



Draft Victorian Community and Business Waste Education Strategy 2015–2020

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Acronyms and abbreviations

C&I	Commercial and industrial	MRF	Materials recovery facilities
C&D	Construction and demolition	MSW	Municipal solid waste
DET	Department of Education & Training (formerly the Department of Education & Early Childhood Development)	PIW	Prescribed industrial wastes
DELWP	Department of Environment, Land, Water & Planning (formerly the Department of Environment & Primary Industries)	RSS	ResourceSmart Schools
DEDJTR	Department of Economic Development, Jobs, Transport & Resources (formerly the Department of State Development, Business & Innovation)	SME	Small to medium enterprises
EPA	Environment Protection Authority	SV	Sustainability Victoria
IWM	Integrated waste management	SWRRIP	Statewide Waste and Resource Recovery Infrastructure Plan
LLMT	Local litter measurement tool	RWRRIP	Regional waste and resource recovery implementation plan
		VLAA	Victorian Litter Action Alliance
		WRRG	Waste and resource recovery group

Executive summary

Waste education is about increasing community and business awareness of the environmental and economic impacts of waste. Waste education activities and programs seek to influence behaviour through a range of mechanisms and approaches that have traditionally been delivered by state and local governments, waste and resource recovery groups, the waste and resource recovery industry, schools, community organisations and third party providers.

Who is this strategy for?

This strategy is written for people involved in delivering waste education: local government, the waste and resource recovery industry, schools and the not-for-profit sector.

All Victorians produce waste and as our growing population generates greater volumes of waste, additional pressure is placed on our waste and resource recovery system.

To help support better management of waste, we need a coordinated approach to waste education as outlined in the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP). The SWRRIP details the long term vision and roadmap for managing and improving Victoria's waste and resource recovery infrastructure system. It acknowledges that a best practice approach to waste education will help ensure that the Victorian community, businesses, governments and the education sector understand the importance of effective waste management and resource recovery.

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 still face many challenges, such as planning for infrastructure over the next 30 years, minimising waste generation rates, increasing recycling, reducing contamination, and addressing gaps identified in waste education targeted at businesses.

The Draft Victorian Community and Business Waste Education Strategy (the waste education strategy) seeks to address these challenges to support the SWRRIP in achieving a range of environmental, social and economic benefits.

The waste education strategy aims to:

- › support Victorians to take practical action to reduce waste, minimise its environmental impacts and maximise its value
- › support Victorians to understand the importance of effective waste management and recovery of valuable resources
- › guide and support the design and delivery of efficient and effective waste education programs.

Why read this strategy?

The Draft Victorian Community and Business Waste Education Strategy identifies six strategic directions for waste education over the next ten years (2015 to 2025).

This strategy identifies state government priorities and goals for waste education that align with broader state government initiatives and activities that are working toward a more thriving and sustainable Victoria.

Within the context of Victoria's integrated waste and resource recovery system, this strategy offers a coordinated approach to government engagement, involvement and broader direction in waste and resource recovery education over the next ten years with a review every five years.

The draft waste education strategy sets out six strategic directions for waste education in Victoria over a ten year period from 2015 to 2025. It identifies priority areas, actions and outcomes for the first five years from 2015 to 2020.

In the draft strategy, we acknowledge that waste education is part of a broader behaviour change process that should be understood and considered before developing activities or interventions. It encourages waste educators to select programs aimed at households and businesses that prioritise waste streams and materials based on environmental impact, resource recovery potential and volumes generated.

The actions listed in this draft strategy align with broader state government initiatives and activities that support the SWRRIP.

The draft strategy also recognises that delivery partners outside of state government (such as local government) are an essential component of effective waste education activities and initiatives. It encourages building and strengthening these relationships, while also involving and supporting partners in waste education program design, delivery and evaluation.

Ultimately, the waste education strategy proposes a coordinated approach to state government programs and activities that involves close and meaningful engagement with delivery partners so they can capitalise on state government priorities, programs and activities that align with their own.

The Victorian Government's environment portfolio is developing the waste education strategy in consultation with a broad range of stakeholders. Sustainability Victoria is leading the process with support from the Department of Environment, Land, Water & Planning, the seven waste and resource recovery groups and the Environment Protection Authority.

This draft waste education strategy outlines high level actions to be carried out over the first five years. Sustainability Victoria will provide implementation plans and progress reports for this strategy.

Introduction

The way we manage our waste has an impact on the environment and the health and wellbeing of communities. Waste education is a vital component of an integrated waste management system¹ as it helps communities understand the importance of minimising and managing waste effectively.

In Victoria, waste education can also be used to promote the essential role of Victoria's waste and resource recovery system in minimising impacts to the environment, community amenity and public health.

Victoria's waste and resource recovery system managed more than 12.1 million tonnes of solid waste and material streams in 2011–12. It includes some 590 businesses employing around 8,000 people and has an annual turnover of more than \$2.2 billion². Projections show that with Victoria's growing population, waste and resource recovery infrastructure may need to manage around 20.6 million tonnes of materials and waste by 2043.

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.

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 intervention³ as well as the investment of time and resources by the waste and resource recovery industry to support government-led programs and activities.

Waste education has traditionally been delivered by state and local government, waste and resource recovery groups (WRRGs), the waste and resource recovery 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 is in turn partly due to differing levels of waste 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 Draft Victorian Community and Business Waste Education Strategy (the waste education strategy) will address this by providing a consistent and coordinated statewide approach to waste and resource recovery education over the next ten years.

As Victoria's first statewide waste education strategy, it will guide and support the design and delivery of 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.

The environment portfolio is developing the waste education strategy in consultation with a broad range of stakeholders (see Table 2 in the next section). Sustainability Victoria (SV) is leading the process with support from the other members of the environment portfolio, which includes the Department of Environment, Land, Water & Planning (DELWP), WRRGs and the Environment Protection Authority (EPA).

What is waste?

For the purpose of this strategy, waste is defined as solid materials discarded by consumers or businesses. It can be any discarded, rejected, unwanted, surplus or abandoned matter, including materials intended for recycling, reprocessing, recovery, purification or sale.

In this document, the term 'solid waste' refers to non-hazardous, non-prescribed, solid waste materials ranging from municipal garbage to industrial waste:

Municipal solid waste (MSW) is solid waste generated from residential activities and includes waste collected by, or on behalf of, municipal councils.

Commercial and industrial (C&I) waste is solid inert waste generated from trade, commercial and industrial activities including the government sector. It includes waste from offices, manufacturing, factories, schools, universities, state and government operations and SMEs. It also includes any waste containing substances or materials which are potentially harmful to humans or equipment.

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

Although outside the scope of the waste education strategy, prescribed industrial wastes (PIW) are a particular class of industrial waste as defined by government regulations. PIW are generated from commercial or industrial sources and are highly odorous or potentially hazardous to humans or the environment. Car repair workshops, dry-cleaning services, fast-food chain stores, food processing plants, chemical, paint and plastics manufacturing, dental surgeries and hospitals all generate types of PIW. For more information on PIW, visit the EPA website.

1 Integrated waste management is the management of the entire waste system including avoidance, generation, collection, recovery, reuse, treatment and disposal.

2 Waste Management and Environment. Inside Waste Industry Report 2011–12, Gladesville, NSW, June 2011, p. 90.

3 Department of the Environment, Waste, Heritage and the Arts, National Waste Report 2010, viewed 25 February 2015, <<http://www.scew.gov.au/system/files/resources/020c2577-eac9-0494-493c-d1ce2b4442e5/files/wastemgt-nat-waste-report-final-20-fullreport-201005-0.pdf>>, 2010, p. 58.

What is waste education?

Waste education refers to any programs, projects, activities or approaches that seek to increase awareness and influence attitudes and behaviours of individuals, households and businesses. It can cover the whole waste and resource recovery system and incorporates broader concepts such as the waste management hierarchy (see below) and sustainability.

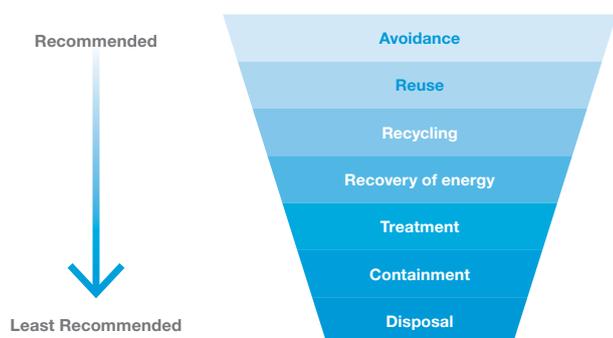
To achieve long lasting meaningful change in the community, we need to consider the behaviour change process and seek to understand the different influences on behaviour. When we understand the various factors that might affect a behaviour, we can develop better strategies to influence it.

A behaviour change considerations framework is included in Appendix 1 to help project staff reflect on the key behavioural assumptions for their projects.

The waste management hierarchy

The waste management hierarchy is an order of preference and states that waste should be managed in accordance with the hierarchy, with avoidance being the most preferred option and disposal being the least (see Figure 1). It is one of eleven principles of environment protection in the *Environment Protection Act 1970*.

