NSW EPA

Changing Behaviour Together: NSW *Waste Less, Recycle More* Education Strategy 2015–17

Draft for public consultation: March 2015

www.epa.nsw.gov.au

Disclaimer:
The EPA has compiled this document in good faith, exercising all due care and attention. The EPA does not accept responsibility for any inaccurate or incomplete information supplied by third parties. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. The EPA shall not be liable for any damage which may occur to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice about the suitability of the information to their needs.

Contents

Overview

The *Waste Less, Recycle More* initiative

The NSW Environment Protection Authority (EPA) is delivering *Waste Less, Recycle More*, a $465 million package to transform waste and recycling in New South Wales over five years. This initiative aims to:

- boost recycling and resource recovery in both households and businesses

- support major and enhanced waste and recycling infrastructure

- establish a network of Community Recycling Centres (CRCs)

- encourage innovation in recycling

- target illegal dumping and littering

- build strong partnerships with councils and other stakeholders.

Changing Behaviour Together is a key part of the *Waste Less, Recycle More* initiative.

This strategy

To meet the goals of *Waste Less, Recycle More* and the *Waste Avoidance and Resource Recovery Strategy (WARR) 2014–21*, education is crucial. This education strategy is a framework for us, our partners and stakeholders to change community behaviour through targeted education. *Changing Behaviour Together* is relevant for all organisations implementing programs under *Waste Less, Recycle More*.

We all have a role to inform, motivate and work with the community. This strategy explains:

1. **What we want to achieve**	Our vision and the principles that guide us
2. **What we will do**	Our action plan based on our strategic directions
3. **How we will evaluate success**	Our evaluation criteria based on our intended education outcomes

What we want to achieve

Our vision is to optimise the use and quality of education in all *Waste Less, Recycle More* programs so that they promote positive behaviour change and lead to improvements in the environment and community wellbeing.

What we will do

The EPA's role is twofold, with both direct and indirect actions: we aim to teach people about waste and help others to do so. We will work on our own and with councils, businesses, community organisations and other agencies.

Each action in our plan links to at least one of our strategic directions:

- Develop and use consistent messaging

- Integrate education

- Build capacity

- Promote excellence

- Provide resources and tools

- Work with and support stakeholders

See section 2, page 6 for more information.

How we will evaluate success

We will evaluate our success against individual program goals and the six strategic directions of *Changing Behaviour Together*. The EPA will publish a progress report on the implementation of this strategy at the beginning of the 2016/17 financial year. A full report will be published at the end of the *Waste Less, Recycle More* initiative in 2017/18. See section 3, page 17 for more information.

1. What do we want to achieve?

Vision

Our vision is to optimise the use and quality of education in all *Waste Less, Recycle More* programs so that they:

- increase knowledge and skills

- build positive attitudes

- promote changed behaviour so the whole NSW community can improve the environment and community wellbeing.

Ideally, education programs will use diverse methods and be carefully tailored. They should engage with the values and motivations of the groups they target.

We base this vision on UNESCO's Education for Sustainable Development, an approach that 'allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future' (www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development). To learn more, please see Appendix A.

Principles

These key principles will bring quality and consistency to our programs and guide how we develop and deliver education across NSW. We have developed these from local and international resources (see Appendix B).

We will encourage our partners and stakeholders to incorporate these principles into their *Waste Less, Recycle More* education activities.

Education about waste avoidance and resource recovery:

1. fosters a spirit of active citizenship in caring for the environment

2. reflects and addresses the needs, values and motivations of target audiences

3. reinforces key messages over time and engages with new issues

4. helps people connect their actions with outcomes

5. has a positive 'call to action' and expects behaviour to change

6. aims to generate positive social norms about the value of resources

7. respects and reflects cultural and linguistic diversity, and local Aboriginal culture

8. shows its effectiveness by being well researched, evaluated and reported.

Policy context

Several broader directives have also informed this strategy.

NSW 2021: A plan to make NSW number one

This plan (www.nsw.gov.au/sites/default/files/nsw_2021_plan.pdf) sets out priorities and commitments for the NSW Government. It includes actions and targets for recycling, illegal dumping and littering.

Environment Protection Authority Strategic Plan 2014–17

This plan (www.epa.nsw.gov.au/whoweare/strategicplan.htm) defines the EPA's role in implementing *NSW 2021*.

Vision: Healthy Environment, Healthy Community, Healthy Business

Purpose: Improving environmental performance and waste management in NSW

Key result areas:

- informed planning decisions
- improved environmental outcomes
- responsive incident management
- innovative waste management
- effective stakeholder engagement
- exemplar organisation.

Review of the NSW Waste and Environment Levy

KPMG's independent review in 2012 (www.epa.nsw.gov.au/resources/wasteregulation/waste-levy-review-report.pdf) proposed 17 recommendations to:

- improve the waste levy
- drive greater recycling
- better align waste levy funding to stimulate infrastructure, combat illegal dumping and reduce littering.

KPMG also noted the need for more education to support the reforms (see recommendations 2, 7 and 10).

Waste Avoidance and Resource Recovery Strategy 2014–21

The WARR Strategy (www.epa.nsw.gov.au/resources/warr/140876WARRStrat14-21.pdf) is a key part of the NSW Government's vision for the state's environmental and economic future. It sets long-term targets for waste avoidance, recycling, litter and illegal dumping.

Avoid and reduce waste generation

By 2021–22, reduce the rate of waste generation per capita.

Increase recycling

By 2021-22, increase recycling rates for:

- municipal solid waste from 52 per cent (in 2010–11) to 70 per cent
- commercial and industrial waste from 57 per cent (in 2010–11) to 70 per cent
- construction and demolition waste from 75 per cent (in 2010–11) to 80 per cent.

Divert more waste from landfill

By 2021–22, increase the waste diverted from landfill from 63 per cent (in 2010–11) to 75 per cent.

Manage problem wastes better

By 2021–22, establish or upgrade 86 drop-off facilities or services for managing household problem wastes statewide.

Reduce litter

By 2016–17, reduce the number of litter items by 40 per cent compared with 2011–12 levels and continue to reduce litter items to 2021–22.

Reduce illegal dumping

From 2013–14, implement the *NSW Strategy to Combat Illegal Dumping* to reduce the incidence of illegal dumping statewide. As part of this strategy, by 2016–17:

- reduce the incidence of illegal dumping in Sydney and the Illawarra, Hunter and Central Coast regions by 30 per cent compared with 2010–11
- establish baseline data to allow target-setting in other parts of the state.

The WARR Strategy follows the waste hierarchy model. Figure 1 outlines where this strategy will have most influence in this hierarchy.

