



# WHERE THERE'S A *Market* THERE'S A *Way*

The winners of the 2014 Recycling Innovators Forum demonstrate the power of economics when it comes to reshaping materials recovery. **BY DAN LEIF AND BOBBY ELLIOTT**



In recent years, the dialogue around materials diversion has increasingly shifted toward market development. To truly boost recycling in all areas of the globe, the reasoning goes, forces such as job creation, revenue growth and cost reduction must lead.

The two winners at last fall's second annual Recycling Innovators Forum fit right into that dollars-from-diversion discussion. The event, held alongside the Resource Recycling Conference in New Orleans in September, highlighted eight emerging businesses or entrepreneurs offering fresh ideas to move the industry forward. A panel of judges with deep ties to materials management heard presentations from those groups, and then awarded \$20,000 prizes to the two concepts that seemed most likely to make an immediate impact on the trade.

The winner of the Garage Innovator category was Ruby Lake Glass, a startup out of New York state that has developed several new markets for non-hazardous CRT panel glass that would otherwise represent a disposal headache. On the Forum's Enterprise/Institution side, the award went to the Healthcare Plastics Recycling Council (HPRC), a collaborative project aiming to put market forces to work to divert more of the millions of pounds of clean plastic packaging generated annually in hospitals around the country.

We caught up with the leaders of both initiatives to learn how they've put the Innovators Forum funding to work and to better understand the ways innovative thinking can bring untapped markets and recycling processes to light.

## Chicago hope

The HPRC, which was launched in 2010 by some of the largest

brands in health care product and packaging manufacturing (see sidebar), has leveraged its \$20,000 to try to begin establishing a plastics diversion pilot program in Chicago, one of America's busiest health care hubs.

The mission of HPRC is to streamline collection and recycling of the significant tonnages of clean plastics that are created everyday in hospital settings as clinicians unwrap and prepare instruments used to assess patients. HPRC cites figures from an organization called Practice GreenHealth that suggest more than 1 million tons of noninfectious plastic packaging go unrecovered from clinical settings every year. "This is material that is not hazardous waste," stressed Tod Christenson, director of HPRC. "These are high-quality plastic resources recovered before the stage of patient exposure and contact."

HPRC has stepped in to try to direct more of that material to reclaimers. In 2012 the council collaborated in a pilot program with Stanford Hospitals & Clinics in Palo Alto, California, undertaking waste characterization studies and other research that helped the group determine what specific materials and challenges exist in hospital settings. The study found 70 tons of health care plastics can be recovered annually from Stanford, much of it plastic film, rigid plastics and Blue Wrap, a dense, sterile hospital staple made from polypropylene.

Now, HPRC is turning its focus on the Windy City, where it hopes to bring together between five and seven hospitals with a plastics recycling firm. If all goes as planned, those entities will work together to create a system of plastics recovery within one specific community.

Christenson said if the Chicago system can show there is money to be made through clinical plastics recycling, the model would likely spark action in other pockets of the nation. "In essence, we're trying to create the pull," he said. "You can push and push, but if we can show an economic opportunity, that can excite the entrepreneurs out there

to go after this high-quality resource.”

Christenson noted the Chicago pilot is not a done deal – an RFP is still out to the recycling community and discussions are ongoing with hospitals. But desire for movement on the recycling issue seems to be in place within health care organizations themselves. Christenson said hospital administrators are hungry to find ways to cut waste bills, and the clinicians that actually handle the targeted packaging daily are tired of tossing it in the trash.

“In all our talks with hospitals so far, I’ve been pleasantly surprised that one of things that keeps coming up is: ‘We’re getting a lot of pressure from employees to do something about this,’” Christenson said. “This idea of employee satisfaction is a real pressure point for these folks. They see recycling as a chance to increase employee satisfaction and engagement while reducing their disposal costs.”

HPRC has also moved forward by developing a partnership with SPI: The Plastics Industry Trade Association in the Chicago project so that the hospital plastics effort keeps the needs of plastics processors and buyers in mind. The initiative, in fact, has already caught the eye of one manufacturer in the Upper Midwest, according to Christenson. That company has tested bales of material similar to that which would come out of the Chicago project, and company representatives determined it is suitable for use as recycled content.

