



Victorian Waste Education Strategy

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Victorian Waste Education Strategy
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Minister's Foreword

Every Victorian can play a role in ensuring we manage our waste responsibly and sustainably. How much waste we generate and how we dispose of it – either through recycling or composting – has a direct impact on the environment and health of our communities.

Victorians generated more than 11 million tonnes of waste in 2013-14. We recovered eight million tonnes achieving a recovery rate of 70%. The remaining three million tonnes highlights that we need to reduce our reliance on landfills in the long term.

Projections show that as Victoria's population grows, our infrastructure will need to manage approximately 21 million tonnes of waste annually by 2043. Victoria needs a consistent and coordinated statewide approach to waste and resource recovery education over the next decade.

Despite extensive investment in waste education, success in addressing critical long term issues has been inconsistent across state and local government, industry, schools, community organisations and third party providers.

Ongoing engagement and consultation with the community on waste infrastructure has led to differing levels of knowledge of waste management, treatment and disposal across the state.

There is also a gap in the provision of education for small to medium enterprises and commercial and industrial waste generators.

The Victorian Government recognises that growth in our population presents challenges for our waste sector and aims to better coordinate waste education now and in the future.

The *Victorian Waste Education Strategy* will deliver an action plan to inform, engage and improve Victorians' behaviour towards waste, littering, illegal dumping and recycling.

Furthermore, education programs will enhance the community's understanding of the importance of waste as a utility.

Increasing public awareness of the environmental impacts of waste contamination and litter will also help to improve our state's waste and resource recovery efforts.

Through the *Victorian Waste Education Strategy*, state and local government, industry, schools, community organisations and third party providers will have greater clarity around their roles and how they contribute to waste education programs for Victorians.

These partners will play an important role in delivering waste education programs and I look forward to working with them to overcome these challenges.

Better collaboration between industry, local government and waste delivery agencies will help us meet our goals of generating less waste and improving the recovery of our valuable resources. The Victorian Government is committed to making Victoria Australia's number one state for sustainability and liveability.



Hon Lily D'Ambrosio MP
Minister for Energy, Environment and Climate Change

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1 Executive summary

The aim of waste and resource recovery education is to increase awareness of the environmental and economic impacts of waste management. Traditionally, waste education in Victoria has been delivered through a range of mechanisms and approaches by state and local government, industry, schools, community organisations and third party providers, but without the overlay of a statewide, coordinated approach.

How we generate and dispose of waste has a huge impact on our environment and the waste and resource recovery system that supports our standard of living. As our growing population generates greater volumes of waste, additional pressure is placed on our waste and resource recovery system. This essential service, which is delivered to most Victorians via a weekly or fortnightly household kerbside collection, is most effective when people are aware of the waste they are generating and are correctly disposing of waste and recoverable materials.

Victorians are strongly supportive of waste management initiatives such as kerbside recycling, green waste collection and litter programs. Nevertheless, the state government and the waste and resource recovery industry face many challenges such as planning for infrastructure over the long term, minimising waste generation rates, increasing recycling, reducing contamination, and addressing gaps identified in waste and resource recovery education targeted at businesses.

To meet these challenges we need a coordinated approach to waste and resource recovery as outlined in the *Statewide Waste and Resource Recovery Infrastructure Plan* (state infrastructure plan). The 30 year state infrastructure plan details the long term vision and roadmap for managing and improving Victoria's waste and resource recovery infrastructure system.

The state infrastructure plan acknowledges that a best practice approach to waste and resource recovery education will help ensure that the Victorian community, businesses, governments and the education sector understand the importance of effective waste management and resource recovery. Education plays an essential role in engaging with the Victorian community on waste avoidance and appropriate disposal of waste and recycling, which directly impacts on the success and efficiency of waste infrastructure.

The *Victorian Waste Education Strategy* (waste education strategy) provides a coordinated, statewide approach to waste and resource recovery education. It supports several other initiatives that – delivered together – will help us to achieve the environmental, social and economic benefits outlined in the state infrastructure plan.

The waste education strategy recognises that waste and resource recovery management is an essential service that benefits the Victorian community, environment and economy. It acknowledges the shared responsibility of education and engagement for waste and resource recovery across state and local government, industry and other stakeholders.

The waste education strategy was developed with input from over 250 stakeholders and included comprehensive community, industry and government engagement.

The aim of the waste education strategy is to provide a statewide coordinated approach to waste and resource recovery education that supports best practice programs so that Victorian households,

businesses, industry, government, the formal education sector and the community:

- ▶ are well informed and taking practical action to reduce waste, minimise its environmental impact and maximise its value
- ▶ understand the importance of effective waste management and recovery of valuable resources.

It identifies six strategic directions to guide waste and resource recovery education over the next 10 years (2016 to 2026):

- 1 Increase the Victorian community and business perception of waste management as an essential service
- 2 Increase community awareness of waste and support and encourage waste avoidance
- 3 Improve resource recovery and reduce contamination
- 4 Reduce litter and illegal dumping
- 5 Support waste and resource recovery education for schools
- 6 Strengthen Victoria's waste and resource recovery education capabilities

It also sets out goals, outcomes and actions to be achieved over the next five years (2016 to 2021). The actions align with broader state government initiatives and activities that support the state infrastructure plan.

The waste education strategy will begin by establishing a baseline of the Victorian community's attitudes and perceptions on waste and resource recovery. This evidence base will guide further work and activities associated with implementing the strategy and other initiatives related to the state infrastructure plan.

It will establish best practice approaches to waste and resource recovery behaviour change in Victoria and work with stakeholders to strengthen Victoria's ability to roll out waste and resource recovery education projects and programs by building the capabilities of our delivery partners and stakeholders. It supports our stakeholders to design local and regional solutions to issues such as waste avoidance, resource recovery, litter and illegal dumping. It includes a commitment to promote and share learning from program implementation.

The implementation of actions over the first five years of the waste education strategy will be presented in Sustainability Victoria's (SV) annual business plan and communicated via SV's website.

