

Chinese Agricultural Carbon Sink Trading Development Mode Research

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Abstract: China will improve the mechanism for allocating market resources. We will establish and improve mechanisms for compensated use and ecological compensation of agricultural resources. We will promote reform of agricultural water prices, formulate a system for the transfer and trading of water rights, establish a reasonable mechanism for the formation of agricultural water prices, promote tiered water prices, and guide water conservation. Establish an agricultural carbon sink trading system to promote low-carbon development. We will cultivate specialized enterprises and organizations engaged in the resource utilization of agricultural waste and the management of agricultural environmental pollution, explore ways to establish a third-party governance model and realize market-based and paid services.

Keywords: Agricultural carbon sinks; Agricultural waste resource utilization; Ecological compensation mechanism.

INTRODUCTION

Agricultural carbon sinks using existing forest land resources; timber cutting and inefficient forest reconstruction are carried out. High-quality raw materials obtained from deforestation are used for deep processing of wood, while low-efficiency forest reconstruction further enhances the added value of forest. The residue from processing and inefficient forest modification is used in the production of biomass solid grain fuel. Carry out contract energy management business, convert biomass granule fuel to material energy direct sales[1].

The business covers the whole industrial chain of forest resource development, which has high resource utilization rate and realizes the circular development and utilization of forest resources.

Carbon sink contract energy management (CEMC) is in the western developed countries began to grow in the 70 s a new mechanism based on market operation of energy-saving, its essence is to reduce energy costs to pay of the total cost of the project of business way. This energy saving investment allows customers to upgrade their plants and equipment with future energy saving benefits to reduce current operating costs. Energy conservation service company and energy-using units energy-saving targets of the project, as agreed in the contract form service company for the realization of the goal of energy conservation to energy-using units to provide the necessary services, energy-using units paid in energy-saving benefit of energy saving service companies into energy saving service mechanism and reasonable profit[2].

METHODS

This methodology is based on the United Nations framework convention on climate change

(UNFCCC) on the clean development mechanism. The latest methodology of afforestation and reforestation project activities under (CDM) is the main framework for reference and reference to CDM. Instruments, methods and procedures related to afforestation and reforestation projects, intergovernmental panel on climate change (IPCC) guidelines for the preparation of national greenhouse gas inventories and guidelines for land use, land use change and forestry excellence[3]. On the basis of good practice guide, international voluntary emission reduction market afforestation reforestation project methodology and relevant methods, Combined with the practice and experience of carbon sink forestry in China, it has been repeatedly discussed by experts and scholars in relevant fields and stakeholders [4]. To ensure that the law of this party not only complies with international rules but also with China's forestry practice, but also pays attention to methodology scientific, reasonable and operable.

Methodology refers to normative documents quoted in addition to following the basis of CDM project methodology and its related procedures and rules, mainly refer to our country "voluntary

greenhouse gas emissions trading management provisional regulations", "carbon sink afforestation technology regulation (try out)", "the way of examination and acceptance of afforestation of carbon sequestration (try out)", "regulations of technology of afforestation, regulatory documents and standards. For example: the eligibility requirements for the land, his own law requires at least since February 16, 2005 non-forest land, to distinguish it from the CDM reforestation project methodologies required non-forest land since January 1, 1990.

China's agricultural carbon sinks development
Current situation of China's agricultural carbon sink

In order to meet the requirements of carbon sink measurement and monitoring of afforestation projects under China's voluntary greenhouse gas emission reduction trading system, the domestic carbon is regulated. The metering and monitoring methods of afforestation projects promote afforestation activities with increasing carbon sink as the main objective to ensure the carbon produced by the projects. The methodology of carbon sink afforestation project (version v.01.0) has been developed and developed [5]. This article refer to the United Nations framework convention on climate change (UNFCCC) about the clean development mechanism (CDM) reforestation project activities under the methodologies and tools, the intergovernmental panel on climate change (IPCC) on land use, land use change and forestry listing guidelines and good practice guide of greenhouse gases, but also with reference to the international market voluntarily afforestation of reforestation carbon sink again the general requirements of project implementation, etc., and fully formulated in combination with the practical situation of forestry in China.

The ownership of forestland is clear and has the land ownership certificate issued by the people's government at or above the county level;

- Land for project activities does not fall under the

category of wetlands and organic soils;

- Project activities do not contravene the relevant laws, regulations and policy measures of any country and are in conformity with the national technical regulations on afforestation;
- The soil disturbance caused by the project activity meets the requirements of soil and water conservation, such as the area of land and soil disturbance along the contour line[6]. No more than 10% of the surface area and no repeated disturbance for 20 years;
- Project activities are not carried out in the form of burned-out woodland clearing (alchemy) and other man-made burning activities;
- Project activities do not remove surface debris, tree roots, dead trees and debris from logging;
- Project activities will not result in the transfer of agricultural activities crop planting and grazing prior to the commencement of the project. In addition, when using this method, other relevant applicable conditions in the relevant steps need to be satisfied.

