

Indian Railways commissions country's first governmental waste to energy plant in Bhubaneswar

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Indian Railways has commissioned country's first governmental waste to energy plant at Bhubaneswar. The national transporter has put in place the governmental Waste to Energy plant in Mancheswar Carriage Repair Workshop which falls under East Coast Railway. The waste to energy plant has been constructed in three months according to statement by the railway ministry.

The new plant has been installed at a cost of ₹1.79 crore while the maintenance cost will be ₹10.4 lakhs per year and the estimated income from the byproducts will be ₹17.5 lakhs per year.

The waste to energy plant uses a patented technology called POLYCRACK, is first-of-its-kind in Indian Railways and fourth in India. It is world's first patented heterogeneous catalytic process which converts multiple feed stocks into hydrocarbon liquid fuels, gas, carbon and water. The process is a closed loop system and does not emit any hazardous pollutants into the atmosphere. The combustible, non-condensed gases are re-used for providing energy to the entire system and thus, the only emission comes from the combustion of gaseous fuels. The emissions from the combustion are found to be much less than prescribed environmental norms. This process will produce energy in the form of light diesel oil which is used to light furnaces.

The Ministry of Railways in a statement said, "Polycrack

Plant can be fed with all types of plastic, petroleum sludge, un-segregated MSW (Municipal Solid Waste) with moisture up to 50%, e-waste, automobile fluff, organic waste including bamboo, garden waste etc., and Jatropha fruit and palm bunch.” “Waste generated from Mancheswar Carriage Repair Workshop, Coaching Depot and Bhubaneswar Railway Station will be feeder material for this plant,” it added.

Advantages of Polycrack over Conventional Approach

- Pre-segregation of waste is not required to reform the waste. Waste as collected can be directly fed into Polycrack.
- It has high tolerance to moisture hence drying of waste is not required.
- Waste is processed and reformed within 24 hours.
- It is an enclosed unit hence the working environment is dust free.
- Excellent air quality surrounding the plant.
- Biological decomposition is not allowed as the Waste is treated as it is received.
- The foot print of the plant is small hence the area required for installing the plant is less when compared with conventional method of processing.
- All constituents are converted into valuable energy thereby making it Zero Discharge Process.
- Low capital cost and low operating cost.
- Fully automated system requires minimum man power.

SOURCE: *Livemint*