

Organics Strategy
*Draft for
Public Comment*

Statement of Intent

Our Vision

Towards Zero Waste in Western Australia

Our Goal

*That all Western Australians live in a
Waste Free society*

Our Principles

***Principle 1: Prevention** - to avoid the
creation of waste*

***Principle 2: Recovery** - to efficiently
re-cover, re-treat and re-use all wastes*

***Principle 3: Disposal** - to responsibly
manage waste into the environment*

ORGANICS STRATEGY

Draft for Public Comment

Western Australian
Waste Management Board

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SUMMARY

In 2005, the Waste Management Board conducted an extensive program of investigation into issues relating to organic waste and what strategies could be implemented to reduce the environmental impact of organic waste in WA. This strategy document represents the culmination of that work. It presents the views arrived at as a result of careful consideration of the outcomes of the investigations undertaken.

A summary of the policy position and corresponding strategies for implementation is presented in the table below.

Waste Stream		Policy	Implementation strategy
MUNICIPAL (households)	Garden organics	The highest end use for domestic garden organics is recycling or re-use at the household. However, the WMB acknowledges that this is not practical for all households.	The WMB will seek to work with other government agencies to promote "grass cycling", home composting and home worm farming.
		The second highest end use for domestic garden organics is recycling in a centralised composting facility.	The WMB will give support to composting of garden organics in preference to any other form of recycling or end-use of domestic garden organics.
			The WMB will review and revise the 1997 Guidelines for the Storage, Processing and Recycling of Organic Wastes.
		Garden organics collected from households should be via a system that minimises the potential contamination in the final compost product while maximising the amount of garden organics collected. Source separation is the most appropriate method of collecting garden organics to be used as feedstock for composting.	The WMB will encourage local government to implement source-separated garden organics collections that aim to capture the majority of garden organics from residential properties in their area.
		The Waste Management Board does <u>not</u> support the distribution of chipped garden organics that has not been treated to eliminate weed seeds, pathogens, and diseases.	The WMB will <u>not</u> give support to any program that distributes exogenous garden organics that has not been treated to eliminate weed seeds, pathogens, and diseases.

Waste Stream		Policy	Implementation strategy
MUNICIPAL (households)	Food organics	Avoidance is the best option for generation of domestic food organics. However, the WMB acknowledges that there may be limited scope to achieve this.	WMB Waste Avoidance initiatives aimed at households will target food organics as a priority.
		The highest end use for domestic food organics is recycling or re-use at the household. However, the WMB acknowledges that this is not practical for all households.	The WMB will seek to work with other government agencies to promote home composting and home worm farming of domestic food organics.
		The second highest end use for domestic food organics is recycling in a centralised enclosed composting or treatment facility. However, the WMB acknowledges the economic, technical and public health issues associated with the collection and processing of food organics.	The WMB will give support to enclosed composting of food organics in preference to any other form of recycling or end-use of food organics.
		Domestic food organics is a major cause of pollution from municipal waste disposed in MSW landfills that are not best practice.	The WMB will investigate a potential staged ban on disposal of mixed municipal waste to landfill where no system has been implemented to reduce the proportion of putrescible material in the waste stream.

Waste Stream	Policy	Implementation strategy
COMMERCIAL & INDUSTRIAL	Garden organics	<p>The preferred end-use for C&I garden organics is recycling in a centralised composting facility.</p> <p>The WMB will give support to composting of garden organics in preference to any other form of recycling or end-use of C&I garden organics.</p> <p>The WMB will encourage waste disposal facilities to provide a free or low-cost drop off facility for source-separated C&I garden organics.</p>
	Food organics	<p>Avoidance is the preferred strategy for reducing food organics from the C&I sector.</p> <p>WMB initiatives aimed at business that generate large quantities of food organics will include a waste avoidance component.</p>
		<p><i>Untreated</i> organic waste utilised as stockfeed represents an unacceptable risk to public health.</p> <p>The WMB will discourage the use of untreated organic waste, such as mixed fruit and vegetable waste from retailers, as stockfeed. The WMB would, however, support the use of pasteurised food organics or food organics from a hygienic source as feedstock.</p>
		<p>The preferred end use for mixed C&I food organics is recycling in a centralised enclosed composting facility. However, the WMB acknowledges the economic, technical and public health issues associated with the collection and processing of food organics.</p> <p>The WMB will give support to enclosed composting of mixed food organics in preference to any other form of recycling or end-use of food organics.</p>

