact that they're developed and overseen by the very companies that have to pay the bill.

The guideline effectively builds a wall between those that bear the cost of the service and those that determine how best to handle the material from a human health and environmental safety perspective.

Before the guideline is widely adopted, it needs to be kicked, picked, and prodded by

industry, experts, and government to ensure that it's strong and stands the test. It must be applicable to most materials and processors, and have minimal exceptions. But most important, it should provide a level playing that supports increased recycling and innovation in the waste diversion sector. 

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