SV is responsible for coordinating, delivering and reporting on the waste education strategy. The Victorian Government waste and resource recovery portfolio (the portfolio) will share responsibility, consult and partner with a range of delivery partners and other stakeholders to achieve the objectives of the strategy. SV is part of the portfolio along with the Department of Environment, Land, Water and Planning, the Environment Protection Authority (EPA) Victoria and the seven regional waste and resource recovery groups (WRRGs).

Who should read this?

Waste and resource recovery education providers in Victoria including state and local government, industry, schools, community organisations and third party providers.

Why read this?

The waste education strategy identifies the Victorian Government's priorities for waste and resource recovery education over the next 10 years and actions for the first five years.

2 Victoria's integrated waste and resource recovery system

In 2014, legislative amendments to the *Environment Protection Act 1970* established the Victorian Waste and Resource Recovery Infrastructure Planning Framework. The framework provides the structure for strategic planning for waste and resource recovery that integrates planning at the state level with planning for local and regional communities.

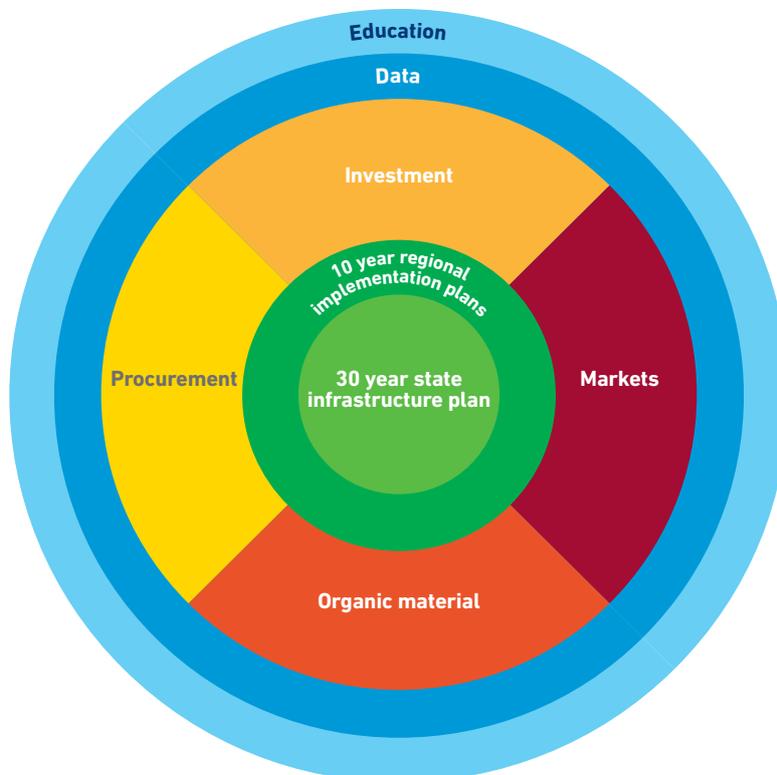
Figure 1 conveys the priorities of this integrated, statewide approach to waste and resource recovery in Victoria. The state infrastructure plan provides Victoria with a 30 year long term vision and roadmap to guide future planning for resource recovery infrastructure. Regional implementation plans are guided by the state infrastructure plan, and identify local waste and resource recovery infrastructure needs over a 10 year timeframe for each of the seven Victorian WRRGs.

Complementary work is supporting the delivery of the state infrastructure plan's vision. Together, these initiatives support the state infrastructure plan by:

- ▶ leading targeted waste education to facilitate reduced waste generation, improve resource recovery and increase the community's participation and understanding of waste management and resource recovery infrastructure and services (the role of this waste education strategy)
- ▶ stimulating and supporting markets for products made from recovered resources
- ▶ improving the recovery of organic material to reduce the community, environment and public health impacts of organic waste
- ▶ facilitating collaborative procurement of waste and resource recovery services and infrastructure for local governments
- ▶ facilitating industry and local government investment in new waste and resource recovery infrastructure
- ▶ improving the quality, timeliness and accessibility of waste and resource recovery data.

The waste education strategy is a foundational strategy that supports all other initiatives related to the state infrastructure plan.

FIGURE 1 INITIATIVES TO ACHIEVE VICTORIA'S INTEGRATED WASTE AND RESOURCE RECOVERY SYSTEM



The waste and resource recovery priorities outlined in Figure 1 are also aligned with legislative requirements under the *Environment Protection Act 1970*, *Planning and Environment Act 1987*, *Transport Integration Act 2010* and the *Sustainability Victoria Act 2005*.

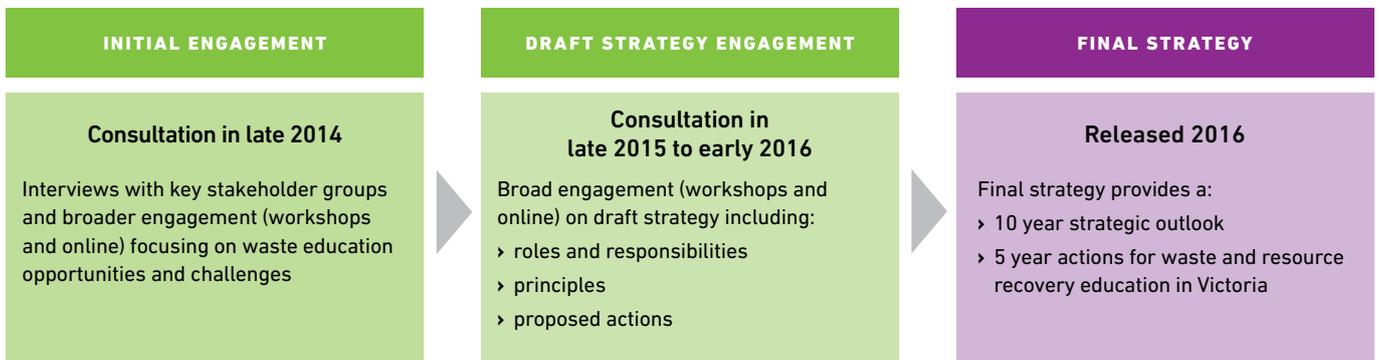
3 Consultation

SV led the consultation process on behalf of the portfolio with input from more than 250 stakeholders from:

- > state and local government
- > the waste industry and related associations
- > the education sector including the Victorian Government Department of Education and Training and tertiary institutions
- > consultants delivering waste and resource recovery education programs and services to schools, businesses and the community
- > community groups.

