

Cost of Waste Transport

Discussion Paper – DP12-02

March 2012



Tasmania
Explore the possibilities

Contents

BACKGROUND3

RESULTS4

ANALYSIS7

RECOMMENDATION7

SUBMISSIONS AND TIMEFRAMES8

APPENDICES9



BACKGROUND

The Base Grant Model (BGM) assesses the relative needs of councils according to the principle of Horizontal Fiscal Equalisation. The Commission uses the BGM outcomes to recommend the distribution of the base grant component of the Australian Government financial assistance grants, which in 2011-12 amounted to \$33.8 million to be shared by Tasmanian councils.

Over recent years, several councils have argued that for some councils there is a relatively greater cost for transporting household waste collected within council areas to landfill sites that are distant from their municipality.

The Commission recognised that this issue may have implications on the assessment if some councils are at a distinct disadvantage through not having a landfill site either in the council area, or within a short distance. More specifically, there may be a case to adjust the application of the Isolation Cost Adjustor (CA) as it does not currently apply to the waste management expenditure category. An adjustment may be warranted to acknowledge the current long-term trend towards regional landfill sites.

The Commission decided that it should investigate the extent of the waste transportation issue, and a data collection process was undertaken to facilitate this.

Data Collection

In drafting the data collection sheet, it was necessary to capture the high degree of variation between councils in both their accepted waste management responsibilities and the level of service provided to ratepayers. It was important that the collection tool was specific enough to enable councils to provide information useful for the Commission, yet provide sufficient flexibility for councils to report on their individual arrangements in providing waste management services.

Within waste management expenditure there is more than merely the cost of collection, transportation and disposal of household waste. For example, some councils own and operate their own landfill sites, while others do not, but due to the geographical distribution of the population are required to provide numerous waste transfer stations to allow the more remote populations to dispose of waste. As a result, the data collection gathered information on recurrent as well as specific capital costs to take account of council responsibilities for maintaining landfill and/or waste transfer stations.

The response from councils was extremely positive with 26 councils providing data. But there were some gaps in the data provided by some councils, which unfortunately restricts the analysis to some extent. Furthermore, as the majority of councils use contractors to collect and dispose of household waste, most councils were unable to disaggregate the collection and transportation costs within the contract price. This resulted in an inability to analyse in detail the transportation trends in relation to distance from landfill. However, the data collected provided a fairly detailed picture of waste management practices across Tasmanian councils.

RESULTS

The data received from councils has been aggregated into several tables that are attached as Appendices to this paper.

APPENDIX 1

Appendix 1 is a summary of the waste collection methods, that includes household waste, recycling, waste transfer stations and landfill ownership across Tasmanian councils.

The most obvious trend is that of using private contractors to collect and transport both household and recycling waste. Of the councils that provided data, only six (Burnie, Circular Head, Devonport, Hobart, Meander Valley and West Coast) still provide a council-run household waste collection. With recycling the trend of using contractors is more pronounced with only three councils (Circular Head, Hobart and West Coast) reporting a council-run recycling service.

Appendix 1 also highlights the extent of waste transfer stations (WTS) across the State. It is apparent that WTS are more prevalent depending on the remoteness of the population centre being served. Furthermore, the more remote the WTS, the more likely it is to be equipped to deal with household waste rather than simply recycling, green or hard waste.

The data collection also pointed to a wide variation in the standard of WTS. For example, WTS range from privately owned and operated, purpose built facilities (e.g. Mornington WTS used by Clarence), to merely strategically positioned bins within a population centre.

APPENDIX 2

Appendix 2 is a map showing the collection areas for the reported landfill sites used by councils. The data collection requested information about where household waste was disposed, and the map is a representation of that information. Only one council reported sending waste to more than one landfill site. Meander Valley reported that it disposed of 55 per cent of its household waste at its own Deloraine landfill, with the remaining 45 per cent being transported to Remount Road, Launceston.

Appendix 2 shows that Dulverton landfill in the north services a compact group of owner councils, while the Launceston landfill services a much wider geographical area. The area serviced by Copping landfill includes councils stretching down the entire east coast to the very southern point of the State.

Table 1 below converts the areas serviced by each landfill to population and property based measures, and this shows that Copping services the largest proportion of the state by population (25.5 per cent) and by property (27.7 per cent). However, Launceston is a very close second to Copping on a population basis with 24.4 per cent.

