St Helena Government

WASTE MANAGEMENT IMPLEMENTATION PLAN – 2020 to 2027



Working in partnership with customers for a cleaner and greener St Helena

Environmental Management Division

January 2020

EMD
"Our Island. Our Environment. Our Responsibility."

St Helena Government

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Document history

Task: Waste Management Implementation Plan – 2020 to 2027

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DD – Darren Duncan – Acting Director of ENRP
MD – Mike Durnford – Environmental Risk Manager

ENRC – Environment and Natural Resources Committee
ENRP – Environment, Natural Resources and Planning Directorate
ExCo – Executive Council

Executive Summary

St Helena Government (SHG) is faced with an opportunity and a threat. Volumes of waste needing to be landfilled on island are increasing and the available landfill space is rapidly reducing. This has significance for SHG as the need to replace and restore Horse Point Landfill Site (HPLS) will need to take place within a reduced timeframe.
There is an opportunity to delay the replacement of this asset through introducing a recycling programme to the island, reducing volumes of waste being landfilled and increasing the life of the landfill. This would bring the following benefits:

- Reduce short to medium term capital expenditure by increasing the life of HPLS;
- Provide cost efficiencies to SHG and private sector through export of recyclable wastes and substitution for imported new raw materials; and
- Enables the Waste Management Service to be more financially self-supporting.

The key aim of the Waste Management Plan is to deal with the waste that is produced on the Island in a manner that is more efficient and sustainable and that will ultimately bring benefit to the environment of St. Helena, in line with the St Helena Island 10 Year Plan and the Waste Management Policy.

If not properly managed waste is a problem because it:

- Creates greenhouse gases and contributes towards climate change;
- Takes up limited landfill space (loss of land multi-functionality);
- Can cause pollution and other negative social impacts;
- Uses up natural resources that could be used again;
- Creates reputational impacts on eco-tourism; and
- Creates a lasting problem for future generations.

But there are things that can be done such as:

- **Reducing** the amount of waste that is produced;
- **Re-using** items such as; plastic bags, clothes and furniture that might otherwise be thrown away;
- **Recycling** items like glass, aluminium cans, plastics and cardboard so they can be made into new products;
- **Treating** organic waste such as; food, green waste and piggery effluent to convert into compost, which can be used to enhance local soil conditions; and
- **Controlled landfilling** of remaining wastes after reducing, re-using, recycling and treating as much as possible.

Recycling contributes towards delivery of the action; *we will implement a waste management strategy which includes recycling and using waste as an energy source* within the St Helena Island 10 Year Plan.

And

Achievement of St Helena's National Goal; *Altogether Greener* – Altogether Greener not only focuses on the preservation of our land wildlife, marine and built heritage, but also how we can advance in terms of renewable power and utilising technology to deliver better green social economic outcomes including better management of our waste;

And

ENRD'S Strategic Priority 4 – *protecting the natural environment by conserving biodiversity, preventing, minimising or mitigating against pollution, waste, littering, harmful materials and organisms and conserving and enhancing the natural beauty of the Island.* This priority is currently reported through the Sustainable Development Plan Key Performance Indicator as; *a 5% reduction of recyclable wastes to landfill* year on year.

Waste recycling and treatment also offers opportunities for the establishment of commercially viable private sector businesses on the Island.

What is the Implementation Plan?

The Implementation Plan is focused on waste produced on the Island and how it is to be managed now and into the future. The plan should be regularly reviewed and updated where appropriate, to ensure that set goals continue to reflect current aspirations and needs of the Island.

What is the current position?

At present, almost all household and commercial waste is disposed at HPLS. Clinical, pharmaceutical and quarantined bio-security wastes are thermally treated by incineration at Rupert's Valley.

Whilst some recycling initiatives have developed on the Island, primarily focussing on glass, plastics and paper/cardboard, none are on a commercial scale or take advantage of the opportunity to export recyclable waste for profit.

Why is there a need for change?

With the creation of domestic netted cells it has become evident that the quantity of waste generated has risen and the lifespan of the waste cells has fallen from an estimated 20 years to 12 years. This design life will drop further as waste generation rises with the development of the tourist industry, improved quality of life and the anticipated rise in returning St Helenians. Current projections suggest that by continuing to rely on landfill as the principal disposal route for waste, the design life of HPLS will be just 8 years, without active intervention (calculated in 2019).

