

WMRC Project case study

The Western Metropolitan Regional Council (WMRC) Project provides a powerful showcase of AnaeCo's next generation solid waste processing technology at an industrial scale.

The WMRC Project involved the design, construction and commissioning of a 60,000 tpa AnaeCo™ Plant at the JFR McGeough Resource Recovery Facility (RRF) in Shenton Park, Western Australia.

Located just 6km from the Perth Central Business District, the JFR McGeough RRF is a solid waste transfer station owned and operated by the WMRC on behalf of its member councils.

The AnaeCo™ Plant was successfully retrofitted to the facility on a footprint of under 4,000m² without disruption to transfer station operations.

The project was delivered over two stages. In 2009, a 20,000 tpa commercial scale demonstration plant was constructed to test the application of the AnaeCo™ System. Following independent certification and the meeting of a range of performance criteria, project stakeholders agreed to proceed with construction of a full-scale plant. Construction of the expanded 60,000 tpa plant commenced in 2011 and reached the advanced commissioning stage by the end of 2013.

AnaeCo's project responsibilities were to provide technology, systems and plant design and commissioning services under a joint venture Design and Construct agreement with engineering firm Monadelphous. The AnaeCo™ Plant is

an asset owned by investment funds managed by Palisade Investment Partners and is contracted to receive 55,000 tpa of mixed Municipal Solid Waste (MSW) provided by participating regional councils.

The plant and system provided by AnaeCo was designed to suit the characteristics of incoming MSW, existing transfer station operational and site constraints and the plant owner's business requirements. Plant modules included an AnaeCo™ MRF based on a single trommel line, a 3 vessel DiCOM™ BCF and supporting ancillary services including an odour management system and a power generation system.

The entire plant is managed and automated by AnaeCo's proprietary process control system. The AnaeCo™ Plant will divert around 75% of the incoming MSW previously destined for landfill, instead recovering valuable resources including organic fertiliser, renewable energy in the form of biogas and clean recyclable metals, plastics and glass.

The fully matured, stabilised, nutrient rich organic fertiliser produced will be utilised by one of Western Australia's largest compost manufacturers to enrich soils. Renewable electricity and heat produced in the process will be used to power plant operations with surplus energy being fed back into the local grid.

Key project benefits to the participating councils include:

- Around 41,250 tpa of household waste diverted from landfill.
- Nearly 38,000 tpa of recovered organic material converted into a quality organic fertiliser product and renewable energy.
- Surplus renewable electricity to be provided back to the local grid.
- Abatement of around 50,000 tpa of CO₂e associated with putrescible waste decomposition in landfill.
- Reduction in CO₂e associated with fossil fuel used through residual disposal transport.
- More predictable long-term disposal costs through mitigation of rising landfill levies and transport costs.
- The ability to retrofit existing urban waste infrastructure with modern advanced waste technology.
- Implementation of a sustainable, responsible, long-term, urban waste recycling and organics management solution.
- Compliance with Western Australian state government recycling and landfill diversion targets.