

A scanning electron microscope (SEM) image showing the intricate, porous, and layered structure of biochar. The image displays a complex network of interconnected, thin, and sometimes curved layers, creating a highly porous and textured surface. The lighting highlights the three-dimensional nature of the structure, with some areas appearing more prominent than others.

# European Biochar Market Report 2020

*February 2021*

# Agenda

1. Motivation

2. Scope and methodology

3. Trustful handling of provided information

4. Market data provided to the general public

5. Further market insight for EBI Members

# Motivation

Why we created this market report

- **Market information is key** to take good **business decisions**
- Market information in growing industries is **difficult to gather** and is **often outdated**
- **Market research firms**, started to offer standardized reports that are (i) **expensive** and (ii) have **limited relevance** and actuality
- In order to **attract capital to the biochar sector**, it is essential to be able to **provide elementary market data**
- To establish **biochar as a key solution to mitigate climate change**, we need to show that **quick scaling is feasible** and that it is actually happening already
- We want to give our members a **head start** through up-to-date and high-quality market information

# Scope of this European Biochar Market Report 2020

Where we look at

- We look at **biochar plants installed in Europe** in the **last 10 years** and **planned installations in 2021**
- We comprise **plants that produce biochar** in EBC-quality or comparable, produced in **dedicated biochar production plants** as well as in **charcoal production plants** that have dedicated production for non-barbecue application (though only counting the biochar dedicated part)
- Definition of **five classes** in terms of production volume

Production volume classes	Approach	Completeness
Micro (<100 t)	considered in a consolidated way	low
Small (100 - 199 t)	mostly considered	medium
Medium (200 - 499 t)	intense analysis to get them all	high
Large (500 - 1.999 t)	intense analysis to get them all	high
Very large ( $\geq 2.000$ t)	intense analysis to get them all	high

# Methodology

How we approached this

- **Internet research**
  - Reference lists from equipment suppliers
  - Published information from biochar producers
  - EBC website
- **Interviews**
  - We gathered information from various stakeholders in the biochar sector
  - Partially this information was provided on a confidential basis (*requires adequate handling*)
- **Information from equipment manufacturers**
  - We verified the gathered information with key equipment manufacturers regarding their installed base
  - Some equipment manufacturers provided confidential information on projects that are (i) under construction or under contract or (ii) in their planning (*data requires adequate handling*)

# Trustful handling of provided information

Trust and confidentiality are key

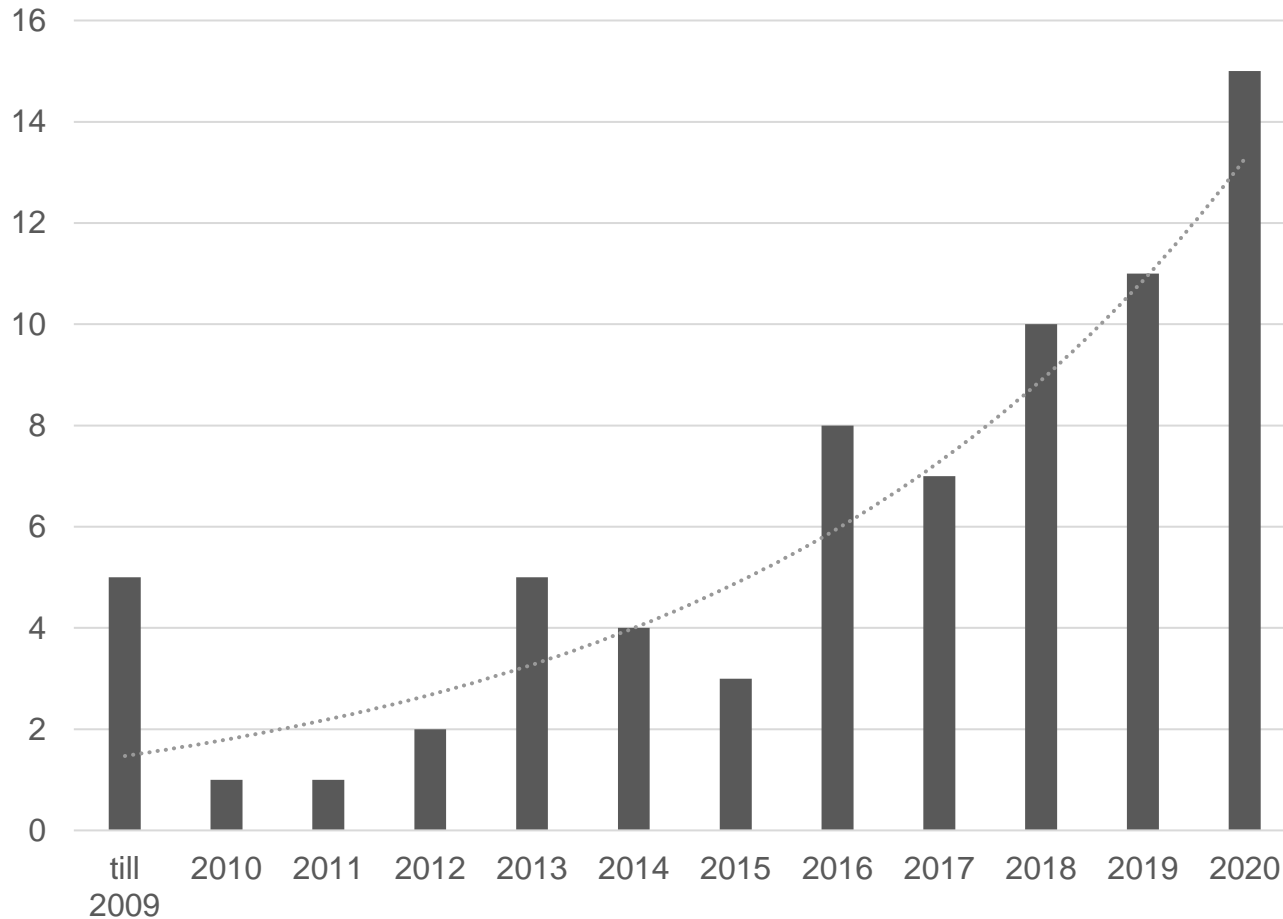
- **Respecting confidentially provided information**
  - Confidentially provided information will only be reported in a consolidated way, so that the confidential information cannot be deducted from the report
  - Respecting confidentiality is the basis for collection of data in the future
- **We will share market information at two levels**
  - **General public** (e.g. production capacity in Europe, growth rates, ...) until 2020
  - **EBI Members** will get more detailed insights including the forecast for 2021 installations

