CITY OF SYDNEY 2030

September 2011

Consultation Draft

INTERIM WASTE STRATEGY

Managing the City of Sydney's resources for a sustainable future

PREAMBLE

THE UNITED NATIONS DEFINED SUSTAINABILITY IN 1987: "SUSTAINABLE DEVELOPMENT IS DEVELOPMENT THAT MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS."

Simply put, it means **not messing things up for our children and grandchildren**. To become more sustainable, the City must continue to adopt new solutions for dealing with waste. One important way to be more sustainable is to move away from the traditional method of dumping our garbage in landfill.

Landfill has many disadvantages – it can emit greenhouse gas and contaminate groundwater, it is difficult to find new sites for landfill, and the garbage may have to be transported a long way to the landfill site. Diverting waste away from landfill is so important for sustainability that the NSW Government has set a target that 66 per cent of household waste should be diverted away from landfill by 2014. The City has adopted the same target.

The term waste includes garbage as well as discarded material that can be reused or recycled. There is wide agreement on the best ways of dealing with waste, and these are described in "the waste hierarchy". The hierarchy is an upside-down pyramid with the most preferred way – avoiding the creation of waste – at the top and the least preferred way – landfill disposal – at the bottom. (See page 16)

The City plans to integrate waste, water and energy systems in a way that can recover some of the energy from waste and use it efficiently. These systems are referred to as Green Infrastructure.

Mentions of "The City" and "we" refer to the City of Sydney Council.

CONTENTS

INTRODUCTION

This Interim Waste Strategy outlines the steps the City of Sydney is taking to meet its target for diverting 66 per cent of domestic waste from landfill by 2014. As well, it sets out the other issues, trends, potential targets and goals the City is considering in order to provide sustainable waste and recycling services through to 2030.

A Final Waste Strategy will be drafted after two important studies are completed later in 2011 and early 2012, as set out in the timeline below. The studies are for the **Automated Waste Collection Master Plan** and the **Advanced Waste Treatment Master Plan**.

EXECUTIVE SUMMARY

This Interim Waste Strategy explains how the City of Sydney is meeting 2014 targets for dealing with waste in a more sustainable way, and looks at ways of establishing and achieving longer-term targets of reducing greenhouse gas emissions.

The City of Sydney is on track to meet the NSW Government's Waste Avoidance and Resource Recovery target of 66 per cent diversion of domestic waste away from landfill by 2014. Latest figures from our waste contractors indicate the City's resource recovery recycling rate is already achieving this level. The City will likely exceed the 2014 target by:

- Encouraging and supporting domestic recycling
- Collecting garden organic waste
- Processing garbage with Advanced Waste Treatment to produce compost, meaning no domestic waste goes direct to landfill
- Using programs that deal with specific items such as e-waste, household hazardous materials, whitegoods and household cleanup waste.

This Interim Waste Strategy also goes beyond the 2014 target and looks at ways the City can redesign its waste management systems to achieve the vision set out in Sustainable Sydney 2030. This plan sets a target for converting waste to energy to contribute a 3 per cent reduction in the City's greenhouse gas emissions by 2030.

Challenges for the City in providing more sustainable waste solutions include influencing everyone in the City to produce less waste, tackling the problems presented by the high-density urban environment, promoting the development of automated waste collection and Advanced Waste Treatment systems, and encouraging the City's commercial sector to become involved in these systems.

The City's main aim is to provide the systems, infrastructure and support to activate all levels of the waste hierarchy to ensure everyone in the City can manage their waste sustainably.

KEY AIMS OF THE CITY'S WASTE STRATEGY ARE:

1. PRODUCE LESS WASTE
2. MAXIMISE RESOURCE RECOVERY
3. GREEN INFRASTRUCTURE INTEGRATION
4. REDUCE GREENHOUSE EMISSIONS
5. SOLUTIONS FOR PROBLEM WASTES
6. CLEAN STREETS

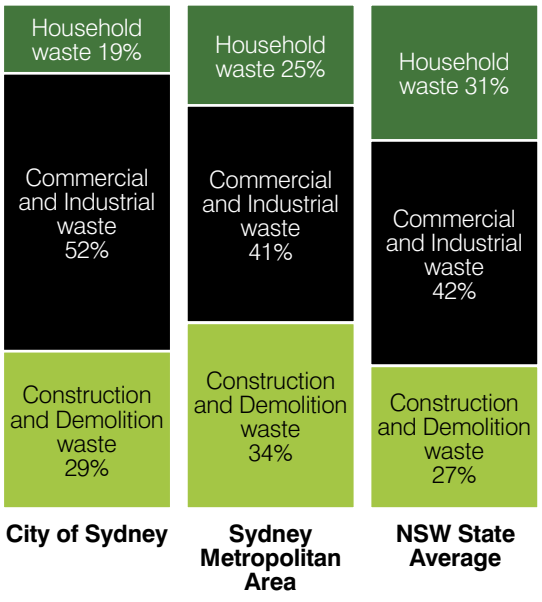
SOURCES OF THE CITY'S WASTE

In 2011 The City of Sydney has more than 180,000 residents in about 90,000 homes. More than a million people are in and around the City on an average day, including workers, students, visitors, and residents.

About 308,000 tonnes of garbage and recycling was produced across the local government area (LGA) in 2010. As the LGA is a major hub of business activity the proportion of waste put out by householders is lower (19 per cent) than in other parts of the greater Sydney region (25 per cent), or the state (31 per cent) as shown in the bar graph.

The volume of waste discarded in the City may increase significantly by 2030. The historical trend has been for waste to increase although some indicators recently show the trend stabilising. In 1997, the average Australian disposed of 1,230 kilograms of material a year, but this grew by 32 per cent to reach 1,620 kilograms by 2002.

At present rates of population growth, by 2030 the City could be producing more than 375,000 tonnes of waste.



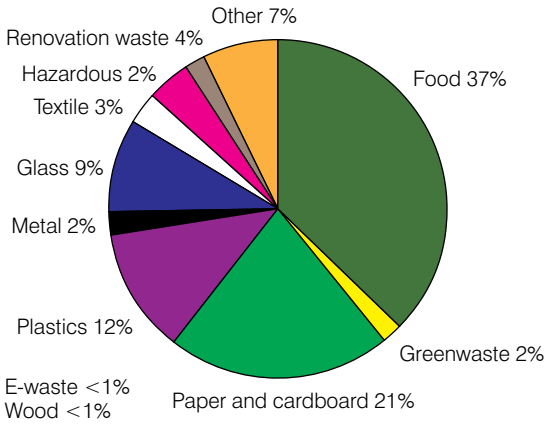
DOMESTIC WASTE

The City's residents produced almost 60,000 tonnes of waste and recycling in 2010–2011. Of this, about 29,000 tonnes (49 per cent) was kept out of landfill, mostly through domestic recycling.

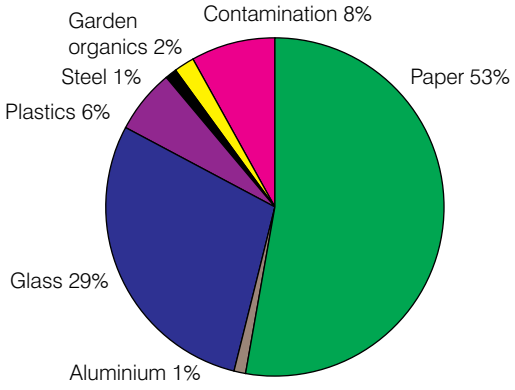
In April 2011, the City increased the proportion of domestic garbage sent to Advanced Waste Treatment facilities to produce compost. This is expected to result in 68 per cent of garbage being kept out of landfill.

The City also provides services for problematic or toxic material, such as electronic waste and household chemicals. Society is discarding more material than ever before, partly due to increased consumption as our economy grows, and because of more rapid turnover and disposal of products. Of the materials used to make products, over 95 per cent are disposed of within six months of a product being bought.[1]

What's in the domestic **garbage** bin?



What's in the domestic **recycling** bin?



Source: City of Sydney Residential Waste Audit 2008

COMMERCIAL WASTE

More than 80 per cent of the waste discarded across the City of Sydney comes from sources described as the Commercial & Industrial (C&I) and Construction & Demolition (C&D) sectors.

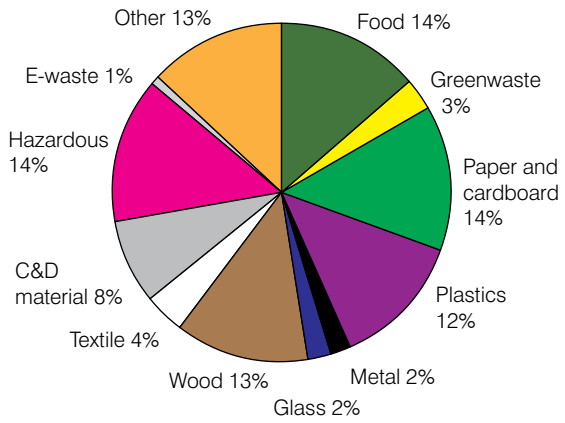
Commercial & Industrial sector waste comes from businesses including office buildings, retailers, supermarkets, food courts and industrial sites. Compared to the domestic sector, there is less detail about how much of this waste is produced, and what sorts of materials are recycled or disposed of.

