CARBOLIVA

biocarbón sostenible

Biochar

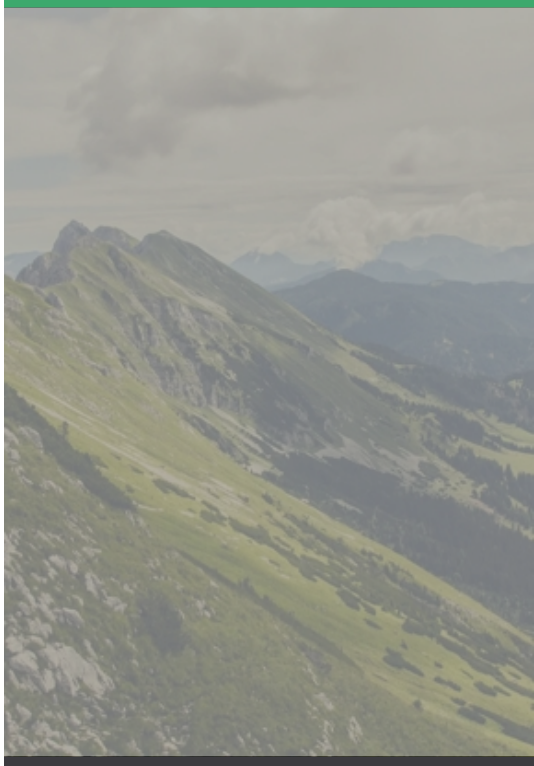
Decarbonisation

Biochar from olive pits or olive pulp (orujillo) is mainly used in steel mills as a substitute for traditional coal or petroleum coke.

3 TM

It is estimated that the complete combustion of 1 tonne of petroleum coke releases approximately 3 tonnes of CO2.

2.5 TM	2.7 TM	3.1 TM	3.5 TM
Anthracite	C. Bituminous	C. Subbituminous	Lignite



How can we help?

2.8 TM

of CO2 are contained in one tonne of olive kernel biochar.

2.2 TM

emissions of CO2 are contained in one tonne of olive pulp biochar.

But as the CO2 has been absorbed by the olive grove, as it is a biomass of natural origin, the emissions balance is zero.

This is an avoided cost of paying for the emissions of the amount of fossil fuels it replaces.

Reduction of co2 emissions

The use of these biocoals contributes to reducing carbon dioxide (CO2) emissions, as it is a material of renewable origin and its combustion emits less CO2 than fossil coke. Furthermore, the CO2 released is neutral from the point of view of the carbon cycle, as the olive trees that have generated the biomass used by Carboliva to produce biochar absorb CO2 from the atmosphere during photosynthesis to produce each olive harvest.

Substitute for coke or anthracite in EAF:

Biochar can be used in electric arc furnaces (EAF) as an alternative to traditional coke. The carbon it contains acts as a foaming agent for the slag. The slag, having a lower density than steel, normally floats on the surface. In addition to absorbing impurities from the steel, it also protects it from the atmosphere. Moreover, it protects the furnace walls from arcing, which increases electrical efficiency.

Substitute for coke or anthracite in blast furnaces:

Biochar can be used in blast furnaces as an alternative to traditional coke. It acts as a reducing agent in the iron production process, where the carbon in biochar reacts with iron oxide to produce metallic iron and CO2.

Improving sustainability

The use of biochar contributes to the sustainability of steel mill operations.

As a material from olive biomass, its production is more sustainable and has a lower environmental impact compared to the extraction and processing of fossil fuels.

Physical and chemical characteristics such as porosity

These biochars have physical and chemical properties suitable for use in metallurgical processes. For example, their carbon content and porous structure facilitate chemical reaction and their high purity minimises the introduction of impurities into the metal produced.

A basic pH helps to maintain the basicity of the slag.

Circular economy and use of by-products

Carboliva's biochar is produced from olive pits or olive pulp and the syngas generated in the pyrolysis process is used to generate thermal energy, for the pyrolysis requirement itself, and for the olive pomace extraction and wet biomass drying process, to produce olive pomace oil, which contributes to a circular economy. This not only reduces dependence on non-renewable resources, but also provides a useful way of dealing with organic by-products.

In summary, **biocarbon** in steel mills is mainly used to **reduce** greenhouse gas emissions, improve the sustainability of the steel production process and **reuse biomass waste**.

Their use represents a step towards **greener** and **more environmentally** responsible **industrial practices**.

Date of update: October 2024

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