

# **Organics Recycling in Australia**

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**Industry Statistics 2007**



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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 (2007). Organics Recycling in Australia: Industry Statistics 2007. 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 Climate Change NSW
- Zero Waste South Australia
- Queensland Environmental Protection Agency

The national response rate for the 2007 industry survey as directly conducted by the ROU is 97%. The ROU 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 decreased from 33 facilities in 2006 to 32 facilities in 2007. 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 has increased from the previous year, with a total of 627,808 tonnes of raw materials processed in 2007 compared to 566,315 tonnes of raw materials processed in 2006. This represents a total increase of 10%, there is also substantial variation in some of the materials being processed.

Notable developments:

- Reported quantities of forestry residuals diversion from the waste stream for reprocessing into beneficial recycled organics products **increased** by around 24,000 tonnes (+13%) for barks to a total of 203,625 tonnes over the 2007 financial year.
- Reported quantities of oils, grease trap, sludges diverted from the waste stream for reprocessing into beneficial recycled organics products **increased** by around 7,000 tonnes (+42%) to a total of 25,384 tonnes over the 2007 financial year.
- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products **decreased** by around 13,000 tonnes (-6%) to a total of 209,725 tonnes over the 2007 financial year.
- Substantial **increases** are reported quantities of manure (+149%) to 68,430 tonnes in the 2007 financial year.
- The small decrease in quantities of garden organics, food organics, straw for reprocessing was significantly offset by a general increase in the quantity of other materials being processed including: forestry residuals (barks and sawdust); some agricultural residuals (manure and paunch); and oils, grease trap and sludges.

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

Reported sale of mulch products has **increased** significantly from 704,552 m<sup>3</sup> in 2006 to 860,557 m<sup>3</sup> in 2007. The product mix for this quantity of mulch sales is characterised by a significant 24% increase (of ~ 133,000m<sup>3</sup>)

in the quantity of lower price raw mulch sold, and a 33% increase (of ~ 25,000 m<sup>3</sup>) in the quantity of higher quality, higher price composted mulch sold.

Reported sale of soil conditioner products has **decreased** significantly from 233,159 m<sup>3</sup> in 2006 to 144,021 m<sup>3</sup> in 2007, representing a decrease of as much as 40% in composted soil conditioner sold. There is a significant shift away from soil conditioners to mulches and towards the production and sale of both quality mulches and cheaper raw mulch products. The increased sale of mulches which are effective in retaining limited soil moisture and increasing water use efficiency may be a market response to prolonged water shortages for both urban parks and gardens and for commercial horticulture; and to further significant reduction in water allocations for intensive horticulture. The increase in quantities of lower cost/quality mulches can be also seen as a continuation of the rational commercial response to price signals from the market (ie. limited capacity to pay) identified in the previous three years of 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 **decreased** from 30,000 m<sup>3</sup> to a total of just under 20,000 m<sup>3</sup> over the 2007 financial year.
- Reported sales of manufactured soils and potting mixes **increased** slightly (by ~ 8% and ~ 4% respectively) from 37,000 m<sup>3</sup> and 147,000 m<sup>3</sup> to a total of ~ 40,000 m<sup>3</sup> and 153,000 m<sup>3</sup> respectively over the 2007 financial year.
- Reported sales of raw manure **increased** (by 29%) from 28,000 m<sup>3</sup> to a total of just over 36,000 m<sup>3</sup> over the 2007 financial year. Again reinforcing limited market affordability as a key issue.

#### 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 was a strong drive in the conduct of the 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. The current year survey continues this emphasis, and for the first time total inventories in SA has exceeded 1,000,000 m<sup>3</sup>.

- Reported inventories appear to **increase** slightly from 974,100 m<sup>3</sup> to a total of just over 1,000,000 m<sup>3</sup> over the 2007 financial year. This represents a reported increase of just over 26,000 m<sup>3</sup> or ~ 3%.
- It would appear that whilst the number of facilities has decreased by one, this would be an unlikely reason for the total quantity of material held on sites to have slowed from a 7% increase in 2006 to an increase of under 3% in 2007. A likely cause for the slowing of growth in total inventories may rest in the diminished supply of certain raw materials because of drought. Even though the total quantity of input materials increased by ~ 11%, there has occurred, as in the previous year, an apparent shift to the production and sale

of lower price products to maintain market demand, which requires less processing on site and more rapid throughput of material.

- 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 two survey years.

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

Rank	Prioritised issues 2007	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	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy
2.	Raw materials contamination	Raw materials contamination	Unaffordable new demands from regulators forcing exit from industry
3.	Gate fees too low (metro areas)/ tender appraisal is price driven	Industry structural economics & government incentives	Viable product price is unaffordable for customers/ key markets
4.	Impact of urban water restrictions	Gate fees too low (metro areas)/ tender appraisal is price driven	Raw materials contamination
5.	Development of new products/markets (particularly agriculture)	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).
- Impact of urban water restrictions has emerged as a significant issue for the industry.

