

Recycling Online



What about plastic film? – Part 2

by Roger Guttentag

include such key issues as insufficient public education and awareness regarding PEFF recycling options, cost-effective materials handling logistics for small-to-medium PEFF generators and operational difficulties in incorporating the recovery of PEFF from the material streams delivered to materials recovery facilities (MRFs).

While industry organizations like the Flexible Film Recycling Group of the American Chemistry Council (ACC) have been trying to develop cost-efficient solutions to the issues raised in the Wisconsin report, many of their most visible efforts have focused on enhancing or expanding drop-off collections through retail locations and increasing the recovery of commercial PEFF from smaller businesses.

Drop and shop

A number of different approaches are being tried by plastic film manufacturers and their customers for going beyond just providing or expanding retail drop-off collection locations for PEFF products. The following are some examples:

ACC-FFRG Wisconsin Program

The ACC issued a press release in February 2013 announcing the signing of a memorandum of understanding with the Wisconsin Department of Natural Resources and the Sustainable Packaging Coalition to increase PEFF recycling within the state of Wisconsin through a series of actions that are based on the recommendations of the state's recent plastic recycling study. This includes a strong emphasis on encouraging residential use of retail PEFF drop-off locations and assisting small-to medium-sized businesses to recycle more of their film waste.

Lake County, Illinois – Plastic Bag Recycling Task Force

The Illinois legislature enacted in 2007 the Plastic Bag Recycling Act that established a Plastics Recycling Task Force for the purpose of implementing a pilot program in Lake County for evaluating the effectiveness

of a voluntary PEFF recycling system based on utilizing retail locations. Program planning started in 2008 and operated for eight months, from May 2009 through the end of December 2009, at 76 locations operated by nine retailers that were recruited from a pool of businesses that operated stores of 10,000 square feet, or greater. The ACC provided technical and financial support to this project that included the provision of collection bins and educational materials. While the PRTF considers the pilot to be successful, the data that was collected was not able to determine what percentage of recovered materials consisted of plastic bags recovered from residential customers for each location.

Minnesota Waste Wise – It's in the Bag (IIB)

The IIB program provides businesses within participating communities with an opportunity to recycle the PEFF they generate by linking them with a vocational work center that will collect and process these materials. In addition, these businesses are encouraged to accept consumer PEFF as part of their own recycling program. The IIB site provides information on acceptable materials, participating communities and drop-off locations for consumer PEFF.

San Antonio (Texas) – Change is in the Bag

This is another example of public-private collaboration between five major retailers like Target, the City of San Antonio and nongovernmental organizations, such as Texas Keep America Beautiful, to boost the recycling of consumer PEFF.

University of North Carolina – Student Pilot Film Recovery Project

This is a short report on an undergraduate environmental studies project conducted during the spring of 2009 over a six-week period to determine the feasibility of developing a plastic film recycling program at a shopping center located in Chapel Hill, North Carolina. The concept that was tested was the creation of a collection network of smaller PEFF generators that would feed into an existing PEFF recycling system operated by an anchor store.

In last month's column, I introduced the key constituencies that are currently vying for public support for policies that either seek to reduce single-use plastic bag (SUPB) consumption through bans or to promote for the recovery of all polyethylene flexible film (PEFF) products through various forms of public-private programs. Advocacy of the latter option by various business and industry groups has accelerated in the past several years due to the enactment of anti-SUPB legislation by various states, counties and municipalities and the continued introduction of similar legislation for 2013. An excellent resource that I neglected to mention in my previous column, the National Conference of State Legislatures, shows in their review of 2013 plastic bag legislation that currently SUPB bans have been proposed in seven states, and eight states have bills that would impose various types of fees on retail bags.

