

North America Biochar Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Form (Granular, Powder, and Pellets), Production Technology (Pyrolysis, Gasification, and Others), Feedstock (Woody Biomass, Agricultural Waste, Animal Manure, and Others), Sales Channel (B2B and B2C), Packaging Type [Small Packages (Less than 2 kg), Medium Packages (2 to 10 kg), Large Packages (450–900 kg), and Bulk Packages (More than 900 kg)], Application [Agriculture (Gardens, Field Crops, Orchards, Horticulture Application, and Turf and Landscapes), Animal Feed, Water Treatment, Electricity Generation, and Others], and Country

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Abstracts

The North America biochar market is anticipated to grow from US\$ 13.92 million in 2023 and is projected to reach US\$ 19.44 million by 2031; it is anticipated to record a CAGR of 4.3% from 2023 to 2031.

Biochar is produced through pyrolysis, a process that heats organic material (such as agricultural waste, forestry residues, and biomass) in the absence of oxygen, thus, generating biochar, syngas, and bio-oil. These by-products are valuable sources of renewable energy, which can be used to generate electricity or heat, offering a dual

benefit of carbon sequestration and renewable energy generation.

As North America strives to reduce its dependence on fossil fuels and meet climate change mitigation goals, biochar production as a form of energy generation aligns with these objectives. The integration of biochar production with energy systems can help reduce greenhouse gas emissions by replacing traditional energy sources with cleaner, carbon-neutral alternatives. Additionally, the use of biomass feedstocks, which might otherwise be discarded or left to decompose, provides a sustainable approach to managing waste while producing valuable energy. This trend is supported by government policies focused on renewable energy development and carbon reduction. As advancements in pyrolysis technology make biochar production more efficient and cost-effective, its role as an energy source is expanding, contributing to the growth of biochar market in North America.

Agriculture is one of the major application areas for biochar. In recent years, the interest in using biochar in agriculture has been increasing due to the beneficial properties of this material. The application of biochar to temperate soil can improve a variety of soil health indicators. Soil health is the capacity of the soil to function as a living system to sustain biological productivity and maintain environmental quality. Biochar has the potential to retain soil nutrients such as ammonium, nitrate, and phosphorus; this effect is most readily observed in light-textured soils. It also helps improve soil fertility status and increase crop productivity. Further, soil degradation is a major concern in agriculture globally. Biochar is applied to degraded soils to enhance their quality and address this burgeoning problem. Biochar helps improve soil quality by enhancing soil structure, increasing water retention and aggregation, decreasing acidity, improving porosity, regulating nitrogen leaching, and improving microbial properties. It is also found to be beneficial for composting. It helps reduce greenhouse gas emissions and prevent the loss of nutrients in the compost material. It also helps reduce the compost's ammonia losses, bulk density, and odor. These associated benefits of biochar are bolstering its demand from the agriculture industry.

Some of the key players operating in the North America biochar market are Airex Energy Inc; Black Owl Biochar; Biochar Now, LLC; Phoenix Energy; BioForceTech Corporation; Olivketts Global Energy Ltd.; American BioChar Co; Pacific Biochar Benefit Corporation; Genesis Enterprises, Inc; and BioChar6. Players operating in the market are highly focused on developing high-quality and innovative product offerings to fulfill customers' requirements.

The overall North America biochar market size has been derived using both primary and

secondary sources. Exhaustive secondary research has been conducted using internal and external sources to obtain qualitative and quantitative information related to the North America biochar market. Also, multiple primary interviews have been conducted with industry participants to validate the data and gain more analytical insights into the topic. The participants of this process include industry experts, such as VPs, business development managers, market intelligence managers, and national sales managers—along with external consultants, such as valuation experts, research analysts, and key opinion leaders—specializing in the North America biochar market.

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