

Proposed Municipal Solid Waste Processing Plant in Kodungaiyur – A solution or another problem?

The Chennai Corporation has proposed a 1800 TPD Municipal Solid Waste Processing plant for conversion of mixed waste to compost, Refuse Derived Fuel (RDF), building bricks and landfilling the residue in a Sanitary Landfill (SLF). The Chennai Corporation with bidding assistance from TIDCO has proposed this project on a Public Private Partnership basis. The project requires Chennai Corporation to deliver 1800 tpd of waste and 100 acres of land to Bangalore based Terra Firma Biotechnologies Ltd. who was awarded the contract for 20 years on a Build, Operate, Maintain and Transfer (BOMT) basis.

Here are some fundamental objections not only in the manner which the project is being proposed but the efficacy of the entire proposal itself.

Procedural Violations:

- The document available for the public to assess the project is not a Summary of the EIA as defined in Appendix IIIA of the EIA Notification, 2006. The said Appendix mandates the required contents for Summary documents that ought to be made available by the project proponent to regulatory authorities, and by Regulatory authorities to the public. The document provided as the executive summary does not follow the format prescribed under the EIA notification 2006. Instead the document reads like a marketing brochure of the company and provides sketchy details about the project and fails to provide the following mandatory information: a) description of the environment; b) anticipated environmental impacts and mitigation measures; c) environmental monitoring program; d) additional studies; e) project benefits; f) environment management plan. The absence of a proper summary renders the Public Hearing illegal and meaningless, as the Public is being asked to comment on a proposal whose details are not known.
- The EIA document made available to the public at the TNPCB has at least 2 crucial annexures missing – i) Details of layout plan of the project site and other facilities within the project area and ii) Environmental Management Plan. The project proponent makes references to these documents in response to the MoEF's Terms of Reference but has failed to provide the same for public scrutiny.

Lack of Clarity:

- There is no clarity regarding the details of the project. For instance, it is arbitrarily assumed that the 1800 tpd waste will arrive in four equal streams of 450 tpd each. Studies conducted of Indian garbage clearly show that Indian waste is nearly 50 percent organic/biodegradable, 25 percent inert, 9 percent plastic and 8 percent paper, in addition to other material. There is no clarity as to how the different streams will be processed. Rather there is conflicting information about how the biodegradable waste will be treated. The summary starts by saying that the biodegradable waste will be treated by accelerated aerobic bioconversion.
- The REIA lacks adequate details about what the promoters would do with existing waste piles at the Kodungaiyur dumping ground in order to rehabilitate the existing dumping ground. The proposed Integrated Municipal Solid Waste (1800 TPD) Processing Facility at Kodungaiyur is not a proposed waste facility on vacant land but a proposed facility at an existing dump that already has massive piles of waste.
- The project fails to clarify as to how compost quality would be maintained. Because the wastes remain mixed from source to facility, any compost will automatically be contaminated by other toxic substances present in other waste streams.
- The possible location of the proposed landfill cell where the non-recyclables and other residues will be dumped is right in the middle of massive piles of existing waste. Use of this location for the landfill cell would require the relocation of massive amounts of existing waste, an issue the REIA fails to discuss. The failure of the REIA to discuss how it would rehabilitate the existing dumping ground to make way for proposed facilities, including the landfill cell, greatly undermines the credibility of the promoter.
- The REIA lacks adequate details about the economic feasibility and justification for the proposed waste processing methods. For instance, the project describes a set of waste processing methods that the promoter would employ at the site, including windrow composting, vermicomposting, refuse derived fuel, rapid bio-methanation, bricks out of debris, and plastic recycling. This would require the promoter to demonstrate that each waste processing method is economically sustainable, something the REIA fails to do. In absence of these details, it is impossible to have

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any confidence that the promoter would actually employ any of these waste processing methods successfully.

