

Statewide Waste and Resource Recovery Infrastructure Plan Progress Report

July 2016 to June 2018

On behalf of the waste portfolio, Sustainability Victoria would like to acknowledge all the local governments and reprocessors that completed the survey that informed this report.

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Statewide Waste and Resource Recovery Infrastructure Plan
Progress Report – July 2016 to June 2018

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Introduction

This Progress Report provides an update on implementation of the **Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP)** from July 2016 to June 2018. It reflects the collective work by Victoria's waste and resource recovery portfolio (Portfolio), made up of the Department of Environment, Land, Water and Planning (DELWP), Environment Protection Authority Victoria (EPA), Sustainability Victoria (SV) and seven Waste and Resource Recovery Groups (WRRGs) (Figure 1).

The report is in two sections:

- ▶ Section 1:
Activity update: Summary of the Portfolio's key achievements for the 2017-18 financial year¹.
- ▶ Section 2:
Progress update: Monitoring of performance indicators using data collected for the 2016-17 financial year.

This report provides a snapshot and, where possible, measures changes to monitor the effectiveness of the SWRRIP since it was released in 2015 and how SWRRIP implementation may be impacting the waste and resource recovery sector. The data and information gathered through the evaluation process is used to inform Government program planning and to guide continuous improvement.

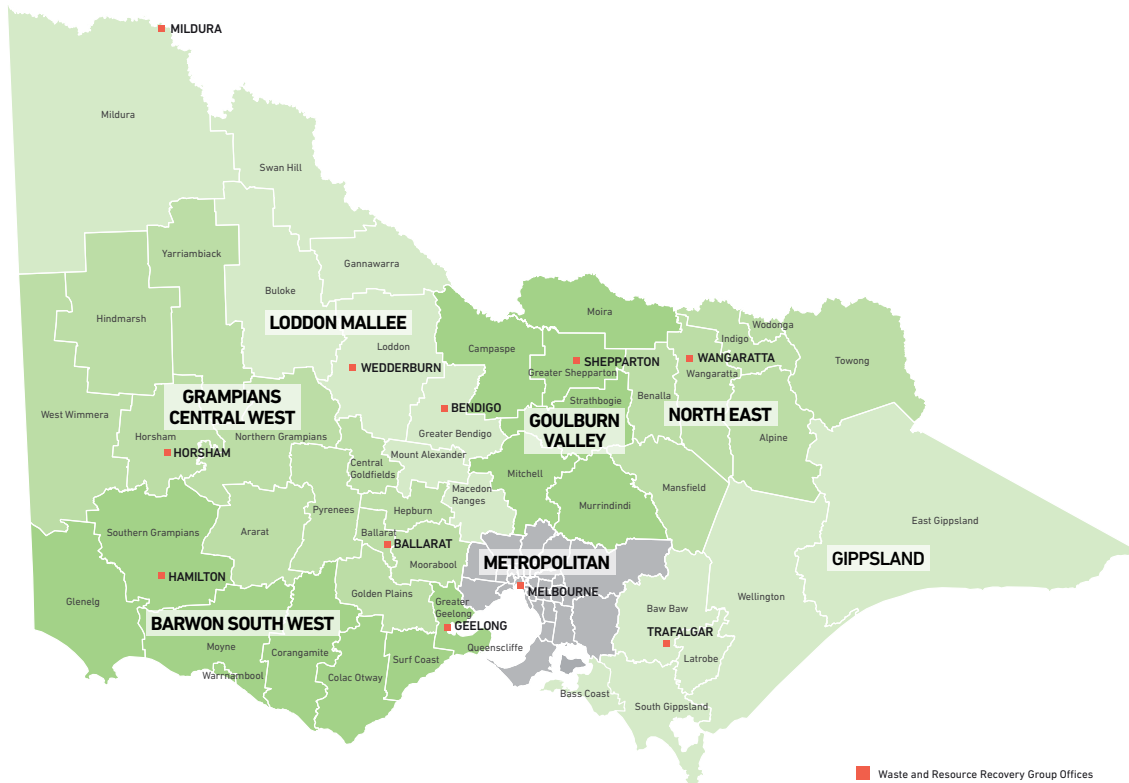
The report examines infrastructure investment and management activities of local government and reprocessors as well as the effectiveness of the work of Victorian Government agencies.

\$41 million of investment in waste and resource recovery infrastructure was reported by survey respondents for 2016-17, with 33 new jobs and an additional 66,000 tonnes of reprocessing capacity established – with organics and plastic a focus. The Victorian Government committed \$23 million to waste and resource recovery in 2016-17. We also found that many local government and reprocessors are using our plans, resources and data to inform their infrastructure planning. Integration across the Victorian government is improving with the SWRRIP informing strategic planning by other departments.

Whilst the overall diversion rate remains at 67%, an additional 190,000 tonnes of material was managed and 130,000 tonnes of this was recovered for recycling. There has been changes in patterns of materials being managed – we saw the highest volume of organic material recovered in Victoria since collection started, but declines in the amount of paper and glass both managed and recovered.

We expect to see continued improvements in how state and local government and industry plan, develop and manage waste and resource recovery infrastructure and services to achieve positive change and increased diversion from landfill. The Victorian Government will continue to strive to ensure its work is increasingly relevant and useful for the sector.

FIGURE 1: VICTORIA'S WASTE AND RESOURCE RECOVERY REGIONS



1 Portfolio Achievements for the 2016 - 17 financial year are documented in the SWRRIP Progress Report July 2015 to June 2017

What is the SWRRIP?

The SWRRIP is a gazetted document, published by SV. It is a 30-year roadmap guiding planning for waste and resource recovery infrastructure in Victoria. It has four goals to ensure an integrated waste and resource recovery system (Figure 2).

FIGURE 2: THE SWRRIP GOALS – WHAT WE WANT TO ACHIEVE IN 30 YEARS.