Waste Stream		Policy	Implementation strategy
CONSTRUCTION & DEMOLITION	Garden organics	Garden organics from site clearing should be separated for recycling into compost.	The WMB will encourage waste disposal facilities to provide a free or low-cost drop off facility for source-separated C&D garden organics.
	Food organics	The WMB believes that food organics from C&D sites represents a relatively minor issue at this time.	None.
AGRICULTURAL WASTES		While the WMB acknowledges that agricultural wastes have the potential to cause environmental harm and to be utilised for substantial benefit, the WMB believes that dealing with agricultural wastes is outside its charter at this point in time, and that issues relating to agricultural wastes are better dealt with by the Department of Agriculture and the Department of Health. Although agricultural wastes are not considered core business of the WMB at this time, it is willing to participate in the development of strategies where synergies exist.	The Waste Management Board will liaise with and advise the Department of Agriculture and the Department of Health on issues relating to agricultural wastes as required.
COMPOST FROM MIXED WASTE		The WMB acknowledges that MBT has a significant and important role to play in the treatment of solid waste.	The WMB will give support to waste treatment facilities other than landfill, including MBT.
		Due to the current lack of knowledge about potential contaminants in MSW compost and their impacts, the WMB believes that, under the Precautionary Principle, MSW compost should be restricted in its use.	The WMB will commission Standards for the application and use of MSW compost.
ALL	Markets for recycled organics	The WMB believes that development of long-term, viable markets for recycled organics is essential to achieving Zero Waste.	The WMB will work collaboratively with the recycled organics industry and potential customers to assist in the establishment of long-term, viable markets for recycled organics.

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INTRODUCTION

In 2004, the Waste Management Board released its *Strategic Direction for Waste Management in Western Australia: Vision and Priority Statement*. This overarching policy outlines the approach to be adopted by the Board and the Department of Environment (DoE) in the development and delivery of waste management policy and programs. The *Focus Area Matrix* contained in the *Statement of Strategic Direction for Waste Management in Western Australia* identified Organics as a priority waste product.

In 2005, the Waste Management Board conducted an extensive program of investigation into issues relating to organic waste and what strategies could be implemented to reduce the environmental impact of organic waste in WA. Specifically, the Waste Management Board:

- Commissioned a background research paper to identify and describe the various issues associated with organic waste from the municipal and commercial/industrial sectors; [3]
- Established a Working Group to investigate issues relating to compost from waste, which presented a report to the Board containing 29 recommendations relating to a variety of organic waste issues; [5]
- Contributed to a national background study on Organics from Mechanical-Biological Treatment (MBT) facilities – a literature review on Standards and contaminants; [2]
- Conducted an assessment of project options to be undertaken by the Board (internal working document).

This strategy document represents the culmination of the work listed above. It presents the views arrived at as a result of careful consideration of the outcomes of the investigations undertaken.

Each section of the strategy provides a brief outline of the issues relating to policy positions taken and strategy recommendations. Detailed discussions on these issues are available in the background documents listed above.

GENERAL PRINCIPLES

The policies and strategies contained in this document were developed using the following principles;

1. **Protection of public health**
2. **Protection of the environment**
3. **Highest beneficial end use**
4. **Principles of Sustainability**
5. **Charter of the Waste Management Board.**

Protection of public health

The original purpose of waste management was to reduce potential impacts of waste, particularly domestic garbage, on human health. As technology and practices have improved, the emphasis has moved away from this primary goal. However, a fundamental principle of any policy or strategy should be to avoid compromising the protection of human health.

The main public health issues relating to putrescible solid waste are vectors, odours and diseases. Containing the putrescible waste in an enclosed vessel and disposing of, or treating, the waste within as short a timeframe as possible generally control these.

Protection of the environment

Two aspects of protection of the environment have been considered in the development of this policy/ strategy document; protection of the local environment, or pollution control, and improved environmental practice, or pollution prevention.

Pollution Control is the reduction in direct environmental harm or nuisance resulting from emissions related to the collection and processing of organics, as well as the application of recycled organics. Emissions include dust, odour and leachate.

Improved environmental performance includes lower emissions, but also relates to global effects, such as net reduction in greenhouse gas emissions, lower water consumption, reduced nutrient run-off, etc.

