# Conception of national carbon trading system. Take China as an example

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**Abstract.** China as a country of economic transition and a big country in the world. In the international trade, She passively accepts the price of the carbon transaction under great pressure from European and American developed countries to control greenhouse gas emissions. In November 26, 2009, the Chinese government announced that it was determined that the amount of carbon dioxide emissions per unit of GDP in 2020 was down by 40% - 45% compared to 2005.This is the inevitable requirement to change the way of development of our country and to realize the sustainable development of economy and society. At the same time, this also indicates that China will undertake the obligation of carbon emission reduction in the near future. From the experience of the international development of carbon trading, the establishment of a national carbon trading system is particularly urgent.

## Introduction

'Kyoto Protocol' is a supplement to the United Nations Framework Convention on climate change, which is is a global agreement to control carbon emissions and reduce the effect of a treaty on climate change.

'Kyoto Protocol' provides the carbon emission reduction obligations of developed countries. Due to the high efficiency of energy use, the optimization of energy structure, the use of new energy technologies in developed countries, the cost of energy saving and emission reduction is high compared with developing countries, where energy efficiency is low, the emission reduction space is large, the cost is lower. This leads to the same reduction in different countries have different costs so that the formation of price difference has shown out. Developed countries have the demand, developing countries have supply, a carbon trading market is thus produced.

Carbon market is a new market for controlling greenhouse gas emissions and promoting low-carbon development.it also is an index market to scientifically quantified greenhouse gas emission reduction effect to index through Carbon emissions and emission reduction measures[1]. Kos's transaction cost theory is the theoretical basis of the emission rights trading.

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To establish a carbon emissions trading market in China, including carbon emissions trading market, benefits in integration of various resources and information and helping to find the price through the market . the formation of mature and professional trading market not only can promote domestic enterprises in the pursuit of efficiency and pay attention to carbon emission reduction targets, improving the national emission reduction efficiency, but also a more favorable way to participate in the international market.

 

## Total control and trading system

National carbon trading center will decompose the total amount of emissions in 5 years and put into the carbon trading companies. In the first phase ,China learn from the EU project activities and approved greenhouse gases[3], including energy enterprises (with more than 20 MW of internal combustion engine industry, oil refining industry), the steel industry (2.5t per hour), the cement industry (more than 500t per day), the glass industry (more than 20t per day), the ceramic industry (more than daily output), pulp manufacturing plant (above 20t). This is to say,emission reduction quotas approved by the state. If the emission reduction quota was over fulfilled by an enterprise in the specified period of time, the part beyond can be sold to the company not complete the emission reduction quota within the specified period of time in the carbon trading market. Enterprises unable to complete the emission reduction targets will face high income tax penalties.

## Principles for the formulation of national emission reduction plans

*(1)*Must take into account the development of greenhouse gas emission reduction technology and the cost of emission reduction;
*(2)*The distribution plan fully considers the historical carbon emission data and emission reduction potential of the enterprise prior to the dispatch center;
*(3)*The implementation of the overall emission reduction targets should be considered in the formulation of the distribution plan;
*(4)*Consider changes in market competitiveness

## Company carbon emissions project management

Under this mechanism, the carbon emission reduction owned by enterprises will become a new asset of the enterprise, which can be carried out scientifically and then into the assets management of the enterprise. At the same time, enterprises need to set up the relevant carbon emission reduction project center, the main responsibility is to identify, design and management of carbon emissions reduction projects based on the national carbon emission reduction targets.In the phase of project identification, business mainly involved in the collection of information, the estimation of reducing emissions, studying calculation method ,taking acnowledge of the assessment of the development risk and cost of development ,at the same time ,relevant departments of the state need submit carbon emissions data and emission reduction technical data and other documents to National carbon trading center. At this stage, the enterprise should plan to evaluate the carbon emissions, to do a good job in planning for the project design. In project design stage, enterprises need to divide emission reduction projects for obligations or transactions,It also can choose to accept the investment of financial institutions[4], designing and developing the corresponding emission reduction projects, which be packaged into a higher value of emission reduction projects to the domestic and international markets for financial transaction. At this stage, the company needs to provide carbon emission projects, including capacity and price in each carbon emission to the National carbon trading center, then the National carbon trading center analysis the supply and demand of carbon emissions trading, and markets prices to promote the sale and reach an agreement。 In the project management stage ,.enterprise need to carry out the daily management of carbon emission reduction projects, process monitoring, and according to the actual emission reduction and emission reduction in the years to give a carbon emission reduction report, which is real-time submitted to the National carbon trading center and third party approved agency.

## Trading pattern of carbon emissions

*Bilateral transaction model*

Carbon trading center ranks the price of the two sides from the low to the high, determining the successful bidder and the average price of the bid, then promote two sides to set the agreement. Project products are mainly related to carbon emissions,options and futures.

## Major trading rules

*(1)*Trading Center for carbon emissions trading to provide trading systems, market systems and communications systems and other facilities, as well as information collection, publishing, clearing, delivery and other related services

*(2)*carbon emissions trading can be traded through the listing and trading of the agreement; the trading center according to the actual situation to adjust the transaction time

*(3)* Businesses involved in the exchange of transactions required to register as independent members and agents. Independent members can conduct independent transactions, the agent agent mainly conduct the agent issues.

*The relevant provisions of the transaction*

*(4)*The bid quoted price should include the project carbon emissions, the trading direction, the number of the principal, the price of the exchange, the other contents of the exchange.

*(5)* agreement transfer refers to the way two parties through the trading center to make a quotation and a inquiry of price to reach a consensus and confirm about the transaction .the two parties should have the same sale scale of carbon emission reduction and purchase funds**.**

*(6)*Agreement on the transfer price should be consulted between the two sides in the closing price of the day .

## Conclusion

Suggested that the state should establish a unified platform for emissions trading , carbon trading are all integrated into the trading platform , non- OTC , both to regulate the market , but also to reduce transaction costs between buyers and sellers

Financial support for the financial sector is very important CDM projects , China's commercial banks should learn from the experience of outstanding foreign banks , including working with them to improve their ability to deal with carbon finance business.

For the first time to participate in CDM projects companies to give policy and technical support , so that they get the benefit from the project , to improve their participation in CDM projects initiative.

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Encourage private agencies and financial institutions to enter , give full play to its role as a financial intermediary and trading intermediary , allows financial intermediaries to purchase or project owners to develop CDM projects , as well as the project owner to provide financial leasing , financial advisory , capital account management , purchasing , etc.

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