FIGURE 1 THE WASTE MANAGEMENT HIERARCHY



The best approach to sustainable waste management (in terms of the waste hierarchy) will differ across the state depending on variations in population density and the distances between communities that can support viable waste treatment and recovery processes.

In the metropolitan areas, source separated collection schemes linked to high levels of resource recovery and the diversion of waste from landfill are likely to represent the optimum for sustainable waste management. In remote rural areas, the economic cost and environmental impact of transporting waste to distant recovery facilities may present alternative options.

Developing the waste education strategy

The draft waste education strategy is based on six strategic directions designed to support the Victorian Government's waste and resource recovery objectives over the next ten years. The strategy also outlines specific goals and actions to be implemented over the next five years.

Information sources

We used a range of information sources to develop the strategic directions, goals and actions in the waste education strategy as listed in Table 1.

TABLE 1 INFORMATION SOURCES USED TO DEVELOP THE WASTE EDUCATION STRATEGY

Information source	Details
Legislation and policy	This includes the Statewide Waste and Resource Recovery Infrastructure Plan and complementary strategies such as those related to market development and organics (see Policy context below).
Evaluation reports and audits	We reviewed a range of evaluation reports on statewide campaigns and program delivery, as well as independent reports and audits into waste education in Victoria.
Review of best practice	We commissioned a review of best practice in waste and resource recovery education in Victoria and other jurisdictions. This was supplemented by a review of broader public education programs on road safety and health awareness campaigns in Victoria.
Stakeholder feedback	We consulted a broad range of stakeholders and consultants that deliver waste education programs and services to schools, businesses and the community (see Stakeholder consultation below).

When collating the information from these four sources, we also considered:

- the responsibilities and legislative requirements of the environment portfolio
- the goals and objectives of the Victorian Government in resource recovery and waste management
- the needs of our partners that deliver waste education (delivery partners)
- successful approaches to program and campaign delivery
- the need to recognise the role of education and awareness raising and how they relate to behaviour change.

Stakeholder consultation

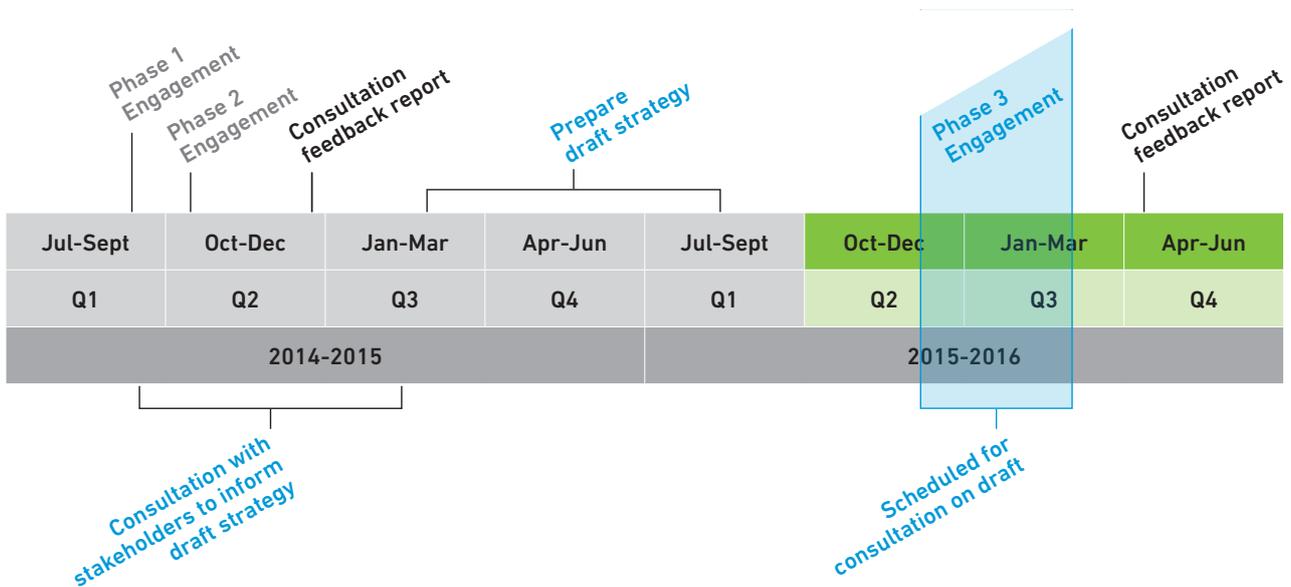
The strategic directions, goals and actions in this strategy were developed with input from key stakeholders. SV led the consultation process on behalf of the environment portfolio (see Figure 2) with a broad range of stakeholders from:

- › state and local government
- › the waste industry and waste industry associations

- › the education sector (including the Department of Education & Training and tertiary institutions)
- › consultants delivering waste education programs and services to schools, businesses and the community.

For more information on SV's stakeholder engagement and the consultation process used to develop this draft, refer to the Community Stakeholder Feedback Report in Appendix 2.

FIGURE 2 ENGAGEMENT TIMELINE FOR THE WASTE EDUCATION STRATEGY



Phase 1: SV interviews representatives from the state government, local governments, the waste industry and service providers to the school sector.

Phase 2: SV partners with WRRGs to hold workshops with more than 150 attendees. SV also used an online portal to invite feedback from participants.

Phase 3: SV partners with WRRGs to consult with stakeholders on the draft strategic directions, goals and actions before finalising the waste education strategy.

Next steps

This stage of the consultation process is open from 21 December 2015 to 4 March 2016. Stakeholders are invited to give feedback on the strategic directions, goals and actions outlined in this draft strategy (as per Phase 3 in Figure 2). You can provide feedback online using SV's stakeholder consultation and feedback portal at <http://participate.sustainability.vic.gov.au/>.

SV and the seven WRRGs will also carry out face-to-face consultation with key stakeholders during this period.

Once finalised, the environment portfolio will start implementing the waste education strategy, beginning with an assessment of state government priorities, current capacity and capabilities, and resource allocation across the portfolio.

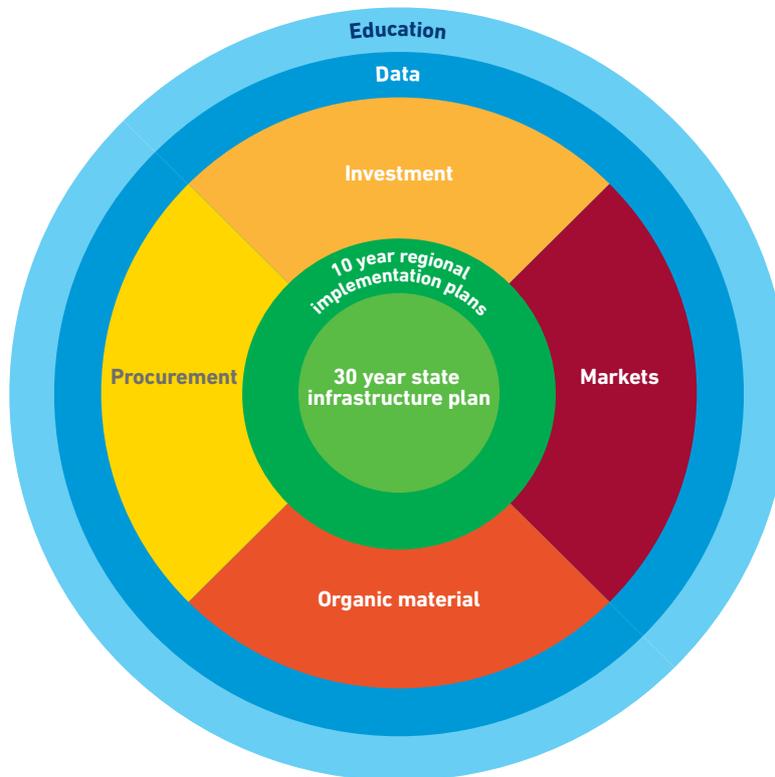
Policy context

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 3 conveys the priorities of this integrated, statewide approach to waste and resource recovery in Victoria. Appendix 3 provides a summary of the initiatives that will deliver on each of the priorities identified in Figure 3.

The role of waste education in this integrated, statewide approach to waste and resource recovery is acknowledged in Figure 3 under the priority to 'Educate to reduce waste, increase recovery and improve community engagement'.

FIGURE 3 PRIORITIES TO ACHIEVE A FIRST CLASS INTEGRATED WASTE AND RESOURCE RECOVERY SYSTEM IN VICTORIA



The waste education strategy supports Victoria’s environmental and sustainability objectives related to integrated waste management and the vision and goals of the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP). The waste education strategy is one of several new strategies and functions being developed by SV to support implementation of the SWRRIP.

To successfully meet the SWRRIP’s vision, SV will take a strategic and coordinated approach, which includes rolling out the following strategies:

- the Victorian Community and Business Waste Education Strategy (represented in Figure 3 under Educate to reduce waste, increase recovery and improve community engagement)
- the Victorian Market Development Strategy for Recovered Resources (represented in Figure 3 under Stimulate markets for recovered resources)
- the Victorian Organics Resource Recovery Strategy (represented in Figure 3 under Improve the recovery of organic materials).