HPLS benefitted from investment in 2013 in order to bring it up to required airport safeguarding standards. With ingenuity this created a step change in the way waste was managed on island. Further investment would be required for any new landfill site on island to ensure it operated within the same airport safeguarding standards. An estimate of capital investment for a new landfill site is £2.7 million (based on 2013 redevelopment costs). This excludes additional HPLS restoration costs (estimated to be £300,000).

Reducing, reusing, recycling and treating more waste will help to reduce potentially negative impacts on the local environment by reducing reliance on landfill. Reducing, reusing and recycling also uses up fewer natural resources from the use of virgin materials and contributes towards Climate Change mitigation.

What is the plan to meet these challenges?

The Implementation Plan contains a series of goals to be delivered, which are summarised in the following table;

Goal No.	Goal Description
1	Develop a Materials Recycling Facility (MRF) at HPLS with appropriate collection services, focussing on high value/volume dry wastes such as; aluminium drinks cans, plastic and cardboard.
2	Develop organic waste recycling into compost at HPLS, through reuse of food, green waste and piggery effluent.
3	Support existing reduce, reuse and recycle activities and encourage/promote the development of new initiatives.
4	Design and develop environmentally sustainable waste management projects that improve the quality of island life.
5	Develop and evaluate a range of potential charging models to identify a charging structure that provides an appropriate level of funding for the waste management service to be continued and improved upon in future years.
6	Ensure that unavoidable landfilling is managed in a manner which does not significantly impact on public health or the natural environment.
7	Develop and implement waste management regulations and codes of practice in line with the Environmental Protection Ordinance.

Table 1 – Implementation Plan Goals

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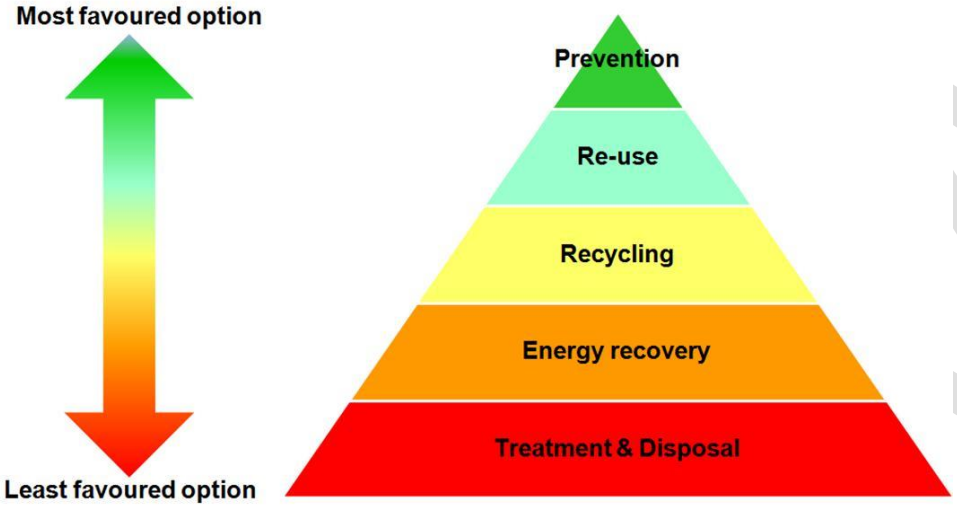
1 INTRODUCTION

This Waste Management Implementation Plan has been structured in such a way as to provide an easy reference point and understanding of St. Helena's overarching direction of travel with regard to the management of waste. This Plan provides a clear and succinct statement of the key goals to be delivered.

To move the management of waste away from the more traditional disposal methods, only minimal changes to current waste management practices across the Island will be required. These being;

- Changes to the collection and disposal of waste produced on the Island; and
- Management of waste produced in accordance with the waste hierarchy (i.e. most favoured option first) where practicable.



Waste Management Hierarchy

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2 IMPLEMENTATION PLAN GOALS

Goal 1 – Develop a Materials Recycling Facility (MRF) at HPLS with appropriate collection services, focussing on high value/volume dry wastes such as; aluminium drinks cans, plastic and cardboard.

Several options for recycling have been identified. As recycling in the private sector is still on a small scale, we will convert the waste reception building at HPLS into a Materials Recycling Facility (MRF) to process waste for re-use on St Helena or export as a raw material for sale. The building has already been prepared for occupational use and just requires further investment to procure recycling plant such as; *a magnetic sorting machine and bespoke baling machine for aluminium drink cans and associated equipment* to create a semi-automatic recycling operation and reduce manual processing times. This could be achieved through the Capital Programme, for which business cases for cans and plastics recycling have been submitted.

