Government of South Australia
Zero Waste SA

Hyder

Zero Waste South Australia

Recycling activity in South Australia

2008-09 Financial year

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Overview

The 2008–09 SA diversion rate at 70.4% is the highest recorded over the last six years. This is the highest of any Australian state.

The waste to landfill quantity has dropped from 2007–08 to its lowest level in the last six years. Total waste to landfill has reduced by over 16% since 2003-04.

Despite a year where international recycling markets were hit by the global financial crisis, 2.55 million tonnes of materials was diverted from landfill to recycling in South Australia during 2008–09. This was down approximately 2% from 2.61 million tonnes in 2007–08.

The SA per capita recycling rate has decreased slightly from 2007-08 to 1,573 kg per capita (down 3.5%). This rate is higher than any other state, and secondly only to the ACT.

The highest recorded reprocessing quantities, by weight and in decreasing order, were concrete (984 735 tonnes), steel (271 277 tonnes) and timber (254 866 tonnes).

While recycling activity in SA was slightly lower during 2008-09, landfilling continued to decrease resulting in a high diversion rate. As the population continues to grow, the recycling and reprocessing industry needs to continue to expand with it.

Table E-1 **Annual South Australian landfill diversion and overall waste recycling**

	2003–04	2004–05	2005–06	2006–07	2007–08	2008-09	Change	
							07-08 to 08-09	03-04 to 08-09
Diversion from landfill (tonnes)	2 041 776	2 623 367	2 395 582	2 434 128	2 611 214	2 552 202	-2.3%	25.0%
Waste to landfill (tonnes)	1 277 892	1 180 128	1 157 925	1 144 429	1 130 000	1 071 895	-5.1%	-16.1%
Total waste generation (tonnes)	3 319 668	3 803 495	3 553 507	3 578 557	3 741 214	3 624 167	-3.1%	9.2%
SA diversion rate (%)	**61.5%**	**69.0%**	**67.4%**	**68.0%**	**69.8%**	**70.4%**	**0.9%**	**14.5%**
South Australian population	1 534 000	1 542 000	1 550 042	1 584 500	1 601 800	1 622 700	1.3%	5.8%
Per capita diversion (kg/person)	1 331	1 701	1 545	1 536	1 630	1 573	-3.5%	18.2%
Per capita landfill (kg/person)	833	765	747	722	705	661	-6.4%	-20.7%
Per capita total waste (kg/person)	2 164	2 467	2 293	2 258	2 336	2 233	-4.4%	3.2%

In 2008–09 there was 35 339 tonnes of recyclate materials imported into South Australia for reprocessing or 1.4% of total local reprocessing. These materials were mostly from Western Australia and the Northern Territory and include glass (14 704 tonnes), steel (10 095 tonnes) and polyethylene terephthalate (PET) (3 254 tonnes). These quantities are not included in the recycling total due to their non South Australian source.

The composition of recycled materials is outlined in Figure E-1.

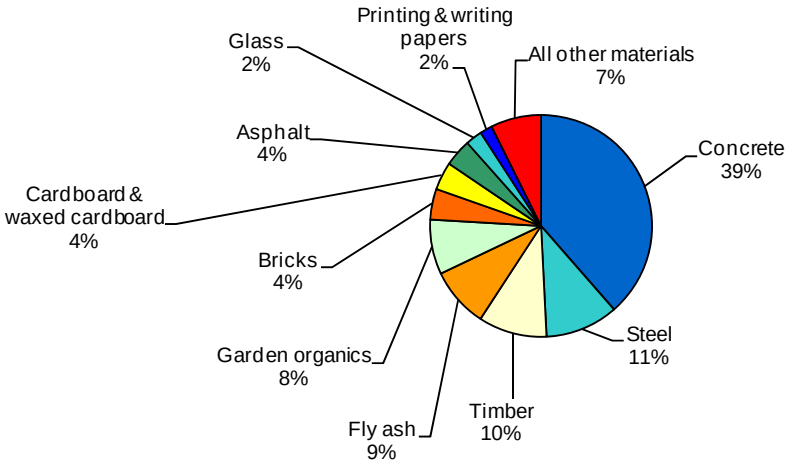


Figure E-1 Composition of recovered materials (by weight), SA 2008–09

Presented in Figure E-2 is a comparison of per capita recycling activity nationally.

