

Mack Molding awarded for solar-powered container

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By PATRICK McARDLE STAFF WRITER - Published: March 6, 2010

ARLINGTON — Mack Molding is slated to receive a Global Plastics Environmental Conference Environmental Stewardship Award at a conference Tuesday in Florida for producing a solar-powered, compacting waste container used in the collection of trash for municipalities in 45 states in America and in 20 other countries.

Jeff Sample, president of Mack Molding's northern operations, said the staff was especially proud of the work done in Arlington that had turned the project from concept to reality because it met the increasing interest in clean, renewable energy sources.

"It derives its energy from the sun, significantly reducing fossil fuel consumption and greenhouse gas emissions through an ingenious, cost-saving solution to an inefficient, everyday problem: trash pick-up. It is gaining widespread interest, as waste management is an issue that spans the globe. And it has done all this while creating 'green' manufacturing jobs right here in Vermont," he said in an e-mail.

More than 20 Mack employees are involved in working on the product.

Mack is the co-recipient of the award, which recognize companies that have "raised the bar" for sustainable and recycling projects, along with client BigBelly Solar of Needham, Mass.

The award Mack and BigBelly will receive, "Enabling Technologies in Processes and Procedures," was won by the product called the BigBelly Solar Compactor.

The trash receptacles use less than 5 watt hours of electricity a day and get all of that from the sun through a solar photovoltaic panel, stored in a small battery inside the unit, that allows it to run at night, cloudy days or other times when the sun is not shining.

The unit can hold up to 160 gallons, despite its size being similar to an average trash receptacle, because of the compaction. As a result, cities can reduce collection.

According to BigBelly Solar, the city of Philadelphia was able to reduce its collection trips from 17 per week in Center City, Philadelphia's downtown, to five a week by replacing 700 wire baskets with 500 BigBelly solar compactors and 210 solar compactors that have an optional attachment that separates trash from items that can be recycled.

The city reduced those trash pick-up costs from \$2.3 million to about \$720,000 or almost 70 percent.

BigBelly solar compactors even have a wireless monitoring system that sends a text message to a Web-based database when the receptacle is full so that pick-up can be based on need rather than on an arbitrary schedule.

To make the receptacles practical, Mack's challenge was creating a solar bubble of high-impact, UV-resistant polycarbonate resin, about 28 inches by 20 inches and about 4-1/2 inches thick that was so clear the sun's rays could reach the solar panel.

The Arlington company's involvement in producing the units also includes the fabrication of the metal back panel and door parts, collection of more than 150 parts from various vendors and assembly of the units to be shipped to customers.

The compactors can be customized with different logos, artwork, colors or even bear-proofing latches.

A BigBelly Solar Compactor can be found locally at the Arlington Recreation Park. Mack donated the unit in May 2008 to the park which is also home to a playground built by volunteers, many of them Mack employees.

While this is among the first environmentally-based awards Mack has won, in the last five years the company has also won design awards from the Society of the Plastics Industry, the Plastics Processor of the Year, which Mack spokeswoman Julie Horst said was considered "the 'Academy Award' of the plastics industry and two national award for being a "progressive" manufacturer.

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