

Energy 'gold' in garbage

Food waste is source of carbon-neutral fuel

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Food waste is an untapped resource with great potential for generating energy.

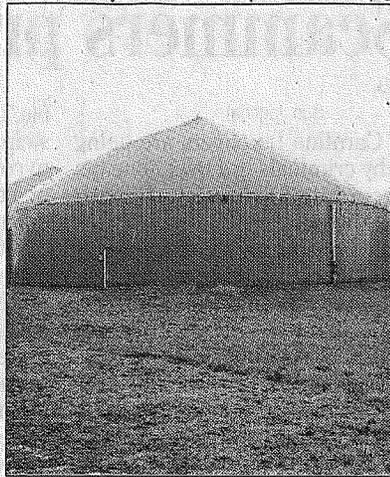
A third of all food produced around the world gets discarded uneaten – and environmentalists, energy analysts and entrepreneurs are beginning to take notice. Diverting even just a portion of this waste to so-called waste-to-energy systems could free up large amounts of landfill space while powering our vehicles and heating our homes, and thus putting a significant dent in our collective carbon footprint. Perhaps that's why WTE is one of the fastest-growing segments of the world's quickly diversifying energy sector.

There are some 800 industrial-scale WTE plants in more than three dozen countries around the world, and likely thousands of smaller systems at individual sites.

Most employ anaerobic digesters, which make use of microorganisms to break down and convert organic waste into a fuel such as biogas, biodiesel or ethanol. With some 70 percent of food waste around the world still going into landfills, there is a lot of potential feedstock to keep this environmentally friendly carbon-neutral fuel source coming.

"Waste-to-energy doesn't involve drilling, fracking or mining, and it doesn't rely on scarce and politically charged resources like oil," reports RWL Water Group, an international company that installs water, wastewater and WTE systems.

The waste from small slaughterhouses, breweries, dairy farms and coffee shops can power hundreds of typical homes each day if the infrastruc-



xTension Farm Energy

Anaerobic digestion goes on in waste-to-energy tanks in Fennville, Miss. WTE systems could free landfill space and provide energy.

ture is in place to sort, collect and process the organic material.

Navigant Research, which produced the 2012 report "Waste-to-Energy Technology Markets," which analyzes WTE's global market opportunity, expects WTE to grow from its current market size of \$6.2 billion to \$29.2 billion by 2022.

"With many countries facing dramatic population growth, rapid urbanization, rising levels of affluence and resource scarcity, waste-to-energy is re-establishing itself as an attractive technology option to promote low carbon growth in the crowded renewable energy landscape," says Navigant's Mackinnon Lawrence. "China is already in the midst of scaling up capacity, and growth there is expected to shift the center of the WTE universe away from Europe to Asia Pacific."

"We're barely scratching the surface of this potential – dumping over 70 percent of the world's food waste into landfills, rather than harnessing it for fuel and electricity," RWL reports. "Over the next 25 years, global energy demand will grow by 50 percent, while global oil supply dwindles at a rapid pace. Waste-to-energy is an obvious solution to meet the world's burgeoning energy demand."