

WasteMINZ Annual Conference Workshop:

The beneficial use of organic waste in New Zealand – a new technical guideline for land application

Date: Thursday 24 October

Time: 9.00-10.30am

Room: Works Infrastructure

SUMMARY: Four key industry and research partners: Water New Zealand, WasteMINZ, the Centre for Integrated Biowaste Research (CIBR) and the New Zealand Land Treatment Collective (NZLTC) are driving the development of a framework for dealing consistently with organic wastes. This approach aims to recognise commonalities of organic waste; describe quality criteria for beneficial reuse, increasing knowledge and streamlining regulatory processes. These partners represent expertise in the field of organic waste production, processing and beneficial re-use.

The proposal will create a framework for dealing consistently with organic wastes that will increase nationwide reuse and reduce landfilling. The proposal is for a new technical guideline that will supersede, update or reference to existing guidelines and standards e.g. NZ Biosolids Guidelines, NZS4454 Composting Standard etc.

BACKGROUND: Unlike many other waste streams, there are good prospects for alternative, beneficial end-use options for organic wastes. To fit the criteria of “beneficial re-use” specified in this proposed guideline the wastes must benefit soil biological, chemical or physical properties.

Wastes that may be included in this guideline include:

Household organic (Food waste green waste)

Paper and cardboard

Primary sector related organic waste (e.g. Agricultural wastes (big in volume but small in practice in some cases),

Meat works waste,

Manure (e.g. chicken manure)

Sewage sludge

Pulp and paper waste

Nappies and sanitary

Sustainable management of organic waste is important because these wastes comprise more than 62% of the total waste stream going to landfill in New Zealand, and at around 700,000 tonnes per year, it is growing (Ministry for the Environment, Indicator update, October 2012; INFO 654). The burden on the environment and the dollar cost to councils is increasing with resource consent applications and the physical act of burying the material. These wastes are carbon-rich and generally contain high concentrations of valuable nutrients which, if properly treated and/or processed, can have added value through resource recovery. An example is the re-use of organic wastes as a sustainable soil conditioner that has the potential to provide valuable physical (e.g. increased water holding capacity, infiltration and aeration), biological (e.g. beneficial organisms) and

chemical (e.g. essential elements and plant nutrients and ability to mitigate chemical contaminants) attributes.

Current trends show that increasing quantities and varying mixtures of these organic materials are already being used, primarily to create energy with the residues as a mixed organic material that could be beneficially used on land.

Some organic wastes can also contain a range of micro-contaminants such as heavy metals, agrichemicals, pathogens, pharmaceuticals and personal care products, thus management requires technical guidance and regulation to ensure minimal environmental/public health risk and maximum value.

For many Territorial Local Authorities (TLA's) organic waste management is regarded as a high priority issue and is accompanied by a growing body of national legislation and strategy (e.g., Waste Minimisation Act (2008), The New Zealand Waste Strategy: Reducing Harm, Improving Efficiency (MfE 2010), climate change policy and energy strategy) all of which press for better and more sustainable options than landfill. Landfilling is currently the preferred option for many of these wastes, in particular for the potentially more contentious, such as biosolids.

Despite having science-based regulations or guidelines to facilitate beneficial reuse of many organic wastes (e.g. Guidelines for the Safe and Application of Biosolids to Land in New Zealand, New Zealand Standard for Composts, Soil Conditioners and Mulches (NZS 4454:2005)), progress has been slow towards achieving the NZ Waste Strategy target of improving the efficiency of resource use and diversion of organic wastes from landfill. In part this is because there is insufficient understanding of the risks with some wastes and no nationwide consistency of approach. Some guidelines are outdated and in need of review as new science is now available on quality criteria such as contaminant limits.

Many of the organic wastes have commonality in terms of nutrient and contaminant content and in eventual end-use (e.g. soil compost or conditioner). Thus rather than update individual standards or guidelines it seems sensible to take an integrated approach and develop a generic technical guideline containing quality criteria for beneficial re-use based on protection of both environmental and public health (Figure 1). The project partners recognise that this is an innovative approach to sustainable waste management and as such the initial phase of the programme will include a scoping exercise to determine range, key characteristics and quantities of wastes produced in New Zealand that fit the criteria of the proposed guideline.

This project will contribute to achieving increased reuse of waste by clarifying and streamlining regulatory processes to facilitate greater beneficial re-use of organic wastes.