### 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 three years, subsequent industry response in terms of manufacturing cheaper, lower quality product in response to identified market price constraints and water restrictions. 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 25 facilities in 2006 to 26 facilities in 2007. 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 **decreased** by around 6%, with a total of 542,342 tonnes of raw materials processed in 2007 compared to 578,632 tonnes of raw materials processed in 2006.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products have notionally **increased** by around 17,000 tonnes to a total of 176,321 tonnes over the 2007 financial year.
- Reported quantities of wood/timber/sawdust (from commercial/industrial sources) diversion from the waste stream for reprocessing into beneficial recycled organics products have increased by 19% (~ 3,250 tonnes) to a total of 20,899 tonnes over the 2007 financial year. The combined total for these two categories of raw material (garden organics plus wood/timber waste) in 2006 was 177,009 tonnes, and in 2007 this has **increased** to 197,220 tonnes.
- Reported quantities of forestry residuals (sawdust and barks) for reprocessing into beneficial recycled organics products have remained steady with around 121,000 tonnes over the 2007 financial year. However, there is minor variation with sawdust decreasing by ~ 6,500 tonnes and barks increasing by ~ 6,500 tonnes to a total of 108,110 tonnes.
- Comparatively large **decreases** were reported for municipal solid waste (decreased by ~ 12,000 tonnes to a total of 83,104 tonnes), manure (decreased by ~ 10,500 tonnes to a total of 27,550 tonnes), miscellaneous agricultural organics and other miscellaneous organics including spent mushroom substrate (decreased by a combined 32,500 tonnes to a total of 46,857 tonnes).

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

The trend is for sales growth in WA of almost all products continued, with the clear exception of manures. Industry reported significant increases in sales 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. This represents an **increase** of ~ 37,000 m<sup>3</sup> in reported sales of composted soil conditioner from 204,928 m<sup>3</sup> for 2006 to a total of just under 241,640 m<sup>3</sup> over the 2007 financial year.
- Reported sales of manufactured soils **increased** from 151,050 m<sup>3</sup> to a total of just under 168,000 m<sup>3</sup> over the 2007 financial year.
- Reported **increase** in sales, by 18%, of composted mulch by ~ 42,000 m<sup>3</sup> to a total of 282,922 m<sup>3</sup> over the 2007 financial year.
- Reported **increase** in sales, of raw mulch by 42% (~ 96,000 m<sup>3</sup>) to a total of 328,950 m<sup>3</sup>. This quantity significantly exceeds the increases reported for the higher quality products of manufactured soils, composted soil conditioner and composted mulch.
- Reported sales of manures (composted and raw) **decreased** considerably to a combined total of only 10,000m<sup>3</sup> over the 2007 financial year, down from 41,000 m<sup>3</sup> in 2006.

#### 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 was a strong drive in the conduct of the 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. The current year survey continues this emphasis to identify that inventories have remained virtually unchanged.

- Reported inventories appear to have remained steady at 737,106 m<sup>3</sup> for the 2007 financial year, a decrease of ~ 0.5% on the 2006 financial year total of 740,302 m<sup>3</sup>.

## 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 two survey years.

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

Rank	Prioritised issues 2007	Prioritised issues 2006	Prioritised issues 2005
1.	Factors placing downwards pressure on prices and increasing production costs (oversupply, competition from non-commercial facilities, fuel price, absence of incentives for growers)	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.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Inadequate / not enforced regulation of competing products	Downward pressure on prices/quality from increasing supply (oversupply)
3.	Inadequate / not enforced regulation of competing products	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	Raw materials contamination	Cheap sub-standard products marketed under same product name
5.	Development of new products/markets (particularly agriculture)	Downward pressure on prices/quality from increasing supply (oversupply)	Product quality standards need revision

This year, issues that place downward pressure on prices and that increase production costs are grouped together as these issues are key to the commercial profitability, indeed viability of the industry. The issues are still reported separately, but when aggregated, clearly the two standout issues remain: firstly commercial viability issues that arise from structural government integrated market issues; and secondly inconsistent and unnecessarily costly site regulation is reported as the highest priority issue.

“Level playing field” issues reported in 2006 remain, whereby competing products are not subject to equivalent regulatory requirements, and/or where such regulations as exist are not policed; and whereby non-commercial organics processing operations are reported to be distorting resource recovery markets. These issues relate to government intervention to establish a coherent and viable framework for the resource recovery sector, and the incentives to drive commercially viable 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. WA has the opportunity to address these issues before they develop into the serious problems that are being experienced in other states.

