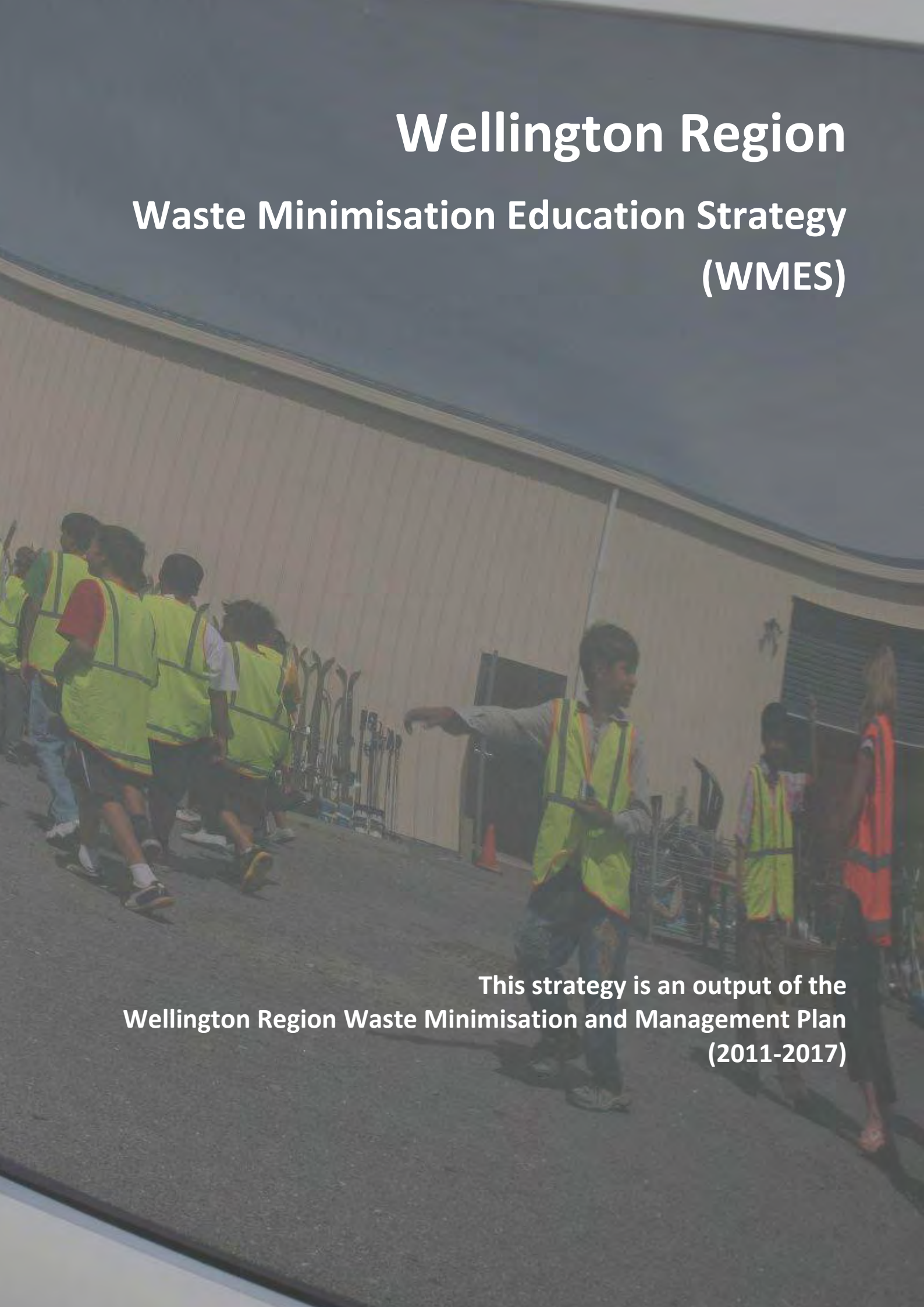
Wellington Region

Waste Minimisation Education Strategy (WMES)



This strategy is an output of the Wellington Region Waste Minimisation and Management Plan (2011-2017)

The Wellington Region Waste Minimisation Education Strategy was developed collaboratively and has the support of all the regions councils:

Contents

Foreword

During 2011, the global human population reached 7 billion people. In the 1940s, it was only 2 billion. This means that in less than one human lifetime, the global population has more than tripled. This population milestone puts humanity on track to reach the United Nation's medium to high projections of between 8.9 and 10.6 billion by 2050[1]. This rapid population growth coupled with economic activity drives global resource consumption and the generation of waste.

The Earth's physical environment is a closed system and its ability to assimilate municipal and industrial solid, liquid and gaseous wastes has limits. When these limits are exceeded, environmental degradation occurs which is a double negative as it also reduces the environment's capability to assimilate future wastes. Where degradation continues to occur unabated, it can lead to the collapse of the local life supporting ecosystems e.g. polluted air, contaminated water and land all result in toxins degrading ecosystems and ultimately entering the human food chain.

How we manage and minimise our wastes is critical. It is important to do this well, not just in response to the environmental impacts occurring today, but with consideration to the available resources for the future; a future that will have many more people in it than we currently do today. Generally, New Zealanders take pride in the natural wonders and lifestyle afforded to them by their country's physical environment. As a region, Wellington residents in particular have a very strong passion for the great outdoors which is highly accessible, often within a few minutes from the urban centres.

As a region we have a responsibility to better manage and minimise our waste. This responsibility is enforced through The Waste Minimisation Act (2008) and implemented by councils through a joint regional Waste Management and Minimisation Plan 2012-17 (WMMP).

This document is the Wellington Regional Waste Minimisation Education Strategy (WMES), created and implemented as one of 19 regional actions which collectively seek to reduce waste to landfill and ensure that the Wellington region is doing its part towards its waste related social, economic, cultural and environmental responsibilities. Identifying the region's waste issues and implementing targeted education initiatives will be a key contributor to the WMMP's waste minimisation goals.

To deliver successful education initiatives that ultimately reduce waste to landfill by enabling voluntary behaviour change, a new and more comprehensive approach must be taken. The preferred approach outlined in this strategy to community engagement is called Community Based Social Marketing (CBSM) and seeks to identify what the community needs in order to make voluntary behaviour changes that minimise waste. This logical approach requires greater effort in the development of regional initiatives. It incorporates greater risk management capability and enhances the region's ability to achieve the desired waste minimisation behaviour change outcomes.

This strategy is the combined work of officers from all councils of the Wellington region and we look forward to your input and feedback.

[1] UN (2004) *WORLD POPULATION TO 2300*. Pg.5 Estimated world population, 1950-2000, and projections: 2000-2050

1. Introduction

In the year from 1 July 2009 to 30 June 2010, a total 265,207 tonnes of waste was generated, collected, transported and dumped into the Wellington region's landfills[2]. At the time, this equated to 549kg/yr of waste sent to landfill for every person in the region[3].

Over half of this 'waste' was composed of recoverable resources that are reusable, recyclable and/or compostable (figure 3, page 9).

This Regional Waste Minimisation Education Strategy (WMES) seeks to engage communities and businesses in a cohesive and constructive way, helping people to better understand the benefits of adopting a waste minimisation culture. Through greater understanding and instilling the motivation to change current waste related behaviours, benefits to the region's population will include: reducing the waste of valuable resources, improving our region's economic efficiency (saving money), and reducing our impacts on the environment.

The various initiatives resulting from this strategy are all intended to promote or support the on-going shift in what is considered to be the 'social-norm' with respect to how we use resources and minimise waste. However, determining an approach that is most likely to achieve a behaviour change outcome for each target waste stream requires an effective approach to community/stakeholder engagement. Therefore, the WMES also identifies a preferred methodology for undertaking future regional actions related to each target waste stream. By focussing on target waste streams, as identified in the WMMP, through initiatives that successfully engage communities and stakeholders, behaviour change outcomes that yield economic, environmental, social and cultural benefits to all can be achieved.

