

35%), and increases gas production (about 10-12%). Ultimately, it delivers a high quality (Class A) end product (biosolids).

The end product is a pathogen free and pasteurized biosolids with minimum odour which can be applied to land directly as bio fertiliser. The estimated sludge generation from the existing and new plant is about 24,000 tonnes dry solids (DS) per year. The Class A Bio solids has commercial value as it is used as a fertiliser and hence it generates revenue to the authority.

This is the first time in India that this technology (THP) is recommended for municipal STP. The THP technology is used in some leading developed cities such as Washington DC, USA with capacities of 130,000 tonnes DS/year, Manchester UK with 91,000 tonnes DS/year, Oslo Norway with 50,000 tonnes DS/year and London, UK with 40,000 tonnes DS/year, among others.

Energy recovery from the sludge helps reduce green house gas emissions. The waste to energy solution, is designed to contribute to about 35% of the total energy requirement for the operation of sewage treatment plant. The utilization of biogas for power generation causes reduction in emission of methane gas, qualifying as a Clean Development Mechanism project with eligibility for carbon credits. Since the energy recovery from sewage treatment plants is of the nature of 'non conventional' i.e., 'renewable energy source', it is eco friendly and increases sustainability. The estimated carbon trading price from the proposed sewage treatment plant is approximately ₹4.61 crores per annum.

With this sustainable project, TCE provided value to its client by retrofitting STP for augmented capacities with limited available footprint (plant premises) and provided advanced sludge treatment for handling large volume of sludge generated from the existing and new plant with better sludge quality for land applications in limited footprints. The project implementation period is estimated at 36 months including trial run, testing and commissioning.

This project will set the benchmark for other mega cities in India as a smart, value engineering solution to handle large volume of sludge from the sewage treatment plants. Waste to energy, from liquids and solid wastes, are sustainable in the long run with state-of-the-art solutions designed to provide long term sustainability.