## 2.3 New South Wales

### 2.3.1 NSW number and type of facilities

The total number of organics recycling facilities involved in the survey increased from 43 facilities in 2006 to 45 facilities in 2007. 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. A new biowaste in-vessel facility has begun commercial processing on the mid north coast of NSW, and a Queensland based company that is diverting materials in northern NSW has been identified.

### 2.3.2 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 11.7% (or 167,909 tonnes), with a total of 1,608,934 tonnes of raw materials processed in 2007 compared to 1,441,025 tonnes of raw materials processed in 2006.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by 20,645 tonnes to a total of 551,081 tonnes over the 2007 financial year.
- Reported quantities of forestry residuals (sawdust and barks) for reprocessing into beneficial recycled organics products have **increased** by 41,701 tonnes to a total of 252,381 tonnes over the 2007 financial year.
- Reported quantities of MSW (organics fraction only) diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by 30,218 tonnes to a total of 109,481 tonnes over the 2007 financial year.
- Reported quantities of biosolids/grit/screenings diversion from the waste stream for reprocessing into beneficial recycled organics products have more than doubled, **increasing** by over 100,000 tonnes to a total of 195,500 tonnes over the 2007 financial year. The overwhelming increase in reported biosolids materials is occurring in northern of NSW.
- The reported quantities of manures reprocessed by the industry have **decreased** by 23,777 tonnes from a total of 339,808 tonnes reported in 2006 to a total of 315,031 tonnes over the 2007 financial year.

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

Notable developments:

- **Increased** sales of composted soil conditioner from ~ 391,000 m<sup>3</sup> to 419,000 m<sup>3</sup> are reported, but a **decrease** in sales of pasteurised soil conditioner from ~ 28,000 m<sup>3</sup> to 21,000 m<sup>3</sup>, reflecting a net gain of ~ 22,000 m<sup>3</sup> for soil conditioners.
- **Decreased** sales of composted mulch from ~ 56,000 m<sup>3</sup> to 45,000 m<sup>3</sup> are reported over 2007.
- Reported sales of manufactured soils **increased** from 356,546 m<sup>3</sup> to a total 388,171 m<sup>3</sup> over 2007.
- Reported sales of potting mix **increased** from 139,793 m<sup>3</sup> to a total 180,599 m<sup>3</sup> over the 2007 financial year.
- **Increased** sales of composted manure from ~ 215,000 m<sup>3</sup> to 260,000 m<sup>3</sup> are reported. However, as an adjustment note from the previous 2006 survey 30,000 m<sup>3</sup> composted manure was incorrectly reported as organic fertiliser, the correct categorisation of this material in the current year accounted for approximately ~ 65% of the reported increase., with a corresponding decrease in sales reported for organic fertiliser. This represents continuous improvement in the accuracy in reporting for the 2007 financial year.
- The reported quantity of material used as solid fuel for combustion **decreased** from 13,700 m<sup>3</sup> of garden organics overburden to 10,000 m<sup>3</sup> of predominantly urban wood waste reportedly as a direct result to change in the eligibility rules for the NSW MRET scheme in early 2006. However, figures were reported for methane generation from facilities for the first time, total electricity production from methane generation of 13.5 million. This figure will need to be verified.
- Sales into new markets in production horticulture and agriculture remain at insignificant levels and are in fact on the decline for almost all products.

### 2.3.4 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. The current year survey continues this emphasis and the total inventories in New South Wales have increased by ~ 14.2%.

- Reported inventories have **increased** from 625,540 m<sup>3</sup> in 2006 to 714,206 m<sup>3</sup> reported in 2007. Inventories appear to have risen by just under 90,000 m<sup>3</sup> over 2007.
- This figure still clearly under reports total inventories as significant and known stockpiles remains 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 continuation of known barriers to the establishment of markets in production horticulture / agriculture.

### 2.3.5 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 two survey years.

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

Rank	Prioritised issues 2007	Prioritised issues 2006	Prioritised issues 2005
1.	Factors placing downwards pressure on prices and increasing production costs (oversupply, competition from non-commercial facilities, fuel price, absence of incentives for growers)	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.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	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.	Development of new products/markets (particularly agriculture)	Inadequate / not enforced regulation of competing products	Saturation of particular markets / Downward pressure on prices/quality from increasing supply (oversupply)
4.	Research and development / inadequate compost performance data	Raw materials contamination	Product quality standards need revision
5.	Inadequate / not enforced regulation of competing products	Gate fees too low (metro areas)/ tender appraisal is price driven	Gate fees too low (metro areas)/ tender appraisal is price driven
6.	Raw materials contamination	Viable product price is unaffordable for customers in key markets	Development of new products/markets (particularly agriculture)
7.	Compost product marketing and sales support	Development of new products/markets (particularly agriculture)	Inadequate / not enforced regulation of competing products

This year, issues that place downward pressure on prices and that increase production costs are grouped together as these issues are key to the commercial profitability, indeed viability of the industry. The issues are still reported separately, but when aggregated, clearly the three standout issues remain: firstly commercial viability issues that arise from structural government integrated market issues; secondly regulatory imposts and inconsistencies in relation to competing products; and thirdly issues associated with constraints to the establishment of new markets are reported as the highest priority issue.

