ACT Government

OVERVIEW
A ROADMAP TO IMPROVED RESOURCE RECOVERY

WASTE FEASIBILITY STUDY

Prepared by ACT NoWaste
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THE WASTE FEASIBILITY STUDY PRESENTS A ROADMAP TO ACHIEVING BEST PRACTICE WASTE MANAGEMENT IN PARTNERSHIP WITH THE COMMUNITY AND INDUSTRY.

THE JOURNEY SO FAR

Canberra is home to a pro-active community with a positive concern for environmental management. This is reflected in the current 'ACT Waste Management Strategy 2011-2025', which has set the ambitious target of diverting 90% of waste from landfill by 2025 and achieving a carbon neutral waste sector by 2020.

The ACT generates around one million tonnes of waste every year with about 70% of the ACT's waste diverted from landfill. However, the Territory's resource recovery rate has plateaued for the last decade, and the waste sector is unlikely to be carbon neutral by 2020 under current circumstances.

The Waste Feasibility Study was established in mid-2015 to identify a pathway that would achieve the ACT's waste management targets. This required an understanding of the complex and interconnected nature of waste management - involving almost every aspect of life in Canberra.

With the Study now concluded, the ACT Government has received its final recommendations at a time when public interest in waste management is high, with television programs like the ABC's 'War on Waste' prompting necessary discussions on waste management issues.

A 'Roadmap' towards 90% resource recovery has been presented for the government's consideration. Implementation of the Roadmap could divert over 170,000 tonnes of waste from landfill and lift resource recovery from the current 70% to 87% – just shy of the ACT's 2025 target.

The study uses 2014-15 baseline data.

WANT TO KNOW MORE?

This document presents an overview of the Study recommendations and a Roadmap of initiatives.
A detailed discussion paper is available on the ACT Government's 'Your Say' website:
www.yoursay.act.gov.au

THE TWO YEAR STUDY DELIVERED:

Research, evidence base and establishment of a baseline of data.

A new regulatory framework for the ACT waste management sector through the Waste Management and Resource Recovery Act 2016.

Consultation with diverse community and industry stakeholders.

A 'market sounding' to gauge industry's capabilities and capacity to deliver resource recovery initiatives.

A final 'Roadmap' to drive resource recovery towards 90% by 2025.

KEY ROADMAP RECOMMENDATIONS

The Recommendations cover four main themes for government consideration and your views as community members are welcomed.

1. PROMOTING BETTER WASTE MANAGEMENT BEHAVIOURS

The Study recommends establishing comprehensive campaigns informing the community about waste avoidance and how to reduce food waste and improve recycling behaviours (Recommendations 1.1 and 2.4).

2. DIVERTING ORGANICS FROM LANDFILL

The Study recommends the establishment of an organics processing facility (Recommendation 2.4), and a five year lead time is required for a comprehensive and staged implementation of a kerbside food and garden organics (FOGO) collection service, complementing the existing green bin program (Recommendation 1.3).

3. INDUSTRY DEVELOPMENT AND SUPPORT

The Study recommends the ACT Government identify and facilitate market development for the reuse and recycling of materials that are often currently sent to landfill such as furniture, timber and plasterboard (Recommendations 1.5 to 1.9).

4. WASTE-TO-ENERGY

The Study recommends the development of a waste-to-energy policy for the ACT (Recommendation 1.10) and the investigation of a process engineered fuel production plant for residual waste (Recommendation 1.11).

OTHER RECOMMENDATIONS OF INTEREST

The Study's eighteen recommendations also cover spatial planning, the Territory's waste regulatory framework and an update to the ACT Waste Management Strategy 2011-2025. The full suite of recommendations are detailed in a discussion paper available on the ACT Government's 'Your Say' website: www.yoursay.act.gov.au

FACTS & FIGURES:

A composting site and FOGO collection service could see over **40,000 tonnes of waste** diverted from landfill

The construction and demolition sector achieves over **86%** resource recovery, and further opportunities exist to recover **25,000 tonnes of timber and plasterboard**

A processing facility within the ACT could convert a proportion of the **70,000 tonnes of residual waste** into exportable fuels, and deliver around a **7%** improvement in resource recovery.

HOW DO WE GET FROM 70% TOWARDS 90%?

The Roadmap consists of a structured set of initiatives designed to deliver incremental gains in resource recovery from the existing level of around 70% towards 90%. The Study's Roadmap and recommendations are designed to provide a framework to drive change in the ACT community, businesses and waste industry over the next five years.

