



The Flexible Packaging Association is leading an industry effort to address end-of-packaging-life alternatives for flexible packaging including resource recovery for multi-material laminates. The goal of the FPA Resource Recovery Program is to evaluate current and emerging technologies, explore potential business models, and expand communication and outreach efforts to facilitate flexible packaging waste (FPW) resource recovery technologies. FP



# FLEXIBLE PACKAGING RESOURCE RECOVERY – CONTINUING THE JOURNEY

The Flexible Packaging Association (FPA) Resource Recovery Consultant Peter Hunderup, presented the most recent findings from ongoing FPA research regarding flexible packaging end-of-packaging-life issues to over two-hundred attendees of the *Smithers Pira Sustainability in Packaging Conference* in early March. Hunderup was joined by FPA members, Ampac and Bemis Company, Inc. for a panel discussion on *Key Sustainability and Innovation Trends around Flexible Packaging for Better End of Life Scenarios*. The panel reviewed trends in flexible packaging, recent market developments influencing packaging, and the sustainability of flexible packaging.

Hunderup's presentation focused on FPA research to evaluate current and emerging technologies in resource recovery, including exploring potential business models for the viable recovery of multi-material laminates. In this phase of research, FPA worked with material recovery facilities (MRFs) and the waste management industry to expand the understanding of collection and sortation challenges and opportunities for resource recovery and to determine the level of technology and commercial development of emerging end market processors.

Additionally, as part of the research, FPA has developed a list of stakeholder end-of-packaging-life programs and initiatives, to avoid redundancies and leverage learnings.

## NOT ALL FLEXIBLE PACKAGING IS THE SAME

For resource recovery purposes, it is important to understand that not all flexible packaging is the same. Polyethylene bags and films and predominantly polyethylene laminates are currently recycled primarily through store drop-off programs. Multi-material laminates and films which provide barrier protection through the lamination of highly engineered materials, are more difficult to mechanically recycle. However they are excellent candidates for resource recovery. The challenges to their recovery include collection, sortation, and volume, which is only 1.6% of the municipal solid waste stream (Figure 1).

## COLLECTION CHALLENGES

There are currently no documented programs for curbside collection of multi-material laminates in the U.S. Programs that accept PE bags or PE film do not accept laminates. Therefore, FPA is exploring the best methods for collection, sortation and processing.

FIGURE 1  
**FOOD PACKAGING WASTE (FPW) IS A SMALL PERCENTAGE OF THE TOTAL MUNICIPAL SOLID WASTE (MSW) STREAM**  
2012 U.S. FLEXIBLE PACKAGING VOLUME

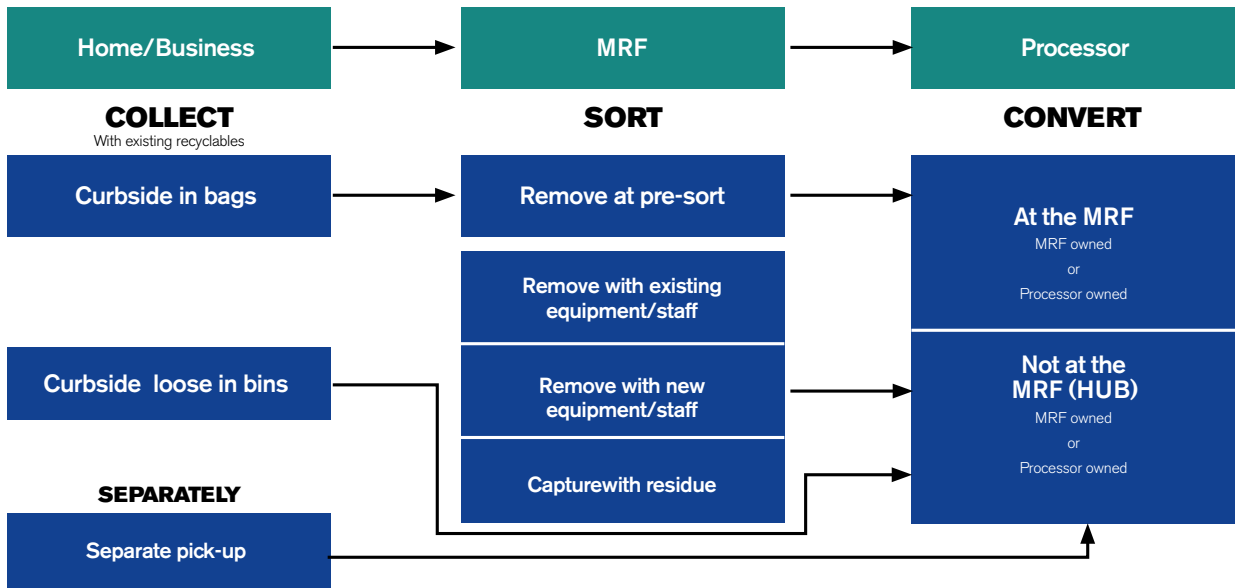
	MM tons	% of MSW
Total FPW	8	3.2%
Multi-material Laminates FPW	4	1.6%

