

# The analysis of Carbon finance based on the angle of sustainable development

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## Abstract

Carbon finance originates from international agreement. And the history of the development of carbon finance only about 10 years, the world has not yet formed a unified carbon trading market and it hasn't yet formed a true sense of the international carbon financial center. But in Chicago, London and other cities based on a good financial foundation or international financial center, the carbon trading market has started to develop. China is one of the largest emission reduction market over the next five years, and the annual amount of carbon trading will be more than 2 million tons, China should catch the historic opportunity of the China's sustainable development strategy at the service view to build our own international carbon financial center at the low-carbon era.

**Key words:** Carbon Finance; Carbon Exchange Market; CDM

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## 1. Introduction

With the arrival of 2012, for the one side, the first commitment of Kyoto Protocol is about to expiring, the developing countries will also face the stress of emission reduction obligations, and the Prime Minister Wen Jia-bao makes our promise: one unit of Gross domestic product (GDP) carbon dioxide emissions in 2020 will decrease by 40% to 45 of 2005 at the climate conference held in Copenhagen in 2009. China as the world largest emitter will undergo the unprecedented pressure to reduce the emissions. For another side, as is known to all, the global carbon market capitalization reached \$144 billion in 2009, and the global carbon market will grow to \$ 3.5 trillion by expected in 2020 and will be become the world's largest trading market take the place of oil market. China is likely to become the world's largest carbon market in the eyes of many developed countries. We must accelerate the construction of China's carbon financial system to catch the world's new economic growth point in the future at the situation of pressure and opportunity.

Our government paper "12th Five-Year Plan" clearly states that we should focus on energy conservation, improve the incentive and restraint mechanisms, accelerate the construction of resource-saving, environment-friendly production methods and consumption patterns, and enhance the capacity for sustainable development, raise the level of ecological civilization. And Mr. Hu also pointed out that the green growth cooperation to deep the Asia-Pacific region and green growth was the core content of the APEC Leaders' growth strategy, and it was also the trend of economic and social development in the recent APEC summit speech. Low-carbon is not only the last chance to save our human, but also is the way of Chinese entering into the ecological civilization. the best opportunity for people to enjoy green living and for the enterprise to achieve sustainable development. Today, the low-carbon choices will decide the way of our future.

Nowadays, The EU market has to go in front of the carbon finance market, the value of EU emissions trading system under the EU ETS EU quota (EUAs) has accounted for 84% of the total value of the global carbon trading in 2010. Although the United States has not yet signed the Kyoto Protocol, but Obama took office the United States in the international climate negotiations has

been very positive intervened into because of the tremendous value of the carbon market, and the United States, California Air Resources Board unanimously adopted carbon the total amount of the cap and trade regulations (cap-and-trade program) in the next few days. California has therefore become the first American state by the carbon cap-and-trade regulations. According to the regulations, California's carbon emissions have reduced to 1990 levels by 2020(the value of AB is less than 32). So we can see that the United States is also actively exploring and establishing their own carbon financial system.

If the three previous technological revolutions leading by the steam engine. electricity and computer. electrical era and the information age in the world, , the fourth technological revolution will be doubtlessly a new energy to lead the low-carbon era. Carbon finance will become a "fuse" to lead this era.

## 2. A review of the domestic carbon finance development status

So far, China has not yet established its own carbon finance and market system, but is mainly confined in OTC CDM projects, and China's carbon trading market needs to reach perfection right now. According to World Bank statistics in recent years, China has developed to become the dominant seller in the CDM. China has approved 3,154 CDM projects as of July 2011, and are mainly in the new energy and renewable energy conservation and energy efficiency. methane recovery and use. They are about 1560 successfully registered in the United Nations Clean Development Mechanism Executive Board, accounting for 45.67% of the total number of registered projects around the world. China has registered the project is expected by the certified emission reductions (CER) years of the issuance of approximately 328 million tons of carbon dioxide equivalent, accounting for 63.89% of the total worldwide, providing support for the implementation of the Kyoto Protocol.