<p>GOAL 1</p> <p>Landfills will only be for receiving and treating waste streams from which all materials that can be viably recovered have been extracted.</p>	<p>GOAL 2</p> <p>Materials are made available to the resource recovery market through aggregation and consolidation of volumes to create viability in recovering valuable resources from waste.</p>
<p>GOAL 3</p> <p>Waste and resource recovery facilities including landfills are established and managed over their lifetime to provide best economic, community, environment and public health outcomes for local communities and the state and ensure their impacts are not disproportionately felt across communities.</p>	<p>GOAL 4</p> <p>Targeted information provides the evidence base to inform integrated statewide waste and resource recovery infrastructure planning and investment at the state, regional and local levels by industry, local government, waste and resource recovery groups, government agencies and the broader community.</p>

Implementing the SWRRIP

The SWRRIP is part of Victoria's waste and resource recovery infrastructure planning framework and is complemented by seven regional **Waste and Resource Recovery Implementation Plans (Regional Plans)**. Regional Plans identify infrastructure needs and how they can be met over a 10-year period.

Implementation of the plans are further supported by a suite of enabling initiatives (see Figure 3). Since the SWRRIP's release in July 2015, the Victorian Government has invested more than \$100 million of funding to improve waste and resource recovery across the state.

The challenges of measuring impact

The Victorian Government's plans, strategies and initiatives provide guidance, support evidence-based planning and remove barriers to investment. The Portfolio aims to provide long term surety to inform waste and resource recovery sector decisions and build confidence and certainty. Although our work may contribute to decisions, there are many other factors which may influence investors, operators and planners such as:

- Industry and local governments' own planning and investment cycles and needs.
- External factors which vary from year to year, both positively and negatively – e.g. commodity price changes, climate fluctuations impacting organics generation and technological advances increasing recycling rates.

These factors mean that measuring the direct impact of our work is challenging and we cannot necessarily attribute changes to a single government initiative or action.

Recycling sector challenges

From 1 January 2018, China restricted import of a range of low quality or unsorted waste materials, including plastics and paper/ cardboard. China now requires imports of these materials to have a contamination rate of 0.5 per cent or less.

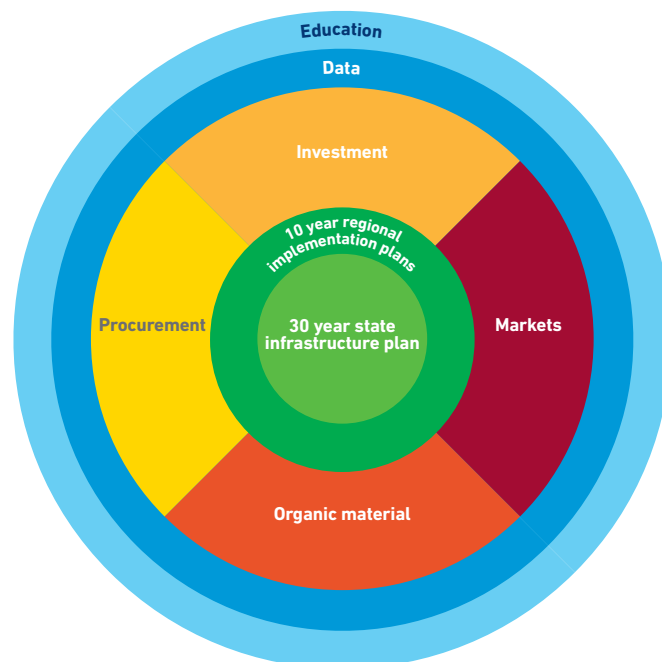
China previously received 55 per cent of the world's total volume of waste paper and plastics for recycling. The policy change caused a major shock in the global recycling market – both demand and prices for paper and plastic have fallen. Although the amount of paper and plastics exported to China represent a small proportion of total waste recovered in Victoria, the market shock has had a significant impact on local government waste services. China has announced further import restrictions to be introduced over 2018-19.

In response to this issue the Victorian Government released and funded the **Recycling Industry Strategic Plan (RISP)**, which seeks to "reduce waste and costs to households, and build a more resilient recycling sector in Victoria. The plan will create a more stable and productive recycling sector, improving the quality of recycled materials and developing new markets for them."

The focus of the RISP is kerbside recycling, although its actions are expected to benefit the entire recycling sector. Implementation of the RISP has commenced and its impact will be felt over the coming years.

The next SWRRIP Progress Report will reflect this challenge and the Government's response.

FIGURE 3: ENABLING INITIATIVES SUPPORTING THE SWRRIP



Section 1: Activity update – Key Achievements for 2017-18

During the 2017-18 financial year, the Portfolio undertook over 100 projects supporting the implementation of the SWRRIP, Regional Plans and other initiatives. Table 1 outlines some key achievements delivered during this period. Refer to individual organisations' Annual Reports for further information.