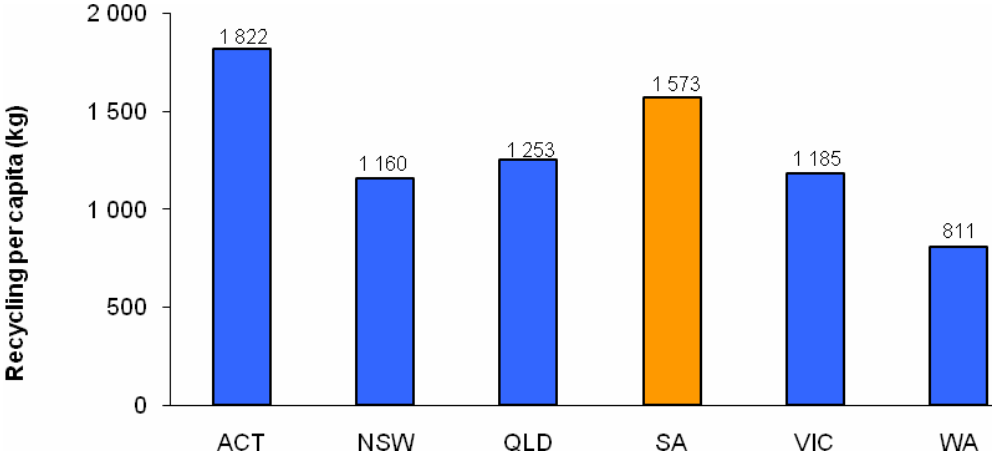


Figure E-2 Comparison of reported per capita recycling activity (by State)

Note: Estimates of waste generation, recycling and landfill disposal have been developed based on the best available data for each state/territory. The following material categories were excluded from the Queensland figure to improve comparability with other state data: acid sulphate soil, biosolids, manure & agricultural waste, mineral processing waste and other regulated wastes.

The SA data is for 2008–09. The VIC and ACT data is for 2007-08. The data presented for NSW, QLD and WA is for 2006-07. The ACT data is sourced from the *2009 Progress update towards No Waste*. The QLD data is sourced from the *State of waste and recycling in Queensland 2008, technical report*. The VIC data is sourced from *Towards Zero Waste Strategy, Progress Report* for 2007–08. The WA data is sourced from *Review of Total Recycling Activity in Western Australia 2006-07* report. The NSW data is sourced from the *Waste Avoidance and Resource Recovery, Progress Report 2008*. Population statistics sourced from the ABS were also used. All figures have been rounded.

The recycling figures presented in Figure E-2 are as reported by each state or territory, and therefore differ in the materials included. For this reason, these figures may differ to those

reported in the Waste and Recycling in Australia report, where an attempt was made to standardise the recycling figures for each jurisdiction. For example, the figure presented in Figure E-2 for Queensland, includes fly ash, contaminated and acid sulphate soils and other regulated wastes. If these materials are excluded, recycling per capita is approximately 900 kg. A similar situation would likely be the case for each state and territory.

Survey method

A survey of total recycling activity in South Australia for 2008–09 was undertaken in November-December 2009 by Hyder Consulting. The survey covered all materials recovered for reprocessing in South Australia, as well as exported materials. Any materials imported into the state for reprocessing were excluded.

All known local (South Australian based) and interstate reprocessing destinations were identified, as well as exports overseas.

Recycling data was obtained from the following sources:

1 Reprocessors

- site visits of the key reprocessing sites in the Adelaide metropolitan area
- telephone / e-mail surveys of all other recycling companies

2 Data collated from pre-existing annual surveys, undertaken by the following national organisations:

- Ash Development Association of Australia (ADAA)
- Compost Australia
- Plastics and Chemicals Industries Association (PACIA)
- Publishers National Environment Bureau (PNEB)

3 Australian Customs Service export data

Data on reprocessed materials was sought for the 2008–09 financial year on the quantity (by weight), and origin and destination of reprocessed materials. The full questionnaire sent to reprocessors is provided in Appendix A.

Data from all known reprocessing destinations of material generated in South Australia has been compiled into this report and as such the reported recovery data is believed to be comprehensive. It is possible that some smaller South Australian based material reprocessors or interstate destinations may have been overlooked, in which case the reported recovery quantities would be slightly conservative.

Sector origins have been split into the following categories:

- household/municipal
- commercial and industrial (C&I)
- construction and demolition (C&D).