Figure 1: Waste hierarchy and the impact of *Changing Behaviour Together*
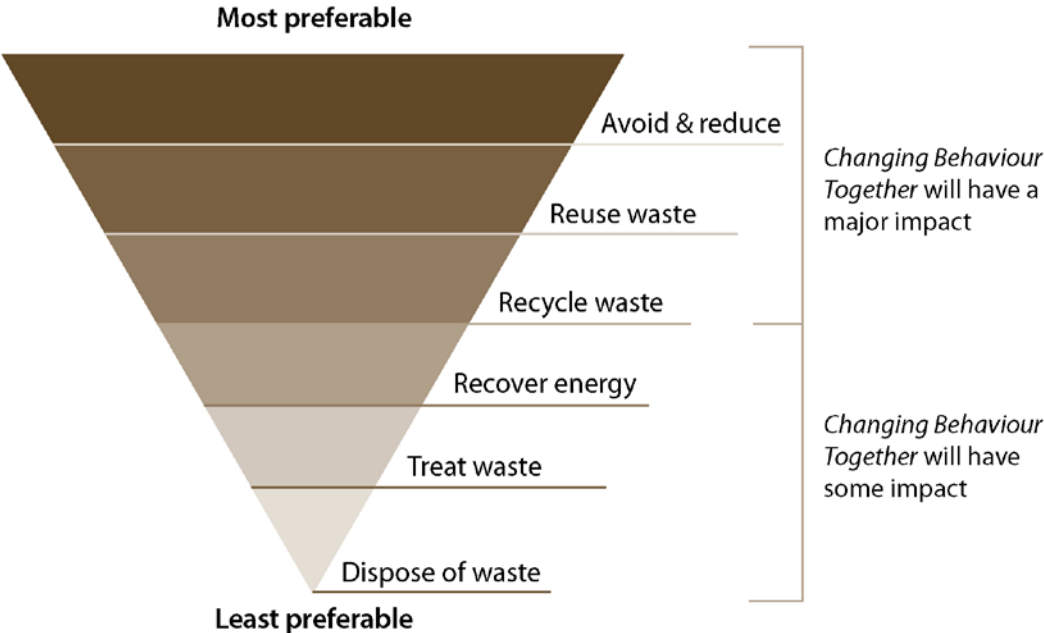
2. What will we do?

Our approach

The EPA will work with internal teams and external stakeholders to deliver the action plan in this section.

To be successful, we know that we need various approaches, particularly for those actions involving education campaigns.

We will:

- develop campaigns with stakeholders, particularly local councils, that will help deliver outcomes
- ensure campaigns can be adapted locally and regionally
- work to ensure materials are culturally appropriate and are in community languages.

Strategic directions

Six strategic directions show how we will make a difference. Each action that aims to change behaviour links to at least one strategic direction.

1.	Develop and use consistent messaging	Better coordinate waste education messages and programs in New South Wales so they are consistent
2.	Integrate education	Use education to support waste infrastructure, compliance, and resource reuse and recovery programs, in line with the waste hierarchy (see figure 1)
3.	Build capacity	Give councils, businesses, community partners, stakeholders and state government agencies the tools and skills to design, run and evaluate effective education programs through *Waste Less, Recycle More*
4.	Promote excellence	Identify and promote best practice and innovation
5.	Provide resources and tools	Improve access to education resources and tools for waste avoidance and resource recovery
6.	Work with and support stakeholders	Create strong partnerships with and between relevant organisations to deliver effective education programs

Action plan

The following action plan lists current (shaded) and planned activities to 2017, classed by these strategic directions.

It includes priorities that the EPA can resource either directly or indirectly, as a facilitator, stakeholder or funding source.

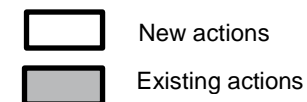The crosses mark the key WARR result area that each EPA action fulfils.

1. Develop and use consistent messaging:
Better coordinate waste education messages and programs in New South Wales so they are consistent

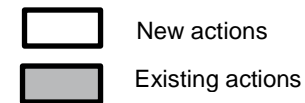| No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
1.1	Carry out social research on community attitudes, behaviour and knowledge about waste avoidance, reuse and recycling, litter, illegal dumping and problem wastes	Community		2015	X	X	X	X	X	X
1.2	Run a statewide kerbside recycling campaign, with local government partners, focusing on key household behaviours	Community with kerbside services	Regional waste groups, councils, contractors, not-for-profit environment groups, including social enterprises	2015	X	X	X			
1.3	Integrate this strategy's principles into: • grant guidelines where education is a key delivery mechanism • regional waste strategies • other EPA waste and recycling strategies	*Waste Less, Recycle More* grant recipients, community	Councils, regional waste groups	2015	X	X	X	X	X	X
1.4	Continue to adapt and deliver the Hey Tosser! litter prevention campaign	Community	Councils, regional waste groups, not-for-profits	Ongoing					X	
1.5	Design and deliver further material on compliance under the Illegal Dumping Strategy (www.epa.nsw.gov.au/resources/illegaldumping/140293-illegal-dump-strategy.pdf)	Community	Councils, regional waste groups	Ongoing						X
1.6	Continue the Problem Waste Program and resources (Household Chemical CleanOut and Community Recycling Centres) with local government for clear and consistent messaging	Community	Councils, regional waste groups	Ongoing				X		

2. Integrate education:
Use education to support waste infrastructure, compliance, and resource reuse and recovery programs, in line with the waste hierarchy

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
2.1	Review the education components of the Model Collection Contract to help councils work with waste contractors to deliver high-quality education	Waste managers at councils and contractors, council waste education staff, local contractors	Councils, regional waste coordinators, waste contractors	2015	X	X	X	X	X	X
2.2	Help councils by developing standard communication material that: • emphasises the importance of waste avoidance, recycling and waste as a resource • explains 'landfill end-of-life' issues and why opening new landfills is not desirable	Community	Councils, regional waste coordinators, waste transfer station and landfill operators	2016		X	X			
2.3	Continue to run and facilitate training about the Industrial Ecology Business Support Network Grants Program	Business and industry sectors	Council waste managers and waste education staff, regional waste coordinators, chambers of commerce	Ongoing	X	X	X			X
2.4	Continue delivering: • Waste and Resource Recovery Facilities training • Greenspec training (for civil construction projects) • technical workshops, e.g. glass crushing infrastructure	Business and industry sectors	Council waste managers and waste education staff, regional waste coordinators, chambers of commerce	Ongoing		X	X			X
2.5	Carry out social research on industry attitudes, behaviour and knowledge about waste avoidance, reuse and recycling	Business and industry sector	Council waste managers and waste education staff, trade waste associations, key industry groups	Ongoing		X	X			
2.6	Continue to deliver litter and illegal dumping enforcement programs supported by education, including new public reporting platforms for:	Community	Council compliance staff	Ongoing					X	X

2.	Integrate education:
	Use education to support waste infrastructure, compliance, and resource reuse and recovery programs, in line with the waste hierarchy

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
	• littering from motor vehicles • illegal dumping: RIDonline									
2.7	Continue to include education in the Community Litter Grants and the Council Litter Prevention Grants programs	Community	Councils	Ongoing					X	
2.8	Continue the education aspects of the Illegal Dumping Grants Program	Community	Not-for-profits, councils	Ongoing						X
2.9	Continue to improve the knowledge and skills of environmental regulators by running presentations and training on illegal dumping prevention and clean up	Compliance staff in local and state government, EPA-certified contaminated site auditors	Australasian Environmental Law Enforcement and Regulators Network, Local Government NSW, RID squads	Ongoing						X
2.10	Continue the education aspects of the Illegal Dumping Strategy 2014 to 2016, such as the work of RID squads and programs from public land managers in National Parks, Forestry and so on	Community	Public land managers in councils, national parks, state forests	Ongoing						X
2.11	Continue to educate the community about illegal dumping and littering offences and penalties through strong communication, including when fines are issued	Community	Councils, managers and compliance staff, land managers	Ongoing					X	X
2.12	Continue to provide education and communication support (resources, tools, funding) to Community Recycling Centre grantees and Household Chemical CleanOut host councils	Community	Councils	Ongoing				X		
2.13	Continue to provide education and communication support through organics grants and programs, such as Local Government Collection grants and Love Food Hate Waste program	Community	Councils, businesses, not-for-profits, community groups	Ongoing	X	X	X			