[2] Note: this data excludes a one off event of 58,000 tonnes generated by the Waiwhetu Stream clean-up project in 2009/10 and some waste from the Kāpiti Coast/Wairarapa that may have been transported and disposed of outside the region at Bonny Glen Landfill in Rangitikei District or the Hokio Landfill in Horowhenua District.

[3] Note: this includes all wastes e.g. construction, demolition, residential, etc.

1.1 Environment context

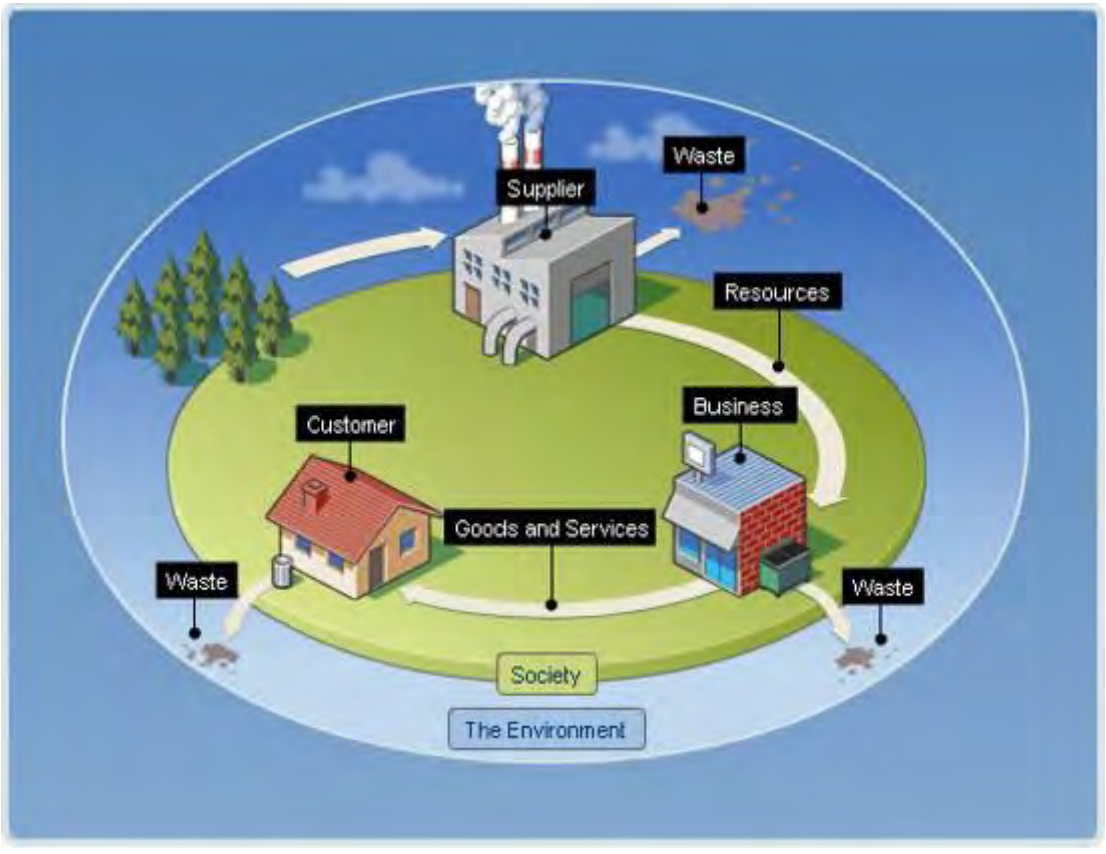
In nature, the environment has the capacity to assimilate naturally occurring waste products. In most ecosystems, wastes are resources that become essential building blocks for other organisms. For example, if leaf-litter is left on the ground, the decomposing leaves become a food source for soil microbes which digest the material, eventually returning the nutrients to the tree and other living organisms through the soil. This process is known as a nutrient cycle and is an example of the environment working in equilibrium.

The types and quantity of waste created by humans exceeds the environment's ability to assimilate it effectively, which is why in New Zealand we often bury our waste in lined landfills, in an attempt to contain the mess. In more populous countries where the availability of arable and habitable land is limited, landfills are either banned outright or are becoming increasingly difficult to site. The waste generated in more populous countries is often screened for recoverable materials (an additional process to kerbside recycling) and then what is left is often burned for energy.

Municipal waste also has a high proportion of synthetic materials that the environment cannot breakdown at all, for example: plastics like polystyrene and toxic chemicals like fire retardants are in many of our everyday use appliances. When landfilled or burnt, these materials are concentrated and the toxic leachate and/or emissions can cause significant harm to the local environment and to those living nearby if operations are not managed properly.

Municipal waste comes from a wide range of source locations including, residential properties, public events, small businesses and heavy industry. This is why the WMES must take a multi-faceted approach to addressing the target waste streams that have been identified in the regions Waste Management and Minimisation Plan 2011-2017 (WMMP). Figure 1 below shows a how consumer-driven demand for goods and services sees suppliers, businesses and households using natural resources and generating wastes to the environment.

Figure 1: An unsustainable model of consumer-driven resource consumption and wastes entering the environment. Source: www.mfe.govt.nz/issues/sustainable-industry/tools-services/concepts.php



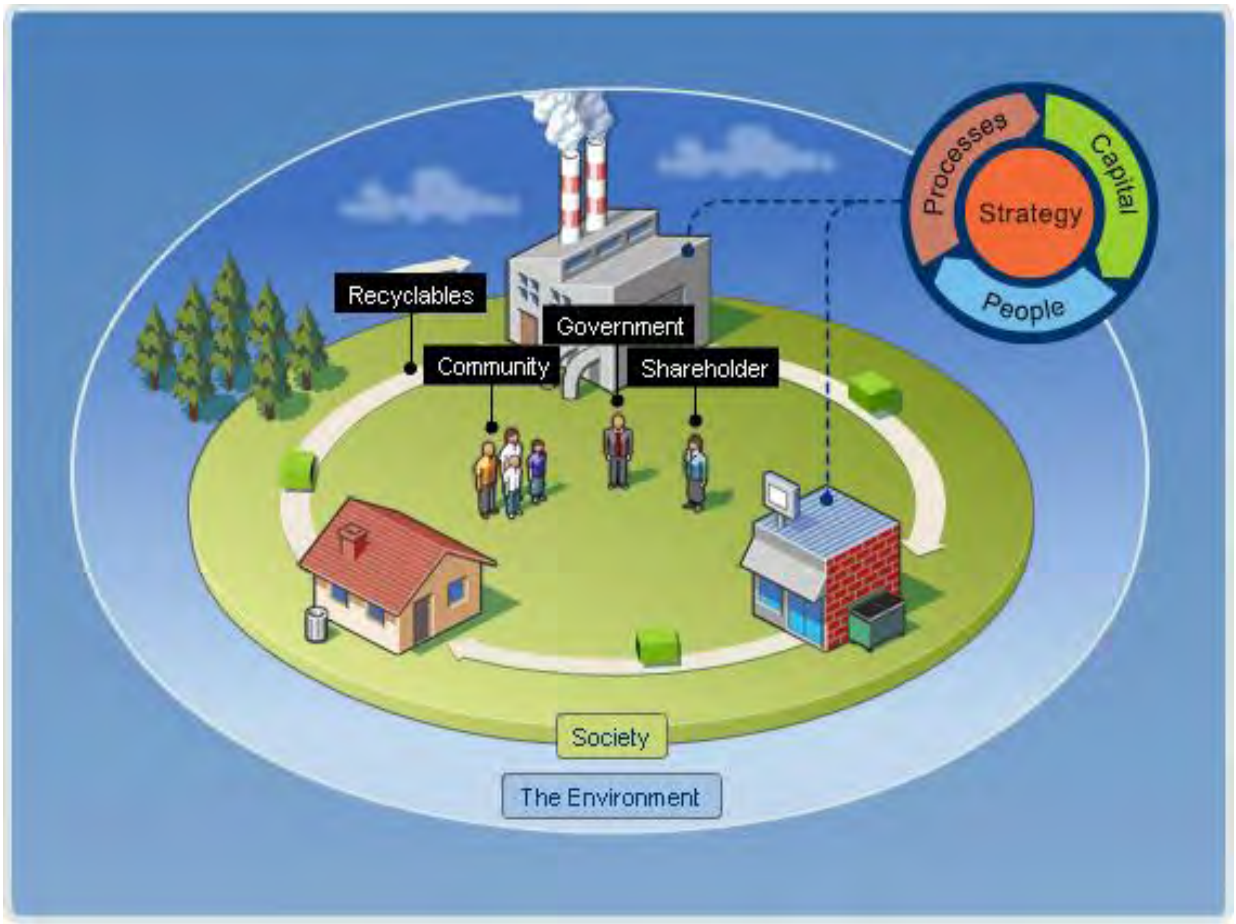
The unsustainable model of resource consumption shown in figure 1 has slowly been changing. This change is being driven by two key factors:

1. **growing consumer awareness** enabled by education, technology and information sharing has seen a shift in consumer expectations; that businesses and suppliers operate in a more sustainable manner and that goods and services we consume do not cause damage to the environment (for now, and for future generations). This can be seen in the rapid growth of sustainable business practice accreditation schemes.