Table 1: Tasmanian Landfill Sites by Population and Rateable Properties Served

Landfill	Population Served		Rateable Properties Served	
Copping	129 319	25.5%	72 623	27.7%
Launceston	124 065	24.4%	60 527	23.1%
Glenorchy	67 220	13.2%	31 583	12.0%
Dulverton	63 604	12.5%	31 531	12.0%
Hobart	50 078	9.9%	23 455	8.9%
Port Latta	22 359	4.4%	12 104	4.6%
Burnie	19 892	3.9%	9 361	3.6%
Deloraine#	10 832	2.1%	5 192	2.0%
New Norfolk	10 118	2.0%	4 967	1.9%
Zeehan	5 251	1.0%	4 586	1.7%
Hamilton	2 322	0.5%	3 580	1.4%
King Island	1 683	0.3%	1 569	0.6%
Flinders	900	0.2%	1 454	0.6%
TOTAL	507 643	100.0%	262 532	100.0%

Resident population data is at 30 June 2010 (ABS Cat No. 3218.0), and rateable property data is at 30 June 2009 (2008-09 CDC).

Meander Valley reported that 55 per cent of its annual household waste was disposed at Deloraine, and the remaining amount to Launceston. These same proportions have been used to determine population and properties served.

Some landfill sites are already nearing the end of their useful life and will be closed within the next 10-15 years, while others are struggling to meet the increasingly stringent environmental standards required of landfill. As environmental regulation increases over time, so too does the cost of maintaining landfill sites increase. This leads to smaller landfill sites becoming uneconomical, and creates a trend of consolidation of landfills to larger more efficient sites. This means that the map in Appendix 1 and Table 1 above may look very different within the next 25 years.

APPENDIX 3

The major cost driver of waste collection is the number of properties in a council area, rather than population. This is because waste collection services are provided to properties, and the service must be provided regardless of the number of people living in a particular property. Therefore, Appendix 3 calculates a total cost per rateable property for recurrent waste management expenditure.

The highest per property (pp) recurrent costs are reported by Devonport (\$271pp), Burnie (\$261pp), Circular Head (\$212pp) and Hobart (\$203pp). The councils with the lowest recurrent per property costs are Flinders (\$59pp), Derwent Valley (\$85pp), Central Coast (\$86pp) and Huon Valley (\$97pp). There is significant variability of costs between councils, with the highest per property cost being 4.6 times that of the lowest.

Appendices 4 and 5 break the data from Appendix 3 down further between councils that have an ownership interest in a landfill site and non-owner councils. This is to differentiate between those landfill owning councils that have greater corresponding capital responsibility and more likely to be located closer to landfill than non-owner councils. Furthermore, differences can be identified in the expenditure patterns, due to the different expenditure mix of the two groups as evidenced by the average total cost per property for owner councils of \$171pp and \$130pp for non-owner councils.

APPENDIX 4

Appendix 4 shows the proportional recurrent expenditure for those councils that do not have an ownership interest in a landfill site. The average total expenditure per property of all non-owner councils is \$130pp of which the largest contributing expenditure components are collection and transport (\$51pp), waste transfer stations (\$34pp) and landfill costs (\$24pp).

Break O'Day has the highest total expenditure per property with \$174pp, of which landfill costs contribute 36 per cent (or \$63pp). When compared to the group average, Break O'Day is above average in only the landfill expenditure category with \$63pp compared with the average of \$24pp.

Glamorgan-Spring Bay shows the highest per property costs with collection and transport (\$84pp) of not only the non-owner group but of all Tasmanian councils. Council also spends above the group average for waste transfer stations (\$42pp) and recycling (\$22pp).

APPENDIX 5

Appendix 5 shows the proportional recurrent expenditure per property for the landfill owner councils.

The owner council with the highest total expenditure per property is **Devonport** with \$271pp. The waste expenditure of Devonport is dominated by collection and transport (\$83pp) and landfill costs (\$73pp), but every expenditure category is above the group average.

Burnie comes a close second with a total expenditure per property of \$261pp. Burnie did not report any expenditure on waste transfer stations or Other costs, but reported higher than average costs in the remaining expenditure categories. The most significant contributor to Burnie's total waste costs was landfill expenditure which comprised 62 per cent (\$162pp) of its total expenditure.