SV will also set up functions dedicated to:

- facilitating industry and local government investment in waste and resource recovery infrastructure (represented in Figure 3 under Facilitate investment for improved infrastructure)
- supporting WRRGs and local government to undertake collaborative procurement for waste and resource recovery services and infrastructure (represented in Figure 3 under Facilitate collaborative procurement for infrastructure and services)
- improving the quality, timeliness and accessibility of waste data through a Waste Data Governance Framework and associated activities (represented in Figure 3 under Improve the quality, timeliness and accessibility of data).

Implemented together, this comprehensive suite of initiatives will ensure the government can achieve the vision and strategic directions set out in the SWRRIP and meet its obligations under the Environment Protection Act 1970.

The SWRRIP will be implemented at the local level through seven regional waste and resource recovery implementation plans (RWRRIPs). The RWRRIPs will set out how waste and resource recovery needs will be met in each region over the next ten years (see Figure 4 for a map of the seven regions).

The waste education strategy is a foundational strategy that supports a number of other initiatives related to the SWRRIP. Together these initiatives will help Victoria achieve the long term goals and objectives of the SWRRIP.

Who is involved in waste education?

The environment portfolio will share responsibility, consult and partner with a range of stakeholders to achieve the objectives of the waste education strategy. The environment portfolio and its delivery partners are listed in Table 2.

TABLE 2 KEY STAKEHOLDERS IN WASTE EDUCATION

Group	Stakeholder	Role in waste education
Environment portfolio	Department of Environment, Land, Water & Planning	Develops policy and strategic directions, and guides broader waste and environment activities as directed by the Minister for Environment, Climate Change and Water.
	Sustainability Victoria (SV)	<p>Responsible for statewide waste education campaigns and programs.</p> <p>Responsible for developing and leading the coordination, delivery and reporting of the waste education strategy.</p> <p>Coordinates implementation of the waste education strategy with WRRGs and EPA.</p> <p>Produces annual implementation plans and progress reports for the waste education strategy.</p> <p>Delivers waste related statewide campaigns such as litter.</p> <p>Manages the ResourceSmart Schools initiative.</p>
	Environment Protection Authority (EPA)	<p>Works with a risk-based approach to regulation, producing guidance material and supporting industry to comply with relevant standards.</p> <p>Responsible for managing pollution and litter reports through their 24-hour pollution hotline.</p> <p>Delivering compliance and enforcement measures for pollution and illegal dumping of industrial waste.</p> <p>Coordinates the delivery of programs and strategies with relevant stakeholders.</p> <p>Promotes its own enforcement activity.</p>
	Waste and Resource Recovery Groups (WRRGs)	<p>Facilitate delivery of the statewide waste education strategy at the regional and metropolitan level.</p> <p>Work with SV, councils, businesses and communities to facilitate delivery of statewide waste and resource recovery education programs and ensure they meet the needs of their region.</p> <p>Identify household, business and community education needs to support the implementation of new infrastructure or services in line with statewide strategies and priorities.</p> <p>Work with SV to provide regional input into the waste education strategy as well as program design, delivery and evaluation.</p>

Group	Stakeholder	Role in waste education
Waste education delivery partners	Local government	<p>Engages with local communities on new waste and resource recovery infrastructure and services.</p> <p>Influences communities, local business and industry (supported by other tiers of government) to maximise resource recovery rates and reduce waste to landfill.</p> <p>Implements and provides waste services and programs.</p> <p>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 Environment Protection Act 1970.</p>
	The waste and resource recovery industry	<p>Provide collection, transport, storage, sorting and disposal of waste are important components of waste education.</p> <p>Provides information on what can and cannot be collected or recycled.</p> <p>Provides information and data in waste contracts to councils.</p> <p>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.</p>
	Schools	<p>Involved in a number of programs and initiatives aimed at increasing children and young people's awareness of waste and other sustainability issues.</p> <p>Schools participate in ResourceSmart Schools (formerly known as ResourceSmart AuSSI Vic).</p>
	Community groups, non-government organisations and other government agencies	<p>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.</p> <p>Often form working relationships with local councils to engage with local communities and business.</p>
	Training providers, TAFEs and universities	<p>Provide formal programs that may lead to professional and academic qualifications for those working in the waste sector.</p> <p>Provide training or programs in the workplace to support sustainability or integrated waste management initiatives.</p>

The waste education strategy framework

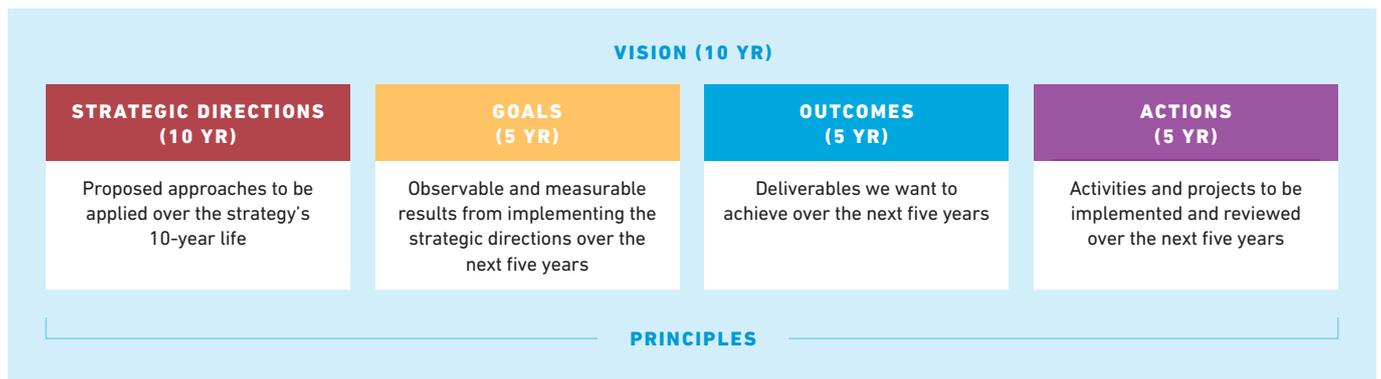
The overarching vision for the waste education strategy is to provide a statewide coordinated approach to waste education that supports best practice programs so that Victorian households, businesses, industry, government, the formal education sector and the community:

- › 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.

Underpinning our vision for waste education are six strategic directions that set the Victorian Government's approach for the next ten years. Each strategic direction has goals, outcomes and actions to be achieved over the next five years. We also have eight guiding principles to underpin all our actions.

Figure 5 provides an overview of the waste education strategy framework. An expanded framework is available in Figure 6.

FIGURE 5 THE WASTE EDUCATION STRATEGY FRAMEWORK



Strategic directions

The priorities for the environment portfolio over the next ten years are encapsulated in six 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 education for schools and early childhood services
6. Strengthen Victoria's waste education capabilities

The goals and outcomes under each strategic direction are listed in Figure 6 and actions are detailed in subsequent chapters.

Principles

We have principles to guide our approach to project and program design and delivery and also to partner engagement (see Table 3). We will evaluate the effectiveness of our approach against these principles so that stakeholders can measure our success.

TABLE 3 THE PRINCIPLES

Collaborate	Adopt an open and inclusive process and engage our stakeholders to come together to find solutions for issues/problems.
Be transparent	Be open about decision making, share what is happening and provide updates on progress. Communicate to delivery partners on our successes and failures.
Lead by example	As part of environmental management systems already in place, State government will lead on waste management and waste education within departments and agencies. The environment portfolio sets the agenda and direction for waste education programs for the state and coordinates our partners for project and program delivery.
Research and evaluate	Understand the behaviour change process. Ensure all projects are evidence based. Evaluate and learn from what does and does not work.
Form partnerships	Bring together diverse skills and resources from different organisations for more effective project and program delivery.
Celebrate success	Recognise the achievements and successes of partners, sharing what has worked well.
Support and facilitate others	Support, facilitate and build on the success of others who are already delivering efficient programs.
Encourage innovation	Pilot and test new ways of working. Scale up what works and wind down what does not.

