

# **Organics Recycling in Australia**

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**Industry Statistics 2006**



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# Section 1 About this report

## 1.1 Objectives

The national industry survey was initiated in 2003 by the Recycled Organics Unit to contribute to the process of industry formation and development. The objectives of the national industry survey are:

- To establish and maintain contact details for organics reprocessing enterprises across Australia.
- To collect quality data in consistent format from each jurisdiction that provides a tool for reporting; and for identifications of trends, opportunities and risks for both industry and Government.
- To quantify the nature and scale of the industry on a nationally aggregated basis to support industry engagement with the Australian Government.
- To identify and track industry issues and priorities to inform industry development programs.
- To avoid over-surveying of the industry by conducting and publishing a single national survey each year that meets the needs of both industry and government.

## 1.2 How to cite the report

This publication should be cited in the following manner:

Recycled Organics Unit (2006). Organics Recycling in Australia: Industry Statistics 2006. Report prepared for Compost Australia by the Recycled Organics Unit. Internet publication [www.compostaustralia.com.au](http://www.compostaustralia.com.au)

## 1.3 Acknowledgement

The Recycled Organics Unit (ROU) thanks the following agencies for providing contributory funding for implementation of this project:

- Western Australian Department of Environment and Conservation
- Department of Environment and Conservation NSW
- Zero Waste South Australia
- ACT No Waste
- Qld Environmental Protection Agency

The national response rate for the 2006 industry survey as directly conducted by the ROU is 99%. The ROU and Compost Australia thanks the organics recycling industry for once again supporting the implementation of the national survey.

## Section 2 Significant developments

### 2.1 South Australia

#### 2.1.1 SA number and type of facilities

The total number of organics recycling facilities involved in the survey increased from 29 facilities in 2005 to 33 facilities in 2006. Aerobic windrow composting (hot composting) remains the overwhelmingly dominant method for reprocessing all manner of materials, including garden vegetation and highly putrescible materials such as grease trap and organic sludges; food organics (elsewhere food waste); manures and other agricultural residuals.

#### 2.1.2 SA quantities of organic material received and processed

The total quantity of compostable organic materials reprocessed into beneficial recycled organics products is practically unchanged from the previous year, with a total of 566,315 tonnes of raw materials processed in 2006 compared to 561,470 tonnes of raw materials processed in 2005. Whilst this represents a total increase of just less than 1%, there is substantial change in the materials being processed.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products **increased** by around 34,000 tonnes (+18%) to a total of 223,524 tonnes over the 2006 financial year. Processors report that this is predominantly due to additional Councils initiating source separate kerbside collection of household garden organics.
- Reported quantities of food organics diversion from the waste stream for reprocessing into beneficial recycled organics products **decreased** from 10,540 reported in 2005, to a total of 6,005 tonnes over the 2006 financial year. Subsequent clarification directly with the relevant processor identified this **not** to be an actual reduction in quantity of food waste processed, but rather the result of improved accuracy in reporting. There is a real but small reduction (<50 tonnes) due to the discontinuation of the Burnside household biowaste (combined food and garden organics) kerbside collection trial.
- The remainder of the increase in garden organics diversion for reprocessing was offset by a general decrease in the quantity of agricultural residuals being processed, including straw; manure; animal bedding; and animal mortalities. The exception to this trend is a relatively small increase in the total quantity of manure received for reprocessing.

#### 2.1.3 SA quantities and type of recycled organic product sold

Reported sale of mulch products has increased significantly from 341,050 m<sup>3</sup> in 2005 to 704,552 m<sup>3</sup> in 2006, however investigation has identified that this notional increase is overwhelmingly due to under reporting in the

2005 survey. Subsequent direct consultation with the relevant processors identified that the 2005 figures should be amended to 706,050 m<sup>3</sup>. This quantity of mulch sales is therefore practically unchanged from 2005, however the product mix is characterised by a significant increase (of ~ 90,000m<sup>3</sup>) in the quantity of lower price raw mulch sold, and an equivalent decrease in the quantity of higher quality, higher price composted mulch sold.

The production and sale of cheaper products can be seen as a rational commercial response to price signals from the market (ie. limited capacity to pay) identified in previous year survey responses, where "viable product price is unaffordable for customers/ key markets" was the second highest priority issue expressed by processors.

Other notable developments:

- Reported sales of loose fill playground surfacing product **increased** from 12,000 m<sup>3</sup> to a total of just over 30,000 m<sup>3</sup> over the 2006 financial year.
- Reported sales of manufactured soils **increased** from 24,400 m<sup>3</sup> to a total of just under 37,000 m<sup>3</sup> over the 2006 financial year.
- Reported sales of raw manure **increased** from 8,000 m<sup>3</sup> to a total of 28,000 m<sup>3</sup> over the 2006 financial year. Again reinforcing limited market affordability as a key issue.
- A small quantity of material was used as solid fuel for combustion (750 m<sup>3</sup>); this is the first time that biofuel application has been reported in SA.

#### 2.1.4 SA inventories

Total inventories represent the combined quantity of raw materials, materials being processed, and stockpiles of finished product on-site at the end of the financial year. There is little value in attempting to distinguish between these categories as materials in process will be held back or pushed through to final product to meet sales orders. There has been a strong drive in 2006 survey to clarify the question asked in relation to inventories via reduced complexity of subcategories, and to press the industry for a more accurate response.