Highest beneficial end use

In keeping with the Strategic Direction for Waste Management in WA , the principle of highest end use, as it applies to organic wastes, is a (slightly) modified version of the waste hierarchy, namely:

- Reduce (avoid, prevent)
- Re-use (eg Foodbank, stockfeed)
- Recycle (ie composting)
- Energy recovery (eg gasification, alternative fuel)
- Stabilisation and disposal.

The hierarchy provides a simple tool for assessing highest end use. There may be specific circumstances where it does not strictly apply. However, for most situations, the waste hierarchy will represent highest end use, and therefore is given due consideration in the development of this policy/strategy document.

The diversion of organics to the highest beneficial end use is facilitated by minimising cross-contamination of organic materials with potential contaminants. To that end, source-separated collection is believed to provide the most effective method for minimising cross-contamination in organic collection systems.

Sustainability

The WA government has made a commitment to Sustainability through the release of the State Sustainability Strategy. [4]

There are four main principles of Sustainability:

- The precautionary principle;
- The principle of intergenerational equity;
- The principle of biological diversity and ecological integrity;
- Principles relating to improved valuation, pricing and incentive mechanisms.

For the purposes of this strategy, the definitions for these are taken to be as per Section 4A of the Environment Protection Act, 1986.

Charter of the Waste Management Board

The Waste Management Board was established to provide strategic advice on waste management issues to the Minister for the Environment. In the development of this strategy, the Board has given due consideration to the limits of its Charter, and deliberately seeks not to undertake tasks and activities that clearly fall within the charter of other existing organisations. This prevents potential duplication and maintains the focus of the Board's resources on its core business.

ORGANICS IN DOMESTIC WASTE

Organic material comprises over half of the domestic waste stream by weight. If recyclable material is separated at the household, then organic material can make up the vast majority (by weight) of the remaining garbage component of the kerbside collection. This represents both an environmental issue and an opportunity for recovery of organics for beneficial re-use.

In the 2004-05 financial year, approximately 148,000 tonnes of domestic organic waste was recycled / recovered, according to RRRS figures. While definitive waste composition data is still being collected, it is estimated that this represents a recovery rate for domestic organics of roughly 40%. The majority of the organics recovered from the domestic organic stream was via some kind of Mechanical-Biological Treatment (MBT) facility, i.e. the SMRC or Atlas.

Domestic Garden Organics

Waste composition

Kerbside waste studies from other jurisdictions show that garden organics comprise typically 30% of the waste stream, although this may be higher for Perth, which has a relatively low housing density resulting in larger gardens.

Home composting

A number of Councils actively promote home composting as a way of reducing garden organics in the garbage stream, as well as for the other environmental benefits. In accordance with the waste hierarchy and reduced environmental impacts, home composting is theoretically the preferred option. However, experience of large-scale promotional programs in other jurisdictions has been that while there can be take-up by large numbers of households, the attrition rate is very high. Composting and worm-farms are living systems that require a level of maintenance and care. Those householders most likely to maintain a commitment to composting / worm farming are those who have an interest in utilising the product in their own garden, i.e. keen gardeners. These people tend to have some kind of home compost system, anyway. So, in practice, wide scale promotion of home composting is impractical and can be counter productive. However, targeted promotion may be of benefit, and would be in keeping with the principles of the waste hierarchy.

Chipping for mulch

Chipping garden organics for use as mulch is a higher end use for this material. Where residents can chip their own garden organics for reuse on their own properties, this should be encouraged.

A number of Councils collect garden organics from households, either through a kerbside collection or drop off, aggregate the garden organics at a central point, chip it and offer it as mulch to their residents. This practice has the potential to propagate weed seeds, insects and plant diseases and should be actively discouraged. Any garden organics that is removed from its original location needs to be subject to some kind of sterilising process, eg composting or MBT, prior to distribution in another area.

Grass cycling

"Grass cycling" is a term coined in the United States of America, which is not capturing grass clippings when lawns are mowed, but letting them fall back onto the grass. The cut grass forms a mulching layer, and can have a similar water-saving effect. This extremely simple measure has been estimated to have significant savings, both in waste to landfill and collection costs.

Centralised composting

Centralised composting / processing allows the accumulation of the critical mass of material necessary to operate large facilities capable of generating the temperatures required to kill pathogens, weed seeds and pests. This can be achieved in a traditional open windrow composting operation or in an AWT facility. Processing domestic garden organics through a commercial composting operation has both environmental and economic benefits, in that the negative environmental impacts can be minimised and the final compost product can be sold.