Table E-2 Sector origins of SA sourced reprocessed materials, SA 2008–09

Sector origin	Quantity	
	(tonnes)	(%)
Municipal	398 495	15.6%
C&I	788 664	30.9%
C&D	1 365 043	53.5%
Total	**2 552 202**	**100.0%**

Table E-3 Destination of SA sourced reprocessed materials, SA 2008-09

Reprocessing destination	Number of destinations	Reprocessed material destination	
		(tonnes)	(%)
South Australia	55	2 103 774	82.4%
Interstate	16	123 250	4.8%
Export	1	325 177	12.7%
Total	**72**	**2 552 202**	**100.0%**

The number of South Australian reprocessors has decreased slightly from 57 in the 2007–08 year study to 54 in the 2008–09 study. This is due to the identification of new SA based reprocessors, as well as previous participants reporting no onsite reprocessing of South Australian-sourced materials during 2008–09.

The number of interstate destinations has dropped from 21 in 2007–08.

While not assessed in detail as part of this study, it is recognised that direct reuse of many products occurs on a significant scale without reprocessing. Where possible throughout this report, any reuse activity has been identified in general terms, but not quantified. Products regularly reused include cars, appliances, clothing, building materials and books.

Table E-4 Reprocessed material quantities, SA 2003-04 to 2008-09

		Total recovery (tonnes)					
	Material	2003–04	2004–05	2005–06	2006-07	2007–08	2008–09
	Masonry materials						
1	Asphalt	100 000	92 000	85 900	83 640	103 070	101 484
2	Bricks	165 000	85 700	102 475	43 962	90 486	113 993
3	Concrete	877 000	899 492	762 134	793 710	818 116	984 735
4	Soil, fines waste, clay & clean fill	162 400	132 400	70 989	63 251	90 837	19 831
	Metals						
5	Steel	264 200	247 840	278 028	323 850	365 391	271 277
6	Aluminium	19 000	20 443	22 171	20 845	24 434	21 895

7	Non-ferrous metals (ex. Al)	13 000	16 639	19 470	24 300	21 755	18 495
	Organics						
8	Food organics	0	10 540	6 005	3 981	5 796	4 820
9	Garden organics	130 100	188 610	222 499	209 725	202 397	203 558
10	Timber	116 700	300 980	255 728	275 385	241 387	254 866
11	Organics - other	0	89 790	81 625	82 636	79 359	41 666
	Paper & cardboard						
12	Cardboard & waxed cardboard	91 000	72 117	106 943	96 436	122 537	104 128
13	Liquid paperboard	0	971	1 239	1 373	1 476	1 475
14	Magazines	0	4 650	5 918	4 680	5 728	7 313
15	Newsprint	31 398	35 917	40 607	40 000	41 393	40 219
16	Phonebooks	1 303	1 685	2 042	2 042	2 000	5 051
17	Printing & writing papers	12 300	12 593	18 803	30 574	42 745	45 877
	Plastics						
18	Polyethylene terephthalate (PET)	0	5 544	4 753	5 704	5 440	5 200
19	High density polyethylene (HDPE)	0	2 728	3 036	2 779	2 821	2 685
20	Polyvinyl chloride (PVC)	0	329	365	363	317	408
21	Low density polyethylene (LDPE)	0	4 063	5 043	5 403	3 375	2 954
22	Polypropylene (PP)	0	1 272	1 252	1 542	1 202	1 529
23	Polystyrene (PS)	0	613	332	167	365	540
24	Other plastics	8 607	792	1 107	922	1 755	462
	Glass						
25	Glass	45 600	49 500	50 067	50 110	53 224	61 552
	Other materials						
26	Fly ash	0	335 000	236 343	260 913	272 000	223 000
27	Foundry sands	0	9 006	6 755	2 000	0	0
28	Leather & textiles	4 080	1 564	2 419	2 348	2 376	3 052
29	Tyres & other rubber	88	590	1 535	1 486	9 434	10 138
	Total	**2 041 776**	**2623 367**	**2 395 582**	**2 434 128**	**2 611 214**	**2 552 202**

Notes:1. All plastics data is sourced from the 2008 calendar year (PACIA report).