- Reported inventories appear to increase overwhelmingly from 610,550 m<sup>3</sup> to a total of just under 974,100 m<sup>3</sup> over the 2006 financial year. Again, this is predominantly a case of under reporting in 2005, subsequent clarification directly with the relevant processors identified that the 2005 figures should be amended to 910,550 m<sup>3</sup>. This actual reported increase of 63,550 m<sup>3</sup> or ~ 7%.
- Whilst increased number of facilities has undoubtedly increased the total quantity of material permitted to be held on sites under site licenses, it must be noted that this 7% increase in total inventories has occurred in spite of the apparent shift to the production and sale of lower price products to maintain market demand.
- Compost Australia is currently in direct consultation with the industry to identify the extent to which the reported inventories and shift in product mix represent evidence of market saturation.

## 2.1.5 SA industry issues and priorities

The key issues expressed by the industry are listed below in order of priority, with comparison to expressed priorities from the previous survey year.

**Table.** Expressed recycled organics industry priorities in South Australia.

Rank	Prioritised issues 2006	Prioritised issues 2005
1.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy
2.	Raw materials contamination	Unaffordable new demands from regulators forcing exit from industry
3.	Industry structural economics & government incentives	Viable product price is unaffordable for customers/ key markets
4.	Gate fees too low (metro areas)/ tender appraisal is price driven	Raw materials contamination
5.	Development of new products/markets (particularly agriculture)	Downward pressure on prices/quality from increasing supply (oversupply)

Whilst inconsistent and unnecessarily costly site regulation is overwhelmingly reported as the highest priority issue, the clear expressed current need is for:

- Financial incentives and technical assistance (new product development) for the establishment of new markets.
- Resolving the market affordability barriers via government financial incentives, increased gate fees, and reduced operating costs (arising from management of raw material contamination and unnecessary regulatory compliance costs).

## 2.1.6 South Australia conclusion

High quality data is now being provided by the Recycled Organics industry in SA, and in combination with the high response rate the survey data provides a powerful tool for identifications of trends, opportunities and issues for both industry and Government in SA.

The expressed priorities of the industry over the past two years, subsequent industry response in terms of manufacturing cheaper, lower quality product in response to identified market constraints, and the increased inventories reinforce the concern that oversupply pressures are effecting the industry in South Australia.

## 2.2 Western Australia

### 2.2.1 WA number and type of facilities

The total number of organics recycling facilities involved in the survey increased from 23 facilities in 2005 to 25 facilities in 2006. Whilst aerobic windrow composting (hot composting) remains the dominant method for reprocessing all manner of materials, the industry in WA is characterised by a significant diversity of organics processing technologies.

### 2.2.2 WA quantities of organic material received and processed

The total quantity of compostable organic materials reprocessed into beneficial recycled organics products has increase by around 7.3%, with a total of 578,632 tonnes of raw materials processed in 2006 compared to 539,363 tonnes of raw materials processed in 2005.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products have notionally decreased by around 12,000 tonnes when viewed in isolation to a total of 159,382 tonnes over the 2006 financial year. This variation is due to increase in the accuracy categorisation of raw materials in the 2006 survey, with wood/timber waste being reported more correctly in 2006 under the separate material category. The combined total for these two categories of raw material (garden organics plus wood/timber waste) in 2005 was 171,709 tonnes, and in 2006 this has **actually increased** to 177,009 tonnes.

### 2.2.3 WA quantities and type of recycled organic product sold

The trend is for sales growth of quality products in WA, with reported significant increases in sales more recycled organics products across a range of product categories.

This is characterised by:

- Reported increase in sale of composted soil conditioner, and the corresponding decrease in sales of raw manures. It should be noted, however, that under reporting of 30,000 m<sup>3</sup> of composted soil conditioner in 2005 survey was identified, and this figure should be amended to 157,780 m<sup>3</sup>. This represents an **increase** in reported sales of composted soil conditioner from 157,780 m<sup>3</sup> to a total of just under 204,928 m<sup>3</sup> over the 2006 financial year.
- Reported **increase** in sales of both composted mulch and pasteurised mulches (collectively of ~ 36,000 m<sup>3</sup>).
- Reported sales of manufactured soils **increased** from 128,375 m<sup>3</sup> to a total of just under 151,050 m<sup>3</sup> over the 2006 financial year.

## 2.2.4 WA inventories

Total inventories represent the combined quantity of raw materials, materials being processed, and stockpiles of finished product on-site at the end of the financial year. There is little value in attempting to distinguish between these categories as materials in process will be held back or pushed through to final product to meet sales orders. There has been a strong drive in 2006 survey to clarify the question asked in relation to inventories via reduced complexity of subcategories, and to press the industry for a more accurate response.

- Reported inventories appear to increase overwhelmingly from 123,300 m<sup>3</sup> to a total of just under 740,302 m<sup>3</sup> over the 2006 financial year. Again, this is predominantly a case of under reporting in 2005, subsequent clarification directly with the relevant processors identified the actual increase in inventories over the 2006 financial year to be between 100,000 and 120,000 m<sup>3</sup> or between ~ 15.5% and 19%.
- This still represents a significant increase, and the trend of growing inventories will require continued monitoring with regard to the mix and pricing of products into the market in the context of expressed industry concerns over downward pressure on product pricing due to oversupply of product.

