

One of the big advantages of the Dickerson incinerator, Covanta officials say, is that it reduces the amount of waste Montgomery County must send to a landfill. Burning reduces the volume by 90%, they note. The sale of the power also helps offset the costs of the operation.

Environmental groups, however, have long opposed waste-to-energy plants, arguing that they have a negative net impact on the environment. A recent study by the Environmental Integrity Project, a Washington, D.C., non-profit organization, for example, concluded that the Dickerson incinerator produces more pollution per unit of power than Maryland's four largest coal-fired power plants. The study looked at emissions of carbon dioxide, nitrogen and sulfur oxides, mercury, and lead.

Covanta says its plants shouldn't be compared to coal-fired power stations because producing electricity is not their primary purpose. "Waste-to-energy plants are designed

for sustainable waste management, and generating electricity is an added benefit," says James Regan, a corporate communications officer. A more complete life-cycle analysis, he says, would show that waste-to-energy plants actually reduce overall greenhouse gas emissions. They do that by diverting waste from landfills, which generate methane, and by reducing the amount of fossil fuels that must be burned in other plants to generate the same amount of electricity.

Maryland legislators apparently agree. Last year, they put waste-to-energy plants in the same category as wind, water, and solar energy when providing special tax breaks for companies to develop renewable fuels. Most environmentalists oppose that classification, which more than a dozen states have adopted. But it's not just a semantic distinction. Such tax breaks can play a big role in determining whether it's cheaper for a local government to build a waste-to-energy plant or use a landfill.

A beer budget

The economics of waste handling also lie at the heart of another issue that is important to trash professionals: the scale, design, and business model used by recycling operations. Although almost anything can be recycled, experts note, market conditions often determine what is worth recycling.

Montgomery County, for instance, has opted to use public funds to support a mid-size recycling system that accepts waste only from its own jurisdiction. It also asks its residents and businesses to help sort recyclables into multiple "streams," promoting the concept heavily to encourage compliance. A primary goal is to hold down the costs to taxpayers without skimping on quality. Or, as Davidson describes his employer's philosophy: "We try to provide champagne service on a beer budget."

County officials pride themselves on the quality of their separation process, saying that

MODERN-DAY WASTE PICKERS

With 12 tons of trash whizzing past her every hour, Norma Garcia has only a few seconds to spot the diaphanous plastic bags that can foul the machinery at the Montgomery County, Maryland, recycling center where she works as a lead sorter.

But the trim mother of two is good at her job. Within seconds she's plucked another bag from the stream of detritus on the conveyor belt and deftly tossed it into a trash can in the noisy, malodorous—but orderly—three-story concrete building where she's worked for 8 years. Garcia is a traffic cop for waste, directing the recyclable paper, plastic, metal, and glass to its proper destination while barring entry to the plastic bags, medical needles, batteries, pesticides, diapers, and everything else that can't be recycled—and shouldn't be there in the first place.

People have been sifting through trash for as long as society has been

producing waste. But compared with those who toil in the steaming, vermin-infested mounds of garbage on the outskirts of Rio de Janeiro or Manila, Garcia and her crew work in relative comfort. They are provided with safety equipment, get regular breaks, earn well above minimum wage, and—although contract workers rather than regular county employees—receive the same health insurance. In fact, the regular hours and indoor venue make working the line a plum assignment and translate into very low employee turnover rates.

Still, working with waste brings with it some unavoidable risks. On Garcia's conveyor line, the work screeches to a halt "anytime we see something toxic," she explains through a translator. "We push the button to turn off the line, and people have to leave until they make sure the fumes are gone." The stench is the worst part of the job, she says. "The spoiled milk in a carton . . . sometimes it's so bad it can make you sick."

Overall, the \$2.6 million recycling processing system features some 30 segments of conveyor belt, up to 2 meters wide and totaling nearly 800 meters in length. The belts connect dozens of pieces of special-purpose equipment, from a shaker table that removes broken glass to an eddy current that separates aluminum cans in a process that calls to mind spawning salmon leaping upstream. The 27 sorters are stationed along its entire length, serving as a nearly invisible but essential human element in the process.

A good sorter, Garcia says, must have not only a strong back but also the ability to adapt to the rhythms of the machinery. The workers are constantly in motion—eyes looking far back up the line to spot out-of-place items while their fingers rake the trash that speeds past them. It's not uncommon for workers to lean in the direction of the line even after the machine has been shut down, their bodies and minds propelled by its insistent motion.

Garcia says her job has taught her the importance of separating household garbage from recyclable materials at the curbside, so that the trucks arriving at the facility's tipping floor contain only what the county is able to recycle. But that lesson is lost on her nonsorter friends. "They don't care," she admits. "They say that it's all trash." **-J.D.M.**



Go with the flow. Line sorters at the recycling center.