

# **Sustainable Wastewater Management – the “State of Play”**

**Jim Bradley**

## **Abstract**

The legislative drivers for wastewater management – the RMA, the LGA 2002 with “sustainable development” working through the four well beings (environmental, social, cultural and economic), the Health Act and other legislation together with integration of the community, tangata whenua and other stake holders - sets an all embracing framework in which our industry must work and in which we are making good progress.

Our industry is now coming to terms with the many parts of wastewater management that must be integrated and managed in a holistic way. The shift, often difficult for engineers, in taking an ‘effects based’ rather than ‘technology driven’ approach to wastewater management is now becoming much more evident and common place.

The paper will specifically highlight how the following components of wastewater management need to be considered as part of the integrated approach: resource efficiency and minimisation of wastewater amounts inputting a system centralised reuse decentralised system; the robustness and flexibility of technology application; the all important energy and peak oil considerations, climate change; management of air emissions; sludge and biosolids management; and operational and level of service factors.

The presentation will draw on a range of more recent New Zealand’s local government wastewater schemes and management techniques to illustrate the three points being made in this state of play review.

## **Bio**

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Jim has a long distinguished professional career in the fields of civil, environmental and public health engineering. One of his specialist fields is wastewater management. Passionate about sustainable development, Jim has given over 60 national and international papers and presentations, and has participated in a number of national and international advisory groups, technical committees, and industry associations boards.

Jim is a life member of the New Zealand Water and Waste Association and an honorary member of the Waste Management Institute of New Zealand. Jim was the inaugural winner of the IPENZ Supreme Technical Award for Engineering Achievers 2004 in the Sustainability and Clean Technology category, and in 2005 was the inaugural winner of the William Pickering Award for Engineering Leadership at the New Zealand Engineering Excellence Awards.