

Glanris, USA. Rice hull biochar

Price 200 € / CORC



ITEM

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DEALER

Glanris

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DESCRIPTION

Glanris is a company that specializes in producing biochar for various markets, such as filtration, soil amendment, and construction materials. The company began production in February 2021 with one pyrolysis reactor at their facility in Olive Branch, Mississippi and now planning to expand their operations. Glanris aims to revolutionize the utilization of rice hulls and other food waste products in the USA, by converting them into beneficial products and carbon sinks.

The new facility will produce biochar by pyrolyzing rice hulls and nut shells. Pyrolysis is a thermal chemical process that takes place at high temperatures in the absence of oxygen and is used to convert organic materials into valuable chemical products, such as biochar, bio-oil, and syngas. In Glanris' case, the products will be biochar and syngas. The syngas will be combusted to produce renewable energy in the form of heat and electricity.

The biochar has a carbon content of 44%. Using the latest scientific evidence, it has been determined that each dry tonne of Glanris' biochar sequesters 1.12 tonnes of CO₂ for 100 years. A lifecycle assessment (LCA) of Glanris' production process was carried out by Accend in January 2022. The LCA accounts for all process emissions from the harvesting, transport and handling of feedstock, production emissions, stack emissions, transport and application of the biochar on site. Once the process emissions have been deducted the net CO₂ sequestration effect is 0.9 tonnes CO₂/tonne of biochar.

Glanris started production early in 2021 and has attracted interest from buyers from around the world.

CARBON REMOVAL INFORMATION

Carbon removal method :	Biochar
Capture of CO₂:	Photosynthesis
Stabilization of CO₂:	Pyrolysis
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Permanence:	Over 100 years
Status of production:	Audited
Unit of product volume:	tonne

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Embodied carbon in product:	0.90
Year of first issuance:	2022
Minimum amount to negotiate:	50
Avoided emissions (mention avoided emissions in tonnes):	0.90
Examples of usage:	

Wastewater filtration: Glanris' biochar has enhanced cationic functionality and can remove organic contaminants and metals from water, making it an effective secondary or tertiary filtration solution.

Stormwater filtration: Biochar can help remove toxic metals and other pollutants from stormwater.

Asphalt: Replacing a portion of bitumen coal binders with biochar improves hardness and reduces rutting, making it useful for parking lots and road surfaces.

Concrete aggregate: The high silica content in biochar improves the durability and strength of concrete. Soil amendment/composting: Biochar aids the composting process, improves soil structure, and reduces the need for irrigation and fertilizers, resulting in higher yields.

Co-benefits:

Rice hulls are one of the world's most abundant food wastes, which are typically left to rot in the field or burnt.

Substitution effect: Glanris' tests demonstrate that four tonnes of biochar can have the same filtration properties as 1 tonne of ion exchange resins and two tonnes of activated coal. The total substitute effect can be 1.75 – 6.1 tonnes CO₂e/tonne of biochar.

Reduced use of fossil fuel based fertilisers.

Green jobs: Biochar production can increase employment and tax revenue in rural areas

Crop yields: Biochar improves soil health by increasing water retention, nutrient availability, and microbial activity.

Air pollution reduction: Biochar production reduces the amount of greenhouse gases and air pollutants generated by burning biomass waste.

Concrete production: Biochar can be used as an ingredient in the production of concrete, reducing the amount of cement used, and therefore the emissions generated during its production.

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Explanation of avoided emissions:

The baseline scenario for rice hulls is that they are left to rot in the field or burnt, releasing CH₄, N₂O, and particulate matter, contributing to global warming and air pollution.

Emissions can be avoided in the activated carbon industry if Glanris biochar is used as a substitute.

Economic acceleration impact:

The revenue carbon finance enables Glanris to develop and grow the business. The company is a start up and has ambitious plans to scale up it operations. Carbon finance is a critical part of their business case for future investment.

AUDIT INFORMATION

Facility ID:

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