2. **growing awareness of businesses and suppliers** that 'waste' is actually bad for their long term economic sustainability (that is: waste costs); and if waste represents inefficient use of resources, then paying to dispose of a resource that the business will have usually paid to obtain in the first place is both illogical and inefficient. This paradigm shift can be seen in the rapid growth of sustainable business programmes helping mainstream businesses to utilise resources more efficiently and reduce harm to the environment.

At the consumer and business level, this change can be seen globally in the significant increase of reusable and recyclable materials sent back to suppliers, where these materials (resources) are reused to make new products - meaning the supplier takes fewer natural resources to supply even more goods and services than before. Figure 2 shows the incorporation of recyclables and minimisation of wastes to the environment in a more efficient and effective consumer society.

Figure 2: A more efficient and effective consumer society.
Source: www.mfe.govt.nz/issues/sustainable-industry/tools-services/concepts.php



With respect to the goal of a more profitable and sustainable business model that allocates resources more efficiently and effectively, the next step is to understand what resources are making their way into the landfills across the Wellington region.

1.2 What materials go into our landfills?

A wide range of materials make their way into the region's landfills. Many of these materials are reusable, recyclable or compostable and could be diverted from landfill or, better still, not even generated in the first place. Figure 3 (page 9) shows the types and proportions of materials going into the region's landfills.

Figure 3: Composition and tonnes (T) of waste to landfill in the Wellington region (2009/10[4])

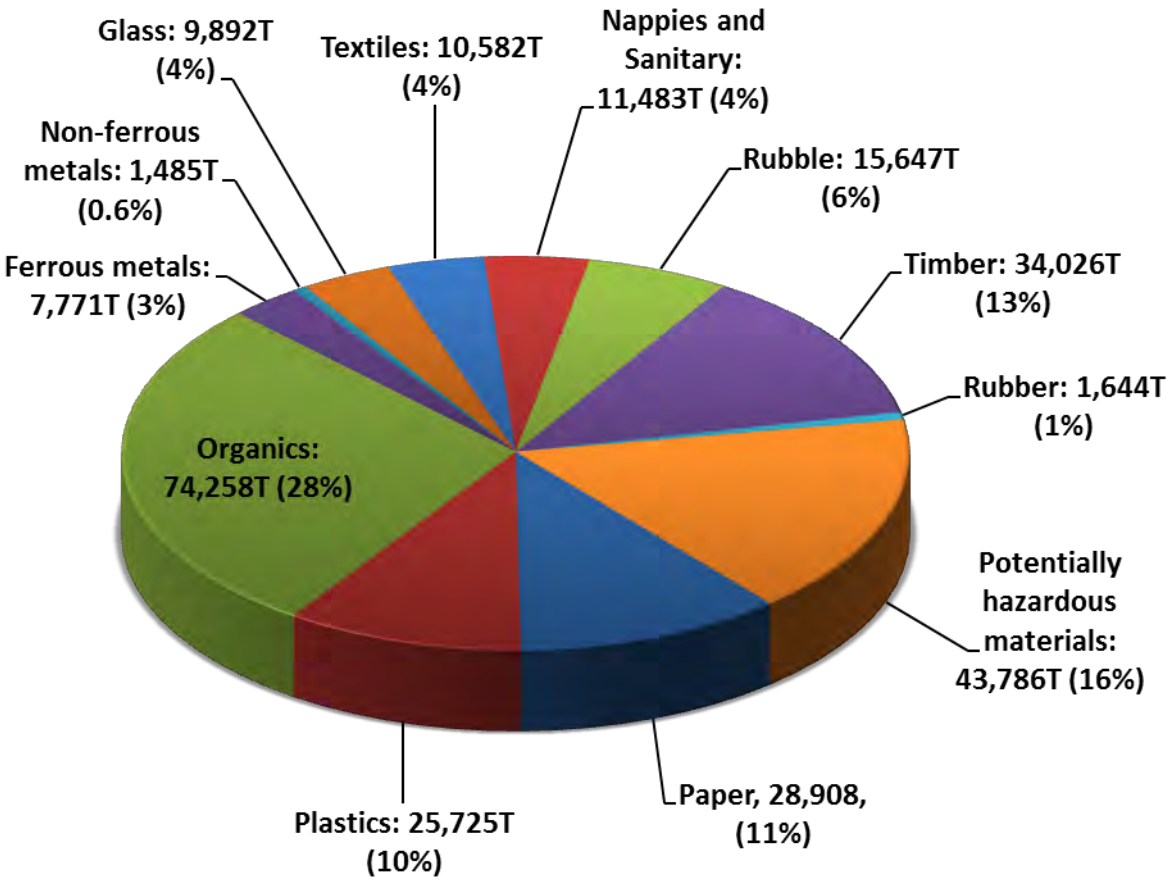


Figure 3 shows the tonnages of materials going into the region's landfills, the predominant materials are organics (28%), timber (13%), paper (11%) and plastics (10%). Together these materials make up 62% of the region's waste to landfill.

Potentially Hazardous Materials is also a significant waste stream at 16% of the total by weight. This category contains variable proportions of sewage sludge (majority), contaminated soil, paint, medical waste, solvents, asbestos, oil, etc. However, as this category is largely dominated by the sewage sludge component in the Wellington region, it is beyond the scope of this education strategy.

[4] Sourced from: Morrison Low *"Wellington Region Waste Assessment"* (2011)

Given the proportions of materials going to landfill that theoretically could be either minimised or diverted, this strategy seeks to investigate the drivers of these waste streams and then where practical, facilitate behaviour change outcomes targeting:

1. organics,
2. paper,
3. plastics and
4. timber.

As there are already cost effective diversion pathways in place for the 'big four,' high tonnages of these waste streams in the regions landfills reflect economic inefficiency and in some cases, an easy cost recovery opportunity.

In addition to the landfill data, analysis also identified that the existing initiatives across the Wellington region target several primary sector groups. These include:

1. residents
2. businesses
3. schools

Further analysis of the targeted waste streams may also identify other sectors groups to focus on.

1.3 Why not landfill?

According to research from Otago University, it is estimated that 13% of total food purchases in New Zealand were thrown out, equating to $465 of food waste per person per year[5]. Table 1 below highlights some of the potential value in other materials wasted annually through sending commonly recyclable items to landfill.

Table 1: Potential value of resources entering the Wellington region's landfills

Waste Stream	Tonnes landfilled per annum	Potential value of wasted resources[6]
Ferrous Metal	7,771	$932,520
Glass	9,892	$741,900
Paper*	28,908	$3,468,960

* Cardboard from inner city businesses was noted to be a primary paper waste stream to landfill.

In addition to the economic losses and the local environmental impacts associated with dumping resources in landfills, the greenhouse gases carbon dioxide, methane and nitrous oxide are emitted into the atmosphere from waste disposal and treatment practices. In particular, methane emissions occur as a result of organic matter breaking down anaerobically in landfills.