**Note:** Volumes do not include shrink labels

**Source:** FPA Flexible Packaging Industry Segment Profile Analysis / EPA 2011 MSW in the U.S. Full Report & 2010 Census Bureau Data

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**FIGURE 2  
FLEXIBLE PACKAGING COLLECTION, SORTATION, PROCESSING MATERIAL FLOW CHART**



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### SORTATION CHALLENGES

Cost effective sortation at the MRF is one of the biggest challenges facing recovery of flexible packaging. There are currently no established sortation methods for laminates, films or bags. Manual sortation, and vacuum-assisted manual sortation, are the primary methods currently used for sorting small volumes of flexible packaging inadvertently placed in recycling bins. Flexible packaging waste could be optically (auto) sorted at low through-puts, however, the low volume of flexible packaging waste makes it challenging for MRFs to justify adding a new sortation stream for these materials.

### PROCESSING

Emerging technologies for processing end-of-packaging-life multi-material laminates include gasification, engineered solid fuels, and pyrolysis. Currently, pyrolysis appears to be a promising option for resource recovery of multi-material laminates.

Since collection, sortation, and processing are often unique to a given community, there is currently no single solution that can be applied to flexible packaging. A system's viability will be influenced by existing equipment and infrastructure, material collection methods and rates, volume and mix of collected materials, the relative location of processors, and demand for recovered

materials. Figure 2 illustrates possible material flows to accomplish resource recovery of multi-material laminates. Collecting laminates at a depot or during a separate pick-up could bypass the MRF and sortation issues, by going directly to the processor for conversion to energy alternatives. Bag-in-bag collection could facilitate single stream collection and sortation. **FP**

### END-OF-PACKAGING-LIFE OPTIONS

Existing	Emerging
Landfill	Gasification
Mechanical Recycling	Pyrolysis
Waste to Energy	Engineered Solid Fuel

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*The Flexible Packaging Association is an industry leader in sustainability issues through its research initiatives and programs. For more details regarding our ongoing research and involvement in resource recovery, please see the FPA brochure **Flexible Packaging Resource Recovery: A Work in Progress** at [www.flexpack.org](http://www.flexpack.org).*



## FPA RELEASES 2014 MEMBERSHIP DIRECTORY

The 2014 FPA Membership Directory is now available as a benefit exclusively for FPA members. Published annually, the Directory is a key networking tool which provides a comprehensive listing of all FPA converter and associate members.

The electronic version is accessible through the *Members Only* section of the FPA Web site ([www.flexpack.org](http://www.flexpack.org)) and will be revised as additional information is provided. The annual *Directory* contains contact information for FPA converter, associate, converter/

associate, international converter, trade press and academic members. The FPA mission statement, FPA By-Laws, FPA leadership and staff, the Chairman’s Advisory Council, FPA program committees, professional services, and a listing of related associations are also included.

Upon request, members will receive a condensed printed booklet version and may also access a comprehensive electronic (PDF) version. Should you require additional copies, please contact the Association at (410) 694-0800 or visit [www.flexpack.org](http://www.flexpack.org). **FP**

### AN FPA MEMBER BENEFIT

## FOURTH QUARTER 2014 “PULSE OF THE INDUSTRY” REPORT

The Flexible Packaging Association released the *Fourth Quarter 2014 “Pulse of the Industry” Report* focusing on the short-term performance of flexible packaging companies (converters) during fourth quarter 2013 versus third quarter 2013 and fourth quarter 2012. Published recently, the Report also provides information on converter’s sales performance and volume/output expectations during first quarter 2014 (versus fourth quarter 2013).

Several areas of business activity are examined in the *Report* including net sales, volume/output, profits, inventory levels, capital expenditures and capacity utilization. Data available in the Report is gathered through the Fourth Quarter 2013 “Pulse of the Industry” Survey. FPA is pleased to report that 79 percent of FPA converter members participated in the survey,

representing 63 percent of the \$21.2 billion value added segment of the flexible packaging industry.

The *Report* provides both a summary of the survey results with graphs and short explanations of the graphs and more detailed data for each survey category. The data presented covers both the overall composite results as well as data for very large, large, mid and small company segments.

The quarterly *Pulse of the Industry Report* is a benefit of FPA membership. For more information on this report and other FPA benchmarking reports including the *Compensation Report*, the *Earnings Report*, and the *Operating Ratios Report*, contact Bob Zaborowski, director, Business and Economic Research at (410) 694-0800 or [bzaborowski@flexpack.org](mailto:bzaborowski@flexpack.org). **FP**

## FPA FLEXIBLE PACKAGING ACHIEVEMENT AWARD PACKAGES ON DISPLAY AT FMI CONNECT 2014

The Flexible Packaging Association is invited to display eleven of its 2014 Flexible Packaging Achievement Award recipient packages at the PMMI-PACK EXPO *Possibilities in Packaging Innovation Pavilion* at FMI Connect 2014, June 11-12 at McCormick Place (South Hall) in Chicago IL. The FPA Flexible Packaging Achievement Awards in food packaging will be a part of a larger display showcasing advancements and innovation in food packaging. If you plan to attend, please stop by. **FP**