3. Build capacity:
Give councils, businesses, community partners, stakeholders and state government agencies the tools and skills to design, run and evaluate effective education programs through *Waste Less, Recycle More*

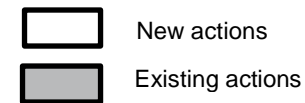| No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
3.1	Develop, promote and run training on education and behaviour change campaign design and delivery to help councils roll out EPA-led campaigns	Council waste managers and communication or education staff	Media and communications staff in the EPA and councils	2015	X	X	X	X	X	X
3.2	Identify, develop and deliver training modules on key topics for local councils and other EPA stakeholders, such as: • making behaviour change happen • applying for grants and developing business cases • project management for effective waste programs • evaluating programs	Councils, waste coordinators, EPA staff, not-for-profits	Local Government NSW, Waste Management Association of Australia	2015	X	X	X	X	X	X
3.3	Set up an annual education and social research forum in a central location to highlight recent research findings and share best-practice case studies	Council waste and waste education staff, not-for-profits, community environment groups	Regional waste coordinators, council waste managers	2015	X	X	X	X	X	X
3.4	Identify, develop and deliver training modules on key topics for waste professionals, such as: • introduction to the sector • regulatory reform	Not-for-profits, contractors, EPA staff, grant recipients	Vocational education and training sector, Australian Centre of Excellence for Local Government, Local Government NSW, Waste Management Association of Australia	2016	X	X	X	X	X	X
3.5	Continue to participate in and support the NSW Litter Congress annually	Councils, regional waste groups, not-for-profits	Councils, not-for-profits	Ongoing					X	
3.6	Continue mentoring program for Litter Grants recipients	Grant recipients	Councils, regional waste groups	Ongoing					X	
3.7	Develop new training workshop(s) as part of the Bin Trim business recycling program to build the capacity of	NGOs, consultants, waste service providers,	Business associations, Waste Contractors and Recyclers Association	Ongoing	X	X	X			

3. Build capacity:
Give councils, businesses, community partners, stakeholders and state government agencies the tools and skills to design, run and evaluate effective education programs through *Waste Less, Recycle More*

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
	stakeholders who help small-to-medium enterprises	industry associations, local government, businesses								
3.8	Develop a new Greenspec training program to build the capacity of stakeholders to use more recycled materials	Councils, civil construction sector, manufacturers of recycled material, engineers, architects	New partner to be identified, previously TAFE	Ongoing		X	X			

4. Promote excellence:
Identify and promote best practice and innovation

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
4.1	Develop guidance material so people better understand how to motivate behaviour change, focusing on designing, delivering and evaluating education programs	Council waste managers and waste education staff, waste contractors	Regional waste coordinators	2016	X	X	X	X	X	X
4.2	Create and circulate case studies on best-practice education, engagement and empowerment of households, business and industry	Council waste managers and educators, businesses, business and industry groups	Regional waste coordinators, councils, Bin Trim businesses	2017	X	X	X	X	X	X
4.3	Develop guidelines to provide greater clarity to stakeholders on the technical requirements of the NSW Energy from Waste Policy Statement (2015)	Council waste managers, waste contractors	Council waste managers, waste contractors	Ongoing			X			
4.4	Through the Better Waste and Recycling Fund's dissemination program, find and	Industry groups, council waste	Councils, regional waste groups	Ongoing	X	X	X	X	X	X

4. Promote excellence:
Identify and promote best practice and innovation

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
	promote examples of behaviour change excellence	managers and educators								
4.5	Create and circulate case studies on best-practice waste avoidance and resource recovery with input from stakeholders, including the Industrial Ecology Business Support Network	Council waste managers and educators, businesses, business and industry groups	Key industry groups, businesses	Ongoing	X	X	X			

5. Provide resources and tools:
Improve access to education resources and tools for waste avoidance and resource recovery

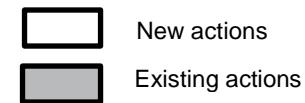| No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
5.1	Develop new information and reporting databases as necessary, and promote existing databases like the: • illegal dumping database: RIDonline • BusinessRecycling.com.au • Industrial Ecology Business Support Network Knowledge Management System • Infrastructure Advisory Services Information Repository • Litter Information Management System	Community, business and industry, council staff	Councils, Planet Ark	2015	X	X	X	X	X	X
5.2	Develop an easy-to-use online reporting system for household problem waste data	Community Recycling Centres and CleanOut host councils	Councils	2015				X		
5.3	Create and maintain an online space for waste educators, waste managers and waste policy staff, and extend access to the existing image library	Council waste managers and educators, not-for-profits,	Regional waste coordinators, Local Government NSW	2015	X	X	X	X	X	X

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
5. **Provide resources and tools:** **Improve access to education resources and tools for waste avoidance and resource recovery**					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
		businesses, contractors, education providers								
5.4	Develop and promote education guidance material, such as on land-use planning and related issues for waste and recycling in multi-unit dwellings, for developers and town planners	Council and state government planning staff, council waste managers	Councils regional waste coordinators, professional associations	2015	X	X	X	X		X
5.5	Develop best practice community consultation guidance to help industry and councils engage with the community on energy from waste projects	Council waste managers, waste contractors	Council waste managers, waste contractors	2015			X			
5.6	Continue to provide resources and tools for small to medium enterprises under the Bin Trim program; including the online tool, 'How to do a visual waste assessment', and other training videos	Business and industry	Regional waste coordinators, business associations	Ongoing	X	X	X			
5.7	Continue to provide resources and tools for the community and councils under the Love Food Hate Waste program in line with its education plan and related documents	Community	Councils, regional groups	Ongoing	X	X	X			
5.8	Continue to provide resources and tools through the Hey Tosser! litter prevention campaign and other litter reduction projects	Community	Councils	Ongoing					X	
5.9	Continue to provide resources and tools through the Illegal Dumping Strategy	Community	Councils	Ongoing						X
5.10	Continue to provide resources, tools and funding to support waste and recycling infrastructure programs	Industry and business	Waste Contractors and Recyclers Association, industry	Ongoing		X	X			

5. Provide resources and tools:
Improve access to education resources and tools for waste avoidance and resource recovery

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
5.11	Continue to provide resources, tools and funding to help people better manage organics, including: • avoidance • recycling • processing • use of processed organics	Community	Councils, businesses, not-for-profits, processors, land managers	Ongoing	X	X	X			
5.12	Continue to provide resources, tools, funding to Community Recycling Centre grantees and Household Chemical CleanOut host councils for education and communication initiatives	Community	Councils, regional waste groups	Ongoing		X	X	X		
5.13	Continue to provide resources and tools to help councils improve their waste and resource recovery services and education initiatives	Councils	Councils	Ongoing		X	X			