Violations of MSW Rules, 2000:

- Siting Guidelines Violation: The project is proposed to be located near a thickly populated residential area with an estimated population of over 300,000 people. Moreover the proposed facility is to be located on a wetland and very close to Buckingham Canal and Captain Cotton Canal. According to Schedule III (Siting Guidelines) of the MSW Rules, 2000, “the landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.”
- The MSW Rules mandate local bodies to collect source-segregated garbage, and prohibits the entry of unsegregated garbage into waste facilities. The project proposes to receive unsegregated garbage from the City of Chennai and segregate it at the premises before processing it.
- Rather than promote source segregation (as per Para 1(2) and 1(3) of Schedule II) and decentralised treatment closer to source, the project promotes mixed waste processing.
- According to the available documents the implementation of the project would bind the Corporation of Chennai to make available 1800 Tonnes Per Day (TPD) of garbage. This provision would discourage the corporation from cooperating with residential areas and neighbourhoods that would like to implement decentralised composting and partnerships with waste pickers.
- The current ongoing dumping of garbage in Kodungaiyur is an illegal activity and the Chennai Corporation has been one of the key parties involved in committing this illegality. This project is an effort by the Corporation to escape prosecution by legalising the ongoing dumping and thus condoning several years of illegality.

Terra Firma and RDF's track record or lack thereof:

From the outset it is clear that the Corporation of Chennai is ‘outsourcing’ its responsibility to manage its waste in an environmentally responsible manner to a relatively small company like Terra Firma that has no track record of managing municipal waste disposal sites. The company’s website <http://www.naturesgold.com.sg/index1.htm> clearly shows that it has no experience beyond vermicomposting of organic wastes for producing farm manure. Technologies like RDF, Biomethanation, plastic recycling and scientific landfilling require a lot of technical expertise which the project proponent lacks.

Further the proponent has provided no information to convince the public that the technology proposed by them would be effective. There has been not a single place in the country where this proponent has demonstrated a successful operational plant with this technology.

About RDF and its impact:

Generating electricity from Refuse Derived Fuel (RDF) is nothing but a modern method of incinerating the waste. Pellets are made in the process to get the waste in a dry combustible form which would be then fed into an incineration for burning to generate electricity. RDF is thus not a stand-alone technology but another stage in the process of incineration. The calorific value for the waste comes from materials such as plastics and metals. Plastics, especially chlorinated plastics such as polyvinyl chloride (PVC) when combusted gives rise to carcinogenic chemicals like dioxins and furans. In fact PVC plastic combustion is banned in India by regulation both in the municipal and bio-medical waste handling rules.

Incineration of mixed waste in general causes the release of most toxic chemicals including dioxins, furans, volatile organic compounds and heavy metals. A 2005 air quality analysis of the smoke from open garbage incineration in Perungudi dumpsite revealed the presence of at least 27 toxic chemicals in the air including carcinogens like benzene, 1-3butadiene, chloromethane etc. All the chemicals detected damage one or more parts of the human body and are especially damaging to the vulnerable populations like children, women and the elderly. Through RDF technology the project proposes merely another form of incineration.

Track Record of Waste to Energy Projects in India:

Source: “Waste to Energy: An Imperative for Sustainable Waste Management”; published in IDFC's Policy Group Quarterly, No 3/ March 2009.

- The first such facility was set up in 1987 at Timarpur, Delhi, based on incineration technology

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to produce 3.5 MW power. It soon became inoperative due to mismatch in quality of waste received and plant design.

- The fate of the 5 MW project in Lucknow, which started commercial operation in 2003, was similar. Based on an imported biomethanation technology used in over 50 WTE plants worldwide, the plant only reached 1 MW and was closed down within six months due to several reasons. Prime among them was the ineffective waste segregation system which led to poor quality of MSW being delivered to the plant. The waste contained only 12-15% biodegradables. Problems were aggravated by poor accountability on part of the ULB for the waste supplied.
- The RDF technology based power plants at Vijayawada and Hyderabad, of 6 MW each, also started commercial operations in 2003. However, to overcome the poor heat value of MSW received, viz. about 1000Kcal/Kg and way below the optimum 2500Kcal/Kg, the plants supplement MSW with agro wastes as auxiliary fuel. The RDF plants remain grossly underutilized as the desired amount of MSW is not being received.

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