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Waste away

Union County plant turns garbage into renewable energy

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Mounds of wrapping paper. Millions of bows and decorations. Plenty of plastic. And more than just a little bit of leftover food scraps.

What's going to happen to all of the extra garbage that will be produced during the next few days as Central Jerseyans celebrate Christmas?

If you live in Middlesex, Somerset or Hunterdon counties, it probably will be headed to a landfill, either right here in the region or in Pennsylvania. But if you live in Union County, not one ounce of waste that finds its way into a garbage truck will hit the ground.

It will be bound for the Union County Utilities Authority plant on Routes 1 and 9. The plant, which has been in operation since 1994, consumes all of the county's waste daily — as well as some from Essex and Hudson counties and New York City.

To Sunil Garg, the executive director of the facility for the past 3 1/2 years, it is "probably one of the greatest stories never told."

"We take regular household garbage and use it as a fuel, burning it in a boiler to create electricity," said Garg, who recently was interviewed about the renewable waste-to-energy plant on NBC. "Around the holiday time it's kind of interesting because in our experience, around November and December, the amount of waste we get increases anywhere from 15 to 25 percent."

Into the fire

The plant handles 360,000 tons of garbage from Union County each year and has a capacity of up to 560,000 tons. The waste comes right to the door of the plant and is dumped right into one of three boilers, without any preprocessing.

The garbage serves as a fuel for the boilers that generate steam and heat to runs a turbine, which produces 45 megawatts of peak electricity that goes right into the power grid. And the plant is running essentially 100 percent of the time, save brief maintenance periods in the spring and fall.

All told, 330 megawatt hours of electricity streams from the plant each year — enough to power up to 40,000 homes.

"If you look at a family of three in Union County, they generate about 2 tons of garbage a year. That has enough heat value to generate six weeks to two months of electricity for that family," said Garg, whose plant produces 25 percent of New Jersey's renewable energy and \$20 million in electrical sales per year. "It's a huge, huge, huge, huge resource. It's very significant. Whether people realize it or not, everybody in this country is in the garbage business. It's actually the most tangible product people produce."

Essentially, the more garbage residents of Union County produce, the more the plant can contribute to the power grid. And considering the plant has run 8 million tons of garbage since its inception in 1994, that's a lot of energy.

Myriad benefits

It also contributes \$2.2 million in profit to the city of Rahway, needs no funding from the government, employs 85 people and has some of the best pollution standards of any energy plant in the region (and there are several, including six others in New Jersey and a handful on Long Island).

"We are making renewable energy and at the same time saving the planet," said Lorenzo Rizzi, the business manager for Covanta Energy, which helps run the plant. "We say making energy from waste is a triple win: less dependency on fossil fuels, fewer landfills and lower greenhouse gas emissions."

When the plant initially was built, at a cost of \$240 million, local residents, politicians and activists were concerned about the harm it could do to the environment. But in addition to reducing carbon dioxide output by 60 percent, the plant has extremely high standards with other airborne toxins.

Of the amount of emissions allowed (up to 100 percent) by the New Jersey Department of Environmental Protection, the plant emits only 22 percent hydrochloric acid, 6 percent mercury and 5 percent particulate matter.

"For every ton of waste we process, we eliminate the need for one barrel of oil," Rizzi said. "When you combine that benefit with that we're not sending waste out to a landfill, which generates methane greenhouse gas, we estimate that for every ton of waste that we process, we offset one ton of carbon dioxide emissions."

Those facts have helped win over the populace. Over the past several public meetings, at least since Garg has been running the company, not one member of the public has attended to voice a complaint.

"It's something we are very proud of," Garg said, "and it just goes to show that what we are doing here is helping make Union County a cleaner, safer, more energy efficient place to live."

Additional Facts

UNION COUNTY UTILITIES AUTHORITY

WHAT: A waste-to-energy plant that handles all of the garbage of the county, plus Essex and Hudson counties, as well as New York City

WHERE: 1499 Routes 1 and 9 north in Rahway

INFORMATION: 732-382-9400 or www.ucua.org

DID YOU KNOW?: The plant produces 300,000 megawatts hours of power per year, enough to power up to 40,000 homes and representing 25 percent of the state's renewable energy output