“Level playing field” issues reported in 2006 remain, whereby competing products are not subject to equivalent regulatory requirements, and/or where such regulations as exist are not policed; and whereby non-commercial organics processing operations are reported to be distorting resource recovery markets. These issues relate to government intervention to establish a coherent and viable framework for the resource recovery sector, and the incentives to drive commercially viable resource recovery.

From the responses, we can see that processors are increasingly concerned with the development of new products/markets (particularly agriculture) which has risen to the third most important issue. It is significant that issues concerning agricultural markets have been at the forefront of industry development for as long as the survey has been conducted, where forums such as the annual recycled organics R&D Forum are increasingly focused on the development of processes and products for the penetration of the agricultural markets. However,

from responses to the 2007 financial year survey it is identified that the agricultural market is still insignificant and even experiencing a decline in quantities of product sold from NSW into agricultural markets.

Another issue emerging on the high priority list of issues for the first time is the issue of compost product marketing/sales support. Compost Australia held the inaugural marketing forum for the recycled organics industry in Canberra in 2007 which focused attention on this issue, highlighting the need for an all of industry approach to the issues of marketing and sales support.

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 by industry on a collectively and coherent basis working directly with government.

### **2.3.6 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.

## 2.4 Queensland

### 2.4.1 Qld number and type of facilities

The total number of organics recycling facilities involved in the survey remained stable at 40 facilities for 2007 as it was 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; manures and other agricultural residuals. There is a discreet shift occurring from facilities previously reported as on-farm facilities to now being reported as licensed commercial facilities. An in-vessel facility has been recommissioned and has recommenced commercial processing in north Queensland.

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

The reported total quantity of compostable organic materials reprocessed into beneficial recycled organics products has increased by around 52% (or 614,559 tonnes), with a total of 1,793,590 tonnes of raw materials processed in 2007 compared to 1,179,031 tonnes of raw materials reported to have been processed in 2006.

Notable developments:

- Reported quantities of garden organics diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by 549,165 tonnes (+129%) to a total of 973,670 tonnes over the 2007 financial year. This total includes 578,420 tonnes from local government sources that were not captured in the 2006 financial year survey. This data is the aggregated quantities collected by local governments for processing and has been provided by the Qld EPA. To prevent double counting of raw materials, this data does not include the quantities provided by Hervey Bay Council and other previously known processors that acquire garden organics raw materials from local government and have been captured in this survey and the 2006 survey.
- Reported quantities of forestry residuals (sawdust and barks) for reprocessing into beneficial recycled organics products have remained steady overall although reported quantities of sawdust has **increased** by 22,280 tonnes (+78%) to a total of 50,570 tonnes while barks have **decreased** by 19,350 tonnes to a total of 70,650 tonnes over the 2007 financial year.
- Reported quantities of MSW (organics fraction only) diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** from 0 tonnes reported over the 2006 financial year to 45,000 tonnes over the 2007 financial year. This is due to the re-commissioning and recommencement of commercial processing at an established facility in north Queensland.
- Reported quantities of agricultural residuals (straw, manure and paunch) for reprocessing into beneficial recycled organics products have all **decreased**, paunch in particular has decreased by 25,000 tonnes (-146%) to a total of 17,050 tonnes over the 2007 financial year. Whereas, reported quantities of miscellaneous

agricultural organics (mainly consisting of cotton trash, sugar cane and sugar cane by-products) have **increased** by 19,620 tonnes (+82%) to a total of 43,420 tonnes for the 2007 financial year.

- Reported quantities of biosolids/grit/screenings diversion from the waste stream for reprocessing into beneficial recycled organics products have **increased** by over 18,000 tonnes (+5%) to a total of 399,300 tonnes over the 2007 financial year.

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

Industry reported significant increases in sales of recycled organics products across a range of product categories, with the exception of composted mulches. Notable developments:

- **Increased** sales of composted soil conditioner from ~ 129,000 m<sup>3</sup> to ~ 159,000 m<sup>3</sup> (+24%) are reported, along with an **increase** in sales of pasteurised soil conditioner from 1,000 m<sup>3</sup> to 46,000 m<sup>3</sup> reflecting a net gain of ~ 75,000 m<sup>3</sup> for reported sale of soil conditioners. Urban markets now account for ~ 67% of composted soil conditioner sales in 2007, compared to ~ 55% in 2006.
- Significantly **decreased** sales of composted mulch from 150,000 m<sup>3</sup> to ~ 87,000 m<sup>3</sup> (-42%) are reported over the 2007 financial year. While sales of raw mulch have reportedly **increased** slightly from ~ 288,000 m<sup>3</sup> to 294,000 m<sup>3</sup> reflecting a net loss of ~ 57,000 m<sup>3</sup> for mulches. These figures do not include products manufactured by local council that are derived from garden organics collections, with the exception of Hervey Bay Council and others specified above.
- Reported sales of manufactured soils **increased** from 364,500 m<sup>3</sup> to a total 453,310 m<sup>3</sup> (+24%) over 2007. This increase of ~ 90,000 m<sup>3</sup> represents a significant increase in reported sales but also includes ~ 30,000 m<sup>3</sup> of sales unreported in the 2006 survey, representing continuous improvement in the accuracy in reporting for the 2007 financial year. Urban markets now account for ~ 41% of manufactured soils, up from ~ 29% in 2006. Rehabilitation is still the main market with ~ 59% in 2007, down from ~ 68% in 2006.
- Reported sales of potting mix **increased** from 6,400 m<sup>3</sup> to a total 49,091 m<sup>3</sup> over the 2007 financial year. Note however that this increase is overwhelmingly due to improved reporting rather than increased sales as 40,000 m<sup>3</sup> of this total is due to under reported in the 2006 survey. This more accurate figure results from continuous improvement in the accuracy in reporting for the 2007 financial year.
- One third of all stabilised biosolids is reported as being applied directly to land.

### 2.4.4 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. The current year survey continues this emphasis to identify that inventories have remained virtually unchanged.

- Reported inventories appear to have **decreased** slightly from 938,625 m<sup>3</sup> in 2006 to 917,325 m<sup>3</sup> for the 2007 financial year, a decrease of ~ 2.2%.
- The data provided by the Qld EPA on local councils did not include inventories. Therefore, this figure under reports the total inventories.

## 2.4.5 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 NSW.

Rank	Prioritised issues 2007	Prioritised issues 2006
1.	Factors placing downwards pressure on prices and increasing production costs (oversupply, competition from non-commercial facilities, fuel price, absence of incentives for growers)	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy
2.	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy	Increasing fuel price / transport costs
3.	Inadequate / not enforced regulation of competing products	Viable product price is unaffordable for customers in key markets
4.	Compost product marketing and sales support	Industry structural economics & [need for] government incentives / Need for financial incentives for Growers (e.g rebate)
5.	Raw materials contamination	Inadequate / not enforced regulation of competing products

This year, issues that place downward pressure on prices and that increase production costs are grouped together as these issues are key to the commercial profitability, indeed viability of the industry. The component issues are still reported separately, but when aggregated, clearly the two standout issues remain: firstly commercial viability issues that arise from structural and government integrated market issues; and secondly inconsistent and unnecessarily costly site regulation is reported as the highest priority issue.

“Level playing field” issues reported in 2006 remain, whereby competing products are not subject to equivalent regulatory requirements, and/or where such regulations as exist are not policed; and whereby non-commercial organics processing operations are reported to be distorting resource recovery markets. These issues relate to government intervention to establish a coherent and viable framework for the resource recovery sector, and the incentives to drive commercially viable resource recovery.

Another issue emerging on the high priority list of issues for the first time is the issue of compost product marketing/sales support. Compost Australia held the inaugural marketing forum for the recycled organics industry in Canberra in 2007 which focused attention on this issue, highlighting the need for an all of industry approach to the issues of marketing and sales support. However, responses to the 2007 financial year survey identify that the agricultural market is still insignificant and even experiencing a decline in reported quantities of recycled organics products sold into Queensland agricultural markets.

#### **2.4.6 Qld conclusion**

High quality data is now being provided by the Recycled Organics industry in Queensland, 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.

There appears to be strong growth in urban markets for soil conditioners and landscaping soils, however composted mulch sales have declined significantly and this does not appear to correspond with increased sales of lower priced mulches as is the case in other states. There is no reported increase in sales of recycled organics products sold into Queensland agricultural markets.

## 2.5 Australian Capital Territory

ACT did not participate in the 2006 – 2007 national industry survey, please refer to *Organics Recycling in Australia: Industry Statistics 2006* report for data from the previous year survey, available online from [www.compostaustralia.com](http://www.compostaustralia.com)

## 2.6 Victoria

The survey of the Recycled Organics industry in Victoria is conducted directly by Sustainability Victoria. Victorian data for the 2006 – 07 financial year is not available at time of publication of this report.

Please refer to *Organics Recycling in Australia: Industry Statistics 2006* report for Victorian data from the previous year survey, available online from [www.compostaustralia.com](http://www.compostaustralia.com)

## **Recommendations 2006-07**

### **2.7 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. These include the structure of the government integrated resource recovery market and associated regulations that are effecting the commercial viability of the sector; site regulation and planning consent; development of new markets and products to suit; and contamination of raw materials.

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 individually.