From 2013 onwards, the NZ Emissions Trading Scheme encompasses methane emissions from landfills. Landfill operators are required to surrender emission units based on the tonnes of methane produced each year.

[5] Source: www.odt.co.nz/news/dunedin/196060/researchers-focus-food-waste

[6] Based on information supplied by Wellington commercial recyclers (2012). Subject to market fluctuations.

1.3.1 Alternative solutions

Kerbside recycling options are available for most urban and rural residents in the Wellington region. In addition, a wide range of commercial recycling options are available for local businesses and industries who would like to reduce their waste disposal costs or, in the case of producers of hazardous materials, reduce their environmental impact. These existing services already divert significant quantities of waste from landfill for recycling or more sustainable disposal. However, the amounts of recyclable and compostable materials still entering landfill across the region suggest participation in these services could be improved significantly.

Landfill gas recovery technologies like those at the Silverstream and Southern Landfills, are able to capture a high proportion of the methane produced in landfill and either flare it or use it to produce electricity. The by-product of either process is carbon dioxide, which is still a greenhouse gas, but is less damaging on a per tonne basis to the global climate than methane.

Kaibosh (Food Rescue), Conscious Consumers and Kai-to-Compost are noteworthy examples of Wellington initiatives, supported by Wellington City Council, that seek to reduce the volume of food waste going to our landfills. Kai-to-Compost alone successfully diverted 778 Tonnes in 2012.

1.4 Policy context – The Waste Minimisation Act (2008)

The purpose of the Waste Minimisation Act 2008 (the Act) is to encourage waste minimisation and a decrease in waste disposal in order to—

"(a) protect the environment from harm; and

(b) provide environmental, social, economic, and cultural benefits."

The act requires:

- territorial authorities to adopt a Waste Management and Minimisation Plan (WMMP)
- territorial authorities to spend the levy money they receive on waste minimisation activities as set out in their WMMP
- that the WMMP has regard to the New Zealand Waste Strategy (2010)
- that the WMMP contains a summary of the council's objectives, policies, methods and funding to *"achieve effective and efficient waste management and minimisation within the territorial authority's district."* Where *"waste management and minimisation"* means – *waste minimisation and treatment and disposal of waste* and *"waste minimisation"* means—

  (a) the reduction of waste; and

  (b) the reuse, recycling, and recovery of waste and diverted material.

1.4.1 The New Zealand Waste Strategy (2010)

The New Zealand Waste Strategy (2010) provides high-level direction to guide the use of the tools available to manage and minimise waste in New Zealand. To convey this high-level direction, the Strategy has two goals:

"Goal 1: Reducing the harmful effects of waste

When planning waste management and minimisation activities, local government, businesses and communities should assess the risk of harm to the environment and human health from waste to identify and take action on those wastes of greatest concern.

Goal 2: Improving the efficiency of resource use

When planning waste management and minimisation activities, local government, businesses and communities should improve the efficiency of resource use to reduce the impact on the environment and human health and capitalise on potential economic benefits."

1.4.2 The Wellington region Waste Management and Minimisation Plan (2011-2017)

In 2011, the eight councils in the Wellington region adopted the regional WMMP as per statutory requirement by the Act. The WMMP is a collaborative plan encompassing the activities of eight territorial authorities, numerous waste-related businesses and approximately 449,000 residents (New Zealand's third largest region). Therefore, the Wellington region WMMP is an important tool for driving both waste management and minimisation initiatives and regional cooperation to achieve wider reaching outcomes and improved efficiency.

The WMMP includes a Regional Action Plan. One of the nineteen actions within the Regional Action Plan is the development of the WMES. The WMMP Regional Action Plan also provides the initial scope for the WMES and the underlying principles to which it should adhere.

1.5 WMES underpinning principles (WMMP)

The underpinning principles for the WMES are adapted from the Wellington Region WMMP. The underlying principles are:

Responsibility – The Wellington councils recognise their responsibilities for promoting effective and efficient waste management and minimisation. They embrace the principles, requirements and intent of the Waste Minimisation Act 2008 and accept their responsibilities to work to minimise waste from all sectors throughout the region.

Stewardship – All members of society are responsible for looking after the environment, and for the impact of products and wastes they make, use and discard. Current generations have a responsibility to maintain the life sustaining capacity of the environment for present and future generations.

The principle of stewardship acknowledges the responsibility we each have in managing the environment for the good of all. Meeting this responsibility means managing all wastes to lessen their adverse environmental effects.

Safety - Following on from the concept of stewardship, the reduction of harm from waste as outlined in the NZWS recognises that waste can pose a significant threat to human health and the environment. Consequently, waste minimisation activities should focus on reducing the harmful effects of waste. The councils will consider the potential harm of all wastes and consider appropriate waste management and minimisation methodologies to respond accordingly.

Transparency - This principle encourages minimisation of environmental and wider societal effects by ensuring all operating, capital, environmental and wider societal costs are reflected in product and service prices, and paid as closely to their source as possible. This is most evident in the choice of funding systems and is readily identifiable in user-pays approaches to waste management.

Efficiency - The councils will endeavour to provide effective, efficient and cost effective waste management and minimisation services to residents and ratepayers within the region.

Caution – Where there is a threat of serious or irreversible damage, lack of full scientific certainty should not be a reason for postponing cost-effective measures to prevent environmental degradation or potential

adverse health effects. Where decision-makers have limited information or understanding of the possible effects of an activity, and there are significant risks or uncertainties, a precautionary approach will be taken.

Improvement - The Wellington region will look to minimise waste through promotion of improved productivity by efficient resource use. When resources are used efficiently less waste is generated. This could take the form of promotion of reduced packaging, improved recycling options, and re-use opportunities.

Innovation – The councils retain the flexibility to respond to any change in technology that may provide more innovative, effective and efficient waste management.

Co-operation – The councils intend to encourage the private sector's capability and opportunities arising from that - without the necessity for council subsidy for private waste sector projects, unless considered necessary by the council(s). To provide the maximum opportunity for private sector innovation to occur, the councils will seek to create a business environment characterised by: a level playing field between participants; transparent and efficient regulation where necessary; provision of information where appropriate; and open entry and exit for participants (provided environmental performance is assured).

Pragmatism - The councils recognise that while current disposal of waste to landfill is not the preferred choice of all the councils, it remains necessary for the foreseeable future.

Further the councils recognise that it will not be possible to always maximise economic, environmental, cultural and societal outcomes simultaneously, and a pragmatic compromise may be necessary to achieve the best overall solution. This concept is noted in the Ministry for the Environment's guidance to councils on the preparation of Waste Management and Minimisation Plans:

"*Effective and efficient waste management and minimisation is achieved when less waste is going to landfill, when resources are used wisely and when the economic cost of waste is reduced and when societal costs and risks are minimised. It is unlikely that the best economic, environmental, cultural and societal outcomes can be met simultaneously, and there may be a higher economic cost (for instance) to achieve optimal environmental, social and cultural outcomes. In these cases the councils must weigh the costs and benefits of each aspect (economic, cultural, social and environmental) to arrive at an optimal overall solution. There may also be a trade-off between short- and long-term costs; for instance, greater up-front costs may lead to lower ongoing operational costs.*"[7]

Finally, the councils note that they do not control or in some cases significantly influence large amounts of the waste stream which are managed exclusively through the private sector[8].