The C&I sector is estimated to have produced 160,000 tonnes of material in 2010. About 52 per cent was diverted from landfill in 2009. C&I waste is projected to grow to about 190,000 tonnes by 2030.[2]

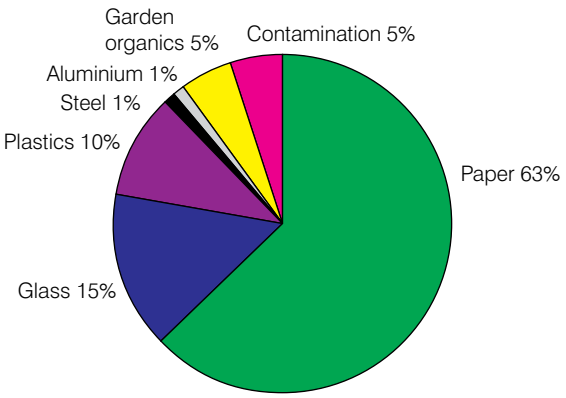
Construction & Demolition sector waste comes from building sites and renovations and includes concrete, bricks, timber, soil and vegetation. This sector is estimated to have produced 90,000 tonnes of waste in 2010.[3]

The ability and incentive for the C&D sector to recycle material is already high, especially in Sydney where there is a large demand for recycled materials to be used in new development. The NSW Government estimates the sector is on track to meet an ambitious target of 76 per cent recycling and recovery by 2014.

Commercial and industrial **waste**



Commercial and industrial **recycling**



1 *Paul Hawken, Natural Capitalism, (1999) p. 81*

2 *2010 baseline based on data in the survey Department of Environment, Climate Change and Water NSW (DECCW), Commercial and Industrial Waste in Sydney, 2008. Diversion rate from DECCW, Waste Avoidance and Resource Recovery Progress Report 2010. Projection to 2030 from City of Sydney draft Service Needs Analysis 2010*

3 *From City of Sydney draft Service Needs Analysis 2010*

OVERVIEW: DOMESTIC WASTE IN THE CITY

The City uses both City staff and private sector contractors to provide collection services including:

- Garbage – minimum weekly collection
- Recycling – weekly collection
- Garden organics – fortnightly collection or on-call booking
- White goods and household clean up – weekly on-call booking
- E-waste and hazardous household chemicals – periodic drop-off events

The City's containers range from 55 litre carry bins to mobile garbage bins and bulk capacity skip bins.

To collect household materials the City maintains or contracts 45 vehicles including rear-lift compaction trucks for picking up domestic waste and recycling.

GARBAGE

Since April 2011, all the City's domestic garbage has been trucked to western Sydney for processing through Advanced Waste Treatment facilities. Before then, the majority went direct to landfill.

This Advanced Waste Treatment plant can recover about half the material in the garbage bin and produces compost-type products. Much of the compost is used in applications such as the rehabilitation of old mine sites.

RECYCLING

The mixed material residents put into their recycling bins is delivered to a plant where mechanical and manual sorting separates items by type (paper and cardboard, all plastics, glass and metals), ready for further reprocessing and reuse. The City of Sydney has transitional arrangements in place for recycling, moving to a fully mixed wheelie bin system.

The volume of recycling collected from City of Sydney households has gradually increased. In 2006/07 the City collected about 14,300 tonnes; in 2010/11 it collected 16,000 tonnes.

GARDEN ORGANICS

Domestic garden organic waste is sent to Kemps Creek for processing into compost. The volume of garden organics collected in the City is low compared to the volumes of kerbside recycling or garbage, although there has been an increase in people using the optional organics collection services. In 2006/07 about 230 tonnes were collected, and this grew to almost 750 tonnes in 2010/11.

Standard system 120 litre bin

Standard system 120 litre bin

Standard system 240 litre bin

WHITE GOODS AND HOUSEHOLD CLEAN UP

White goods including fridges, washing machines and other metal items are collected separately for metal recycling. The City also sends household bulky clean up waste for limited sorting and recovery of some materials. All other material collected goes to a landfill dedicated to this type of waste.

WASTE POLICY

The City governs waste production, management and collection in the LGA via two major policies, the Waste Minimisation in New Developments and the Local Approval Policy. These policies can define times for collection of garbage for commercial operators, set requirements for construction and demolition resource recovery, and direct the types of waste and recycling facilities needed in new developments.

PROBLEM WASTES

The City runs quarterly drop-off collections for electronic waste (e-waste). Between 2008 and 2011 we collected over 100 tonnes of e-waste. Over 95 per cent of this material was recycled.

We have also been making submissions about the proposed national TV and Computer extended producer responsibility scheme. At that time an industry-run take-back program will commence. This scheme is due to start in 2011.

Each year, we partner with the NSW Government to host a chemical clean out drop-off collection. About 15 tonnes of chemicals, car batteries and gas bottles are collected. Where possible these materials are recycled. The remaining materials are usually banned substances and are destroyed using high temperature Plasma Arc treatment.

ENVIRONMENTAL MANAGEMENT PLAN 2007

The City set four targets for waste in its Environmental Management Plan in 2007. The City has more direct control over targets 1 and 2, and acts to influence broader NSW policy to achieve targets 3 and 4.

Target 1: 66 per cent recovery of residential waste from the local government area by 2014. This target will now be met by 2011/12.

Target 2: 66 per cent recovery of waste generated by Council and its contractors by 2014. A new waste collection service for Council facilities was awarded in 2011 and will allow for improved waste management to meet this target.

Target 3: 63 per cent recovery of commercial and industrial (C&I) waste from the City LGA by 2014. The C&I sector had achieved 52 per cent recovery in 2009. The Interim Waste Strategy examines some means to help the commercial sector achieve this target.

Target 4: 76 per cent recovery of construction and demolition (C&D) waste from the City's LGA and Council projects by 2014. The C&D sector had achieved 73 per cent diversion from landfill by 2009. It is anticipated the sector will meet the 2014 target. The recovery rate for Council project waste recycled at the City-operated Burrows Road Construction Materials Recycling Facility is over 98 per cent.

THE REGULATORY ENVIRONMENT

- The *Local Government Act 1993* (amended 1997) requires councils to take responsibility for residential waste and mandated a Domestic Waste Management Charge for residential properties. It also requires Councils to implement principles of Ecologically Sustainable Development.
- The NSW Waste Avoidance and Resource Recovery (WARR) Act 2001 established ambitious resource recovery targets. The major policy tool for encouraging investment in resource recovery and waste diversion is the Section 88 Waste and Environment Levy.
- The NSW government recently released Reducing Waste: Implementation Strategy 2011–2015 setting priorities to achieve the targets for 2014.
- The Protection of the Environment Operations Act 1997 and subsequent Protection of the Environment Operations Amendment Act 2005 are the principal tools in litter and illegal dumping enforcement.
- In 2010 the Federal Government released the National Waste Policy, which is designed to provide a holistic approach to waste issues, address ad hoc governance issues, and ensure climate change and sustainability are key drivers. The Implementation Plan will initially focus on Extended Producer Responsibility (EPR).

DOMESTIC RECYCLING AND GARDEN ORGANICS COLLECTIONS, COMBINED WITH ADVANCED WASTE TREATMENT OF GARBAGE, WILL SEE THE CITY DIVERT UP TO 68 PER CENT OF ALL DOMESTIC WASTE AWAY FROM LANDFILL IN 2011/12, EXCEEDING THE STATE GOVERNMENT'S TARGET FOR 66 PER CENT RESOURCE RECOVERY BY 2014.

ISSUES FOR THE CITY

IN WASTE MANAGEMENT, THE TRADITIONAL ROLE OF LOCAL GOVERNMENT HAS BEEN TO COLLECT AND DISPOSE OF GARBAGE FOR PUBLIC HEALTH AND SANITATION REASONS. MORE RECENTLY, COUNCILS HAVE CONSIDERED WAYS OF **REDUCING THE ENVIRONMENTAL HARM CAUSED BY WASTE DISPOSAL BY DEVELOPING SYSTEMS TO RECYCLE HOUSEHOLD MATERIALS.**

New technologies are now enabling leading councils, including the City of Sydney, to use waste management as a way of improving sustainability. These advanced technologies can recover resources from waste, including recovering the energy it contains. This approach is then integrated with waste avoidance and reuse, reduction of greenhouse emissions, and sustainable water systems.

The City will consult and work with the community to reduce the amount of waste produced, and expand the re-use of disposed items. To sustainably manage waste, the City must also adopt systems that maximise the recovery of resources and ensure the left over "residual waste" is treated so it does not pose a risk to the health of our community or our environment – now, or in the future.

The aim is to provide targeted systems, infrastructure, and support to ensure people can effectively manage waste at each level of the waste hierarchy (See diagram in Focus 1).

To realise the vision set out in the Sustainable Sydney 2030 plan, the City will need to break from the waste patterns of the past. The City will continue to adopt more permanent and sustainable solutions for dealing with waste.

WHAT USED TO HAPPEN

DISPOSAL TO WATER

From the late 19th century until 1932, the City dumped much of its waste into the ocean from barges. Despite ensuring the waste was dumped some distance from land, there was regular contamination of beaches and foreshores with material that failed to sink or disperse. The effect on the marine environment has never been fully researched.

DISPOSAL TO AIR

In 1901, following an international trend, the City decided to build its first "destructor" to incinerate waste. The first destructor was built at what was the Moore Park landfill. In 1932, another destructor (designed by Sir Walter Burley Griffin) was built at Pyrmont. The incinerators simply dispersed most materials into the atmosphere as soot, moisture or heat. The City used incineration until 1994, when 4 per cent of the City's waste was still being handled at the Waverley incinerator.