The principles of environmental justice are based on the concepts of equity and participation. For this strategy, environmental justice principles will also be incorporated into how we design and deliver projects to ensure Victoria's diverse community are supported to take practical action to reduce waste, minimise its environmental impact and maximise its value. This will include catering for:

- › Regional communities
- › Culturally and linguistically diverse groups
- › Elderly and vulnerable communities
- › Disabled and impaired Victorians

FIGURE 6 DETAILED WASTE EDUCATION STRATEGY FRAMEWORK

SWRRIP vision	To outline where state government may intervene to stimulate production industries and markets for recovered resources in Victoria by reducing barriers and supporting the right conditions for product markets to grow and mature.							
Waste education strategy vision	Victoria has an integrated, statewide approach to market development within the principles of a circular economy, which supports mature and expanding production industries and markets for recovered resources.							
Guiding principles	Collaborate	Be transparent	Lead by example	Research and evaluate	Form partnerships	Celebrate success	Support and facilitate others	Encourage innovation
Strategic Directions								
Increase the Victorian community and business perception of waste management as an essential service	Increase community awareness of waste and support and encourage waste avoidance	Improve resource recovery and reduce contamination	Reduce litter and illegal dumping	Support waste education for schools	Strengthen Victoria's waste 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 education initiatives being implemented by schools and services	Efficient and effective program delivery with our delivery partners			
↓	↓	↓	↓	↓	↓			
Outcomes								
Best practice community engagement approaches identified	Programs to reduce food waste from households and businesses	Major contaminants identified for waste streams	Regional and local strategies to target litter and illegal dumping identified and tested	Schools participating in ResourceSmart Schools reduced waste to landfill from their baseline year	Work with delivery partners in local government, the waste industry and other organisations to deliver on Victoria's waste education priorities			
Understand the components of the social licence to operate for the resource recovery and waste sector	Programs to increase business efficiencies to reduce waste generation	Targeted interventions and programs to reduce contamination from high risk contaminants and associated behaviours	Increased awareness by waste generators of their obligations to the disposal of industrial waste		Deliver effective statewide programs and campaigns			
Waste management is seen as an essential service by community and business			Strong evidence base for litter and illegal dumping interventions					
↓	↓	↓	↓	↓	↓			
Action themes*								
Waste services are a utility	Food waste avoidance	Waste education for the community	Local planning for litter prevention	ResourceSmart Schools	Supporting local government			
Social licence to operate	Waste avoidance and minimisation for business	Waste education for small to medium enterprises and industry	Illegal dumping of household waste		Supporting other delivery partners			
			Illegal dumping of industrial waste		Delivering efficient statewide programs and campaigns			
↓	↓	↓	↓	↓	↓			

* Detailed strategic directions and relevant actions are listed in later chapters.

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.

Jobs in industry

The waste and recycling services industry in Australia is valued at \$7.0 to \$11.5 billion per year. Recycling services can increase employment with 9.2 jobs per 10,000 tonnes of waste recycled, compared to 2.8 jobs for disposal of waste to landfill.

Department of the Environment, Water, Heritage and the Arts, National Waste Report 2010, March 2010, p. 228

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

All sectors of the economy – including households – can produce environmental and economic benefits by improving materials efficiency, reducing waste generation and quantities of hazards within waste, and supporting resource recovery.

The focus of this strategic direction is to understand and influence the perception of waste and waste management in Victoria, including the systems and processes that support waste collection and materials recovery.

An efficient and effective resource recovery and waste management system that is supported and used appropriately by the Victorian community and businesses will:

- › achieve positive environmental outcomes
- › protect public health
- › support the goals and objectives of the SWRRIP.

The environment portfolio will focus on the current and future state of waste management in Victoria to help Victorians understand the impact of waste on our environment. We will adopt environmental justice principles to ensure impacted communities are provided opportunities to be involved in decision making that impacts them. We will 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 (SLO) for the waste sector in Victoria.

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

What is a 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 not only needs 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.

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

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.

The environment portfolio will carry out the following actions to increase community and business awareness of the waste and resource recovery sector (Table 4).

TABLE 4 ACTIONS RELATED TO WASTE SERVICES AS A UTILITY

Action	Details
1 Increase community and business awareness of the concept of waste in Victoria	Develop a targeted program to increase people's awareness to the volumes, challenges and opportunities for waste generated in Victoria.
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.

Social licence to operate

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

Environmental justice principles involve supporting, equipping and ensuring the fair treatment of traditionally vulnerable, disadvantaged or disengaged members of the community and provide them opportunities to participate during the planning phase of any new waste and resource recovery services and infrastructure.

Businesses involved in waste and resource recovery need to secure broad community support and acceptance in order to obtain or protect their SLO. Actions that the waste industry and government can take to obtain an SLO include engaging with local communities, gaining their trust and acceptance of operations and involving them in infrastructure planning.

The environment portfolio will carry out the following actions to support the waste industry and better understand the SLO for the waste sector in Victoria (Table 5).

TABLE 5 ACTIONS RELATED TO SOCIAL LICENCE TO OPERATE

Action	Details
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 Support research to improve our understanding of the SLO for the waste and resource recovery sector in Victoria	The environment portfolio will work with the waste and resource recovery industry to improve our understanding of the SLO for the sector.

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

Waste generation results from the way we use our resources, how we design and manufacture goods and the purchasing patterns of consumers. Influencing any one of these factors can minimise the amount of waste generated; reducing the pressure on our infrastructure and lessening the impact on the environment, community amenity and public health.

Population growth and waste

Victoria's population is growing fast. Since 2000 the population has grown from 4.8 to 5.8 million and is expected to reach 8.9 million by 2043. 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.

In 2011–12 over 8 million tonnes of valuable materials were recovered from our waste streams in Victoria, representing a 66% recovery rate. However, 4.1 million tonnes were still sent to landfill. If not managed properly, materials going to landfill can have a significant impact on our environment and communities now and in the long term. They also contain valuable resources which, if recovered, would create jobs, add value to the Victorian economy and minimise potential adverse impacts to our environment, community amenity and public health (SWRRIP 2015).

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.

Food waste makes up a significant component of the average household's landfill bin in Victoria. Audits by SV and others show that food makes up about 40% of what is thrown out by weight⁴. This food is a waste of natural resources and creates disposal problems at landfill. For this reason, the environment portfolio will focus on actions to minimise food waste.

The portfolio will also encourage small to medium enterprises (SMEs) and industry to invest in waste avoidance initiatives to realise the economic and environmental benefits of these interventions.

Our goal is to support Victorians to reduce the amount of waste generated.



⁴ Sustainability Victoria, Food waste in the garbage bin 2013, viewed on 25 February 2015, <http://www.sustainability.vic.gov.au/~media/resources/documents/publications%20and%20research/research/bin%20audits/bin%20audit%20report_food%20waste.pdf>, June 2014.

Food waste avoidance

Victorians estimate that they waste around \$39 on unused food and drink a week – that’s \$2000 a year. Across Victoria, this adds up to about \$4 billion. This is a loss of money to householders but also a loss of the resources used to grow, process, package and transport food from markets to our homes.

The estimated 250,000 tonnes of avoidable food waste sent to landfill each year from Victorian households has the potential to generate up to 400,000 tonnes of carbon dioxide equivalent (CO₂e) per year.

(Sustainability Victoria 2014)

Because of the way food waste breaks down in landfill, it can create methane, a greenhouse gas. Methane poses environmental and public health risks unless well managed.

With associated disposal costs to local government of \$21 million per year, minimising food waste not only has positive environmental outcomes but also financial savings for all Victorians.

The environment portfolio will carry out the following actions to encourage communities and businesses to minimise food waste (Table 6).

TABLE 6 ACTIONS RELATED TO FOOD WASTE AVOIDANCE

Action	Details
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.
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.
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.

Waste avoidance and minimisation for business

By using materials more efficiently Victorian businesses can save money. Waste reduction also helps cut disposal costs for businesses and minimises environmental impacts.

In 2010–11 over nine million tonnes of C&D and C&I waste were generated in Victoria. Of this, approximately 75% was recovered with the remaining 25% sent to landfill.

Improving materials efficiency can lead to significant reductions. SV assessed a broad spectrum of SMEs and found average savings of more than \$140,000 and an average payback of less than two years for manufacturers investing in process optimisation, re-use of waste product in-house and/or product redesign.

The environment portfolio will carry out the following actions to help businesses realise benefits and minimise waste (Table 7).

TABLE 7 ACTIONS RELATED TO WASTE AVOIDANCE AND MINIMISATION FOR BUSINESS

Action	Details
1	Identify target business sectors Identify and work with Victoria’s largest waste generating industries or business sectors.
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.
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.
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.

Strategic Direction 3: Improve resource recovery and reduce contamination

Resource recovery is the selective removal of disposed materials for a specific next use. It includes activities such as recycling, composting and waste to energy generation. 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. Reducing contamination is central to achieving this. Contamination or putting items in the wrong bin can reduce the volumes and quality of materials recovered. This can:

- › increase disposal costs for the community and businesses
- › result in safety issues at recycling facilities
- › lead to materials that can be recycled or recovered, or hazardous or toxic materials ending up in landfill.

Improving resource recovery and reducing contamination in Victoria's organics, commingled recycled and landfill waste streams will ensure that Victoria is:

- › minimising environmental impacts
- › maximising recovery of materials
- › supporting the integrated waste management and resource recovery objectives of the SWRRIP.

Contamination

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 plastic bags, garbage bags, garden waste, food scraps and broken ceramics.

Plastic bags, garbage bags and other plastic wrap are particularly problematic as they can get caught in and damage the equipment used to sort recyclables. This can lead to items intended for recycling ending up in landfill.

The most common contaminants in garden or green waste bins are paper and cardboard, plastic bags, glass and metal. These items reduce the quality of compost and mulch produced from garden organics.

