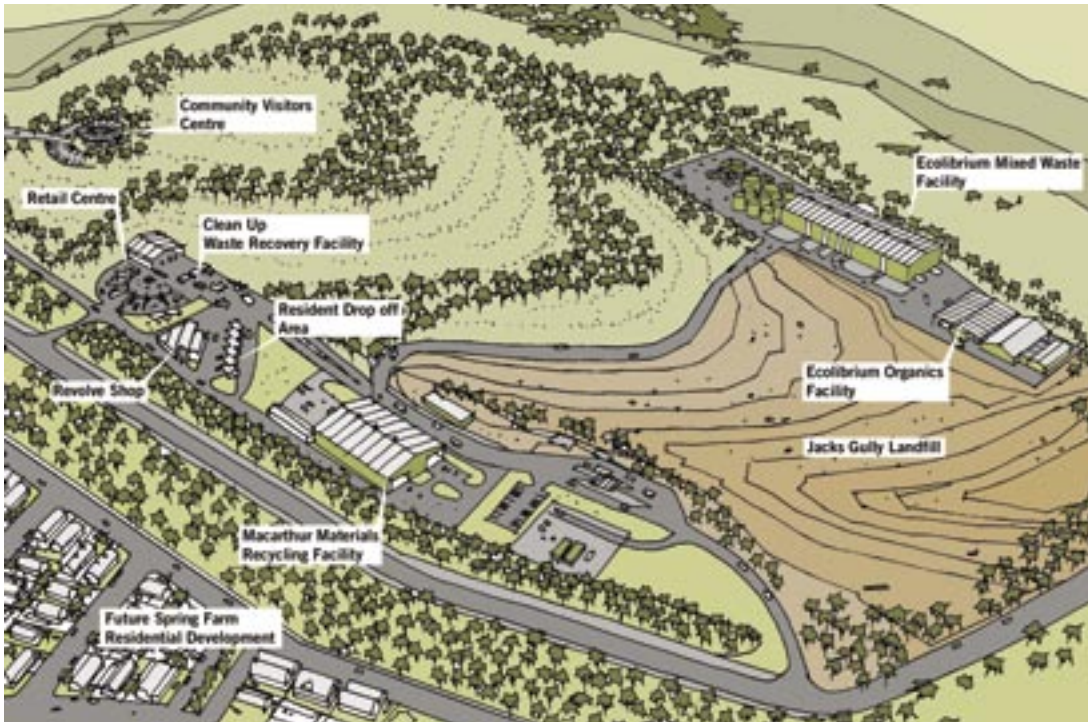




TECHNOLOGY SOLUTIONS CASE STUDY: MACARTHUR RESOURCE RECOVERY PARK

How WSN helped four councils achieve the best sustainable outcome for their communities

Minimising environmental and social impacts, keeping costs low, and meeting local needs were all key factors in developing the **Macarthur Resource Recovery Park** Australia's first large-scale fully integrated waste management site.



**OVERVIEW OF THE MACARTHUR
RESOURCE RECOVERY PARK**

THE CHALLENGE

Four south-west Sydney councils – Camden, Campbelltown, Wollondilly and Wingecarribee - needed an integrated solution that would complement their existing bin collection systems, deal with all their waste streams, treat waste locally, and extract the highest possible resource value, with minimal cost to their communities.

OUR SOLUTION

The Ecolibrium™ Technology Solutions team thoroughly analysed the individual and joint needs of the councils, and desired outcomes. As a result, we developed the concept of one integrated site, combining several different facilities and world-class technologies to manage all waste streams in the one location. Underlying this is the principle of a “closed-loop” approach, with as many products as possible returned to the community and local councils. Only recovered products like recyclables and compost will leave the site.