6. Collaborate with and support stakeholders
Create strong partnerships with and between relevant organisations to deliver effective education programs

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
6.1	Support education initiatives by regional waste groups through funding, tools, resources, regular communication and networking, including: • identifying key initiatives (see Appendix C) • encouraging partnerships, sharing and delivery across regions	Community	Regional waste groups and coordinators, councils	2015	X	X	X	X	X	X
6.2	Work with small to medium enterprises' first point of contact for waste and recycling	Businesses and their customers	Businesses, regional waste groups, councils, waste service providers, consultants, contractors, professional and industry associations, recycling equipment suppliers	2015	X	X	X	X		
6.3	Partner with waste-education and waste-management associations and networks to: • continue the waste and resource recovery facilities training package • adopt a new Greenspec training package	Industry, business	Waste education and waste management professional associations and networks	2015	X	X	X	X	X	X
6.4	Review and possibly extend the level of partnership with not-for-profit organisations for delivering initiatives	Community, not-for-profits	Peak not-for-profits	2016	X	X	X		X	X
6.5	Set up an expert panel of contractors to give advice and training on infrastructure procurement	Councils, grant recipients	Councils, regional waste groups, contractors	Ongoing		X	X			
6.6	Set up at least two new RID programs and continue to support and co-fund the Western Sydney RID Squad and Southern Councils Group RID Program	Businesses, households	Councils, public land managers	Ongoing						X
6.7	Continue to support strong litter prevention projects led by stakeholders	Community	NGOs, councils, Surf Life Saving clubs, community groups	Ongoing					X	

6. Collaborate with and support stakeholders
Create strong partnerships with and between relevant organisations to deliver effective education programs

No	EPA actions	Target audience	Partners and stakeholders	Start year	WARR key result areas					
					Avoid/ reduce waste	Increase recycling	Divert from landfill	Manage problem wastes	Reduce litter	Reduce illegal dumping
6.8	Continue the Love Food Hate Waste program	Businesses, households	Councils, regional waste groups, businesses, not-for-profits	Ongoing	X	X	X			
6.9	Partner with councils to tell the community about Community Recycling Centres and the Household Chemical CleanOut service	Councils, grant recipients	Councils, regional waste groups, waste contractors	Ongoing		X	X	X		X
6.10	Continue to deliver the Better Waste and Recycling Fund's dissemination program so that effective education initiatives are shared	Councils, regional waste groups, business groups, not-for profit organisations	All dissemination project managers	Ongoing	X	X	X	X	X	X
6.11	Continue to support RID programs to give councils and public land managers practical solutions to fight illegal dumping	Businesses, households	Councils, public land managers	Ongoing						X

3. How will we evaluate success?

Outcomes

This section sets out how we plan to evaluate this strategy's implementation. The EPA will publish a progress report at the beginning of the 2016/17 financial year. A full report will be published at the end of the *Waste Less, Recycle More* initiative in 2017/18.

Evaluation of broad education outcomes

We have identified the following broad outcomes under our strategic directions and developed evaluation questions for each one.

Outcome	Key evaluation questions	Evidence source
1. Develop and use consistent messaging		
Effective and consistent education will lead to the community: • knowing more about waste avoidance, recycling, organics, litter and illegal dumping • having better skills to manage organics, reuse and recycling • having better attitudes to waste	How have knowledge, skills and attitudes in these areas changed? Have targeted behaviours changed?	Evaluation of specific projects, and grant and funding programs Comparison with the 2014 Waste and Recycling Benchmark Study
The community shows more **positive behaviour** towards waste	How much has behaviour changed? Is the community keeping up the new behaviour(s)?	Evaluation of specific campaigns over time Comparison with the 2014 Waste and Recycling Benchmark Study Program-specific social research Social research: 'Who Cares about the Environment?'
2. Integrate education		
There is **enhanced delivery** of waste education through various *Waste Less, Recycle More* projects and grant/funding programs	Have effective education initiatives been delivered? Are education initiatives more effective because of this strategy?	Evaluation of programs Extent to which strategy has been adopted
3. Build capacity		
There is **increased capacity** to deliver education that supports the WARR Strategy 2014–21 and *Waste Less, Recycle More*	How involved are our stakeholders and partners in capacity-building programs? What self-reported outcomes have programs led to? What are the motivations, challenges and barriers?	Number and location of capacity-building programs Take-up rates among targeted participants Evaluation of all such programs
4. Promote excellence		
There is **improved sharing** of best practice in waste education among all stakeholders	Have partnerships and collaborative projects been delivered? Have educators shared more research and information on successful programs?	Delivery, support, and use of new ways to share best practice and access to them (e.g. actions 3.5, 3.6, 5.3) Delivery of professional development where sharing best practice is an output
5. Provide resources and tools		
The community, business and industry have **extended access** to education resources and tools about waste avoidance, reuse and resource recovery	Have targeted resources been made available to meet the needs of each audience? How much are these audiences	Delivery, support, and use of new online waste education resources Evaluation of, and demand for, specific resources (where

Outcome	Key evaluation questions	Evidence source
	accessing the resources?	information is available) Evaluation reports and data from campaigns and funding programs

6. Work with and support stakeholders

Outcome	Key evaluation questions	Evidence source
There is **enhanced collaboration** between the EPA and its partners and stakeholders to deliver effective waste education and behaviour change programs	Have partnerships improved between all providers of education about waste?	Evaluation reports from: • regional waste strategies • campaigns and funding programs (where collaboration is key)

Evaluation of *Waste Less, Recycle More* outcomes

This section identifies education outcomes for key *Waste Less, Recycle More* program areas. These outcomes will be useful to program developers for framing and evaluating their initiatives, and ensuring they collect relevant evidence as the initiatives continue.

Waste Less, Recycle More program area	Outcome for *Waste Less, Recycle More*	Education outcomes for specific *Waste Less, Recycle More* programs	Education outcome	Evaluation questions	Evidence
1. Problem Waste: Community Recycling Centres and CleanOut Program 1.1 Community Recycling Centre Infrastructure Program 1.2 CleanOut Mobile Events Program	Increasingly, householders bring the right materials to the service Awareness and knowledge about available services is raised	The community uses Community Recycling Centres and the CleanOut program more because: • people have a more positive attitude to disposing household problem waste safely and correctly • people can identify the available services, where they are and what materials they accept • more people are skilled in sorting what they can take to centres and mobile services	Effective and consistent education Positive behaviour Extended access	What evidence is there that the community is managing its problem wastes better and using appropriate drop-off facilities? Is there evidence that community education affects people's knowledge and actions about managing problem waste?	Collection data from Community Recycling Centres Number of households serviced at Chemical CleanOut events, compared with past years and targets Tonnes of material collected at CleanOut events Comparison with data in the 2014 Waste and Recycling Benchmark Study
2. Organics Infrastructure Fund and Program 2.1 Organics Collection Grants 2.2 Organics Infrastructure Program 2.3 Food Avoidance and Rescue 2.4 Market Development 2.5 Regulation	More organics are collected from households More organics are processed into quality products There are more food waste avoidance and rescue behaviours demonstrated	The community and businesses show improved behaviour in managing food, composting and garden organics because they: • know more about managing organics • have better skills in managing organics (including sorting and using new infrastructure) • have more positive attitudes to reusing organics and reducing or avoiding disposing of organics in landfill	Effective and consistent education Positive behaviour Enhanced delivery Extended access Enhanced collaboration	What evidence is there that the community manages organics more effectively and sends less to landfill, because it: • knows more • has better skills and changed attitudes • does more?	Local collection data for organics Behaviour change, capacity building, and waste avoidance and diversion outcomes achieved in programs, especially Love Food Hate Waste Comparison with data in 2014 Waste and Recycling Benchmark Study
3. Waste and Recycling Infrastructure 3.1 Expansions and enhancements of resource recovery facilities 3.2 Major Commercial and Industrial and Municipal Resource Recovery	More materials are recovered and recycled from businesses and industry	Business and industry increase the rate and quality of resource recovery because they: • know more about the benefits • can access high quality and effective recycling and recovery facilities • have more positive attitudes to the need to recycle more • divert more tonnes of commercial and industrial waste from landfill	Effective and consistent education Positive behaviour Improved sharing Enhanced collaboration	Has recycling and resource recovery increased in facilities? Have new and better infrastructure facilities been built? Does education affect industry knowledge and actions about managing	Tonnage data from audits and reports Number of new or improved facilities Comparison with data in 2014 Waste and Recycling Benchmark Study Knowledge, behaviour, and compliance outcomes

