

# **Middle East & Africa Biochar Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Form (Granular, Powder and Pellets), Process (Pyrolysis, Gasification, Torrefaction, and Other Processes), and Application (Agriculture, Animal Feed, Water Treatment, Electricity Generation, Construction, and Other Applications)**

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## **Abstracts**

The biochar market in the Middle East and Africa is projected to grow significantly, with an expected market size of approximately US\$ 12,285.87 thousand by 2031, down from US\$ 15,858.97 thousand in 2024. This indicates a compound annual growth rate (CAGR) of 4.1% from 2025 to 2031.

### **Executive Summary and Market Analysis**

The Middle East and Africa region is experiencing a surge in residential construction projects, which is a key driver for the biochar market. Notable upcoming projects include a 73-story premium residential building set to commence construction in December 2025, alongside various ongoing developments of luxury residential units and multi-story towers. The increase in construction activities is further supported by government initiatives such as Saudi Vision 2030 and Abu Dhabi Economic Vision 2030, which emphasize infrastructure development. This growing demand for construction materials and sustainable practices is expected to boost the biochar market, as biochar serves as a performance-enhancing additive that can reduce reliance on petroleum-based products.

In the agricultural sector, South Africa stands out with the largest area of agricultural land in Africa, covering nearly 96 million hectares. The country's diverse agricultural output, which includes grains like barley, maize, oats, sorghum, and wheat, accounts for over 30% of its total agricultural production. The development of agriculture in the Middle East and Africa is anticipated to create substantial opportunities for the biochar market in the coming years, as biochar can enhance soil quality and crop yields.

## Strategic Insights

### Market Segmentation Analysis

The Middle East and Africa biochar market can be segmented based on form, process, and application.

**By Form:** The market is divided into granular, powder, and pellet forms. In 2024, the powder segment dominated the market, indicating a preference for this form in various applications.

**By Process:** The biochar production processes include pyrolysis, gasification, torrefaction, and others. The pyrolysis process held the largest market share in 2024, highlighting its efficiency in producing high-quality biochar.

**By Application:** The applications of biochar are varied, including agriculture, animal feed, water treatment, electricity generation, construction, and more. The agriculture segment was the largest in 2024, reflecting the significant role of biochar in enhancing soil health and crop productivity.

## Market Outlook

The use of biochar in wastewater management is gaining momentum as a sustainable and cost-effective solution for improving water quality. Biochar, derived from organic biomass, possesses unique properties that allow it to absorb a wide range of pollutants, making it an effective material for treating industrial wastewater and managing contaminants. The increasing environmental concerns and regulatory pressures on industries to minimize their ecological footprint are driving the adoption of biochar in wastewater treatment processes.

Sectors such as agriculture, mining, and manufacturing are increasingly utilizing biochar for wastewater management. In agriculture, biochar helps treat farm runoff, thereby reducing nutrient pollution that can harm local water bodies. Municipal wastewater treatment facilities are also exploring the use of biochar to mitigate contaminants before water is released back into the environment or reused. Research institutions are actively investigating new methods to optimize biochar's application in wastewater treatment, which is expected to lead to technological advancements and improved efficiency in its use. As awareness of biochar's benefits grows and technology evolves, its role in wastewater management is anticipated to contribute significantly to the biochar market's growth in the coming years.

### Country Insights

The biochar market in the Middle East and Africa includes key countries such as South Africa, Saudi Arabia, the UAE, and others. South Africa is currently the largest market player, benefiting from favorable soil conditions and a climate conducive to organic farming. The agricultural sector employs over 50% of the population and plays a crucial role in the country's GDP. The rise of organic farming in South Africa, driven by the need to address food insecurity and environmental degradation, is further supported by various initiatives and programs aimed at bolstering the construction industry. Financial institutions like the World Bank and the African Development Bank are backing infrastructure investment programs, which in turn stimulate growth in the construction sector. This dual growth in agriculture and construction is expected to propel the biochar market forward in South Africa.

### Company Profiles

Key players in the Middle East and Africa biochar market include American BioCarbon, BC Biocarbon, BioCarbon Australia, Biochar Supreme LLC, Carbonis GmbH & Co KG, Element Biocarbon, Elkem ASA, Envigas AB, Genesis Enterprises Inc, Glanris, Green Man Char-Cyclic Carbon Pty Ltd, Olivketts Global Energy Ltd, Oregon Biochar Solutions, Phoenix Energy, and SOLER Group, among others. These companies are employing various strategies such as market expansion, product innovation, and mergers and acquisitions to enhance their offerings and increase their market share.

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