TABLE 1: PORTFOLIO HIGHLIGHTS FOR 2017-18

What we're doing	Portfolio Highlights for 2017-18 (lead organisations appear in brackets)
Integrating statewide, regional and local planning	<ul style="list-style-type: none"> › Amended the SWRRIP to reflect regional infrastructure needs and priorities from the Regional Plans (SV) › Consulted on the e-waste landfill ban policy and developed the education campaign and the statewide e-waste infrastructure collection network to support implementation of the ban (Portfolio) › Responded to China's new trade policies by supporting the distribution of a \$13 million package for councils and industry for kerbside collections of household recycling and published the Recycling Industry Strategic Plan (July 2018) (Portfolio) › Undertook contingency planning activities including plan development, training and / or responding to localised challenges (WRRGs)
Improving data and supporting evidence-based decision making by state and local government and industry	<ul style="list-style-type: none"> › Improved the Waste Data Portal to provide interactive mapping, which helps identify where Victoria's waste streams are being generated and managed. This includes Kerbside Waste and Recycling Data for all 79 councils and Victorian Biomass Residual Generation Estimates Waste (SV) › Publicly mapped Victoria's biomass resources through the Australian Renewable Energy Mapping Infrastructure platform to support development of new bioenergy projects (SV) › Undertook research and/or business case development to improve understanding of priority waste streams and opportunities to support planning and project development (Barwon South West, Gippsland, Goulburn Valley, Loddon Mallee and North East WRRGs)
Increasing community and business knowledge and understanding of recycling and waste as an essential service	<ul style="list-style-type: none"> › Hosted Sharing Our Stories waste education conference (SV and Metropolitan WRRG) › Published an 'Engaging with Diverse Communities' kit and ran workshops with councils and key stakeholders on engaging with diverse communities covering kerbside, hardware services and away-from-home recycling (Metropolitan WRRG) › Delivered waste education campaigns and engaged with communities, business and industry groups about household recycling and composting. (Grampians Central West, Loddon Mallee and Metropolitan WRRGs) › Promoted Loddon Mallee Waste App raising awareness about what can/cannot be recycled (Loddon Mallee WRRG)
Supporting increased allocation and preservation of land and buffers for waste and resource recovery activities	<ul style="list-style-type: none"> › Reviewed regional waste and resource recovery sites and land use planning controls and worked with local governments to identify and protect sites as needed (WRRGs) › Responded to strategic and statutory land use planning proposals to ensure that waste and resource recovery infrastructure is considered (SV and WRRGs)

What we're doing

Portfolio Highlights for 2017-18 (lead organisations appear in brackets)

Supporting planning and investment in, and better management of, waste and resource recovery infrastructure and services

- Released infrastructure funding rounds including:
 - Resource Recovery Infrastructure Fund (SV) – 14 metropolitan projects received \$5 million, 13 regional and rural projects received \$4.2 million
 - Waste to Energy Infrastructure Fund (SV) – four projects received \$2 million
 - Grants to improve recycling and reduce waste to landfill (\$200,000). (Loddon Mallee WRRG)
 - Grants for food and plastics waste trials (\$80,000) allocated to six projects. (Metropolitan WRRG).
- Undertook strategic assessments and planning for local government resource recovery centres (Barwon South West, Gippsland, Goulburn Valley and Grampians Central West WRRGs)
- Engaged extensively with local government and industry to understand potential for new residual waste processing technologies for Melbourne to be considered for collective procurement for local government waste (Metropolitan WRRG)
- **Investment Facilitation Service** facilitated 16 resource recovery projects which are investing over \$12 million to install 25,000 tonnes of new processing capacity and will generate 45 full-time jobs (SV)
- Published guidance to support infrastructure and service planning, management and investment (SV):
 - **Optimising Kerbside Collection Systems Guide**
 - **Guide to Biological Recovery of Organics**
 - **Resource Recovery Technology Guide**
- Released a 12-month interim Waste Management Policy to mandate improved safety standards at waste and resource recovery facilities (DELWP) (*a final policy has since been released*)
- Released the **Management and storage of combustible recyclable and waste materials – Guideline** (EPA)
- Commenced Resource Recovery Facilities Audit Taskforce targeting high risk sites to ensure compliance and community safety (EPA)

Increasing recovery and improving management of priority materials

- Developed procurement strategies and/or progressed collaborative procurements with local government for waste and recycling services (WRRGs)
- Commissioned Regional Organics Strategy to identify beneficial reuse opportunities and to reduce organics to landfill (Loddon Mallee WRRG)
- Developed priority materials plans for food organics and garden organics and hard to dispose of items found at resource recovery centres (Barwon South West WRRG)

Supporting the growth of stronger and more resilient markets

- Released \$2 million Research & Development (R&D) fund to help develop markets for Victoria's recyclable waste (SV)
- Provided market development support to local government and business (Loddon Mallee WRRG)
- **Five R&D projects**, (funded by SV and Australian Packaging Covenant Organisation) were completed to increase the use of recovered glass fines and/or flexible plastics in products
- Hosted Sustainable Procurement Masterclass with local government and state agencies on how to increase the amount of recycled material in road construction procurement (SV)
- Completed Victorian end-of-life Photovoltaic (PV) systems market flows and processing technology analysis and established the national PV Stewardship Working Group (SV)

Section 2: Progress Update: Performance indicator data for 2016-17

Performance indicators have been developed to enable monitoring and evaluation (M&E) of the SWRRIP and its actions.

Methodology

Data for the 2016-17 financial year was collected from a range of sources, including an online survey of local governments and reprocessors. 101 responses were received from 129 organisations, representing a 78% response rate (see Table 2).

TABLE 2: SWRRIP M&E SURVEY RESPONSE RATE – RESPONDENT GROUPS

Respondent groups	Contacted	Completed responses	Response rate
Local Government	69	58	84%
Reprocessors	60	43	72%
Total	129	101	78%

The survey has the following limitations:

- › only one person responded from each organisation
- › responses are self-reported

Additional data was collected through desktop research, other reports and the Victorian Local Government Annual Waste Services Survey (VLGAWSS) and Victorian Recycling Industries Annual Survey (VRIAS).

Results

Key results relating to the performance indicators are summarised below for the following areas:

- › Infrastructure planning and investment
- › Integration across government
- › Land use planning
- › Managing material through infrastructure and services
- › Facility improvements
- › Market demand
- › Materials recovered or landfilled

Infrastructure planning and investment

What are we measuring?	What will change over time?
<p>Indicator: Number of local governments and industry making planning and investment decisions informed by waste and resource recovery infrastructure data and information (<i>links to SWRRIP Goal 4</i>).</p>	<ul style="list-style-type: none"> Local government and industry are using plans, strategies, data and guidance produced by government to inform planning and investment. Government materials are considered useful information sources.