Waste Less, Recycle More program area	Outcome for Waste Less, Recycle More	Education outcomes for specific Waste Less, Recycle More programs	Education outcome	Evaluation questions	Evidence
3.3 Infrastructure Weighbridges		• know more about the law and compliance, and are better able to act on it		waste? Are there more compliant infrastructure facilities?	achieved in programs
4. Recycling Innovation 4.1 Metal Recyclers Program 4.2 Priority Waste Infrastructure Program 4.3 Market Development Program	More priority waste is recycled rather than sent to landfill	The community increases the rate of recycling for priority waste material because they: • know more about what priority wastes are and the benefits of recycling them • have better skills in sorting priority wastes and recycling them appropriately • have more positive attitudes to the need to recycle priority waste wisely	Effective and consistent education Positive behaviour Improved sharing	Does the community know more and do more about priority waste? Does the community and value recycling it? Is the community confident that priority wastes (from the kerbside or elsewhere) are actually recycled?	Collection data for priority waste Comparison with data in 2014 Waste and Recycling Benchmark Study Knowledge, skills, attitudes, and behaviour change outcomes achieved in programs
5. Business Recycling 5.1 Bin Trim Business Program 5.2 Planet Ark Business Recycling website and equipment catalogue 5.3 Industrial Ecology and Australian Packaging Covenant 5.4 Industry education and training	Businesses reduce waste, separate more materials for recycling and recycle more	Businesses reduce waste and increase recycling because they: • know more about how to reduce waste and increase recycling, and the benefits • have better skills in managing resources and sorting materials for recycling • have more positive attitudes about the need to reduce waste and recycle at work	Effective and consistent education Positive behaviour Increased capacity Improved sharing Extended access	Are businesses reducing waste, separating materials and recycling more? To what extent? To what extent are businesses seeking information, education and training, and receiving support to manage resources better? Have waste service providers changed the services they offer small to medium enterprises?	Tonnage data from audits and reports Number of businesses engaged and tonnages diverted (Bin Trim tool) Usage data from Business Recycling website and equipment catalogue Knowledge, skills, attitudes, and behaviour change outcomes achieved in business training programs Review of waste services offered to small and medium enterprises
6. Supporting Local Communities 6.1 Waste and Sustainability Improvement Payment Program 6.2 Better Waste and Recycling Fund and Dissemination Program	More household waste is recovered and recycled There is less impact from small regional landfills	Local councils and groups of councils reduce waste and recover more resources because: • they have more capacity to deliver effective education and behaviour change programs • the community knows more about waste avoidance and resource recovery, and has better skills • partnerships between local councils and regional groups of councils are stronger	Effective and consistent education Positive behaviour Enhanced delivery Improved sharing	What is the level of involvement in capacity building programs? What self-reported outcomes has this led to? Does the community know more and do more about waste avoidance and resource recovery?	Review of capacity building actions and outcomes achieved in programs Comparison with findings from the Local Government Needs Assessment Comparison with data in annual kerbside recycling report and 2014 Waste and

Waste Less, Recycle More program area	Outcome for Waste Less, Recycle More	Education outcomes for specific Waste Less, Recycle More programs	Education outcome	Evaluation questions	Evidence
6.3 Regional coordination and planning 6.4 Regional Landfill Closure and Environmental Improvements Program		Councils that manage small regional and rural landfills: • have increased experience and better skills in completing risk assessments for high risk facilities • understand and have gained experience in assessing the best future options for these sites • have closed, consolidated, or made environmental improvements to these sites • have considered and are open to ideas for closure, consolidation or carrying out improvements to these sites	Extended access Enhanced collaboration	Are there stronger partnerships between all providers of waste education? To what extent have small regional and rural landfills been closed, consolidated, improved environmentally? What evidence is there that councils manage small regional and rural landfills more effectively, consider long-term strategies for waste management, and have an increased understanding of the risks associated with their sites?	Recycling Benchmark Study Review of agency collaboration Number of small regional and rural landfills closed, consolidated, improved environmentally Number of small regional and rural landfills that have had a their risks recently assessed using the E-RAMP tool Knowledge, skills, attitudes, and behaviour change outcomes achieved in programs
7. Combating Illegal Dumping 7.1 Better evidence (data) 7.2 Partnerships (RID squads/programs) 7.3 Strategic enforcement 7.4 Capacity building and education	There is less illegally dumped waste in the environment	There is less illegal dumping in the community through: • effective communication about the problem and results of illegal dumping • better knowledge of what to do with unwanted material and the consequences of dumping • more positive attitudes to a clean environment	Effective and consistent education Positive behaviour Enhanced delivery Improved sharing Extended access	Has illegal dumping fallen? Have people's knowledge, skill and attitudes to illegal dumping improved? Do people know more about where unwanted material goes and how to take it there? Have there been more reports of illegal dumping and more use of RIDonline?	Tonnage dumped Knowledge, skills, attitudes, and behaviour change outcomes achieved in programs Comparison with data in the 2014 Illegal Dumping Research Report Indication that a social norm is being created that illegal dumping is unacceptable Usage data from RIDonline and other reporting mechanisms
8. Tackling Litter 8.1 Hey Tosser! Education Program 8.2 Enforcement and compliance 8.3 Litter Infrastructure Program	There is less litter in the environment	There is less littering in the community through: • effective communication about the problem and results of littering • better knowledge of what to do with litter and the consequences of littering • more positive attitudes to a clean environment	Effective and consistent education Positive behaviour Enhanced delivery Improved	Has littering fallen? Have people's knowledge, skill and attitudes to littering improved? Do they know more about where unwanted material goes and how to take it there?	Knowledge, skills, attitudes, and behaviour change outcomes achieved in programs, especially Hey Tosser! Comparison with data in 2014 Waste and Recycling Benchmark Study

Waste Less, Recycle More program area	Outcome for Waste Less, Recycle More	Education outcomes for specific Waste Less, Recycle More programs	Education outcome	Evaluation questions	Evidence
			sharing Extended access	Do they know how to report litter from cars to the EPA?	Comparison with Litter Program social research Results of local litter action, including any fall in litter, and changed perceptions, measured through the Local Litter Check Community reporting data for littering from cars

Appendix A: Education as a tool for change

Types of education

We have based our structure for education on UNESCO's Education for Sustainable Development. This approach allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. To change behaviour, education can take many forms.

