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Indian Ocean Tuna Sets Environmental Standards with New GWE Wastewater Treatment Plant

Turn-key plant from GWE has been installed at Indian Ocean Tuna Ltd, at its seafood processing operation in Victoria, capital of Seychelles.

Indian Ocean Tuna – an operation of the Thai Union Group Public Company – produces 2,000 cubic meters a day of wastewater in its processing and canning operations. The new GWE plant is designed to remove over 95% of organic contaminants from their waste streams.

The new GWE plant, commissioned this year consists of aerobic wastewater treatment and anaerobic digestion step for sludge and slurries. Anaerobic treatment processes includes our globally proven ANAMIX™ digester to achieve outstanding discharge qualities, and convert a mixture of wastewater and sludge into biogas, which can later be utilized to reduce the company's dependence on fossil fuels.

The ANAMIX™ process – which is designed to maximize the contact between the anaerobic biomass and the biological waste – comprises a completely mixed anaerobic reactor, especially suitable for the digestion of wastewater with significant fat, oil and grease (FOG) content – as in this case, waste streams from fish and seafood processing.

During the ANAMIX™ digestion process, anaerobic bacteria convert organic contamination in sludge and wastewater into biogas, which can be turned into methane and later utilized for energy production and used as fuel for electric power generators or to replace fossil fuels in steam boilers and heaters on the production site.

By extracting biogas (primarily methane) from the organic waste removed, the fish processing plant can save more than 2,000 kg/d of fuel oil, worth about $US1,000 per day, decreasing the fossil fuel dependency of the company, and reducing its environmental footprint. Such savings can amount to hundreds of thousands of dollars a year and achieve a rapid ROI for the wastewater treatment plant.

“With world seafood production now topping 170 million tons – both from fisheries and aquaculture – there is obviously great scope globally for GWE technologies such as those installed at Indian Ocean Tuna to deliver a more sustainable environmental outcome. This plant sets global benchmarks for environmental outcomes and commercial sustainability,” says GWE.

With its new wastewater treatment plant, Indian Ocean Tuna significantly reduces its impact on the surrounding water and grounds. Application of the anaerobic digester such as ANAMIX™ and mechanical dewatering by means of screw press contributes to significant reduction in disposal costs and lower landfills requirements for their solid waste.

Benefits of the applied GWE technologies (which apply globally to food, beverage and any company with an organic waste stream) include:

- Effective organic contamination removal from the wastewater stream before discharge minimizes the impact on the environment.
- Up to 3,000 cubic meters a day of biogas generated can be utilized by Indian Ocean Tuna in many profitable ways, ranging from use in the company’s boiler and heat processes through to production of green electricity for company or community use.
- An additional environmental benefit is the plant’s low space requirements for landfills, due to the advanced management of sludge by application of the ANAMIX™.
- Mechanical sludge dewatering with a screw press after anaerobic digestion, allows reducing the sludge volume even more and achieving high dry solids content what contributes to the significant reduction in disposal costs.

It is a significant contribution to the achievement of the company’s sustainability manifesto, in accord with Thai Union’s policy to act proactively against climate change and other adverse environmental impacts throughout its supply chain to ensure its performance surpasses world standards.

It is in environmental harmony with the public policy of the Seychelles, which recently published its first “State of the Environment Outlook” with a strong emphasis on responsible waste management.

“And not only is the plant installed by Indian Ocean Tuna an environmental boon for Seychelles, but also biogas-producing green energy plants such as this can help pay for themselves. So there is a strong business profitability case to support companies wishing to act in an environmentally responsible manner,” says GWE.