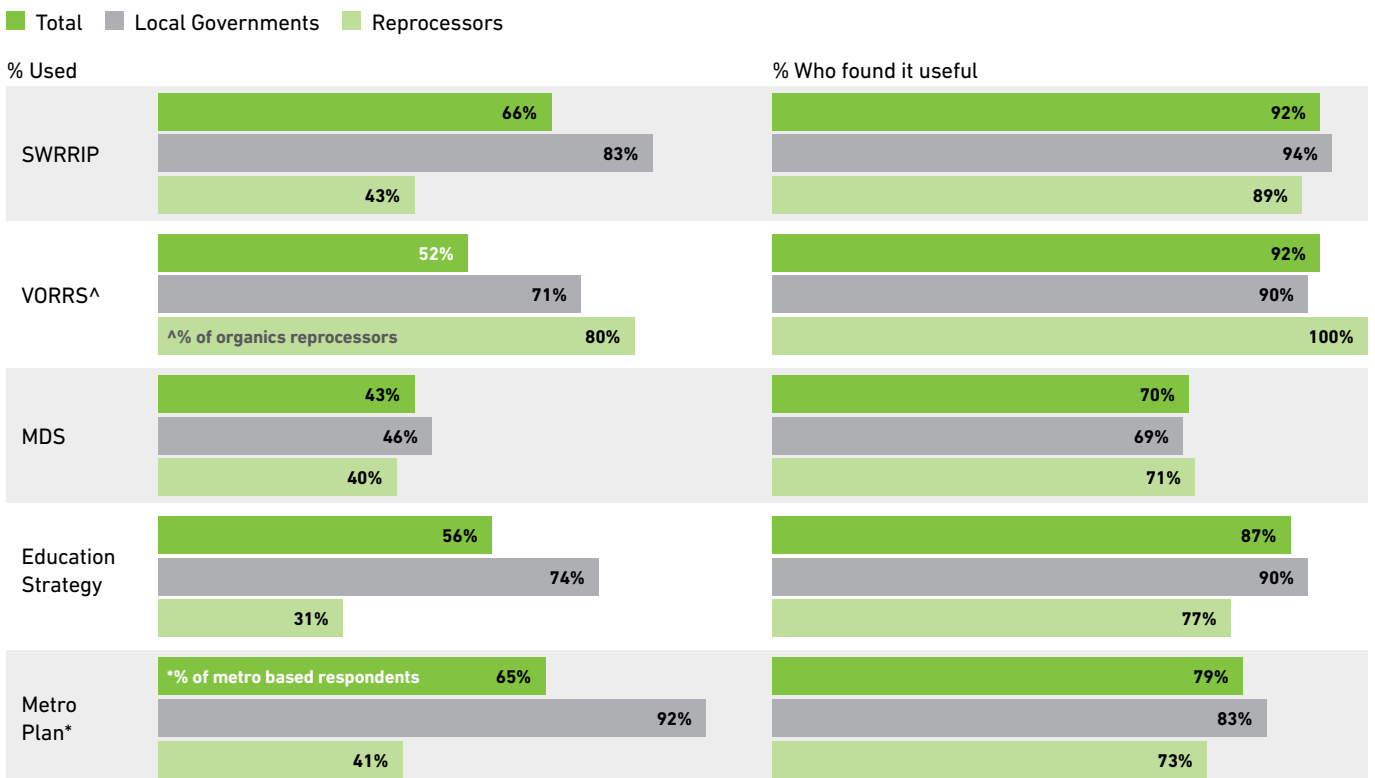
The survey asked questions to understand how the sector thought our work was supporting their organisation:

- Plans, data, guidance and information provided by the Victorian Government contributed positively to confidence in long term planning and investment in waste and resource recovery infrastructure – particularly for local government.
- The majority of respondents agreed that the Victorian Government has set a clear, long term direction for waste and resource recovery infrastructure and service planning.

The survey asked if respondents used various Victorian Government plans, data and resources to inform waste and resource recovery planning, investment and decision-making in 2016-17. Figure 4 outlines the reported usage. Key results:

- a total of 564 reported uses of different plans, strategies, resources, data and analysis
- 66 respondents reported use of the SWRRIP, with 92% rating it as 'useful'
- 52 respondents reported use of the Victorian Organics Resource Recovery Strategy (VORRS), with 92% rating it as 'useful'
- 69% of the 48 metropolitan based respondents reported use of the Metropolitan Waste and Resource Recovery Implementation Plan, with 82% rating it as 'useful'
- 43 respondents reported use of the Victorian Market Development Strategy for Recovered Resources (MDS), with 70% rating it as 'useful'
- 55 respondents reported use of the Victorian Waste Education Strategy, with 87% rating it as 'useful'.

FIGURE 4: USE OF GOVERNMENT PLANS AND STRATEGIES (2016-17).



What are we measuring?

What will change over time?

Indicator: Investment in new or upgraded infrastructure and a net increase in jobs (*links to SWRRIP Goal 3*).

Indicator: Industry and local government are undertaking planning to invest in new or upgraded infrastructure that is consistent with the strategic directions of the SWRRIP (*links to SWRRIP Goal 3*).

- Increased investment in infrastructure that supports the SWRRIP goals
- More jobs in the waste and resource recovery sector
- More project planning and development activity.

Integration across government

What are we measuring?

What will change over time?

Indicator: Government departments and agencies have strategies, plans, programs and functions that are consistent with the strategic directions of the SWRRIP (*links to SWRRIP Goal 4*).

- Relevant planning by government supports the SWRRIP goals.

The survey asked respondents if they undertook planning to invest or invested in new or upgraded waste and resource recovery infrastructure in the 2016-17 financial year. Respondents could provide information for up to three priority projects. Key results included:

- Overall, 55 respondents reported undertaking planning or investing in a total of 100 different projects - 45 'completed', 18 'under construction' and 36 'in planning'.
- For the 'completed projects':
 - 25 were by local government and 20 by reprocessors.
 - Capital expenditure was reported for 37 projects with a total value of \$41 million.
 - Local government reported over \$5 million spent on 21 projects, including \$2.8 million on resource recovery centres (RRCs) and \$2.5 million on licenced landfills (see Figure 5).
 - Reprocessors reported expenditure of \$35 million on 16 projects, \$31.7 million to seven organics projects (including one large project) and \$3.5 million on plastics projects (see Figure 6).
 - 33 jobs were created across 12 projects.
 - 12 reprocessor projects added 66,000 tonnes of capacity – over 80% of the increase was related to organics.