## 2.2.5 WA industry issues and priorities

The key issues expressed by the industry are listed below in order of priority, with comparison to expressed priorities from the previous survey year.

**Table.** Expressed recycled organics industry priorities in Western Australia.

Rank	Prioritised issues 2006	Prioritised issues 2005
1.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy
2.	Inadequate / not enforced regulation of competing products	Downward pressure on prices/quality from increasing supply (oversupply)
3.	Need for financial incentives for Growers (e.g rebate)	Uncompetitive /non-commercial competition in service delivery from local govt facilities, driving price/quality down
4.	Raw materials contamination	Cheap sub-standard products marketed under same product name
5.	Downward pressure on prices/quality from increasing supply (oversupply)	Product quality standards need revision

Inconsistent and unnecessarily costly site regulation is reported as the highest priority issue. Other issues expressed as priorities overwhelmingly relate to the financial viability of the industry, and particularly to addressing “level playing field” issues whereby competing products are subject to equivalent regulatory requirements, whereby waste producers are motivated to minimise raw materials contamination and therefore pay the costs of managing contamination. These issues relate to government intervention to establish a coherent and viable framework for the resource recovery sector, and the incentives to drive resource recovery.

## 2.2.6 Western Australia conclusion

High quality data is now being provided by the Recycled Organics industry in WA, and in combination with the high response rate the survey data provides a powerful tool for identifications of trends, opportunities and issues for both industry and Government in WA.

The industry is growing at substantial pace in Western Australia, however similar structural issues as are faced in other states are apparent, and there are suggestions of emerging oversupply issues. WA has the opportunity to address these issues before they develop into the serious problems that are being experienced in other states.

## 2.3 Australian Capital Territory

### 2.3.1 ACT data and reporting

2006 is the first year in which ACT has participated in the survey. With only two significant processors in the ACT, the reporting of aggregated ACT data would risk revealing commercially sensitive data, and will not be publicly released. ACT data is therefore incorporated into aggregated NSW data for public reporting in this document. Both facilities are characterised as windrow composting facilities.

### 2.3.2 ACT industry issues and priorities

The key issues expressed by the industry are listed below in order of priority, with comparison to expressed priorities from the previous survey year.

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**Table.** Expressed recycled organics industry priorities in ACT.

Rank	Prioritised issues 2006	Prioritised issues 2005
1.	Limited government purchasing / green purchasing	Not surveyed in 2005
2.	Viable product price is unaffordable for customers in key markets	
3.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	

Compost Australia is in direct consultation with recycled organics industry and *ACT No Waste* to integrate the ACT into existing programs in order to address these issues.

## 2.4 New South Wales

### 2.4.1 NSW number and type of facilities

43 organics recycling facilities are involved in the survey in 2006. Aerobic windrow composting (hot composting) remains the overwhelmingly dominant method for reprocessing all manner of materials, including garden vegetation and highly putrescible materials such as grease trap and organic sludges; food organics (elsewhere food waste); manures and other agricultural residuals. There is significant development of additional processing capacity via in-vessel facilities in western Sydney and the mid north coast of NSW.

### 2.4.2 NSW quantities of organic material received and processed

The total quantity of compostable organic materials reprocessed into beneficial recycled organics products has increased by around 13.3% (or 169,142 tonnes), with a total of 1,441,025 tonnes of raw materials processed in 2006 compared to 1,271,883 tonnes of raw materials processed in 2005.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by 61,662 tonnes to a total of 530,436 tonnes over the 2006 financial year.
- Reported quantities of wood/timber diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by 18,116 tonnes to a total of 61,525 tonnes over the 2006 financial year.
- Reported quantities of MSW (organics fraction only) diversion from the waste stream for reprocessing into beneficial recycled organics products have more than doubled, **increasing** by 43,263 tonnes to a total of 79,263 tonnes over the 2006 financial year.
- The overall increase in quantities processed has occurred in spite of reported quantities of manures reprocessed by the industry have **reduced** by 36,900 tonnes from a total of 376,708 tonnes reported in 2005 to a total of 339,808 tonnes over the 2006 financial year.

### 2.4.3 NSW quantities and type of recycled organic product sold

Notable developments:

- **Increased** sales of pasteurised and composted mulch from ~ 52,000 m<sup>3</sup> to 71,000 m<sup>3</sup> are reported.
- **Increased** sales of raw mulch from 87,618 m<sup>3</sup> to 111,014 m<sup>3</sup> are reported.

- **Increased** sales of pasteurised and composted soil conditioner from ~ 361,000 m<sup>3</sup> to 419,000 m<sup>3</sup> are reported.
- The quantity of material used as solid fuel for combustion **decreased overwhelmingly** from 36,800 m<sup>3</sup> to 13,700 m<sup>3</sup> due to the recent loss of the financial benefit associated with the used of woody waste derived material for biofuel. Use for this purpose is now considered to be negligible.
- Reported sales of manufactured soils **increased** from 275,258 m<sup>3</sup> to a total 356,546 m<sup>3</sup> over the 2006 financial year, although this reported increase is considered to be substantially due to under reporting in 2005.
- Reported sales of potting mix **increased** from 38,750 m<sup>3</sup> to a total 139,793 m<sup>3</sup> over the 2006 financial year, although this reported increase is considered to be overwhelmingly due to under reporting in 2005.
- Sales into new markets in production horticulture and agriculture remain at insignificant levels.