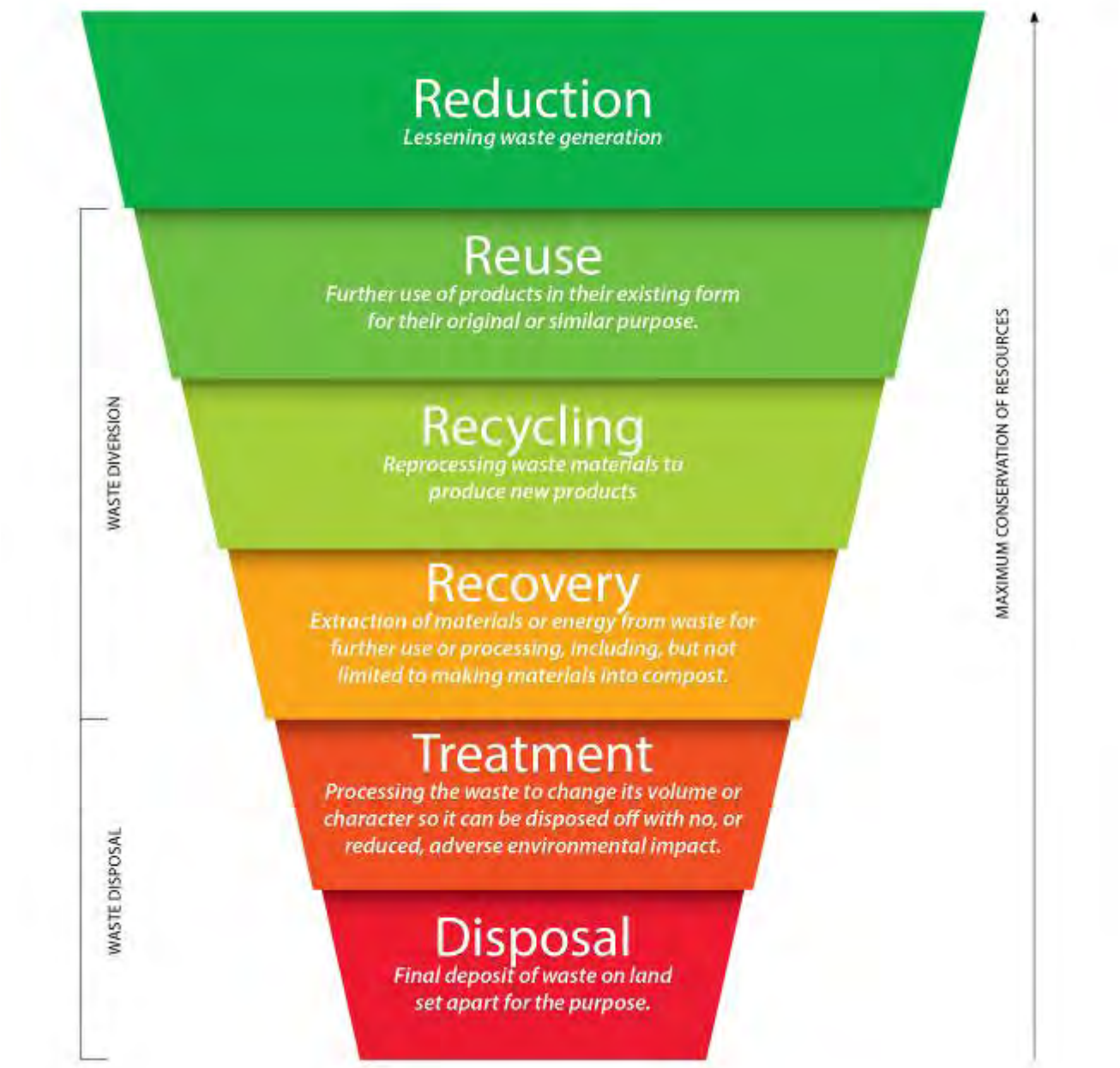
[7] Ministry for the Environment. 2009. *Waste Management and Minimisation Planning: Guidance for Territorial Authorities.*

[8] Note: a regional bylaw with a mechanism for applying licensing of waste carriers would greatly assist in the reformation of waste behaviours in the private sector. Increasing the cost of waste to landfill could also be a strong influence.

1.5.1 The waste hierarchy

The waste hierarchy is an underpinning principle for the Act, the WMMP and this strategy. Specifically, Section 44 of the Act requires councils to consider the following methods of waste management and minimisation (which are listed in descending order of preference). Figure 4 below shows the waste hierarchy in ascending order of importance.

Figure 4: The Waste Hierarchy. **Source:** adapted from the Auckland WMMP.



The goal is to move each waste stream as far up the waste hierarchy as possible, for example: at Poly Palace in Porirua, expanded foam polystyrene is recycled into a re-purposed product like under-floor insulation and drop off is free; in Hutt City, the Seaview Recycle and Transfer Station charges $16 per car load to drop off polystyrene, where it is melted down and sold to overseas markets as a new resource; whereas the

remainder of the region treats polystyrene as a 'disposal only' option that takes up valuable space in landfills. This example is one of many across the region where different systems and social behaviours result in the same material types being processed at different levels of the waste hierarchy. These regional differences are one of the reasons a more integrated approach is to be adopted with regional activities and communications through the WMMP and this strategy.

1.5.2 Acknowledging Tangata Whenua worldview on waste

In accordance with our underlying principles, the holistic world views of tangata whenua need to be tangibly acknowledged. The Waste Minimisation Education Strategy must recognise the wider community's collective responsibilities of kaitiakitanga[9] and by extension stewardship as core principles.

Pre-Industrial Age "waste" generally decomposed, returning to Papatuanuku. Post-Industrial there needs to be a reconsideration of the traditional ways of dealing with waste.

Consequently, there is a need to acknowledge the waste management practices of the past and the challenges of the present and future whilst at the same time working in close partnership with mana whenua in addressing these in a culturally respectful and appropriate manner. It is therefore essential that the further development of these regional initiatives must acknowledge mana whenua views.

1.5.3 Acknowledging engagement approaches with other ethnic communities

Waste minimisation education also needs to acknowledge the waste management practices of our many diverse communities, and address these in a culturally respectful and appropriate manner.

1.5.4 Precautionary principle

Education is driven by the need to change existing behaviours and move further up the waste hierarchy for different problem waste streams. The need is driven by our understanding of our finite resources, the limited capacity of the environment to assimilate wastes and the unnecessary environmental damage caused by throw-away societies.

With regard to the environment and waste, a key education message and underlying principle of the WMMP and the WMES is:

"Where there is a threat of serious or irreversible damage, lack of full scientific certainty should not be a reason for postponing cost-effective measures to prevent environmental degradation or potential adverse health effects. Where decision-makers have limited information or understanding of the possible effects of an activity, and there are significant risks or uncertainties, a precautionary approach will be taken[10]"

[9] As acknowledged by the New Zealand Waste Strategy 2002, inappropriate waste disposal can damage the relationship Maori have with their lands, waters, food gathering areas, and wa - hi tapu. Dumping waste into mahinga kai diminishes the site's mauri and mahinga kai values. The interdependence of mahinga kai ecosystems means any contamination, even of one species, has a negative flow-on to all species in the ecosystem, including people. (Auckland Council Waste Management and Minimisation Plan)

[10] Wellington WMMP (2011): Guiding Principles and General Policies, page 25.

1.6 Political context

At the time of this strategy's adoption, the future governance structure of the Wellington region is uncertain. Therefore, this strategy seeks to engage all councils of the Wellington region that are able or willing to participate in joint waste minimisation education initiatives on a phased (initiative-by-initiative) basis, thus making the strategy more resilient to possible future political and resource allocation changes.

1.7 Limiting factors

As an output of the WMMP, the WMES is designed to work in conjunction with the other 18 WMMP regional actions. In the absence of cohesive regional action towards more effective and efficient waste management and minimisation, the WMES will have significantly reduced scope for achieving the desired behaviour change outcomes.

Given there are factors and waste streams beyond the direct control of councils (that is: stemming from the private sector), and overall landfill tonnages have been declining regionally[11], careful consideration must be given as to what impact an initiative is likely to have and at what point along the hierarchy an initiative is targeted to achieve the best outcome. Through undertaking a strategic framework approach, the most cost effective initiatives targeting behaviour change outcomes should be undertaken first.

[11] Wellington Region Waste Assessment (2011).

2. WMES framework

2.1 Purpose

The Regional Waste Minimisation Education Strategy is seen by all participating councils as playing *"….a fundamental supporting role to all areas of the waste actions planned* (within the WMMP) *and all aspects of the waste hierarchy. It is paramount in the reduction of waste to landfill and plays a key role in supporting many of the operational elements of this WMMP."*

Therefore the purpose of WMES is to:

Prioritise and provide a framework for delivering collaborative education initiatives, communications and supplementary community development activities across the Wellington Region that change behaviour, minimise waste, increase efficiency and support the other actions in the WMMP.

