

case study

Circulate, NSW EPA Industrial Ecology



Simple Solutions for Food Waste Devro Pty Ltd Bathurst, NSW

With the help of the NSW EPA Industrial Ecology Program, Circulate, and facilitators, Skillset, Devro has implemented changes to their operations so that food manufacturing by-products can be used in the manufacture of compost products for farming, construction and mine rehabilitation.

Background

Devro Pty Ltd in the Central Tablelands of New South Wales is a manufacturer of edible casings (such as sausage skins) for the food industry, based in Bathurst.

Devro's environmental management philosophy is 'minimising our environmental impact is good for business and future generations'. They are committed to improving their environmental performance through energy efficiency, waste reduction and effluent treatment, reducing the impact of their products and operations on the environment.

'The introduction of biodegradable bags sourced by Skillset has allowed us to send our organic waste for composting. With simple behaviour change processes applied at our manufacturing site, we are able to provide a material stream which is able to be returned to the economy.'

Cameron Thomas, Environment Manager - Devro

Situation

There were two main issues that needed to be addressed in order for Devro Pty Ltd to divert their company's food manufacturing by-products away from landfill.

1. containment and transport of the waste.
2. reduction in non-compostable items being placed in the organic waste bins.

With the support of Industrial Ecology facilitators, Skillset, and Devro's waste contractor Cleanaway, it became evident that with some simple changes a better solution to managing this resource could be identified.

Solution

Industrial Ecology facilitators identified that Australian Native Landscapes (ANL) at Blayney, with a minor modification to their Environmental Protection License, were able to accept Devro's organic waste stream for use in the manufacture of compost products.

Photo: Compost windrows and windrow turner at ANL, Blayney.

There were two main issues that needed to be addressed in the solution:

1. The semi-viscous organic material was being placed in 1,000 litre rigid bins lined with plastic at the Devro site. The NSW EPA-funded Industrial Ecology facilitators researched and sourced large biodegradable bags, eliminating a critical barrier from the process and addressing the issue of containment and transport.
2. The Devro site also worked to reduce contamination of this waste stream with non-compostable items through staff education and the provision of alternative bins.

On receipt of the semi-viscous organic material at Australian Native Landscapes (ANL), it is mixed with compost in a ratio of 4:1. This then goes through the ANL composting process, which takes in excess of 7 months, resulting in a range of high quality products.

These products are sold to customers around the region for farming, construction and mine rehabilitation.

Outcomes

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|------------------------------------|--|
| CO₂ Reduction | 1,000tCO ₂ e per year 235 cars permanently removed from the roads |
| Diversion from Landfill | 3,900 tonnes |
| Energy Savings | 702 gigajoules 32.5 average household energy usage saved per year |
| Water Savings | 1,716 kilolitres saved per year 18.35 annual water used per person |
| Project Costs | Additional \$900 per month for liners but avoided additional landfill fees that were set to almost triple. |
| Private Investment Required | Nil |

'Cleanaway is happy to be able to facilitate source segregation of recyclable and compostable materials at our customers' sites. In this case a simple change has diverted a significant tonnage of material from landfill'.

Shane Tildesley, Business Unit Manager
Transpacific Cleanaway

Skillset

Skillset was established in 1982 as a not-for-profit company limited by guarantee owned on behalf of the community by Chambers of Commerce and Councils in western NSW, to run group apprenticeship and training programs.

Skillset exists to ensure the communities it serves have the skills required for the future, making businesses more successful and strengthening community sustainability.

Skillset aims to build the regional skill base through high completion rates in skills shortage trades, creating a number of value added services for businesses that facilitate this and making businesses successful by focusing on workforce development.

skillset.

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Circulate, NSW EPA Industrial Ecology

Over four years, Circulate, NSW EPA Industrial Ecology seeks to engage with 1000 medium-to-large enterprises to establish approximately 100 industrial ecology projects. During this period the program is targeting 160,000 tonnes of landfill diversion and \$21 million dollars in additional income and/or savings for participating businesses. The program will focus on the recovery of wastes currently being sent to landfill.

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