#### 2.4.4 NSW inventories

Total inventories represent the combined quantity of raw materials, materials being processed, and stockpiles of finished product on-site at the end of the financial year. There is little value in attempting to distinguish between these categories as materials in process will be held back or pushed through to final product to meet sales orders. There has been a strong drive in 2006 survey to clarify the question asked in relation to inventories via reduced complexity of subcategories, and to press the industry for a more accurate response.

- Reported inventories have increased from 421,777 m<sup>3</sup> in 2005 to 825,540 m<sup>3</sup> reported in 2006. Whilst a significant portion of this is due to under reporting in previous years, inventories appear to have risen by over 200,000 m<sup>3</sup> over 2006, with industry still reporting falling prices.
- This figure still clearly under reports total inventories as significant and known stockpiles remain unreported.
- These figures reinforce expressed industry concerns over downward pressure on product pricing due to oversupply of product into established markets. These concerns are exacerbated by the loss of the biofuels market and continuation of known barriers to the establishment of markets in production horticulture / agriculture.

## 2.4.5 NSW industry issues and priorities

The key issues expressed by the industry are listed below in order of priority, with comparison to expressed priorities from the previous survey year.

**Table.** Expressed recycled organics industry priorities in NSW.

Rank	Prioritised issues 2006	Prioritised issues 2005
1.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy
2.	Industry structural economics & [need for] government incentives / Need for financial incentives for Growers (e.g rebate)	Industry structural economics & [need for] government incentives / Need for financial incentives for Growers (e.g rebate)
3.	Inadequate / not enforced regulation of competing products	Saturation of particular markets / Downward pressure on prices/quality from increasing supply (oversupply)
4.	Raw materials contamination	Product quality standards need revision
5.	Gate fees too low (metro areas)/ tender appraisal is price driven	Gate fees too low (metro areas)/ tender appraisal is price driven
6.	Viable product price is unaffordable for customers in key markets	Development of new products/markets (particularly agriculture)
7.	Development of new products/markets (particularly agriculture)	Inadequate / not enforced regulation of competing products

From the responses, we can see that processors are satisfied with the Compost Australia process in place to revise the relevant standards, and that this has dropped from the list of issues in 2006. We can also see that the regulation of competing products has jumped up the list for 2006, which may be associated with the emergence of the 3F regulation proposed by the NSW EPA, and the requirement for response from Compost NSW.

Otherwise, the substantive issues are structural and remain unchanged since the 2003 industry statement, and the initial 2004 NSW industry survey outcomes. These issues are Government related (ie. policy, regulation, financial incentives/disincentives) and can only be addressed collectively by industry.

## 2.4.6 NSW conclusion

High quality data is now being provided by the Recycled Organics industry in NSW, and in combination with the high response rate the survey data provides a powerful tool for identifications of trends, opportunities and issues for both industry and Government in NSW.

Oversupply pressures and downward pressure on prices continue to place financial pressure on the industry, and appear to be increasingly effecting industry viability in NSW. These issues remain unaddressed.

## 2.5 Queensland

### 2.5.1 Qld data and reporting

2006 is the first year in which Queensland has participated in the survey, with the Environmental Protection Agency (Qld) and Compost Australia contributing funds for the inclusion of Queensland in the national Recycled Organics industry survey for the 2005 – 06 financial year. Whilst the 38 responses (from a total of 43 facilities receiving the survey) delivers quality data, as there is no data from previous years, and therefore no opportunity for consideration of trends. 2006 therefore represents baseline data for the industry in Qld.

38 organics recycling facilities participated in the survey in 2006. Aerobic windrow composting (hot composting) remains the overwhelmingly dominant method for reprocessing all manner of materials, including garden vegetation; highly putrescible materials such as grease trap and organic sludges; manures and other agricultural residuals. There are a significant number of on-farm facilities.

### 2.5.2 Qld quantities of organic material received and processed

The total quantity of organic materials reprocessed over the 2005-2006 period into beneficial recycled organics products is reported as 1,179,031 tonnes of compostable raw materials.

Notably:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products is 424,505 tonnes over the 2006 financial year.
- Reported quantities of biosolids managed and beneficially applied to land by the sector is 381,156 tonnes over the 2006 financial year.
- Reported quantities of barks and sawdust from forestry sector sources is for reprocessing into beneficial recycled organics products is 118,290 tonnes over the 2006 financial year.
- No diversion or processing of food organics (elsewhere “food waste”) is reported over the 2006 financial year.

### 2.5.3 Qld quantities and type of recycled organic product sold

Notably:

- Total reported sales of pasteurised and composted soil conditioner of ~ 127,500 m<sup>3</sup>, with ~ 55% of this sold into urban markets and ~ 45% sold into intensive and extensive agriculture markets.

- Total reported sales of mulch of ~ 438,285 m<sup>3</sup>. Of this total ~ 288,000 m<sup>3</sup> is raw mulch, all of which is sold into the urban amenity markets; and ~ 150,000 m<sup>3</sup> is composted mulch, with ~ 62% of this sold into urban markets and ~ 38% sold into intensive agriculture markets.
- Very little potting mix is reported to be manufactured in Qld for sale, although one of the few non-respondents is known to manufacture potting mixes.
- The majority of stabilised biosolids is applied directly to land.