ANALYSIS

It is clear that many factors contribute to the variability of waste expenditure across councils. Some of these include, but are not limited to:

- the proportion of properties serviced by kerbside collection;
- the dispersion of properties within a council area;
- the level of service provided by council;
- ownership arrangements of landfill sites;
- the distance of council population centres to landfill sites; and
- economies of scale.

These factors contribute to the total cost of providing waste management services within a council area. In relation to the question of whether disadvantage exists for some councils that have to transport waste a greater distance to landfill, it would appear that some councils do experience some disadvantage in this respect. However, this exercise has shown that the greatest disadvantage that a council can face is being an owner of a licensed landfill site. As can be seen in Appendix 4, the average cost per rateable property is \$171pp if an owner council, and \$130pp if a non-owner. This means that it costs on average 32 per cent more per property for a landfill owner to provide waste management services than a non-owner.

RECOMMENDATION

The stimulus to undertake this analysis was the suggestion that some councils were disadvantaged through geographical location within the state in comparison to where landfill sites are located. In examining the information collected, the Commission has concluded that this issue is not a major driver when viewed in conjunction with total waste management expenditure.

In regards to the Base Grant Model, the Dispersion Cost Adjustor, which accounts for the spread of population and properties within a council area, is already applied to the Waste Management & Environment expenditure category. The Isolation Cost Adjustor, which accounts for the geographical isolation of a council from major regional centres, does not currently apply to the waste management expenditure category. The Commission concludes that there is little evidence to support a change in the current assessment of waste management expenditure. Therefore, the Commission do not consider it appropriate to adjust the Isolation Cost Adjustor to account for increased transport costs.

SUBMISSIONS AND TIMEFRAMES

The Commission invites comments and input from councils on the issue raised within this discussion paper. Councils should also feel free to provide comments on other pertinent issues regarding the Commission assessment methodologies.

Submissions should be forwarded to the Commission Secretary, Mr Rod Malcomson as follows:

- By post: Secretary
State Grants Commission
GPO Box 147
HOBART TAS 7001
- By email: rodney.malcomson@treasury.tas.gov.au

Further details regarding the annual assessments can be found in the 2011-12 Annual Report that is available on the Commission website. Go to the Department of Treasury and Finance webpage (www.treasury.tas.gov.au) and click the Commission 'Quick Link', then click Publications.

Submissions close on Friday 23 March 2012.

Any queries regarding the review should be directed to the Secretary on 6233 8988.

2012 Hearings and Visits

The Commission will provide councils with the opportunity to discuss the review and any other concerns during the 2012 Hearings and Visits program that will begin in April 2012.