Kerbside collections

Only a few Councils in WA (all in the Perth metropolitan region) offer a frequent containerised source-separated garden organics kerbside collection. However, most households in Perth, and many regional centres, do have access to a quarterly or 6-monthly bundled kerbside collection and/or drop off facilities.

Many Councils are reluctant to move to a containerised collection due to perceived problems of increased collection costs and high contamination of the garden organics. Experience in other jurisdictions has shown that containerised collections can be cost effective once the cost of landfill increases, and that contamination issues can be overcome with adequate education and enforcement programs.

In reviewing various studies on the environmental cost/benefits of recycling organics as part of the background research for this paper, it was concluded:

“It is clear that the separate collection of organic materials and conversion into products suitable for improving soils and agricultural production systems is the preferred strategy for managing organic materials generated from metropolitan and regional areas. Studies reviewed also clearly support policies requiring the source separate collection and recycling of organic materials from the waste stream...” [3]

Policy on Domestic Garden Organics

The highest end use for domestic garden organics is recycling or re-use at the household. However, the WMB acknowledges that this is not practical for all households.

The second highest end use for domestic garden organics is recycling in a centralised composting facility.

Garden organics collected from households should be via a system that minimises the potential contamination in the final product.

The Waste Management Board does not support the distribution of chipped garden organics that has not been treated to eliminate weed seeds, pathogens, and diseases.

Strategy for Domestic Garden Organics

The WMB will seek to work with other government agencies to promote “grass cycling”, home composting and home worm farming.

The WMB will give support to composting of garden organics in preference to any other form of recycling or end-use of domestic garden organics.

The WMB will review and revise the 1997 Guidelines for the Storage, Processing and Recycling of Organic Wastes.

The WMB will encourage local government to implement source-separated garden organics collections that aim to capture the majority of garden organics from residential properties in their area.

The WMB will not give support to any program that distributes exogenous garden organics that has not been treated to eliminate weed seeds, pathogens, and diseases.

Domestic Food Organics

Waste composition

Food organics typically comprises 25-30 wt% of the domestic waste stream. Food organics is a more complex issue than garden organics, because it includes material that is suitable for traditional composting, such as most fruit and vegetables, and material that requires enclosed composting, such as meat, bread, dairy, seafood, etc. A characteristic of food organics is its high nitrogen content, as well as its high moisture content. Therefore, it is more prone to problems of odour, vectors and leachate than garden organics.

Avoidance

Waste avoidance, as applied to domestic food organics, relates mainly to the purchasing and consumption patterns of households. In a paper released by the Australia Institute, the results of a survey are presented that identified food as the item most wasted (i.e. purchased but not used), most of which was fresh food. [1] Avoiding generation of food organics would require significant cultural and behavioural change. While this is highly desirable, the policy tools available to bring such change about are limited, expensive and long-term. However, any waste avoidance programs run by the Waste Management Board should target food organics as a priority.

Kerbside collection

Source-separated kerbside collection of food organics can be technically and logistically difficult, as is the processing of food organics. Problems associated with garden organics collections of odour and contamination are exacerbated by inclusion of food organics. Currently, no Councils in WA provide a source-separated kerbside food organics collection. However, there have been a number of trials of combined domestic food/garden organics collection in other States. These trials have shown that where there is an existing source-separated containerised garden organics collection system in place and working well, then expanding the service to include food organics is quite straightforward and does increase the amount of organic material diverted from landfill (although not substantially).

Processing

For public health, nuisance control and environmental reasons, any food organics collected for reprocessing must be processed in an enclosed facility. There are a number of technologies that may be suitable for processing food organics, particularly combined garden and food organics from households. These range from fermentation vessels to Gore-tex enclosed windrows. There is still limited experience of such technologies in Australia.

Home composting

Home composting, and worm farming in particular, are excellent methods for processing a proportion of household food organics, provided the system is properly maintained. As discussed above under domestic Garden Organics, home composting and worm farming requires a level of ongoing commitment that is usually driven by the use of the product, rather than a desire to reduce waste. Further, some food organics is detrimental to these systems, causing them to fail. Therefore, the most productive strategy for promoting home composting and/or worm farming of household food organics is to target keen gardeners who have an interest in utilising the end product.