## 2.5.4 Qld inventories

Total inventories represent the combined quantity of raw materials, materials being processed, and stockpiles of finished product on-site at the end of the financial year. There is little value in attempting to distinguish between these categories as materials in process will be held back or pushed through to final product to meet sales orders. There has been a strong drive in 2006 survey to clarify the question asked in relation to inventories via reduced complexity of subcategories, and to press the industry for a more accurate response.

- Total reported inventories at 30 June 2006 in Qld are 938,625 m<sup>3</sup>. As this is the first year of data collection and reporting

## 2.5.5 Qld industry issues and priorities

The key issues expressed by the industry are listed below in order of priority, with comparison to expressed priorities from the previous survey year.

**Table.** Expressed recycled organics industry priorities in Qld.

Rank	Prioritised issues 2006	Prioritised issues 2005
1.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Not surveyed in 2005
2.	Increasing fuel price / transport costs	
3.	Viable product price is unaffordable for customers in key markets	
4.	Industry structural economics and government incentives	
5.	Inadequate / not enforced regulation of competing products	

As this is the first year of Qld participation in the survey, no comment on trends is possible. However, the priority issues reported by processors in Qld are fundamentally similar to those reported in other jurisdictions, and are issues that can be addressed effectively via industry collaboration on a whole-of-industry basis.

### **2.5.6 Qld conclusion**

High quality data is now being provided by the Recycled Organics industry in Qld, and in combination with the high response rate the survey data provides a powerful tool for identifications of trends, opportunities and issues for both industry and Government in Qld.

Baseline data for the industry in Qld has now been established, and identification and interpretation of trends will be implemented in subsequent years.

The priority issues reported by processors in Qld are fundamentally similar to those reported in other jurisdictions, and are issues that can be addressed effectively via industry collaboration on a whole-of-industry basis.

## 2.6 Victoria

The survey of the Recycled Organics industry in Victoria has been conducted directly by Sustainability Victoria for the 2005 – 06 financial year. Aggregated data has been supplied by Sustainability Victorian, and this data has been incorporated into the aggregated Compost Australia aggregated data tables in Section 3.

Note that:

- The number of survey responses to the 2006 Victorian survey is less than half that achieved for 2005;
- The Sustainability Victoria survey does not deliver results for all sections of the Compost Australia survey;
- Product quantity results are not reported in product categories that are consistent with those reported in previous years for Victoria, and is inconsistent with the standard categories reported for all other states;
- Product quantity data is reported by Sustainability Victoria in tonnes, across other states for both the current and previous years such data is reported in cubic metres.

All of these issues limit the capacity for interpretation of current data and comparison with previous year's data.

### 2.6.1 Vic number and type of facilities

The survey in Victoria was conducted directly via Compost Australia in 2005, but was conducted directly by Sustainability Victoria in 2006. The total number of responses to the survey decreased from 39 responses (from 46 companies surveyed) in 2005 to only 19 responses (from 33 companies surveyed) in 2006. This compares to 24 responses being received for the 2004 survey when implemented directly by EcoRecycle Victoria (included companies that are not engaged in activities relevant to Compost Australia's scope). The reduction in response rate from the industry for the 2006 survey, and the variation in both response rate and quality of data across multiple years prevents meaningful interpretation of this data.

### 2.6.2 Vic quantities of organic material received and processed

The total quantity of organic materials reprocessed into beneficial recycled organics products has reportedly decreased from 649,168 tonnes in 2005, to a total of 378,604 tonnes of raw materials processed in 2006. Note that Sustainability Victoria raw materials data includes cork for recycling; timber pallets that are repaired for reuse as pallets; and other wood, a portion of which that may be reused as timber or furniture, and a portion of which may be reprocessed into mulch. Note that soil has been excluded as an input material as it is not organic.

### 2.6.3 Vic quantities and type of recycled organic product sold

Note:

- **Mulch:** pasteurised mulch, composted mulch, and raw mulch are not reported as individual categories. A total quantity for all mulch is provided from Sustainability Victoria. No definition for the general “mulch” classification is provided by Sustainability Victoria, this lack of definition of products and absence of reporting in defined sub-categories prevents the application of bulk density estimates by which to translate tonnage figures provided into cubic metres. The total figure provided has been recorded under the “composted mulch” category with an assumed bulk density of 1 for convenience only.
- **Soil conditioner:** pasteurised soil conditioner, composted soil conditioner and composted manures are not reported as individual categories. A total quantity for all “compost” is provided from Sustainability Victoria. No definition for the general “compost” classification is provided by Sustainability Victoria, this lack of definition of products and absence of reporting in defined sub-categories prevents the application of bulk density estimates by which to translate tonnage figures provided into cubic metres. The total figure provided has been recorded under the “composted mulch” category with an assumed bulk density of 1 for convenience only.
- **Manures:** no manure products are reported.
- **Other:** no indication as to what these products may represent is reported, and consequently 8,000 tonnes of product identified by Sustainability Victoria is excluded.
- Repaired pallets and timber for reuse has been excluded as not relevant to the commercial composting sector, consistent with 2005 reporting.
- The overwhelming reduction in response rate and the reporting in generalised product categories denies any opportunity for meaningful interpretation of this data, or for identification of trends that may otherwise be evident by comparison to data from the previous survey year.

