

Printed from

# THE ECONOMIC TIMES

Here's how garbage is recycled into money  
4 Feb, 2008, 1530 hrs IST, Sachin Dave, TNN

Picture this. Donating a dustbin full of garbage everyday could get you free gas in your kitchen or free electricity, forever.

Sounds far-fetched? It's possible if your housing society buys one of the waste management technologies available in the market, which transforms your garbage into fuel (liquid and gas) or electricity.

Says Alka Zadgaonkar, founder of Nagpur-based Unique Waste Plastic Management and Research Company (UWPMRC), “

Yes this could be a reality today if the government's permission is taken by the residents. The technology of converting waste to fuel or electricity has huge potential as it solves two problems simultaneously—of waste management and the fuel crisis.” Industry experts estimate that India produces waste equivalent to fuel or energy that could fetch \$100 billion annually.

UWPMRC currently produces 5,000 litre of fuel from plastic waste collected by ragpickers in Nagpur and sells it to industrial units in Butibori, outside the city. A year ago, Suresh Shah of Asian Electronics in Navi Mumbai bought 75% in this company for Rs 80 crore.

## Also Read

- [Green collar job boom round the corner](#)
- [Qatar eyes solar power to meet surging demand](#)
- [Airbus to fly an A 380 on clean fuel](#)
- [Organic Khadi: New buzzword](#)
- [India sticks to Bali plan, presses for technology transfer](#)

Meanwhile, Sustainable Technologies & Environmental Projects (STEPS), a Mumbai-based company, has also developed a technology that can thermally convert various materials like vegetable oil, animal fat, and petroleum by-products into liquid, gas and solid fuel.

“With this technology, any hydrocarbon, such as plastic, bio-medical waste, slaughterhouse waste, petroleum sludge or wax can be thermally converted into liquid or gas fuel and a powder carbon residue. The liquid fuel can then be refined into different fractions or used ‘as is’ in engines and generators,” says Raghavendra Rao T, director, STEPS.

The petroleum gas can be fed back into the system to power the process and the carbon residue or coke powder can be recovered and sold. The process is based on adding a catalyst to the feedstock and then raising the temperature through several stages to approximately 420 degrees Celsius. As the temperature rises, the materials are vaporised, drawn off and condensed into fuel. Finally at 420 degrees Celsius, any remaining material is converted into carbon powder. Says Rao, “

Negotiations for twelve of our machines are in final stages, and two of the buyers are in India. Presently only industrial units are going for the technology but in the future housing societies could pool in money and adopt it.” Each machine costs around Rs 10 crore, but the company is developing a method where the machines will cost less and be more affordable for homes.

There have already been proposals made to the finance ministry for excise duty exemption on waste management technologies. Harshad Gandhi, secretary, Developmental & Eco-Friendly Enterprises (DECENT) a not-for-profit company, recently in his letter to the finance minister, says, “

Waste handling agencies have not been able to keep pace with the growing urban municipal solid waste, which is currently estimated at 1,15,000 tonnes per day in India.”

He also asks that a concession be given on equipment required for waste management and excise be reduced from the present 16% to nil. According to government figures Mumbai alone generates 8,000 tonnes of waste every day, of which 5% is plastic waste. “

About 52% of the waste generated is organic waste and can also be converted into compost with the help of machines like the Organic Waste Converter (OWC). This could not only solve the problem of availability of dumping grounds in cities like Mumbai and New Delhi but also reduce transportation costs if every housing society invests in this technology,” adds Gandhi.

According to an estimate, around Rs 3,000 crore is spent every year by municipal bodies in the metros on collection and disposal of garbage. “The Brihanmumbai Municipal Corporation (BMC) spends about Rs 800 crore every year in transportation of waste from homes to dumping grounds. Only if the government fixes one organic waste converter in every society this cost could be reduced at one go,” says Mohan Jawdekar, vice president of the environment and biotech division at Excel Industries, a Rs 800 crore company which manufactures organic waste converters.

The OWC is presently used by hotels and hospitals and priced at Rs 4 lakh. And it can convert organic waste into manure, which if sold even at one or two rupees per kg, can not only help governments save millions spent on transportation of garbage but also earn revenue from the sale of manure.

Notably, two companies—Sai Renewable Power and GK Bio-Energy—are using the technology to generate electricity from waste. Sai Renewable Power, based in Hyderabad, generates power after combustion of empty bunches from palm trees and residue of palm fruits. These are rich in volatile substances and are used as a fuel for the boiler in the plant.

The Rs 1,376 lakh project, funded partly by IREDA, generates 3MW of power from 100 tonnes of palm oil industry waste every day. GK Bio-Energy, a Namakkal (Tamil Nadu) based company, generates power from poultry droppings. It collects the droppings of about a million birds from nearby poultry farms to generate power. The technology is based on the Biogas Induced Mixing Arrangement (BIMA) technology developed and commercialised by Entec, an Austrian company.

Explains Anurag Garg, assistant professor at IIT Mumbai, “According to our research about 20% of the total municipal solid waste consists of plastic, which is a hydrocarbon and can be converted into fuel or energy. Presently not many companies have come into the market with their products but this field has great potential.” Many small companies are now tying with large oil companies for promotion of their products. Recently Asian Electronics entered into a joint venture with a major Indian petroleum company.

“We have signed an MOU with the oil company and would be marketing our products with them and could also use some of their residue (heavy oil) as raw material for our process. But otherwise also we can market our products through them,” says Shah refusing to divulge the name of the petroleum company. Asian Electronics plans to come out with a fuel, which could be used as a substitute for diesel and will be cheaper too.

“In the near future you could see many petroleum mammoths tying up with small companies either for the technology or the products. And we expect that it would be a business worth billions,” says Rao.

Industry experts also point out that technologies developed in India hold huge potential abroad. Says Zadgaonkar, “We are in talks with an Oman-based company and a USA-based company have also showed keen interest. Companies in the West are attracted to our technology as it gives them carbon credits.”

---

[About Us](#) | [Advertise with Us](#) | [Careers @ TIL](#) | [Terms of Use](#) | [Privacy Policy](#) | [Feedback](#) | [Sitemap](#)

Copyright © 2008 Times Internet Limited. All rights reserved. For reprint rights: [Times Syndication Service](#)

This site is best viewed with Internet Explorer 6.0 or higher; Firefox 2.0 or higher at a minimum screen resolution of 1024x768