DISPOSAL TO LAND

Modern landfill practice is based on US army engineering techniques from World War II. Before that, material was dumped in open trenches and pits. "Sanitary" or "controlled" landfill saw waste placed in engineered bays where it was compressed to reduce air and covered with a layer of soil or clay at the end of each day. This is still common practice.

HIGH DENSITY LIVING

The City of Sydney is Australia's highest density urban environment with almost 75 per cent of people living in apartment buildings. High density living presents challenges including a lack of space for storing multiple bins and traffic congestion problems when collecting material from narrow streets.

The City has responded by developing systems to cope with high density, but it must continue to find alternative collection systems tailored to residential areas that offer environmental improvements.

AVOIDING LANDFILL DISPOSAL

Most of Australia's garbage has been dumped in landfill for the past 50 years. Landfill, however, has significant disadvantages including:

1. Valuable resources are lost when material is buried in landfill
2. Landfills pose an environmental hazard from potential greenhouse gas emissions or groundwater contamination
3. Sydney's existing landfills will be full by 2019 and, because of land requirements and costs, any new landfill facilities will be a long way from the City
4. Increasing government levies, stricter environmental controls and competition for access have dramatically raised the cost of landfill disposal
5. Relying on distant landfills shifts the burden of the City's waste management onto other communities.

Landfill disposal is no longer cheap and easy, and is not an environmentally sustainable solution. The City is therefore using alternative Advanced Waste Treatment options now available, which can recover resources from just over half of the garbage stream and produce compost. These existing technologies do, however, still produce a significant amount of "residual waste" that needs to go to landfill. If nothing changes, future generations will still need to find more space for landfills.

The solution lies in new processing technologies that recover material resources from garbage (such as recycled plastics and metal), and then convert the remaining garbage into energy. This means the City could avoid landfill, as well as developing alternative sources of power that will reduce its greenhouse gas emissions. The advantages of this approach have been set out in Sustainable Sydney 2030.

Although we already recover resources from domestic waste, the City recognises there is still a need to increase recovery from the waste collected from the streets and from the City's own facilities. City businesses also create a large volume of waste that goes to landfill. This waste may also be suitable for the new resource recovery processes.

A range of treatment options such as those outlined above will be assessed and set out in an Advanced Waste Treatment Master Plan.

WORKING WITH LOCAL BUSINESSES

The City has traditionally focused on the systems and processes to collect and manage waste from homes and visitors.

As we have indicated, households account for only about 20 per cent of the material thrown away within the City. Therefore, to achieve the Sustainable Sydney 2030 plan goals, particularly the cuts in greenhouse emissions, this focus needs to broaden to provide new ways of dealing with business waste.

Smaller businesses in the City have few options available for recycling, and much of their garbage goes to landfill. Programs have been introduced by the City to help businesses to understand how better to manage their garbage and recycling.

MANAGING PROBLEM WASTE

There have been many changes in the sort of things people put in their garbage bins. For example, no smart phones were discarded in 1990, while in 2011 not many record players will be thrown away.

One change causing concern is the increase in complex and potentially hazardous materials going into bins. These include compact fluorescent lights, household chemicals, batteries, and electronic items such as computers, TVs and mobile phones. While they make up only a small fraction of waste, even small amounts of hazardous material can contaminate a whole bin and make it harder to recover resources. As well, sorting the garbage at treatment facilities can be disrupted by items such as video tape, wire, hoses, even clothing that snags on machinery. Items like syringes can be dangerous to garbage collectors and sorters. To maintain or improve resource recovery levels, these problem wastes must be dealt with at the earliest stage possible or collected separately from the usual garbage.

REDUCING GREENHOUSE EMISSIONS

Emissions from landfill make up nearly 3 per cent of Australia's total greenhouse gas emissions. The City is avoiding future landfill emissions by choosing to not send any more untreated domestic waste to landfill. New waste management systems have the potential to reduce emissions even further.

By returning valuable materials to producers, recycling helps avoid emissions that might otherwise be created by manufacturing. For example, recycling an aluminium can saves 95 per cent of the energy needed to manufacture a new can from scratch. Recovering energy from garbage also offsets the need to create electricity from burning fossil fuels which produces high levels of greenhouse gas emissions.

Sustainable Sydney 2030 set ambitious targets for reducing greenhouse emissions across the City, and this remains a key issue for the City in considering options for managing waste.

MAKING THE CITY MORE LIVEABLE

Collecting and managing waste in a densely populated built up area can sometimes harm the quality of life in the City. Common areas of concern about waste management include the time of collections, the noise they make, traffic congestion caused by the heavy vehicles, the unsightliness of bins and bulky waste on streets, and the effect of litter on the local environment.

Based on community consultation the City undertook in 2007 in preparation for Sustainable Sydney 2030:

- Communication and education are viewed as key strategies to reduce waste
- Support is strong for linking waste to other sustainability issues, such as energy and water
- Residents generally feel it is an individual's responsibility to recover resources – 98 per cent want to 'do the right thing' and 65 per cent view recycling as a community norm
- Barriers to recycling include confusion, lack of knowledge, lack of time, too much packaging and lack of appropriate bins and facilities.

To make the City a better place to live, work and visit, we are seeking to design waste solutions that:

- Improve amenity – with less litter, and more functional bins and infrastructure
- Increase convenience – making it easier for people to do the right thing by using collection services and bins tailored to a particular area rather than a "one size fits all" approach
- Provide access to all – giving the entire community opportunities to recover resources.

SUSTAINABILITY PRINCIPLES

The Interim Waste Strategy has been developed to address the vision in the Sustainable Sydney 2030 plan. Some common principles drawn from United Nations examples show how the City addresses these.

The Precautionary Principle – Waste is managed as a resource to minimise all environmental impacts. The City's waste management will be planned to reduce greenhouse gas emissions, minimise virgin resources extracted to make new products, and minimise water demand.

Inter-generational Equity – The City's plan ensures waste will be managed as a resource, and that landfill space is rationally managed to meet any future needs.

Biological Diversity and Ecological Integrity – The City intends to preserve essential ecological processes and life support systems by ensuring that environmentally harmful materials present in waste are managed properly.

Integration – The City's interim waste strategy calls for the effective integration of environmental, social and economic considerations.

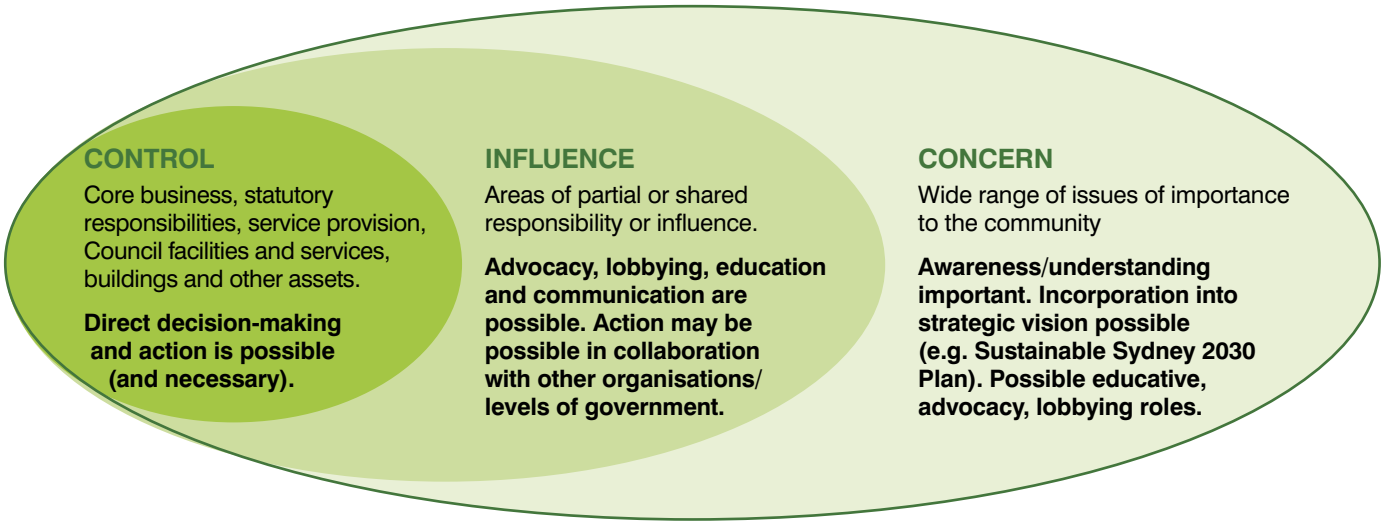
Continual Improvement – The City plans to become more sustainable in its waste management and to make continual improvement in its ability to recover resources and minimise environmental harm.

Community Involvement – The City recognises the need for involvement of the community through consultation process. Future waste planning will be mindful of the need to be equitable to other communities.

Strong, Growing and Diversified Economy – The City recognises that fostering the economy while reducing waste through new measures for avoidance and reuse can improve environmental protection.

AREAS FOR IMPROVING RESOURCE RECOVERY

THE CITY AIMS TO IMPROVE THE MANAGEMENT OF WASTE ACROSS THE CITY OF SYDNEY. IN SOME AREAS IT HAS DIRECT CONTROL, IN OTHER AREAS IT CAN INFLUENCE OUTCOMES AND IN SOME IT CAN GIVE A VOICE TO COMMUNITY CONCERNS. THE CITY IS ACTING IN ALL THESE AREAS TO ACHIEVE ITS SUSTAINABILITY OBJECTIVES.