#### **2.6.4 Vic inventories**

No inventory data is reported by Sustainability Victoria.

#### **2.6.5 Vic industry issues and priorities**

No industry issues or priorities are reported by Sustainability Victoria.

## **Section 3 Recommendations 2005-06**

### **3.1 Recommendations arising from the data**

The priority issues reported by processors across all jurisdictions are fundamentally similar, and are issues that can be addressed effectively via industry collaboration on a whole-of-industry basis.

There is a clear requirement for a strong industry organisation to represent these issues to governments at all levels to advance the interests of the industry.

It is recommended that Compost Australia remain focused on addressing the priority issues to deliver outcomes that are beyond the capacity of members to address as individual organisations.

### **3.2 Recommendations for future implementation of the survey**

Implementation of the survey should begin at the beginning of August, close to the end of financial year and prior to the busy spring sales period, both for the purpose of achieving highest data quality and timeliness of reporting of results.

Data is required from Victoria that is compatible with national industry survey data and implementation.

There is a need for inclusion of significant scale organics processing facilities that are directly managed by local councils in some jurisdictions (particularly in NSW).

Options for inclusion of the industry in Tasmania and Northern Territory should be explored to make the survey a truly national exercise.

## **Section 4 Aggregated survey results 2005-06 financial year**

Please refer to subsequent pages:

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD
National Aggregate Survey 2005/06 Financial Year		total	total	total	total	total	total
<b>SECTION A - Organisation details</b>							
2 Facility type	Total No.	141	45	25	33	19	38
On-farm operation		29	1	2	9		17
Council facility		3			2		1
Licensed commercial facility		101	39	23	20		19
Other <sup>1</sup>		8	5		2		1
	Response rate%	98	100	100	97	49	93
<b>SECTION B: Raw materials received/processed</b>							
3 Total quantity of raw materials processed	t	4,362,745	1,660,163	578,632	566,315	378,604	1,179,031
<b>4 Types of raw materials processed</b>							
Garden organics (green organics / garden vegetation)	t	1,737,559	717,513	159,382	222,499	213,660	424,505
Wood/timber/sawdust (from commercial/industrial sources)	t	229,389	61,525	17,627	14,405	112,322	23,510
Sawdust (from forestry residuals)	t	183,812	108,713	20,593	9,423	16,793	28,290
Barks (from forestry residuals)	t	500,224	129,104	101,720	179,400		90,000
Food organics (food waste)	t	81,866	49,055	1,010	6,005	25,796	
Biosolids/grit/screenings	t	491,856	85,900	23,000		1,800	381,156
Oils, grease trap, sludges	t	173,897	54,000	20,350	17,842	15	81,690
Straw	t	21,400	1,150	4,500	7,650		8,100
Manure	t	474,958	344,732	38,000	27,466		64,760
Animal bedding	t	23,916	3,500	12,346	7,570		500
Animal mortalities	t	4,082	902	3,010	150		20
Paunch	t	47,850	500	800	4,500		42,050
Other - Miscellaneous agricultural organics	t	57,960	3,325	9,500	18,342	2,993	23,800
Other - Paper pulp/sludge	t	66,333	3,500		50,033		2,800
Other - MSW (organic fraction)	t	174,443	79,263	95,180			
Other - Biowaste	t	10,000	8,000	2,000			
Other - Miscellaneous	t	93,200	9,481	69,614	1,030	5,225	7,850

