

PLASTICS

RECYCLING UPDATE

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PLASTICS RECYCLING CONFERENCE ISSUE

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EPS RECYCLING

Gaining Momentum

EXPANDED POLYSTYRENE FOAM NOT RECYCLABLE? OUR AUTHOR GOES INTO GROWING COLLECTION AND INNOVATION TRENDS GEARED TOWARD PROCESSING THIS MUCH-MALIGNED MATERIAL.

By Mike Verespej

Considered elusive just five years ago, the recycling of foodservice items and packaging made from expanded polystyrene has recently taken some large steps forward.

Walmart and Best Buy, for instance, have initiated EPS foam packaging recycling programs, and fast-food restaurant chain Chick-Fil-A is beginning to recycle its EPS cups.

In addition, curbside EPS recycling, virtually non-existent in California in 2007, jumped to 35 communities in 2010 and 65 today. Baltimore opted in December 2012 to provide a drop-off collection location for EPS rather than go ahead with a proposed ban. And late last year, New York City gave EPS foam a one-year reprieve from a ban as city officials decided to explore the economic feasibility of recycling EPS.

“We’ve seen a big push to recycle EPS foam since Walmart started their Green Packaging Scoreboard and sustainability campaign,” says Betsy Steiner, executive director of the EPS Industry Alliance (EPS-IA). “That forced a lot of packaging suppliers to look at the environmental footprint of their packaging materials and take a harder look at what it meant to be green.”

The shift in mind-set relative to EPS recycling didn’t just happen. Dart Container Corp., EPS-IA and the American Chemistry Council all worked diligently to explain to communities, governments and businesses that EPS can be recycled. Those efforts are helping to spawn the growing number of recycling initiatives and highlighting the demand for recycled EPS among manufacturers and other companies.

Read on for a deeper look at why the material is gaining a foothold in recycling conversations nationwide.

Factors behind the shift

There are a number of drivers that have led to the latest proliferation of EPS recycling efforts. On the demand side, rising virgin PS prices have pushed companies to use more recycled PS in products such as picture frames, surfboards, interior moldings, ballpoint pens,

rulers, tape dispensers and nursery products.

At the same time, an abundance of continuing initiatives by Dart Container, a major manufacturer of EPS foam foodservice products, have helped create infrastructures enabling schools, large and small companies and consumers to recycle EPS foam. The decisions by Walmart and other large retailers to recycle the material have had major ripple effects as well.

“EPS was a no-no from the get-go” on Walmart’s scorecard, explains Steiner of the EPS-IA. That prompted the association alongside reps from the lighting fixture industry, the glass industry and others that deemed EPS an essential packaging material to meet with Walmart officials to try and convince them of the material recyclability.

After conducting a waste audit at some locations, Walmart began to recycle the EPS packaging from products it sells, using its distribution centers as collection points.

“It was encouraging to see a company that thought it was impossible to do find a solution,” says Steiner. “That is typically what happens when someone looks at it.”

Similarly, after Chick-Fil-A looked at alternatives to foam cups, it decided to stay with the products and try to recycle them.

“We have concluded that none ... of the environmentally friendly cup options ... serve our customers as well as the foam cup,” the sustainability section of Chick-Fil-A’s website reads, noting that paper-based alternatives are often not recyclable due to the material in their sealants.

Over the last two years, Chick-Fil-A has brought EPS cup recycling from 12 locations to more than 400 locations, and it plans to expand the program to 80 percent of its 1,700 locations by the end of 2014 and chain-wide by 2015.

A bull’s-eye on the Dart board

Likewise, Dart’s initiative to recycle PS food trays has expanded to 31 school districts in Michigan, California, Illinois and Mississippi

since the campaign began in 2009. Another 10 school districts in California, including Los Angeles, recycle school trays on their own.

In addition, the number of collection kits sold for Dart's five-year-old Recycla-Pak mail-back program that helps small businesses and restaurants recycle foam cups has nearly quadrupled since 2010 from 1,000 to nearly 3,600.

And Dart's CARE (Cups Are Recyclable) program – designed for college campuses, hospitals, corporate cafeteria and chain restaurants – now has 39 participants in 15 states, including a casino in San Diego. Participants lease a densifier that reduces the equivalent of 8,000 foam coffee cups into a 40-pound, 15-inch diameter block that fits into a five-gallon bucket.

Spurred by Dart's collection efforts at its 18 plants, the number of drop-off locations for EPS in the U.S. is now approaching 100. There are 14 non-Dart drop-off locations in California, nearly 40 in Michigan (Dart picks up the material at those) and 27 more in 12 other states.

"Dart has been very innovative and leading a lot of the EPS recycling movement," says David Wilson, purchasing manager for RAPAC, a manufacturer of PS beads and the largest recycler of EPS.

The most recent Dart initiative, unveiled this month, is the Home For Foam website that explains how schools, businesses and city governments can recycle EPS.

"A lot of people thought [recycling EPS] couldn't be done," says Michael West-erfield, Dart's corporate director of recycling programs. "But it can and the programs aren't stopping, they are expanding."

What about MRFs?

Burrtec Waste Industries, which operates materials recovery facilities in Fontana and Riverside, California, began sorting out EPS four years ago.

"We knew the equipment and markets were developing and saw it as an opportunity to add another commodity," says Richard Crockett, general manager of the company's MRFs and transfer divisions. "We only needed 200-300 square feet for floor space for the densifier at each location."

"It is not a high-volume material and is mostly packaging material, but the volume has increased by 25 percent since we started," he says. "We get maybe 200,000 pounds a year. ... If we can develop the



Courtesy of Recycling Management Services

infrastructure, the market and the products, it is going to continue to grow and expand, because it is easily recyclable."

