



PROJECT HIGHLIGHTS

- Enabled New Revenue Streams
- 300% Digester Capacity Increase
- Green Electricity Export to Grid

Palmerston North Wastewater Treatment Plant

PALMERSTON NORTH, NEW ZEALAND

CLIENT: Palmerston North City Council
PROJECT VALUE: \$2.5 million

PROJECT OVERVIEW

Palmerston North City Council required a review and improvements to the performance of their Anaerobic Digestion Systems at the Palmerston North Wastewater Treatment Plant. Calibre Consulting's anecdotal evidence suggested long-term under performance had been occurring, and undertook hydraulic residence time testing on the digesters. This revealed that nearly 50% of the reactor volume was poorly mixed and had been for many years despite of number of previous reviews.

SCOPE OF SERVICES

Calibre Consulting acted as process designers, as well as mechanical and electrical commissioning engineers. Firstly, Calibre Consulting undertook hydraulic residence tests, from these recommended a short-term, transitional mixing system, followed by a longer term solution. On implementation the short-term solution improved performance sufficiently, allowing that a single digester could accept the entire plants waste sludge allowing the second reactor to be removed and upgraded. The modifications made to the system increased the system capacity more than 300% and on Calibre Consulting's recommendation the Council developed the facility into a co-digestion facility for combined source segregated trade sludges and waste, as well as biosolids. As a result the gas production has increased three-fold and the upgrade has had a payback period of less than three years.