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**Specification for operation management of biochar production
from crop staw on soil quality improvement project**

农作物秸秆炭化还田土壤改良项目运营管理规范

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Foreword

This guiding technical document was drafted in accordance with the rules given in GB/T 1.1-2009. Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents. This guiding technical document was proposed and managed by the China National Institute of Standardization. Drafting units of this guiding technical document. Beijing Sanju Green Energy Technology Co., Ltd., Beijing Sanju Lvyuan Co., Ltd., China Standardization Research Institute Research Institute, Nanjing Sanju Biomass New Material Technology Co., Ltd., Nanjing Agricultural University, Aigrazing (Xing'an League) Biomass New Material Co., Ltd., Nanjing Xia Ronghua Biomass New Material Technology Co., Ltd., Anhui Chengda Biomass New Material Co., Ltd. The main drafters of this guiding technical document. Fu Xingguo, Tian Limin, Tian Ran, Pan Genxing, Li Lianqing, Yuan Mei, Zhang Fang, Cai Xingye, Tian Suning, Sun Zhaoyang, Cheng Yue.

The carbonization of crop stalks and soil improvement projects focus on soil cultivation and improvement, and carry out the large-scale utilization of crop stalk resources. Create a high-quality ecological agriculture industrial chain. Most of the poor in my country are in remote rural areas, and the straw resources are relatively abundant, suitable for crop straw charcoal For the development of the soil improvement industry, the project can provide poverty-stricken households with various income-increasing channels to help alleviate poverty. Crop straw charcoal The soil improvement project has unique advantages and characteristics in industrial poverty alleviation, and can become a preferred industry for precise poverty alleviation. Carrying out crop straw carbonization and soil improvement projects in poor areas according to local conditions is in line with the targeted poverty alleviation and targeted poverty alleviation strategy, but also It is in line with the national policy of banning straw burning and comprehensive utilization; it not only realizes the

sustainable development of agriculture, but also promotes the stable income growth of the poor Close. Through the carbonization of crop stalks, the soil improvement industry chain can form an effective poverty-removing mechanism, and achieve precise poverty alleviation and ecological agriculture in poor counties. The dual effect of industry development. In order to standardize the operation of the industry in poverty alleviation projects, instruct local poverty alleviation organizations to carbonize crop straw and return soil For the implementation of improvement projects, this guiding technical document is specially formulated. Crop straw carbonization and soil improvement project Operation Management Standard

1 Scope

GB/Z 39121-2020 is the Chinese national standard on specification for operation management of biochar production from crop staw on soil quality improvement project, in the field of services and company organization. The /Z suffix marks it as a guiding technical document: it does not prescribe requirements that can be certified against, but sets out the technique, the method or the state of the art that the standards bodies recommend following. It was issued on 11 October 2020 by the State Administration for Market Regulation; Standardization Administration of China. As a guiding technical document it carries no separate date of entry into force: it applies from publication. Classification: ICS 03.100, CCS A00. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This guiding technical document gives the project overview, project conditions, division of responsibilities, and projects of the crop straw carbonization and soil improvement project. Project organization and operation, project expected effect analysis and project evaluation and management. This guiding technical document is applicable to the operation and management of the soil improvement project of carbonization of crop stalks.

2 Project overview

Taking the biochar-based fertilizer plant project in a poverty-stricken county as a platform, a standard production capacity of 50,000 tons/year to 100,000 tons/year will be built in a poor county The biochar-based fertilizer plant in China will support the construction of 10-20 10,000-ton/year straw pelletizing poverty alleviation workshops. Poverty alleviation organizations, biochar-based fertilizer plants, The straw pelletizing workshop and poor households are "four in one", forming a straw utilization poverty alleviation industrial chain with a poverty-stricken mechanism. Embed poverty alleviation precisely in the cycle Economic industry chain, through biochar-based fertilizers to increase production and reduce expenditures, poverty alleviation, employment poverty alleviation, donation poverty

alleviation, and straw pelleting poverty alleviation workshop Poverty alleviation through asset-based income and auxiliary poverty alleviation in related industries such as transportation to achieve industrial precision poverty alleviation. For typical cases of project poverty alleviation, see Appendix A.

3 Project conditions

3.1 Site selection conditions The site selection conditions for the project include but are not limited to.

- a) The available resources of straw and other biomass in the county where the straw pelletizing workshop is located are more than 70,000 tons, and each 10,000-ton straw is pelletized Poverty alleviation workshop. covering an area of not less than 10 acres¹⁾, 30 acres to 50 acres of straw yard;
- b) The biochar-based fertilizer plant covers an area of not less than 60 acres, and the land is level and the plot is regular. The natural slope rate of the site should not exceed 4%;
- c) The area of cultivated land (including multiple cropping) in counties (within a radius of 50km) should not be less than 1 million mu;
- d) According to topography, landform and other conditions, set up a reasonable road and transportation system to facilitate the collection and storage of straw, granulation, and fertilizer transportation;
- e) It can guarantee sufficient industrial and civil electricity supply, and guarantee the supply of industrial water and drinking water;
- f) The communication network is unblocked, the roads are level, and the drainage of rain and sewage is unblocked.

3.2 Facilities and equipment conditions

3.2.1 Straw pelletizing workshop for poverty alleviation The equipment of the straw pelletizing poverty alleviation workshop includes but not limited to.

- a) Agricultural machinery for straw collection. hay rake, baler, grass grab, palletizer, transfer vehicle, etc.;
- b) Straw granulation equipment. coarse powder equipment, fine powder equipment, dust removal equipment, granulation equipment, cooling tower, and ton bag packaging equipment, etc.

3.2.2 Biochar-based fertilizer plant Biochar-based fertilizer plant equipment includes but is not limited to.

- a) Straw carbonization device. straw storage and conveying unit, carbonization unit,

carbonization product separation unit, energy recovery unit, carbon packaging unit, etc.; 1)
1 mu ~666.67m².

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