WRRGs partnered with SV on workshops held across Victoria.

FIGURE 2 CONSULTATION TO SUPPORT THE VICTORIAN WASTE EDUCATION STRATEGY



The consultation ensured that the waste education strategy includes diverse viewpoints and meets the needs of stakeholders.

4 Defining the challenge

The way we generate and manage waste and resources affects the health and wellbeing of communities and ultimately the environment. Waste and resource recovery education helps communities understand the importance of minimising and managing waste effectively.

It can also be used to increase the perception of waste management as an essential service that plays a role in minimising impacts to the environment, community amenity and public health.

Victoria's population is growing fast. Since 2000 the population has grown from 4.8 to 5.8 million. By 2043 we anticipate a population of 8.9 million. As a consequence, the amount of waste being generated and requiring management is also increasing. At the current rate of increase, by 2043 total waste generation will rise from 12.2 to 20.6 million tonnes per year.¹

Waste and resource recovery education refers to any programs, projects, activities or approaches that seek to increase awareness and influence attitudes and behaviours of individuals, households and businesses.

Managing this quantity of waste is an ongoing challenge for society. We need to help communities and businesses make informed and positive decisions on minimising or avoiding waste generation where possible. We also need to explore opportunities to support resource recovery to divert more materials away from landfills as this maximises the value from materials, supports the resource recovery economy and reduces our impact on the environment.

Victoria has experienced success with the widespread adoption of best practice kerbside recycling practices and the growth of recycling in the business, commercial and industrial sectors. This success can be attributed to local and state government intervention as well as the investment of time and resources by the waste and resource recovery industry to support government-led programs and activities.

Waste and resource recovery education has traditionally been delivered by state and local government, industry, schools, community organisations and third party providers.

Despite this broad delivery and extensive investment, success in addressing critical issues has been variable. This is partly due to the lack of a coordinated and strategic statewide approach in Victoria, which in turn is partly due to differing levels of waste and resource recovery management services and infrastructure across the state.

An uncoordinated and inconsistent approach to education across the state reduces its effectiveness, often sending mixed messages to communities. There are currently no clear guidelines for assessing the most effective approach to education as a solution to particular problems, or whether or not education is the most appropriate mechanism to address particular issues.

There is also a clear gap in provision of education for small to medium enterprises (SMEs) and commercial and industrial waste generators.

The waste education strategy will address this by providing a consistent and coordinated statewide approach to waste and resource recovery education over the next 10 years.

Defining waste

For the purpose of this strategy, waste is defined as non-hazardous, non-prescribed, solid waste materials ranging from municipal garbage to industrial waste. It can be any discarded, rejected, unwanted, surplus or abandoned matter, including materials intended for recycling, reprocessing, recovery, purification or sale.

¹ Sustainability Victoria, Statewide Waste and Resource Recovery Infrastructure Plan - Victoria 2015-44, Executive Summary, 2015.

5 Who is involved?

The portfolio will share responsibility, consult and partner with delivery partners and other stakeholders to achieve the objectives of the waste education strategy. Table 1 lists stakeholders and delivery partners and their respective roles in waste and resource recovery education.

TABLE 1 WASTE EDUCATION STAKEHOLDERS AND DELIVERY PARTNERS IN VICTORIA

Stakeholder	Role in waste education
WASTE AND RESOURCE RECOVERY PORTFOLIO	
Department of Environment, Land, Water and Planning	<ul style="list-style-type: none"> › Develops policy and strategic directions and guides broader waste and environment activities for the state.
Sustainability Victoria	<ul style="list-style-type: none"> › Responsible for statewide waste and resource recovery education campaigns and programs › Develops and leads the coordination, delivery and reporting of the waste education strategy › Delivers waste related statewide campaigns on topics such as reducing littering behaviour and avoiding food waste › Manages the ResourceSmart Schools initiative › Delivers business efficiency programs
Environment Protection Authority Victoria	<ul style="list-style-type: none"> › Works with a risk-based approach to regulation, producing guidance material and supporting industry to comply with relevant standards › Responsible for managing pollution and litter reports through their 24-hour pollution hotline › Delivering compliance and enforcement measures for pollution and illegal dumping of industrial waste › Coordinates delivery of programs and strategies with relevant stakeholders › Promotes its own enforcement activity
Waste and resource recovery groups	<ul style="list-style-type: none"> › Help deliver waste education strategy activities at the regional and metropolitan level in consultation with SV › Work with SV, local government, businesses and communities to help deliver statewide waste and resource recovery education programs and ensure they meet the needs of their region › Identify household, business and community education needs to support the implementation of new infrastructure or services in line with statewide strategies and priorities › Work with SV to provide regional input into statewide strategies as well as program design, delivery and evaluation
WASTE EDUCATION DELIVERY PARTNERS	
Department of Education and Training	<ul style="list-style-type: none"> › Encourages schools to adopt sustainable practices in their operations, minimise waste, and reduce their energy and water consumption › Supports the ResourceSmart Schools program › Provides curriculum advice and support to SV to ensure ResourceSmart Schools is connected to the F-10 Victorian Curriculum and the Victorian Early Learning and Development Framework
Local government	<ul style="list-style-type: none"> › Engages with local communities on new waste and resource recovery infrastructure and services › Influences communities, local business and industry (supported by other tiers of government) to maximise resource recovery rates and reduce waste to landfill › Implements and provides waste services and programs › Designs and delivers waste and resource recovery education programs › Direct interface with community collecting rates for the provision of waste and resource recovery services › Contracts or manages the collection of household waste › Local government is also the first point of call for many local residents and has the power to take enforcement action for litter and illegal dumping of household waste under the <i>Environment Protection Act 1970</i>
The waste and resource recovery industry	<ul style="list-style-type: none"> › Provides collection, transport, storage, sorting and disposal of waste › Provides information on what can and cannot be collected or recycled › Designs and delivers waste and resource recovery education programs › Provides information and data in waste contracts to local government › Engages indirectly with the community and businesses (e.g. through signage on trucks or promotion of events) and also directly with communities (e.g. through transfer stations, landfills, public tours of materials recovery facilities) and with businesses to ensure effective and efficient waste and resource recovery systems are in place