2.2 Vision

Wellington regions residents, communities, businesses and organisations all value our natural environment and the resources it provides, and collectively we take voluntary actions towards minimising our waste, aspiring towards a Zero Waste future.

We do this by increasing awareness and changing behaviour through waste education, targeted communications and empowering communities to take action (community development initiatives).

2.3 Aim, objectives and outcomes

The longer term aim of the WMES is to:

> *Conserve natural resources and improve resource efficiency by helping households, community organisations and businesses to reduce, reuse and recycle as much as possible*

The aim will be achieved through a series of prioritised initiatives, with both quantitative (where possible) and qualitative measures that are tied to the objectives.

1. The WMMP prescribes a number of key regional **objectives** for the REWS. They are:

   i. provide people and businesses with the knowledge and skills to take steps to avoid or reduce waste through initiatives that:
      a. promote composting and reduction of organic wastes
      b. take a Community Based Social Marketing (CBSM) type approach towards increasing recycling and /or 'smart shopping' toward reducing packaging consumption
      c. support businesses to reduce, reuse, and recycle specifically targeting construction and demolition waste (C&D)
      d. provide better understanding for the management options of special wastes
   ii. encourage and support people to take personal responsibility for their waste
   iii. encourage and support the efficient use of resources to minimise environmental harm
   iv. supports the Councils in the delivery of their waste services and operations
   v. lobby central government for the continued funding of national environmental education programmes

2. The expected direct or indirect **outcomes** of these waste management and minimisation objectives are:

   i. reduced total volumes of waste disposed to landfill (reducing reliance on landfills)
   ii. increased volumes of waste diverted through reuse and recycling (maximising recovery)
   iii. increased recovery of materials and/or energy from waste (increased local economic development opportunities)
   iv. communities that are well informed about the effects of waste and the opportunities they have to reduce waste (awareness raising and education)
   v. clean streets and public areas (reducing litter, illegal dumping and associated costs)

As an integrated and supporting strategy, the WMES initiatives will (where possible) provide measures that align with the WMMP target outcomes.

2.4 Delivery framework[12]

To encourage recognition and uptake of initiatives seeking behaviour change outcomes, a delivery options framework has been developed based on the current regional situation, where locally, a wide range of different circumstances exists.

Different circumstances include (but are not limited to):

- factors such as household size, the cost of waste disposal, home ownership status, the convenience of collection services, knowledge of how to "reduce, reuse and recycle", cultural norms and physical location
- variation in communications branding, communication messages and per capita funding commitments between the Wellington region councils.

Thus, the local authority for each city/district will need to be actively involved to ensure that regional initiatives are both effective and, where necessary, adequately funded. This strategy and the delivery options framework (table 2, page 20) will provide high-level direction for communications, programmes and community development initiatives.

[12] Note: *Section 2.4 Delivery Framework* of this strategy has been adapted to the Wellington Region context and sourced from the Auckland WMMP 2012 - Getting Auckland's Waste Sorted

Table 2: Delivery options framework for the WMES initiatives.

Vision	Wellington regions residents, communities, businesses and organisations all value our natural environment and the resources it provides, and collectively, we take voluntary actions towards minimising our waste, aspiring towards a Zero Waste future.		
Aim	Conserve natural resources and improve resource efficiency by helping households, community organisations and businesses to reduce, reuse and recycle as much as possible		
Initiatives	**Communications**	**Programmes**	**Community development**
Objectives	To raise awareness and provide information about services and waste minimisation behaviour through media, events and social marketing	To motivate people to adopt waste minimisation behaviour through education and targeted engagement programmes	To empower people to manage and minimise their waste, at a community and business level
Sector	**Regional community, households, businesses, schools and community organisations**		
Tools	• social media/marketing • media (print, application software, radio, television) • recycling and resource exchange website • market research and auditing	• household visits • waste audits/plans • business programmes • certification • curriculum linked education • community learning centres • workshop and presentations • evaluations	• community based resource networks • social enterprise • business partnerships • place based community driven projects • business incubation • action learning
innovation + community education + partnerships + improved services			

Source: Adapted from the Auckland WMMP

Utilising the aforementioned options framework to deliver initiatives that are strategically integrated with the delivery of the other WMMP Regional Action Plan initiatives will ensure a cohesive and targeted package is delivered to the region, driving widespread voluntary waste minimisation behaviour change. Adequate funding and delivery with the right level of stakeholder input and support are also essential factors for the success of the proposed initiatives. There is strong evidence (from New Zealand and internationally) that initiatives with good engagement and support empower communities and cities to easily and successfully minimise waste going to landfill.

One such inspiring example of a place-based community-driven project that also includes elements of social enterprise, action learning and business incubation is the food garden project undertaken by Epuni School in the Hutt Valley. As an entirely independent project, the school decided to convert a disused sports field into a very large garden. The garden not only feeds the students of this low-decile school, but also feeds the community as well.

Photo: Epuni School juniors sharing their harvest (reproduced with permission from Epuni School).

3. Achieving outcomes through a strategic approach

By definition, the "voluntary actions" of residents and visitors to the Wellington region are beyond a council's ability to control. International studies have repeatedly shown that simply providing people with information might improve levels of awareness, but often fail to translate into the desired behaviour change[13]. Therefore, understanding the dynamics of guiding voluntary action and how a council can support the community's ability to take on leadership over voluntary actions is essential to delivering the objectives and outcomes of this strategy.

Understanding the community's needs and the barriers to change also ensures that the most efficient and cost effective approach to behaviour change initiatives is undertaken allowing councils to add value more strategically.

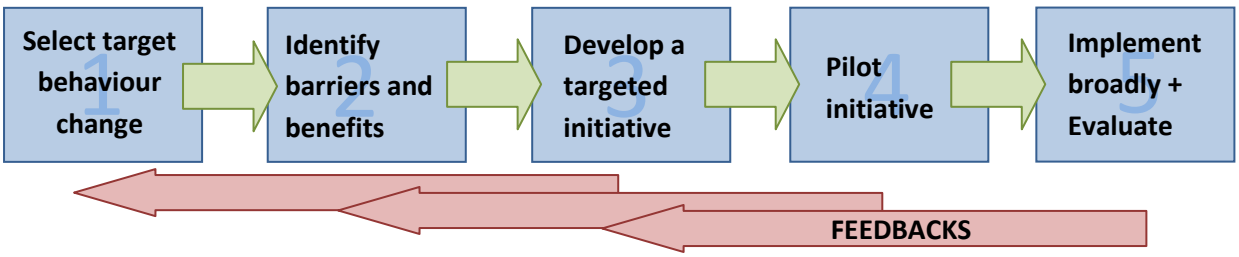
Internationally, a wide number of methodologies for community engagement and stimulating behaviour change exist. This strategy will draw on components of the methodology outlined in the SKM research report *"Community Engagement for Waste Minimisation in the Nelson and Tasman Regions (2012)"* and selected reference materials from the Community Based Social Marketing resource website (www.cbsm.com).

3.1 Voluntary Actions

Voluntary behaviour change can be initiated by a wide range of stakeholders including government organisations, non-government organisations (not-for-profit and for-profit), and by communities or individuals. This encourages people to behave in a different way through a range of approaches. One such approach utilised by governments and businesses alike is Community Based Social Marketing (or CBSM).

For initiatives that require community engagement and voluntary actions, a logical CBSM development process such as that outlined in figure 5 by McKenzie-Mohr[14] offers a risk-adverse approach for council investment in behaviour change outcomes.

Figure 5: staged methodology for initiatives requiring a CBSM approach.



Each stage of the process identified in figure 5 has a number of investigation steps that need to be completed before moving to the next stage of development. Through feedback processes this staged approach ensures that broadly implemented initiatives (stage 5) are based on well informed decisions and have already been demonstrated as successful with a smaller target audience (stage 4).

