

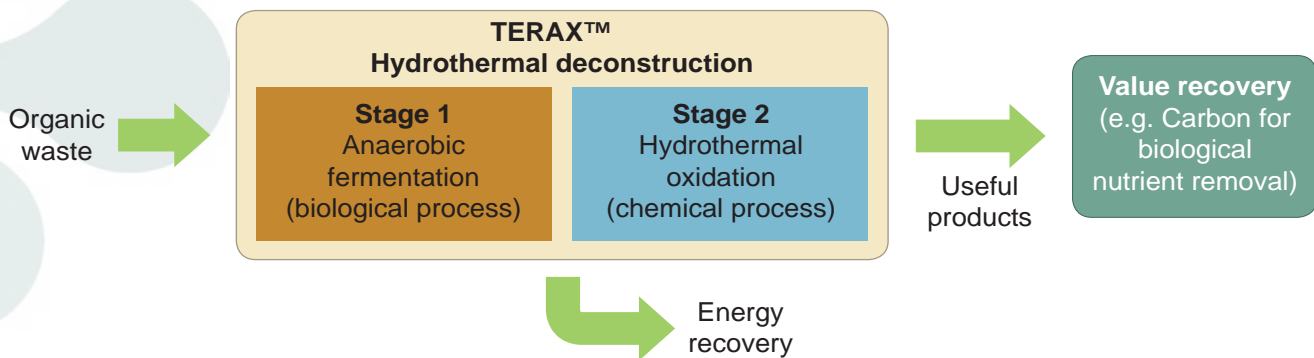
TERAX™

Hydrothermal Deconstruction

The TERAX™ hydrothermal deconstruction technology, which involves Crown Research Institute Scion and the Rotorua District Council, is testing a new approach to organic waste management.

Located at Rotorua's Wastewater Treatment Plant, the pilot plant is a large-scale research trial of the TERAX™ technology. The technology hydrothermally deconstructs or 'cooks' sewage biosolids and breaks them down into valuable products.

The pilot plant is used to gather data and optimise the process. A full-scale plant in Rotorua could result in a 30-fold reduction in biosolid waste going to landfill per year and save up to \$1.5 million per year for the council. In addition to cost savings, there are many benefits, including reduced greenhouse gases, cleaner waterways and a healthier living environment.



Hydrothermal deconstruction

Stage 1. The anaerobic fermentation pilot plant uses bacterial cultures to pre-treat the organic waste and reduce the volume of material that enters hydrothermal oxidation.

Stage 2. The hydrothermal oxidation pilot plant uses high pressure and temperature with oxygen to break down waste material into smaller, and simpler organic compounds and decrease the solids content.

Value recovery

The chemicals produced can be used as building blocks for industrial biotechnology applications such as bioplastics, biofuels, bioenergy, fertilisers, or for electricity production. At the biological nutrient removal pilot plant, the chemicals produced from TERAX™ will be evaluated for application by the Rotorua District Council. For instance, carbon can be recovered for waste water treatment.

In the future, TERAX™ could be used for managing a range of organic wastes from pulp and paper, agriculture, dairy, meat and fruit processing industries.

The pilot plant was built by Longveld Engineering, Hamilton, and the technical specification was prepared by Rotorua based consulting engineers Allan Estcourt Ltd. It was officially opened on 31 May 2011.

www.scionresearch.com/terax
www.terax.co.nz

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