Education	Examples
Face-to-face delivery	Workshops
Printed materials	Signs, posters, flyers, stickers, brochures
Tangible infrastructure	Bins, kitchen caddies, bin caps
Electronic tools	Websites, web applications, social media
Mass media	Print, television, radio
Formal training	Vocational education certificates and diplomas
Informal training	Guided walks, tours
Community events	Promotions, displays
Community-based social marketing	Commitments, prompts, reminder messages

As a tool for changing behaviour, education is supported by:

- policy and price signals
- regulation and enforcement
- infrastructure
- research (scientific and social)
- incentives and disincentives
- social norms
- networking and partnerships.

Key themes

Waste education is more than providing information	This strategy aims to shift the behaviour of the NSW community to reduce the environmental impact of waste and use resources more efficiently. Providing information or increasing knowledge is not enough.
Waste education focuses on more than individuals	People are influenced by cultural and social practices, the media, ads, product choices and physical infrastructure. Education shapes these sources of influence so people adopt behaviours that reduce their environmental impact.
Waste education can be challenging, but is important	Education about waste is strongly linked with consumption and lifestyle choice, making it challenging. Producing more waste puts pressure on our environment. Although NSW has a proud history of recycling, we need to work together to find ways to reduce waste and recover resources in all areas of our lives.
Waste education is part of a movement towards sustainability	Sustainability is the goal of meeting the community's needs within the planet's ecological limits (Brundtland Commission 1987). Education for sustainability helps to 'create a more sustainable world, which ensures environmental protection and conservation, promotes social equity and encourages economic sustainability'. This strategy drives education for more sustainable choices and behaviours.

Appendix B: Setting the strategy's principles

> **Our key principles**
>
> Education about waste avoidance and resource recovery:
> 1. fosters a spirit of active citizenship in caring for the environment
> 2. reflects and addresses the needs, values and motivations of target audiences
> 3. reinforces key messages over time and engages with new issues
> 4. helps people connect their actions with outcomes
> 5. has a positive 'call to action' and expects behaviour to change
> 6. aims to generate positive social norms about the value of resources
> 7. respects and reflects cultural and linguistic diversity, and local Aboriginal culture
> 8. shows its effectiveness by being well researched, evaluated and reported.

1. Fosters a spirit of active citizenship in caring for the environment

This principle is about engaging people in education, behaviours and decision-making about wise resource use.

According to Albert Bandura's 'Social Cognitive Theory', change will only happen when an audience has a high level of self-efficacy. They must believe that:

* they can bring about the change they seek

* what they are doing is making a difference

* they can maintain the change.

If not, Bandura says you are wasting your time promoting ways to change behaviour (Bandura 1997). So waste education must make people believe that they can change the behaviours we seek.

Change will not happen unless people are engaged, so this is the first step in successful education. Generally, the larger the program, the more extensive the engagement process must be. Without community ownership, the program is unlikely to run smoothly. The lack of engagement will become more important than the issue at the program's heart.

Engagement in decision-making happens along a spectrum. See, for example, the International Association for Public Participation model (www.iap2.org.au/resources/iap2s-public-participation-spectrum):

Inform	Consult	Involve	Collaborate	Empower
To give the public balanced and objective information so they understand a problem, options, opportunities and solutions	To get public feedback on options and decisions	To work directly with the public to ensure concerns and aspirations are understood and considered	To partner with the public throughout decision, including developing options and finding the best solution	To put final decision-making in the hands of the public

2. Reflects and addresses the needs, values and motivations of target audiences

This principle is about tailoring programs so they are relevant to target audiences and their local area. Education to change behaviour is most effective when it is needs-based.

Successful adult education programs:

- are oriented to goals and relevance

- are internally motivated and self-directed

- include life experiences and existing knowledge

- are practical

- respect learners (Knowles et al 2012)

Successful change programs also focus education on behaviours that people believe they have control over. For example, people can control what they put into their recycling bins. This is called 'internal locus of control'.

Rosenstock's 'Health Belief Model' identifies 'locus of control' as the most important concept for those promoting change (Rosenstock et al 1988). Programs focused on what people cannot change easily or on target groups that have no control over a behaviour – 'external locus of control' – are unlikely to be successful. Lack of accessible services or materials is a major issue here.

Like Bandura, Rosenstock says that the behaviour must be:

- 'do-able' by that person

- seen as making a difference

- seen to address a serious issue or problem.

If not, most people will not make the shift even when they have control.

3. Reinforces key messages over time and engages with new issues

This principle is about readiness and willingness to change, and the need to reinforce messages to encourage people as they start to engage.

The 'Stages of Change' model states that not everyone is ready to change behaviour. For any issue, each person will be at one of five stages: pre-contemplation, contemplation, preparation, action or maintenance (Prochaska et al 1992).

The premise is that change happens in small steps. You cannot move someone from pre-contemplation (not thinking about changing) to action, without encouraging them to take the middle steps. Educators must work out what stage their target audience is at, and design activities that move them on.

However, movement through the stages might be not be steady or in one direction. People might move back and forward, or go through the stages a few times, before the action becomes a regular behaviour. So continuing programs will maintain achievements and help people progress.

Meanwhile, Rogers' 'Diffusion of Innovations' model sees change as a wave moving through society. Adoption of changed behaviour (an innovation) follows a fairly predictable pattern (see figure B1). An innovator has a 'new' idea. It spreads slowly at first, usually through 'change agents' who actively promote it. It then picks up speed as more people adopt it. Eventually the innovation reaches a saturation level, where virtually everyone who will adopt the innovation has done so (Rogers 1995).

Figure B1: Innovation adoption curve
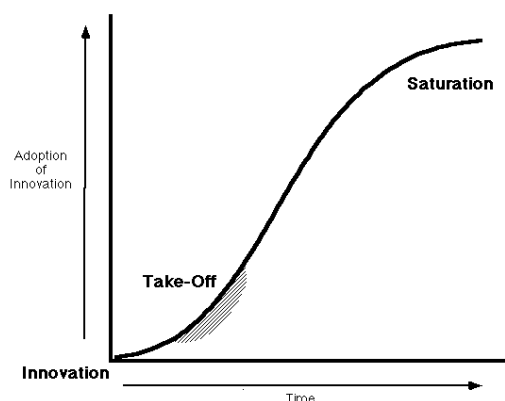
Rogers identifies five categories in the diffusion of new ideas or behaviours:

- innovators – the global visionaries with imagination and a mission

- early adopters – private visionaries looking for strategic personal advantage of specific innovations

- early majority – pragmatic individuals influenced by fashion and proof

- late majority – conservative pragmatists who avoid risks but also avoid being left behind

- laggards – sceptics who often react negatively to real problems that need solutions.

When the number of early adopters reaches a critical mass (between 5 per cent and 15 per cent), the process is probably irreversible. The innovation has a life of its own, as more and more people share it.

4. Helps people connect their actions with outcomes

This principle is about focusing education initiatives on the consequences of behaviours.