Stakeholder	Role in waste education
Industry associations	<ul style="list-style-type: none"> › Represent the interests of waste industry professionals, including waste and resource recovery education providers › Provide training and educational activities for members (who represent other stakeholder groups included in this table)
Australian Packaging Covenant, Tyre Stewardship Australia and other industry-led programs	<ul style="list-style-type: none"> › Provide funding to encourage industry, community and government to find and support innovative solutions to reduce waste › Funded programs often include waste and resource recovery education activities
Schools	<ul style="list-style-type: none"> › Involved in a number of programs and initiatives aimed at increasing children and young people's awareness of waste and other sustainability issues. › Many Victorian schools participate in the ResourceSmart Schools initiative led by SV.
Community groups, non-government organisations and other government agencies	<ul style="list-style-type: none"> › Engage (often face-to-face) with local communities including schools and early childhood services, to demonstrate the importance of sustainability and waste avoidance, reuse, recovery and appropriate disposal › Often form working relationships with local councils to engage with local communities and business
Training providers, TAFEs and universities	<ul style="list-style-type: none"> › Provide formal programs that may lead to professional and academic qualifications for those working in the waste sector › Provide training or programs in the workplace to support sustainability or integrated waste management initiatives
OTHER	
Charities and op shops	<ul style="list-style-type: none"> › Provide waste reduction programs and services and use profits to fund other services to support community members in need › By encouraging and promoting reuse of goods, the charity sector supports goods that could otherwise end up in landfill
Social enterprises	<ul style="list-style-type: none"> › Provide waste reduction programs, services or training – often targeting disadvantaged sectors of the community to build additional social value into their operations
Researchers and environment groups	<ul style="list-style-type: none"> › Undertake valuable research to inform waste and resource recovery education programs › Important partners in the delivery of community engagement programs and activities
Committees of management	<ul style="list-style-type: none"> › Responsible for managing waste on crown land reserves. This includes educating land users about appropriate disposal
Health services	<ul style="list-style-type: none"> › The health sector plays a direct role in community education and engagement on a number of areas including health and waste

Ultimately, the Victorian community is the audience for waste education programs. We need to deliver consistent, accurate and ongoing waste and resource recovery education to decrease the volumes of waste going to landfill and improve resource recovery.

How Victorians live, travel and consume is constantly changing. Our programs need to factor these changes into project design and delivery. We also need to ensure our programs target the diverse Victorian community including those from culturally and linguistically diverse backgrounds.

6 Strategy approach

6.1 Strategic framework

To support the delivery of Victoria's integrated waste and resource recovery system, Table 2 (over page) presents the framework for the waste education strategy, including its purpose, vision, strategic directions, goals and anticipated outcomes.

Strategic Directions	Proposed approaches that will be applied over the waste education strategy's 10 year life.
Goals	Overarching observable and measurable results that will be sought within the waste education strategy's 10 year life.
Outcomes	Overarching deliverables that will be sought within the waste education strategy's 10 year strategic outlook.
Actions	Activities to be implemented and reviewed within a five year timeframe (presented in Sections 7 to 12).

The high level five year actions are outlined in Sections 7 to 12. Further detail on implementing actions over the first five years of the waste education strategy will be presented in SV's annual business plan and via SV's website.

The waste education strategy seeks to:

- › provide a statewide coordinated approach to waste and resource recovery education
- › support best practice programs so that the Victorian community is well informed and taking practical action to reduce waste, minimise its environmental impact and maximise its value
- › increase understanding of the importance of effective waste management and recovery of valuable resources.

TABLE 2 FRAMEWORK OF THE VICTORIAN WASTE EDUCATION STRATEGY

Purpose:	To provide a statewide coordinated approach to waste and resource recovery education that supports best practice programs.				
Vision:	The Victorian community is well informed and taking practical action to reduce waste, minimise its environmental impact and maximise its value. The Victorian community understands the importance of effective waste management and recovery of valuable resources.				
Strategic directions					
1. Increase the Victorian community and business perception of waste management as an essential service	2. Increase community awareness of waste and support and encourage waste avoidance	3. Improve resource recovery and reduce contamination	4. Reduce litter and illegal dumping	5. Support waste and resource recovery education for schools	6. Strengthen Victoria's waste and resource recovery education capabilities
Goals					
Waste management is seen as an essential service by the community and businesses	Reduce Victoria's waste generation rates	Improve resource recovery and reduce contamination of waste streams	Reduce littering and illegal dumping	Waste and resource recovery education initiatives being implemented by schools	Efficient and effective program delivery with our delivery partners
Outcomes					
<p>Best practice community engagement approaches identified</p> <p>Understand the components of the social licence to operate theory for the resource recovery and waste sector</p> <p>Waste management is seen as an essential service by community and business</p>	<p>Programs to reduce food waste from households and businesses</p> <p>Programs to increase business efficiencies to reduce waste generation</p>	<p>Major contaminants identified for waste and resource recovery streams</p> <p>Targeted interventions and programs to reduce contamination from high risk contaminants and associated behaviours</p>	<p>Regional and local strategies to target litter and illegal dumping identified and tested</p> <p>Increased awareness by waste generators of their obligations to the disposal of industrial waste</p> <p>Strong evidence base for litter and illegal dumping interventions</p>	<p>Schools participating in ResourceSmart Schools initiative led by SV reduce waste to landfill from their baseline year</p>	<p>Work with delivery partners in local government, the waste industry and other organisations to deliver on Victoria's waste and resource recovery education priorities</p> <p>Deliver effective statewide programs and campaigns</p>

6.2 Guiding principles

We have six guiding principles to underpin our approach to project and program design (Table 3).

We will also measure how effectively we are implementing the waste education strategy against these principles as part of our commitment to being transparent and accountable to our stakeholders.