This would centralize the processing of recyclable wastes on St Helena and through a partnership approach, allow the private sector to operate within the confines of HPLS and recycle various waste streams when a mature business model has been developed. This will enable SHG to kick start the commercial recycling sector, but hand over responsibilities to the private sector where economic over time.

Waste Management Services have started recycling Aluminium Drink Cans (ADC) at HPLS in the absence of this activity in the private sector. Aluminium drink cans are a high volume/high value waste stream, as such their recycling could generate revenue when exported as a raw material into overseas markets.

Compacted aluminium drink cans at HPLS ready for export

To achieve maximum gain from the ADC recycling initiative, we will encourage residents and visitors to dispose of their aluminium drink cans for recycling in the Olympic Bins provided or blue wheelie bins located at Bars. To facilitate this initiative, more of these bins have been located around the Island, including in

residential areas, at bus stops, tourist locations, the Airport and even along the Access Road. Furthermore, a bay in the Public Recycling Facility at HPLS has been re-purposed for ADC.

We will continue to process ADC at HPLS (utilizing the existing manpower and resources) until there are sufficient bales to fill a 20ft shipping container, at which point it will be shipped via the MV Helena, to a recycling business in Cape Town.

We will also continue to develop high value/volume wastes for recycling such as; plastics and cardboard which take up critical landfill space, albeit they have little financial value in commercial recycling markets, however export as a recyclable waste, even if cost-neutral, is better than landfilling.

Alternatively, depending upon the finance available for investment and implementation of commercial recycling activities, it may be necessary to initiate the start of an options appraisal to select the next landfill site for the island and identify sources of capital for its costly design and construction.

Goal 2 – Develop organic waste recycling into compost at HPLS, through reuse of green waste, piggery effluent and food waste.

Until recently composting on the Island was limited to activities undertaken by individual property owners and some composting of green waste by the St Helena National Trust for exclusive use at the Millennium Forest and by Terrestrial Conservation for use at the Peaks Nursery.

A cornerstone of an option for improved waste management is the provision of separate collection and treatment for organic waste arising's including kitchen (food) waste, green waste and even piggery effluent.

Organics windrow composting in Cape Town to be replicated at HPLS

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Recycling organic waste into compost would improve the generally poor soil quality on island as well as diverting a significant waste stream from the landfill. It would have the added advantage that it could be done in such a way as to reduce the carrying capacity (maximum population that an area can sustain) of feral pigeons near the airport. These pose a bird-strike risk to aircraft. Furthermore removal of kitchen waste from the normal waste collection would assist in reducing other issues such as cat and rodent vermin that are problematic for both residents and endemic plant species.

Kitchen waste, by definition, is food waste. The majority comes from domestic sources, although catering and restaurant outlets will contribute to volumes too. It was estimated that in 2013 130 tonnes of kitchen waste were generated, and that this type of waste formed 20.9% of local landfill, this excluded a further 1.9% of garden waste.

We will continue to develop organic waste recycling into compost at HPLS, and support (where possible) similar initiatives by Non-Government Organisations (NGO's) such as the St Helena National Trust and the Private Sector, through a partnership approach.

Partnership approach – learning how to recycle organic wastes (Cape Town Composting Exposure – funded by *OCTA Innovation Project*)

Goal 3 – Support existing reduce, reuse and recycle activities and encourage/promote the development of new initiatives.

CNSKB Trading, a private sector business, commenced glass waste recycling at HPLS in 2016, crushing glass for use in construction materials.

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Waste Management Services supported the CNSKB Trading initiative through provision of red wheelie bins across the island for the disposal of glass which are emptied by the business.

This partnership approach made a positive impact on the remaining life of HPLS when glass waste, as a percentage of overall domestic waste landfilled, decreased to 9.17% in 2017 *(waste wheel data)* compared to 18.84% in 2016 and has remained steady, being 10.20% for 2019.

CNSKB Trading – glass recycling operation at HPLS

We will continue to support existing reduce, reuse and recycle activities such as SHAPE, through provision of waste cardboard and paper to recycle into artisan craft products, and encourage/promote the development of new initiatives.

