

Requirements for C-Sink Certification

Checklist and Survey for
Biochar Producers and
Wholesalers to qualify for EBC,
EBC-Sink certification and the
Carbonfuture Platform

March 16th, 2021

Carbonfuture GmbH

Author:
Marcel Eichler

About this Checklist and Survey

This document is designed to provide a pre-evaluation of biochar producers and wholesalers of eligibility for the [European Biochar Certificate](#) (EBC), the [EBC Carbon Sink Certification](#) and the [Carbonfuture Platform](#).

Checklist and survey are provided by Carbonfuture to orient potential suppliers on the major requirements of the EBC-certification process.

The EBC is currently the most robust and scientifically sound certification standard worldwide and the foundation of the Carbonfuture platform, ensuring the high quality of our C-Sink Credits and overall sustainability of the production and application of the accounted biochar.

With this initial assessment, potential obstacles to the EBC certification can be identified prior to the fee-based certification process. It should help saving time and expenditures for the supplier.

The certification process structured in 3 steps:

- Pre-evaluation and orientation by Carbonfuture
- Registration for the EBC certification process and hand-over to the EBC
- Onsite evaluation performed by bio.inspecta

Carbonfuture is providing support for the first two steps, facilitating a smooth hand-over and process. Upon request, Carbonfuture can offer consultancy throughout the full certification process.

Company Data

Company Name:

Contact Person:

E-Mail:

Phone:

Feedstock Requirements



1.1 Feedstock Type

Only plant biomasses may be used to produce biochar. The [EBC positive list](#) indicates which biomasses are permissible for each application class.



1.2 Biomass Categories

Only biochar that has been produced either from residues or from C-neutral biomass are eligible for C-sink certification. The following categories may be eligible: agricultural biomass, organic residues from food processing, wood from landscape management, short rotation plantations, agroforestry, forest gardens, field margins and urban areas, biomass from forest management, wood wastes, other biogenic residues.



1.3 Forest Management

Biomass from forest management needs to be certified by the [PEFC](#) and [FSC](#).



1.4 Separation

The clean separation of non-organic substances such as metals, construction waste, electronic scrap, etc. must be guaranteed.



1.5 Purity

For the production of [EBC-Feed](#), [EBC-Agro](#), and [EBC AgroOrganic](#), the biomasses used must not contain any paint residues, solvents or other potentially toxic impurities.



1.6 Waste Contamination

For the production of EBC-Feed, EBC-Agro, and EBC-AgroOrganic, contamination of the biomass by plastic and rubber waste must be effectively and safely reduced to below 1% (m/m).

For the production of EBC-Material, quality plastic and rubber contents of up to 15% can potentially be accepted.



1.7 Feedstock Location

In order to avoid additional transport emissions, the feedstock should be harvested regionally or at least continentally.



1.8 New Feedstock Type

Companies can apply for new feedstock and application classes via the EBI.

Initial Assessment - Feedstock

1.1 What type of feedstock do you use?

1.2 How do you ensure that the use of your feedstock does not cause any environmentally harmful land-use change, and what measures do you undertake to minimize the climate impact of its harvest?

1.3 Are you using wood from certified sources?

1.4-1.6 Is your feedstock contaminated or impure? If yes, please specify to which content and if you have plans to improve the quality of your feedstock.

1.7 Where is your feedstock being harvested? What is the distance from your feedstock source to your production facility?

1.8 Do you use a feedstock that does not consist of plant-based biomass?

Technological Requirements

☐ 1.9 Pyrolysis Equipment

[Pyreg](#) and [SynCraft](#) pyrolysis plants have a type certification which simplifies EBC-Sink certification. The use of gasification plants can be problematic, as PAH values might be too high.

☐ 1.10 Excess Heat and By-Products

The use of waste heat or the use of liquid and gaseous pyrolysis products must be ensured.

☐ 1.11 PAH-Analysis

Before requesting a full EBC analysis it is recommendable to do a prior polynuclear aromatic hydrocarbon (PAH) analysis, for example with the [Eurofins lab](#), to check if certification can be successful. Doing only PAH analysis instead of the full EBC analysis is comparably cheap (ca. 200€) and can prevent unnecessary costs for an unsuccessful certification.

☐ 1.12 Storage

If moist biomasses are stored for too long in piles that are too large, uncontrolled self-heating occurs. In this process, the biomass is microbially degraded, similar to composting, which results in the loss of carbon as CO₂. Depending on the biomass and storage conditions, emissions of CH₄ and N₂O may also occur. Therefore, the biomass should be stored under dry conditions and at shortest possible period of time.

Initial Assessment - Technology

1.9 What type of pyrolysis equipment do you use?

1.10 How do you make use of excess heat and by-products?

1.11 Has a PAH-Analysis been conducted? If yes, please provide the results.

1.12 How do you store the pyrolysis feedstock (form¹, condition² and time)?

¹ chopped, ground, whole logs, etc.

² dry, moist, wet, etc.

C-Sink Requirements



1.13 Application Type (Agriculture)

The following application types constitute admissible biochar pathways to carbon sinks: direct soil application, compost, liquid manure treatment, bedding for cows, sheep, goats, pigs (no chicken, no horses if manure is not used as soil amendment), feeding cows, sheep, goats, pigs (no chicken, no horses if manure is not used as soil amendment), silage additive, additive for anaerobic digestion (if digestate is not pyrolyzed), organic biochar-based fertilizer.



1.14 Sink Location

In order to avoid additional transport emissions, the final sink location should be regional or at least continental.

Initial Assessment – C-Sink Potential

1.13 How is the biochar applied?

1.14 Are you in control of the final sink location (please specify)? Where is the biochar being applied?

Contact

carbonfuture GmbH

Paul-Ehrlich-Straße 7, 79106 Freiburg

Commercial register: HRB 721282

Register court: Local court Freiburg im Breisgau

Represented by:

Dr. Hannes Junginger-Gestrich

Contact

Phone: +49 151 677 30471

E-mail: info@carbonfuture.earth