A three-point scale was applied to instances in which a government document referenced the SWRRIP to determine the consistency of the outcome with the SWRRIP strategic directions. It is a broad rating and a qualitative determination was made by SV.

- Three plans / strategies⁴ included references and content outcomes relating to SWRRIP and waste and resource recovery in 2016-17. All three received a Rating 1 'Consistent with the strategic directions of the SWRRIP'.
This brings the total number of government plans / strategies linking to the SWRRIP since July 2015 to five
- Five works approval referrals from EPA were responded to by SV in 2016-17:
 - Four were rated as 'Consistent with the strategic directions of the SWRRIP' – three did not progress their proposed development
 - One was rated 'not consistent with the strategic directions of the SWRRIP'. However, the proponent did not pursue their proposed development.

This brings the total number of EPA works approvals responded to by SV since July 2015 to nine.

FIGURE 5: PROJECTS 'COMPLETED' BY LOCAL GOVERNMENT (2016-17)²

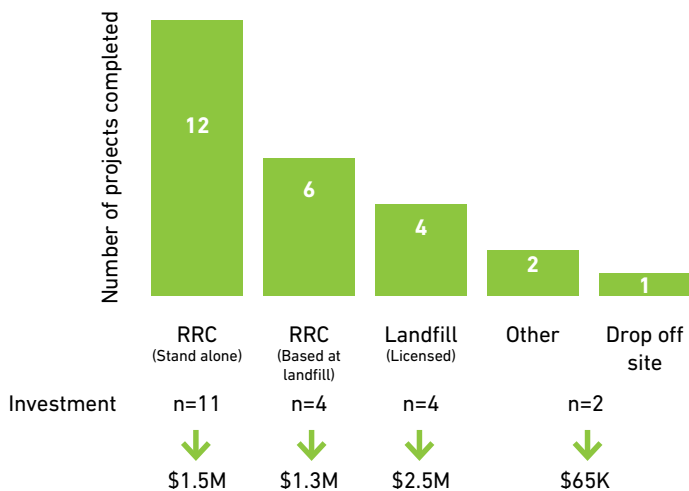
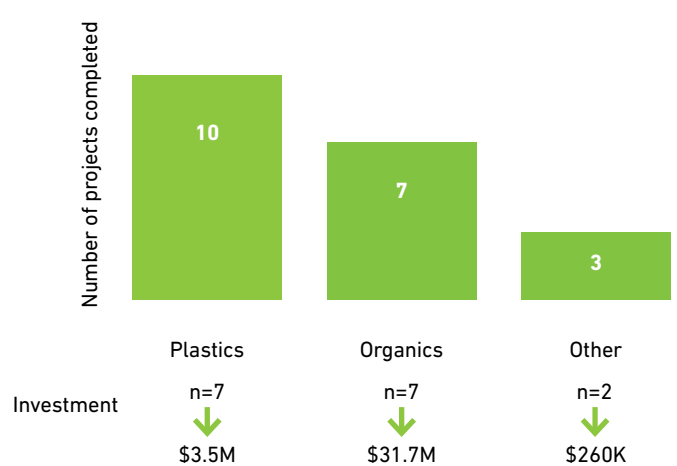


FIGURE 6: PROJECTS 'COMPLETED' BY REPROCESSORS (2016-17)³



² n = number of projects completed

³ n = number of projects completed

⁴ Plan Melbourne 2017-50, Infrastructure Victoria Strategy, Better Apartment Design Standards

Land use planning

What are we measuring?	What will change over time?
<p>Indicator: Relevant local governments and planning authorities are considering waste and resource recovery hubs or sites of specific interest and reflecting them in Precinct Structure Plans and Local Planning Schemes (<i>links to SWRRIP Goal 3 and Goal 4</i>).</p>	<ul style="list-style-type: none"> › Suitable waste and resource recovery sites will be progressively protected through land use planning schemes. › Planning will ensure unsuitable land uses are not established with, or near waste and resource recovery facilities

We asked local governments with State Hubs of Importance (22 are identified in the SWRRIP, some crossing local government boundaries) if they undertook strategic land use planning activities for that hub in 2016-17 (multiple responses could be provided).

- › 12 of the 24 local governments with State Hubs responded
- › Land use planning activity was reported for 6 of the 22 state hubs:
 - Two were 'recognised' explicitly in a strategic land use planning documents.
 - Two were 'considered' during the development of strategic land use planning documents.
 - Two had 'planning controls applied' to ensure buffers are maintained.

SV was involved with two planning scheme amendments that had outcomes relating to the SWRRIP in 2016-17 – both were rated by SV as being 'Consistent with the SWRRIP strategic directions'. This brings the total number of planning scheme amendments related to the SWRRIP since July 2015 to five.

Managing material through infrastructure and services

What are we measuring?	What will change over time?
<p>Indicator: Local government is supporting improved material stream management consistent with SWRRIP that provides the best outcomes for local government and community (<i>links to SWRRIP Goal 2</i>).</p>	<ul style="list-style-type: none"> › Increased recovery of material streams through improved service access and operations. › Greater aggregation and consolidation of materials to achieve quantities for reprocessing through collaborative procurements.

Kerbside services

The **Victorian Local Government Annual Waste Services Report** provides a Victoria-wide snapshot of service access⁵ for households with commingled recycling and garden organics (as compared against garbage services). Baseline data indicates that:

- › access to recycling services has remained stable since 2014-15 and is very high with 98.1% of properties in 2016-17 with access to garbage services also having access to commingled recycling services.
- › access to garden organics recycling services has increased by over 5.0 percentage points since 2014-15 with 56% of properties with access to garbage services also having access to garden organics recycling services (see Figure 7).

