

Next Steps For Recycling

Changing collection models and the evolving waste stream have upended the economics of municipal recycling. Our industry experts detail the work behind a historic joint advisory on processing contracts that aims to address pressing price and contamination issues. **BY ANNE GERMAIN AND MICHELLE LEONARD**

The benefits of recycling are clear, and we have heard about those benefits for years.

The following statements surely sound familiar:

Recycling one aluminum can will save enough energy to run your television for three hours. Recycling conserves natural resources by allowing materials previously designated as waste to be utilized again. Recycling saves landfill space.

And beyond those facts is the reality that materials recovery saves energy. Recycling and composting, in fact, save more than 1.1 quadrillion BTUs of energy annually. Yes, that's quadrillion with a "q."

Lastly, the greenhouse gas benefits associated with all recycling and composting in 2012 added up to 168 million metric tons of carbon dioxide equivalent emissions reduced, comparable to removing over 33 million cars from the road.

Recycling is like mom and apple pie – not much to complain about. Until now.

Recycling economics

In recent months, we have started seeing a new message cropping up around the economics of recycling.

The Washington Post recently wrote about how American recycling is stalling, and it blames the big blue bin. CBS News

reported on why recycling economics are in the trash can. And The Wall Street Journal has published articles discussing unprofitable recycling.

For so long, recycling's main message has been focused exclusively on the conservation end of the spectrum. And that was fine because recycling not only paid for itself – everyone made money off of it. Municipalities and private companies entered into long-term contracts written in anticipation of ever-increasing commodity values.

Then our recycling bubble popped. It got buried by China's Operation Green Fence, which turned attention to recycling quality. The industry also became depressed by low commodity prices that were exacerbated by cheap oil and a strong dollar.

Recycling is all about sustainability, and the benefits iterated above focus on that aspect. But those benefits are silent on the economic sustainability of recycling. While recycling used to be a profitable business, in recent years it has become more of a luxury. According to the Washington Post, more than 2,000 municipalities are paying private companies to manage their recyclables, rather than being paid for them as in the past.

The layers of contamination

Single-stream recycling collection has provided a tremendous

boon to the quantity of material recycled. It also provides a degree of flexibility to add new materials to the cart as recycling commodities expand. Collection is simplified, and recycling companies can use the same collection vehicles that are used for trash collection. Unfortunately, quality suffers. Diehard recyclers experience overt optimism: If in doubt, just toss it in and let it get sorted out at the plant – and maybe, just maybe, it will end up getting recycled.

Then, there's glass – it is the best of worlds, it is the worst of worlds. On one hand, it is the heaviest of recyclable materials collected curbside, which contributes to municipalities' diversion goals. On the other hand, as a commodity, it has limited value. It is not made from rare or difficult-to-acquire materials like aluminum. And when broken, it increases wear and tear on MRF equipment. Finally, it can lower product quality – both of glass and non-glass items.

The “when in doubt, recycle it” mentality creates contamination problems, which contribute to both poorer commodity quality and increased residue. The poorer commodity quality depresses the value, and residue always functions as an additional cost to the MRF.

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Contamination now commonly includes objects such as Christmas lights, garden hoses, shopping bags and syringes.

Changing recycling materials

Manufacturing trends, such as lightweighting and the evolution of packaging, as well as changing consumer behavior, contribute to changing recyclable streams. As material use evolves, MRFs must also adjust. For example, MRFs now receive less paper and a higher percentage of glass and plastics. Recent societal changes also include the increase in the use of electronic devices, which, in turn, contributes to the decline in publications and printing. Although online shopping has actually increased the amount of cardboard generated for recycling, the boxes are smaller than what we saw when cardboard came strictly from stores.

With lightweighting, packaging can maintain the same volume but weigh significantly less. There used to be 24 aluminum cans to the pound, but now there are 34 (a 42 percent increase). With no decrease in volume, these changes significantly affect recycling economics. Much of the costs for collection and processing are governed by volume, but revenues are governed by tonnage. In the lightweighting phenomenon, costs go up while revenues stay the same or even decrease.

Municipal contracts

Now reality has set in and we need to reset how contracts are structured so that they are equitable for all parties. In the interest of providing the public and private sectors in solid waste management the proper guidance regarding contracting for processing of municipal recyclables, the National Waste & Recycling Association (NWRA) and the Solid Waste Association of North America (SWANA) jointly developed an advisory to improve the content of contracts for municipal recycling programs.

These guidelines address challenges facing public agencies and private industry as they seek to improve the effectiveness of local residential recycling programs, meet local and state requirements, and remain equitable and fair to all parties. The guidelines present options and considerations to guide the local agency and the contractor on how to anticipate and

manage scenarios that may arise.

The NWRA and SWANA Joint Advisory on Designing Contracts for Processing of Manual Recyclables (available at tinyurl.com/SWANA-NWRA) is the product of a process that brought together experts from private industry and local governments to address the need for consistent standards in contracting for recycling services. Their challenge was to develop joint standards that can help parties cooperatively address the evolving nature of the residential recycling stream and the dramatic price fluctuations in global commodities markets.

Knowing that both organizations seek a mutually beneficial relationship that is cost-effective and guarantees high-quality service that returns recyclables to the marketplace as commodities, the advisory addresses:

- The contracting process and fundamental provisions for determining ownership of recyclables; length and term of contract; public education and outreach of customers; compensation and payment structure
- The changing waste stream, including the volatility of the recyclables market since waste is changing rapidly
- Contract protocols, including competitive bidding processes
- The contents of bid documents, including standard contractual provisions, risk allocation, ownership of recyclable materials and protocols to protect from breach of contract
- Prescribing performance specification and standards, including terms, obligations, termination rights, responsibilities and rights of both parties, administration tools, and compensatory and payment structures

This advisory highlights important issues that come into play during a public process to select processing services for recyclables. Contracts should ultimately be designed to ensure they are functional and cost-effective for both public entities and contractors and ensure the return of recyclables to the marketplace as commodities. **RR**

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