“They’re excited because all of a sudden they have a potential new feedstock,” said Christenson. “If we can create that kind of demand, we’re going to have people knocking on every hospital door in the country.”

## Coloring the road ahead

After meeting at an industry trade show in spring 2012, Jonathan Gross and Cynthia Andella founded Ruby Lake Glass in 2013. But the idea behind the company, Gross said, actually came from Australia, where a researcher had managed to color coat pulverized glass and use it for bus and bike lanes, pools, terrazzo countertops and flooring.

“We thought if we bought the license, we could apply American technology, some of our own innovation, come up with better ways to do what’s already being done overseas and start a business in a market that’s really untapped – for color-coated, 100 percent recycled CRT glass to use in a variety of applications,” Gross said. “We closed the deal over a six-pack of Fosters.”

Working out of a 30,000-square-foot location in Utica, New York, Gross, Andella and seven other employees have managed to turn that idea into a growing business. In 2014, the company was able to pulverize and color coat approximately 1,000 tons of CRT panel glass for use in a variety of projects, including road and bike lane demarcation initiatives. Ruby Lake has the potential to do up to five times that amount annually, Gross said.

“We’re using non-hazardous CRT panel glass and this is a big deal, because there’s a lot of glass that’s available and the markets, while growing, are small,” Gross said. “We are addressing a major issue in this industry.”

Increasing production of the multi-colored product, Gross said, was always the goal for the company, but leading up to the 2014 Recycling Innovators Forum, Ruby Lake was searching for a way to better promote the offering.

## The companies behind HPRC

HPRC was organized in 2010 and currently includes the following 10 member companies: Baxter, Becton Dickinson, Bemis, Cardinal Health, Covidien, DuPont, Eastman, Johnson & Johnson, Kimberly-Clark and Sabic.

“As a young company, we need our process to be viewed as innovative, legitimate and viable, and the way to do that is to have a panel of eight judges who are your peers draw that conclusion themselves,” Gross said. “We were judged to have a product worthy of winning that award and it gave us credibility, which is huge for Ruby Lake. It gave us confidence.”

Ruby Lake’s co-founder says since winning the 2014 Garage Innovator prize, the company has been hard at work promoting the achievement in meetings and luncheons across North America and even abroad. The \$20,000 award, Gross said, has been going directly toward the company’s sales and marketing efforts and production is already on the rise.

“It’s helped us enormously,” Gross said. “It gets people’s attention, gets us in the door. You can be a great actor or actress, but it kind of helps to win an Oscar, you know? So the award has helped people listen to what it is we’re doing and why it makes a difference.”

Ruby Lake now expects production to be up 30 percent in 2015. **RR**

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## The honorable mentions

Judges involved with the 2014 Recycling Innovators Forum had a hard task on their hands. From more than 50 proposals, just eight finalists could be chosen. And from those eight finalists, only two companies could be chosen. What did the six non-winning finalists propose on stage in New Orleans? Here’s a brief rundown:

### The *Enterprise* category

A representative from tech repair pioneer iFixit presented the **Recycling Information Center**, a cloud-based, smartphone-friendly database of repair and disassembly manuals geared toward making the job of refurb specialists around the globe a little easier, safer and more efficient. Greenbean’s **Smart Bin**, meanwhile, outfits everyday recycling bins with hardware that scans each item a consumer wants to toss in the bin and provides up-to-the-minute data and redeemable rewards for their diversion efforts. Rounding out the

Enterprise group, tea and coffee company Mother Parkers unveiled the **EcoCup**, the first-ever recyclable single-serve coffee and tea capsule.

### The *Garage* category

Taking on the notoriously challenging CRT market, Robin Ingenthron’s **Fudente Production Partnership** proposed to use CRT glass as a fluxing agent at copper smelters, feeding an immediate demand for the item as a flux without undercutting higher-end lead smelters. Also addressing a challenging materials market, Creative Plastics Technology’s **commingled plastic moldings** provided a use and a market for otherwise landfill-destined mixed plastics. Finally, **Continuous Mechanochemical Compatibilization** presented by Zzyx Polymers, aims to process and optimize the use of mixed plastics through a unique, science-driven methodology.