

## Biochar - Australia

Price 188 € / CORC



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**ITEM**Item URL: <https://puro.earth/100014>Item reference number #100014

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**DEALER**

ECHO2

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**DESCRIPTION**

ECHO2 transforms residues from plantation forestry, agriculture, food and wood processing, that would otherwise end up as green-house gas emissions by being burned or landfilled, into bioenergy and biochar. Each tonne of biochar is over 80% pure carbon and removes 2.79 tonnes of CO<sub>2</sub> per tonne of product, for centuries. The biochar is used for horticulture and agriculture. ECHO2 is the first Puro.earth-certified biochar producer outside Europe. For a detailed carbon footprint description email [contact@puro.earth](mailto:contact@puro.earth).

**How it works**

Common practice in many regions of the world is to burn or landfill large quantities of agricultural and woody residues. We estimate that over 20 million tonnes of accessible crop and woody residues are intentionally burned or landfilled every year in Australia, and only a small percentage is up-cycled in any way.

ECHO2 was developed as a circular economy up-cycling system that utilises low value organic residues such as city green wastes, plantation forestry residues, wood wastes from construction and crop residues, such as cereal straws. Biochar sequesters large amounts of CO<sub>2</sub> in a useful way. It improves the performance of many products including fertilisers, animal feeds and building and construction materials.

The first commercial system is a single ECHO2 module that converts recycled wood, that would otherwise be burned or landfilled, into biochar for the composted products producer Van Schaik's BioGro and into glasshouse heating for South Australian herb grower Holla-Fresh.

The second commercial system now under construction is six ECHO2 modules to convert local cereal straw and other residues that would otherwise be burned or landfilled, into biochar for sale to local farmers and into glasshouse heating for Victorian tomato and capsicum grower Katunga Fresh.

A growing pipeline of ECHO2 projects now exist that will utilise crop and plantation residues to replace LPG and natural gas for heating and to supply biochar to local farms.

ECHO2 enables economic, environmental and social benefits by converting these low value organic carbon residues into renewable heat and electricity and sequestering over 60% of the carbon in the residues into stable biochar. This system creates local jobs, sustainable air, soil and water eco systems while developing new circular economies and markets in the process.

In 2022 CORC revenue enables ECHO2 biochar to be offered to pioneer farmers and composters at a subsidised price - effectively rewarding them for their climate services while building this and other biochar markets to enable larger scale carbon removal.

Interview with Peter Burgess, CEO of ECHO2 where he answers:

How did you start selling your carbon removals at Puro.earth?

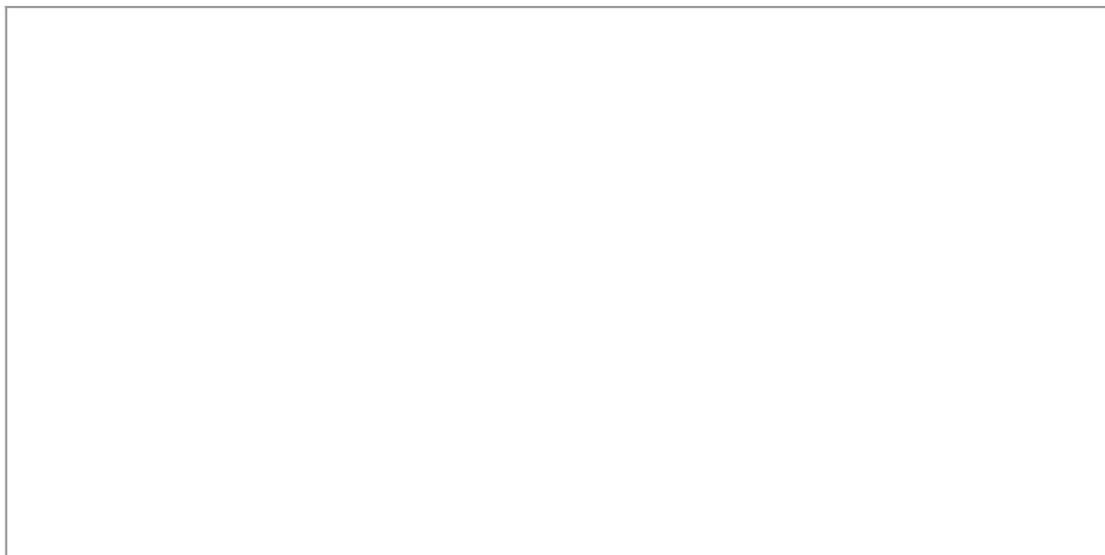
What will ECHO2 do with the income?