We will also continue to deliver public education programs such as the 2017 Cigarette Butt Waste Prevention Campaign which was visually impacting thru' provision of oversized cigarette butts (made by SHAPE from recycled cardboard and paper) which stimulated great public interest.

2017 Waste Prevention Campaign – Cigarette Butts

Waste prevention and minimisation represent the highest levels of the waste hierarchy and therefore we will actively encourage/promote the development of new initiatives such as the 2018/19 DEFRA funded Marine Debris Recycling Project which was a collaboration between Waste Management Services, SHG and SHNT Marine Teams and SHAPE, to sustainably manage plastic waste on St Helena to minimize marine debris.

Street litter bins known as 'Olympic Bins' have been located across the island. These multi-purpose bins are a visual improvement to the old orange litter bins and wheelie bins. They facilitate the disposal of general litter, cigarette butts and recyclable wastes; *glass, cans and plastic*.

Olympic Bin at the entrance to Plantation Forest

We will continue to manage the Public Recycling Facility (PRF) at HPLS which provides the public with an opportunity to make an ethical choice as to how they depose of their waste. The PRF enables the segregation of recyclable waste and some hazardous waste *(motor and cooking oil, paint, batteries, waste electrical equipment etc.)* for appropriate disposal. The bays enable the public to safely deposit or retrieve the following wastes;

- Mixed Plastic;
- Glass;
- Aluminium Drink Cans;
- Scrap Metal;
- Wood;
- Paint;
- Motor and Cooking Oil;
- Tyres;
- Vehicle and Domestic Batteries;
- White Goods and Small Electrical Appliances;
- Textiles and Clothing;
- Furniture;
- Polystyrene;
- Paper and Cardboard.

Goal 4 – Design and develop environmentally sustainable waste management projects that improve the quality of island life.

We will continue to design, deliver and support environmentally benefitting waste management projects as they are fundamental to delivery of the National Goal; *Altogether Greener* and ENRD's Strategic Priority; *protecting the natural environment by conserving biodiversity, preventing, minimising or mitigating against pollution, waste, littering, harmful materials and organisms and conserving and enhancing the natural beauty of the Island.* Furthermore they contribute towards delivery of targets within the Social Economic Development Plan.

Remediation of landscapes blighted by bulky waste is important in order to reinforce an 'effectively managed environment' that will underpin the tourist offering on St Helena. No visible effort to re-beautify landscapes may cause adverse publicity amongst visiting tourists with particular sensitivities to 'waste management'. It would therefore have a damaging impact on the islands green tourist reputation. As such these projects will support the economic development of the island.

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Fox Motors end of life coach removed from Deadwood in 2016

A Landscape Impacting Bulky Wastes Collection Project was first undertaken by Waste Management Services during 2016/17, funded through the recurrent budget, following implemented efficiency savings that were used to fund the project.

In total 14 end-of-life vehicles and some other bulky wastes along the Access Road were removed from landscapes in the Longwood area, which was implemented in advance of the original airport opening date.

A similar project was delivered during 2017/18 to benefit the Donkey Plain and Ladder Hill areas. This included the removal of historical bulky waste items that were identified blighting landscapes, some of which were hidden from obvious view.


Landscape Bulky Waste Collection Project – before and after – Donkey Plain 2017

In 2019, instead of a landscape impacting bulky waste collection project, Waste Management Services designed and delivered a bespoke project (following successful application to the Governors Enabling Fund) to establish designated and well managed public spaces along the Access Road for admiring the spectacular island scenery. The benefits of this project include; providing safe off-road parking, preventing congestion/obstruction of the highway during high volumes of traffic (cruise ship days) and providing adequate waste/recycling facilities, reducing the need for litter picks, at each location.

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Public space along the Access Road near Deadwood – designed and delivered by Waste Management Services – 2019

We will continue to deliver landscape impacting bulky waste collection projects until all areas of the island have been remediated of landscape impacting bulky waste. We will also continue litter picks throughout the island roads network and design and deliver bespoke environmentally benefitting projects (where recurrent budget / external funding permits).

Goal 5 – Develop and evaluate a range of potential charging models to identify a charging structure that provides an appropriate level of funding for the waste management service to be continued and improved upon in future years.

Waste is an expensive business and becoming increasingly so. SHG needs to look for new, long-term solutions for collection and disposal if the costs are not to be felt hard by island residents in the next few years.