AREA OF CONTROL: MEETING DOMESTIC WASTE TARGETS

The City is directly responsible for managing the waste produced by its residents and for meeting State Government targets for recovering resources from this domestic waste. The key target under the NSW Waste Avoidance and Resource Recovery Strategy is to divert 66 per cent of domestic waste away from landfill by 2014.

IMPROVED SYSTEMS

The City's resource recovery rate has steadily improved over recent years (see chart), and is on track to achieve the 2014 target ahead of time. This is how it is being done:

- New recycling systems were introduced in 2009. The upgraded system replaces old crates with a standard 120 litre wheelie bin for mixed recycling (paper and containers together). This has increased recycling rates by an estimated 4 per cent a year since introduction.
- Separate recycling systems in apartment buildings are being switched to the new mixed recycling system.
- Garden organic waste has been collected for processing into compost since 2006 on an opt-in basis. The system now collects more than 550 tonnes of material a year, an increase of 130 per cent over the first year.
- The City processed some domestic garbage through an Advanced Waste Treatment plant in 2009. This accounted for a 6.8 per cent increase in diversion from landfill.
- The City in 2011 will process all domestic garbage through Advanced Waste Treatment, which could increase diversion from landfill by up to 68 per cent.

Advanced Waste Treatment will continue to play a major role in achieving the high levels of landfill diversion the City needs. Existing facilities allow the City to meet its 2014 targets, but it may be possible to achieve much higher diversion rates before 2030 by using new types of facilities.

The City believes it will be possible to keep more than 90 per cent of household waste out of landfill with a combination of source-separated recycling and advanced processing technologies.

In 2011/12 the City will exceed the 2014 target of 66% household resource recovery in NSW

AREA OF INFLUENCE: COMMERCIAL WASTE

Local governments are not directly responsible for managing commercial waste. The City of Sydney can, however, provide leadership to influence commercial waste production and resource recovery through its policies, planning regulations, programs, education, enforcement and advocacy efforts.

Marketing and education programs are some of the most effective long-term approaches. The City has run an awareness-raising program called Zero Waste since 2009. This is part of several initiatives, such as the Smart Green Business program, helping many businesses understand how better to manage their waste and other environmental impacts. The Better Buildings Partnership provides a platform to introduce waste improvement programs in consultation with the City's leading building owners, who together own 60 per cent of the commercial office space in the CBD. Other sustainability programs such as CitySwitch Green Office could be expanded to provide waste education. A dedicated Waste Programs Coordinator is now integrating waste avoidance and reuse advice into these programs.

The City will look at the feasibility of handling some commercial waste in the automated collection systems it is planning for domestic waste.

Some big businesses already recover resources from waste because they generate enough material to make source separation a worthwhile investment. Small to medium enterprises (SMEs), however, produce an estimated 45–50 per cent of the City's commercial waste and this is more likely to end up in landfill.

The City could help these SMEs by assisting with other options such as:

- Assisting to develop precinct-based solutions where industry groups can contract waste services on behalf of businesses in shared locations. This could provide enough material to encourage specific recycling services for business customers.
- Including some commercial garbage in the collection or treatment solutions proposed for domestic garbage.

AREA OF CONCERN: PROBLEM WASTE

To help meet sustainability goals, the City will press for Extended Producer Responsibility (EPR) schemes for managing hazardous or problem waste. This includes container deposit schemes and EPR for items such as lead acid batteries, gas bottles, and compact fluorescent lights that contain materials which pollute the other waste and make it difficult to recover resources.

The City can act by supporting groups such as the Global Product Stewardship Council and with an advocacy plan to lobby State and Federal Governments.

Many social, environmental and economic benefits flow from recovering resources through recycling programs and by processing garbage through Advanced Waste Treatment facilities. Based on a Life Cycle Assessment approach developed by the NSW Government, the net environmental benefits from the City's actions in 2009/10 were equivalent to saving:

- **THE GREENHOUSE EMISSIONS FROM 3,755 CARS**
- **THE ANNUAL ENERGY NEEDS FOR 4,774 HOUSES**
- **THE WATER NEEDED TO FILL 48 OLYMPIC SWIMMING POOLS**
- **THE WASTE WHICH WOULD HAVE FILLED 184,304 WHEELIE BINS**

THE CITY OF SYDNEY CAN PROVIDE LEADERSHIP TO INFLUENCE COMMERCIAL WASTE PRODUCTION AND RESOURCE RECOVERY THROUGH POLICIES, PLANNING REGULATIONS, MARKETING, EDUCATION, ENFORCEMENT AND ADVOCACY.

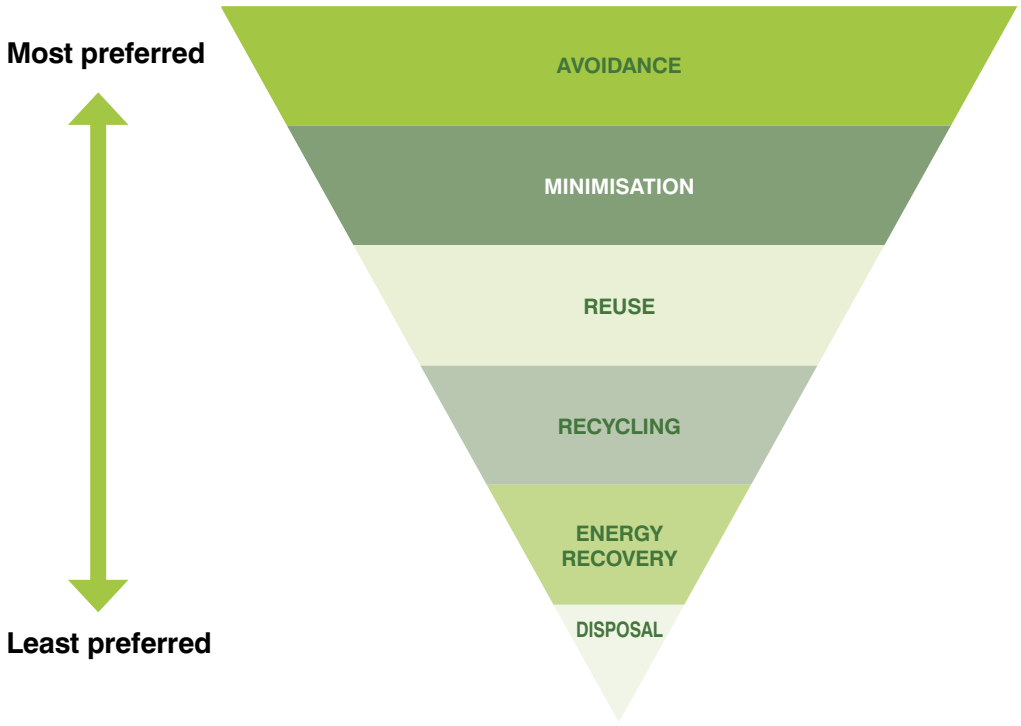
A SUSTAINABLE WASTE STRATEGY

The waste hierarchy (see diagram) has been adopted as a core principle of environmental protection by most Australian states. It ranks ways of dealing with waste, with avoidance being the most preferred and disposal the least.

The City's resource recovery approach also follows the waste hierarchy. The most preferred outcome is to avoid waste being created. The City does not have direct control over what materials people buy and throw away, but it can influence the community to eliminate unnecessary waste.

The City's strategic aim is to provide targeted systems, infrastructure, and support for improving access at each level of the waste hierarchy to ensure people in the City can responsibly manage their waste. Options to include a new level of energy recovery before landfill are being sought by the City.

The City also needs to develop new ways to involve the community and encourage people to make the best use of the new waste systems being considered. It is also important to improve community understanding of how waste can be used to increase the effectiveness of the Green Infrastructure system by producing gas that can provide power, cooling and heating.



SIX KEY FOCUS AREAS

The six key focus areas of the City's Waste Strategy will be:

1. PRODUCE LESS WASTE
2. MAXIMISE RESOURCE RECOVERY
3. GREEN INFRASTRUCTURE INTEGRATION
4. REDUCE GREENHOUSE EMISSIONS
5. SOLUTIONS FOR PROBLEM WASTE
6. CLEAN STREETS

FOCUS	1	2	3	4	5	6
	PRODUCE LESS WASTE	**MAXIMISE RESOURCE RECOVERY**	**GREEN INFRA-STRUCTURE INTEGRATION**	**REDUCE GREENHOUSE EMISSIONS**	**SOLUTIONS FOR PROBLEM WASTES**	**CLEAN STREETS**
POTENTIAL TARGET AREAS	• Reduce the current rate of waste produced per person	• Increase recycling rate across City-provided collection services • Increase commercial waste recovery	• Automated waste collection and advanced waste treatment integrated with other Green Infrastructure projects	• Maximise contribution from waste treatment and recycling to the City's 70% greenhouse gas reduction target	• Increase collection and treatment options for problematic items	• Reduced incidence of littering and dumping • Increased reuse of household cleanup items • Provide waste service that is effective and simple to use
STRATEGIES	• Efforts aligned with the Waste Hierarchy • Expand targeted engagement programs • Advocacy plan for Extended Producer Responsibility schemes • Investigate reuse opportunities	• Finalise Automated Waste Collection Master Plan • Expand garden organics collection to all suitable households • Investigate options to partner with and influence commercial sector	• Finalise Advanced Waste Treatment Master Plan • Finalise Automated Waste Collection Master Plan	• Implement approved AWT Master Plan • Overcome identified barriers to providing solutions for commercial waste generators	• Investigate feasibility of regional reuse and collection approaches • Advocacy plan for Extended Producer Responsibility schemes	• Provide adequate infrastructure • Enforce littering rules • Review policies

FOCUS 1

PRODUCE LESS WASTE

POTENTIAL TARGETS

- Reduce the current rate of waste produced per person

STRATEGIES

- Efforts aligned with the Waste Hierarchy
- Expand targeted engagement programs
- Advocacy plan for Extended Producer Responsibility schemes
- Investigate reuse opportunities

The City can influence the community to eliminate unnecessary waste. Marketing and education programs that help people understand and use the systems available to them are an effective long-term approach to achieving sustainable waste outcomes. Education can prevent waste being created.

