

Project fact sheet

Producing novel biological products to increase production and reduce environmental impacts



Key points

Managing organic waste effectively is crucial for environmental sustainability, reducing greenhouse gas emissions, and enhancing local economies. By converting biomass into bioenergy and other valuable products, we can address issues like flow obstructions in forests, agricultural waste management, carbon sequestration, and renewable energy production. Additionally, this initiative aims to provide employment opportunities for First Nations people, foster community wealth, and improve air quality.

Through a co-design process, this project will evaluate technological and innovative solutions for converting organic waste, such as rice straw and products of historical harvest practises, into bioenergy, biochar, and other novel products like pyroligneous acid.

Potential solutions include:

- Repurposing agricultural and timber waste to produce biochar
- Using biochar to reduce livestock methane emissions and improve soil health
- Creating value-added products like compost mixed with biochar for the garden supply market

The Western Murray Land Improvement Group (WMLIG) hosted the co-design processes and collected data from stakeholders.

This data will support the decision-making process of the Biochar Cluster Group, a dedicated team within the co-design framework.

WMLIG has partnered with Joint Indigenous Group field teams and a local SME in the Koondrook-Perricoota forest, through a The Living Murray initiative, to assess the amount of timber causing environmental issues and to determine its potential as feedstock for biochar production.



Photo from:

<https://www.westernmurraylig.org/group-of-forests.html>.

Source: Dan Hutton

The biochar process

To find out more about the carbon cycle vs. biochar cycle please visit:

<https://onebasin.com.au/project/producing-novel-biological-products-to-increase-production-and-reduce-environmental-impacts/>

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Summary of the findings

The findings will be presented and discussed in a webinar with lead researcher Roger Knight and the project team.

The webinar will be held in December 2024 and can be found online via the Australia Water School webinar page, or on the One Basin CRC.

The opportunity

The project has enabled a working group to come together for the topic of biochar and novel waste conversion, which will continue after the project.

Future showcasing of the opportunities for biochar will continue.

One Basin CRC

Since our inception in mid-2022, the **One Basin Cooperative Research Centre** has brought together 85 partners across the Murray–Darling Basin.

Our purpose is to work together to grow value from water in a changing world.

From Queensland to South Australia, we are finding practical solutions to complex challenges, training the next generation of scientists, and nurturing regional communities.

Our collective goal is a productive, resilient and sustainable Murray–Darling Basin.

Key personnel

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