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How Solapur converted garbage into electricity

PIYUSH BABELE | New Delhi, June 5, 2015 | 16:33

This plant has converted the dumped garbage into electricity, organic compost and plastics to be used for paving roads.

For the past 40 years, India has been trying to make electricity from domestic waste. If countries in Europe have accomplished the feat, why can't India? But even after subsidies and support from the government, most of the experiments have failed, and for a very long time. All this while, Germany, Sweden, Norway, Belgium and Netherlands have pushed far ahead and have put up more than 420 waste-to-energy plants which are already supplying clean electricity to their citizens. Recently, Sweden reduced its waste landfills to such a level that it became insufficient for them to produce enough electricity converted from waste. Surprisingly, city municipals are now squabbling over their shares of waste.

Solapur Experiment

In India, there's one city for sure that has tasted success in converting waste into energy without harming the environment. Maharashtra's Solapur, where a waste-to-energy plant has daily generated 3 MW of eco-friendly power for the last two years, boasts of this success. Solapur has a population of 10 lakh and generates 5,000 tonne of municipal waste daily. Earlier, this waste was dumped in a landfill along the Pune-Hyderabad highway. This presented an ugly sight, and an unbearable stench for the commuters. Now, the pile has disappeared and has been replaced by a power plant of Organic Recycling System (ORS), a private firm that develops clean electricity from waste.

Every day, the local municipal corporation's trucks dump waste in the powerhouse. For the past three years, this plant has converted the dumped garbage into electricity, organic compost and plastics to be used for paving roads. ORS then sells this clean electricity to the government at the prescribed rate of Rs 4-5 per unit. Three years mark an important landmark because most of the country's waste-to-energy projects have failed

or were shut down within 4-6 months.

What's unique about Solapur project

"Indian waste has a mixed nature. That is, we don't segregate but put everything into same waste like plastics, batteries, kitchen waste, and so on. Most of the failed projects faced a challenge of segregating this waste for recyclable use. We have developed a technology in accordance to India waste, which does a basic segregation and can recycle the rest to generate power. The technology is more or less like our digestive system," said Suhas Bhand, CMD of ORS and an engineer by profession.

It has been proved that thermal technologies have some limitations treating Indian Municipal Solid Waste (MSW) due to more moisture and less calorific value. Also, thermal technologies cause more pollution than acceptable levels. Indian waste has high moisture content and during the monsoon season it further goes up hindering thermal technologies. ORS has indigenously developed a biomethanation technology that can produce electricity from Indian waste and deployed it successfully in the Solapur plant. The plant is then connected to electricity grid completing the conversion process.

The emission levels during recycling are almost nil thus making the technology environment-friendly. The slurry left behind, after the generation of electricity through this process, is used to make organic compost and sold to the fertilizer companies. The plastic residue is sold to companies associated with the road industry.

Other cities keen to follow the Solapur's footsteps

Besides the Solapur project, Pune and Bengaluru have also approved the biomethanation technology to develop 7 MW and 10 MW respectively. Work in these cities will start soon. Delhi also sees a ray of hope with a company Jindal SAW starting to recycle waste to produce electricity for the capital. Another recent effort to convert electricity from waste, from a different technology, failed in Varanasi making it a good prospect for biomethanation.

Government aid

To reduce the financial load on waste-to-energy companies, the Central Electricity Regulatory Committee (CERC) ensures that the cost of electricity generated by such plants is higher than normal powerhouses. A CERC official told us that we need to treat such power generating projects differently from the usual projects. The main reason of such projects is a cleaner environment and encouragement of waste management. Electricity is a by-product and that's why we are giving benefits to such companies, said the official.

But while such projects may provide a ray of hope to a power-starved country, people should also know that all huge heaps of waste can't be removed because with time some have turned into solid, like stone. MCD schemes of covering these mountains with grass is the best way out.

http://indiatoday.intoday.in/story/solapur-converted-garbage-into-electricity/1/442470.html