# Australia's Golden Circle boosts environmental benefits for Heinz and saves money as it steps up use of green energy biogas from wastewater

**Australian canned fruit and fruit drinks company Golden Circle is planning to install a larger boiler to take better advantage of biogas produced from the anaerobic processing of wastewater from the factory's food processing plant in Northgate, Queensland.**

**"The existing boiler burns around 30 per cent of generated biogas, while the new boiler will utilise about 90 per cent," says Jason Carter, Environmental Manager - Northgate.**

**Golden Circle's revamped wastewater plant – including a third digester utilising CST Wastewater Solutions' and GWE's high efficiency anaerobic technology to produce biogas – has already saved Golden Circle more than two million dollars a year in effluent disposal.**

**The Golden Circle biogas utilisation project from anaerobic treatment of wastewater is applicable to a wide range of industries in food processing, and canning, beverage production, brewing and fermentation, agro processing and biofuels (vegetables, beet sugar, starch, and palm oil), pulp and paper, and petrochemical production.**

**At its main processing operation Golden Circle operates an Upflow Anaerobic Sludge Blanket (UASB) wastewater treatment plant. Wastewater fed into the UASB treatment plant is mainly from Golden Circle's fruit processing operations. Solid matter is first separated out as much as possible, leaving mostly dissolved fruit sugars.**

**Two digesters were installed in 1989, while a third digester from GWE was added in 1996 to cope with increasing production volumes at the plant.**

**"The UASB plant has reduced the concentration of fruit sugars in the effluent, saving us two million dollars a year in discharge fees," says Mr Carter.**

**Biogas generated by the factory feeds a 3.5 MW boiler that produces about 5 tonnes of steam per hour, used for cooking foods, pasteurisation and sterilisation.**

**“At the moment, the burnt biogas is offsetting about five per cent of coal usage, while the new boiler will offset 15 per cent,” says Mr Carter.**

**According to CST Wastewater Solutions, the concept of using wastewater to create green energy is much more widely applicable than is often realised.**

**“Any factory with a biological waste stream or wastewater with high COD (Chemical Oxygen Demand) can easily use this model to generate energy,” says Michael Bambridge, Managing Director of CST Wastewater Solutions.**

**“On average, the removal efficiency of GWE’s anaerobic wastewater treatment installations is as high as 90-95 per cent, easily bringing the organic load down to regulatory discharge standards for most types of wastewater.”**

**“Besides cleaning the wastewater, the greatest advantage of anaerobic wastewater treatment is the controlled, continuous production of valuable biogas.”**

**Closed anaerobic reactors generate large quantities of methane ($CH_4$) from the organic materials in the wastewater that can diminish or even eliminate replace the need for fossil fuels in the production process.**

**Industries with high organic loads can generate enough biogas to fully cover a factory’s energy needs and still produce enough surplus energy to sell back to the national grid, often generating carbon credits and significantly reducing the factories’ carbon footprint.**

**With methane being 21 times more harmful to the atmosphere than carbon dioxide, anaerobic wastewater solutions can qualify for Emission Reduction Certificates for projects in countries listed under the United Nations Kyoto Clean Development Mechanism (CDM) and Joint Implementation (JI) programs.**