



TATA Consultancy Services Ltd

Climate Change & Road Map for Sustainable Waste Management at TCS

CASE STUDY



Figure 1 Waste Management at TCS

Summary

Implementation of Road map for Sustainable Waste Management at TCS is an important mile stone in strategic decision of TCS Sustainability target, to make all its operation sites as 'Zero' waste to Landfill Site. Roadmap involves effective implementation of site specific waste management technologies to mitigate GHG emission. For wet waste anaerobic technique, i.e. Bio-digester, is used to generate Biogas & aerobic composting through Organic waste Converter. While for dry garden waste Vermicomposting is implemented. It also includes various programs for waste segregation, minimization and recycling. Successful Implementation of road map resulted in converting huge biodegradable waste generated at various TCS facilities into the wealth in the form of renewable energy resource, i.e., Biogas /Electricity and Organic Fertilizer. Use of biogas reduces LPG Consumption while bio-fertilizer used for maintaining biologically diversified lush green landscapes.



Objective of Intervention

To make all its operation sites as 'Zero' waste to Landfill Site by 2027 and thereby to avoid GHG emissions through effective implementation of onsite waste management technologies. Further to generate biogas (a renewable energy) and biofertilizer for maintaining environmentally sustainable landscape.

Description of Intervention

In order to minimize the impacts of biodegradable wastes generated and its sustainable disposal, TCS started with implementation of site specific waste management technologies since 2012-13. The plan is being implemented in phase manner till 2017. The total cost estimated to be INR 3.5 crore. Bio-digester (for food waste generation > 500 Kg/day): Implemented at six TCS campuses generating high quantity of food waste. Biogas so generated is used as an alternate energy resource to reduce LPG consumption. The slurry is used as bio fertilizer. The total capacity of bio digester is to process 1,440 tons/annum food waste and about 32% of food waste processed till now. Besides biogas, electricity is also being generated through bio digester at Chennai. Organic Waste Converter (for waste generation <100–300 kg/Day) is implemented at 12 locations where food waste generation is 50-300 kg/day. The food waste is processed and converted into organic manure within 15 days. Total capacity at various locations is 4,080 tons/annum processing about 17% of the food waste. Vermicomposting is implemented for processing garden waste generated, by using earthworms. Of the total biodegradable waste generated 51 % is processed through vermicomposting. Manure thus generated is utilized for maintaining landscapes. Effective implementation of Road map on Sustainable Waste Management at TCS is a success story of TCS efforts towards Greening the IT operations, through avoiding GHG emissions. It also helps to convert huge quantity of biodegradable waste into wealth i.e. environmentally sustainable products such as biogas & biofertilizer.

Intangible or Tangible Benefit

- Conservation of Natural Resource – Limestone
- Minimisation of disposal of Effluent quantity Generated from Soda Ash Plant since 2000
- Promotion of 'Reduce, Recycle & Re Use concept'
- Improving the Sustainability of the of the site
- Usage of Power Plant Waste –Fly Ash to Produce Cement
- Usage of intermediate by Product of Salt Works like Gypsum in Manufacturing of Cement.

About TATA Consultancy Services Ltd



The effective & successful implementation of Roadmap on Sustainable Waste Management at TCS has brought high environmental values as following outcomes/benefits: Remarkable increase in onsite (degradable) waste processing (2084 tons) into wealth. Production of environmentally sustainable products, i.e., renewable energy resources, i.e. Biogas is use in canteen as an alternate source of energy & partially replace to LPG, thereby giving monetary benefits as well. Bio-fertilizer generated is used for maintaining lush green, biologically diversified landscapes. The carbon footprint has also been reduced by avoiding 796 tCO₂e GHG emissions. Help in achieving the sustainability target of Zero waste to Landfill Site.