Waste education activity is largely based on information. While knowledge can prompt change and is often a precursor to it, a gap in knowledge might not be the key factor preventing the desired change in the target audience.

This principle acknowledges that an understanding of consequences can drive change. Woodward identifies that a logical conclusion or inference will drive change for many people. If people cannot see or do not believe that the consequence is real, they will not change. Often various education methods are needed for entrenched or highly valued behaviours (Woodward 2003).

5. Has a positive 'call to action' and expects behaviour to change

This principle is about the expectation that behaviour will change because of education.

McKenzie-Mohr's 'Community Based Social Marketing' model identifies that the challenge in changing behaviour is in translating knowledge and attitudes into action. Educators must create behaviour norms that will improve social outcomes, such as improving the environment or health. The aim is to deliver programs that improve people's quality of life and the life of the planet (McKenzie-Mohr 1999).

To bring about change under this model, an education program must:

Action	Description	Example
Seek commitment from the target audience	Programs need to seek written (if possible) commitment from participants about what they will do	Take the pledge not to litter
Prompt appropriate behaviour continuously	Signs and other prompts are important to reinforce behaviour	Sign on bin: 'In this house all our food scraps are recycled to make compost'
Build acceptable practices into normative behaviour	The more people who practise a behaviour often, the more it becomes a social norm note: We cannot really make something a norm. It is an outcome of what happens	It's now a social norm to clean up after your dog in the park's leash-free area
Provide incentives to reinforce appropriate behaviour	Incentives, such as social events, subsidies, compliments and rewards, can help make the behaviour enticing	Sign on fridge: Fabulous Recycler Bin sticker: Smiley face
Remove external barriers	Anything that restricts the behaviour should be removed before the program starts	To recycle our food scraps, we need a kitchen caddy
Run ongoing evaluation	Choose direct measurements (like tonnes recycled or energy saved) over less direct ones (like self-reported behaviour or increases in awareness)	

6. Aims to generate positive social norms about the value of resources

This principle is about the influence of social norms and how behaviour change programs can shift them.

Gladwell's 'Tipping Point' model offers another way of understanding how norms motivate change. It observes that ideas, behaviours and messages sometimes copy processes seen in outbreaks of infections. They are 'social epidemics' rather than medical ones. Gladwell cites the example of measles in a kindergarten class: one child brings in the virus and it spreads to every child in the class within days (Gladwell 2000).

The model argues that if people are at the tipping point, things can happen all at once and little changes can spark a big difference. People expect everyday change to happen slowly and steadily, and that there is some relationship between cause and effect. However, Gladwell suggests that ideas, behaviours and product trends move through a population very much like a disease does.

Educators need to find the lever to move people over the tipping point to create a social norm. Ongoing peer influence, often supported by infrastructure and compliance activity, leads to more and more people adopting the behaviour.

7. Respects and reflects cultural and linguistic diversity, and local Aboriginal culture

This principle is about ensuring that we develop and deliver programs within local cultural contexts.

This strategy supports commitment, collaboration and consultation with diverse communities. For example, it seeks to align and integrate Aboriginal perspectives and knowledge as part of education for better waste outcomes.

Where relevant, we will:

- involve Aboriginal communities in designing sustainability projects and programs

- engage these communities in culturally appropriate ways

- address their environmental needs and issues

- work with them to deliver projects that will increase the environmental knowledge and sustainable living practices of the broader community

- integrate Caring for Country values in environmental projects

- link to local and statewide Caring for Country projects

- work across agencies to advocate an Aboriginal perspective in mainstream programs.

This strategy also acknowledges the state's culturally and linguistically diverse communities. In NSW:

- 31 per cent of people were born overseas

- 27.5 per cent speak a language other than English at home

- 4 per cent do not speak English at all.

The top 10 languages other than English are Arabic, Mandarin, Cantonese, Vietnamese, Greek, Hindi, Italian, Spanish, Korean and Tagalog (Filipino) (www.abs.gov.au/websitedbs/censushome.nsf/home/Census?opendocument#from-banner=GT)

Our program developers will strive to ensure that these diverse communities can access education programs, information and services (see guidelines at www.eccq.com.au/wp-content/uploads/2012/01/cald_good_practice_guide-nsw.pdf).

8. Shows its effectiveness by being well researched, evaluated and reported

This principle is about the importance of basing programs on solid research and ensuring they are fully evaluated.

Social research informs effective education planning and delivery. Thus, effective education about waste uses or commissions social research that informs and benchmarks programs.

We have based our approach to monitoring, evaluation and reporting on the 'Program Logic' model. It provides a:

- tool to guide planning at the conceptual stage of a program

- tool for evaluating the strengths and weaknesses of a program, often when it is in the development or re-development phase

- framework from which to develop monitoring and evaluation criteria (Rogers 2008).

Effective evaluation makes both summative and formative assessments. Summative evaluation analyses the successes and failings of a program. Formative evaluation points to future changes that will make it more effective.

Appendix C: Regional waste education initiatives

Regional groups of councils have developed regional waste avoidance and resource recovery strategies for 14 regions in the state. Here we summarise the education programs and priorities in these strategies for 2015–17. While not in our action plan, these programs are important to delivering this strategy, particularly through the member councils of each group.

Figure C1: NSW regions
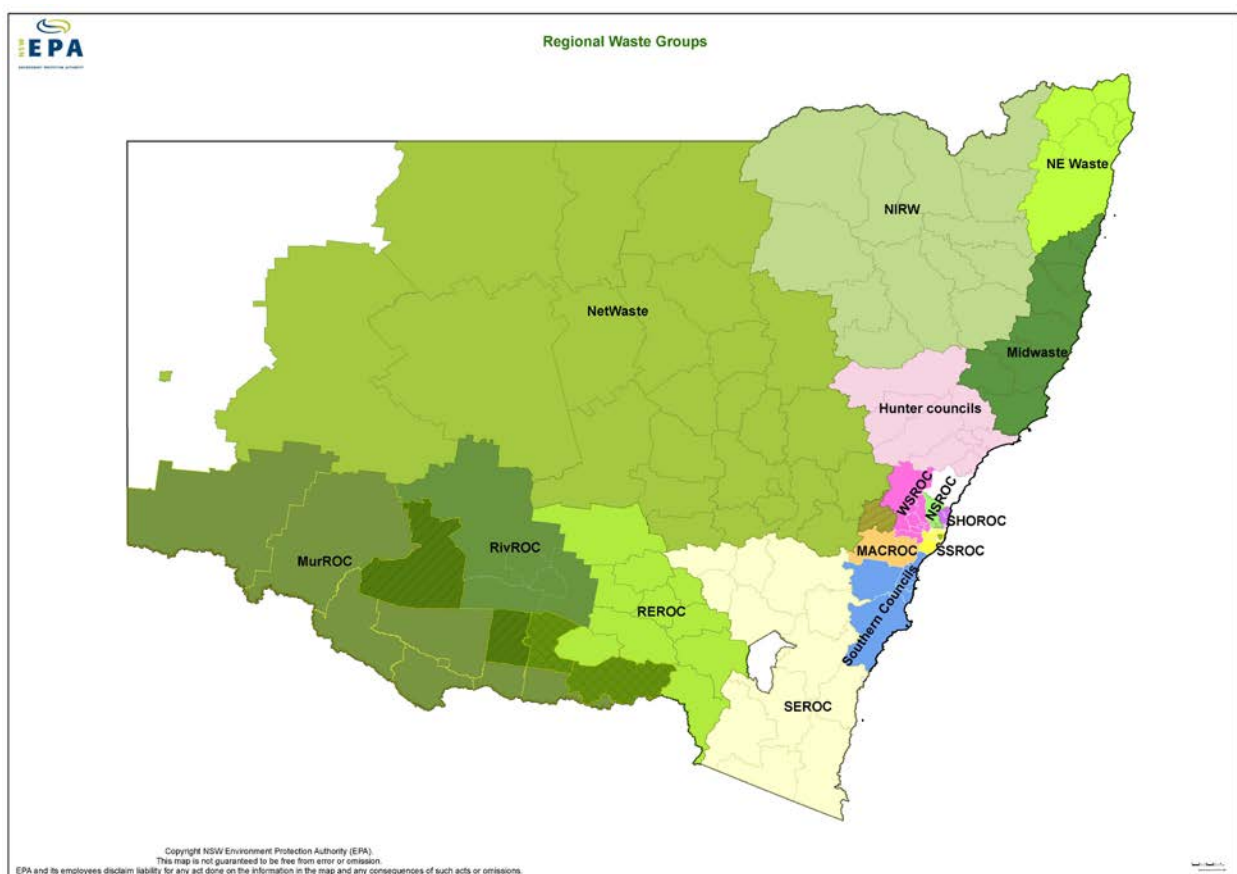
Hunter Waste Group (Hunter Councils)