There was a significant decrease in the quantity of aluminium, PET and liquid paperboard (LPB) recovered during 2008-09 despite a doubling of the container deposit from 5c to 10c in September 2008. However, aluminium packaging comprises only a small proportion of aluminium collected for reprocessing, meaning that aluminium followed the trend observed in other metals despite the increased deposit. To some extent the same applies to PET.

In the case of LPB, as a low volume material exposed entirely to export markets, the reported decline in material handled could be due to a poorer export situation based on currency and demand.

contemplated by the State Government, which could further catalyse investment in local re-processing of this resource. If this occurred, supply could rapidly outstrip local infrastructure capacity. It is uncertain whether this deficit could be absorbed by beneficiation interstate or overseas, in which case the recovered tyres would end up being stockpiled or in a landfill outside of South Australia. Thus, additional investment in recycling infrastructure for this material will be required if a landfill ban in South Australia for tyres was introduced.

3.4 Comments regarding other recycled material categories

3.4.1 Masonry

Masonry materials include concrete, asphalt, brick & rock and rubble. All of these recovered materials are recycled and sold into local markets. These markets are considered fairly mature; however, further market development and education is considered important to ensure that forecast increases in resource recovery can be successfully absorbed. The existing installed and short term planned capacity of C&D recycling infrastructure appears more than sufficient to meet future resource recovery requirements.

Possible barriers to future resource recovery and recycling of masonry materials reported during consultations included:

- Poor pull through of materials into some markets (price driven) and historical association with virgin materials limits some applications (e.g. restrictive construction material standards);
- Illegal dumping and stockpiling of material (needs to be directed to designated depots); and
- Continued adherence to use of virgin materials – there was support for an extractive industries tax to discourage virgin material use.

3.4.2 Metals

According to recent recycling reports, most metals – ferrous and non-ferrous – recovered in South Australia are sent interstate or overseas for beneficiation except for about 25 % of recovered steel waste which appears to be re-processed by OneSteel at Whyalla. As a consequence, most processors only sort, shred and/or bale the collected metal. The existing processing capacity for non-ferrous metals appears adequate to meet forecast resource recoveries until 2019-20. The recent upgrade of shredder capacity at one of these processors last year substantially increased processing capacity (by up to 100,000 tonnes per annum) for ferrous metals in South Australia. This appears to have ensured that adequate recycling capacity to meet forecast resource recovery for this material.

3.4.3 Green organics

Table 3.2 indicates that demand on current infrastructure –essentially composting operations – for food, garden and other organics is likely to be sufficient to meet resource recovery forecasts. In this respect, it is understood that the Adelaide metropolitan organics recycling sector is running at around 80% of capacity and approaching full utilisation. There is also significant scope and enthusiasm from the industry for expansion including some well-advanced plans to achieve this. The larger composting sites are licensed or have development approvals capable of expansion to cater for the increasing organics extraction from Municipal and C&I streams. However, whilst the market for composted products derived from recycled organics is fairly mature, there are some perceived barriers to increasing throughput by the industry:

- Market education and development to expand the demand for recycled composted products to match resource recovery; and
- Minimising contamination in organics streams to maximise beneficiation by composting.

The timing of currently planned expansions in processing capacity for recycled organics corresponds well with existing initiatives to introduce food waste recovery for MSW in metropolitan areas and achieve increased organics recovery from the C&I waste stream. Priority areas appear to be improving source separation to reduce contamination and market research and promotion to ensure sufficient demand for recycled composted products.

However, the availability of composting in regional areas to recycle waste (MSW and/or C&I) organics streams is an issue where problems may arise. The relatively low value of compost products does not allow substantial transport costs for source materials to be absorbed. Consequently, composting operations must usually be geographically located near source material to be commercially feasible. Thus, the ability to recycle recovered organics waste produced in regional areas could be limited by availability of local composting infrastructure.

3.4.4 Timber

The current installed capacity for timber recycling was assumed at 300,000 tonnes per annum based on previous resource recovery observed in recycling activity reports. According the recycling activity reports, the main end products of timber recycling are as (a bulking agent or amendment in) compost, soil conditioners, potting mixes and mulches (75 %) and as fuel for cement manufacture (25 %). In the short-term, there will be expanding production of the former (as noted above in relation to composting of green organics), and in the medium term, waste to energy and use of timber as a fuel for this purpose is likely to increase. Thus, timber recycling should not be constrained, directly or indirectly, by infrastructure limitations.