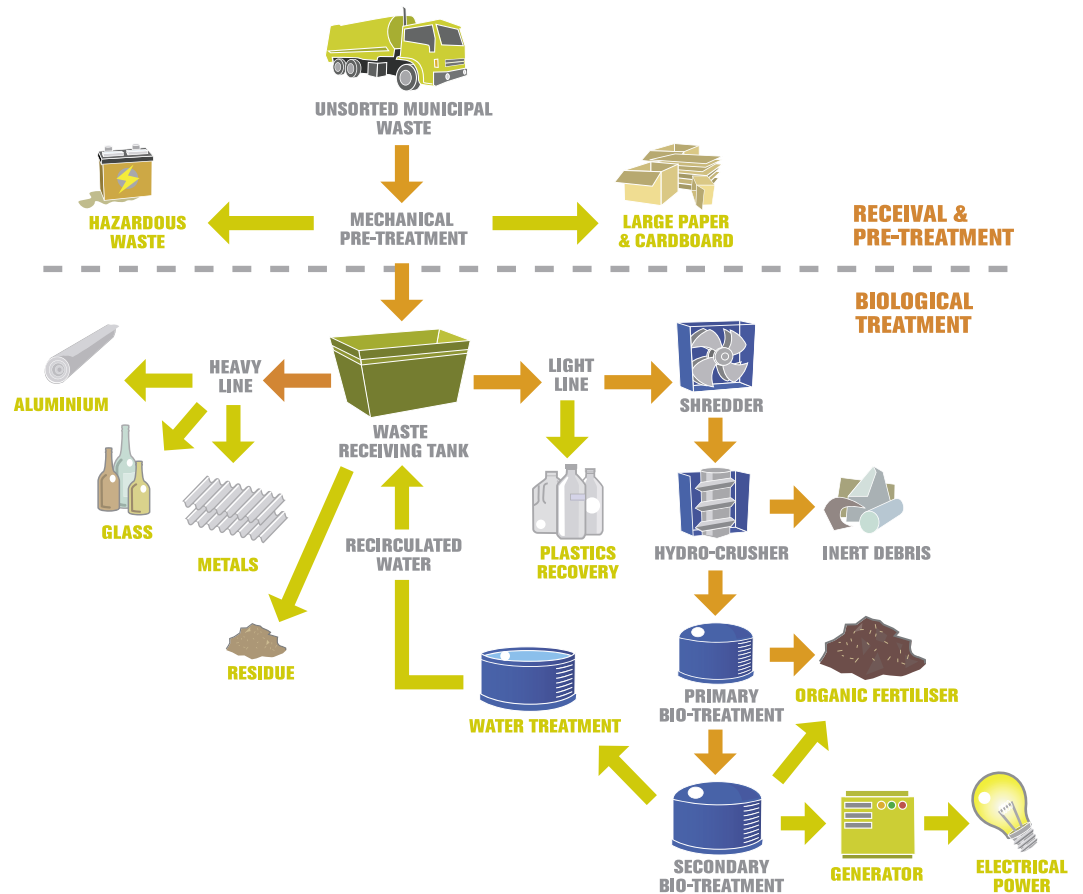


ECOLIBRIUM™ MIXED WASTE FACILITY

Ecolibrium™ Mixed Waste Facility

The centrepiece of the Macarthur Resource Recovery Park is our Ecolibrium™ mixed waste solution in the form of a new Alternative Waste Technology (AWT) facility that is designed to process 90,000 tonnes of mixed solid waste each year, diverting around 70% from landfill.

The facility itself has a very small footprint on the site. At its core is ArrowBio Technology, a water-based separation method for processing mixed solid waste. Among a range of sustainable benefits are producing more water and power than it uses, plus the generation of enough green energy to power around 2,500 homes in the local area.



“Through listening to the Macarthur region’s unique needs we have been able to pioneer a leading solution that is sensitive to community requirements, uses proven technology and delivers the best resource recovery outcomes.”

