

Collaborative PET Thermoform Report Examines Recycling Pathways

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The Foodservice Packaging Institute (FPI) and project partners released results of their *PET Thermoform Cost and Material Flow Analysis* study. The <u>summary of findings</u> includes estimated material volumes in the marketplace and current recovery pathways. The study also presents relative costs and trade-offs for the potential pathways to increased recovery of this post-consumer material stream, whether through material recovery facilities (MRFs), polyethylene terephthalate (PET) reclaimers, or mixed plastics recyclers/plastics recycling facilities (PRFs). PET thermoform packaging includes cups, clamshells, trays, bowls, and deli, bakery and take-out containers.

"Working across the PET thermoform supply chain, we identified specific constraints to recycling, which led to the creation of this study and collaboration with partners. This study shows that there is potential to increase PET thermoform recovery through MRFs and PET reclaimers, although we still have some work to do to define the best path forward," said Natha Dempsey, president of FPI. "Our partners along with the MRFs and PET reclaimers we surveyed and interviewed have our thanks for sharing their valuable data, insights and perspectives."

In partnership with FPI, project supporters included trade organizations: the Association of Plastic Recyclers (APR), the National Association for PET Container Resources (NAPCOR), the Northeast Recycling Council, The Recycling Partnership and the Sustainable Packaging Coalition; and company partners: Amcor, Danone North America, Driscoll's, Eastman Chemical, Green Impact, Loop Industries, Mondelēz International and Sonoco. The study was conducted by Resource Recycling Systems (RRS).

"Our findings show that there is adequate volume of PET thermoform material in the U.S. marketplace to make this a viable target stream for increased recycling," said Liz Bedard, senior director of industry collaboration of The Recycling Partnership. "The study estimates annual marketplace volumes by weight, as equivalent to natural HDPE. There's certainly potential here if we can overcome some of the constraints identified in this study."

"While a lot of communities accept PET thermoforms for recycling, there are important questions downstream in the recycling value chain," said Adam Gendell, associate director of the Sustainable Packaging Coalition. "We all want to see healthy, robust demand for PET

thermoforms on the recycling market, and this research is critical to understanding those downstream challenges and opportunities."

PET reclaimers who process curbside post-consumer PET material are currently processing PET thermoform material along with PET bottle material. The percentage of recycled PET thermoforms (rPET) processed varies by reclaimer operation and rPET end market, but most reclaimers reported a tolerance for up to 10% by weight of a PET bottle bale.

"PET reclaimers' business models are predominantly bottle-centric and typically not set up to process high percentages of PET thermoforms for reasons that are both technical and commercial," said Darrel Collier, executive director of NAPCOR. "This was confirmed through interviews conducted for this study and it's something we are taking a very close look at now as we consider how we might further this work."

NAPCOR and the study team noted that there are a few PET reclaimers, primarily in California, that are running PET thermoform-only bales to rPET for PET sheet/thermoform end markets. This is one pathway considered in the study.

The study looked at the feasibility of sorting PET thermoforms into a separate stream at MRFs to be recovered in a thermoform-only bale. "MRFs are in the business of marketing commodities and many of the MRFs surveyed for this study would be open to sorting out PET thermoforms if certain market conditions were met," said Lynn Rubenstein, executive director of Northeast Recycling Council. Conditions include reliable market outlets willing to pay enough. "While MRFs offer near-term recovery opportunities, with about 500 MRFs in the U.S. — all a little different in terms of volumes, space and access to markets — it would be a challenge to achieve the scale needed to substantially increase recovery," added Rubenstein.

In addition to examining volumes and logistical considerations, the study estimated the additional costs associated with each pathway. "Each time you sort, bale and move a post-consumer material, such as a PET thermoform-only stream, you add costs that need to be accommodated in the material's market value," said Steve Alexander, executive director of the Association of Plastic Recyclers. "Unlike capital investments, these costs are ongoing for certain material pathways, so we scrutinized these sorts of marginal costs as part of our assessment."

Building on the results of this research, the partners are now working to define the next phase of work, which could include focused pilots to test strategies to address remaining technical and market questions to determine the most promising pathway to PET thermoform recycling.

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ABOUT FPI: Founded in 1933, the Foodservice Packaging Institute is the trade association for the foodservice packaging industry in North America. FPI promotes the value and benefits of foodservice packaging and serves as the industry's leading authority to educate and influence stakeholders. Members include raw material and machinery suppliers, manufacturers,

distributors and purchasers of foodservice packaging. For more information or to follow us on social media, visit www.FPI.org.

ABOUT APR: The Association of Plastic Recyclers (APR) is "The Voice of Plastics Recycling." As the international trade association representing the plastics recycling industry, membership includes independent recycling companies of all sizes, processing numerous resins, as well as consumer product companies, equipment manufacturers, testing laboratories, organizations, and others committed to the success of plastics recycling. APR works to enhance quality and increase supply through technical resources, testing programs, design solutions, corporate training, regulatory leadership and education programs.

ABOUT NAPCOR: Founded in 1987, the National Association for PET Container Resources (NAPCOR) is the trade association for the PET plastic packaging industry in the United States, Canada and Mexico. NAPCOR is dedicated to promoting the PET package; to overcoming hurdles to the successful recycling of PET; and to communicating the attributes of the PET container as a sustainable package. Learn more at www.napcor.com and www.positivelypet.org.

ABOUT NERC: NERC is a multi-state 501(c)(3) non-profit organization whose programs emphasize source reduction, reuse, recycling, composting, environmentally preferable purchasing (EPP), and decreasing the toxicity of the solid waste stream in the 11-state region comprised of Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Maryland, Pennsylvania, Rhode Island, and Vermont. It is committed to all aspects of recycling market development through environmental and economic sustainability. Hosting and supporting several national programs: the Government Recycling Demand Champions program, Toxics in Packaging Clearinghouse, the Electronics Recycling Coordination Clearinghouse, the State Electronics Challenge, and the EPPnet and Organics Management Northeast listservs. NERC works with diverse audiences; dealing with both traditional and unique materials streams and stakeholders/constituents and is committed to a non-partisan conversation between the public and private sector.

ABOUT THE RECYCLING PARTNERSHIP: The Recycling Partnership is a national nonprofit organization that leverages corporate partner funding to transform recycling for good in states, cities, and communities nationwide. As the leading organization in the country that engages the full recycling supply chain from the corporations that manufacture products and packaging to local governments charged with recycling to industry end markets, haulers, material recovery facilities, and converters, The Recycling Partnership positively impacts recycling at every step in the process. Since 2014, the nonprofit change agent diverted 230 million pounds of new recyclables from landfills, saved 465 million gallons of water, avoided more than 250,000 metric tons of greenhouse gases, and drove significant reductions in targeted contamination rates. Learn more at www.recyclingpartnership.org.

ABOUT SPC: The Sustainable Packaging Coalition® is a membership-based collaborative led by an independent nonprofit that believes in the power of industry to make packaging more sustainable. Using an objective lifecycle-based approach, we work in a constructive atmosphere to provide thought leadership and bring our members together to strengthen and advance the business case for more sustainable packaging.