Currently the waste management service is provided free of charge to all domestic users (whom have one bin emptied once weekly), whilst commercial users receive their first 240ltr bin emptied free of charge and then pay for additional bins or increased frequency of emptying. This is not considered to be a sustainable approach in the medium and long term and reflects the fact that this service is an untargeted subsidy.
The most common argument for introducing charging is that it will increase levels of recycling in businesses and homes.

There are concerns that introducing a charge for domestic customers may be too regressive, placing an unfair burden on those least able to afford it and less able to reduce the level of waste they create. Obviously this will depend on any system put in place but it is possible that low income households and those with young children or large families will be affected more than single person households. That is not to say a system could not be designed that ameliorated these concerns, but further work is needed if pricing is to be used as an effective and fair policy instrument.

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CAT Excavator landfilling waste at Horse Point Landfill Site

Few would question that action is needed to encourage a different approach to waste management. However any future charging model requires a locally tailored solution and public support if it is to gain traction. Flexibility is vital to create innovative solutions and momentum for change within the community. Without a full explanation and grasp of the reasoning and expected outcomes of any charging model introduced, public reaction and attitudes are likely to remain negative, undermining the success of the charging process.

We will continue to develop and evaluate potential models, to identify a charging structure which provides an equitable and appropriate level of funding for the waste management service to be continued and improved upon in future years.

Goal 6 – Ensure that unavoidable landfilling is managed in a manner which does not significantly impact on public health or the natural environment.

HPLS provides St Helena's waste management facility. Given the remote nature of the island, its limited economy and lack of international hazardous waste agreements the site comprises historical uncontained landfilling of all materials. Preparations for airport operations have enabled the redevelopment of the landfill so that a degree of waste segregation is possible, notably separation of:

- Domestic waste disposal into a netted, un-engineered, cell;
- Bulky waste disposal into an un-engineered cell;
- Green waste disposal into a separate stockpile;
- Hazardous waste disposal into an engineered hazardous cell;
- Asbestos waste disposal in a deep un-engineered cell;
- Thermal treatment of select biosecurity, clinical and hazardous wastes in Rupert's Valley.

In addition, the Public Recycling Facility was created, resulting in a reduction in the need for public access to the wider landfill site.

The management of bulky waste is a recurring problem for St Helena. As such the potential to export high volume waste streams such as scrap metal will be kept under review.

There is also an area of the landfill that is being used for the disposal of septic tank waste, until the islands sewage treatment upgrade has been completed, where-after septic tank waste will be disposed and treated at the relevant sewage treatment works and not HPLS.

We will continue to design and deliver operational improvements at HPLS to ensure that public health and environmental risks are minimised as far as is practicable.

We will continue to engage with the Island community and all users of waste management services as this is a key element of the plan and crucial in delivering improved services and environmental sustainability in future years.

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Communications will include (but not limited to) the following;

- Effective and planned use of local media to communicate with, and receive feedback from, the public and service users;
- Provision of education and publicity regarding on-Island activities related to waste reduction, reuse, recycling, treatment and disposal;
- Liaison with schools and community groups;
- Interface with the private sector regarding potential business opportunities related to waste management.

Goal 7 – Develop and implement waste management regulations and codes of practice in line with the Environmental Protection Ordinance.

ST HELENA
NO. 1 OF 2016

Enacted……..……..…..22nd January 2016
Date of Commencement……..……22nd January 2016
Published in the Gazette……..……22nd January 2016

AN ORDINANCE

To make new provision for the protection of the environment, including the conservation of biodiversity, the regulation of Trade in Endangered Species and the control of pollution, hazardous substances, litter and waste and for matters connected therewith or incidental thereto.

The objectives of the Environmental Protection Ordinance (EPO) are to preserve and sustain the natural environment of St Helena, including by; *preventing, minimising or mitigating pollution, waste and littering.*

One of the principles of the EPO is; '*the polluter pays principle', by which the costs of preventing, controlling, reducing and eliminating environmental harm that may be caused or is caused by a particular activity should be borne by the persons who cause or knowingly permit it* which aligns with Goal 5 above.
We will develop and enforce regulations and codes of practice under the EPO to manage the Island's waste. This work will be led by the Environment, Natural Resources and Planning Directorate (ENRP) with input from other Directorates and territorial and international stakeholders as appropriate.