Likewise, executives at five-year-old Styro Recycle LLC in Renton, Washington say the company is now accumulating 40,000 pounds of EPS every 21 days.

"We are getting material from appliance companies, furniture companies and electronic companies and IKEA," says the firm's founder and owner, Marilyn Lauderdale. A former IKEA employee, Lauderdale leased space from IKEA to start her business after the company turned down her proposal to recycle its EPS internally.

"Advertising was what did it," she says. "We got 1,200 hits on our website when we put graphics on our first collection truck. People are finding me."

Expanded demand

Picture frame manufacturers MCS Industries, Inc. in Easton, Pennsylvania and NEPCO in Pomona, California illustrate the demand side of the EPS recycling equation.

"In the last five years, we've doubled the amount of recycled EPS we use," says CEO Richard Master of MCS, which leases densifiers to furniture companies and other entities that supply the foam. Master says he expects 10-15 percent growth per year.

Likewise, five-year-old picture frame manufacturer NEPCO increased the

number of extrusion lines it has to make picture frame moldings from four to 10 (at a cost of \$100,000 each) when it moved to a 105,000 square foot facility in Pomona nine months ago.

"People are recycling more polystyrene so we have more material," says Ted Hwang, NEPCO sales director. He noted there is more demand for recycled PS in picture frames because it is cheaper than wood. "The only thing that is inhibiting more growth is the supply," Hwang says. "We could use five times more material."

Utilizing recycled PS to achieve economic benefits is an idea that extends far beyond picture frames. "A lot of molders are putting it back into their process for cost savings," says Wilson of RAPAC. "You might have a couple of people who are good stewards, but the use of recycled content boils down to money. As the cost of virgin material increases, people realize there is money to be made putting more and more recycled content into their products."

Master of MCS agrees. "The motivation is cost because virgin prices for PS have skyrocketed from 40-50 cents per pound to the high 80s and 90s in the last 10 years. Recycled PS is half that."

Money is also driving the decision by school districts to recycle their PS trays, and universities and businesses to recycle foodservice foam.

Some school districts estimate they save

20 percent or more annually in landfill costs by recycling PS school trays. Additionally, they have found recycling PS trays saves them money compared with switching to compostable or biodegradable options.

“Our program was driven by money,” says Lorne Debaun who set up the school tray recycling program for the Long Beach Unified School District three years ago. “Had we switched from foam, the next cheapest option would have cost us \$1.2 million each year.”

Its annual cost to recycle the trays: roughly \$85,000 – the cost of a dedicated truck driver, fuel and the truck maintenance.

What’s the rate?

Still, the actual amount of foam recycled is hard to pin down.

Privately held Dart doesn’t disclose the amount of EPS it collects, though its recycling centers can process 12 million pounds annually.

Dart representatives also doesn’t disclose how much material the company processes at its three-year-old dirty PS wash line in Corona, California, which has a capacity to process 3 million pounds of materials annually. The company will say it is processing at least 1 million school trays per month from California school districts – that’s the equivalent of 30,000 pounds per month, which is 50 percent more material than the company processed before the wash line started.

EPS-IA estimates more than 93 million pounds of post-consumer and post-industrial EPS was recycled in 2012. But the companies who recycle EPS into 45-pound ingots and into resins suggest those totals are vastly underestimated because of the small reporting base.

“My opinion is that the amount of EPS being recycled is much larger than is being reported,” said Wilson of RAPAC. “It’s growing faster than anything out there. The market has really exploded the last two to three years.”

Looking for more feedstock

If demand for recycled EPS truly is growing the way some in the industry say it is, greater volumes are already necessary, and EPS recycling supporters have plenty of ideas on where to possibly source the material. Steiner of EPS-IA points to the



Courtesy of Recycling Management Services

packaging foam used by kitchen and bath products companies, the packaging material from new construction, and biomedical and

pharmaceutical coolers.

And then there’s municipal collection. “It also is time to go back to the waste haul-



Courtesy of Dart Container Corp.

ers and make them aware of the progress that has been made over the last 10 years,” says Steiner. “We definitely need to go back and revisit with that group” and allay their concerns about end markets for recycled EPS and whether there is enough material to justify the additional cost of sorting.

“The key to expanding PS recycling is primarily awareness,” she says. “We’ve refined collection techniques and the technologies for densifying EPS. The ‘infant’ trial-and-error phase is over, so it is not a shot-in-the-dark anymore. There are now tried-and-true methods. But to recycle EPS requires conversation and dialogue.”

Steiner believes partnerships for drop-off or pickup of EPS foam are the best avenues to get high volumes of EPS, rather than curbside recycling. “EPS doesn’t belong in curbside,” she says. “You can make it work, but it’s not the best answer because it is not where you are going to find the best

volumes.”

But Dart’s Westerfield disagrees. “The biggest thing for us is to increase curbside collection because that is where you reach the masses. You can get a lot more return on your investment by targeting cities to add EPS collection at curbside.”

“We would like to see the kind of growth we have had in curbside collection in California in other states – at least in major metropolitan areas,” he says. “We’re making progress, but we have a long way to go.”

Currently, the 65 cities in California offering curbside EPS recycling include half of the state’s 50 largest cities and represent 22 percent of its population. (By contrast, the PS bans in 60 California communities, mostly along the coast, apply to only 10 percent of the state’s population.)

As for recyclers and processors, they just want more clean material.

“People’s mind-sets about recycling EPS foam are changing,” says one recycler. “So the challenge of growing the supply of materials is getting the consumers and municipalities to have a better system of getting the materials to us.”

Wilson of RAPAC agrees. “The pump is primed if the industry can evolve. But that’s the hurdle. If it makes sense financially to recycle it, it will happen. It’s all about money.” **PRU**

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