### **2.8 Recommendations for survey implementation**

Implementation of the survey must begin at the beginning of August, close to the end of financial year and prior to the busy spring sales period, the busiest period of the year for the industry. This is required both for the purpose of achieving highest data quality and timeliness of reporting of results required to satisfy the various state agencies that contribute funding for survey implementation.

Any revisions to the survey must be specified at the end of the survey period to be implemented in the subsequent year survey. Consultation and negotiation on revisions directly prior to survey implementation serve only to further delay implementation into the busiest spring period, and the Christmas lead-up period, which is the worst possible period of the year for industry participation.

The states and territories must be engaged in this project in the new year to ensure project authorisation/formalisation is achieved for timely survey implementation from end of July. Delays in formalisation of participation and funding from the various state agencies lead directly to client dissatisfaction in terms of timely availability of results. Late engagement has resulted in non-participation of ACT in the current year survey, and the conduct of Qld survey being initiated in February 2008. The opportunity for inclusion of the industry in Tasmania and Northern Territory to make the survey a truly national exercise as per previous year recommendations has not been realised.

Compost Australia must secure data from Victoria in a timely manner so as to enable inclusion in this report. As per previous year recommendations, data from Victoria must be provided in a manner that is compatible with national industry survey and reporting.

# Aggregated survey results 2006-07 financial year

Please refer to subsequent pages. Please note, figures reported for ACT and Vic are 2006 data from previous year survey, as identified in sections 2.5, and 2.6 above:

COMPOST AUSTRALIA - ORGANICS INDUSTRY National Aggregate Survey 2006/07 Financial Year		National total	NSW & ACT total	WA total	SA total	VIC total	QLD total
<b>SECTION A - Organisation details</b>							
2 Facility type	Total No.	143	47	26	32	19	38
On-farm operation		28	3	2	9		14
Council facility		4			2		2
Licensed commercial facility		104	39	24	19		22
Other <sup>1</sup>		7	5		2		
	Response rate%	97	99	96	97	49	93
<b>SECTION B: Raw materials received/processed</b>							
3 Total quantity of raw materials processed	t	5,170,214	1,828,072	542,342	627,606	378,604	1,793,590
<b>4 Types of raw materials processed</b>							
Garden organics (green organics / garden vegetation)	t	2,311,534	738,158	176,321	209,725	213,660	973,670
Wood/timber/sawdust (from commercial/industrial sources)	t	247,237	67,001	20,899	14,255	112,322	32,760
Sawdust (from forestry residuals)	t	216,569	122,643	13,843	12,720	16,793	50,570
Barks (from forestry residuals)	t	539,260	156,875	108,110	203,625		70,650
Food organics (food waste)	t	79,272	48,920	575	3,981	25,796	
Biosolids/grit/screenings	t	620,283	195,500	23,083	600	1,800	399,300
Oils, grease trap, sludges	t	163,589	27,900	20,700	25,384	15	89,590
Straw	t	13,500	1,150	5,500	6,850		
Manure	t	477,615	319,955	27,550	68,430		61,680
Animal bedding	t	23,550	3,500	12,000	7,550		500
Animal mortalities	t	10,853	7,683	3,000	150		20
Paunch	t	25,650	500	800	7,300		17,050
Other - Miscellaneous agricultural organics	t	70,171	3,325	4,080	16,353	2,993	43,420
Other - Paper pulp/sludge	t	53,543	3,500		50,033		10
Other - MSW (organic fraction)	t	237,585	109,481	83,104			45,000
Other - Biowaste	t	15,500	15,500				
Other - Miscellaneous	t	64,503	6,481	42,777	650	5,225	9,370

