Green Alert

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Eco-Product

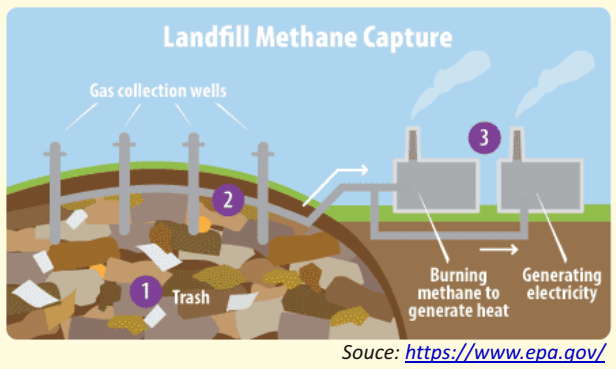
The focus of Environment Information System (ENVIS) is to disseminate environmental information to decision makers, policy planners, scientists and researchers across the world.

The CERC-ENVIS Resource Partner focuses on 'Environment Literacy - Eco-labelling and Eco-friendly Products' This bi-monthly e-bulletin features latest news, developments and innovations in the field.

Green Issue

Pirana Landfill Site

Landfill Gas



Souce: https://www.epa.gov/

Landfill gas (LFG) is generated by the natural degradation of Municipal Solid Waste by anaerobic micro-organisms. Once the gas is produced, the gas can be collected by a collection system, which typically consists of a series of wells drilled into the landfill and connected by a plastic piping system.

The gas entering the gas collection system is saturated with water, and that water must be removed prior to further processing. After dewatering, the LFG can be used directly in reciprocating engines. It can also be further processed into a Higher-British thermal unit (Btu) gas which is suitable for use in boilers for manufacturing processes, as well as for electricity generation via gas turbines.

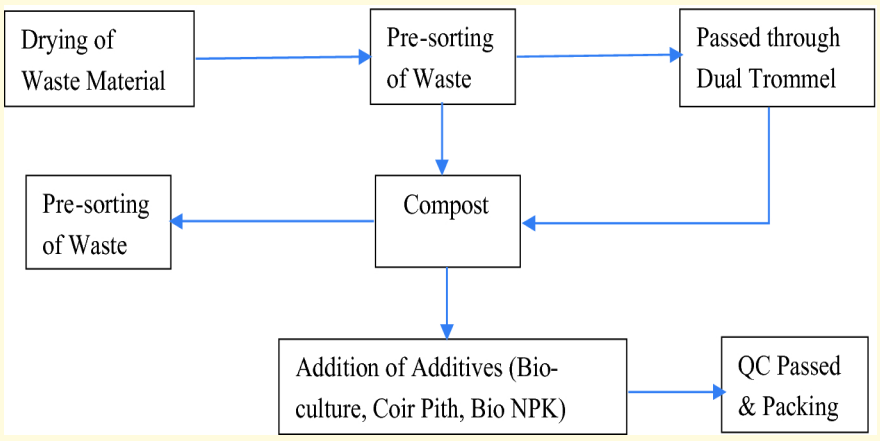
LFG can be combusted by end users to fuel boilers, dryers, kilns, greenhouses, and other thermal applications. Current industries using LFG include automobile manufacturing, chemical production, food processing, pharmaceutical, cement and brick manufacturing, wastewater treatment, consumer electronics and products, and prisons and hospitals (U.S. EPA 2007a).

Source: https://www.energy.ca.gov/data-reports/california-power-generation-and-power-sources/biomass/landfill-gas-power-plant
https://www.energy.gov/sites/prod/files/2014/05/f15/7.4_landfill_methane_utilization.pdf,

Ahmedabad is currently the 5th largest city in India in terms of growth of the new region and is the largest city in Gujarat. The total area of the city increased from 174 Sq. Km. to 464 Km in 2011 with density of 12,000 /sq. km. The city is witnessing a major infrastructure boom along with a steady population increase. It is a growing hub of education, information technology, scientific, chemical & pharmaceutical Industries.

According to annual report (2018-19) by the Central Pollution Control Board, a total Solid Waste collection in Gujarat was 10,716 TPD, out of which 6,574 TPD of waste is treated and 4,142 TPD of waste is landfilled /dumped. (https://cpcb.nic.in/uploads/MSW/MSW_AnnualReport_2018-19.pdf).

The population of the city is 65 lakhs which generates more than 4000 TDP waste, including 400 MT of construction and demolition waste. The waste generated follows the conventional cycle of collection, transportation, treatment and disposal as prescribed by the guidelines and rules. According to AMC official figures, more than 60% is collected from Municipal Solid Waste (MSW) municipal bins and street cleaning. Most of the MSW collected from Ahmedabad city is being dumped at Pirana LFS since 1981, which is now about 84 acres in size.



The AMC currently has a total waste collection of more than 2,600 MT per day, of which only 700 MT is treated and the rest is in a non-segregated form and is dumped untreated at Pirana site. Out of 84 acres of land, 65 acres of land has already been used and the height of these MSW varies from 5 to 27 meters and which is now spilling beyond its capacity.

AMC has two processing plants, one for converting waste into compost and another for producing refuse derived fuel (RDF). In addition to existing processing plants with a cumulative capacity of 1000 MT per day, another 1300 MT per day capacity of processing plants are being set up in the city. Total MSW processed in Ahmedabad is 10,000 MT monthly out of a total of 110,667 MT.

In 2019, AMC's budget proposal had dedicated an estimated Rs 300 crore for capping the dumpsite. The AMC has claimed that so far, 5 lakh MT (metric tonne) of waste has been removed from the dumping site and an estimated 8 acre of land has been regained. In the year 2020-21, another 20 lakh MT of garbage is expected to be cleared.

Source:

Hadmat Chaudhary, Chirag Shah. *"Review on Current Management Practices and Environment Status of Pirana Dump Site, Ahmedabad"*, Volume 9, Issue III,

International Journal for Research in Applied Science and Engineering Technology (IJRASET)
Page No: 498-504, ISSN : 2321-9653, www.ijraset.com

https://www.uncrd.or.jp/content/documents/25816-3R_City-Report_Ahmedabad_ref.doc3-Zero-Waste-Road-Mp.pdf
https://doi.org/10.1007/978-981-15-0990-2_12

Eco-Tips

Let us not follow the trend that ends up in a landfill
Refuse. Reduce. Reuse. Recycle.

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