

PMC sets stage for new tech to manage plastic

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Local player offers to melt plastic into crude and synthetic gas with zero emission; pilot to start at Ghole Road ward

With the plastic ban in place, Pune Municipal Corporation (PMC) officials say it has been able to cut down the plastic in the garbage it handles by only 25-30 tonnes out of the total 250-300 tonnes of plastic waste the city generates in a day. With plastics not exactly disappearing from the garbage just yet, the civic body is scouting for a sustainable technology that would not embarrass it as Rochem and Hanjer did in the past. After much vacillation, PMC's solid waste management department has decided to experiment with a new technology at its Ghole Road ward.

This technology provided by a local player — GD Environmental Pvt Ltd — offers to work at the ward level, producing its own electricity from the heat of waste burnt, promising zero emission. Using the pyrolysis process it proposes to reduce the waste plastic into 'drop in fuel' (an exact substitute for High Speed Diesel or HSD), HSD itself, synthetic gas (syngas), carbon and a solvent that can melt thermocol or used as roof sealant.

“The technology they have been running seems self-sustaining and operates with zero emission. Also, its requirement of space is only 200 square feet to process 500 kg of plastic, so we are looking at an installation of the system at Ghole Road in a couple of weeks. This will be a demo installation to understand the technology and what it brings to the table,” Suresh Jagtap, deputy commissioner, PMC solid waste told Mirror.

He admitted that the repeated agitation at Urali Devachi and Phurshungi and the inability to find acceptance elsewhere for new processing unit, is pushing the civic body to explore new technologies to resolve the situation. “People are coming forward with their solutions but few have been able to deliver on their promises,” he explained.



DHANANJAY HELWADE



Gadgil's project, for which he has applied patent, could be the one-stop solution for all of the city's plastic woes

Working out of two sheds at the Kamla Shankar Industrial Complex, Pirangut, G D Environmental has been processing 500 kg of plastic. The dry waste that cannot be recycled is pressed into a gasifier that burns them to produce heat. This generates about 18 kw per day, which is used for melting plastic into congealed blocks for further processing. Both the fly ash from the burnt waste and the carbon produced after pyrolysis are used to make hardy bricks. The syngas is being marketed to genset manufacturers as combustion fuel.

“I took up the challenge when Prime Minister Narendra Modi proposed importing technology for processing plastic in 2014. Unlike the foreign technologies, we are dealing with unsegregated garbage. I also scaled down processing capacity so it can offer on-site solutions. Today we have portable plastic pyrolysis plant that can work with just 20 kg of garbage and we can scale up to five tonnes in a static plant,” informed Ajit Gadgil, partner of GD Environmental, who collaborated with his cousin Abhijit Datar to set up the company.

Gadgil has applied for patent for the pyrolysis plant, his gasifier as well as the end application. “Our emission-free process has already been certified by labs authorised by CPCB, however, its nod to the sustainability of our technology can open doors to a pan-India market,” Gadgil explained.

The company, which went into incubation six months ago with Science and Technology Park, Pune, and is being funded under the Nidhi Prayas scheme. Speaking to Mirror, SciTech Park's group director, Vikram Saraph underscored, “The scalability, modularity and ease of use makes the gasifier and the plastic melting units highly versatile and suitable for applications at the gram panchayat level as well as the city level. The mobile unit will be extremely useful for servicing village clusters.”

Besides PMC, there have been efforts made to sell the technology to Pune and Satara Zilla Parishads. “We have received favourable feedback from both. A landfill mining and remediation proposal is also being worked on for Phaltan City, Satara district,” Saraph added.

“We are looking at technologies that promise scalability and do not consume too much power, even as we have started using plastic in our tar for the roads and have already turned 217 of our 1,500 villages plastic-free,” informed Dr Kailas Shinde, CEO of Satara zilla parishad.