In the world of packaging waste recovery, the focus to date has been on capturing high-value, high-tonnage materials. However, as consumer interest has grown in doing what’s “right for the environment,” so has the interest in recovering less prevalent, seemingly more problematic materials. Used foodservice packaging (FSP) fits in this category. Although less than 3 percent of the total municipal solid waste stream by weight, FSP is, of course, highly visible to consumers.

Paper and plastic FSP is made from a wide variety of material types, including paper and coated boards, molded pulp, rigid and expanded polystyrene (PS and EPS, respectively), polypropylene (PP), polyethylene terephthalate (PET) and polylactic acid (PLA) (see Figure 1 on page 32). These materials, while often recyclable when sourced as independent resin and fiber types, create recovery challenges as they are typically combined at the point of sale (think paper cup with plastic lid) and sometimes end up with food and beverage residue after use. Consequently, there is uncertainty as to the quality levels of the recovered materials. And to complicate matters, approximately three quarters of FSP at a typical fast food restaurant “walks out the door” and travels to homes, workplaces and public venues, scattering supply about and making economic recovery all the more challenging.

The few foodservice companies that have established FSP recovery programs to date have encountered hesitation from recycling processors and end users given quantity and quality concerns. Faced with such challenges, FSP recovery pioneers concluded that a collaborative approach involving the full range of FSP stakeholders was needed to make successful and sustainable FSP recovery system a reality.

A recipe in collaboration

In 2011, the Foodservice Packaging Institute (FPI) saw the opportunity to provide its membership with a forum and vehicle for leveraging individual company efforts with cross-industry support. Paper FSP members joined together and created the Paper Recovery Alliance (PRA). Shortly thereafter, FPI’s plastic packaging members formed the Plastics Recovery Group (PRG). The current membership of these two groups is shown in Figure 2 on page 37 and includes the full range of value-chain partners, including raw material suppliers, packaging converters, foodservice operators and retailers, collection and processing service providers and end users, such as mills.

With the recovery working groups formed, FPI hired consulting firms Reclay StewardEdge and Resource Recycling Systems to assist them in overcoming the obstacles in their path and implementing FSP recovery programs.

Initially the PRA and PRG worked independently, believing that the needs and interests of paper and plastic FSP stakeholders warranted the development of separate strategies. However, the groups grew to realize that, while their materials differed, many of the barriers to FSP recovery for both types of materials were similar. Furthermore, both types of materials ultimately will need to share...
the same collection and processing infrastructure even though end markets will vary by material type. The groups soon realized that they could achieve better results by working together than continuing down their separate paths, although there would be specific circumstances that would dictate a material-specific approach and potentially even material-specific sources of funding.

FPI has now been working on FSP recovery for a little over one year. While by no means at a point where success can be claimed, much has been accomplished to pave the way for success in the future. This article discusses these accomplishments as well as the challenges remaining and where the Institute intends to go from here.

Building member alignment

FPI began its journey by reaching agreement on principles of approach and a shared vision of success:

- Remain material-neutral
- Maintain transparency
- Determine what is best for the industry as a whole
- Use a science- and markets-based approach
- Develop practical long-term solutions
- Avoid greenwashing

These guiding principles are still followed today. “We refer back to these principles, time and time again,” says Lynn Dyer, President of FPI, “especially when we are at a crossroad regarding what action to take.”

Data-driven decision-making

FPI compiled generation and disposition data to quantify and characterize FSP supply from the perspective of end users as opposed to foodservice establishments. In addition, a markets assessment was conducted, including evaluation of recycling, composting and energy recovery opportunities, and identified potential mills for the recovered polycraft paper FSP. Lastly, FPI compiled information and mapped the locations of potential material recovery and composting facilities. This information helped to create a shared understanding of FSP supply, demand and recovery infrastructure, and formed the basis for subsequent assessment tasks.

Looking at barriers and opportunities

As data were gathered and the facts became clearer, recovery opportunities and the barriers associated with realizing them also began to crystallize. Key findings emerged and are shaping the FPI’s future actions:

- More FSP is estimated to be disposed of at home than in foodservice establishments or workplace and public space sources (see Figure 3 on the next page).

Little data exists to assure that materials recovery facilities (MRFs) processing systems will be able to consistently capture targeted FSP in the desired end market streams. To take one example, uncertainty exists as to whether polycraft cups will get crushed and consequently end up in mixed paper bales or will be able to be optically sorted and recovered along with cartons as a higher-value polycraft grade.