We will continue to develop programs that can help reduce waste at its source. For example, food waste comprises a high percentage of garbage, yet much of this waste is avoidable. The effectiveness of new approaches will be monitored to identify any areas that need further effort.

Our Sustainability unit is also developing programs such as the Green Apartment Buildings Program that will help apartment building owners and residents to reduce waste and handle problem waste separately. The City's Smart Green Business program gives advice to small and medium sized businesses on waste avoidance, reuse and recycling. The Better Buildings Partnership allows us to develop a role together with commercial building owners in minimising waste.

As we look to develop new Automated Waste Collection and Advanced Waste Treatment systems, and consider including some commercial waste into our planning, waste education will need to be expanded to ensure the new systems work at optimum efficiency. The focus will be on eliminating or avoiding materials and practices that reduce our ability to recover resources when treating waste.

WE WILL CONTINUE TO DEVELOP PROGRAMS THAT CAN HELP REDUCE WASTE AT ITS SOURCE.

IMPROVING REUSE CAPACITY

Reusing items can provide a high return in social and economic value, and thus ranks above recycling in the waste hierarchy. In order to increase reuse, we need to identify how we can support existing activities and find new ways of reusing discarded materials.

The City will investigate:

- Reuse activity and capacity
- The amount and value of reusable items now being lost to landfill
- Existing reuse organisations and programs
- Barriers to the expansion of these programs
- The ability to link to Council programs such as Smart Green Business, Better Building Partnership, and the residential Green Apartment Buildings and Green Village programs.
- Ways and means of improving recovery of items for reuse
- Benefits from improving the City's capacity for reuse.

The City will also look at ways to improve the collection of items for reuse. These might include having drop-off centres or regional networks that could send materials to facilities dedicated to reuse.

FOCUS 2

MAXIMISE RESOURCE RECOVERY

POTENTIAL TARGETS

- Increase recycling rate across City-provided waste services
- Increase commercial waste recovery

STRATEGIES

- Finalise Automated Waste Collection Master Plan
- Expand garden organics collection to all suitable households
- Investigate options to partner with and influence the commercial sector

The City supports a collection network that supplies specific materials to a range of facilities where:

- High-value, cleanly separated materials can be recycled
- Nutrients can be recovered from garden organics
- Further resources and energy are recovered from materials unsuitable for higher-order recycling
- Hazardous materials can be safely disposed.

RECYCLING: From 2010 to 2011, the City collected around 85 kilograms of recycling per person. It should feasible for us to increase the collection of source separated recycling while still reducing the overall level of waste. New bin and automated waste collection systems should help to achieve this. Continued education and investigation of incentive schemes will be needed.

FROM 2010 TO 2011, THE CITY COLLECTED AROUND 85 KILOGRAMS OF RECYCLING PER PERSON. IT SHOULD FEASIBLE FOR US TO INCREASE THE RECYCLING RATE ACROSS CITY-PROVIDED WASTE SERVICES.

ORGANICS: We aim to expand garden organics collection to all suitable homes. However, the proportion of garden organics in the City's domestic waste is much lower than the State average and this limits our ability to pursue organics recovery facilities that may be suitable in other areas.

To improve the management of discarded garden and food organics, we will:

- Continue a trial of communal composting systems to see how practical these are in urban zones
- Continue providing education and start-up tools to City residents for organic reuse systems such as compost bins and worm farms
- Support waste avoidance programs with a focus on organic waste.

The City's best environmental solution for organic waste will be determined in part by the studies into the proposed Automated Waste Collection and Advanced Waste Treatment Master Plans. These will help address the feasibility of different organic recycling approaches, and how to address any barriers. Current barriers to source separation of organic materials are limited food organics processing capacity in the region and additional bin requirements for households.

OTHER ITEMS: The City also provides or supports programs that target problematic but low volume waste. Removing problem waste makes it easier to recover resources from other waste (Focus area 5 has more discussion on problem waste). Education, advocacy for government action, and targeted programs aimed at reducing contamination from problem waste is important to allow the City's existing and proposed automated waste collection and Advanced Waste Treatment systems to work at optimum efficiency in recovering resources.

BUSINESS WASTE

To holistically manage the environmental impacts of the City's waste defining a role across business waste is essential. Factoring this waste into the City's strategic planning will provide opportunities to recover resources across a broader range of waste materials. The City will also increase total recycling volume and improve greenhouse gas reduction by encouraging more recycling by businesses. This can be achieved by:

- Continuing existing engagement and education programs and providing new ones
- Fostering closer relationships with business through programs such as the Better Buildings Partnership
- Local planning controls to ensure appropriate recycling infrastructure and bin storage
- Lobbying for increased State or Federal Government support
- Ensuring businesses have access to a range of collection and processing services.

The commercial sector already recycles just over 52 per cent of its waste. But facilities to recover material from the remaining garbage are needed if this performance is to improve. The City has already targeted assisting businesses to achieve a 63 per cent recycling of commercial waste by 2014. The Advanced Waste Treatment Master Plan will consider options for including some commercial waste in any proposed facility.

As an early step, the City will focus on helping smaller businesses achieve better waste solutions. Where isolated small businesses generate waste similar to households, consideration will be given to including them within existing domestic garbage or recycling services.

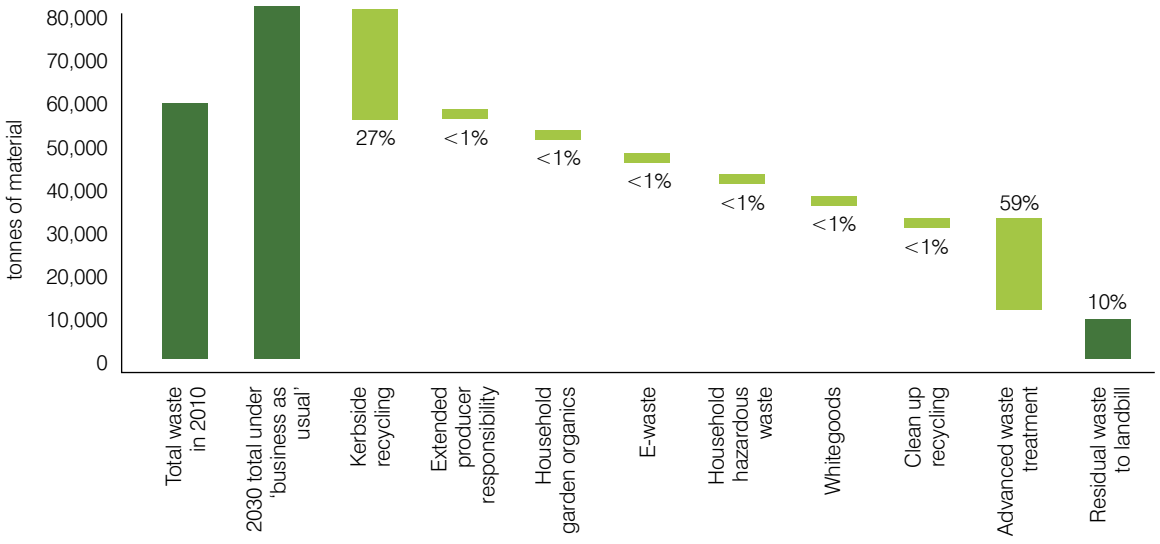
Studies have shown that the most common wastes from this sector (excluding contaminated soils) are food, plastics (mostly films and bags), wood (mostly pallets) and paper. Together these make up almost half of commercial waste.[4] These materials have well-established markets for recycling. The City will examine options with local businesses to secure separated collection of these materials, and help identify recyclers willing to recover the resources.

The City could reduce greenhouse gas emissions from landfill by helping businesses to prioritise recovery of these materials, as wood and paper in particular have very high greenhouse gas factors. The City will rely on its partnering approach with City property owners and developers to improve the handling and disposal of commercial waste, and reduce associated greenhouse gas emissions.

The City needs more information about the level and types of waste produced by businesses to add to research already undertaken for its business programs. The City will collaborate with businesses to characterise the waste generated locally. This understanding will allow for more accurate targets and actions to be defined, as well as improved planning and development outcomes.

