

# Carbon costs present opportunity for change in global meat industry

**Jean Pierre Ombregt** – CEO, Global Water Engineering  
**Michael Bambridge** – Managing Director, CST Wastewater Solutions (GWE's Australian Partner)



**The meat processing industry is entering uncharted waters as governments worldwide introduce carbon pricing mechanisms and expand community awareness about which industries are posing environmental challenges in terms of air and water purity.**

**The industry faces particular challenges – and opportunities – because of the nature of its process wastewater, which typically has a high content of organic material and consequently a high biochemical oxygen demand (BOD) and chemical oxygen demand (COD) due to the presence of blood, tallow, and mucosa. Other biological substances and chemical agents used for cleaning and disinfection add further potency to this runoff.**

**Coupled with already high levels of water consumption and methane emission, the meat processing sector can no longer escape the scrutiny to which similar industries are subjected. Fortunately, these old problems also present the industry with new opportunities to capitalise through innovations in green energy technology, as demonstrated by world leader in clean water and green energy solutions Global Water Engineering (GWE) and their Australasian partners CST Wastewater Solutions.**

**On average, the removal efficiency of GWE's anaerobic wastewater treatment installations reaches 90-95 per cent, comfortably bringing the organic load down to regulatory discharge standards for most types of wastewater.**

**But it doesn't end there. Closed anaerobic reactors generate large quantities of methane (CH<sub>4</sub>) from the organic materials in the wastewater, which can significantly reduce or even eliminate demand for fossil fuels in the production process.**

**To bring some perspective to the value, one ton of COD (chemical oxygen demand) digested anaerobically can result in 350Nm<sup>3</sup> of methane, equivalent to 0.15MW of power.**

**The concept of using wastewater to create green energy is much more widely applicable than is often realized. Any factory with a biological waste stream or wastewater with high COD (Chemical Oxygen Demand) can easily use this model to generate energy.**

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

**This approach is particularly applicable to primary processing industries such as meat and dairy. GWE's Flotamet™ system (pictured below) and Dissolved Biogas Flotator (DBF) technologies are specifically designed to handle the high levels of fats and oils prevalent in effluents in these industries. However, many primary industries have preferred to treat effluent to meet local discharge standards, missing lucrative opportunities to generate revenue through their own wastewater treatment installations.**



**Aside from generating power and cleaning effluent, GWE closed anaerobic process systems prevent large quantities of CH<sub>4</sub> being emitted into the atmosphere. With CH<sub>4</sub> being 21 times more harmful than CO<sub>2</sub>, GWE's anaerobic wastewater solutions can also qualify for Emission Reduction Certificates for projects in countries listed under the United Nations Kyoto Clean Development Mechanism (CDM) and Joint Implementation (JI) programs.**

***The GWE/CST Wastewater Technology partnership encourages businesses with organic content in their wastewater and waste streams to investigate the anaerobic potential for their specific case.***