Charles Munro
General Manager Strategic Projects, WSN Environmental Solutions

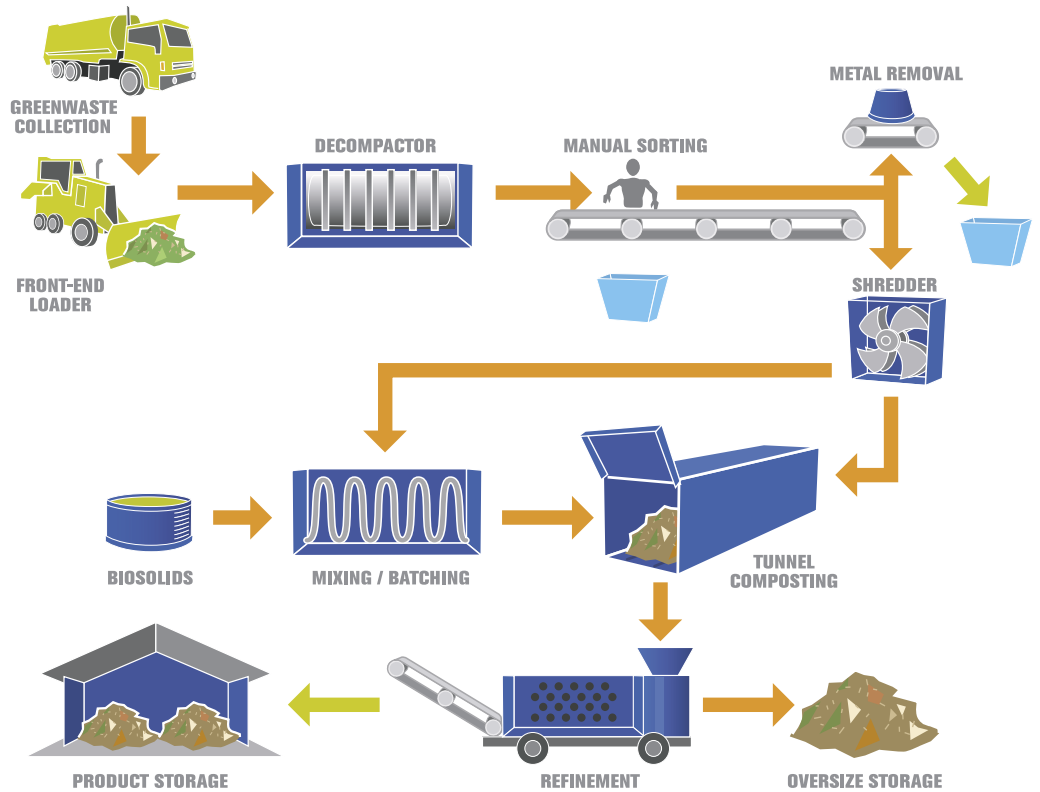
ECOLIBRIUM™ ORGANICS FACILITY

Ecolibrium™ Organics Facility

Using a tunnel composting process that fast-tracks decomposition, our Ecolibrium™ organics facility is designed to process 30,000 tonnes per annum of organic material, to produce a range of high-grade end products.

These include compost fines, coarse mulch and soil conditioners. Different formulations can be produced for commercial, agriculture and home gardener markets.

As all composting operations are fully enclosed within the tunnel technology, odour impacts on the local community will be minimal.



Transport costs and environmental impacts will be minimised by treating all waste streams on the one integrated site



A SUM OF BENEFITS EVEN GREATER THAN THE WHOLE

This single, integrated site embodies key pillars of sustainable waste management.

It treats waste locally (minimising the costs and environmental impacts of transport), processing multiple waste streams to extract the highest resource value possible, right on site.

This is designed to generate a remarkable range of benefits including:

- Diverting around 70% of household waste from landfill
- Producing enough green energy to power 2,500 homes
- Recovering 18,000 tonnes of recyclables each year
- Producing 10,300 tonnes of organic material for fertiliser each year
- Producing 18,000 tonnes of high-grade compost and mulch each year
- Producing more water than it uses
- Preventing 23,000 tonnes of greenhouse gas emissions each year
- Providing 40 full-time jobs
- Educational engagement with the local community and practical ideas for waste avoidance

Materials Recycling Solution

Here, a two-part process recovers mixed paper, cardboard, mixed plastics, steel, aluminium, and glass. First, recyclable materials are sorted and recovered, using both manual and mechanical systems for commingled recyclables. Materials are then consolidated and packed.

Community Visitors Centre

Education is a cornerstone of sustainability, and here, it's designed to engage the community about sustainable waste management. The Centre will be a hub for resource recovery initiatives and activities, including an eco-garden, recycled art and interactive education centre.

Revolve Shop

Reusable materials that would otherwise be sent to landfill will be recovered, repaired if necessary, and sold in this outlet, which also aims to actively involve the community in waste minimisation and recycling.



Retail Centre

The Retail Centre will showcase the end products of the Ecolibrium™ organics process, including composts and mulches. Additionally, it will be the sales point for aggregate and landscaping materials produced from waste brought to the site.



Resident Drop Off Area

This provides a convenient community drop off facility for recyclables, household waste and materials, green waste, and hazardous items. It services both local community members and small commercial operators.

Landfill

The existing landfill will stop receiving untreated putrescible waste (waste that contains organics) in 2008, and will still be able to receive inert residue from the Ecolibrium™ mixed waste process.

"The four communities involved can hold their heads up high that they're contributing to a very sound environmental solution."

Paul Macdonald
Manager Waste and Recycling Services,
Campbelltown City Council