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD	
National Aggregate Survey 2005/06 Financial Year		total	total	total	total	total	total	
SECTION C: Recycled organics product types and quantities sold								
5 Total quantity of product sold, recycled organics content <sup>2</sup> , market breakdown <sup>6</sup>								
<i>Composted soil conditioner</i>								
	Quantity product sold <sup>3</sup>	m <sup>3</sup>	976,396	375,843	204,928	213,159	54,900	127,566
	Recycled organic content	%	98	100	96	98		98
	Intensive agriculture	m <sup>3</sup>	130,033	36,675	15,160	53,968		24,230
	Extensive agriculture	m <sup>3</sup>	90,748	2,950	53,290	3,008		31,500
	Urban amenity	m <sup>3</sup>	654,046	308,069	122,818	155,023		70,136
	Rehabilitation	m <sup>3</sup>	15,135	6,695	7,540	900		
	Enviro-remediation	m <sup>3</sup>	10,120	4,000	6,120			
<i>Pasteurised soil conditioner</i>								
	Quantity product sold	m <sup>3</sup>	51,330	28,330	2,000	20,000		1,000
	Recycled organic content	%	100	100	100	100		100
	Intensive agriculture	m <sup>3</sup>	29,832	9,832		20,000		
	Extensive agriculture	m <sup>3</sup>	12,732	11,732				1,000
	Urban amenity	m <sup>3</sup>	8,366	6,366	2,000			
	Rehabilitation	m <sup>3</sup>	0					
	Enviro-remediation	m <sup>3</sup>	0					
<i>Composted mulch</i>								
	Quantity product sold	m <sup>3</sup>	713,880	96,573	240,745	77,074	149,488	150,000
	Recycled organic content	%	100	100	99	100		100
	Intensive agriculture	m <sup>3</sup>	101,954	3,600	7,296	33,558		57,500
	Extensive agriculture	m <sup>3</sup>	1,000		1,000			
	Urban amenity	m <sup>3</sup>	421,005	79,705	225,449	23,351		92,500
	Rehabilitation	m <sup>3</sup>	8,990	1,850	6,000	1,140		
	Enviro-remediation	m <sup>3</sup>	1,450	450	1,000			
<i>Pasteurised mulch</i>								
	Quantity product sold	m <sup>3</sup>	94,569	14,500	18,800	61,269		
	Recycled organic content	%	100	100	100	100		
	Intensive agriculture	m <sup>3</sup>	17,476	700		16,776		
	Extensive agriculture	m <sup>3</sup>	0					
	Urban amenity	m <sup>3</sup>	61,493	4,700	13,800	42,993		
	Rehabilitation	m <sup>3</sup>	8,500	7,000		1,500		
	Enviro-remediation	m <sup>3</sup>	2,100	2,100				
<i>Raw mulch</i>								
	Quantity product sold	m <sup>3</sup>	1,197,958	111,014	232,450	566,209		288,285
	Recycled organic content	%	100	100	100	100		100
	Intensive agriculture	m <sup>3</sup>	57,227		12,000	45,227		
	Extensive agriculture	m <sup>3</sup>	0					
	Urban amenity	m <sup>3</sup>	1,115,245	97,043	211,950	517,967		288,285
	Rehabilitation	m <sup>3</sup>	6,966	3,971		3,015		
	Enviro-remediation	m <sup>3</sup>	0					
<i>Manufactured soil</i>								
	Quantity product sold	m <sup>3</sup>	1,063,164	416,546	151,050	36,818	94,250	364,500
	Total RO content in product	m <sup>3</sup>	534,371	283,388	72,500	24,084		154,400
	Recycled organic content	%	20 - 100	30 - 100	40 - 100	20 - 100		30 - 80
	Intensive agriculture	m <sup>3</sup>	8,920	300		520		8,100
	Urban amenity	m <sup>3</sup>	700,241	406,496	151,047	36,298		106,400
	Rehabilitation	m <sup>3</sup>	256,528	6,525	3			250,000
	Enviro-remediation	m <sup>3</sup>	3,225	3,225				
<i>Potting mixes</i>								
	Quantity product sold	m <sup>3</sup>	383,299	139,793	79,985	147,021	10,100	6,400
	Total RO content in product	m <sup>3</sup>	205,695	9,325	60,017	130,153		6,200
	Recycled organic content	%	20 - 100	75 - 100	45 - 100	80 - 100		20 - 100
	Intensive agriculture	m <sup>3</sup>	141,032	18,106	643	122,283		
	Urban amenity	m <sup>3</sup>	152,167	41,687	79,342	24,738		6,400

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD
National Aggregate Survey 2005/06 Financial Year		total	total	total	total	total	total
<b>SECTION C: Recycled organics product types and quantities sold (continued)</b>							
<i>Playground surfacing</i>							
	Quantity product sold	m <sup>3</sup>	53,577	8,000		30,234	15,343
	Recycled organic content	%	100	100		100	100
	Urban amenity	m <sup>3</sup>	53,577	8,000		30,234	15,343
<i>Biofuels/biogas (methane)</i>							
	Quantity product sold		2,230,117	2,230,117			
<i>Biofuels/solid fuel</i>							
	Quantity product sold	m <sup>3</sup>	14,450	13,700		750	
<i>Other - Composted products</i>							
	Quantity product sold	m <sup>3</sup>	128,440	116,000		12,400	40
	Recycled organic content	%	98	96		100	100
	Intensive agriculture	m <sup>3</sup>	14,492	2,072		12,400	20
	Extensive agriculture	m <sup>3</sup>					
	Urban amenity	m <sup>3</sup>	113,948	113,928			20
	Rehabilitation	m <sup>3</sup>					
	Enviro-remediation	m <sup>3</sup>					
<i>Other - Organic fertiliser</i>							
	Quantity product sold	t	38,520	30,520			8,000
	Recycled organic content	%	63	100			25
	Intensive agriculture	t	11,265	8,265			3,000
	Extensive agriculture	t	13,265	8,265			5,000
	Urban amenity	t	11,020	11,020			
	Rehabilitation	t					
	Enviro-remediation	t					
<i>Other - Composted manure</i>							
	Quantity product sold	m <sup>3</sup>	304,443	230,461	6,000	57,402	10,580
	Recycled organic content	%	100	100	100	100	100
	Intensive agriculture	m <sup>3</sup>	203,375	189,000	3,500	10,875	
	Extensive agriculture	m <sup>3</sup>	47,182		2,500	34,682	10,000
	Urban amenity	m <sup>3</sup>	43,136	30,711		11,845	680
	Rehabilitation	m <sup>3</sup>	10,500	10,500			
	Enviro-remediation	m <sup>3</sup>	250	250			
<i>Other - Raw manure</i>							
	Quantity product sold	m <sup>3</sup>	130,431	65,431	35,000	28,000	2,000
	Recycled organic content	%	98	100	90	100	100
	Intensive agriculture	m <sup>3</sup>	25,429	16,429		8,000	1,000
	Extensive agriculture	m <sup>3</sup>	40,392	19,392		20,000	1,000
	Urban amenity	m <sup>3</sup>	39,610	4,610	35,000		
	Rehabilitation	m <sup>3</sup>					
	Enviro-remediation	m <sup>3</sup>					
<i>Other - Direct land application</i>							
	Quantity product sold	m <sup>3</sup>	116,052	52			116,000
	Recycled organic content	%	57	100			14
	Food organics	m <sup>3</sup>					
	Biosolids	m <sup>3</sup>	116,000				116,000
	Other	m <sup>3</sup>					
<i>Other - Aqueous compost extracts</i>							
	Quantity product sold	L	2,102,000	100,000		2,000,000	2,000
	Intensive agriculture	L	1,400,000			1,400,000	
	Extensive agriculture	L					
	Urban amenity	L	600,000			600,000	
	Rehabilitation	L					
	Enviro-remediation	L					
<b>SECTION D: Inventory on site</b>							
	<sup>6</sup> Total all material/product on site 30-06-06 <sup>4</sup>	m <sup>3</sup>	3,478,567	825,540	740,302	974,100	938,625