TABLE 3 GUIDING PRINCIPLES

Principle	Description
Environmental justice	<p>The <i>Independent Inquiry into the Environment Protection Authority</i> recommended in March 2016 that a whole-of-government approach to environmental justice be developed. This whole-of-government approach will be incorporated into the implementation of the <i>Waste Education Strategy</i>.</p> <p>Environmental justice is based on the concepts of equity and participation. Environmental benefits and impacts should be distributed proportionately and affected communities should be able to participate in decision making. This principle underpins all other principles and will be incorporated into how we design and deliver projects.</p>
Form partnerships	Bring together diverse skills and resources from different organisations for more effective project and program delivery. Adopt an open and inclusive process of collaboration with stakeholders to find solutions for issues/problems.
Be transparent	Be open about decision making, share what is happening and provide progress updates. Communicate to stakeholders on our successes and failures.
Lead by example	<p>As part of environmental management systems already in place, state government will lead on waste management and waste and resource recovery education within all departments and agencies.</p> <p>The portfolio sets the agenda and direction for waste and resource recovery education programs for the state and coordinates with our partners for project and program delivery.</p>
Research and innovate	Ensure all projects are evidence based. Use research to understand the behaviour change process and drive innovation. Pilot and test new ways of working. Evaluate and learn from what does and does not work.
Support and facilitate others	Support and facilitate others to continuously improve. Recognise and build on the achievements of partners. Share what has worked well and what has not.

7 Strategic direction 1: Increase the Victorian community and business perception of waste management as an essential service

All Victorian households, businesses and organisations generate waste. The collection, recovery and disposal of this waste is an essential service that protects public health, minimises environmental impacts and supports the Victorian economy.

This essential service is set for greater demand with the expected growth in Victoria's population and new services such as organics collection becoming operational in the next few years.

An essential service is a service that is recognised as a basic right for the community. Any failure to deliver this service results in risks to the community.

Community concerns and attitudes can strongly influence the provision of waste and resource recovery services, infrastructure and enforcement.

The focus of this strategic direction is to:

- › examine the current and future state of waste management in Victoria to help Victorians understand the impact of waste on our environment

- › adopt environmental justice principles to ensure communities have opportunities to be involved in decision making that affects them
- › work with the waste industry to help them engage their local communities, encourage best practice approaches to community engagement and develop a better understanding of the social licence to operate for the waste sector in Victoria.

Our goal is for waste management to be seen as an essential service by the community and businesses

Action 1: Waste and resource recovery services are a utility

Waste collection and management is a utility much like water, gas, and electricity. Most people have limited exposure to the waste industry beyond separating recyclables and putting bins out for collection.

While there is a broad expectation for waste and resource recovery services, community understanding of the need and support for waste related infrastructure is variable. This can be a barrier to investment and effective ongoing operations.

Table 4 lists the actions under this theme.

TABLE 4 WASTE AND RESOURCE RECOVERY SERVICES ARE A UTILITY ACTIONS

Actions	Details
1.1 Increase community and business awareness of the concept of waste in Victoria	Develop a targeted program to increase people's awareness of the volumes, challenges and opportunities for waste generated in Victoria
1.2 Increase community and business awareness of the systems and processes behind waste management and resource recovery in Victoria	Develop a targeted program to promote the systems and processes responsible for waste and resource recovery in Victoria

Action 2: Social licence to operate

The concept of 'social licence to operate' evolved from broader concepts of corporate social responsibility. It is based on the idea that a business needs not only appropriate government or regulatory approval, such as a licence to operate, but also a 'social licence'. The social licence is the acceptance that is continually granted to a business by the local community or other stakeholders to operate.

Businesses involved in waste and resource recovery need to secure broad community support and acceptance in order to obtain or protect their social licence to operate. The waste industry and government can obtain a social licence by engaging with local communities, gaining their trust and acceptance of operations, and involving them in infrastructure planning.

Table 5 lists the actions under this theme.

TABLE 5 SOCIAL LICENCE TO OPERATE ACTIONS

Actions	Details
2.1 Support and encourage best practice approaches to community engagement for resource recovery and facilities accepting waste	Support the waste industry by identifying good engagement and communication practices for regulated and non-regulated activities
2.2 Support research to improve our understanding of the social licence to operate for the waste and resource recovery sector in Victoria	Work with the waste and resource recovery industry to improve our understanding of the social licence to operate for the sector

8 Strategic direction 2: Increase community awareness of waste and support and encourage waste avoidance

Waste avoidance is aimed at eliminating or reducing waste through education or improved production processes rather than aiming to treat, recover or manage materials and waste generated.

Waste avoidance and waste minimisation are the preferred options in the waste management hierarchy. They also present the toughest challenge for society. Demand for products and services – and the waste they generate – are strongly linked to facets of population such as growth, density and distribution, and demographic and lifestyle factors.

Factors that influence a person's likelihood to engage in waste avoidance, reuse and recycling activities include personal factors such as environmental attitudes, knowledge about recycling programs, demographic variables, personality variables, and situational factors such as prompting, commitment interventions, social norms and goal setting.

The focus of this strategic direction is to encourage Victorians to minimise food waste and to encourage SMEs and industry to invest in waste avoidance initiatives to realise the economic and environmental benefits of these interventions.

Our goal is to reduce Victoria's waste generation rates

Action 1: Food waste avoidance

Food waste makes up a significant component of the average household's landfill bin in Victoria – about 40% of what is thrown out by weight.² Victorians estimate that they waste around \$40 a week on unused food and drink, equivalent to \$2,000 a year. Across Victoria, this adds up to about \$4 billion a year. Not only is this a loss of money to householders, it is a waste of the resources used to grow, process, package and transport food from markets to our homes.

Food waste also creates disposal problems due to the methane that can be released when food breaks down in landfill. Methane poses environmental and public health risks unless well managed. Food waste also has associated disposal costs to local government of \$21 million per year.

Table 6 lists the actions under this theme.

² Sustainability Victoria, *Food waste in the garbage bin 2013, June 2014*.