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3 IMPLEMENTATION TIMETABLE

Waste Management Services are already working towards delivery of some of the goals within this implementation plan for example; organic waste recycling of piggery effluent and chipped green waste at HPLS has commenced but requires further development to create a beneficial compost product. Another example being that Landscape Impacting Bulky Waste Projects have previously been delivered and will continue year on year.

A timetable has been developed that considers the priority of deliverables and identifies whether funding is internal, through the existing Waste Management Services recurrent budget, or requires external funding such as the Capital Program or specific project funding and if relevant business cases have been developed.

The benefit of prioritizing deliverables is to allow for their affordability through internal or external funding, staggering the resources needed to start up (or further develop) specific goals.

Goal	Internal Funding	External Funding	Business Case	2020 to 2021	2022 to 2024	2025 to 2027
Goal 1; Develop a Materials Recycling Facility (MRF) at HPLS with appropriate collection services, focussing on high value/volume dry wastes such as; aluminium drinks cans, plastic and cardboard.		√	√	√	√	
Goal 2; Develop organic waste recycling into compost at HPLS, through reuse of food, green waste and piggery effluent.	√		√	√		
Goal 3; Support existing reduce, reuse and recycle activities and encourage/promote the development of new initiatives.	√			√	√	√
Goal 4; Design and develop environmentally sustainable waste management projects that improve the quality of island life.	√		√	√		
Goal 5; Develop and evaluate a range of potential charging models to identify a charging structure that provides an appropriate level of funding for the waste management service to be continued and improved upon in future years.	√		√	√		
Goal 6; Ensure that unavoidable landfilling is managed in a manner which does not significantly impact on public health or the natural environment.	√			√	√	√
Goal 7; Develop and implement waste management regulations and codes of practice in line with the Environmental Protection Ordinance.	√	√			√	

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2020 to 2021
Waste streams that the public can actively engage with would initiate a culture of recycling on St Helena. Some of these waste streams could also provide a raw material for re-use on island such as organic waste and glass. It is recommended that the following waste streams are recycled as soon as possible (or further developed if already commenced);

- Aluminium Drink Cans
- Glass
- Organic waste
- Paper and Cardboard

Other tasks include the costing of an upgrade to the waste reception building at HPLS, identification of overseas recycling partners and continuation of the waste wheel program.

2022 to 2024
It is recommended that the following waste streams are recycled (or further developed if already commenced):

- Rigid plastics

Develop regulations and codes of practice under the EPO to manage the Island's waste.

2025 to 2027
Implementation of a full Materials Recycling Facility (MRF) to enable the maximum value to be achieved from waste streams.
It is recommended that the following waste streams are recycled (or further developed if already commenced):

- End of life vehicles (vehicle dismantling) and other viable wastes not already recycled.

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4 DEFINITIONS

Term	Definition
Biodegradable	Describes materials which are able to decompose naturally (e.g. vegetables, certain types of paper).
Kerbside Collections	Waste which is collected from domestic and commercial properties via the service provided by SHG.
Olympic Bins	Versatile bins *(designed for the 2012 Olympics in London)* that facilitate disposal of; general litter, cigarette butts and recyclable wastes; glass, cans and plastics.
Recycling	Processing of waste items or products into a different item or product e.g. *a glass bottle recycled into aggregate.*
Reuse	Repeated use of an item or product before recycling or disposing of it (e.g. plastic shopping bags).
Stakeholder	Any individual or group with an interest in the outcome of an activity, process or service. This can include government departments, non-government organisations, businesses and members of the public.
Sustainable	Describes activities carried out in a manner which does not adversely impact on future generations. In environmental terms this can mean conserving an ecological balance by avoiding depletion of natural resources.
Waste	In the context of this Implementation Plan waste describes the waste substances, materials and objects arising from domestic and commercial properties including hazardous waste, but does not include wastewater and sewage. Waste is generally considered hazardous if it *(or the material or substances it contains)* are harmful to humans or the environment. Examples of hazardous waste include: *asbestos, chemicals such as motor oil, batteries, solvents and pesticides.*
Waste Hierarchy	A tool which defines the various options for waste management ranging from reduction in waste or avoidance of waste production *(the most favoured option)* through reuse, recycling (including composting), energy recovery and disposal *(the least favoured option).*
Waste Management	In the context of this Implementation Plan waste management is the term given to the range or spectrum of activities associated with waste, namely: its generation, segregation, storage, handling and transportation from the point of source to its place of disposal.

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