Resource Recovery Centres (RRCs)

- › 31 local governments reported 83 operational changes made at RRCs in 2016-17 to increase material recovery, including:
 - 25 'improved recycling signage'
 - 19 'expanded range of materials accepted'. The most common materials were e-waste, garden organics, plastics (expanded polystyrene) and paper / cardboard
 - 16 'reconfigured site to encourage drop-off recyclable material prior to disposal'. Materials impacted included e-waste, paper/ cardboard, mattresses, motor oil, garden organics
 - 12 'changed pricing to encourage recycling over disposal'. Materials included mattresses, e-waste, fluorescent tubes / globes, plastics (flexible) and residual waste
 - 8 'established systems to collect materials from other locations and then aggregate them as a central site', the most common material was e-waste
 - 3 increased daily operating hours.

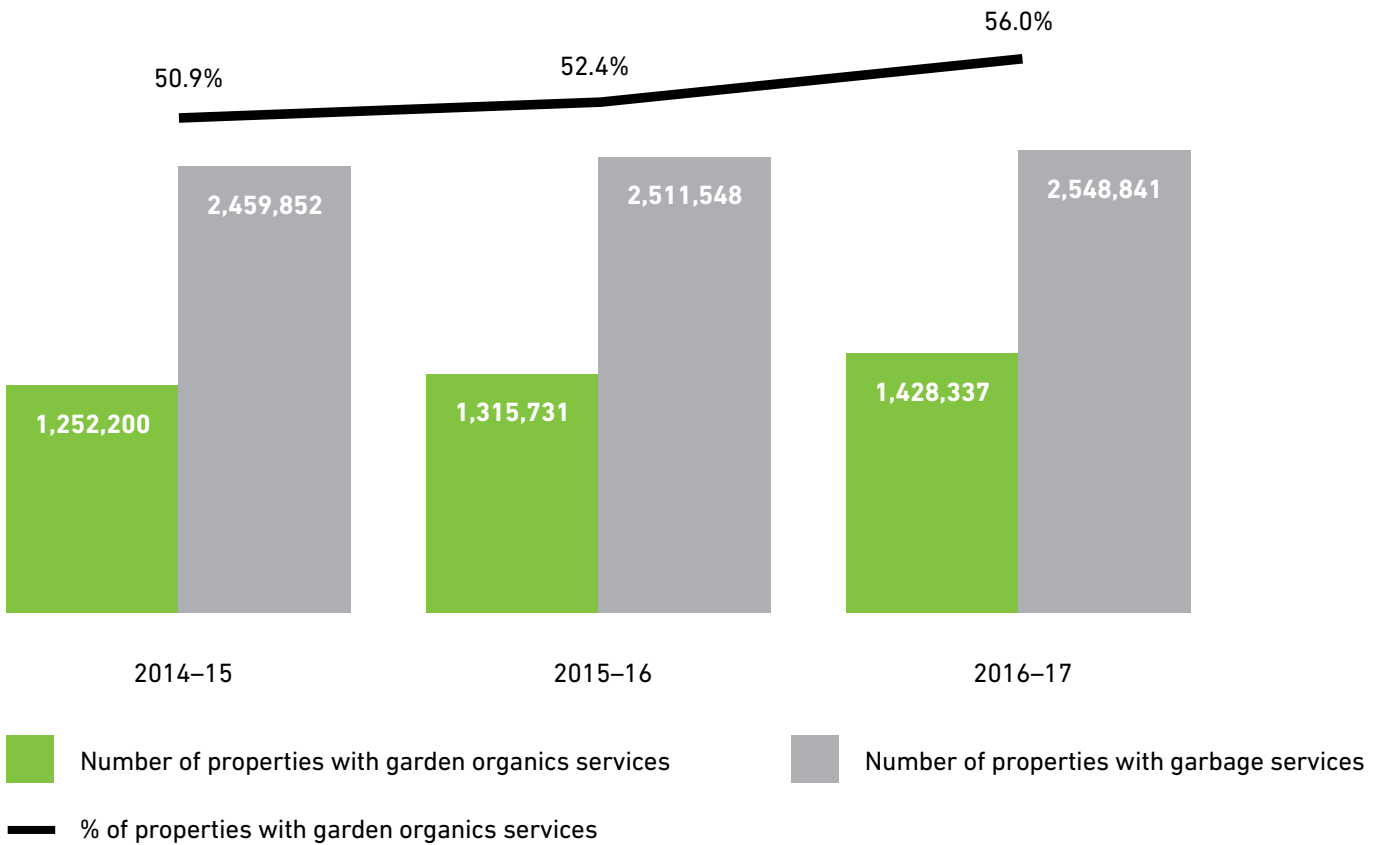
⁵ Access' describes that a service is provided. It includes opt in services that some councils may have. It does not record household take up of the service.

Waste Services procurements

Local governments were asked about procurement processes completed in 2016-17 for any waste and resource recovery services:

- 38 service procurements were undertaken by 20 local governments
 - 24% were for organics (6 garden organics and 3 food organics / garden organics)
 - 16% were for RRC operation
 - 13% were for garbage services
 - 11% were for commingled recycling
 - 11% were for landfill operation services
 - 8% were for hardwaste services
 - 18% were for 'other' services.
- Increasing resource recovery was an 'evaluation criteria' for 47% of procurements, most notably for RRCs.
- 24% of the procurements were joint or collaborative