APPENDICES

APPENDIX 1

Summary of Waste Management in Tasmania

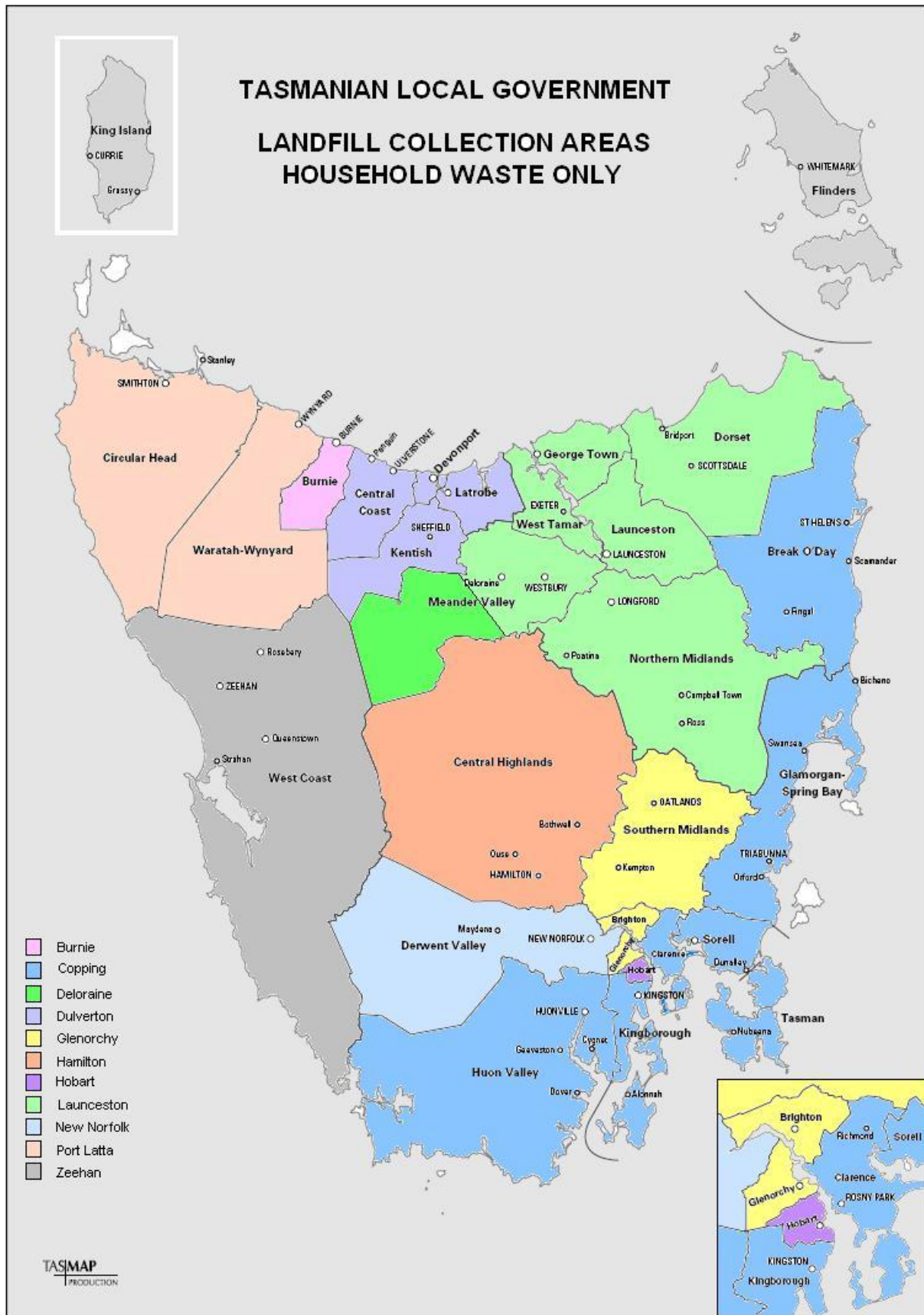
	Household Waste			Recycling			Council Operated Waste Transfer Stations					Council Owned Landfill
	Kerbside Collection	Collected by: Council Contractor		Kerbside Collection	Collection by: Council Contractor		No. in LGA	Location	Kerbside Household	Collection Recycling	Other#	Location
Break O'Day	✓		✓	✗	n/a	n/a	3	Scamander St Marys Binalong Bay		✓ ✓		
Brighton	✓		✓	✓		✓	1	Bridgewater			✓	
Burnie	✓	✓	✓	✓		✓	1	Burnie (Landfill)		✓		Burnie
Central Coast	✓		✓	✓		✓						Dulverton (37%)**
Central Highlands	✓		✓	✓		✓	4	Bothwell Bronte Park Miena Arthurs Lake		✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	Hamilton
Circular Head	✓	✓		✓	✓							Port Latta
Clarence	✓		✓	✓		✓						Copping (52%)*
Derwent Valley	✓		✓	✓		✓						New Norfolk
Devonport	✓	✓		✓		✓	1	Quoiba	✓	✓	✓	Dulverton (44%)**
Dorset	✓		✓	✓		✓	3	Scottsdale Branxholm Gladstone		✓ ✓ ✓	✓ ✓ ✓	
Flinders	✗	n/a	n/a	✗	n/a	n/a						Whitemark Lady Barron Cape Barron
George Town	✓		✓	✓		✓						
Glamorgan-Spring Bay	✓		✓	✓		✓	4	Orford Swansea Coles Bay Bicheno	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓		
Glenorchy	✓		✓	✓		✓	1	Glenorchy CBD				Jackson St, Glenorchy
Hobart	✓	✓		✓	✓							McRobies Rd, South Hobart
Huon Valley	✓		✓				4	Huonville Dover Geeveston Cygnet	✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	
Kentish	✓		✓	✓		✓	2	Wilmot Sheffield	✓ ✓	✓ ✓		Dulverton (8%)**
King Island	-	-	-	-	-	-	-	-	-	-	-	-
Kingborough	-	-	-	-	-	-	-	-	-	-	-	Copping (20%)*
Latrobe	✓		✓	✓		✓						Dulverton (11%)**
Launceston	✓		✓	✓		✓						Remount Rd, Mowbray
Meander Valley	✓	✓	✓	✓		✓	3	Deloraine (Landfill) Westbury Mole Creek		✓ ✓ ✓	✓ ✓ ✓	Tip Rd, Deloraine
Northern Midlands	✓		✓	✓		✓						
Sorell	-	-	-	-	-	-	-	-	-	-	-	Copping (20%)*
Southern Midlands	✓		✓	✓		✓	3	Oatlands Dysart Campania		✓ ✓ ✓	✓ ✓ ✓	
Tasman	✓		✓	✓		✓	1	Nubeena		✓	✓	Copping (8%)*
Waratah-Wynyard	✓		✓	✓		✓	1	Wynyard		✓	✓	
West Coast	✓	✓		✓	✓							Henty Main Rd, Zeehan
West Tamar	✓		✓	✓		✓	2	Beaconsfield Exeter		✓ ✓	✓ ✓	