Policy on Domestic Food Organics

Avoidance is the best option for generation of domestic food organics. However, the WMB acknowledges that there may be limited scope to achieve this.

The highest end use for domestic food organics is recycling or re-use at the household. However, the WMB acknowledges that this is not practical for all households.

The second highest end use for domestic food organics is recycling in a centralised enclosed composting or treatment facility. However, the WMB acknowledges the economic, technical and public health issues associated with the collection and processing of food organics.

Domestic food organics is a major cause of pollution from municipal waste disposed in MSW landfills that are not best practice.

Strategy for Domestic Food Organics

WMB Waste Avoidance initiatives aimed at households will target food organics as a priority.

The WMB will seek to work with other government agencies to promote home composting and home worm farming of domestic food organics.

The WMB will give support to enclosed composting/treatment of food organics in preference to any other form of recycling or end-use of food organics.

The WMB will investigate a potential staged ban on disposal of mixed municipal waste to landfill where no system has been implemented to reduce the proportion of putrescible material in the waste stream.

ORGANICS IN COMMERCIAL & INDUSTRIAL (C&I) WASTE

The overall percentage of organic material in C&I waste has been estimated at around 25 wt%. However, the diverse nature of this sector is important when examining waste generation. Some businesses, such as fruit and vegetable wholesalers produce approximately 97% food organics suitable for composting. Other businesses, such as takeaway shops, hotels and restaurants can have 60-70 wt% food organics, but it is a mixture of meat, fish, vegetable, pre-consumer, post-consumer, etc. [6] When developing strategies for C&I organic waste, the variety of business type and size needs to be taken into consideration.

C&I Garden Organics

There is relatively little garden organics generated by businesses categorised as being in the Commercial & Industrial sector. Businesses that do dispose of significant quantities of garden organics tend to be landscaping or mobile gardening businesses. These businesses tend to deliver their rubbish to waste facilities themselves. Therefore, providing facilities and incentives for them to drop off their garden organics separately for processing would be an effective way to capture this material.

Any garden organics generated by gardening or landscaping businesses should be treated to reduce the risk of propagating weed seeds, pathogens and (plant) diseases prior to distribution of the material beyond the property from which the material was sourced.

Policy on C&I Garden Organics

The preferred end-use for C&I garden organics is recycling in a centralised composting facility.

Strategy for C&I Garden Organics

The WMB will give support to composting of garden organics in preference to any other form of recycling or end-use of C&I garden organics.

The WMB will encourage waste disposal facilities to provide a free or low-cost drop off facility for source-separated C&I garden organics.

C&I Food Organics

Composition

The nature and amount of food organics generated from a business is dependent on the type of business and its size: a small fruit and vegetable shop will generate more food organics than a large electrical goods retail outlet. Waste generation also depends on the practices within that businesses. For example, a chicken retail business that buys whole chickens and prepares them on-site will generate a substantial amount of chicken carcass waste, whereas a similar business that sells pre-prepared chicken, i.e. that has been skinned and filleted etc. off-site, will have relatively little waste, except what is unsold. Therefore, general statements about food organics generation from the C&I sector are largely meaningless. However, for many businesses, the amount and nature of the waste they generate can be reduced through a change in business practice.

Food organics collections

There have been a number of source-separated food organics collection trials collecting waste from businesses conducted over the past 5 years. Generally, these found that intensive education programs were necessary to control contamination. Even so, there were some types of businesses that were unsuitable to participate in food organics collections where low contamination rates were required, despite generating significant quantities of food organics. This was due to a range of reasons, such as time, space, high staff turnover, language/cultural barriers, etc. [7]

There are currently a number of source-separated commercial food organics collection services operating in other States. These mainly collect fruit and vegetable waste from large wholesalers and retailers.

Centralised food organics processing

There are facilities in other States that process C&I food organics for conversion to electricity and/or compost. The tolerance for contamination varies. However, each facility is designed to deal with some level of contamination in the feedstock. All facilities that process C&I food organics are fully enclosed, mainly to control odour.

On-site food organics processing

There are a number of technologies available, such as the Vertical Composting Unit (VCU) and commercial-application worm farms, that will process large quantities of commercial food organics on-site. There are several units that have been operating for a number of years. However, on-site food organics processing units require an upfront capital investment and a considerable amount of ongoing maintenance. Therefore, there has not been a widespread adoption of these technologies.

