



Adding rigid plastics to municipal recycling – Part 2

by Roger Guttentag

Last month, I highlighted the recent expansion of post-consumer plastic recycling through the addition of rigid plastics (primarily non-bottle rigid plastics) to municipal and commercial collection streams. This month, I am continuing that discussion by looking at how some states and local governments have tackled rigids. We'll also take a trip outside the U.S. to learn how other countries are addressing this issue.

State-level actions

California – The state adopted its Rigid Plastic Packaging Container law in 1991 and then amended its regulations in 2013. The information on this law and its current regulatory structure can be found on the CalRecycle website, which includes steps to determine what products are covered. It also lays out how manufacturers can comply with the current regulations and details the certification process to be followed. The site also lists some examples of products that fit the regulatory definition, including: buckets with lids, closable boxes, thermoform clamshells and tubes that either were sealed by the manufacturer or have one closure that can be opened by the user. The law's principal objective is to reduce the amount of plastic product disposal through the use of a minimum recycled content level (currently set at 25 percent) or a documented recycling rate of 45 percent or more.

Oregon – Oregon's Rigid Plastic Container Law was also enacted in the early 1990s, and it takes a similar approach to California on manufacturer compliance by requiring rigid plastic container products to use least 25 percent recycled content or use a resin with

a 25 percent recycling rate in the state. The law also allows containers that can be reused five or more times. In addition, the Oregon Department of Environmental Quality (DEQ) has produced several reports on rigid plastic container recycling, the latest of which discusses the state's methodology for estimating rigid plastic container recycling tonnage and rates. DEQ concluded the category's recycling rate was about 30 percent in 2007 and above 25 percent in 2009.

Wisconsin – The Plastics Recycling Subcommittee of the Wisconsin Council on Recycling has posted a brief summary of guidelines for increasing non-bottle rigid plastics recycling. The subcommittee recommends providing support to the Association of Postconsumer Plastic Recyclers' bale quality guidelines and grocery rigid plastics recycling programs. It also recommends developing a joint public-private study to identify additional rigid plastics recycling opportunities within the state. Another useful resource is a series of rigid plastics recycling webinars that can be viewed on the Council's website.

Rigid plastics and residents

A number of U.S. municipalities and regions are now adding or expanding rigid plastics recycling programs to include other types of rigid container plastics, housewares such as dish drainers, and bulky products like crates and furniture items. The following communities employ such programs:

Designated drop-offs

- Atlantic County Utilities Authority (New Jersey)
- City of Madison (Wisconsin) Streets and Recycling (No. 2 and No. 5 resins only)

Curbside collections

- New York City
- Virginia Peninsulas Public Service Authority
- Washington, D.C.

What's happening up north

Stewardship Ontario, a Canadian nonprofit corporation that provides funding for provincial curbside recycling collection and household hazardous waste drop-off programs, has been active in promoting public and private rigid plastics recycling initiatives as part of its "Plastic Is In!" outreach program. The process Stewardship Ontario started in 2006 has involved identifying rigid plastics recycling barriers and determining what market development actions could be undertaken in concert with public economic development resources and industry partners. In one such case, the nonprofit corporation made investments in rigid plastic reprocessing technologies (from Entropex and EFS-Plastics) and then worked with companies that can use the output of the reprocessing. Two users of the material were Gracious Living (a manufacturer of furniture and other home products) and Ice River Springs (a bottled water company). In addition, Stewardship Ontario, in cooperation with the Retail Council of Canada, was able to persuade five major Canadian food retailers to standardize PET thermoform packaging so that it can be easily recovered with PET bottles through curbside recycling collection.

Pondering across the pond

The Waste & Resources Action Programme (WRAP) is a U.K.-based organization that is devoted to resource efficiency, product sustainability and promoting behavioral changes in support of those goals. Many useful rigid plastics recycling information resources stem from the work that WRAP has done, including the two highlighted below.

The guidance document "Design of Rigid Plastic Packaging for Recycling (2013)" offers recommendations that are searchable via four categories: polymer, color, components and pack characteristics. Each one of these categories is then broken

down into appropriate sub-categories for different polymers and ranked as “ideal,” “not ideal” and “detrimental.”

Another guidance document, “Collection and Sorting of Household Rigid Plastic Packaging (2012),” is written specifically for U.K. local governments that operate municipal recycling systems and are considering new or expanded rigid plastics recycling programs. The guide starts with a discussion of the processing and manufacturer side of the supply chain and then works backwards to address collection and public outreach issues.

Taking a look Down Under

The Australian Packaging Covenant, a public-private partnership to foster sustainable packaging, has published the “Design Smart Material Guide – Rigid Plastic Packaging” to help packaging professionals understand how design decisions can affect a packaging product’s environmental footprint. The guide describes a package’s life cycle, detailing how the product goes through stages of collection, sorting and then transformation into a raw material through plastics reprocessing. As part of this discussion, the guide distinguishes between closed-loop recycling, open-loop recycling and “down-cycling.”

Other parts of the guide are devoted to establishing a design guidance hierarchy (in descending preference order) based on life-cycle assessment principles, and the guide provides concrete examples to illustrate each of them.

Web Address Directory

Australian Packaging Covenant Design Guides
California Rigid Plastic Container Recycling Program
Oregon Rigid Plastic Recycling Law
Stewardship Ontario – Plastic Is In!
Wisconsin Council on Recycling
WRAP – Rigid Plastic Packaging

tinyurl.com/AU-Packaging
calrecycle.ca.gov/plastics/rppc
tinyurl.com/OR-RPR-Law
tinyurl.com/ON-RPR
tinyurl.com/WI-RPR
tinyurl.com/WRAP-RPR

Communities with expanded rigid plastic recycling programs

Atlantic County Utilities Authority – Plastics Recycling
City of Madison Streets and Recycling
New York City What to Recycle for Residents
Virginia Peninsulas Curbside Recycling
Washington, D.C. Residential Recycling

acua.com/rigidplastics
tinyurl.com/Madison-RPR
tinyurl.com/NYC-Rigids
vppsa.org/csrrecycle.htm
tinyurl.com/DC-Rigids

Final thoughts

Rigid plastics recycling issues fall roughly into three different timing windows. In the near term, the questions revolve around the availability of markets, the capabilities of the receiving MRFs to process additional rigid plastics into the recommended bale compositions and the capacity of local collection systems to handle this new tonnage. Going a little further out into the future, the main concern will be the feasibility of standardizing on specific product polymers such as was done in Ontario with respect to food retail PET thermoforms. Finally, in the long term, a major question lingers: Will the evolution of plastic products, especially packaging, routinely incorporate

the design principles advocated by plastic recycling companies and groups?

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