- Develop a three-year action plan to refresh the work of the Hunter Waste Educators Group and identify cross-regional activities.

- Run campaigns on waste avoidance, recycling, council services for businesses, problem wastes, litter, community gardens and home composting.

- Develop a program to promote reuse through existing charities, businesses and online platforms.

- Deliver a television and web-based Christmas campaign.

Macarthur Regional Organisation of Councils (MACROC)

- Create education modules for primary schools and tertiary institutions.

- Run an education program about using the right bin, including bin stickers.

- Coordinate campaigns on current services, illegal dumping and litter prevention.

Midwaste Regional Waste Forum (Midwaste)

- Run an education program for all waste sectors, including households.

- Develop a program of waste-wise events.

- Run a community-based reuse project, such as a clothing swap.

- Hold and promote events to clean out household chemicals.

- Coordinate local campaigns on avoiding waste, reusing bulky goods and understanding the impacts of illegal dumping.

NetWaste

- Continue to adopt the NetWaste Education Strategy 2013–22 and NetWaste Village Waste Reduction program.

- Build on existing activities like the NetWaste Schools Program.

- Run programs like the used oil, problem wastes and waste-to-art initiatives.

- Run partnership programs to support local education.

- Develop targeted communications about waste.

North East Waste (NE Waste)

- Develop campaigns on waste avoidance, reuse, recycling, resource recovery, a three-bin system, problem waste, asbestos and litter.

Northern Inland Regional Waste (NIRW)

- Develop a plan to avoid food waste.

- Promote home composting.

- Run a community education and engagement program on littering.

Northern Sydney Regional Organisation of Councils (NSROC)

- Develop a campaign to promote participation and behaviour change, reflecting priorities such as problem wastes, illegal dumping and waste management in multi-unit dwellings.

- Build capacity for council staff.

Riverina East Regional Organisation of Councils (REROC)

- Continue to support the region's successful education programs: *Kindy kits project*, *No Waste in My Lunchbox* and *Garden Smart* workshops for the community.

- Run sustainable living campaigns, including on minimising waste, reducing bin contamination and using Community Recycling Centres.

- Promote the Yours2Take website.

- Teach the community about organics and home composting by producing resources to support new organic collection services.

- Teach businesses about reusing and recovering waste.

- Promote the Love Food Hate Waste program.

Riverina and Murray Regional Organisations of Councils (RivROC and MurROC)

- Extend the Halve Waste – Reduce, Reuse and Recycle campaign.

- Involve 10 member councils in the Love Food Hate Waste campaign.

- Produce materials for households on recycling.

- Run a car littering ad campaign.

The Shore Regional Organisation of Councils (SHOROC)

- Run behaviour change programs on producing less waste, composting, reducing bin contamination, understanding the impacts of illegal dumping, reducing littering and promoting the new collection system.

- Develop school resources on waste avoidance.

- Develop resources on what is recyclable and what happens to recyclables.

- Create a communications plan for the Kimbriki Resource Recovery Centre.

South East Regional Organisation of Councils (SEROC)

- Develop education and training programs for schools and council staff.

- Promote food waste avoidance and anti-littering behaviour.

- Create a communication strategy about throwing sharps away safely.

- Help local businesses better manage waste and recycling.

- Run awareness and promotion campaigns on sustainable behaviours.

Southern Councils Group (Southern Councils)

- Teach households about avoiding waste, reusing products and recycling more.

- Run a compost education program.

- Coordinate programs on litter prevention and reduction, and illegal dumping.

Southern Sydney Regional Organisation of Councils (SSROC)

- Run campaigns on using infrastructure effectively, safely disposing problem wastes, recovering organic material, recycling, avoiding food waste, illegal dumping and littering.

- Coordinate a waste avoidance program to help people think about their consumption choices and how they can make positive changes.

- Run initiatives to improve recycling, including projects focusing on the needs of residents of multi and single unit dwellings.

Western Sydney Regional Organisation of Councils (WSROC)

- Coordinate education materials across councils, particularly where gaps are identified, so there is wider exposure to key topics.

- Help run education programs, including a central Love Food Hate Waste program.

- Identify community groups and look at centrally publishing key resources in relevant languages.

For more on a regional waste strategy, please contact the organisation directly.

References

Bandura, A 1997, *Self-efficacy: The exercise of control*, Worth Publishers.

Brundtland Commission 1987, 'Chapter 2: Towards Sustainable Development', *Our Common Future: Report of the World Commission on Environment and Development* <www.un-documents.net/ocf-02.htm>

Gladwell, M 2000, *The Tipping Point: How little things can make a big difference*, Little, Brown and Company, Boston.

Knowles, M, Holton, E and Swanson, R 2012, *The Adult Learner: The definitive classic in adult education and human resource development*, 7th edn, Routledge, Abingdon.

McKenzie-Mohr, D and Smith, W 1999, *Fostering Sustainable Behaviour: An introduction to community based marketing*, New Society Publishers, Gabriola Island.

Prochaska, J, Diclemente, C and Norcross, J 1992, 'In search of how people change: Applications to addictive behaviours', *American Psychologist*, vol 47, pp 1102 to 1114.

Rogers, E 1995, *Diffusion of Innovations*, The Free Press, New York.

Rogers, P 2008, 'Using Program Theory to Evaluate Complicated and Complex Aspects of Interventions', *Evaluation*, vol 14(1), pp 29–34.

Rosenstock, I, Strecher, V & Becker, M 1988, 'Social Health Learning and the Health Belief Model', *Health Education Quarterly*, vol 15, pp 175 to 183.

Woodward, J 2003, *Making Things Happen: A theory of causal explanation*, Oxford University Press, Oxford.