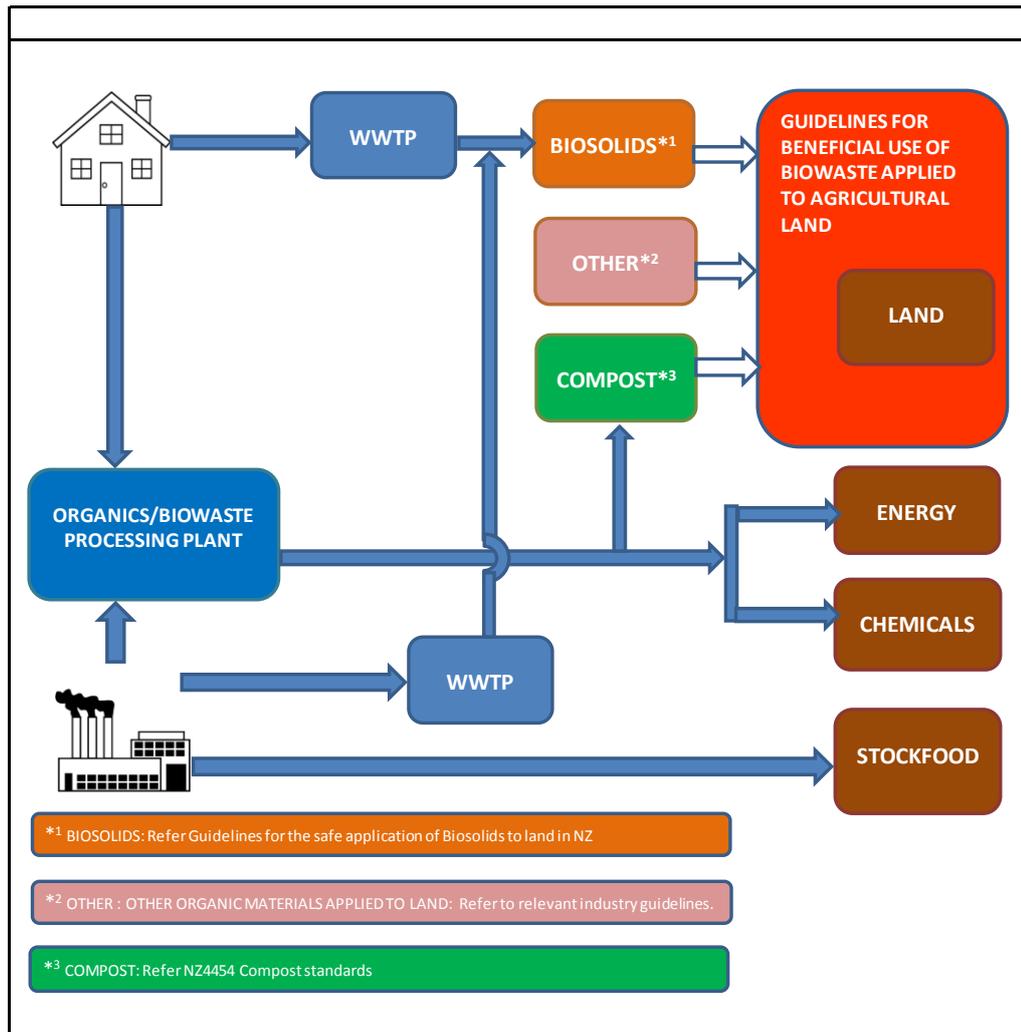


Figure 1. Illustration of scope of proposed organic waste guideline.

Workshop:

This workshop will be facilitated by Virginia (Jinny) Baker from CIBR and will begin with short presentations to set the scene by George Fietje (Business Development Manager, Living Earth and Chairman of the Organics Materials Sector Group, WasteMINZ) and Jacqui Horswell (Programme Leader and Manager CIBR), including an overview of the waste management sector and current and future challenges. Nick Walmsley (WaterNZ Technical Co-ordinator) will then give an outline of the proposed scope and content of a new guideline to frame round-table discussions. Attendees to the workshop should come prepared to discuss:

1. What are the issues and roadblocks to safe and beneficial re-use of organic wastes applied to land?
2. What organic wastes should be included; which shouldn't, and why?
3. What are the key criteria for inclusion in a broader guideline? E.g. key characteristics, key contaminants, key beneficial properties?
4. How would such a guideline help streamline the regulator process?