IT IS RECOMMENDED WE:

1. PROMOTE BETTER WASTE MANAGEMENT BEHAVIOUR

Implement two major education programs focused on food waste reduction and improved recycling

A food waste reduction program could see over 8,000 tonnes of waste diverted from landfill in the ACT each year. Kerbside bin audits reveal that up to 37% of ACT household rubbish bin contents is food waste. The Love Food Hate Waste program has been implemented in several Australian jurisdictions and provides simple messages to households and businesses on how to reduce the amount of food we throw out.

Enhanced recycling could see 10,000 tonnes of recyclables diverted from landfill each year.

Of the materials sent to landfill in ACT household rubbish bins, 25% are recyclable. Recycling behaviours would be improved by programs similar to those implemented by NSW local governments, including Albury and Wodonga's Halve Waste and Hunter Region Councils' Small Acts Big Change.

2. DIVERT ORGANICS FROM LANDFILL

Establish composting site to process food and garden waste, and expand the green bin service to accept food waste

It is estimated that a composting site and FOGO collection service could see over 40,000 tonnes of waste diverted from landfill. The recommended expansion of the current green bin service to a FOGO service is estimated to take at least five years. This is because identifying and commissioning a new organics processing facility will take time, and research shows that community education prior to a FOGO service commencing will minimise contamination problems.

3. SUPPORT AND DEVELOP INDUSTRY

Provide market identification, supportive government procurement and new contracts for specific waste streams

Initiatives across these areas could see over 40,000 tonnes of waste diverted from landfill. The Study has identified specific waste streams currently being sent to landfill that could be separated and processed into new products. There are also opportunities for social enterprises to establish a service contract for the 'repair and dismantle' of valuable products such as e-waste and household goods or furniture, which could be modelled on the successful Soft Landing mattress recycling facility in Hume ACT.

4. CONSIDER WASTE-TO-ENERGY OPTIONS

Develop a clear waste-to-energy policy

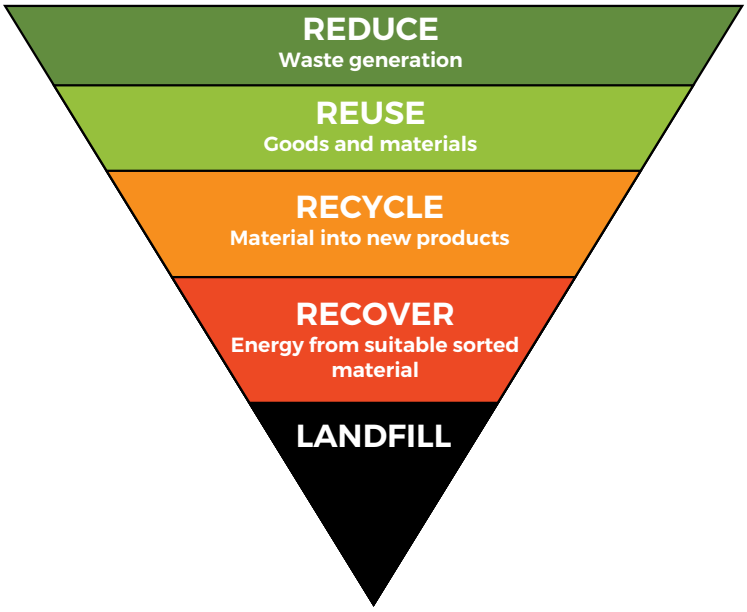
Community members may have heard about the potential use of our waste to generate electricity in the ACT. There is a range of waste-to-energy options and the Study has recommended that the ACT Government consult the community on developing a clear waste-to-energy policy. This will provide more certainty to residents concerned about the Territory's position on various technologies and certainty to industry entities looking to establish waste-to-energy facilities in the Territory.

Investigate the establishment of a processed engineered fuel (PEF) facility

A PEF facility could see up to 70,000 tonnes of waste diverted from landfill. The Study has identified that much of the residual waste currently sent to landfill is of high energy content and is suitable for use as PEF, which is a type of dry fuel that could be sold to energy generators and cement manufacturers outside the ACT to replace fossil fuels in these facilities. A PEF facility can operate with flexible volumes of waste, and would reduce local community concerns around emissions associated with large-scale incineration in the ACT. The use of PEF is consistent with the waste hierarchy principle, where efforts to reduce, reuse and recycle waste should always be exhausted before energy recovery and landfilling. A siting study and marketing plan in preparation for a tender process would occur in the subsequent years.