COMPOST AUSTRALIA - ORGANICS INDUSTRY National Aggregate Survey 2006/07 Financial Year		National total	NSW & ACT total	WA total	SA total	VIC total	QLD total	
<b>SECTION C: Recycled organics product types and quantities sold</b>								
<b>5 Total quantity of product sold, recycled organics content<sup>2</sup>, market breakdown<sup>6</sup></b>								
<i>Composted soil conditioner</i>								
	Quantity product sold <sup>3</sup>	m <sup>3</sup>	1,003,395	418,849	241,637	128,979	54,900	159,030
	Recycled organic content	%	97	97	96	98		97
	Intensive agriculture	m <sup>3</sup>	122,986	28,272	22,476	36,068		36,170
	Extensive agriculture	m <sup>3</sup>	89,664	14,092	56,851	2,221		16,500
	Urban amenity	m <sup>3</sup>	629,633	345,362	140,526	37,685		106,060
	Rehabilitation	m <sup>3</sup>	22,787	9,603	12,284	900		
	Enviro-remediation	m <sup>3</sup>	14,020	4,520	9,500			
<i>Pasteurised soil conditioner</i>								
	Quantity product sold	m <sup>3</sup>	84,542	21,500	2,000	15,042		46,000
	Recycled organic content	%	100	100	100	100		100
	Intensive agriculture	m <sup>3</sup>	15,000	0		15,000		
	Extensive agriculture	m <sup>3</sup>	36,400	8,400				28,000
	Urban amenity	m <sup>3</sup>	4,642	2,600	2,000	42		
	Rehabilitation	m <sup>3</sup>	28,500					18,000
	Enviro-remediation	m <sup>3</sup>	0					
<i>Composted mulch</i>								
	Quantity product sold	m <sup>3</sup>	707,436	85,452	282,922	102,464	149,488	87,110
	Recycled organic content	%	100	100	100	100		100
	Intensive agriculture	m <sup>3</sup>	97,110	3,600	7,410	55,100		31,000
	Extensive agriculture	m <sup>3</sup>	1,800		1,800			
	Urban amenity	m <sup>3</sup>	431,033	80,352	258,212	36,359		56,110
	Rehabilitation	m <sup>3</sup>	12,780	1,050	10,100	1,630		
	Enviro-remediation	m <sup>3</sup>	5,850	450	5,400			
<i>Pasteurised mulch</i>								
	Quantity product sold	m <sup>3</sup>	91,700	14,500	18,500	58,700		
	Recycled organic content	%	100	100	100	100		
	Intensive agriculture	m <sup>3</sup>	16,940	700		16,240		
	Extensive agriculture	m <sup>3</sup>	0					
	Urban amenity	m <sup>3</sup>	59,160	4,700	13,500	40,960		
	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>	1,431,646	109,002	328,950	699,393		294,301
	Recycled organic content	%	100	100	100	100		100
	Intensive agriculture	m <sup>3</sup>	37,919		10,000	27,669		
	Extensive agriculture	m <sup>3</sup>	0					
	Urban amenity	m <sup>3</sup>	743,863	93,693	235,990	119,879		294,301
	Rehabilitation	m <sup>3</sup>	5,816	3,971		1,845		
	Enviro-remediation	m <sup>3</sup>	0					
<i>Manufactured soil</i>								
	Quantity product sold	m <sup>3</sup>	1,203,650	448,171	168,000	39,919	94,250	453,310
	Total RO content in product	m <sup>3</sup>	599,614	303,238	80,350	24,456		191,571
	Recycled organic content	%	20 - 100	30 - 100	45 - 50	20 - 100		30 - 80
	Intensive agriculture	m <sup>3</sup>	2,622	300		222		2,100
	Urban amenity	m <sup>3</sup>	829,678	437,771	168,000	39,697		184,210
	Rehabilitation	m <sup>3</sup>	273,700	6,700				267,000
	Enviro-remediation	m <sup>3</sup>	3,400	3,400				
<i>Potting mixes</i>								
	Quantity product sold	m <sup>3</sup>	474,540	180,599	81,417	153,333	10,100	49,091
	Total RO content in product	m <sup>3</sup>	288,451	52,258	61,867	135,991		38,334
	Recycled organic content	%	20 - 100	75-100	45 - 100	80 - 100		20 - 100
	Intensive agriculture	m <sup>3</sup>	127,516	3,692	920	122,904		
	Urban amenity	m <sup>3</sup>	256,924	96,907	80,497	30,429		49,091

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD
National Aggregate Survey 2006/07 Financial Year		total	total	total	total	total	total
SECTION C: Recycled organics product types and quantities sold (continued)							
<i>Playground surfacing</i>							
	Quantity product sold	m <sup>3</sup>	43,132	8,000		19,789	15,343
	Recycled organic content	%	100	100		100	100
	Urban amenity	m <sup>3</sup>	43,132	8,000		19,789	15,343
<i>Biofuels/biogas (energy from methane)</i>							
	Quantity product sold	kWh	13,496,558	13,496,558			
<i>Biofuels/solid fuel</i>							
	Quantity product sold	m <sup>3</sup>	10,000	10,000			
<i>Other - Composted products</i>							
	Quantity product sold	m <sup>3</sup>	129,500	116,000		13,480	20
	Recycled organic content	%	98	95		100	100
	Intensive agriculture	m <sup>3</sup>	15,562	2,072		13,480	10
	Extensive agriculture	m <sup>3</sup>					
	Urban amenity	m <sup>3</sup>	113,938	113,928			10
	Rehabilitation	m <sup>3</sup>					
	Enviro-remediation	m <sup>3</sup>					
<i>Other - Organic fertiliser</i>							
	Quantity product sold	t	1,620	1,400			220
	Recycled organic content	%	100	100			100
	Intensive agriculture	t	0	0			
	Extensive agriculture	t	0	0			
	Urban amenity	t	0	0			
	Rehabilitation	t					
	Enviro-remediation	t					220
<i>Other - Composted manure</i>							
	Quantity product sold	m <sup>3</sup>	340,765	260,300	4,000	58,809	17,656
	Recycled organic content	%	100	100	100	100	100
	Intensive agriculture	m <sup>3</sup>	208,846	195,000	2,000	7,846	4,000
	Extensive agriculture	m <sup>3</sup>	51,607		1,000	37,621	12,986
	Urban amenity	m <sup>3</sup>	69,562	54,550	1,000	13,342	670
	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>	110,432	66,400	6,000	36,032	2,000
	Recycled organic content	%	100	100	100	100	100
	Intensive agriculture	m <sup>3</sup>	46,925	27,725		18,200	1,000
	Extensive agriculture	m <sup>3</sup>	25,890	8,090		16,800	1,000
	Urban amenity	m <sup>3</sup>	10,585	4,585	6,000		
	Rehabilitation	m <sup>3</sup>					
	Enviro-remediation	m <sup>3</sup>					
<i>Other - Direct land application</i>							
	Quantity product sold	m <sup>3</sup>	181,052	65,052			116,000
	Recycled organic content	%	36	57			14
	Food organics	m <sup>3</sup>					
	Biosolids	m <sup>3</sup>	181,000	65,000			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					
SECTION D: Inventory on site							
	6 Total all material/product on site 30-06-07 <sup>4</sup>	m <sup>3</sup>	3,568,987	914,206	737,106	1,000,350	917,325

