

## **System Provider Endorsement – EBC/WBC/EBC C-Sink/Global Biochar C-Sink**

System providers for EBC/WBC wanting to get endorsed by Carbon Standards Have to fulfill specific requirements stated in the EBC or WBC standard and Global Biochar C-Sink standards.

Endorsed System Providers can offer several benefits and advantages for new system buyers that want to get an EBC/WBC certification or C-sinks through EBC C-Sink or Global Biochar C-Sink standards including:

1. The technical pre-audit is shorter and less expensive due to:
  - a. A preliminary lab analysis is not needed as the system has already proved to be capable of producing biochar according to EBC and WBC.
  - b. The preparation of the documents by the system provider shortens the work of the future biochar producer and the system provider can support him in the process.
2. Methane measurements for each individual production unit are not required. The default value per system is used to calculate the methane emissions of the pyrolysis unit.

This document describes the Endorsement process as well as the specific requirements.

### **1. Approval Process**

1. [Registration](#) for System Provider Endorsement
2. According to the [pricelist](#) of Carbon Standards, after the registration an annual fee of EUR 400 is charged to the System Provider by Carbon Standards.
3. The system provider provides required documents and information.
4. Carbon Standards evaluate the documentation and information received.
5. If the system provider fulfills the requirements, he/she is endorsed by Carbon Standards.
6. The Endorsement is sent together with the invoice for the endorsement to the system provider.

### **2. Requirements for the Endorsement**

1. At least three installations of the same type from the same manufacturer must be in commercial operation at different sites and EBC or WBC certified. A summary of the technical requirements from EBC/WBC certification (individual EBC/WBC certification is still mandatory for biochar producers, for details check the corresponding standards):
  - a. During production, the highest temperature reached in the pyrolysis or gasification process shall not deviate by more than +/- 20% from the declared temperature (in °C). The systems provider shall demonstrate how this can be monitored by the plant operator.
  - b. The endorsement is granted for the whole production of an endorsed plant with the specific set of parameters set. This requires a process engineering that ensure that also biochar produced during start-up

or shut-down or unintended production interruptions are pyrolyzed within the given temperature range and meet the respective EBC/WBC requirements. If that is not feasible, a technical device must be installed to separate the different production qualities or respectively to discard the biochar that does not correspond to the batch parameters.

- c. External reactor heating with fossil fuels is prohibited, with the exception of pre-heating of the pyrolysis reactor.
- 2.** For each of these three plants of the same type, at least two independent, state-accredited emission measurements including CH<sub>4</sub> or C<sub>x</sub>H<sub>x</sub> must be available. At least one system must be a direct measurement of CH<sub>4</sub> emissions. For the measurements at the two remaining installations, a measurement of the proxies in accordance with [QM4000203](#) is also permissible. The testing strategy must be shared with and approved by CSI beforehand. The analysis/test reports (including biomass used) must be available and shared with CSI and Ceres.
  - 3.** For each type of system, the full documentation required in the technical pre-audit must include:
    - a. Flowcharts of biochar and energy production
    - b. Technical drawings of the system including the reactor itself
    - c. Data sheets of the systems, including technical specifications
    - d. Calculation of energy and carbon efficiency and use of energy sources
    - e. A list of allowed biomass feedstock by the system provider