Contamination can also occur in the landfill bin, with electronic or e-waste, paints, batteries and other recoverable materials ending up in landfill.

By improving resource recovery and reducing contamination Victorians can help ensure that materials are processed efficiently which in turn saves our resources benefiting the environment, public health and the economy.

To realise the resource recovery vision in the SWRRIP and complementary strategies (the Victorian Market Development Strategy for Recovered Resources and the Victorian Organics Resource Recovery Strategy) Victoria needs to continue its efforts in recycling, expand organics recovery and support the recovery of priority materials.

The reasons for contamination are complicated and need targeted evidence-based interventions to address them. The environment portfolio will adopt an evidence-based approach to intervention prioritising Victoria's major contaminants and the behaviours associated with them.

We will work with our partners to identify existing interventions that are working. We will 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 our waste streams.

Waste 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 coming online 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 material being wasted or ending up in landfill.

The environment portfolio will carry out the following actions to help communities improve resource recovery and minimise contamination (Table 8).

TABLE 8 ACTIONS RELATED TO WASTE EDUCATION FOR THE COMMUNITY

Action	Details
1 Encourage Victorians to recycle	Support Victorians to reuse and recycle where possible.
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.
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.
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.

Waste education for small to medium enterprises and industry

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

Providing waste education to small and medium enterprises (SMEs) and industry is a priority for the environment portfolio. The environment portfolio will carry out the following actions to help SMEs and industry improve resource recovery and minimise contamination (Table 9).

Audits of Victorian businesses have identified opportunities for improved waste management practices. 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 ACTIONS RELATED TO WASTE EDUCATION FOR SMES AND INDUSTRY

Action	Details
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 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.
3 Develop evidence-based guidance to support recycling activities within SMEs and industry	Work with SMEs and the appropriate industry associations to build support and an evidence base that presents the financial and reputational benefits of these programs. Partner with key organisation to support waste and resource recovery initiatives within targeted business sectors.
4 Partner with the right organisations to support waste and resource recovery initiatives within target sectors	Identify who to partner with and who to support to deliver our programs. Work with industry associations and appropriate government departments to encourage uptake of our targeted programs.

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 behaviour have improved but we need continued action to reduce littering and illegal dumping across the state.

Communities, businesses and government pay significant costs to clean up litter and illegally dumped materials. In 2009 local governments spent \$78 million cleaning up litter and illegal dumping with significant costs also incurred by many other organisations including:

- › state government – dumping on public lands affects schools, parks and open spaces, road and rail reserves and public housing
- › the waste management industry – illegal dumping of industrial waste undercuts legitimate business operations
- › charitable recycling organisations – dumping of waste and materials occurs at donation collection points.

About Victorian Litter Action Alliance

The Victorian Litter Action Alliance (VLAA) is the peak body for litter management and prevention in Victoria. Established in 2000, the VLAA provides a coordinated approach to preventing litter across state and local government, and industry and community sectors.

VLAA membership represents a diverse range of public and private organisations that help reduce litter in the community. The VLAA Litter Champion plays the lead role in coordinating the VLAA network and building the capability of VLAA members and litter managers beyond the alliance.

The reasons behind littering and illegal dumping are complex and people who litter and dump waste vary as to their specific actions and motivations. A range of authorities are responsible for clean-up and prosecution. Actions to prevent littering and dumping must be specific to the nature, scale and motives of the offence.

Litter programs have traditionally been delivered using a partnership model and are funded by different levels of government and industry. These partnerships have delivered numerous campaigns and programs intended to:

- › engage and educate
- › improve or initiate collection infrastructure (including public place recycling)
- › increase local government capacity to carry out enforcement activity against littering behaviour.

In this section we acknowledge the regional differences with litter and illegal dumping of household waste, and the important role of enforcement and regulation.

The environment portfolio will encourage local planning for litter prevention and examine ways to reduce illegal dumping of household and industry waste.

Our goal is to reduce littering and illegal dumping activity.

The Local Litter Measurement Toolkit

The Local Litter Measurement Toolkit (LLMT) helps local government and land managers to:

- › increase access to best practice techniques, data and analysis to inform management of litter and illegal dumping
- › evaluate litter and illegal dumping program and interventions at a local scale
- › conduct cost benefit analyses to improve local litter prevention projects
- › prepare business cases to bid for funding for initiatives to reduce litter and illegal dumping, maximise recycling, and improve or introduce infrastructure and enforcement.

VLAA's LLMT was released in 2014. It was developed by the National Centre for Sustainability at Swinburne University of Technology through extensive consultation with local government and other land managers.

Local planning for litter prevention

Litter issues are locally and regionally specific and require tailored solutions. In line with our guiding principles of 'research and evaluate' and 'encourage innovation', these actions focus on local planning for local litter prevention supported by consistent data and evidence using the LLMT.

The environment portfolio will carry out the following actions to encourage local planning for litter prevention (Table 10).

TABLE 10 ACTIONS RELATED TO LOCAL PLANNING FOR LITTER PREVENTION

Action	Details
1 Develop regional litter plans, supported by SV.	SV will support the WRRGs to develop regional litter plans that identify and prioritise litter issues for that region. Learning from the Victorian Litter Strategy and understand that litter behaviours, types of litter dropped and infrastructure around Victoria differ greatly.
2 Victoria's Litter Report Card	Development of an evidence-based Litter Report Card outlining Victoria's current key litter issues, priorities and management approaches
3 Litter Innovation Fund	Grants program to tackle local litter issues
4 Build, promote and enhance VLAA and VLAA resources	VLAA resources provide litter managers the information, tools and templates to effectively plan, manage and monitor litter prevention programs using VLAA's best practice model of education, infrastructure and enforcement.
5 Take action on Victoria's key statewide litter issues	Interventions to tackle statewide litter issues based on the Victorian Litter Report Card

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.

The environment portfolio will carry out the following actions to discourage illegal dumping of household waste (Table 11).

TABLE 11 ACTIONS RELATED TO ILLEGAL DUMPING OF HOUSEHOLD WASTE

Action	Details
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 environment portfolio understand the real costs of this illegal activity.
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 awareness raising activities on illegal dumping of household waste.
3 Take action on domestic dumping	Identify appropriate measures the Victorian Government can take on illegal dumping of household waste. Interventions would include an appropriate combination of research, education, infrastructure and enforcement

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 (EP Act). EPA will work to identify rogue operators found to be financially profiting from illegally dumping waste.

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

EPA will lead the following actions to discourage illegal dumping of industrial waste (Table 12).

TABLE 12 ACTIONS RELATED TO ILLEGAL DUMPING OF INDUSTRIAL WASTE

Action	Details
1 Educate waste generators in the construction and demolition (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. As part of a broader project tackling this issue, EPA will work with a range of partners across the industry to educate operators on their obligations.
2 Educate transporters of PIW and soil on their obligations	Since 2013 treatable non-liquid PIW has increasingly been transported interstate from Victoria for disposal. As part of a wider project tackling this issue, EPA will implement information and education activities for waste generators and transporters to ensure they understand their legal obligations for managing treatable non-liquid PIW and the consequences of non-compliance.
3 Educate quarry operators on their obligations under the EP Act	Compliance and enforcement trends show that quarries present a risk as unregulated dumping grounds for industrial waste. EPA will work with its co-regulator partners and the quarrying and extraction industry to ensure only clean fill material and engineered fill are used for rehabilitation.
4 Increase awareness of the fire risks associated with tyre stockpiling	Tyre fires resulting from incorrect stockpiling or dumping are a risk due to the difficulty in extinguishing them. As part of a broader government program, 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.
5 Promote and publicise enforcement action to maintain a credible threat of enforcement	Promote and publicise enforcement actions to maintain a strong, credible threat of enforcement. Strong enforcement motivates many regulated parties to 'do the right thing' and enforces the message that any competitive advantage from not complying with applicable laws and regulations will not be tolerated.

Strategic Direction 5: Support waste education for schools

The success of public education campaigns such as those related to road safety and health demonstrate that investing in education for school age students can have long term benefits for Victoria.

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

Through ResourceSmart Schools (RSS), SV and a network of service providers across the state help schools to embed sustainability into everything they do including operations, infrastructure, and teaching and learning programs. RSS helps schools reduce resource use and waste generation and demonstrate leadership on climate change action.

The environment portfolio will carry out the following actions to improve waste education in schools.

Our goal is to support waste education initiatives in schools.

ResourceSmart Schools

Thousands of Victorian school children have been introduced to the concept of sustainable action through RSS, managed by Sustainability Victoria. RSS is Victoria's model for implementation of the Australian Sustainable Schools Initiative (AuSSI).

The environment portfolio will carry out the following actions to improve waste education in schools (Table 13).