BEST PRACTICE MODELS

Figure 1 - the Waste Hierarchy



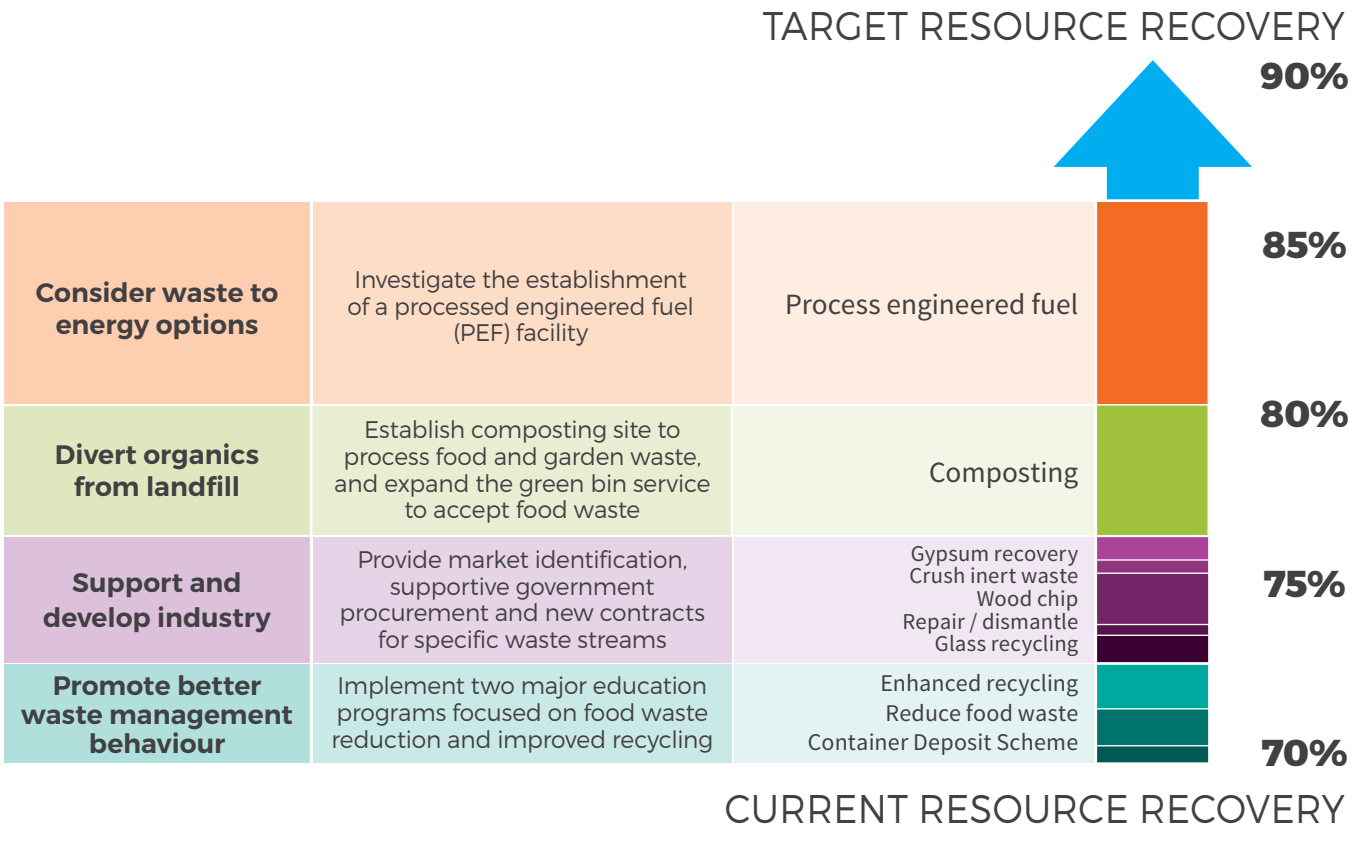
The Study used the current best practice 'waste hierarchy' principle as a filter through which all recommendations were assessed and developed.

Figure 1 presents the hierarchy as an inverted triangle, which places efforts to reduce, reuse and recycle waste above energy recovery and landfilling.