## 3. The analysis of China's problems

Although China is the world's largest carbon seller,

there is a long distance to establish the carbon finance and carbon market system and there are many problems to be solved with sustainable development, as follows:

Firstly. China is the potential supply side of low-carbon industry chain in the future, and is still not pricing side, so is still most low-end in the global the carbon industry value chain by bearing the high risk and getting low income. That is mainly because: 1. this stage has not formed a unified carbon market, so there is no more a trading platform completely docking with the international market, and the low end. scattered original seller cannot form a joint force of the market and so the buyer in the international structure pressure is not a bargain. 2. it is asymmetric mastery of both carbon trading, foreign countries (mainly the EU carbon market) establish a relatively uniform carbon trading platform for buyers and so sellers in the secondary market to provide a more complete supply and demand information to reduce the two sides of the transaction costs. But our seller knew very little confidence in the carbon price. And our general awareness and operation of the carbon trading technology understanding is not in place, as well as higher foreign costs, since very few of investment institutions engaged in overseas investment in carbon trading business, let

alone provide information directly to our separate owners.

Secondly, our universal understanding of carbon finance as well as the low-carbon economy is wrong, which is mainly reflected in the following aspects: 1. The application of CDM low-carbon project structure is not reasonable, as disclosing by comprehensive site statistics EB, until October 2011, there are 579 CDM projects received a total of 442,519,835 tons of CERs issued, accounting for 58.25% of the total issued by the host country of CDM projects. Issued items emission reduction type distribution chart as shown below:

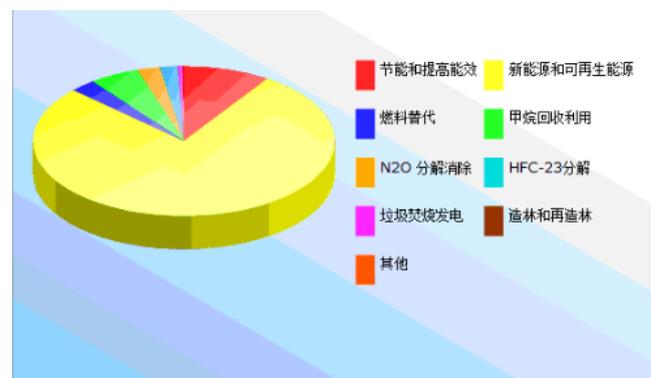


Fig.1 Issued items abatement type distribution

Table 1 Issued by the project emission reduction type of project number statistics

Emission reduction type	The number of items	Emission reduction type	The number of items	Emission reduction type	The number of items
Energy efficiency and improve performance	54	New energy and renewable energy	449	Fuel substitution	16
Methane recovery and use	31	N2O decomposition to eliminate	14	HFC-23 decomposition	11
Waste incineration power generation	3	Afforestation and reforestation	0	others	1

Among them, new energy and renewable energy projects, wind power projects 179, two solar projects 258 hydropower projects, the other 10.

#### 4. Conclusions

As is vividly described in the table 1, we can see from the data that the wind power and hydropower projects in

China account for the vast majority of CDM projects, but it is not sure for bring our real income of low-carbon debatable.

1. "Global Wind Energy Outlook 2010" report released by the Global Wind Energy Council and the International Environmental Group Greenpeace in Beijing says that China last year reached 30 million kilowatts of wind power capacity, and completed 10

years ahead of the originally planned 2020 installed wind power capacity of 30 million kilowatt target at the end of 2010. China's installed capacity of wind power has become the first in the world.

However, the rapid expansion speed of wind electricity industry appears a series of problems, such as wind power development and grid planning convergence problems of wind power and network. consumer satisfaction. the wind power and grid after the power system is not stable etc. So it cannot be truly to bring our income, if we only want to earn tradable carbon gains and will outweigh the benefit. That is not the real significance of the low-carbon.