TABLE 13 ACTIONS RELATED TO RESOURCESMART SCHOOLS

Action	Details
1 Support schools to reduce waste going to landfill	RSS is a structured framework made up of a core module and four resource modules, one of which is waste. 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.
2 Evaluate ResourceSmart Schools	Review the current RRS model and identify future delivery options for sustainability education in schools.
3 Continuum of learning developed for waste education schools	Identify a continuum of learning for waste education in schools to ensure consistent and appropriate messages are delivered.
4 Recognise and reward schools undertaking waste education	Reward and recognition takes place in two forms: <ul style="list-style-type: none"> › The RSS Education Awards are aligned with the guiding principles of this 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

Strategic Direction 6: Strengthen Victoria’s waste education capabilities

Waste 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 education to the community, businesses, early childhood services and schools.

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.

The environment portfolio is 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.

Under this strategic direction, we will support the capacity and capabilities of local government and other delivery partners to provide effective and efficient waste education programs that benefit local communities and Victoria.

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

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 or resource recovery services.

Victoria has 79 local government areas, each with differing waste education priorities. Across the state, there is a diverse range of knowledge, skill levels, experience and resourcing allocated to waste education roles within local government. The environment portfolio will carry out the following actions to support local government and help meet their differing needs (Table 14).

TABLE 14 ACTIONS RELATED TO SUPPORTING LOCAL GOVERNMENT

Action	Details
1 Strengthen local government waste education networks across Victoria	Support regional waste education networks to provide support, peer-to-peer learning and development opportunities, and to communicate statewide priorities to local government officers.
2 Create an annual learning and development calendar for local government officers delivering waste education	The environment portfolio will work with partners in local government to identify a range of learning and development opportunities for local government officers delivering waste education and promote these activities through existing communication channels.
3 Hold an annual waste education conference for local government	The environment portfolio will hold an annual waste education conference for local government officers to share research, current projects and activities across Victoria and encourage peer-to-peer learning.
4 Establish cluster working groups for local government priority issues and encourage peer-to-peer learning	Establish working groups based on local government priorities. The environment portfolio will support these groups to encourage ideas and innovation at the local level.

Supporting other delivery partners

Other organisations play a role in delivering waste education to early childhood centres, schools, the broader community and businesses. The environment portfolio will carry out the following actions to support these delivery partners (Table 15).

TABLE 15 ACTIONS RELATED TO SUPPORTING OTHER DELIVERY PARTNERS

Action	Details
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 environment portfolio. This will look at aligning state government, regional and local programs with national and international awareness raising initiatives.
2	Share research and reports carried out on behaviour change, waste education and raising awareness.
	Ensure delivery partners have access to research and reports funded by the state government including campaign and program evaluation.

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.

The environment portfolio will carry out the following actions to help waste educators deliver efficient programs and campaigns (Table 16).

TABLE 16 ACTIONS RELATED TO DELIVERING EFFICIENT PROGRAMS AND CAMPAIGNS

Action	Details
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 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.
2	Develop an annual schedule for planned programs and campaigns led by EPA and SV
	Produce and maintain an annual schedule of planned programs and campaigns to be led by 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 plan for upcoming activities.
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 what works and what doesn't in waste education and behaviour change.

Implementing, evaluating and reporting on the waste education strategy

SV is the Victorian Government’s lead agency delivering programs on integrated waste management. SV will coordinate delivery and evaluation of the waste education strategy in partnership with the environment portfolio and other delivery partners.

Once the waste education strategy is finalised, SV will work with the environment portfolio and key stakeholders 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 annually on our progress implementing the strategy.

SV’s approach to monitoring and evaluating the strategy will be 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).

High level implementation plans and progress reports will be available on the [SV website](#).

FIGURE 7 IMPLEMENTATION AND REPORT PLANNING TIMELINE

2015–16 ↓	› Waste education strategy released
2016–17 ↓	› Progress report for 2015–16 › Implementation plan for 2016–17 in July 2016
2017–18 ↓	› Progress report for 2016–17 › Implementation plan for 2017–18 July 2017
2018–19 ↓	› Progress report for 2017–18 › Implementation plan for 2018–19 July 2018
2019–20 ↓	› Progress report for 2018–19 › Implementation plan for 2019–20 July 2019

Appendix 1: Behaviour change considerations framework

Introduction

To influence behaviour, we need to understand the various factors that might impact on the performance of a behaviour in order to see opportunities to influence it. Many attempts at changing behaviour proceed without this understanding. They rely on misplaced assumptions about what is necessary to achieve change, leading to strategies and outcomes that do not deliver on the original intent of a program.

The following outlines a framework of considerations that should inform any project that seeks to influence human behaviour. These considerations are based on contemporary behaviour change thinking and practice, which have been informed by over four decades of applied research across a range of disciplines. The framework should serve as a guide that project staff can use to reflect on the key behavioural assumptions underlying their projects and what else might need to be considered to implement effective interventions.

Defining and prioritising behaviours

Any behaviour change effort needs to begin with a clear definition of the target behaviour (i.e. what you want people to do; not what you do not want them to do) and audience. This typically starts with a problem that needs to be addressed (e.g. litter, contamination in recycling bins), identifying the problem behaviours that contribute to it, ascertaining what segments of the population engage in these behaviours, and identifying alternative target behaviours that you want to be performed instead. As part of this process, it is useful to think of behaviours as observable actions that people perform at a given place and time.

It is also useful to complete a prioritisation exercise to identify which behaviours (assuming there are many to choose from) should be targeted. This should consider:

- How impactful is the behaviour? How much of a difference will it make to address the problem?
- What level of penetration has the behaviour already achieved? Are a lot of people already performing it, or is it just a few? Is there significant enough scope for change?
- How probable is it that those who are not yet performing the behaviour will adopt it? Is it a difficult behaviour to perform (e.g., in terms of costs, skills, time)? What do past programs tell us about the uptake of these behaviours?
- Can the behaviour be observed or measured for the purpose of evaluation?

Ideally, you want to select measurable behaviours with high impact, high scope for change, and high probability.

Understanding behaviours

The next critical step, which links the target behaviour to the choice of intervention strategy, is understanding the influential factors that impact on the performance of the behaviour. As mentioned previously, this step is often overlooked, with the choice of intervention strategy instead based on assumed models of behaviour change.

A large body of research has been devoted to understanding and testing different influences on behaviour, providing project staff with an evidence-base that can inform their intervention approaches. The following is a summary of the key factors that are known to influence human behaviour (see Figure 8), and how you might go about finding out more about them.

FIGURE 8 FACTORS THAT INFLUENCE BEHAVIOUR



Attitudes

Attitudes are a person's overall favourable or unfavourable evaluation of engaging in a behaviour.

To find out how attitudes are influencing the target behaviour, you can interview your target audience and ask them the following questions:

- What do you see as the advantages or good things about performing the behaviour?
- What do you see as the disadvantages or bad things about performing the behaviour?

Program designers can sometimes fall into the trap of assuming that their own attitudes are also held by those they are trying to influence. This is often not the case. The key consideration is to tap into the attitudes that are held by your target audience in relation to the target behaviour you want them to perform. For example, if you find that your target audience have poor or misinformed attitudes towards the behaviour of interest, you might need to develop persuasive message content to tackle these explicitly.

Norms

Norms refer to a group of 'social rules' that indicate what are the common, expected and acceptable behaviours in a particular situation.

Norms are often separated into three categories: injunctive (what a person thinks others would approve or disapprove of), descriptive (what a person thinks others do in a particular situation), and personal (what a person believes he or she should do based on their own standards or rules).

To measure people's personal norms, you can survey your target audience and ask them to rate their level of agreement to the following questions:

- › I feel a strong personal obligation to perform the behaviour
- › I am willing to put extra effort into performing the behaviour
- › I would feel guilty if I didn't perform the behaviour

For injunctive norms, there are some common questions that you can ask your target audience.

For example:

- › Who (individuals/groups whose opinions matter to you) do you think would support or approve if you perform the behaviour?
- › Who (individuals/groups whose opinions matter to you) do you think would object or disapprove if you perform the behaviour?

However, people might not always be fully aware who might influence them as 'credible sources' or opinion leaders in a given situation. Some general recommendations on what makes a source credible or compelling is that they possess similar or desirable values or traits to the target audience, have competence or expertise on the issue, and are well positioned within the target audience's social networks to be a source of influence. Such criteria could be used to choose credible message sources for a program.

Finally, research shows that people are typically influenced by what most others 'like them' do in similar situations (even though they might say otherwise when asked). To this end, project staff will be best served to do their own research to discover how many others (like the target audience) are performing the target behaviour to determine whether it can be expressed as a compelling norm (in percentage or actual numbers terms) to suggest lots of people perform the behaviour.

Capability

Capability is a person's own physical, financial or psychological capability to undertake the behaviour. This might involve considerations related to having the necessary time, skills, knowledge and resources to perform the behaviour.

To avoid making misinformed assumptions about the capability of your target audience, you can interview them and ask:

- › What factors or circumstances enable or make it easy for you to perform the behaviour?
- › What factors or circumstances hinder or make it difficult for you to perform the behaviour?

Answers to these questions might suggest the need for education campaigns to improve knowledge, capability programs to improve skills, or monetary incentives to improve people's financial capacity to perform the behaviour.

Opportunity

Opportunity refers to the factors or circumstances beyond the individual that provide them with the means to carry out the behaviour (e.g. infrastructure provision, product availability at local retailers). No matter how motivated or capable a person might be, this might not translate to behaviour if there are external barriers preventing them from performing it.