[13] McKenzie-Mohr (2010) Fostering Sustainable Behaviour –an introduction to Community-Based Social Marketing

[14] Source adapted from: Doug McKenzie-Mohr (2013) Fostering Sustainable Behaviour Change Workshop, Auckland.

Note: due to the wide range of initiatives already run at the sub-regional or community scale in Wellington and across New Zealand, some of this process can be short-cut for selected initiatives that have effectively been piloted already. However, where there is a lack of evidence or uncertainty about the linkages to behaviour change outcomes, the full process should be undertaken before an initiative is rolled out across the region.

In addition to the outlined methodology for designing initiatives that achieve evidence based voluntary action outcomes (page 24), these actions must also be taken within the context of things councils can influence.

3.2 The triangulation approach[15]

A council's influence extends to what are known as the "supply and demand measures" which are very different to voluntary behaviour change measures. These three types of measures can be defined as:

Supply measures*:* providing infrastructure and services as a way to achieve a desired outcome e.g. providing transfer stations or recycling bins

Demand measures: encouraging less waste creation by influencing the community's desire for a product or service. Demand can be influenced through regulation (e.g. a bylaw banning e-waste from landfills), pricing, technology (e.g. automatic waste sorting allows people to take action more easily), education and awareness raising (communication campaigns about the issues needing to be addressed).

Voluntary behaviour change measures: encouraging people to change through a range of different approaches, such as CBSM. The voluntary measures operate without the "top-down" mechanisms of supply and demand management.

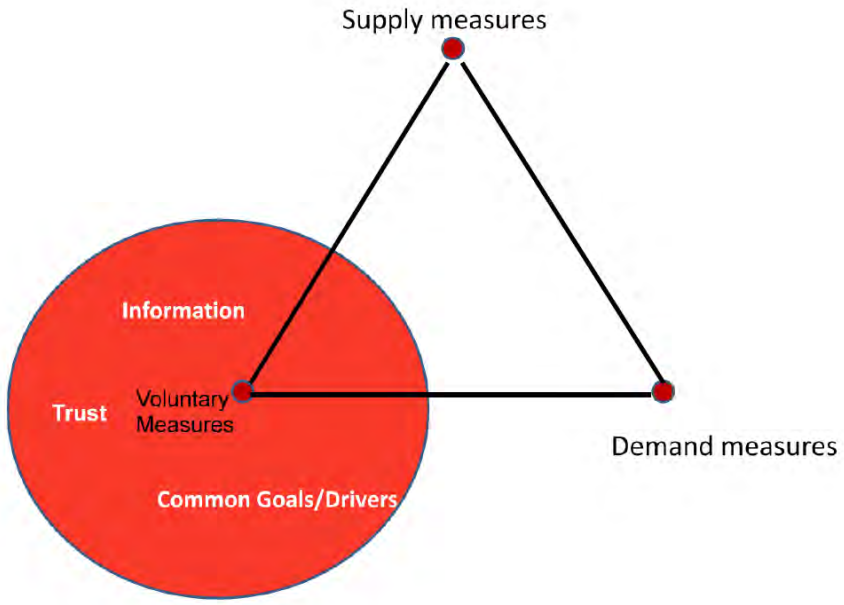
These three types of measures are the tools councils have to address a particular waste issue, combined they become "the triangulation approach."

The triangulation approach includes three categories of behaviour change (corners of the triangle) which are supply, demand, and voluntary. In addition, the voluntary behaviour change category is also affected by the community context which councils cannot control.

For the Nelson/Tasman region, the key elements of the community context were identified as *Information*, *Trust* and *Common Goals/Drivers*. Figure 6 (page 27) shows the triangulation approach and the community context for the Nelson/Tasman region.

[15] Note: Section **3.0.2** has been sourced and adapted from the Nelson City and Tasman District Councils Joint WMMP (2012); and the "*Community Engagement for Waste Minimisation in the Nelson and Tasman Regions"* (2012) Sinclair Knight Merz report, commissioned by the Nelson City and Tasman District Councils as the supporting framework for both Council and Community led waste minimisation initiatives across the Nelson region.

Figure 6: The triangulation approach to understanding our behaviour change tools (identified voluntary measures are for the Nelson/Tasman region). **Source:** SKM, Community Engagement for Waste Minimisation in the Nelson and Tasman Regions (2012).



Councils often action changes on the supply and demand sides of the triangle. It is more difficult to achieve voluntary behaviour changes because it takes time and research and/or consultation to understand the specific relevant community variables and tailor the right programmes to match them.

These variables might include environmental, social, cultural and financial issues or constraints. By understanding the targeted community context, voluntary change becomes far more likely and therefore the desired outcomes are more likely to be realised. This approach also achieves long term cost and time efficiencies – as it has been demonstrated that programmes that "fit" well, work well.

The methodology broadly outlined in Section 3.1 (page 24) will help councils of the Wellington region understand this community context. For example, this type of investigation in the Nelson/Tasman region identified three high-level key factors for the local community to be able to engage. They are[16]:

Accessibility of Information - all participants (people or stakeholders in the community) must have equal access to relevant information. There will be various ways to source and share the information effectively.

Trust - there must be trust between all participants. For community to join in behaviour change programmes they have to have trust in the organisation and the people driving the change.

Agreed common goals and shared understanding of those goals - participants must agree on what needs to be achieved. The common goal may be to reduce organic waste to landfill, but for each stakeholder the driver can be different. For example the restaurant owner may want to cut down waste disposal costs and reduce odour in the general rubbish, the landowner who uses the processed waste (compost) may want material to help soil fertility on their property, the council may want to reduce their Greenhouse Gas (GHG)

[16] Sourced from: SKM (2012) *Community Engagement for Waste Minimisation in the Nelson and Tasman Regions*

liability and/or incorporate sewerage sludge into a compost mixture, but in specific circumstances the Maori and Pacific populations might find mixing sewerage sludge into a compost mixture unacceptable.

Understanding the local community context for target waste streams in the Nelson/Tasman region is helping to ensure that their Council resources are efficiently allocated and that the desired outcomes (sustainable behaviour changes) are achieved.

3.3 Scope

As identified in Section 1.2, the priority waste streams targeted for further investigation and subsequent regional actions are:

1. organics,
2. paper,
3. plastics and
4. timber (note: the R11 investigation will form the basis of any education actions).

Initiatives that seek to reduce these waste streams will be undertaken within the scope of the WMES objectives (page 18).

In addition, Section 1.2 also identified the primary sector groups. These include:

- residential
- businesses
- schools

It should be noted that while these target waste streams and sectors have been identified in this strategy, they are intended to be high-level only. Subsequent analysis of specifics relating to each may result in further refinement or additions to the initial scope set out in this strategy, such as addressing a different or more specific sector group if required. It is for this reason that the strategies actions also remain high level only.

As a key overarching aim is to reduce waste to landfill, an initial scoping exercise was undertaken to identify what waste education projects or initiatives (either present or future) were planned and budgeted for by each council. The analysis was broken down by waste type (organics, paper, timber, chemicals, etc.) and target audience (community, schools, events, business, etc.).

The resulting matrix was analysed for commonality (resource sharing/efficiency opportunities) and some key information gaps were identified. Of those gaps, four additional priority target areas not already covered by the scope outlined above are:

5. provision of easy to understand information about recycling and composting at public events and facilitating the implementation of these diversion activities
6. regionalisation of waste education information and communications (possibly including a single recognisable brand)
7. a fragmented approach to addressing littering

8. a perceived reliance on ‘future’ Extended Producer Responsibility (EPR) drivers as the ultimate tool for managing some more difficult waste streams and recycling processes e.g. e-waste.

While EPR (a form of user pays) is the ultimate solution to achieve better e-waste recycling, EPR is an as yet to be implemented central government policy initiative and therefore cannot be relied on in the short to medium term as a solution at the local authority level (please note that there are already a number of e-waste collection points and collection services across the region).

