

The Kerala government recently announced the State's first waste to energy project in Kozhikode. The planned facility is expected to be built in two years and generate about 6 MW of power. There are around 100 waste to energy projects around the country but only a handful of them are operational, thanks to various production and operational challenges. Waste to energy projects use Non recyclable dry waste to generate electricity. The process increases the State's power generation capacity and eases the solid waste management (SWM) burden. Generally, solid waste in India is 55-60% biodegradable organic waste, which can be converted into organic compost or biogas; 25-30% non biodegradable dry waste; and around 15% silt, stones, and drain waste. Of the non biodegradable dry waste, only 23% including hard plastics, metals, and waste— is recyclable. The remainder consists of lowgrade plastic, rags, and cloth that can't be recycled. This fraction of the non recyclable dry waste is the most challenging portion of the present SWM system; the presence of these materials also reduces the efficiency of recycling other dry and wet waste. It is this portion that waste to

energy plants use to generate power. The waste is combusted to generate heat, which is converted into electricity. While waste to energy plants seem like a simple solution, they have several challenges route to becoming feasible. First is the low calorific value of solid waste in India due to improper segregation. Second is the high costs of energy production. The cost of generating power from waste is around ₹7-8/ unit, while the cost at which the States' electricity boards buy power from coal, hydroelectric, and solar power plants is around ₹3-4/ unit. Operating waste to energy projects also depends on parameters like the municipal collection efficiency, waste segregation, moisture content, and the operational efficiency of existing biodegradable waste processing plants.

**Q 1. Why do waste to energy plants fail?**

- A. Due to low calorific value**
- B. High cost of energy production**
- C. Both A and B**
- D. Only A**

**Q 2. What do waste to energy projects do?**

- A. To generate Power**
- B. To Increase Solar Energy**
- C. Increase Recyclability**
- D. None of them**

**Q 3. SWM Means**

- A. Solid waste material**
- B. solid waste management**
- C. Solid waste manufacturer**
- D. Simple waste management**

**Q 4. Synonym of 'Segregation'**

- A. Isolation**
- B. Connected**
- C. Waste**
- D. Dryness**

**Q 5. On which factors Waste to energy Project depends**

**A. On Population**

**B. Non Biodegradable waste**

**C. biodegradable waste processing plants**

**D. Both B and C**

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