The same questions used for capability will often yield insights related to opportunity as well:

- › What factors or circumstances enable or make it easy for you to perform the behaviour?
- › What factors or circumstances hinder or make it difficult for you to perform the behaviour?

It is important to realise that answers to these questions might involve subjective perceptions of opportunity (or lack thereof) rather than objective ones. To this end, an intervention might need to bring to people's attention actual opportunities to implement the behaviour that they might not have previously been aware of.

Habits

Habits are repeatedly performed behaviours in stable contexts with little thought or deliberation.

Trying to shift people away from a problem behaviour to a target behaviour can be especially difficult when the problem behaviour is under the influence of habits, as people are often not paying attention or looking for new information.

Habits can be ascertained by observing whether problem behaviours are performed frequently in stable contexts without much thought or deliberation. Measures also exist to ascertain the existence and strength of a habit (especially if it is not obvious how much a behaviour is under the influence of habits). These questions would involve a person rating whether the behaviour is something that:

1. They do frequently.
2. They do automatically.
3. They do without having to consciously remember.
4. That makes them feel weird if they do not do it.
5. They do without thinking.
6. That would require effort not to do it.
7. That belongs to their (daily, weekly, monthly) routine.
8. They start doing before they realise they are doing it.
9. They would find hard not to do.
10. They have no need to think about doing.
11. That's typically 'them'.
12. They have been doing for a long time.

Having an understanding of habits makes you think more about when to intervene. That is, it is important to look for 'moments of change' when previous habits become unstable, or situations where people are actively looking for information when confronted with new situations or circumstances (e.g. building a new house, having a baby, switching jobs).

Alternatively, you might want to introduce your own moment of change (e.g. reducing the size of general waste bins) that compels your target audience to reassess their previous habits that no longer represent optimal choices.

Emotion

Emotions are a person's actual or anticipated feelings in response to performing a behaviour (e.g. fear, guilt, regret, pride, relief, desire).

Asking people how emotions impact on their behaviour can be problematic given that emotions often influence behaviour in unconscious or unpredictable ways. However, questions like the following can shed some insight into people's emotional responses:

- › What do you like or enjoy about performing the behaviour?
- › What do you dislike or hate about performing the behaviour?

Some behaviours lend themselves to being influenced by particular emotions. For example, 'anticipated regret' tends to be most influential on behaviours which are hard or impossible to reverse, when significant others will have to live with the consequences of a poor choice, and where the benefits of an alternative choice will be realised in the future.

While research results generally remain mixed whether certain anticipated or actual emotions work better than others, a more conclusive insight is the value of generating at least some level of emotional arousal (regardless of whether it is positive or negative) that can be combined with other considerations (e.g. attitudes, norms) to make them more emotionally appealing. Under these circumstances, emotions can provide an appealing 'hook' to get people interested in the behaviours you want to influence.

Biases

Biases are people's systematic and unconscious tendencies to think, decide and behave in certain ways. They often lead to predictable deviations away from a perceived standard of rationality or good judgement.

Given their unconscious nature, there is little point asking your target audience about biases. Instead, there are many examples in the research and applied literature that articulate how these biases systematically and predictably impact on people's behaviour. Some of the more common biases are:

- › Confirmation bias: The tendency to search for or interpret information in a way that confirms a person's own preconceptions or hypotheses, even in the face of contrary evidence.
- › Loss aversion: The tendency to strongly prefer avoiding losses to making gains (i.e. losses loom larger than corresponding gains).
- › Anchoring: The tendency to rely too heavily on the first piece of information offered (the 'anchor') when making subsequent judgements of value regarding possible alternatives.
- › Status quo bias: The tendency to like things to stay the same (and avoid making choices).
- › Time discounting: The tendency for present or short-term events and outcomes to be weighted more heavily than future ones.

The key point is that while some behaviour change campaigns assume that people make considered or deliberate decisions, this is not always the case, especially when biases (and habits) are involved. Having an awareness of how people take 'short-cuts' in their decision-making can therefore overcome some of the challenges associated with unconscious or automatic decision-making. This might involve changing 'defaults', manipulating the decision-making environment (choice architecture), switching from 'savings' language to 'loss' language, and finding ways of making costs and savings more immediate in the minds of your target audience.

Context

Context refers to a range of shared social, cultural and environmental structures and expectations that exist beyond any individual or single behaviour. They typically impact 'why we do what we do' – that is, the practices and routines that have come to be expected.

Such practices and their meanings are often considered mundane or taken for granted, yet they manifest in everyday behaviours such as how and why we consume, dispose of waste, keep warm/cool, and clean.

Context can be researched at a macro level that analyses and tracks the general 'sentiment' of society related to particular issues and concerns. However, practices can also be explored at a more localised level by asking people:

- › What does it mean to you to perform the practice (e.g. the practice of waste management)? In other words, what is right, proper or socially acceptable?
- › What competencies, knowledge or skills are required to perform the practice?
- › What materials (e.g. objects, infrastructures, and technologies) are necessary to perform the practice?

While the above questions do share similarities with some of the other concepts discussed so far, they are positioned at a broader practice or routine level rather than at specific behaviours and individuals.

Summary

Previous attempts at changing behaviour have often not met expectations because of a failure to fully appreciate the different influences on behaviour. These influences (see Table 17 for a summary) range from deliberative (i.e. requiring thoughtful consideration) to more unconscious or automatic processes.

Acquiring an insight into some or ideally all of these through a combination of interviews/surveys, observations or desktop research will essentially 'increase the odds' of any behaviour change effort being successful (while avoiding misguided assumptions about what will work).

Furthermore, by collecting this information from samples of 'those that do' and 'those that don't' perform the behaviour, the results will highlight a range of key differences that influence the behaviour from the perspective of the target audience, and will provide a more strategic foundation for the choice of intervention approach (e.g. education campaigns, tailored communications, incentives, regulation, capability building).

TABLE 17 SUMMARY OF THE KEY FACTORS THAT INFLUENCE BEHAVIOUR

Key variables	Description	Type of influence on behaviour	Data collection approaches	Possible tools
Attitudes	Overall favourable or unfavourable evaluation of engaging in the behaviour.	Deliberative	Interviews/ surveys	Persuasive messaging
Norms	Social rules that indicate what are the common, expected and acceptable behaviours in a particular situation.	Deliberative Automatic	Interviews/ surveys Observations Desktop research	Credible sources Behavioural feedback Normative comparisons
Capability	Physical, financial or psychological capabilities to undertake the behaviour.	Deliberative	Interviews/ surveys	Education campaigns Incentives Capability building programs
Opportunity	Factors or circumstances beyond the individual that provide them with the means to carry out the behaviour	Deliberative	Interviews/ surveys Desktop research	Infrastructure provision
Habits	Repeatedly performed behaviours in stable contexts with little thought or deliberation	Automatic	Interview/ surveys Observations	'Moments of change' Habit disruption approaches (e.g., regulation, incentives, penalties)
Emotion	Actual or anticipated feelings in response to performing a behaviour	Deliberative Automatic	Interviews/ surveys Desktop research	Emotional appeals
Biases	Systematic and unconscious tendencies to think, decide and behave in certain ways, leading to predictable deviations away from a perceived standard of rationality or good judgement.	Automatic	Observations Desktop research	Changing defaults Message framing
Context	Shared social, cultural and environmental structures and expectations that exist beyond any individual or single behaviour.	Automatic	Interviews/ surveys Observations	Sensitising the community Cultural change

Appendix 2: Community stakeholder feedback report



REPORT

Victorian Community and Business Waste Education Strategy: Stakeholder Feedback December 2014



Appendix 3: Priority actions and solutions for an integrated waste and resource recovery system

TABLE 18 PRIORITY ACTIONS AND SOLUTIONS

Provide a statewide roadmap to ensure Victoria has the infrastructure to effectively manage the mix and volumes of waste for the next 30 years

Problem:

- › Victoria's population is growing fast. Since 2000 the population has grown from 4.8 to 5.8 million. By 2043 a population of 8.9 million is anticipated. 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.
- › If not managed properly, materials going to landfill can have a significant impact on communities and the environment now and in the long term e.g. resource recovery reduces pressure on natural resources by supporting the use of recovered materials rather than virgin. In 2011-12, over 8 million tonnes of valuable material was recovered from our waste streams (representing a 66% recovery rate), however 4.1 million tonnes was sent to landfill.
- › Despite local government planning waste infrastructure for their municipality, there is currently no mechanism to enable strategic planning and decision making for waste infrastructure at a state, local or regional level.

Solution:

- › Provide the statewide context and long term vision for improving Victoria's waste and resource recovery infrastructure system.
- › Ensure waste and resource recovery services essential to meet the needs of all Victorians are available by:
 - Effectively managing the expected mix and volumes of waste
 - Reducing the amount of valuable materials going to landfill and maximising resources recovered
 - Supporting innovation and investment in better infrastructure to create jobs and bolster the economy
 - Minimising community, environment and climate change and public health impacts whilst supporting a viable resource recovery industry.