3.4 Education initiatives

Each initiative stemming from this strategy is intended to be undertaken and driven collaboratively by the region’s councils. However, in reality, all initiatives will take place within a dynamic regional environment. Therefore, where behaviour change is the desired outcome, a flexible approach that informs the implementation is needed to achieve that outcome (e.g. such as the “triangulation” methodology outlined in section 3.2). The initiatives in table 3 will be investigated, developed and implemented as required and according to what is considered the best approach for undertaking regional-scale actions in that target area.

Table 3: WMES education initiatives summary table

<table>
<tr><th rowspan="2">Education (E) Initiatives</th><th colspan="3">Sectors</th></tr>
<tr><th>Residential</th><th>Businesses</th><th>Schools</th></tr>
<tr><td>E1: Organics</td><td colspan="2">Organics investigation and subsequent WMES funding proposal. The key sectors to be addressed will be further clarified after a more detailed investigation of the regions organics waste stream. Interim promotion of diversion options for residents and businesses while the investigation is on-going.</td><td rowspan="4">Regional (or national) toolkits and programmes – investigate options and opportunities for promoting uptake of regionally available toolkits and programmes</td></tr>
<tr><td>E2: Paper</td><td rowspan="2">Regional (generic) promotion of kerbside recycling</td><td rowspan="2">Working with business and the public to promote waste minimisation, thereby reducing waste related costs for consumers and businesses alike</td></tr>
<tr><td>E3: Plastics</td></tr>
<tr><td>E4: Timber</td><td colspan="2">Timber investigation (R11) and subsequent WMES funding proposal (if required) – acknowledging the very low cost of some C&D waste disposal options within the Wellington region as a potential barrier to local council influence in this area. Interim promotion of diversion options for residents and businesses while the investigation is on-going.</td></tr>
<tr><td>E5: Events</td><td colspan="3">Develop and promulgate regional resources for waste minimisation at events</td></tr>
<tr><td>E6: Communications</td><td colspan="3">The communication of consistent messaging using a common brand is important to ensure communities and businesses are able to recognise and easily access relevant and useful information. For example, generic promotion of kerbside recycling. This is also important for achieving stakeholder input and buy-in on shared/common goals</td></tr>
<tr><td>E7: Littering</td><td colspan="3">Investigate a regional approach to education on littering and promoting community led clean-ups</td></tr>
<tr><td>E8: e-Waste</td><td colspan="3">The promotion of reuse and recycle centres around the region</td></tr>
</table>

Through undertaking a strategic approach (CBSM) in delivering the some of the key initiatives in table 3, both use of resources and the associated benefits will be maximised.

3.5 Implementation and resources

Every year to 2017, a tranche of joint initiatives identified within table 3 will be undertaken by the regions waste minimisation officers. The proposed suite of regional initiatives will be developed and undertaken through an annual project plan process that seeks approval and funding through the WMMP steering committee.

3.5.1 Annual Project Plan

Some of the WMES initiatives will be subject to a CBSM project development process[17]. This will ensure that any initiative with a substantial funding requirement has undergone a form of robust risk assessment i.e. what is needed to most *effectively and efficiently* achieve a behaviour change outcome.

The WMES annual project plan will be approved by the WMMP steering committee in advance of council budgeting rounds (October) so that funding can be approved by each council for the following financial year.

A jointly agreed approach of selecting the 'low hanging fruit' first has been adopted by all councils in the Wellington region. This means that where initiatives do not require funding, and can be undertaken from within existing budgets first e.g. such as ensuring all messaging is consistent. Subsequent WMES annual project plans and their proposed initiatives will require funding, but until a CBSM approach is undertaken for each initiative, the necessary allocation of resources remains unknown. This approach will allow the future WMES funding requirements to fall in line with councils' budgeting and funding allocation processes which operate *at least* 12-24 months in advance of the funding being required.

[17] Note: Having the capacity to undertake a CBSM approach assumes sufficient human resources are allocated to the WMES. Should insufficient in-house resources exist, the cost of a consultant undertaking a CBSM approach will be included in the annual joint waste education project plan

3.5.2 Material resources

To deliver the WMES initiatives effectively, a range of resources will be required. In some cases, these resource requirements could be met from within existing budgets or in-house expertise. However, for larger projects, external resources (consultants) may be required.

In addition, there are also some free educational resources. The regional initiatives will always seek to utilise these in the first instance to minimise costs. The following lists provide an overview of some of the existing resources that could be utilised in the delivery of WMES initiatives.

Communications resources

Existing communications resources include: DVDs from commercial operators such as TPI and OI, online clips from YouTube etc., brochures, flyers, council websites, email distribution lists, social media, local radio stations, newspapers and sustainability newsletters.

Programmes

Schools: Enviroschools[18], EERST Waste Education programme, SAM's world of waste tours, Up the Pipe, Trash Palace Education programme.

Businesses: RATA certification, ISO 140001 Environmental Management, Qualmark, Conscious Consumers, etc.

Service providers

Second Treasures, Earthlink, Trash Palace, Otaihanga Re-use Shop, waste assessment service or audits by council officers, Sustainability Trust and Enviroschools.

Regional commercial composting services connected to councils include: TPI Waste Management, Seaview Recycle and Transfer Station, Kai to Compost/Capital Compost (Wellington city and expanding into Lower Hutt & Porirua by end 2013), Composting New Zealand (Kāpiti), Envirocomp and Earthcare Environmental (Wairarapa).

Community Development initiatives

Sustainability Trust initiatives, Stonewood Homes (industry leader in waste minimisation), Private sector recyclers, Kāpiti Coast Greenest Neighbourhood competition, community gardens, Te Rito gardens, Interwaste CFL recycling fundraising boxes, etc.

[18] Note: Upper Hutt does not currently fund Enviroschools. Enviroschools forms a key basis for wider regional waste education initiatives across the remainder of the region and it is a recommendation of this strategy that UHCC fund the Enviroschools programme so that the educational platform is consistent regionally.

3.5.3 Human and financial resources

Given the scope of both the WMES and WMMP initiatives, and the different means by which each council manages its resources with regards to its waste minimisation, it is necessary to adopt an initiative-by-initiative approach to the allocation of Human Resource (HR) to the strategy initiatives. This approach is consistent with the regions approach to the allocation and delivery of tasks associated with the WMMP and is already being utilised by the regions waste minimisation officers on existing collaborative projects.

This approach does however require each council to commit an equitable proportion of HR resource to delivering the WMES initiatives. Ensuring equity in delivery of the WMES initiatives will be the responsibility of the WMMP steering committee.

As with HR, funding regional initiatives requires commitment from all of the regions city/district councils in equitable measure. As noted in Section 3.5.1, funding requirements are subject to further investigations and the annual project plan will contain this detail. Therefore, this strategy only commits the regions councils to equitable proportions of the as yet to be determined funding requirements. The proportions are to be population based.

Table 4: Council population proportions

Authority	Population (2011)	Proportion of population and proportion of regional funding commitment to WMES initiatives
WCC	197,400	41%
PCC	51,700	11%
KCDC	50,500	10%
HCC	102,800	21%
UHCC	40,400	8%
Wairarapa*	39,980	8%

*Note: The Wairarapa population total is made up of three councils: MDC (23,300), CDC (7,410) and SWDC (9,270), which have jointly allocated waste levy funding towards waste minimisation education.

3.5.7 Monitoring and Reporting

While achieving our goal is important, behaviour change and education initiatives are often difficult to directly correlate with resource consumption and regional landfill tonnages. Therefore, there will also be alternative measures used to monitor the effectiveness of collaborative initiatives. Reporting on the will be undertaken via the WMMP steering committee and the Wellington Regional Waste Forum.

4. Concluding Comment

This Waste Minimisation Education Strategy is intended to serve as a platform for achieving long term sustainable behaviour change in the Wellington Region. The Councils of the Wellington region look forward to working with the diverse communities of the region and a wide range of stakeholder organisations to deliver a future where "*Wellington regions residents, communities, businesses and organisations all value our natural environment and the resources it provides, and collectively we take voluntary actions towards minimising our waste, aspiring towards a Zero Waste future."* – WMES Vision (p20)