

RECYCLED SOLID ORGANICS



WHAT ARE RECYCLED SOLID ORGANICS?

Recycled solid organics is a general term that encompasses products recycled from organic waste. This can include compost, soil conditioner, mulch and other products used for landscaping or soil treatment and improvements. Organic waste, or biowaste, is biodegradable, sourced from plant or animal products, including green waste, food waste, food-soiled paper, nonhazardous wood waste, timber and prunings.

WHAT ARE THE BENEFITS OF USING RECYCLED SOLID ORGANICS?

The benefits of using recycled solid organics in road and rail infrastructure are as follows:

- **Environmental benefits**
 - Conservation of natural resources, reduction in greenhouse gas emissions, reduced material to landfill.
- **Comparable performance**
 - As recycled solid organic material must meet the same standards as virgin organic material, it has the same performance outcomes.

WHERE IS IT USED?

Recycled solid organic material can be used in any application where organic matter is implemented if the recycled solid organic material is compliant with relevant standards, specifications and regulations. Three main areas for use include landscaping, erosion control and bioretention or biofiltration. Biofiltration is a method that improves stormwater quality through filtration of fine sediment, phosphorus, nitrogen, metals and hydrocarbons.

HOW MUCH CAN BE USED?

There are currently no developed standards or specifications for the use of recycled solid organic material. However, there are standards and specifications for the use of organic material that can be adapted for the use of recycled solid organic material.

Where recycled organic material aligns with the intended use of the product, and where it is compliant with Australian Standards and relevant guidelines, it can be used as a 100% replacement for virgin material.

WHAT OPPORTUNITIES ARE THERE FOR IMPROVING ADOPTION?

In 2018–19, across Australia, 14,602,871 tonnes of organic waste were generated. The recycling rate of this material was just 51.5%, with the remaining 48.5% going to landfill, meaning there is significant potential for further adoption. Some household waste collection streams are implementing specific organic waste collections, isolating the material for use from other landfill streams.

Developing specifications and standards that enable and encourage the use of recycled organic waste would be a big stepping-stone to encouraging adoption. Major Road Projects Victoria is currently developing a specification for Processed Solid Organic Waste for Road Infrastructure Applications. This specification is likely to be published in 2022.



RECYCLED ORGANICS: NEWCASTLE, NSW



In 2019–20, the City of Newcastle Council demonstrated a greening biofiltration trial, wherein organic filter media (OFM) was used to enhance sand filter media in a raingarden. The biofiltration technology is used to filter street runoff pollutants such as heavy metals from wearing of tyres and residues (e.g. grease and petrol) dripping from motor vehicles.

The raingarden was constructed on Berner Street, Merewether, NSW, with a bed area of 10.83 m². Accordingly, approximately 4 m³ of OFM was required for the garden bed. The OFM consisted of 75% by mass recycled glass and recycled organics sourced from local food and garden organics. The weather conditions, including rainfall, were noted and visual assessments on vegetation were made monthly during the vegetation establishment phase (three months) and three times during the growth phase (eight months). Assessments included height and girth growth measurements of plants.

There were two flooding events, including a 74-mm rainfall in 24 hours; and a 148-mm rainfall in 48 hours; and a two-day heatwave, with temperatures reaching 40.6°C during the monitoring period.

Results indicated that implementing OFM containing recycled organics achieves excellent vegetation integrity and improves vegetation resilience under all weather conditions. This is due to soil health, suitable hydraulic conductivity and the beneficial moisture-holding capacity of the OFM. Utilising recycled organics means cleaner water going into waterways and reduced greenhouse gas emissions.



[Berner Street Raingarden using Recycled Organics](#)



LOCATIONS

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