'Other' includes waste not identified as household or recycling waste (e.g. hard waste, green waste, etc...)

* Proportional Membership of Copping Refuse Disposal Site Joint Authority

** Proportional ownership of Dulverton Regional Waste Management Authority

APPENDIX 2



APPENDIX 3

Recurrent Waste Expenditure Per Rateable Property

	Waste Management Expenditure							Rateable Properties	Per Property
	Collection	Transport	WTS	Landfill	Other	Recycling	TOTAL		
	\$	\$	\$	\$	\$	\$	\$	as at June 2009	\$
Break O'Day	300 000	0	60 000	400 000	340 000	0	1 100 000	6 334	174
Brighton	201 029	0	270 130	194 647	0	150 802	816 608	7 106	115
Burnie	531 862	0	0	1 513 275	0	395 081	2 440 218	9 361	261
Central Coast	329 667	0	0	280 333	0	284 333	894 333	10 426	86
Central Highlands								3 580	
Circular Head	202 974	72 947	117 377	427 519	129 645	53 126	1 003 588	4 723	212
Clarence								23 495	
Derwent Valley	220 684	0	14 303	42 660	22 058	122 435	422 140	4 967	85
Devonport	745 572	249 667	553 620	875 667	319 168	506 835	3 250 528	11 983	271
Dorset	133 771	255 036	116 110	32 478	29 191	85 281	651 867	5 096	128
Flinders	0	0	0	0	85 262	0	85 262	1 454	59
George Town								4 219	
Glamorgan-Spring Bay	239 756	218 870	230 130	53 207	0	121 010	862 973	5 437	159
Glenorchy	353 552	0	0	77 518	2 126 674	644 015	3 201 759	20 791	154
Hobart	846 667	0	58 333	2 608 333	14 167	1 236 667	4 764 167	23 455	203
Huon Valley	287 783	237 407	219 062	155 697	0	34 333	934 282	9 680	97
Kentish	178 249	96 651	77 742	0	0	30 203	382 845	3 638	105
King Island								1 569	
Kingborough								16 107	
Latrobe	97 877	0	410 940	0	0	126 098	634 916	5 484	116
Launceston	1 836 939	32 000	80 657	2 520 521	0	758 939	5 229 056	29 906	175
Meander Valley	371 364	0	69 263	465 308	0	207 202	1 113 136	9 440	118
Northern Midlands								6 381	
Sorell								8 182	
Southern Midlands	130 815	0	264 143	0	8 278	0	403 236	3 686	109
Tasman	201 494	0	169 712	61 883	0	0	433 089	3 388	128
Waratah-Wynyard	274 806	0	367 349	247 143	0	162 138	1 051 436	7 381	142
West Coast	206 137	66 674	222 585	149 121	0	0	644 517	4 586	141
West Tamar								10 677	
STATE TOTAL	7 690 999	1 229 252	3 301 456	10 105 310	3 074 443	4 918 498	30 319 957	262 532	115