TABLE 6 FOOD WASTE AVOIDANCE ACTIONS

Actions	Details
1.1 Provide information and guidance on minimising food waste to the community	Inform the community on how to minimise food waste through smarter consumer choices and efficient methods of dealing with food
1.2 Support the community to minimise food waste to landfill	Encourage the development and delivery of food waste avoidance and minimisation programs that reduce food waste to landfill
1.3 Pilot food waste avoidance programs with the commercial and industrial sector in targeted local government areas	Pilot industry based programs to support food waste avoidance (and food waste ending up in landfill) in targeted local government areas

Action 2: Waste avoidance and minimisation for business

By reducing waste, businesses can cut their disposal costs and minimise environmental impacts. Investing in materials efficiency can also lead to significant savings. This is demonstrated by SMEs participating in a range of SV business programs that found average savings of more than \$140,000 and an average payback of less than two years for manufacturers investing in process optimisation, reuse of waste product in-house and/or product redesign.³

Table 7 lists the actions under this theme.

³ Based on an analysis of 127 resource efficiency assessments for businesses funded under SV's Smarter Resources Smarter Business program between 2013 and 2016.

TABLE 7 WASTE AVOIDANCE AND MINIMISATION FOR BUSINESS ACTIONS

Actions		Details
2.1	Identify target business sectors	Identify and work with Victoria's largest waste generating industries or business sectors
2.2	Partner with key organisations	Influence broader government to adopt effective and efficient waste avoidance and waste minimisation approaches Identify, partner with and influence key industry associations and other stakeholders to encourage and support waste avoidance and minimisation initiatives
2.3	Develop guidance material to support SMEs and industry	Use existing networks and communication channels to provide targeted SMEs/industry with information and guidance to improve business efficiencies around waste minimisation
2.4	Support SMEs who want to transition to waste avoidance and waste minimisation efficiencies	Provide information and guidance to support SMEs on waste avoidance and minimisation initiatives Promote and champion these initiatives through existing partner networks and communication channels

9 Strategic direction 3: Improve resource recovery and reduce contamination

Resource recovery extracts the maximum benefits from materials, delays the consumption of virgin resources, and reduces the amount of waste that ends up in landfill.

Improving the quality of material streams is an important component to improving resource recovery in Victoria. Contamination or putting items in the wrong bin can reduce the volumes and quality of materials recovered. The reasons for contamination are complicated and need targeted evidence-based interventions to address them.

The focus of this strategic direction is to:

- › adopt an evidence-based approach to intervention prioritising Victoria's major contaminants and the behaviours associated with them
- › work with our partners to identify existing interventions that are working
- › work with and support local governments to identify innovative solutions to these complicated problems that are aligned with the behaviour change process, supporting and scaling up what works.

Our goal is to improve resource recovery and reduce contamination of waste streams

Action 1: Waste and resource recovery education for the community

Victoria has successfully implemented widespread waste and resource recovery programs through kerbside collection services. In most local government areas, kerbside collection services have evolved over the last 20 to 30 years to include bins for commingled recycling, green waste (garden waste) and landfill for Victorian households. Over the next few years, Victorian households will see new services for household organic waste collection.

These various collection bins allow for household waste to be segregated into distinct waste or material streams. This segregation supports resource recovery with less waste intended for landfill. Despite the community's acceptance of kerbside recycling services, audits of kerbside bins and materials recovery facilities report high levels of contamination and valuable materials being wasted or ending up in landfill.

Table 8 lists the actions under this theme.

TABLE 8 WASTE AND RESOURCE RECOVERY EDUCATION FOR THE COMMUNITY ACTIONS

Actions		Details
1.1	Encourage Victorians to recycle	Support Victorians to reuse and recycle where possible
1.2	Identify major contaminants of commingled and organic material streams	Identify the major contaminants of Victoria's commingled and organic material streams and the behaviours associated with contamination
1.3	Develop interventions to address contamination of high risk or high value materials in our waste streams	Use targeted interventions to address problem materials, contaminants and behaviours Assess what works from past and present interventions
1.4	Collate and promote intervention successes and failures, and share with delivery partners	Collate and promote our interventions and our successes and failures and share these with our delivery partners

Action 2: Waste and resource recovery education for small to medium enterprises and industry

All Victorian businesses produce waste. The perception, management, segregation and collection of business waste provide opportunities for the Victorian economy to reduce greenhouse gas emissions, minimise its broader environmental impacts and maximise resource recovery.

About one third of Victorian businesses could reduce their waste management costs by implementing better waste management practices including separating their waste into appropriate waste streams for recovery.

Table 9 lists the actions under this theme.

TABLE 9 WASTE AND RESOURCE RECOVERY EDUCATION FOR SMALL TO MEDIUM ENTERPRISES AND INDUSTRY ACTIONS

Actions	Details
2.1 Identify target businesses or industry sectors	Identify priority businesses or industry sectors based on types of waste and volumes generated, markets available for recovery and geographical location, and suitable infrastructure for recovery or disposal
2.2 Develop programs to encourage greater participation in source separation and recycling/recovery programs	Work closely with appropriate partners to influence and encourage participation in source separation and recycling/recovery programs
2.3 Develop evidence-based guidance to support recycling activities within SMEs and industry	<p>Work with SMEs and appropriate industry associations to build support and an evidence base that presents the financial and reputational benefits of these programs</p> <p>Partner with key organisation to support waste and resource recovery initiatives within targeted business sectors</p>
2.4 Partner with the right organisations to support waste and resource recovery initiatives within target sectors	<p>Identify who to partner with and who to support to deliver our programs</p> <p>Work with industry associations and appropriate government departments to encourage uptake of our targeted programs</p>

Contamination occurs when items are discarded in the wrong bin such as placing non-recyclables in the recycling bin. The most common contaminants in commingled recycling bins are garbage bags, garden waste, food scraps and broken ceramics.

10 Strategic direction 4: Reduce litter and illegal dumping

Litter and illegal dumping of household and industrial waste are persistent problems in Victoria. Littering attitudes and behaviours have improved but we need continued action to reduce littering and illegal dumping across the state.

People who litter and dump waste vary as to their specific actions and motivations. Actions to prevent littering and dumping must be specific to the nature, scale and motives of the offence.

Communities, businesses and government pay significant costs to clean up litter and illegally dumped materials. Litter programs have traditionally been delivered using a partnership model and are funded by different levels of government and industry.

The focus of this strategic direction is to encourage local planning for litter prevention and examine ways to reduce illegal dumping of household and industry waste.

