Biochar MIX

Since the industrial revolution, human activity has caused the natural carbon cycle to be in disbalance. We have been emitting too much carbon into our atmosphere. Whilst simultaneously drastically changing our habits to decrease emissions, the contemporary excess carbon in the atmosphere also must be sequestered. Biochar is one of the solutions to the need for more permanent carbon capture.

Background: What is biochar?

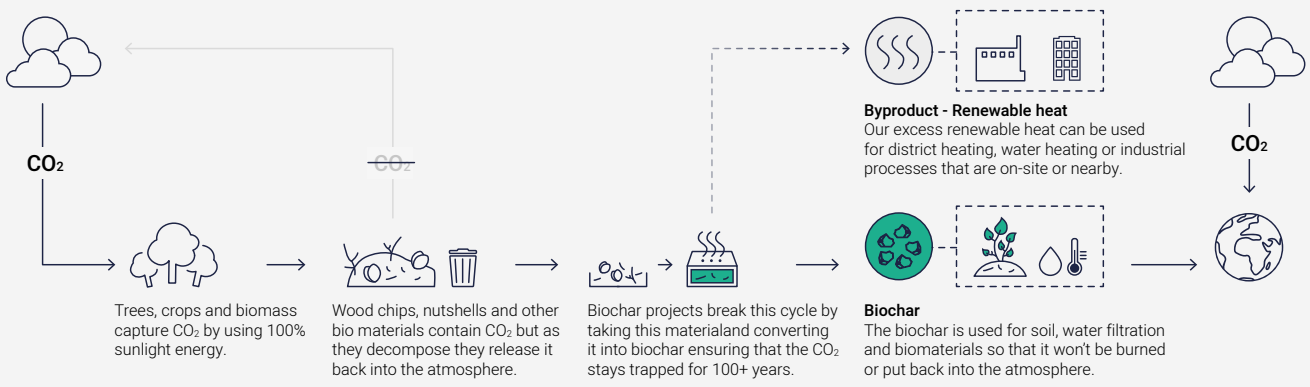
Biochar is an extremely carbon-rich charcoal-like material intended for environmental benefit application to the soil. Once incorporated into the soil, it becomes recalcitrant, or resistant to degradation. It cannot easily be decomposed or demineralised, as opposed to adding organic compost to the soil. This recalcitrant characteristic is exactly what makes biochar long-lived storage for carbon dioxide, as carbon is permanently stored in the soil.

Biochar is the solid co-product of biomass pyrolysis, the combustion of organic residues at high temperatures in the absence of oxygen. It can be made from various types of biomass, and depending on the specific biomass, the carbon levels in biochar usually range from 50% to 80%.

The main feedstock for the process is typically plant and animal biomass. In most cases, the feedstock would have been waste, and would not be used for any other purposes. This 'waste' would have been left to decompose or would have been burnt.

Carbon removal

Biochar is often referred to as a technically engineered carbon removal. But what does that mean exactly? Carbon offset projects are categorised under either reduction or removal. Reduction projects prevent carbon from being (re)released



into the atmosphere and into the (short-term) carbon cycle. Removal projects take out carbon from the atmosphere, and sequester the carbon (permanently) in oceans, soils or products. Biochar falls under the carbon removal category. Removals can range from nature based solutions such as afforestation and replantation of trees, which has a carbon sequestration permanence of 50 to 100 years, and more technically based solutions with a carbon sequestration permanence of 100+ to 1000+ years. All projects are necessary to combat climate change, and a balanced offsetting strategy aids the mitigation of climate change the best in our opinion.

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Collaboration

Carbon projects can be divided into avoidance and removal projects. Avoidance projects reduce the carbon that would otherwise be emitted, and removal projects take carbon out of the atmosphere. Climate Neutral Group would like to encourage clients to invest in carbon offsets that come from technical or engineered removal projects. Carbon removal projects are detrimental to the fight against climate change. The Biochar projects are certified under the Puro.earth standard, a Finnish initiative that has a focus on carbon removal methodologies. In addition, CNG is a founding member of ICROA, which monitors our working methods annually. Together with the choice for our certified projects, this guarantees reliable offsetting.

Advantages

Climate and environment

- Carbon capture in soil: this makes biochar a carbon negative product, not only carbon neutral.
- Reduced nitrogen and methane soil emissions.
- Increased soil carbon.
- Soil health.

Would you like to learn more about our climate projects?

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go to our website: climateneutralgroup.com

Social and economic

- Improved soil fertility and efficiency: better crop yields for farmers, due to decreased nutrient runoff.
- Water quality increase.