Average Per Rateable Property Costs (\$)

Landfill Owner (14 of 19)	171
Non-owner (7 of 10)	130

APPENDIX 4

Proportional Recurrent Expenditure (Non-owner Councils)

	Collect & Transport			WTS			Landfill			Other			Recycling			TOTAL		
	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp
Break O'Day	300 000	27%	47	60 000	5%	9	400 000	36%	63	340 000	31%	54	0	0%	0	1 100 000	100%	174
Brighton	201 029	25%	28	270 130	33%	38	194 647	24%	27	0	0%	0	150 802	18%	21	816 608	100%	115
Dorset	388 807	60%	76	116 110	18%	23	32 478	5%	6	29 191	4%	6	85 281	13%	17	651 867	100%	128
George Town																		
Glamorgan-Spring Bay	458 626	53%	84	230 130	27%	42	53 207	6%	10	0	0%	0	121 010	14%	22	862 973	100%	159
Huon Valley	525 189	56%	54	219 062	23%	23	155 697	17%	16	0	0%	0	34 333	4%	4	934 282	100%	97
Northern Midlands																		
Southern Midlands	130 815	32%	35	264 143	66%	72	0	0%	0	8 278	2%	2	0	0%	0	403 236	100%	109
Waratah-Wynyard	274 806	26%	37	367 349	35%	50	247 143	24%	33	0	0%	0	162 138	15%	22	1 051 436	100%	142
West Tamar																		
TOTAL	2 279 273	39%	51	1 526 924	26%	34	1 083 173	19%	24	377 469	6%	8	553 564	10%	12	5 820 403	100%	130

APPENDIX 5

Proportional Recurrent Expenditure (Landfill Owner Councils)

	Collect & Transport			WTS			Landfill			Other			Recycling			TOTAL		
	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp	\$	%	\$pp
Burnie	531 862	22%	57	0	0%	0	1 513 275	62%	162	0	0%	0	395 081	16%	42	2 440 218	100%	261
Central Coast	329 667	37%	32	0	0%	0	280 333	31%	27	0	0%	0	284 333	32%	27	894 333	100%	86
Central Highlands																		
Circular Head	275 922	27%	58	117 377	12%	25	427 519	43%	91	129 645	13%	27	53 126	5%	11	1 003 588	100%	212
Clarence																		
Derwent Valley	220 684	52%	44	14 303	3%	3	42 660	10%	9	22 058	5%	4	122 435	29%	25	422 140	100%	85
Devonport	995 239	31%	83	553 620	17%	46	875 667	27%	73	319 168	10%	27	506 835	16%	42	3 250 528	100%	271
Flinders	0	0%	0	0	0%	0	0	0%	0	85 262	100%	59	0	0%	0	85 262	100%	59
Glenorchy	353 552	11%	17	0	0%	0	77 518	2%	4	2 126 674	66%	102	644 015	20%	31	3 201 759	100%	154
Hobart	846 667	18%	36	58 333	1%	2	2 608 333	55%	111	14 167	0%	1	1 236 667	26%	53	4 764 167	100%	203
Kentish	274 900	72%	76	77 742	20%	21	0	0%	0	0	0%	0	30 203	8%	8	382 845	100%	105
King Island																		
Kingborough																		
Latrobe	97 877	15%	18	410 940	65%	75	0	0%	0	0	0%	0	126 098	20%	23	634 916	100%	116
Launceston	1 868 939	36%	62	80 657	2%	3	2 520 521	48%	84	0	0%	0	758 939	15%	25	5 229 056	100%	175
Meander Valley	371 364	33%	39	69 263	6%	7	465 308	42%	49	0	0%	0	207 202	19%	22	1 113 136	100%	118
Sorell																		
Tasman	201 494	47%	59	169 712	39%	50	61 883	14%	18	0	0%	0	0	0%	0	433 089	100%	128
West Coast	272 811	42%	59	222 585	35%	49	149 121	23%	33	0	0%	0	0	0%	0	644 517	100%	141
TOTAL	6 640 977	27%	46	1 774 532	7%	12	9 022 137	37%	63	2 696 973	11%	19	4 364 934	18%	30	24 499 554	100%	171

PAGE LEFT INTENTIONALLY BLANK

