Biochar in Sweden, Hjelmsäters Egendom

Price 200 € / CORC

BIOKOL.SE

– SVENSKTILLVERKAT BIOKOL MED LOKALA RÅVAROR –

ITEM

Item URL: https ://puro.earth/100026

Item reference number #100026

DEALER

Hjelmsäters Egendom
Homepage address: www.biokol.se
Phone: www.biokol.se
Email address: edvard@hjelmsater.se
Contact person: Edvard Hamilton
Location: 533 94, Sweden

DESCRIPTION

Hjelmsäter in Sweden uses a BIOMACON technology to produce biochar from forestry residues that is used for soil amendment and environmental improvement in Sweden. The raw material used in the process is a residue from the farm's own forestry and other local actors, all FSC certified forestry. The material used has a content of lignin that makes it suitable for biochar production but less useful for other purposes due to its low energy value. The energy used in the pyrolysis process comes from Hjelmsäter's own solar panels and the excess heat from the pyrolysis process is used within the business facilities. Hjelmsäters Egendom is situated in Lake Vänern Archipelago and Mount Kinnekulle UNESCO Biosphere Reserve - a model region for sustainable development.

The production of biochar could be compared to the reversed effect off burning fossil fuels!

Through the process green carbon from the fast carbon cycle is transformed into more stable structure that can be stored for hundreds to thousands of years. Each ton of dry biochar produced at Hjelmsäter contains 94% carbon. The main part of this carbon is sequestered for a long time and kept out form the fast carbon cycle in a way that alternative use of the biomass, such as natural degradation of the biomass or use om the biomass for energy purposes, would fail to do. In the production process of the biochar, including the outtake and transportation of the biomass, 0.1 ton CO_2e is emitted while producing 1 ton of biochar. The emissions from the production process are exceptionally low, and the pyrolysis process only represent 5% of all emissions. With respect to the low emissions from the production, and a buffer to cover the degraded carbon in the biochar, each ton of dry biochar corresponds to 3.26 ton of CO_2e removed from circulation.

The production process and the carbon footprint of the biochar are third party reviewed and audited. For further details of the carbon footprint please send a request to contact@puro.earth

Biochar in Sweden, Hjelmsäters Egendom

Price 200 € / CORC

CARBON REMOVAL INFORMATION

Carbon removal method :	Biochar
Capture of CO2:	Photosynthesis
Stabilization of CO2:	Pyrolysis
Stabilization of CO2:	Pyrolysis
Permanence:	Over 1000 years
Status of production:	Audited
Unit of product volume:	tonne
Embodied carbon in product:	3,2
Year of first issuance:	2019-2020
Minimum amount to negotiate:	250
Examples of usage:	

The biochar produced at Hjelmsäter is distributed to many different locations. All biochar is used in applications where the biochar properties, such as its capacity to buffer nutrients and water, is of main interest. To elaborate, biochar is used in applications where it increases the environmental value through its properties. These include improved growth and fertility, but also decreased overfertilization in the surrounding area and decreased the runoff from the managed systems. Applications where the biochar could be used as a fuel or be exposed to enhanced oxidation is not allowed.

Examples of usage include improving green urban areas, soil amendment, agricultural applications, and urban use for improved water management. In the applications, the biochar contributes to further mitigations and adaptation for the climate, this is however not accounted for and included in the calculations of the CORCs.

Biochar in Sweden, Hjelmsäters Egendom — Price 200 € / CORC

Co-benefits:

The farm is located in an area with high nature values that struggle with outbreak of the European spruce bark beetle, an insect that damages the trees. The production of biochar reduces the spread as damaged biomass is taken out from the forest, and turned into biochar. This also reduces the risk of fire, and is an important co-benefit that helps to adapt to a changing climate where the presence of hot and dry periods increases.

Through its properties, biochar can contribute to several co-benefits that relate both to climate mitigation and adaptation. It can improve the sustainable management of other resources such as nutrient, water and soil health which are important for the present and future food production system for an increasing global population.

Agricultural benefits include an increased yield, less need for fertilizers and a production system that is more resilient to drouths and other disturbances. In the urban use, the green areas can be improved with help of the biochar, and it can contribute to a greener city that can sequester more carbon and support the biodiversity.

Economic acceleration impact:

The extra revenue from the CORC sales will be used to further develop the production facility, and will be invested in renewable energy for the process and the transportation.

Posted on : 02/11/2021

AUDIT INFORMATION

Audit statement :

https://static.puro.earth/live/uploads/tinymce/Suppliers/Hjelmsater/Certificate_Hjemlsater_2021

Facility ID: 643002406801000145

Independently verified by: DNV