3.4.5 Plastics

The current and future infrastructure capacity for recycling of plastics in South Australia appears more than adequate to meet the forecast resource recovery requirements. Whilst this over-capacity is generally in collection and aggregation rather than separation and beneficiation, there are some plans for infrastructure for value adding as well as increased sorting and recovery capacity. However, data collected from plastic recyclers during the stakeholder consultation suggest current recovery of plastics is already in the order or 35,000 tonnes per annum. This is well in excess (almost double) of the values reported in recycling activity reports, and hence, the forecast resource recovery requirements. Nevertheless, even if this current throughput represented the current resource recovery and this grew by 50% (i.e. same amount between 2008-09 and 2019-20 predicted in the current resource recovery forecasts) existing infrastructure capacity appears adequate to meet resource recovery requirements.

Barriers reported by the industry to expanding sales locally include:

- Sourcing appropriate quality feed plastic;
- Contamination of feed plastics; and
- Lack of local demand for product and cost effective manufacturing.

In this respect, there may be opportunities to assist South Australian recyclers with expanding capacity for local beneficiation of plastic materials.

3.4.6 Paper and cardboard

Virtually all recycled paper and cardboard is currently sent interstate or overseas for re-processing. Thus, like metals most local processing solely involves sorting, shredding and/or baling. Based on the current assessment of infrastructure capacity, South Australia appears well equipped to meet forecast resource recovery requirements. This includes current infrastructure plans to increase sorting capacity. However there appears little interest from the South Australian industry in developing local beneficiation. Feedback from the industry suggested barriers to local beneficiation were:

- Sourcing sufficient material to make local beneficiation viable; and
- Lack of local demand for beneficiated products.

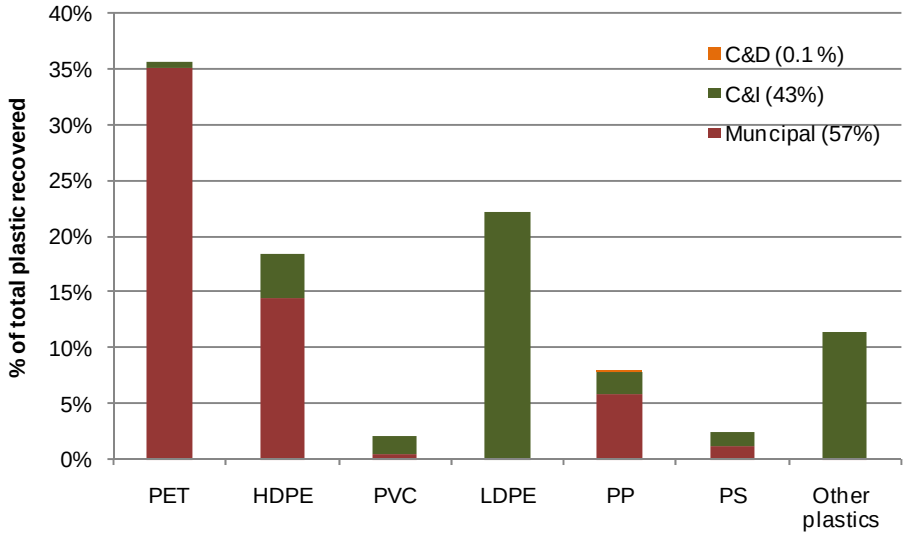


Figure 4.2: Waste stream source for each category of recovered plastic (by weight) based on data reported by 2007-08 study of Recycling Activity in South Australia. Numbers in legend indicate total plastics recovered from each stream

4.2.4 Where they go

The destination – South Australia, interstate or overseas – for each category of recycled plastics is illustrated in Figure 4.3. Again, values are based on data in the 2007-08 study of Recycling Activity in South Australia. This data suggests that the majority of recovered plastics are currently sent interstate or overseas for beneficiation or re-processing except for some HDPE, LDPE, PVC, PP and other plastics which appear to be mainly re-processed in South Australia. However, data reported by the industry suggests that the amount of plastic retained locally for beneficiation could be as high as 40%. Furthermore, export is the next main destination for recovered plastics at around 40 % whilst interstate destinations constitute approximately 20%.