4 Department of Environment, Climate Change and Water NSW (DECCW), Commercial and Industrial Waste in Sydney, 2008

Resource recovery steps for domestic waste in 2030



FOCUS 3

GREEN INFRASTRUCTURE INTEGRATION

POTENTIAL TARGETS

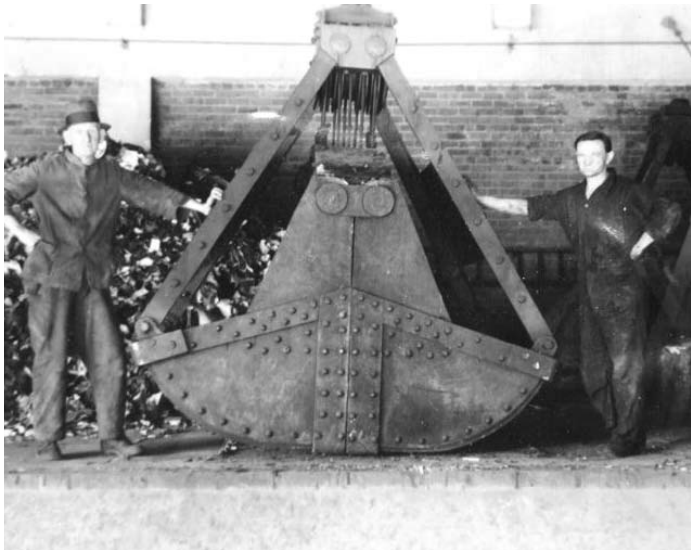
- Automated Waste Collection and Treatment systems integrated with other Green Infrastructure projects

STRATEGIES

- Finalise Automated Waste Collection Master Plan
- Finalise Advanced Waste Treatment Master Plan

As part of the Sustainable Sydney 2030 plan to reduce its greenhouse emissions, the City is challenging the need for traditional electricity supplies from coal-fired power stations. It is also committed to developing programs to secure water supplies. The integrated energy, water and waste systems are known as Green Infrastructure.

Modernised waste management is included in the Green Infrastructure planning for Sustainable Sydney 2030. Green Infrastructure includes Master Plans for local combined heat, cooling and electricity networks (trigeneration), total water cycle management, and renewable energy. It calls for the development of Automated Waste Collection and Advanced Waste Treatment Master Plans to help deliver this vision.



AUTOMATED WASTE COLLECTION MASTER PLAN

The City's waste used to be collected by horse and buggy. While the modern truck fleets are more efficient, the method is much the same: a container is placed at the kerbside, and a worker for the City comes around to take it away. The City is now considering new collection systems including:

- Vacuum or automated waste collection
- In-ground high capacity 'silo' collection
- Communal secure above-ground collection
- Improved functionality litter bins.

Automated waste collection is particularly suited to high-density developments, and is already established in cities across Europe and Asia. For users, the system looks like the usual apartment building garbage chute (with a separate chute for recycling). The big difference is that the chutes are fully sealed and instead of emptying into open bins in the basement, a vacuum system sucks the waste through an underground tube to a central collection point. When the big containers at the collection point are full, they are loaded onto vehicles in an enclosed area. This system minimises disturbance to residents.

The automated system means there is no need to collect individual bins from buildings or (potentially) from street litter bins along the vacuum tube routes. This greatly reduces the need for trucks to transport the waste and recycling. The system would be available 24 hours a day, helping the late night economy and improving liveability in high density and new development areas of the City, as well as in proposed City-centre pedestrian boulevards. Problem collection areas such as bald-faced frontages and social housing complexes could benefit greatly from these systems.

The cost and disturbance of installing automated waste collection systems could be significantly reduced by co-ordinating their installation with new developments and work on the City's other Green Infrastructure networks. For example, the proposed trigeneration energy network would involve installing pipes to distribute heated water around the City. This provides an opportunity to put the underground tubes needed by the automated waste collection systems alongside the new water pipes.

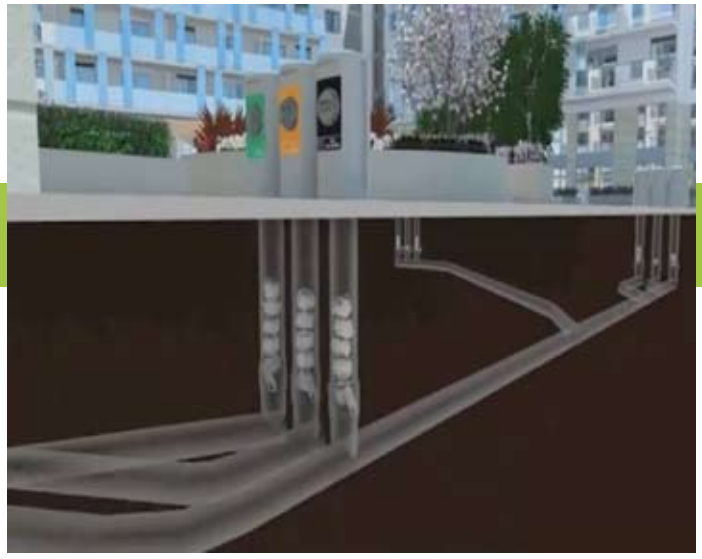
POTENTIAL BENEFITS OF AUTOMATED WASTE COLLECTION

- reduce noise, smells and air pollution
- reduce garbage spills
- reduce manual handling improve OH&S
- reduce transport distance and congestion
- improve traffic safety, with fewer truck stop/starts on urban streets
- improve services for residents, with a 24 hour system and no missed bins
- increase development space by eliminating the need for bin storage areas

A MAJOR STEP TOWARD MANAGING WASTE MORE SUSTAINABLY WILL BE FINDING THE BEST TECHNOLOGY TO RECOVER RESOURCES FROM GARBAGE DISPOSED OF BY HOUSEHOLDS AFTER THEY HAVE RECYCLED ALL THEY CAN.

PAST

PRESENT



FUTURE

ADVANCED WASTE TREATMENT MASTER PLAN

A major step toward managing waste more sustainably will be finding the best technology to recover resources from garbage disposed of by households after they have recycled all they can.

The City recognises the potential for advanced waste treatment technology to reduce the need for landfill, but also to recover energy from garbage and use it to help power the City.

Sustainable Sydney 2030 identified the need to produce energy from waste to help achieve the City's greenhouse emissions reduction targets. Studies commissioned by the City indicate that producing gas from waste to use in a trigeneration energy system could reduce greenhouse gas emissions, reduce the demand for landfill and help provide energy to the City. Therefore, the timeframe for an Advanced Waste Treatment plant would depend in part on the delivery of the City trigeneration network.

Recovering energy from waste will be a final step, taken only after all possible avoidance, reuse and recycling has been done. Recovering energy will offer the City a new level of recovery on the waste hierarchy.

The City is undertaking studies to prepare an Advanced Waste Treatment Master Plan, which should be ready for public exhibition in 2012. Preliminary studies have ruled out combustion technologies such as incineration as they do not provide the environmental gains and resource sustainability being sought by the City.

The Advanced Waste Treatment Master Plan will set out the technical requirements for the City's waste treatment, the aims and objectives to be met by such a plant, and the environmental benefits including reduced greenhouse gas emissions and waste diverted from landfill. The Master Plan should be able to identify what known technologies are suitable for the City, how these technologies have performed elsewhere, and how they meet the most stringent of environmental emissions standards. The Master Plan will also set down what waste can be processed in the plant and what materials can be recovered.

The Advanced Waste Treatment Master Plan will include consideration of the Sustainability Guidelines for Energy from Waste, published by the Waste Management Association of Australia in 2005.

Existing NSW guidelines for non-standard fuels to create power may limit the ability to develop an Advanced Waste Treatment plant based on energy recovery from waste. The NSW Government indicated a new energy from waste policy will be in draft by December 2011. The City will be vigorous in ensuring the policy encourages innovative extraction of energy from waste where this can lower greenhouse emissions and improve other social and environmental outcomes.

The City will take care when setting targets for Advanced Waste Treatment outputs. For example, a target for electricity generation might drive energy production instead maximising the recovery of resources. The City will avoid becoming locked-in to supplying waste to such a plant.

The Master Plan will consider where to site an Advanced Waste Treatment plant to get the maximum benefit for residents with the least disruption. Some key requirements for the site are outlined below.

GENERIC REQUIREMENTS OF ADVANCED WASTE TREATMENT TECHNOLOGY

- Able to be located close to end users of the energy or gas output
- Recover remaining recyclable material from commercial and household garbage before final processing
- A process that is a net energy exporter (electricity, thermal energy and/or gas)
- Produces a syngas and removes any hazardous by-products
- Meets or exceeds best practice emissions standards
- Operates with the City's garbage in accordance with regulatory requirements and best practice standards
- Requires residual waste disposal to landfill as low as possible and preferably less than 10 per cent

SITE REQUIREMENTS FOR AN ADVANCED WASTE TREATMENT PLANT

- Proximity to users of the products: Depending on the preferred technology, this might include access to a pipeline for delivering gas to the trigeneration network, or to a plant able to use the gas for fuel production.
- Buffers: A site large enough with visual and noise buffers from residential areas.
- Access: Delivery routes that are not congested or likely to affect residential areas. Proximity to a rail link may become important in the future.
- Permanency: A site that is not likely to be affected by future land-use changes.
- Climate Proof: A site not vulnerable to sea or river level alterations from climate change.

A DAY IN THE CITY IN 2020

For most people, waste is part of daily life even if we are rarely aware of it. Some options the City proposes in this Interim Waste Strategy could change this. So what would it be like to put out the garbage in 2020 for a resident of the City's showcase Green Square development?

As our future Ms Resident leaves her apartment in the morning, she empties her coffee grounds into a home composting container and takes with her two small bags – one holding yesterday's recycling, the other holding garbage. She needs only one day's storage space in her apartment, as she has 24-hour access to a service room near her lift.

Inside the service room, the garbage inlet – which looks like a ship's porthole – automatically opens as she passes her coded garbage bag past an electronic reader. She puts the bag inside, the door closes itself, and the garbage drops to a storage pod in the building's basement.

