

Remarkable waste water combinations profit meat producers



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Some of the world's most environmentally efficient and profitable green energy technologies are being specifically tailored to the needs of the beef, poultry, pork, rendering and stockfeed industries.

The high-temperature thermophilic anaerobic digestion technologies, typically operating at 55 deg C, are part of a proven combination of processes that digest waste water's organic content to produce green energy while achieving outstanding waste water effluent discharge qualities.

The RAPTOR system, from Global Water Engineering (GWE) has just won the IChemE 2014 Energy Award for innovation in renewable energy. It combines thermophilic high-rate anaerobic processes with complementary technologies including dissolved air flotation (DAF), screening and aerobic treatments.

This highly efficient combination of processes rapidly transforms food processing sludge waste and waste water from an environmental problem into profitable green energy (methane) to replace fossil fuels. Thermophilic digestion also destroys pathogens quickly so effluent can be used as a soil conditioner or fertilizer.

Thermophilic anaerobic/anaerobic systems have been proven internationally on slaughterhouse wastes, which are transformed into biogas (methane), fertilizer and environmentally outstanding waste water effluent.

Another plant successfully deploying anaerobic technologies for green energy and high quality waste water treatment is the COHRAL (Covered High Rate Anaerobic Lagoon). The plant being installed by CST Wastewater Solutions at Oakey Beef Exports on Queensland's Darling Downs will extract green energy biogas (methane) from its waste water streams to replace millions of dollars' worth of natural gas currently consumed at the abattoir.

"Asia-Pacific is one of the many regions in the world that is only just beginning to realise the potential of green energy from waste water," says Michael Bambridge, MD of CST Wastewater Solutions. "Instead of waste water being an environmental problem and an expense – a huge consumer of energy through mixers and aerators in smelly settling ponds - it becomes an asset. Biogas from waste water is an outstanding source of base load power. As part of a renewable energy mix – complementing wind and solar generation, for example – electricity generated with biogas is highly reliable and consistent. As the major component of natural gas, methane is an environmentally attractive alternative to fossil fuels."