Project:	Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP)
Responsible organisation:	Sustainability Victoria (SV)
Supporting organisations:	Department of Environment, Land, Water & Planning (DELWP), Environment Protection Authority (EPA) and the Waste and Resource Recovery Groups (WRRGs).

Identify infrastructure needs and how these will be met over the next 10 years for each waste and resource recovery region (7 in total)

Problem:

- › Despite local government planning waste infrastructure for their municipality, there is currently no mechanism to enable strategic planning for waste infrastructure at a broader local, regional level that encompasses statewide planning.
- › To effectively implement the SWRRIP, an increased understanding of the regions' current waste infrastructure, environmental and financial performance as well as projected waste volumes, urban growth and industry demands.
- › Industry need clear articulation of the business opportunities to recover materials to inform investment decisions.

Solution:

- › Develop 7 regional waste and resource recovery implementation plans (RWRRIPs) – led by the waste and resource recovery groups (WRRGs) and in consultation with relevant community, local government and industry.
- › The plans will set out relevant regional infrastructure needs and how these will be met over 10 years and be:
 - Guided by the SWRRIP strategic directions and the needs and priorities of the local communities
 - Established with neighbouring WRRGs to maximise opportunities to share resources, minimise costs and maximise innovation and job creation.

Project:	Regional Waste and Resource Recovery Implementation Plans
Responsible organisation:	WRRGs
Supporting organisations:	SV

Stimulate markets for recovered resources

Problem:

- › Despite Victorian's strong desire to support recycling, recovering valuable resources and remanufacturing materials also relies on establishing suitable market demand for products
- › Some recovered materials are being generated by a "push" from the supply side (e.g. kerbside recycling) rather than a "pull" for their demand as materials for remanufacturing into new products.
- › The demand for some recovered materials can cause economic, community, environment and public health impacts.
- › Common challenges and barriers for market development for recovered resources are varied e.g. the quality and quantity of recovered resources; transport and processing costs of often low value materials competing with virgin materials and imports; market price fluctuations; and limited information on the quality of products with recycled content.

Solution:

Identifying where state government may intervene to stimulate production industries and markets for recovered resources in Victoria, by reducing barriers and supporting the right conditions for product markets to grow and mature. Interventions will aim to:

- › Improve the quality of recovered resources to support manufacturing
- › Improve consolidation and aggregation of recovered materials to support growth in manufacturing
- › Improve the performance of products incorporating recovered resources
- › Increase the use of products incorporating recovered resources

Project:	Victorian Market Development Strategy for Recovered Resources
Responsible organisation:	SV
Supporting organisations:	DELWP and EPA

Improve the recovery of organic materials

Problem:

- › One of the biggest challenges to Victoria over the next 30 years will be mitigating and adapting to the impact of climate change and significantly:
 - approximately 60% of all waste landfilled is organic
 - food waste contains nutrients and energy value which is lost when disposed of at landfill.
- › In 2011-12 approximately 2.25 million tonnes of organic waste was generated in Victoria and about 1.27 million tonnes of this ended up in landfill, representing an estimated loss to the economy of \$30 million.
- › Increasing recovery of food waste is important as it is highly putrescible in nature and can cause community, environment and public health risks in landfill due to factors including the generation of:
 - offensive odours
 - leachate that can contaminate water ways
 - methane adding to our greenhouse gas emissions
 - pathogens due to vermin and pests.

Solution:

- › Provide a strategic statewide approach to local government, business to better manage organic wastes by:
 - Addressing current challenges to realise the full economic value of organic wastes while protecting the community, environment and public health.
 - Proposing a transition to advanced technologies and improved treatment and processing of organics
 - Establishing conditions for a thriving organics recovery and processing industry that maximises value through higher quality products, materials and alternative uses.

Project:	Victorian Organics Resource Recovery Strategy
Responsible organisation:	SV
Supporting organisations:	DELWP, EPA and WRRGs

Facilitate investment for improved infrastructure

Problem:

- › The SWRRIP identifies \$550-800 million in new infrastructure is required for Victoria to maximise resource recovery from its waste flows over the next 30 years. SV projects that a total potential investment of between \$3.6 and \$5 billion in maintenance, upgrades and expansion of existing infrastructure (including landfills).
- › The waste and resource recovery sector is particularly exposed to risks associated with regulation, community support, waste feedstock, project scale and new technologies.
- › A number of barriers can prevent new investment in waste and resource recovery infrastructure. These include access to finance for new technologies, land-use planning, demand for recycled/reprocessed materials, the quantity and quality of waste feedstock and investor access to data and information.
- › These barriers can prevent new investment and limit the innovation and risk-taking needed to deliver the infrastructure necessary to effectively manage Victoria's predicted waste flows.

Solution:

- › Provide a consistent and coordinated support to facilitate waste and resource recovery investment by:
 - Assisting the delivery of projects with improved technologies to increase resource recovery rates and effectively manage Victoria's waste flows.
 - Reducing the risk to investors by helping address barriers to investment in the sector.
 - Utilising existing government investment attraction and facilitation services and networks to raise awareness of potential opportunities.

Project:	Investment Facilitation Framework
Responsible organisation:	SV
Supporting organisations:	DELWP, Department of Economic Development, Jobs, Transport and Resources (Regional Development Victoria, Invest Vic and Invest Assist)

Facilitate collaborative procurement for infrastructure and services

Problem:

- › Collaborative procurement (when two or more councils work in partnership to purchase waste and resource recovery services and / or infrastructure by consolidating waste materials or products) facilitates increased infrastructure investment e.g. increased economies of scale from larger amounts of materials or products attracts investment and improves waste and resource recovery outcomes.
- › Collaborative procurement occurs sporadically in the waste and resource recovery sector due to:
 - Lack of consistency of approach across the state and identification of strategic opportunities
 - Different levels of procurement skill within local government and waste and resource recovery groups
 - Isolated areas missing opportunities to improve infrastructure and services due to low material volumes and funding and limited capacity to attract investment
 - Local government are missing opportunities to achieve cost savings, share knowledge and plan for better waste and resource recovery outcomes for the community.

Solution:

- › Provide a consistent and coordinated approach to collaborative procurement by supporting waste and resource recovery groups (WRRGs) and local councils to:
 - undertake best practice collaborative procurement for infrastructure and services
 - build capability and expertise in collaborative procurement
 - increase the rate of collaborative procurement to underpin investments at a scale that minimises costs while achieving the economic, community, environment and public health outcomes.

Project:	Collaborative Procurement Framework
Responsible organisation:	SV
Supporting organisations:	DELWP, Local Government Victoria and WRRGs

Improve the quality, timeliness and accessibility of data

Problem:

- › Data is critical to well targeted and planned waste programs based on evidence. There are systematic problems in the way waste data is governed, managed and used across Victoria including:
 - numerous bodies within the Victorian Government environment portfolio involved in collecting and reporting on waste data, leading to both duplication and gaps in the collection of data.
 - inconsistencies in the quality, collection, storage and sharing of waste and resource recovery data.

Solution:

Provide a consistent and coordinated approach for the Victorian Government environment portfolio, local government and the waste and resource recovery industry to:

- › strengthen and standardise the collection, storage and sharing of waste and resource recovery data
- › better coordinate the sharing of data between state and local governments as well as industry in a timely and reliable manner
- › explore the viability of a central data repository that stores a comprehensive set of waste data and information about waste data flows.

Project:	Waste Data Governance Framework
Responsible organisation:	SV
Supporting organisations:	DELWP, EPA and WRRGs

Educate to reduce waste, increase recovery and improve community engagement

Problem:

- › Despite broad delivery and extensive investment in waste education delivered by state and local government, waste and resource recovery groups (WRRGs), waste and resource recovery industry, schools and community organisations, success in addressing critical issues has been variable.
- › An uncoordinated and inconsistent statewide approach to education reduces its effectiveness, often sending mixed messages to communities e.g. household or business contamination and recycling rates can be improved with the support of solid education working in conjunction with other approaches.
- › Varying degrees of community engagement and consultation for waste infrastructure across the state have led to differing levels of community acceptance of waste management, treatment and disposal.
- › There is a gap in provision of education for small to medium enterprises and commercial and industrial waste generators.

Solution:

- › Provide a consistent and coordinated statewide approach to waste and resource recovery education.
- › Ensure Victorian community, business, government and the education sector understand the importance of effective waste management and resource recovery by:
 - Articulating waste educators' (state and local government, industry and educational institutions) roles and responsibilities in waste education by providing a set of agreed principles and approaches and encourage collaboration between waste educators, generators and receivers.
 - Establishing an evidence base to facilitate knowledge sharing of best practice waste education principles for stakeholders and innovative approaches for waste educators.
 - Identifying a vision and agreed outcomes for waste education including reducing waste generation; improving resource recovery; and increasing the communities' awareness of the essential nature of waste and resources recovery management services.

Project:	Victorian Community and Business Waste Education Strategy
Responsible organisation:	SV
Supporting organisations:	DELWP, EPA and WRRGs

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