The Victorian Litter Action Alliance (VLAA) is the peak body for litter management and prevention in Victoria.

The VLAA provides a coordinated approach to preventing litter across state and local government, and industry and community sectors.

Our goal is to reduce littering and illegal dumping

Action 1: Local planning for litter prevention

Litter issues are locally and regionally specific and require tailored solutions. Actions under this theme focus on local planning for local litter prevention supported by consistent data and evidence using the Local Litter Measurement Tool (LLMT). For more information on the LLMT, visit www.litter.vic.gov.au/litter-prevention-toolkits

Table 10 lists the actions under this theme.

TABLE 10 LOCAL PLANNING FOR LITTER PREVENTION ACTIONS

Actions	Details
1.1 Develop regional litter plans, supported by SV	SV will support WRRGs to develop regional litter plans that identify and prioritise litter issues for that region Learn from previous Victorian Government-led statewide litter strategies to better understand the varied nature of litter behaviours, types of litter and infrastructure requirements
1.2 Litter Report Card	Develop an evidence-based report outlining Victoria's current key litter issues, priorities and management approaches
1.3 Litter Innovation Fund	Grants program to tackle local litter issues
1.4 Build, promote and enhance VLAA and VLAA resources	VLAA resources provide litter managers with information, tools and templates to effectively plan, manage and monitor litter prevention programs using VLAA's best practice model of education, infrastructure and enforcement
1.5 Take action on Victoria's key statewide litter issues	Interventions to tackle statewide litter issues based on the Litter Report Card

Action 2: Illegal dumping of household waste

Illegal dumping of household waste is a persistent problem. The barriers and motivations for this behaviour are complex and vary between regions. Regionally based solutions should be developed to address these problems, with approaches and learning shared.

Table 11 lists the actions under this theme.

TABLE 11 ILLEGAL DUMPING OF HOUSEHOLD WASTE ACTIONS

Actions	Details
2.1 Continue to promote the LLMT to collect robust data	Support a consistent data collection approach across Victoria using the LLMT to help local government, land managers and the portfolio understand the real costs of this illegal activity
2.2 Train local government officers in enforcement and surveillance techniques to hold offenders accountable for their actions	Support enforcement training for local government that complements education and awareness raising activities on illegal dumping of household waste
2.3 Take action on domestic dumping	Identify appropriate measures the Victorian Government can take to tackle illegal dumping of household waste. Interventions would include an appropriate combination of research, education, infrastructure and enforcement

Action 3: Illegal dumping of industrial waste

Illegal dumping or unauthorised dumping, tipping or burying of industrial waste and prescribed industrial waste (PIW) on land that is not licensed or not fit to accept these types of waste is an offence under the *Environment Protection Act 1970*.

Construction and demolition (C&D) waste is solid inert waste generated from residential and commercial construction and demolition activities such as bricks and concrete.

These illegal activities threaten the environment, and when dumped near residents can affect amenity. Illegal dumping also financially undermines legitimate businesses and Victoria's waste management and resource recovery system.

The EPA's Illegal Dumping Strikeforce program (2015-2018) will identify rogue operators found to be financially profiting from illegally dumping waste.

Table 12 lists the actions under this theme.

TABLE 12 ILLEGAL DUMPING OF INDUSTRIAL WASTE ACTIONS

Actions	Details
3.1 Inform and educate waste generators in the C&D sector on their obligations with regard to waste transport and disposal	C&D material accounts for approximately half of all illegally dumped industrial waste (approximately 350,000 tonnes in 2014-15) As part of a broader project tackling this issue, the EPA will work with a range of partners across the industry to inform and educate operators on their obligations
3.2 Increase compliance with PIW transport laws through increased education and enforcement actions	In Victoria, approximately 170,000 tonnes of PIW is transported each year. Due to the potential harm to environment and human health, it is critical that PIW is safely transported, tracked and taken to an appropriate facility The EPA is working with Victorian and interstate regulators to increase compliance with PIW transport laws via increased education and enforcement actions
3.3 Promote knowledge and standards for appropriate disposal of waste	The EPA will work with partners, including co-regulators, to develop approaches to increase knowledge and promote standards to deter illegal dumping for priority industry sectors
3.4 Increase awareness of the fire risks associated with tyre stockpiling	Tyre fires resulting from incorrect stockpiling or dumping can cause significant atmospheric pollution and are difficult to extinguish As part of a broader government program, the EPA will work with the appropriate partners to increase awareness of the fire risks associated with tyre stockpiling and monitor compliance with new regulatory requirements on tyre stockpiles
3.5 Promote and publicise enforcement action to maintain a credible threat of enforcement	Strong enforcement motivates many regulated parties to comply with law and regulation and reinforces the message that any competitive advantage from not complying will not be tolerated

11 Strategic direction 5: Support waste and resource recovery education for schools

Engaging, motivating and teaching children and young adults about our environment and sustainability is an important component for addressing climate change. We can prepare future generations to understand their impact on the environment and what they can do to minimise their impact.

Research shows that early intervention and education can have long term positive effects on behaviour and is more effective than intervention or education activities in later life.

The focus of this strategic direction is to support ongoing waste and resource recovery education for schools for the benefit of students, teachers and the broader school community.

Our goal is for waste and resource recovery education initiatives to be implemented by schools

Action 1: ResourceSmart Schools

Thousands of Victorian children and young adults have been introduced to the concept of sustainability through ResourceSmart Schools; an SV led Victorian Government initiative that helps schools benefit from embedding sustainability in everything they do and take action on climate change.

Schools choose actions to minimise waste, save energy and water, promote biodiversity and reduce greenhouse gas emissions. ResourceSmart Schools also helps Victorian school students and teachers show leadership in climate change through practical and achievable actions.

ResourceSmart Schools is delivered to schools through a network of local providers based across Victoria.

Table 13 lists the actions under this theme.

