Bio-Methanation Plant and Scaling Up of the Project

1.5 TPD waste to bio-methanation plant (CapaCITIES Phase 1)

- Project Cost: INR 4.7 million
- Waste Feed: 1.5 TPD
- Gas Production: 46,225 m³ Biogas per year (28,953 m³ of methane)
- Electricity Production: 7 kWh / day (2,555 kWh/year)
- Avoided Vehicle Trips to Vellalore Dump Site: 2 trips / day (730 trips/year)

Fuel consumption avoided:
- 6 liters per 662 TPD waste to bio-CNG plant (Replication)
- 6 liters per day (2,190 liters/year)

GHG emissions avoided due to reduced vehicle trips:
- 5.94 tCO2e / year

Quantum of waste prevented from being dumped at Vellalore:
- 547 tonnes/year

GHG emissions avoided due to diversion of biodegradable waste from Vellalore to biomethanation plant:
- 1,505 tCO2e / year

Produce BioCNG equivalent:
- 3,900 kg with 130,000 tCO2e (over 10 years) for 1 TPD
- 7,800 kg with 260,000 tCO2e (over 10 years) for 2 TPD

Fuel shift - diesel to CNG:
- Diesel is priced at INR 95 / litre and CNG is priced at INR 77 / kg (approximately)
- Avoided vehicular emissions
- Clean energy generation
- Sherry, a by-product, used as organic compost
- Associated health benefits from improved air and avoidance of methane at landfill site.

200 TPD waste to bio-CNG plant (Replication)

- Tonnage: 200 TPD waste to bio-CNG plant (Replication)
- Gas production per day/annum:
  - 100 TPD plant: 10,000 m³ of biogas & 6,500 m³ of methane / day
  - 200 TPD plant: 20,000 m³ of biogas & 13,000 m³ of methane / day
- Produce BioCNG equivalent:
  - 3,900 kg / year
  - 7,800 kg / year
- GHG reduction - avoidance of methane:
  - 130,000 tCO2e (over 10 years) for 1 TPD
  - 260,000 tCO2e (over 10 years) for 2 TPD
- Fuel shift:
  - Diesel is priced at INR 95 / litre and CNG is priced at INR 77 / kg (approximately)