The hierarchy aims to: minimise the generation of waste; maximise the recovery and re-use of resources; and minimise the amount of waste that goes to landfill. Also, the waste hierarchy as a principle underpins and integrates with the best practice approach of a 'circular economy' for waste management. The less desirable linear economy is unsustainable as it requires more and more natural resources to be extracted to sustain high consumption lifestyles. A circular economy model aims to reduce environmental impacts by designing out waste and extracting resources from unwanted materials.

SNAPSHOT - ROADMAP INITIATIVES TOWARDS 90% RESOURCE RECOVERY

The Roadmap's key initiatives are represented below to reflect their indicative incremental percentage contribution towards a 90% resource recovery rate. Individually and then collectively the activities will lift the resource recovery from its plateaued 70% over the last ten years. The Roadmap also takes a holistic approach to waste management, with the objective of increasing waste diversion from landfill quickly, reliably and efficiently and respects the waste hierarchy.

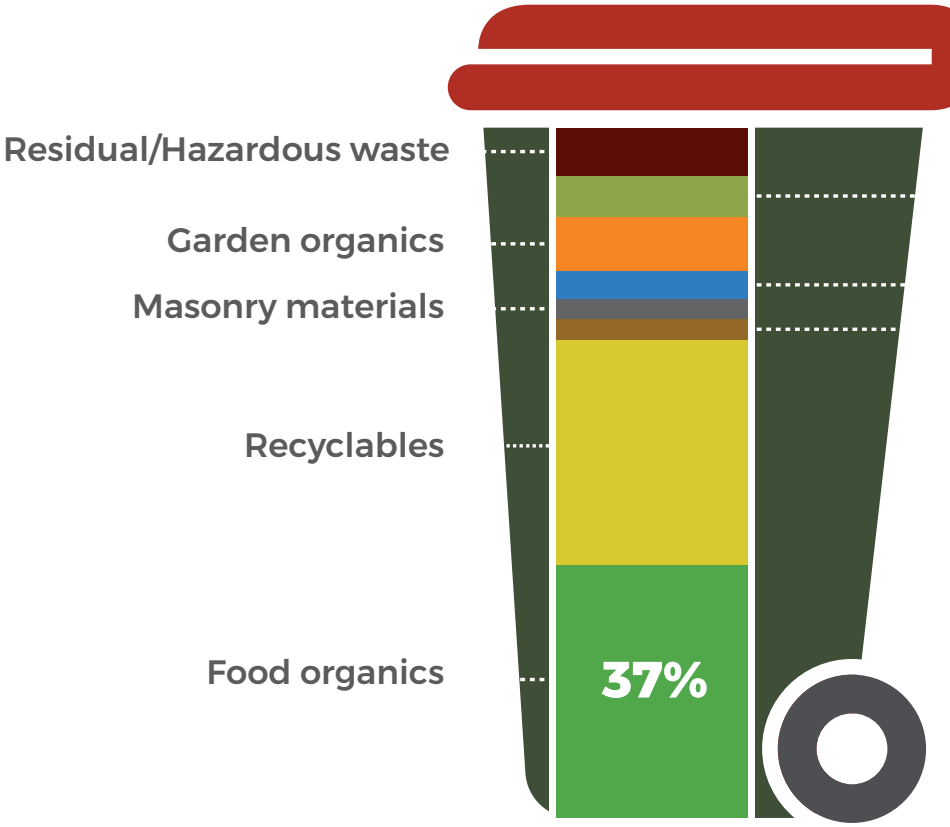


WASTE HIERARCHY IN ACTION

CASE STUDY

FOGO is a specific example of how the 'waste hierarchy' principles and the circular economy have been integrated into the Roadmap recommendations. Education will see food waste REDUCED and RE-USED, while a FOGO collection and processing service would see food waste RECYCLED.

Figure 2 – typical "red lid bin" contents 2014



Food organics represent the largest waste content in our kerbside bins. In the waterfall diagram on the previous page you can see composting provides one of the largest opportunities for incremental gains in resource recovery methods.

A FOGO initiative will drive us a significant way towards an improved resource recovery rate. It's a win-win solution that respects the waste hierarchy and supports a circular economy approach. The Study recommends the establishment of an organics processing facility and a five year lead time is required for a comprehensive and staged implementation.

Reducing the amount of organic material in landfill also provides a reduction in the amount of methane produced as the waste decomposes. Methane is a potent greenhouse gas and reducing its production will help the ACT reach its goal of carbon neutrality.