

# **Wastewater Utilities - the Path to Energy Sustainability**

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A spectrum of policies and guidelines have been implemented at Central Government level in response to New Zealand's commitment to meet its Kyoto Protocol targets. In October 2007, the New Zealand Energy Strategy was released, to focus development on new-generation renewable energy technologies and drive energy efficiency to 2050. Energy consumers are also likely to face direct increases in energy cost as the result of the new Carbon Trading Scheme. Energy consumption and renewable energy potential from Local Government operations will be directly impacted by these energy sustainability drivers.

Wastewater operations are estimated to account for up to 20% of Local Government energy use, providing potential for large cost savings through energy efficiency improvements and localized renewable energy generation. Improvements in energy efficiency are likely to be found by optimizing pumping operations and plant control systems (such as aeration control in biological wastewater treatment processes), and developing best practice in sludge production, treatment and disposal. Process modeling and other design tools can contribute significantly to the identification and implementation of energy efficiency initiatives.

This paper is intended to provide an awareness of the drivers, primarily political and economic, that impact the path to energy sustainability in wastewater treatment operations. Technical solutions to improve energy efficiency and generate renewable energy will also be presented.