What are ECHO2's Future Projects and the challenges you face?

What are the co-benefits?

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**CARBON REMOVAL INFORMATION**

<b>Carbon removal method :</b>	Biochar
<b>Capture of CO2:</b>	Photosynthesis
<b>Stabilization of CO2:</b>	Pyrolysis
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<b>Permanence:</b>	Over 1000 years
<b>Status of production:</b>	Audited
<b>Unit of product volume:</b>	tonne
<b>Embodied carbon in product:</b>	2.88
<b>Year of first issuance:</b>	2021
<b>Minimum amount to negotiate:</b>	100
<b>Avoided emissions (mention avoided emissions in tonnes):</b>	

Total avoided emissions per tonne of biochar 6.33 tonnes CO2-e. Stored in biochar 2.79 tonnes CO2-e.

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**Examples of usage:**

Van Schaik's BioGro have purchased all of the biochar from the Holla-Fresh ECHO2 module. BioGro adds the biochar to their large nearby composting process. The composted biochar is purchased by local farmers and wine growers to increase soil fertility and water holding capacity.

The second much larger ECHO2 project now under construction will produce biochar for sale to local farmers in a region with large areas (>1 million HA) where soils are sodic, low pH, low carbon, of poor structure and will gain significant benefit from biochar. Australia has many such opportunities.

**Co-benefits:**

Puro.earth CORCs only quantify the net-removal and storage of emissions, not reduced or avoided emissions, increased biodiversity or other positive benefits. Here are co-benefits self-reported by the removal supplier.

To make biochar, we only use biomass residues from sustainable sources such as plantation forestry residues, crop wastes or recycled wood which would otherwise be burned, land-filled or left to decompose. Those greenhouse gas emissions are avoided by ECHO2 stabilizing the carbon in the biomass into high carbon biochar for hundreds of years and generating renewable energy for heating, cooling, electricity. The biochar is used for horticulture and agriculture.

This approach reduces fire and other health risks, creates local employment and increases the drought tolerance and fertility of soils, reduces the need for synthetic fertilisers and other chemicals and stores large amounts of carbon which accrues benefits lasting centuries.

**Explanation of avoided emissions:**

A Life Cycle Analysis of the Holla-Fresh/BioGro/ECHO2 system showed that 6.33 tonnes of CO<sub>2</sub> eq. emissions are avoided for each dry tonne of biochar that we produce and that a net 2.79 tonnes of CO<sub>2</sub> eq. is stored in the biochar. Over 95% of the energy in the incoming wood is utilised for drying the incoming wood, for heating the glasshouse, or is captured in the biochar.

**Economic acceleration impact:**

The revenue acquired by carbon removal suppliers propels their growth, compounding the climate effect and accelerating the carbon net-negative economy.

Each new current generation ECHO2 module operating 24x7 has the capacity to remove ~5,000 tonnes of CO<sub>2</sub>e per year. Including the second ECHO2 project we have projects with a drawdown capacity of ~ 150,000 tonnes of CO<sub>2</sub>-e per year awaiting finance, board approval, or both. Income from Puro CORCs allows the ECHO2 biochar to be sold to pioneer farmers and composters at a price that rewards them for the climate service they provide as part of this circular economy.

**Climate impact**

1 tonne of ECHO2 biochar removes 2.79 tonnes of CO<sub>2</sub> eq. from the atmosphere into long-term storage in the product.

**Posted on :**

07/09/2021

**AUDIT INFORMATION**

**Audit statement :**

[https://static.puro.earth/live/uploads/tinymce/Suppliers/ECHO2/20200930\\_RBE\\_Biochar\\_Final\\_Audit\\_State](https://static.puro.earth/live/uploads/tinymce/Suppliers/ECHO2/20200930_RBE_Biochar_Final_Audit_State)

**Independently verified by:**

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