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# European Biochar Market 2020 – General Public

# Biochar market growth until 2020

Number of systems newly installed in Europe per year

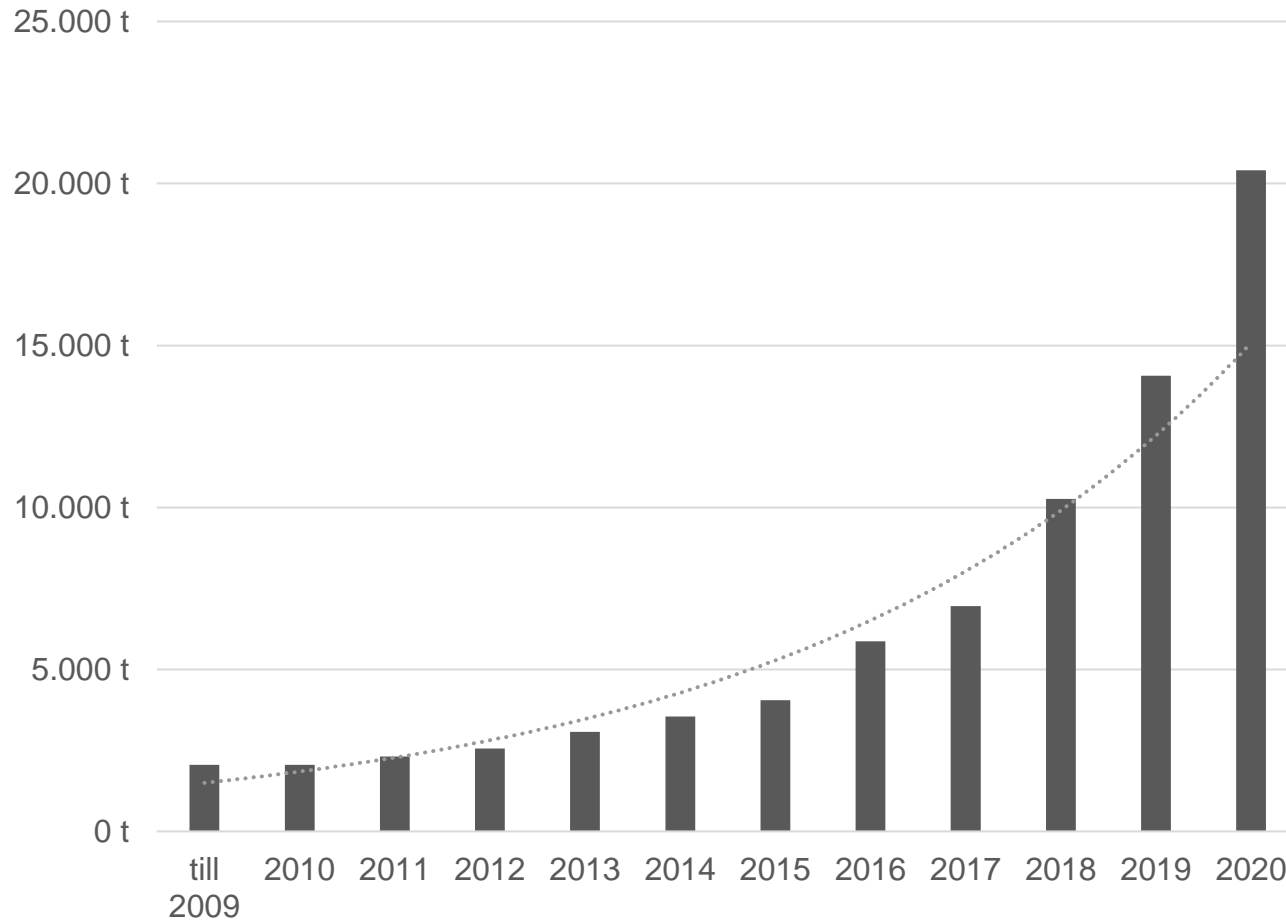


- Until 2015 the market had been very small, **2016ff dynamics increased** substantially
- In **2020** alone **15 new systems** had been installed and commissioned
- By **end of 2020** in Europe **72 biochar** producing **plants** were under operation



# Biochar Market growth until 2020

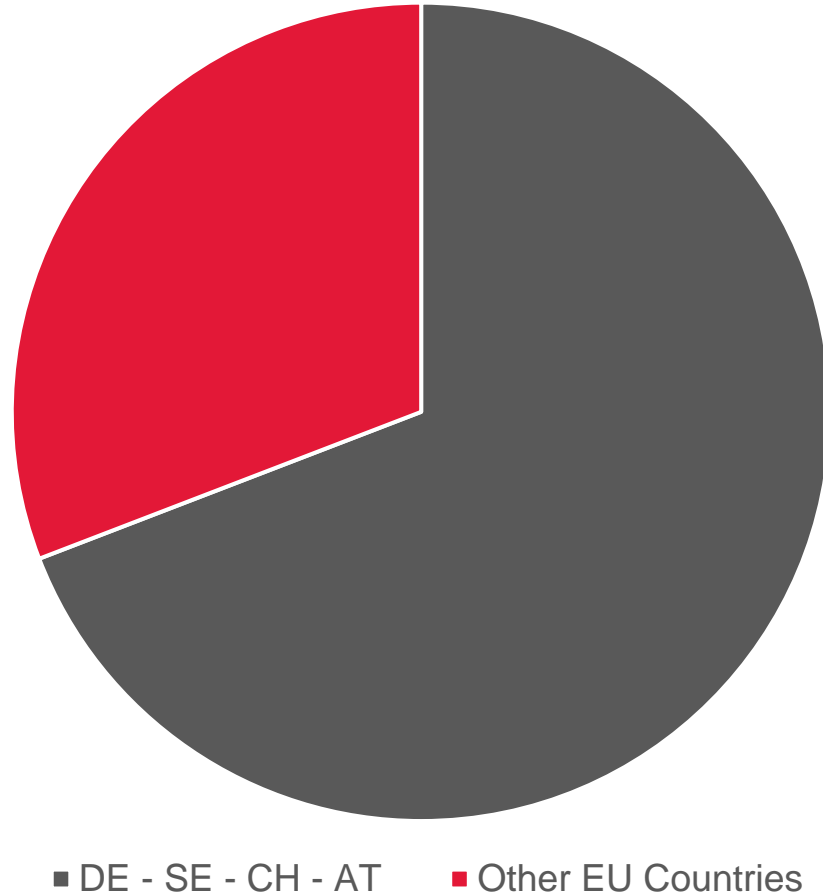
Cumulative biochar production capacity in Europe



- By **end of 2020** dedicated **production capacity for biochar** was just above **20.000 t**
- **Biochar production in 2020** was approximately **17.000 t**
- The **market is growing** substantially, and even its **growth is growing**
  - Production capacity doubled in only two years from 2018 to 2020
  - Growth rates for cumulative production capacity are increasing:  
**5y CAGR was 38%,**  
**3y CAGR was even 43%**

# Key countries for biochar production capacity in Europe

Today four countries are dominating the biochar production in Europe



- By end of 2020 four countries comprise 69% of European biochar production
- In terms of production volumes for biochar, the order is:
  - Germany
  - Sweden
  - Switzerland
  - Austria