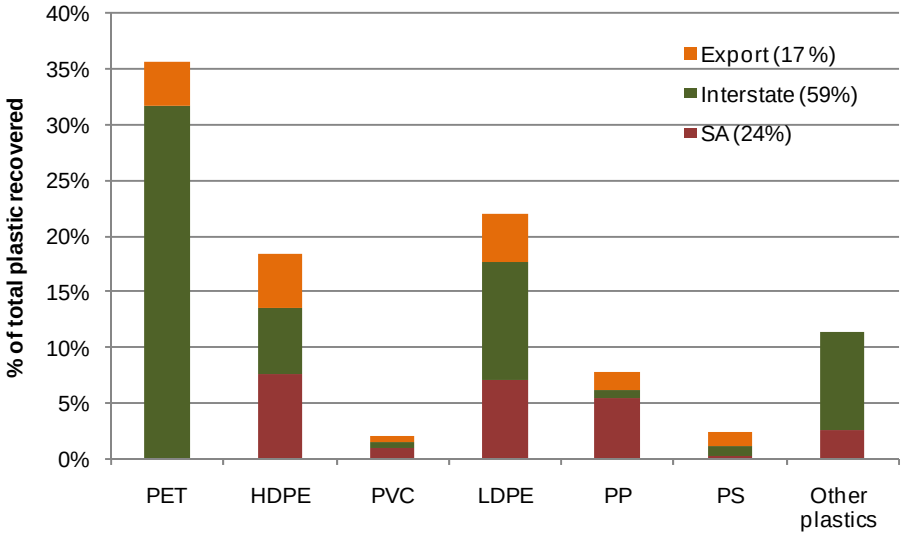


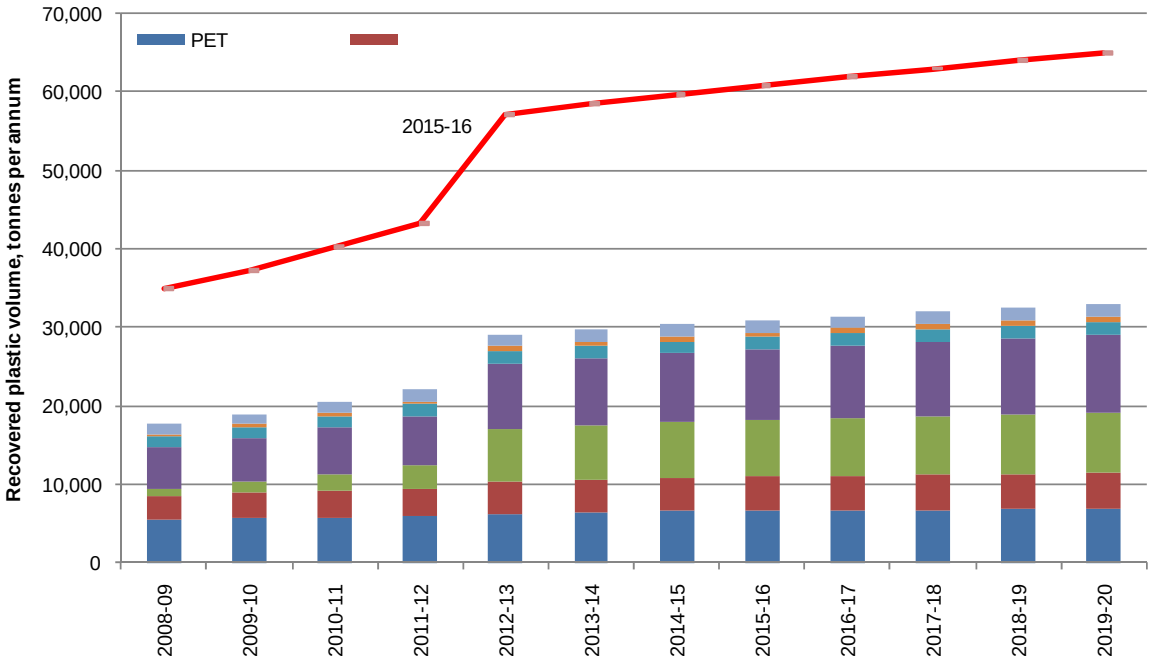
Figure 4.3: Destination of each category of recovered plastic (by weight) based on data reported by 2007-08 study of Recycling Activity in South Australia. Numbers in legend indicate total plastics sent to each destination

4.3 Future recycling activity

Figure 4.4 presents forecasts to 2019-20 of resource recovery of plastics in South Australia. These forecasts were based on 2007-08 recycling activity data and expected growth trends in municipal, C&I and C&D waste generation and collection. These forecasts suggest that recycled plastics recovery could increase 89% by 2019-20. Virtually all of this increased recovery is expected to occur from C&I and municipal waste streams.