COMPOST AUSTRALIA - ORGANICS INDUSTRY National Aggregate Survey 2005/06 Financial Year		National	NSW & ACT	WA	SA	VIC	QLD
		total	total	total	total	total	total
<b>SECTION E: Industry issues and priorities</b>							
<b>7 Industry issues, priorities</b>							
<i>Higher value represents a higher priority for industry</i>							
7.1	Industry structural economics & government incentives	57	24	3	15		15
7.2	Gate fees too low (metro areas)/ tender appraisal is price driven	33	18		15		
7.3	Raw materials contamination	57	21	12	18		6
7.4	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy; Unaffordable new regulatory demands forcing exit from industry	135	39	33	33		30
7.5	Development of new products/markets (particularly agriculture)	42	18	9	15		
7.6	Saturation of particular markets	9	6	3			
7.7	Govt interference in markets / direct govt interaction with customers	3	3				
7.8	Research and development / inadequate compost performance data	39	21	3	12		3
7.9	Product quality standards need revision	27	15	6			6
7.10	Technical support and training	9	6		3		
7.11	Viable product price is unaffordable for customers key markets	51	21	3	9		18
7.12	Industry organisation and communication	9	3	3	3		
7.13	R&D ignoring customer affordability	6	3		3		
7.14	Limited government purchasing / green purchasing	12	12				
7.15	Uncompetitive /non-commercial competition in service delivery from local govt facilities, driving price/quality down	12	3	6			3
7.16	Major chains are price driven and will not pay for quality	6	6				
7.17	Industry branding ('waste')/ obsolete market perceptions	9	3				6
7.18	Limited transfer of research into practice	0	0				
7.19	Increasing fuel price/transport costs	45	21	3			21
7.20	Govt drive to force non-viable investment into high tech composting	0	0				
7.21	Food waste separation not supported / not financially viable	6	6				
7.22	Complaints from neighbours	6	0		3		3
7.23	Financial incentives for Growers (e.g rebate)	36	12	12	9		3
7.24	Cheap sub-standard products marketed under same product name	3	0				3
7.25	Financial and other govt support for waste to energy options	0	0				
7.26	Standard quality assurance procedures needed	9	0	6			3
7.27	Mechanism required for recovering ecoservices value	0	0				
7.28	Compost product marketing and sales support	36	12	3	9		12
7.29	C&D waste dumped in to market	3	0		3		
7.30	No gate fee/levy in regional areas	0	0				
7.31	Downward pressure on prices/quality from increasing supply (oversupply)	24	9	9	6		
7.32	Inadequate / not enforced regulation of competing products	69	24	18	12		15
7.33	Water restrictions reducing demand (urban)	9	6				3
7.34	Need application-specific product standards	6	3		3		
7.35	Product R&D not directed at commercial market demand creation	3	3				
7.36	Inadequate understanding of agricultural economics / risks	0	0				
7.37	Regulatory definition of "waste" and "beneficial use" restricts transition to sustainability	3	3				
7.38	Other - loss of biofuel market that mitigated oversupply pressures	15	12	3			

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD
National Aggregate Survey 2005/06 Financial Year		total	total	total	total	total	total
SECTION F: Product quality standards							
8.1 Number of processors manufacturing certified product							
AS 4454 - Composts, soil conditioners, mulches		21	7	3	5		6
AS 3743 - Potting mixes		10	3	2	3		2
AS 4419 - Landscaping soils		12	5	2	1		4
Organic product standard - BFA, NASAA		16	3	4	3		6
Other - Biosolids guideline		2	0				2
Other - Soil Foodweb Institute		2	0	1			1
Other		4	0	1			3

Footnotes

- 1 Other types of facilities include: renderer of offal; direct land application; facilities of unknown license status; licensed on-site facility.
- 2 Recycled organics refers to a range of products manufactured from a variety of compostable organic materials including: garden organics; food organics; residual wood and timber; biosolids; agricultural organics; and other organic materials.
- 3 Note total may not equate to the sum of individual market segments as a small number of processors were not prepared to provide market breakdown.
- 4 Note: figures provided are commonly "informed estimate" rather than quantitative survey.
- 5 The green colour indicates most significant issues
- 6 Product quantities reported in Section C may be sold to markets located outside the region