Food organics as stock feed

In some instances, food organics are utilised as stockfeed. The type of food organics that goes to stockfeed varies from food manufacturing sludges and wastes to skips of fruit and vegetable off-cuts from retailers. Sludges and liquids from food manufacturing are generally homogeneous, well-characterised and pasteurised, and therefore represent virtually no risk to the stock or public health. In these cases, this is a preferred use for this material under the waste hierarchy, provided appropriate handling protocols are observed. Less characterised food organics from less controlled sources naturally represent a higher risk, as there is the potential for both physical and biological contamination of the food organics. While retail vegetable waste can be a cheap source of feedstock, especially during difficult times, the small risk that this poses means that this practice should be discouraged.

Policy on C&I Food Organics

Avoidance is the preferred strategy for reducing food organics from the C&I sector.

Untreated organic waste utilised as stockfeed represents an unacceptable risk to public health.

The preferred end use for mixed C&I food organics is recycling in a centralised enclosed composting/treatment facility. However, the WMB acknowledges the economic, technical and public health issues associated with the collection and processing of food organics.

Strategy for C&I Food Organics

The WMB will discourage the use of untreated organic waste, such as mixed fruit and vegetable waste from retailers, as stockfeed. The WMB would, however, support the use of pasteurised food organics or food organics from a hygienic source as feedstock.

The WMB will give support to enclosed composting of mixed food organics in preference to any other form of recycling or end-use of food organics.

ORGANICS IN CONSTRUCTION & DEMOLITION (C&D) WASTE

The proportion of organic waste in C&D waste by weight is relatively small. This is partly due to the density of the other components of C&D waste, such as brick and concrete. However, there is relatively little garden or food organics generated at either demolition or construction sites. The main type of organic material generated as waste is timber (beams, doors, frames, etc.). Timber waste is not covered by this strategy, but will be included in a separate strategy dealing with Building Products.

The main concern regarding the presence of organic material in C&D waste is that mixed waste from C&D sites is frequently disposed in unlined inert landfills. Even though the total amount of organics material in C&D waste is very low relative to other waste streams, it still warrants some level of intervention due to the potential environmental harm from organic contamination disposed in inert landfills.

C&D Garden Organics

The main source of garden organics in C&D waste is clearing sites. In some construction projects, straw bales are used to control sediment run-off. These are also often disposed with mixed C&D loads. For large projects, the most effective way of separating organics is through source separation. A significant price differential for disposal of source-separated garden organics, combined with increased enforcement of the waste acceptance criteria at inert landfills, may facilitate this. For smaller projects, some kind of sorting of mixed loads would be the most effective means of removing garden organics.

It is anticipated that the issue of contamination of C&D loads with organic material will be mainly addressed through the Building Products strategy.

Policy on C&D Garden Organics

Garden organics from site clearing should be separated for recycling into compost.

Strategy for C&D Garden Organics

The WMB will encourage waste disposal facilities to provide a free or low-cost drop off facility for source-separated C&D garden organics.

C&D Food Organics

Food organics in C&D waste would comprise mainly meal left-overs from workers on the site. This is a very small proportion of the waste generated on a demolition or building site. While this can be a contaminant for the purposes of recycling the C&D waste, for the purposes of this strategy, food organics is a relatively minor issue that does not warrant intervention at this stage.

Policy on C&D Food Organics

The WMB believes that food organics from C&D sites represents a relatively minor issue at this time.

Strategy for C&D Food Organics

None.

AGRICULTURAL AND FORESTRY WASTES

Agricultural wastes consist of manures, crop stubble, animal carcasses, etc. Forestry wastes include unwanted bark, branches, etc from lumber operations. While some agricultural and forestry wastes can form the basis for composting operations, which would be encouraged by the Waste Management Board, the handling and storage of these wastes is outside the charter of the Board. The handling, storage and processing of agricultural wastes is managed and regulated by the Department of Agriculture and the Department of Health, who work together on these issues. Forestry wastes are managed by the Forest Products Commission of WA. The involvement of the Waste Management Board in these issues would add to the complexity of the debate and would divert the Board's resources away from its core business – municipal solid waste.

Policy on Agricultural Wastes

While the WMB acknowledges that agricultural wastes have the potential to cause environmental harm and to be utilised for substantial benefit, the WMB believes that dealing with agricultural wastes is outside its charter at this point in time, and that issues relating to agricultural wastes are better dealt with by the Department of Agriculture and the Department of Health.