End markets want assurance the materials supply they receive will be of consistent quality and flow from a quantity standpoint. John Mulcahy, vice president of sustainability and compliance with Georgia-Pacific Professional, shared his knowledge on this topic, stating that many of the paperboard and fiber producer’s mills which can process polycraft can manage a predictable and reasonable amount of food contamination; consistency and transparency regarding the amount of polycraft in each bale is important to ensure the proper capability and set up to process. “We need to adjust our pulping process accordingly, and do not want to be changing our system around all the time, as this is costly,” says Mulcahy.

Composting options for both paper and compostable plastic FSP exist, but only in limited marketplaces where there are facilities permitted to handle these post-consumer organics. Such opportunities will be further evaluated as the work continues.

Waste-to-energy/fuels technology and markets are emerging but are not currently commercially available to any significant degree.

Making parallel paths

In assessing FSP marketability, materials were classified into three different groups or pathways for recovery development:

- Path one: Materials that are readily accepted by existing markets without dedicated modification of current collection, sortation or marketing practices.
- Path two: Materials that, with small and/or short term effort to secure marketing or modify processing methods, could be accepted by the marketplace.
- Path three: Materials for which markets do not currently exist and/or will require larger and/or longer effort than tier one and two materials.

Given that one of the core principles guiding FPI’s recovery efforts is material neutrality,
members have agreed to work on building recovery for all three pathways simultaneously. This three-pronged approach requires recognition and acceptance that the recovery opportunities, timetables and associated costs will vary for each path.

Michael Westerfield, corporate director from leading EPS producer Dart Container Corp. says, “Since our customers have needs for packaging made from paper, PS, EPS, PET, PLA and PP, we appreciate that FPI is committed to seeking recovery solutions for paper and plastic FSP. This is what we believe that, ultimately, the consumer will expect.”

Sowing the seeds
Members were eager to establish community-based recovery initiatives. “Starbucks had been implementing customer facing recycling initiatives in our stores where infrastructure and commercial collection services already exist, but we realized we needed material volume – more than one brand could offer – to create broad-based market pull for the FSP we generate,” says Starbucks Coffee Company’s environmental impact director, Jim Hanna. “We were looking for an opportunity to test a multi-brand, multi-product effort to generate that scale on a community wide basis.”

In response to this interest, FPI assessed potential geographic locations for FSP recovery initiatives throughout North America, looking specifically for municipalities with significant population (and therefore FSP supply) that had compatible existing recovery infrastructure upon which to piggy back FSP recovery and where members had an interest in having a presence. Two locations were selected as initial sites for the city initiatives: Columbus, Ohio and Charlotte/Mecklenburg County, North Carolina. Substantial work has been underway in exploring recovery opportunities in partnership with the pertinent stakeholders in these communities, with valuable insights into what will bring about success gained along the way that will guide future work.

Evolving and emerging opportunities
Probably the most important finding from work completed by FPI to date is that, in spite of having gathered a substantial amount of supporting data and information on the nature of FSP and end-use options, concerns remain regarding the cost and technical feasibility of FSP recovery. So, additional data will be needed from field tests to fill these information gaps. Without this “hard” information, MRF operators and municipal stakeholders – whether in Columbus, Mecklenburg County or elsewhere – are unlikely to make the leap and add FSP to their collection programs. FPI is now conducting further analysis and field investigation to ad-
dress technical aspects of processing and end-use, as well as exploring partnerships with other industry stakeholders to participate in this “proofing” process.

A second key finding for FPI has been that while FSP is a priority to the companies in the foodservice industry, municipalities and MRFs want to maximize tonnage diversion and revenues and are reluctant to include additional materials that comprise a small percentage of the waste stream and come with potential processing and marketing challenges. Wanda Williams, director of business development food and retail solutions for Waste Management, stated in support of this finding, “We recognize our customers’ focus to recover these difficult-to-recycle materials, so we are building our capacity to look for new ways to transform these materials into useful products. However, WM also recognizes that it takes time to develop the right, innovative technologies and in the interim, we will continue to collaborate with multiple customers to uncover near-term opportunities to recycle or convert these materials.”

FPI has come to recognize that there are no quick fixes when it comes to FSP recovery. The path to wide-scale, long-term FSP recovery is expected to take several years, and measured by incremental progress with valuable lessons learned along the way. “We are a learning organization and our strategy will continue to evolve,” says Lynn Dyer, “but we will remain consistent in our vision and commitment to diverting foodservice packaging from landfills through the development of voluntary, industry-driven recovery programs.”

Betsy Dorn is a director of the USA Consulting Practice for Reclay StewardEdge, which has been assisting the Foodservice Packaging Institute with its campaign development and execution. She can be reached at bdorn@stewardedge.com or (561) 337-5790.

Reprinted with permission from Resource Recycling, P.O. Box 42270, Portland, OR 97242-0270; (503) 233-1305, (503) 233-1356 (fax); www.resource-recycling.com.