Included in Figure 4.4 is an extrapolation of plastics recovery obtained from the South Australian recycling industry, assuming a similar growth levels from reported current throughputs of 35,000 tonnes per annum.

This extrapolation gives a value of total recycled-plastics recovery above 65,000 tonnes per annum by 2019-20. This level of recovery would constitute about half of the current level of total plastics consumption for South Australia (see Table 4.2).


70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Recovered plastic volume, tonnes per annum
PET
2015-16
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
2018-19
2019-20

High density polyethylene (HDPE)	1,692	2,529	391
Polyvinyl chloride (PVC)	769	1,150	178
Low density polyethylene (LDPE) [3]	1,132	1,692	261
Polypropylene (PP)	2,349	3,512	543
Polystyrene (PS) [4]	656	981	151
Other plastics	631	943	146
Glass	56,551	84,531	13,060
Fly ash [5]	6,467	9,667	1,494
Foundry sands [6]	0	0	0
Leather & textiles [7]	0	0	0
Tyres & other rubber	12,017	17,962	2,775
Total	**888,989**	**1,328,833**	**205,309**

1. The masonry material data presented represents an aggregated category from the SA specific LCA and includes asphalt, bricks, concrete and clay, fines, rubble & soil.

2. The mixed paper including newsprint and cardboard data presented represents an aggregated category from the SA specific LCA and includes cardboard & waxed cardboard, liquid paperboard, magazines, newsprint, phonebooks and printing & writing papers.

3. No specific data was available on the GHG impact of recycling LDPE, it has been assumed that the impact is similar to that of HDPE.

4. No specific data was available on the GHG impact of recycling PS, it has been assumed that the impact is similar to that of 'Other plastics'.

5. No specific data was available on the GHG impact of recycling fly ash, it has been assumed that the impact is similar to that of concrete (in the Victorian report) on the basis that fly ash is used as a binder in cement and hence concrete was the most closely related category available. It is possible the CO_2 equivalent savings might be overstated, and caution should be taken in the use of this estimation.

6. No specific data was available on the GHG impact of recycling foundry sands, it has been assumed that the impact is similar to that of soil & sand (in the Victorian report) on the basis that foundry sands are used as sand for compost applications and hence soil & sand was the most closely related category available.

7. No data was available on the GHG impact of recycling leather & textiles.

10 Glossary

CD	Container deposit, sometimes referred to as container deposit legislation or CDL. A refundable charge imposed on a range of beverage containers. The deposit is included in the retail price and refunded when the container is returned to a collection point.
Clinical waste	Waste generated by medical, nursing, dental, veterinary, pharmaceutical or other related activity which is poisonous or infectious; likely to cause injury to public health; or contains human tissue or body parts.
Commercial and industrial waste (C&I)	Comprises solid waste generated by the business sector as well as solid wastes created by state and federal government entities, schools and tertiary institutions. Unless otherwise noted, C&I waste does not include waste from the construction and demolition (C&D) sector.
Construction and demolition waste (C&D)	Includes waste from residential, civil and commercial construction and demolition activities, such as fill material (e.g. soil), asphalt, bricks and timber. C&D waste excludes construction waste from owner/occupier renovations, which are included in the municipal waste stream. Unless otherwise noted, C&D waste does not include waste from the commercial and industrial waste stream.
Garden organics	Organics derived from garden sources e.g. grass clippings, tree prunings.
Greenhouse gasses (GHGs)	For the purposes of this report GHGs are the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydroflurocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6).
High density polyethylene (HDPE)	A member of the polyethylene family of plastics and is used to make products such as milk bottles, pipes and shopping bags. HDPE may be coloured or opaque.
Kerbside collection	Collection of household recyclable materials (separated or co-mingled) that are left at the kerbside for collection by local council collection services.
Low density polyethylene (LDPE)	A member of the polyolefin family of plastics. It is a flexible material and usually used as film for packaging or as bags.
Linear low density polyethylene (LLDPE)	A member of the polyolefin family of plastics. It is a strong and flexible plastic and usually used in film for packaging, bags and for industrial products such as pressure pipe.
Municipal waste	Solid waste generated from domestic (household) premises and council activities such as street sweeping, litter and street tree lopping. Also includes waste dropped off at recycling centres, transfer stations and construction waste from owner/occupier renovations.
Non-ferrous metals	Those metals that contain very little or no iron, e.g. copper, brass, bronze.
Packaging	Plastic material used for the containment, protection, marketing or handling of product.
Polyethylene terephthalate (PET)	A clear, tough, light and shatterproof type of plastic, used to make products such as soft drink bottles, film packaging and fabrics.
Polypropylene (PP)	A member of the polyolefin family of plastics. PP is light, rigid and glossy and is used to make products such as washing machine agitators, clear film