Although agricultural wastes are not considered core business of the WMB at this time, it is willing to participate in the development of strategies where synergies exist.

Strategy on Agricultural Wastes

The Waste Management Board will liaise with and advise the Department of Agriculture and the Department of Health on issues relating to agricultural wastes as required.

COMPOST FROM MIXED SOLID WASTE

Alternative Waste Technologies

There is a trend towards more sophisticated and higher level technologies for treatment of municipal solid waste, either as a way of separating materials for recycling or for stabilising the putrescible component of waste prior to landfill. These are generally referred to as Alternative Waste Technologies (AWT). A subset of AWTs is mechanical-biological treatment (MBT), which is a combination of mechanical process, such as shredding and sorting, and biological processes, such as composting or fermentation. MBTs generally process residual mixed waste streams. They extract recyclable materials that would otherwise be landfilled and stabilise the organic fraction. The use of AWTs, either in conjunction with or as an alternative to landfill, can have significant environmental benefits.

Recycled organics from MBTs

One output of MBTs is a “compost-like” organic stream. There is currently a robust debate occurring in Australia about the most appropriate use for the “compost-like” outputs of MBTs. While there is general consensus that the organic content does have a beneficial effect when applied to agricultural and horticultural land, there is some concern that this material contains physical and chemical contaminants that may be harmful to the environment, to crops, to livestock and to human health.

The concern about outputs from MBTs is largely due to the fact that the organic component is held for several days at elevated temperatures in close contact with a wide range of products, such as plastics, batteries, electronic goods, etc. There is the potential for contamination of the organic fraction by chemicals found in these products. This is supported to some extent by the fact that MBT “composts” are generally slightly higher in certain metals than compost made from source-separated garden organics. However, the type and magnitude of contaminants of concern in MBT is largely unknown, as is the actual impact of these compounds being present in the MBT compost.

The main issue surrounding the use of MBT compost is that legitimate questions have been raised regarding its use that cannot, at this stage, be satisfactorily answered. To obtain satisfactory answers would require extensive research, which would be extremely expensive. At this stage, it is recommended that the Precautionary Principle be invoked and that the use of MBT compost be restricted until such time as more information is available. [2]

Policy on Compost from Waste

The WMB acknowledges that MBT has a significant and important role to play in the treatment of solid waste.

Due to the current lack of knowledge about potential contaminants in MSW compost and their impacts, the WMB believes that, under the Precautionary Principle, use of MSW compost should be restricted.

Strategy for Compost from Waste

The WMB will give financial and political support to waste treatment facilities other than landfill, including MBT.

The WMB will develop Standards for the application and use of MSW compost.

MARKET DEVELOPMENT

Market development for recycled organic products was identified by the Working Group on Standards for Organics Applied to Land as necessary for achieving long-term diversion of garden organics from landfill into composting. [5]

Product Quality and Labelling

Meeting customer expectations with regards to quality is important for developing and maintaining markets. Compost Victoria, on behalf of the Waste Management Association Australia, is developing a product accreditation and labelling scheme for compost, mulch and soil conditioner. This scheme assigns a rating to products that meet certain specifications both for their inherent qualities and for the process used in their manufacture. Once a product has been accredited, the accreditation mark can be displayed on the product packaging and on other promotional materials. Members of the WA recycled organics industry are involved in this process.

Economics

One of the major barriers to development of markets for recycled organic products is cost. Transport and handling, as well as the cost of the product itself, can be significantly higher than for inorganic chemical fertilisers. Although there are significant benefits to applying organic material to productive land (such as increased nutrient and moisture retention), the cost and lack of awareness among farmers is a barrier to its use. An important aspect of any market development program will be to find markets that are willing and able to pay for recycled organic products. Some work on this has been conducted in other jurisdictions. However, investigations into potential local markets is yet to be undertaken.

Policy on Market Development

The WMB believes that development of long-term, viable markets for recycled organics is essential to achieving Zero Waste.

Strategy for Market Development

The WMB will work collaboratively with the recycled organics industry and potential customers to assist in the establishment of long-term, viable markets for recycled organics.

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GLOSSARY

Unless otherwise specified, definitions used in this Strategy are as per the Recycled Organics Unit's Organics Dictionary and Thesaurus.