China's agricultural carbon sinks policy support

"Bamboo forest ecosystem carbon sequestration monitoring emissions and increase remit key technology and application" results in dynamic monitoring of bamboo carbon sink, improving the capacity of bamboo carbon sinks, open up bamboo forest carbon sinks industry as the main breakthrough goal, has developed five national and international standards of bamboo forest carbon sink project methodology [7], to fill the gaps at home and abroad, has solved the bamboo forest carbon sinks into the technical bottleneck of domestic and international carbon market. As a participating unit of the project, the carbon sink foundation mainly participates in assisting the design organization and work implementation of the project, and jointly promoting the research, technology research and development and results promotion of the project and its sub-projects.

Table-1: The number of CDM projects in China in 2017

Provinces	Number	Provinces	Number	Provinces	Number	Provinces	Number
SICHUAN	565	YUNNAN	483	NEIMENG	381	GANSU	269
HEBEI	258	SHANDONG	249	XINJIANG	201	HUNAN	200
SHANXI	187	GUIZHOU	175	HENAN	174	NINGXIA	162
LIAONING	158	JILIN	155	HELONGJIANG	141	HUBEI	136
JIANGSU	131	GUANGXI	128	GUANGDONG	125	FUJIAN	123
SHANXI	122	ZHEJIANG	121	ANHUI	96	JAINGXI	85
CHONGQING	80	QINGHAI	72	BEIJING	29	SHAGNHAI	25
HAINAN	25	TIANJIN	18	XIZNAG	0	TOTAL	5,074

Source: China cleans development mechanism network; <http://cdm.ccchina.org.cn>;

Since the 18th national congress of the communist party of China (CPC), China has attached great importance to the development of green

development and ecological civilization and accelerated the construction of carbon sink market and carbon emission trading market. Since October 2013,

there have been more than 100 forestry carbon sink record projects in more than 10 provinces, including Jilin, Guangdong, Heilongjiang and Hunan[8]. In July 2016, the state forestry administration formulated the "provincial forestry in 2017-2018 work plan to address climatic change (hereinafter referred to as the " plan "), urging provinces to increase forest carbon sink, stable wetland carbon sinks, reducing emissions of forestry, pays special attention to the carbon sink assessment methods such as remit to reduce emissions, and by conducting fishing expeditions, and promote the pilot, improve trading policies to promote the national carbon trading. According to the requirements of the plan, various places have made many beneficial explorations[9]. For example, in May 2016, Anji county of Zhejiang province launched the first national bamboo forest management carbon sink project and passed the examination and certification.

Problems in the construction of carbon sink market

First, the construction of carbon sink market has not yet been clearly deployed. The "interim measures" of carbon emissions trading market quota management, emissions trading, the check amount, regulatory and legal liability of the specification, the carbon sinks trade is not directly involved. The plan is a departmental regulation, mainly aimed at the internal departments, and it is difficult to promote the construction of carbon sink market[10]. Relevant policies on domestic carbon exchange market transactions need to be formulated, standards and regulations on certification and registration need to be clarified, and carbon exchange transactions need to be included in the carbon emission rights market transactions. Second, the basic knowledge of carbon trading needs to be popularized, and the public awareness is not high. As a new thing, carbon trading has not been widely recognized and accepted. In the case of unclear policies, there is even pyramid selling behavior with the investment of carbon sink forest as bait[11]. The transaction and investment of carbon exchange market require extensive participation of all parties. However, at present, the carbon exchange project is mainly invested by local governments, which is difficult to be sustained. Third, the definition of carbon sink property rights remains to be carried out. Carbon sink activity itself is a kind of has obvious externalities, carbon sink requirements is a cause, want to through the market for compensation for the ecological benefits of the carbon sink activity, needs to have a clear property right arrangement[12]. However, taking forest carbon sink as an example, the current forest law of the People's Republic of China and its implementation regulations have not clearly defined the property rights of carbon sink forest.

CONCLUSION

In view of the significance of carbon sink market in many aspects, relevant research institutions,

social organizations and enterprises should be encouraged and supported to strengthen their research on carbon sink theory, carbon sink market and carbon sink industry[13]. The construction of carbon sink market is included in the construction of carbon emission trading market and the relevant government plans. We will accelerate the establishment of a basic system for the carbon sink market. As a creative market, carbon sink market also has the basic elements of general market--subject, property right, transaction, price and so on[14]. For example, for grassland carbon sink, it is necessary to clarify the main market of grassland, clarify the property rights of grassland, establish the trading mechanism of carbon sink and form the transaction price. Therefore, it is necessary to establish corresponding property right system and trading system. We will formulate a regulatory system for the functioning of the carbon sink market. Like other markets, the market for carbon sinks cannot function without proper government regulation[15]. Therefore, it is necessary to establish and improve the relevant statistical system, reporting system, certification system, verification system, evaluation system, assessment system and reward and punishment system of the carbon sink market.

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