FIGURE 7: HOUSEHOLDS WITH ACCESS TO GARDEN RECYCLING SERVICES



Facility improvements

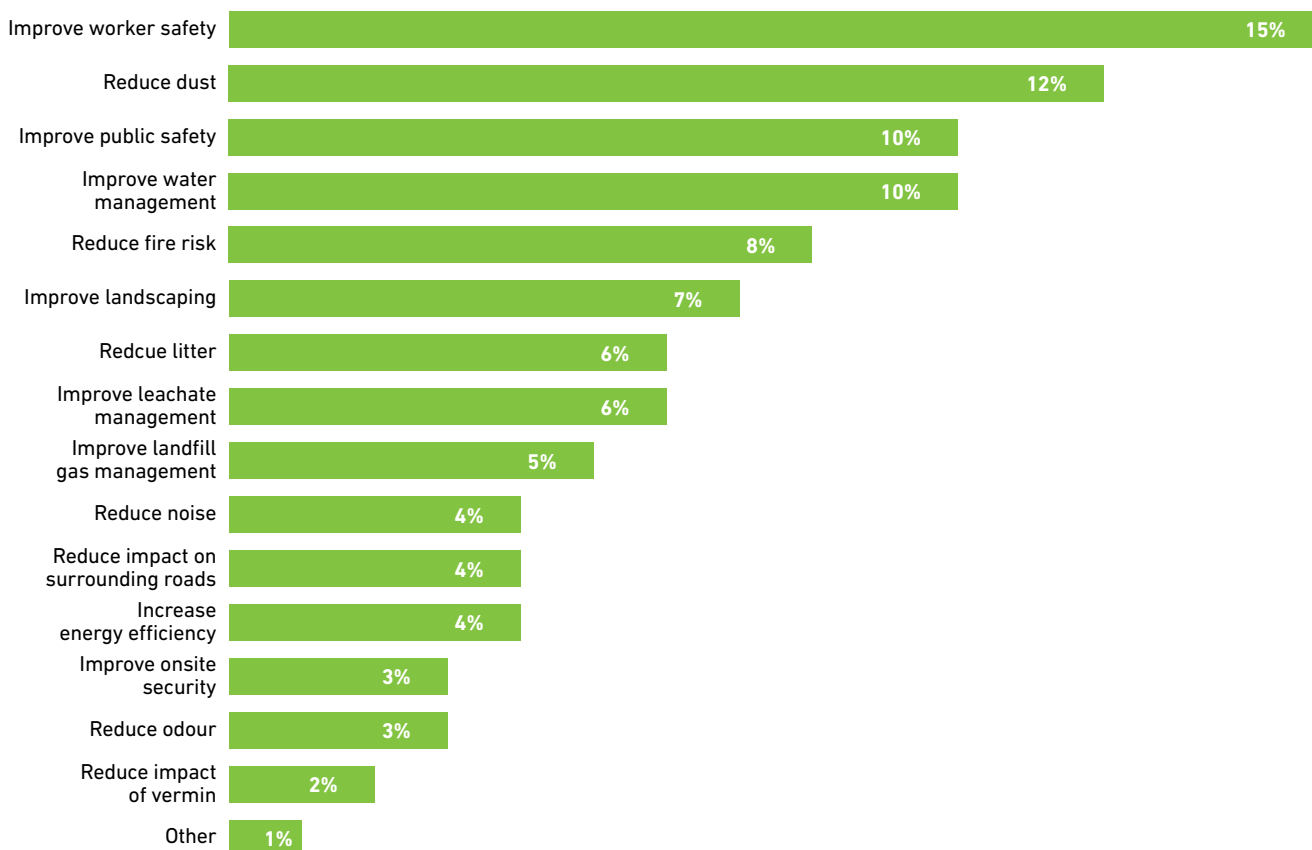
What are we measuring?	What will change over time?
<p>Indicator: Environmental, public health and/or amenity performance of waste and resource recovery facilities has improved (<i>links to SWRRIP Goal 3</i>).</p>	<p>› Improved performance and reduced impacts of infrastructure on the environment, public health and amenity.</p>

The survey asked respondents about projects undertaken in 2016-17 to improve the environmental, public health and amenity performance of facilities. Respondents could provide information for up to three priority projects:

- › Over half of the 101 respondents reported they collectively undertook 82 improvement projects. This group included 40% of local governments and 67% of reprocessors.
- › 44% of the 36 local government projects related to RRCs and 44% to licensed landfills.
- › Of the 46 reprocessor projects
 - 30% were by plastics reprocessors
 - 24% by organics reprocessors
 - 24% by aggregate, masonry and soils reprocessors.

Respondents provided objectives for their projects (multiple responses could be provided). See Figure 8 for the categorisation of the 237 reported objectives.

FIGURE 8: PROJECT OBJECTIVES – ALL RESPONSES (2016-17)



