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Pittsburgh firm becomes a big wheel in burgeoning tire recycling industry

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For decades, millions of waste tires were piled at makeshift dumps, where they became a breeding ground for mosquitoes and rodents – and temptations for arsonists.

But in recent years, waste tires have undergone transformation from trash to treasure in a burgeoning industry that collects, processes and sells tire rubber.

Last year, 300 million tires were discarded – about one per American – and 261 million of those were recycled. Most of the 39 million or so tires not recycled were processed for land-fill disposal.

The recycling boom helps explain how a Pittsburgh-based company has succeeded in becoming the nation's largest waste tire processor.

Last year, Liberty Tire Recycling LLC handled 70 million tires, most of which were recycled for use as fuel or in products ranging from welcome mats and railroad ties to asphalt and athletic fields.

That's nearly a quarter of all waste tires produced nationwide last year.

The company operates 10 processing centers, which serve 16 states, mostly in the East, and employs 450. Its Braddock plant, with 25 employees, processed about 3 million tires last year with plans this year to recycle 4 million.

Partners in Laurel Mountain Partners LLC, which owns a large portion of Liberty Tire, include former Pittsburgh Steelers line-backer Andy Russell, Donald E. Rea and Jeffrey D. Kendall.

"We're 2 1/2 times bigger than the next guy in the industry," said Mr. Kendall, the partnership's managing director and Liberty Tire chief executive officer. "We do nearly all the tires in Western Pennsylvania right now."

Mr. Russell and Mr. Rea were partners in the bond company, Russell, Rea and Zappala, but left the firm in 1990 to begin buying waste management companies.

In time, Laurel Mountain Partners acquired about \$1 billion in waste management companies, including landfills and waste transfer stations. It transfers almost 4,000 tons of garbage by rail each day from New York and New Jersey to its landfills in eastern Ohio.

Consolidating companies and getting them in working order before selling them has been



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At the Liberty Tire Recycling facility in Braddock, shredded pieces of tires accumulate before being frozen with liquid nitrogen and smashed into even smaller pieces.

Laurel Mountain Partners' philosophy.

But during that process, the partners realized one segment of waste management had potential that warranted much more investment, and they soon aligned themselves with tires.

"We hope to build it to twice its current size in the next five years," Mr. Kendall said. "We're in a unique position in an industry that's growing."

Michael Blumenthal, senior technical director of the Rubber Manufacturers Association, said Liberty Tire has become the nation's largest tire processor by being well-financed, having good short- and long-term strategies and hiring "talented, highly qualified people."

"They've done things better than most companies in the past," he said.

"I think these guys will be around as long as they want to be involved in scrap tires," Mr. Blumenthal said. "It's nice to see the company do well."

Ronald B. Carlson, Liberty Tire's chief operating officer, said the company's approach

was to purchase 10 waste-tire companies throughout the East that were strategically located and were well-run. Next, Liberty Tire bought 12 "tuck-in companies" to incorporate into the 10 base companies and expand the market.

Future strategy, he said, involves buying other scrap tire companies in states east of the Mississippi River.

"We're looking to fill in the map from one state to the next and keep building up market share," Mr. Carlson said. Acquisition targets are situated in Mississippi, Texas, Florida, Illinois, Indiana, New Jersey, New York and other Northeastern states, he said.

In Braddock, Liberty Tire bought Recovery Technologies of Pennsylvania as a means of consolidating its market in Western Pennsylvania and Ohio and expanding the products it could produce.

Back in Braddock, those tires are shredded and processed to produce crumb rubber. The shredded rubber is frozen with liquid nitrogen, then shattered into crumbs as fine as talcum powder.

Steel belting and fiber are removed before the rubber is screened for size for different uses, and the steel is recycled.

The 40 million pounds of crumb rubber produced in Braddock is shipped in 1-ton containers to companies that make new tires, mix it with glue to make matting and other rubber products, or combine it with asphalt to make roads more durable and quieter.

The Rubber Manufacturers Association said “rubber asphalt concrete” is used in California, Arizona, Texas, Florida and South Carolina, with Nevada, Rhode Island, Washington state and Missouri studying whether to use it in pavement.

While Pennsylvania, New Jersey and New York have considered using rubber in pavement, the association said those states aren't likely to use it anytime soon.

Rubber also is used as mulch and fill and more recently has been used to make railroad ties that are stronger, longer lasting and require no creosote as wooden ties do.

Shredded rubber, high in BTUs, is burned in power plants and produces fewer pollutants than other fuels such as coal. As more profitable methods of rubber use are developed, less will be burned, Mr. Kendall said.

The bulk of crumb rubber is used in athletic fields, where it's mixed with sand or used as its own layer below artificial turf. Crumb also is poured atop the turf to make the blades stand tall and resemble grass. An athletic field requires 250,000 pounds of crumb rubber – about 20,000 tires.

Liberty Tire has produced rubber for hundreds of fields.

Mr. Kendall proposed that Heinz Field, whose surface was voted one of the NFL's worst, install artificial turf. “Tell the Steelers we'll donate the crumb to bring them into the 21st century,” he said, noting that the company



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Mitchell Leet, left, and Leon Rochez load tires to be shredded at the beginning of the tire recycling process in Braddock.

donated 500,000 pounds of rubber to build fields in Iraq.

Liberty Tire also operates recycling centers in Georgia, Texas, Ohio, Indiana, Illinois, Florida, North Carolina and South Carolina. It has won bids to clean up 450 tire dumps, including the Kirby site in Sycamore, Ohio, that had 30 million abandoned tires.

Some of those tires can be recycled, but most are shredded for landfill disposal because they're dirty, with diminished rubber quality.

Mr. Kendall said demand for rubber will rise as new uses, including engineered automobile parts, are created. He said U.S. capacity this year will reach 1.2 billion pounds.

Liberty Tire will produce 165 million pounds of crumb rubber, along with other rubber products.

“It is doing very well,” Mr. Kendall said. “We are very pleased.”