2. Inaccurate understanding of carbon finance, carbon finance is not just available to greenhouse gas reduction reductions purchase of resources, it is also a key to open the door of low-carbon and sustainable development. According to statistics for the understanding of the "low-carbon economy, only a small number of people (8.2%) do not heard nor concern, 37% of the people through the media channels have heard but do not take the initiative to find out about more being investigated (44.5%) but understand the channels are limited not know much more concerned, while fully aware of are only 9.6%.

3. China's generally believe that carbon finance is more relying on the financial activities of the CDM, which the carbon finance delineated in a relatively small area, and the financial enterprises are not positive enough to join in the carbon finance projects, so it is very few investment to carbon. So far there is only one domestic Industrial Bank adopts the Equator Principles, and most commercial banks and financial companies is still in a wait-and-see attitude. In fact, China's carbon finance should be around to address climate change, including China, the development of low-carbon economy all financial activities. Chinese policies and actions to address climate change (2011), "The introduction of that China began to establish a carbon emissions trading market policy to gradually put in place, the future prospects of China's carbon emissions trading will become more clear in the end of the year, which will effectively discourage financial institutions doubts to actively promote the role of carbon financial markets in China.

## 5. Policy implications

The report released by Chinese policies and actions to address climate change (2011) recently has a very comprehensive formulate for our response to climate change policy, and it is also showed the determination of the development of low-carbon economy in China. They are mainly including the mitigation of climate change. adaptation to climate change the basis of capacity-building. participating in international negotiations to strengthen international cooperation as one participation of the whole society. There are the objectives, tasks and policy actions in the "12th Five-Year" period. China's participation in the climate change and the basic stance of the international negotiations. This Includes: mitigation of climate change. including optimizing the industrial structure. energy conservation development of low-carbon energy. control of non-energy activities greenhouse gas emissions and increase carbon sinks. and local initiatives to promote low-carbon development. The introduction of this policy has been more comprehensive and realistic points out the direction for the development of low-carbon economy in China. Mainly reflected in the following aspects:

Firstly. The development of carbon finance is no longer confined to also profit from CDM projects to encourage the development of carbon finance from a more comprehensive low-carbon perspective. This includes: Support the establishment of many related to environmental protection fund. Such as starting a new industry venture capital plan, initiated the establishment of the 20 venture capital funds to support energy saving and environmental protection, new energy and other emerging industries of strategic innovation in the field of business growth. China Green Carbon Foundation as well as increase forest carbon sinks.

Secondly. China should as soon as possible to format an international carbon finance policy from the national strategic level. The elements of the multi-level carbon market and efficient international carbon financial center can play an important role to expand carbon finance market or to promote green finance reform. risk prevention and so on .It is conducive to enhancing the level of China's carbon finance professionals. As well as the carbon market understand and analyze the

decision-making capacity of the information will help improve China's carbon credit market and to reduce effectively the cost of moving turning into a low-carbon economy system. They all promote China's financial institutions to achieve the strategy of going out. Foster international carbon financial center is an important part of achieving sustainable development in China, the establishment of carbon financial center will China's future made significant advantage in the low-carbon revolution.

Thirdly. Our development policy is from the top to down in order to promote the development of low-carbon economy, but if you really want to implement from the bottom-up to carry out, from regional to national. Recently, the General Office of the State Development and Reform Commission issued a notice regarding the development of carbon emissions trading pilot (Development and Reform Commission do the climate (2011) 2601), approved by Chongqing and Beijing, Tianjin, Shanghai, Hubei, Guangdong, Shenzhen and other seven cities in the carbon emissions trading pilot marked is the start of our country from the region to explore the country. But while the new rural construction, road go encircling the cities. Specifically, first of all, we should try to develop China's carbon standard, forcing companies to buy carbon credits when they have excessive carbon emissions, and this part of the funds as well as subsidies to the formation of the new rural green fund, the fund will be used to subsidize the construction of new rural Green Building. afforestation and construction of biogas digesters to help green energy saving projects. Secondly, we should encourage the use of green building materials in the new rural construction, which will contribute to the industrial development related to moderate to promoting China's industrial

structure adjustment.

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