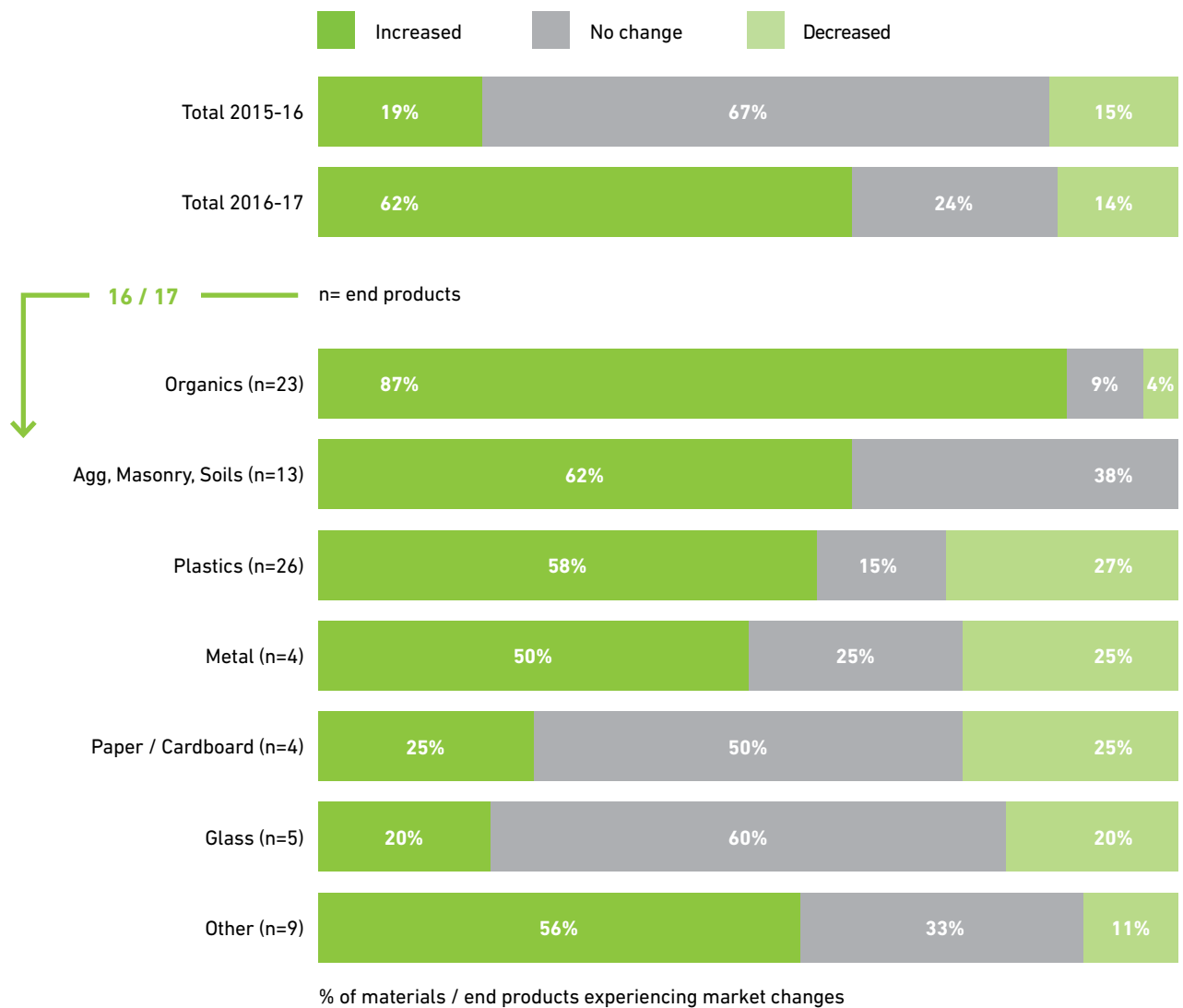
Market demand

What are we measuring?	What will change over time?
<p>Indicator: Industry report increasing market demand for end products from priority materials (<i>links to SWRRIP Goal 2</i>).</p>	<p>➤ Market demand for organics and other priority materials is increasing.</p>

Forty reprocessors provided market information on 84 specific materials / end products⁶. Key results include:

- 62% of materials / end products were reported to have increased in market demand⁷ in 2016–17 (see Figure 9).
 - For these materials, changes were felt mostly in local/regional markets followed by Victorian markets.
 - For materials / products reported to have experienced a decrease in market demand, changes were felt mostly in international markets.

FIGURE 9: PERCENTAGE OF MATERIALS AND END PRODUCTS EXPERIENCING MARKET CHANGES (2015-16 AND 2016-17)



⁶ This data is accurate to end June 2017 – impacts of changes in China’s policy from January 2018 was not measured in this survey.

⁷ Reported trends relate to what individual organisations experienced, not the market as a whole.

Materials recovered or landfilled

What are we measuring?	What will change over time?
<p>Indicator: Overall diversion rate from landfill has improved (all materials, including organics). <i>(Links to SWRRIP Goal 1 and Goal 2).</i></p>	<ul style="list-style-type: none"> › A higher percentage of all materials are being diverted from landfill › A higher percentage of available organic material recovered

Tables 3 and 4 provide high level information about total waste managed and the recovery of materials for recycling (including energy recovery)⁸, drawn from the **Victorian Recycling Industry Annual Reports (VRIAR)**⁹.

TABLE 3: VICTORIA'S TOTAL WASTE VALUES

Description	2015–16 (t)	2016–17 (t)	Difference (t)
Total waste managed	12.67m	12.87m	+190,000
Total waste sent to landfill	4.19m	4.25m	+60,000
Total materials diverted for recycling	8.49m	8.62m	+130,000
Diversion rate¹⁰ (all materials)	67%	67%	No change

TABLE 4: VICTORIA'S ORGANICS¹¹ WASTE

Description	2015–16 (t)	2016–17 (t)	Differences (t)
Total organics managed	2.49m	2.58m	+ 90,000
Total organics sent to landfill	1.45m	1.48m	+30,000
Total organics recovered	1.04m	1.10m	+60,000
Recovery rate (organics)¹²	42%	43%	+ 1 percentage point

Key findings of VRIAR include:

- › Waste per capita remained at 2.1 tonnes.
- › 1.6% more material recovered was recovered than in the previous year.
- › 1.10 million tonnes of organics were recovered for reprocessing – a 6% increase from 2015-16.
- › Recovered aggregate, masonry and soil remained largely unchanged at 4.1 million tonnes compared to 2015-16.
- › 1.7 million tonnes of metals were recovered – an increase of 19% from 2015-16 and the highest amount of metal recovered in Victoria since collection started.
- › The amount of recovered glass decreased by 21% to 137,000 tonnes.
- › The amount of plastics recovered was 131,000 tonnes or 12% less than in 2015-16.
- › The amount of paper and cardboard recovered decreased by 7% to 1.44 million tonnes.

⁸ Totals may not add up due to rounding.

⁹ This data is accurate to end June 2017 – impacts of changes in China's policy from January 2018 was not measured in this survey.

¹⁰ Diversion rate = Total materials recovered divided by total waste managed (including non-recoverable waste streams).

¹¹ Tonnes of organic waste landfilled are estimated from landfill composition audits (2009)

¹² Recovery rate = Total organics recovered divided by total organics managed

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