TABLE 13 RESOURCESMART SCHOOLS ACTIONS

Actions	Details
1.1 Support schools to reduce waste going to landfill	ResourceSmart Schools consists of learning modules – one of which is waste. We will ensure the waste module is delivered in alignment with state and federal education policies and priorities Via infrastructure, practice change, and teaching and learning activities, the waste module will lead to a measurable reduction in waste to landfill and paper consumption along with an increase in recycling
1.2 Evaluate ResourceSmart Schools	Review the current ResourceSmart Schools model and identify future delivery options for sustainability education in schools
1.3 Continuum of learning developed for waste and resource recovery education in schools	Identify a continuum of learning for waste and resource recovery education in schools to ensure consistent and appropriate messages are delivered
1.4 Recognise and reward schools undertaking waste and resource recovery education	The ResourceSmart Schools Awards are aligned with the guiding principles of the waste education strategy and recognise the important work carried out by Victorian schools Sustainability certification through the program enables schools to be recognised for the work they do to become more sustainable

12 Strategic direction 6: Strengthen Victoria’s waste and resource recovery education capabilities

All levels of government are under pressure to resolve the increasingly complex issues related to waste management. Complex issues require a broader, more collaborative and innovative approach. To do this, we need to support and strengthen relationships with delivery partners and encourage innovation.

Waste and resource recovery education in Victoria is delivered by local and state governments, with a range of other organisations (such as the waste industry and community organisations) also delivering waste and resource recovery education to the community, businesses, early childhood services and schools.

We are committed to a partnership approach – we want to engage and collaborate with our delivery partners throughout program and campaign design and delivery while also providing information and tools to enable better program delivery and evaluation.

The focus of this strategic direction is to support the capacity and capabilities of local government and other delivery partners to provide effective and efficient waste and resource recovery education programs that benefit local communities and Victoria.

Our goal is to ensure efficient and effective program delivery with our delivery partners

Action 1: Supporting local government

Local government plays a unique and important role in waste management; collecting rates, administering municipal waste services for households and implementing programs and activities that engage directly with the community. They are the first point of contact for most Victorians with regard to waste and resource recovery services.

Victoria has 79 local governments, each with differing waste and resource recovery education priorities, as well as a diverse range of knowledge, skill levels, experience and resourcing allocated to waste and resource recovery education roles.

Table 14 lists the actions under this theme.

TABLE 14 SUPPORTING LOCAL GOVERNMENT ACTIONS

Actions	Details
1.1 Strengthen local government waste and resource recovery education networks across Victoria	Support regional waste and resource recovery education networks to provide support, peer-to-peer learning and development opportunities, and to communicate statewide priorities to local government officers
1.2 Create an annual learning and development calendar for local government officers delivering waste and resource recovery education	Work with partners in local government to identify a range of learning and development opportunities for local government officers delivering waste and resource recovery education and promote these activities through existing communication channels
1.3 Hold an annual waste and resource recovery education conference for local government	Hold an annual waste and resource recovery education conference for local government officers to share research, current projects and activities across Victoria and encourage peer-to-peer learning
1.4 Establish cluster working groups for local government priority issues and encourage peer-to-peer learning	Establish working groups based on local government priorities and support them to encourage ideas and innovation at the local level

Action 2: Supporting other delivery partners

Other organisations play a role in delivering waste and resource recovery education to early childhood centres, schools, the broader community and businesses.

Table 15 lists the actions under this theme.

TABLE 15 SUPPORTING OTHER DELIVERY PARTNERS ACTIONS

Actions	Details
2.1 Develop and promote an annual calendar of activities, events and campaigns aligned with national and international initiatives	Produce an annual calendar of activities, events and campaigns supported by the portfolio The calendar will aim to align state, regional and local government programs with national and international awareness raising initiatives
2.2 Share research and reports on behaviour change, waste and resource recovery education and raising awareness	Ensure delivery partners have access to research and reports funded by state government including campaign and program evaluation

Action 3: Delivering efficient statewide programs and campaigns

Our delivery partners, particularly in local government, want to see a consistent and confident approach to program and campaign design, delivery and evaluation.

Table 16 lists the actions under this theme.

TABLE 16 DELIVERING EFFICIENT STATEWIDE PROGRAMS AND CAMPAIGNS ACTIONS

Actions	Details
3.1 Develop a delivery model for campaigns and program roll out at the state level that meets regional needs	Ensure the approach adopted by state government agencies (SV and the EPA) meets regional (and in turn local) government needs This includes ensuring that delivery partners are aware of the planning, delivery and evaluation phases of campaigns and programs
3.2 Develop an annual schedule for planned programs and campaigns led by the EPA and SV	Produce and maintain an annual schedule of planned programs and campaigns to be led by the EPA and SV so delivery partners in local government, the waste industry, business and the not-for-profit sector can have easy access to this information and can plan for upcoming activities
1.3 Horizon scanning and interstate partnerships	Look for improvements in program and campaign delivery and design Work with other Australian jurisdictions to identify and learn from their waste and resource recovery education and behaviour change successes

13 Implementation and reporting

SV is the Victorian Government's lead agency delivering programs on integrated waste management. SV will coordinate implementation and evaluation of the waste education strategy in partnership with the portfolio and other delivery partners to prioritise activities based on an assessment of state government priorities, current capacity and capabilities, and resource allocation across the portfolio.

Execution of this five year strategy will be broken down into five 12 month implementation plans. These plans will allocate responsibilities, timelines and success measures on our projects and activities in line with the strategic directions, goals and outcomes. We will also report on our progress implementing the waste education strategy in SV's annual business plan and via SV's website.

SV's approach to monitoring and evaluating the waste education strategy is based on:

- › implementing the strategy (how efficiently we delivered projects and activities)
- › outcomes and goals (how effectively did our projects and programs achieve the desired result).

Acronyms

C&D	Construction and demolition
EPA	Environment Protection Authority Victoria
LLMT	Local Litter Measurement Tool
PIW	Prescribed industrial waste
Portfolio	Victorian Government waste and resource recovery portfolio
Regional implementation plan	Regional Waste and Resource Recovery Implementation Plan
SME	Small to medium enterprise
State infrastructure plan	Statewide Waste and Resource Recovery Infrastructure Plan
SV	Sustainability Victoria
VLAA	Victorian Litter Action Alliance
Waste education strategy	Victorian Waste Education Strategy
WRRGs	Waste and Resource Recovery Groups

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