The recycling inlet has the same automated opening and closing, but also sends an SMS offering her reward discounts at a local store and showing the resource recovery level of her building that month.

Ms Resident heads off to work, while the software running her building's automated waste system starts the vacuum system in the collection tubes below the Green Square Stage 1 development. The waste collection tube sits below the pavement, together with the development's trigeneration piping and recycled water network.

A signal from the software releases the valve on the recycling pod in the basement, and last night's cat food tins, drink bottles and cardboard packaging are sucked down the tube at 70km/h to the central collection terminal, quietly located metres away from the feet of pedestrians hurrying to the Green Square light rail.

The computer system closes the recycling valve, flushes the vacuum tube with air, then repeats the process to suck the building's garbage to a separate container.

At the central collection point, the warning light blinks as the doors glide up to allow a collection vehicle to enter, and then glide closed again. This vehicle halts directly beneath the collection container filled with the development's garbage. An automated system lowers the container into place on the vehicle's rear tray. The building door slides open, the collection vehicle leaves quickly and quietly, and turns towards the Advanced Waste Treatment centre across town.

At the treatment centre, the garbage is sifted, loaded onto conveyors and tumbled through air sorters, across mechanical separators and under magnetic belts. The garbage from our future resident's entire apartment building is quickly stripped of any remaining recyclables and the leftover material is prepared for the gasification process.

Deep inside the gasifier, garbage enters the super hot zone and begins to break down, producing a synthesis gas. This gas is collected and cooled, and then fed into the pipe network supplying the City's integrated trigeneration network. All around the City, the gas runs trigeneration engines to create electricity and provide heat throughout the network.

That evening, as Ms Resident returns home, she reaches for the light switch and knows some small part her morning's garbage is helping light up her apartment.

FOCUS 4

REDUCE GREENHOUSE GAS EMISSIONS

POTENTIAL TARGETS

- Maximise the contribution from waste treatment and recycling to the City's 70% greenhouse gas reduction target

STRATEGIES

- Implement approved AWT Master Plan
- Overcome identified barriers to providing solutions for commercial waste generators

The greenhouse emissions from the domestic waste the City of Sydney sent to landfill in 2009/10 are estimated to be equivalent to 8,600 tonnes of carbon dioxide (usually written as CO2-e). Because the emissions come from a landfill not owned by the City, they are not directly attributed to the City under common greenhouse reporting systems. However, the City of Sydney has a responsibility to manage these emissions for the community.

Reducing greenhouse impacts is a key focus in the City's approach to waste planning. This can be achieved at three levels:

AVOIDING LANDFILL

The best way to avoid landfill emissions is to prevent materials being sent to landfill. This can be done by recycling paper and cardboard or processing garden and food waste using composting systems. If the City did not have recycling services, landfill emissions in 2009/10 would have been over 12,600 tonnes CO2-e. In 2011 the City stopped sending any domestic waste direct to landfill, and this will further reduce greenhouse emissions.

ADVANCED WASTE TREATMENT COULD REDUCE THE CITY OF SYDNEY'S OVERALL GREENHOUSE EMISSIONS AND CONTRIBUTE TOWARDS THE CITY'S 70 PER CENT GREENHOUSE GAS REDUCTION TARGET BY 2030.

UPSTREAM RECYCLING BENEFITS

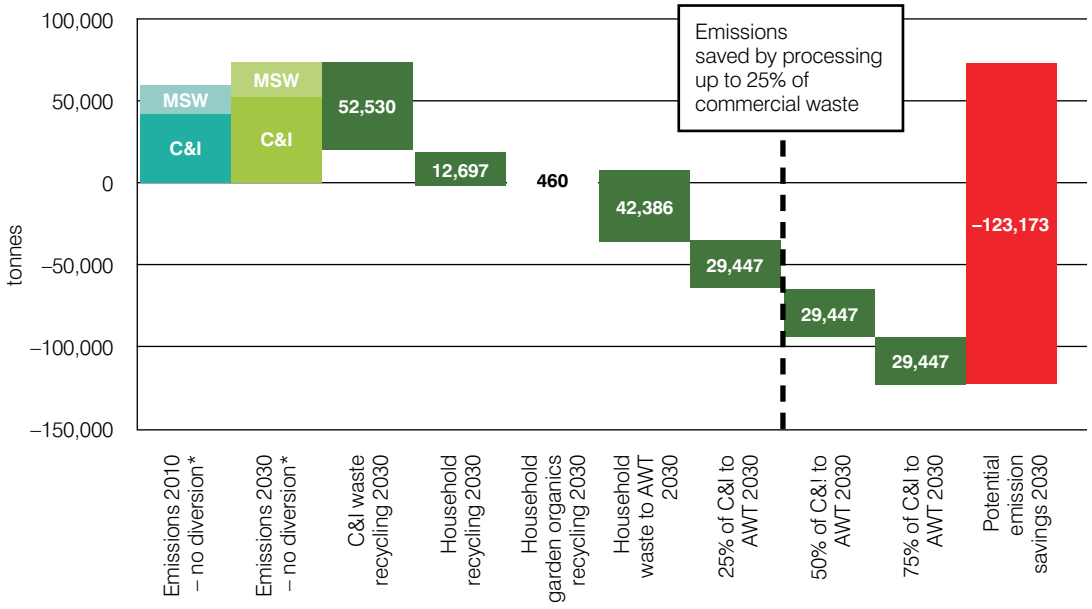
As well as avoiding landfill emissions, recycling returns valuable materials to producers and creates upstream greenhouse benefits by greatly reducing the energy needed to manufacture new materials.

DISPLACING FOSSIL FUELS

As identified in Focus 3, the City is investigating new waste technologies to help generate very low carbon power to replace coal-fired electricity. Depending on the technology used[5], and the amount of commercial waste processed, net emissions savings of more than 100,000 tonnes CO2-e a year could be achieved by 2030 by an Advanced Waste Treatment plant. A realistic goal could be to process 25 per cent of the City's commercial waste through the plant, although this material does not necessarily need to be collected and transported by the City's services.

The steps outlined above could bring up to a 3 per cent reduction in the City's overall emissions compared to the "business as usual" profile outlined in the original Sustainable Sydney 2030 document.

5 Estimated emissions savings are based on a preliminary desktop study of plasma arc gasification. The City has not yet selected a preferred Advanced Waste Treatment technology solution.



FOCUS 5

SOLUTIONS FOR PROBLEM WASTE

POTENTIAL TARGETS

- Increase collection and treatment options for problematic items

STRATEGIES

- Investigate feasibility of regional reuse and collection approaches
- Advocacy plan for Extended Producer Responsibility schemes

In order to maximise resource recovery, we must find ways of dealing with problem waste. This includes items containing hazardous materials which can contaminate other resources in garbage and recycling, as well as items such as textiles and clinical waste that can disrupt the sorting process at Advanced Waste Treatment facilities.

The City will take a more active role in promoting Extended Producer Responsibility (EPR) approaches for wastes of particular concern. A national EPR scheme will start in 2011 to take back televisions, computers and computer peripherals. The National Waste Policy 2010 identified EPR as a focus area for the next three years.

The table opposite shows how we deal with some specific waste items, and proposes actions that should improve performance. One option is to establish a permanent reuse and/or collection centre. We will assess the viability of jointly establishing such a centre with neighbouring councils, in accord with regional cooperation action called for in Sustainable Sydney 2030. We will consult interested parties to refine and reach agreement on these actions over the coming year. Definitive actions will be provided in the Draft Final Waste Strategy due in early 2012.

IN ORDER TO MAXIMISE RESOURCE RECOVERY, WE MUST FIND WAYS OF DEALING WITH PROBLEM WASTE.

SPECIFIC ITEM	WHAT DO WE DO NOW?	WHAT ELSE CAN WE DO?	KEY ISSUES
TVs, computers and peripherals	• Quarterly drop off event	• Recycle under the new National EPR scheme • Investigate feasibility of booked collection service • Investigate feasibility of permanent regional collection centre	● ● ● ●
Mobile phones	• Quarterly drop off event • Promote existing take-back schemes	• Monitor and refine collection • Investigate alternative collection methods	● ● ● ●
Other electronic waste	• Quarterly drop off event	• Identify a safe and permanent location for drop-off events • Investigate feasibility of permanent regional collection centre	● ● ● ●
Domestic batteries	• Education to promote separation	• Investigate alternative collection systems • Advocate for EPR	● ● ● ●
Car batteries	• Education to promote separation	• Investigate alternative collection systems • Advocate for EPR	● ● ● ●
Clothing and textiles	• Charity and commercial collection bins	• Improve monitoring and data collection • Investigate alternative collection systems	● ●
Household chemicals (including paint and cleaning products)	• Drop-off events	• Identify a safe and permanent location for drop-off events • Deliver programs minimising chemical use • Advocate for EPR	● ● ●
Pharmaceuticals	• Education • Reliance on voluntary schemes such as Return Unwanted Medicines • Chemical collection events	• Monitor and refine collection • Identify a safe and permanent location for drop-off events	● ● ●
Compact fluorescent lights	• Chemical collection events	• Investigate alternative collection methods	● ● ●
Sharps and clinical waste	• Specialised collection services including publicly located sharps bins	• Investigate options to provide personal sharps containers at national Diabetics Supply chemists • Collaborate with Area Health Service	● ● ●
Tyres	• Not collected	• Advocate for EPR	● ● ●
Gas bottles	• Chemical collection events	• Advocate for EPR	● ● ●
Waste oil	• Chemical collection events • Part of the Product Stewardship for Oil program	• Identify a safe and permanent location for drop-off events	● ● ●

● Resource Value

● Hazardous materials

● Degrades Advanced Waste Treatment (AWT) outputs

● Potential target for Extended Producer Responsibility (EPR) programs.