It really is as hard as it looks

In order to forestall these legislative actions against SUPBs, retailers and plastic film manufacturers need to demonstrate that effective recovery program alternatives for all types of PEFF products are both feasible and effective. While they have made a reasonable case that access to PEFF services is available to the majority of the U.S. population, it is also acknowledged that access is not, by itself, sufficient for improving PEFF recovery rates. The challenges that must be addressed for achieving these higher rates are clearly presented in a recent report and

The ACC provided assistance in the form of technical advice, collection bins and educational materials. The most useful sections of this report are those that address the various challenges the student team confronted during the project and the lessons they gained from these experiences.

Bring it to the curb

The inclusion of PEFF in residential curbside collection systems is currently uncommon in the United States. Two examples that I could find are the City of Madison, Wisconsin and the City of San Juan Capistrano, California. Both communities require residents to place all acceptable PEFF into a single plastic bag that is tied closed. According to Appendix 3-D of the Wisconsin Plastic Recycling Study, plastic bags received at the MRF that processes Madison's recyclables are then removed at pre-sort stations for baling. It is likely that a similar procedure is used for San Juan Capistrano PEFF as well.

City of Langley (British Columbia, Canada)

The Canadian Plastics Industry Association and other business organizations sponsored a 3 month pilot project, called Blue +2, in the City of Langley that ran from February through April 2012 to test the viability of collecting PEFF and polystyrene foam (PSF) in separate transparent collection bags. The conclusion of the project's final report states that this pilot demonstrated that PEFF and PSF can be collected and processed effectively within an existing residential single-stream system. It also provides a number of useful findings and data. Some of the key ones include:

Bag breakage was found to be minimal, but problems were encountered from either from improper closure of collection bags or the use of non-PEFF bags.

Pre-sorting of the collection bags works best but collection quantities exceeding those recovered during the pilot project may require MRF operators to consider making changes in the design of their pre-sort areas.

The PEFF bales did not meet the quality requirement of 85 percent or higher PEFF content. The report concludes that this problem can be corrected by additional public education and quality sorting prior to baling.

Web Address Directory

American Chemistry Council – New Wisconsin Public-Private

Partnership to Boost Film Recycling

<http://tinyurl.com/ACC-Film2>

Change Is In the Bag

<http://changeisinthebag.org/>

City of Langley – Blue +2 Test Project

<http://tinyurl.com/2-Langley>

City of Madison – Plastic Bag Recycling

<http://tinyurl.com/MadisonPlastic>

City of San Juan Capistrano – Plastic Bag Recycling

<http://tinyurl.com/SanJuanBag>

Lake County – Plastic Bag & Film Recycling

<http://tinyurl.com/SWALCOBag>

Minnesota Waste Wise – It's In the Bag Program

<http://www.itsinthebagmn.org/>

National Conference of State Legislatures – Plastic Bag Legislation

<http://tinyurl.com/NCSLBag>

UNC Capstone Research Project – Plastic Film Recovery

<http://tinyurl.com/UNCPlastic>

Wisconsin Plastics Recycling Study

<http://tinyurl.com/WIBag>

Final thoughts

The near-term strategy that is being pursued currently by plastic film manufacturers of helping small to medium sized companies to overcome logistical barriers to the recycling their PEFF waste while enhancing the effectiveness of residential PEFF collections through additional drop off locations and better educational outreach is certainly reasonable. However, while this strategy may very well yield a significantly higher recovery of commercial PEFF waste it is not at all certain that the same will be true for consumer PEFF. The current consumer retail system has been so successful in promoting a unidirectional flow of materials from seller to buyer that developing a reverse flow (i.e., consumer return of PEFF to retailer) in the absence of specific economic incentives may be a hard sell for a significant fraction of the consumer population. On the other hand,

while incorporating PEFF into curbside and multi-family collections would be more convenient for the users, it is also clear that there are real challenges that need to be met by MRF operators in terms of redesigning process system design and operations to handle this material on a reasonable marginal cost basis. It will be interesting to see if industry organizations like the ACC will actually make the necessary financial investments to address these challenges.

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