COMPOST AUSTRALIA - ORGANICS INDUSTRY National Aggregate Survey 2006/07 Financial Year		National total	NSW & ACT total	WA total	SA total	VIC total	QLD 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	48	21	6	9		12
7.2	Gate fees too low (metro areas)/ tender appraisal is price driven	36	21		15		
7.3	Raw materials contamination	57	21	12	15		9
7.4	Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy; Unaffordable new regulatory demands forcing exit from industry	129	39	27	27		36
7.5	Development of new products/markets (particularly agriculture)	54	30	12	12		
7.6	Saturation of particular markets	12	9	3			
7.7	Govt interference in markets / direct govt interaction with customers	3	3				
7.8	Research and development / inadequate compost performance data	39	27		9		3
7.9	Product quality standards need revision	21	12	6			3
7.10	Technical support and training	9	3	6			
7.11	Viable product price is unaffordable for customers key markets	45	21		3		21
7.12	Industry organisation and communication	6	3	3			
7.13	R&D ignoring customer affordability	6	3				3
7.14	Limited government purchasing / green purchasing	9	9				
7.15	Uncompetetive /non-commercial competition in service delivery from local govt facilities, driving price/quality down	12	3	9			
7.16	Major chains are price driven and will not pay for quality	6	6				
7.17	Industry branding ('waste')/ obsolete market perceptions	3	0				3
7.18	Limited transfer of research into practice	0	0				
7.19	Increasing fuel price/transport costs	60	18	9			33
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	3	0				3
7.23	Financial incentives for Growers (e.g rebate)	39	12	9	9		9
7.24	Cheap sub-standard products marketed under same product name	0	0				
7.25	Financial and other govt support for waste to energy options	0	0				
7.26	Standard quality assurance procedures needed	6	0	6			
7.27	Mechanism required for recovering ecoservices value	0	0				
7.28	Compost product marketing and sales support	27	12		3		12
7.29	C&D waste dumped in to market	0	0				
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	66	24	18	12		12
7.33	Water restrictions reducing demand (urban)	18	3		15		
7.34	Need application-specific product standards	6	3	3			
7.35	Product R&D not directed at commercial market demand creation	6	3	3			
7.36	Innadequate understanding of agricultural economics / risks	3	3				
7.37	Regulatory definition of "waste" and "beneficial use" restricts transition to sustainability	0	0				
7.38	Other - reductions in rural water allocations suppressing farm production & demand	6	6				

COMPOST AUSTRALIA - ORGANICS INDUSTRY		National	NSW & ACT	WA	SA	VIC	QLD
National Aggregate Survey 2006/07 Financial Year		total	total	total	total	total	total
<b>SECTION F: Product quality standards</b>			0				
Number of facilities producing to quality standards		26	12	8	6		
<b>8.1 Number of processors manufacturing certified product</b>			0				
AS 4454 - Composts, soil conditioners, mulches		22	7	6	3		6
AS 3743 - Potting mixes		11	4	3	3		1
AS 4419 - Landscaping soils		14	6	2	1		5
Organic product standard - BFA, NASAA		18	3	5	3		7
Other - Biosolids guideline		3	1				2
Other - Soil Foodweb Institute		1	0				1
Other		6	0	2	3		1
<b>Footnotes</b>							
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							
7 Note: numerous issues collectively effect commercial viability, including 7.1, 7.2, 7.6, 7.11, 7.15, 7.19, 7.23, 7.29, 7.30, 7.31, 7.32							