FOCUS 6

CLEAN STREETS

POTENTIAL TARGETS

- Reduced incidence of littering and dumping
- Increased reuse of household cleanup items
- Provide waste service that is effective and simple to use

STRATEGIES

- Provide adequate infrastructure
- Enforce littering rules
- Review policies

The *Sustainable Sydney 2030* vision is about making the City a better place to live, work and visit. As part of this focus, the City will provide clean streets and promote the benefits of a clean environment to the community. This means the City will consider public health, amenity, safety and access in the delivery of services. Key waste issues include litter, illegal dumping and the way residents access services and put out waste for collection

LITTER

City visitors, residents, workers and businesses all contribute to litter that commonly includes cigarette butts, plastic bags and food packaging. We provide an extensive street cleaning service to manage litter and keep public places clean (including Sydney Harbour).

To further support our cleansing service, we will:

- Provide and maintain appropriate infrastructure to help the community to dispose of their waste correctly
- Enforce littering laws
- Investigate opportunities for resource recovery in public places, such as source separated recycling
- Work with businesses to take responsibility for the litter generated by business activity
- Provide education and awareness campaigns, encouraging behaviour change to make littering socially unacceptable.

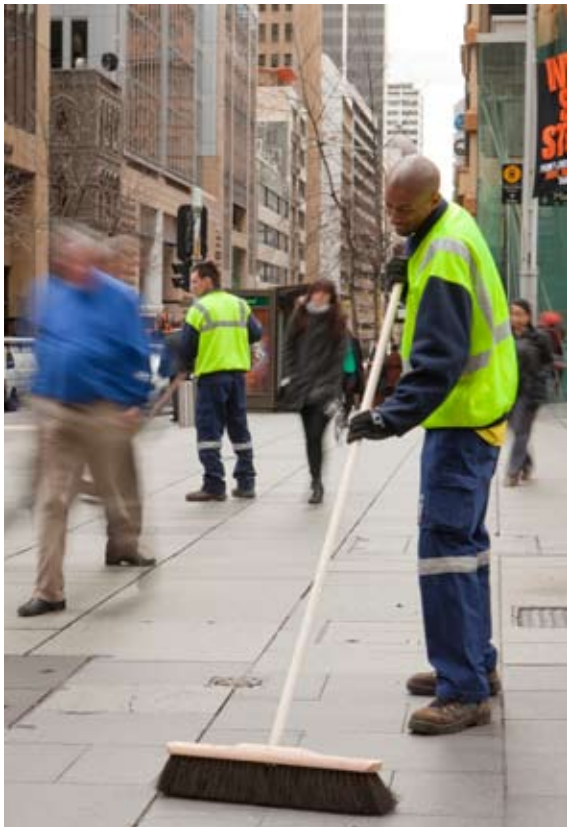
ILLEGAL DUMPING

The City provides a weekly booked clean up service for residents to dispose of large household items. All other large items left out on the street or footpath are considered illegally dumped.

The reasons for illegal dumping are wide ranging. They include lack of awareness about the City's waste services and how to avoid waste and reuse items, and a transient community. Most items dumped in the City come from homes, although some businesses dump illegally.

The City aims to encourage and enable reuse of bulky items before disposal to extend their useful life. Second to reusing these items, the City will act to reduce waste going to landfill by better managing bulky items. To do this, the City will investigate solutions for commonly dumped items, such as:

- A mattress recycling program
- A regular opportunity for residents to safely dispose of hazardous household chemicals
- Encouraging reuse of bulky household items
- An e-waste recycling program in collaboration with industry, state and federal government
- Education and community awareness of the City's services and external opportunities for waste avoidance.



HOW SERVICES ARE USED

City residents are provided with kerbside services for collecting garbage, recyclables, garden organics and large household items. Extra services are available for e-waste and hazardous household chemicals.

At present waste and recycling is contained in a variety of bins which are collected by truck. This method does pose some problems – for example, bins are often left on the street after collection, or waste is put in the wrong bin or is contaminated.

The responsibilities of the City and the community concerning waste are set out in the Council's waste policies. There is, however, still a lack of knowledge about the right way to put out bins, how to use them and also how to access the full range of waste services.

To provide a more efficient waste service that will be simpler to use, we will:

- Raise community awareness of the City's kerbside services, including education aimed at specific groups such as transient communities
- Review, develop and enforce a user-friendly policy for delivering waste services that clearly defines responsibilities
- Investigate improvements to service provision for the community.

CLEAN STREETS PROGRAM

The City of Sydney is diverse in terms of its population, built and natural environment. As a result, litter, illegal dumping, and issues of access and use of services, vary from area to area. To respond to the differing needs and issues, we will develop place-based programs tailored to the conditions of each area.

These programs will aim to deliver an integrated approach to waste education, enforcement and service delivery through collaboration between City Rangers, Waste Education and the community.

The objective of the Clean Streets program is clear in its name – to keep the streets clean, thus improving the local environment and increasing pride of place for residents.

Clean Streets will be a targeted cleansing and waste program which will tackle the above key issues and help the public understand why it's important to contribute to a clean environment and how to best use the City's services. As part of the program, we will increase recycling and test new ways of collecting waste, such as using communal waste bins which reduce storage problems, street clutter and truck movements.

NEXT STEPS

A total waste management system that aligns with the overarching vision of Sustainable Sydney 2030 will need to use advanced technologies and make changes to the way we now manage waste. The City is developing two important tools to help with more detailed decision making:

- **The Advanced Waste Treatment Master Plan now being prepared will allow the City to compare technology options.**
- **An Automated Waste Collection Master Plan will follow.**

Following these Master Plans and other actions identified in this Interim Waste Strategy, the City expects to produce a Final Draft Waste Strategy 2030 in mid 2012.

ADVANCED WASTE TREATMENT MASTER PLAN

AUTOMATED WASTE COLLECTION MASTER PLAN

WASTE STRATEGY 2030

CONSULTATION

PUBLIC EXHIBITION

The public exhibition of the Interim Waste Strategy marks the beginning of a comprehensive planning and consultation process to develop a Final Waste Strategy including the findings of the Advanced Waste Treatment and Automated Waste Collection Master Plans.

This Interim Waste Strategy has been developed to provide context to the City's challenges for managing waste, which will guide community and stakeholder input into the Final Waste Strategy 2030.

The exhibition of the Interim Waste Strategy provides an opportunity to build broad awareness of the City's intended approach to managing waste. Comments and submissions on this Interim Waste Strategy are encouraged and will be used to guide the development of the Final Waste Strategy.

HOW DO I MAKE A SUBMISSION?

Submissions can be dropped into comment boxes at the City of Sydney's One Stop Shop at Town Hall House, and all City of Sydney neighbourhood service centres and some community centres.

The City has a dedicated email address for email submissions: interimwastestrategy@cityofsydney.nsw.gov.au

Submissions may be posted to:

Mark McKenzie
Manager – Waste Strategy
Town Hall House, 456 Kent Street
SYDNEY NSW 2000

The City of Sydney website at www.cityofsydney.nsw.gov.au/Council/OnExhibition/ has further information on how to make submissions on the Interim Waste Strategy.

GUIDE TO MAKING SUBMISSIONS TO PUBLIC EXHIBITION ITEMS

- The City welcomes submissions from the public on its policies and projects "on exhibition". There is no set format for submissions – which may be electronic or hand written and can include attachments or multimedia such as photos or a video presentation. Oral submissions can be made through arrangement with the contact officer responsible for the public exhibition. Submissions in languages other than English will also be accepted.
- Your submission may contain facts, opinions, arguments and recommendations. However your submission should be relevant to the policy, project or issue being proposed.
- The City asks that you provide your name and address or the details of the organisation you represent with your submission. Public access to your personal details is constrained by Privacy and Freedom of Information laws. Council will not disseminate your personal information without your consent. However, Council may categorise your submission information under identifiers such as "local resident" or "CBD business".
- Submission content is not confidential. Your submission content may be made publicly available and may appear in full or in part on Council's website or in future publications. However if you want your submission content to remain confidential, you must clearly state this in writing along with the reasons.
- Anonymous submissions will not be accepted by the City. Nor will the City reproduce any comments it considers offensive or defamatory. If you wish to make a complaint about any material released then please see our Complaints Policy.
- Submissions will be kept on Council files. Access to / correction of your submission should be made under the 'Government Information (Public Access) Act 2009'.

WHAT HAPPENS TO MY SUBMISSION?

All submissions will be carefully considered by the City of Sydney during the development of the Final Waste Strategy 2030. Letters of acknowledgement for all written submissions will not be possible. When submissions are provided via the website or email, an automated response will acknowledge receipt.

NEXT STEPS?

The Advanced Waste Treatment and Automated Waste Collection Master Plans will be developed in 2011/12. The City will be working with stakeholders and the community in the development of these Master Plans, which will be placed on exhibition once they have been drafted.

There will be further opportunity for the community to review and comment on the Final Waste Strategy in 2012. This will include a six week exhibition period.

CONTACT US

For any further information please email interimwastestrategy@cityofsydney.nsw.gov.au or contact the interim waste strategy hotline on **02 9246 7206**.