	packaging, carpet fibres and housewares.
Polystyrene (PS)	A member of the styrene family of plastics. PS is easy to mould and is used to make refrigerator and washing machine components. It can be foamed to make single use packaging, such as cups, meat and produce trays.
Polyvinyl chloride (PVC)	A member of the vinyl family of plastics. PVC can be clear, flexible or rigid and is used to make products such as fruit juice bottles, credit cards, pipes and hoses.
Post-consumer material	Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.
Pre-consumer material	Material diverted from the waste stream during a manufacturing processes for reprocessing at a different site. Excluded are waste materials that are reclaimed and reutilised within the same manufacturing processes that generated it as a matter of course to the efficient operation of the site (i.e. process scrap). Examples of this include paper mill 'broke' and plastics 'regrind'.
Recovered material	Material that would have otherwise been disposed of as waste, but has instead been collected and reclaimed as a material input, in lieu of a new primary material, for a recycling or manufacturing process.
Recycling	Material that has been reprocessed from recovered (reclaimed) material by means of a manufacturing process and made into a final product or into a component for incorporation into a product. The term recycling is used to cover a wide range of activities, including collection, sorting, reprocessing and manufacture into new products. It also covers the processing of by-products from manufacturing processes which may otherwise be disposed to landfill, for example bark from plantation timber (for compost), and meat waste from abattoirs (for fertiliser). Materials recovered from both pre-consumer (manufacturing losses) and post-consumer (product end-of-life) sources are defined as being able to be diverted from landfill for recycling. However, waste materials that are reclaimed and reutilised within the same manufacturing processes that generated it as a matter of course to the efficient operation of the site (i.e. process scrap) are not defined as recycling for the purpose of this study.
Reprocessing	Changing the physical structure and properties of a waste material that would otherwise have been sent to landfill, in order to add financial value to the processed material.
Reuse	Reuse involves recovering value from a discarded resource in its original state without reprocessing or remanufacture.
Solid waste	Waste materials ranging from municipal garbage to industrial waste, but excluding gaseous, liquid, hazardous, clinical and intractable wastes.

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Appendix A

Reprocessor questionnaire

QUESTIONS	
1	What was the reprocessed quantity of the material during 2008-09? (tonnes)
2	What is the estimated accuracy of the data? (+/- %)
3	What are the reprocessing losses? (% or tonnes)
4	What is the split (% or tonnes) of packaging vs. non-packaging material?
5	What was the stockpile of the material at 1 July 2008? (tonnes)
6	What was the stockpile of the material at 30 June 2009? (tonnes)
7	Was this stockpiled material (referred to in Q5 & Q6) reprocessed or unreprocessed?
8	What source state did the material come from? (i.e. did any of the material reported in Q1 originate outside of SA?)
9	What source sector did the material come from?
10	If known, what are the source products?
11	What is the split (% or tonnes) between pre & post consumer? (See definitions below)
12	What is the geographic destination market of the reprocessed material?
13	What is the product destination of the reprocessed material? (i.e. what products are the reprocessed material manufactured into?)
14	What is the destination market sector of the reprocessed material? (i.e. what market was the reprocessed material sold to)
15 a	What is your estimation of the size of the recycled materials markets?
15 b	What is your estimation of the strength of the recycled materials markets?
16	What is the potential to expand reprocessing capacity? Are there any barriers or inhibitors to further growth of recycled material markets?
17	Please comment on any changes in the quantity of the material recycled from the 2007-08 financial year.
18	Please comment on any direct 'reuse' of the material by the market, i.e. where no reprocessing was required (this material should not contribute to the data supplied in Q1).
19	Please include comments on recycling activity trends, market access and any inhibitors to increased activity.
20	Do you know of other players in your market?