



Carbon Market Working Manual: To Increase the Sustainability of Carbon Offsets



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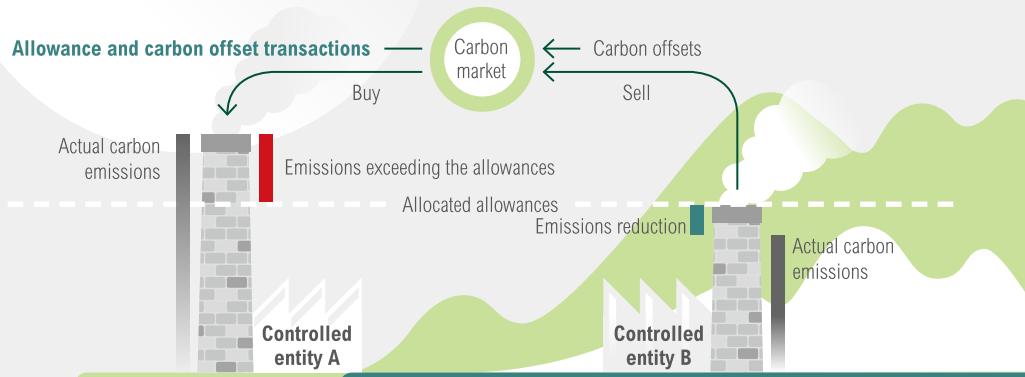
Why has

China chosen carbon market rather than carbon tax?

	■ CARBON MARKET vs. □ CARBON TAX
Total emissions	Capped with annual decrease Not capped, still increasing
Cost	More flexible with lower cost Lack flexibility, taxing by amount
Attitude of controlled entities	More acceptable, need adaptation to the complex rules Reluctant attitude toward tax
Renewable energy	Promoting Little positive effect
Energy and resource efficiency	Enhancing Little positive effect
International climate leadership	Enhancing Little positive effect
Carbon sink	Enhancing Little positive effect
Air pollution issue	Improving Little positive effect

The Chinese national carbon market has been established by the end of 2017 —— China has become the world's largest carbon market —— currently only covering the power sector, and it is expected to cover more sectors in the future.

The design of the carbon emissions trading system (ETS) generally includes two parts: 1) emission trading, i.e. allowance allocation and transactions under the cap; 2) trading of carbon offsets from carbon emission reduction or carbon sink projects.



Status quo of

China's voluntary greenhouse gases (GHGs)

emissions reduction project (CCER)

The National Development and Reform Commission (NDRC) issued the guiding regulation in June 2012 to provide rules for the registration, development and management of China's voluntary GHGs emission reduction projects. Carbon offsets generated from these projects are called CCER, i.e. the Chinese Certified Emission Reduction.



Most of the current CCER projects in China come from the Clean Development Mechanism (CDM) projects under the Kyoto carbon market. The logic of these carbon offset projects is that carbon emission reductions or carbon sinks in one place are validated and verified, and the same amount of carbon emissions can be offset elsewhere.

By end of 2016, the number of validated CCER project on the Information Platform of China's Voluntary GHGs Emissions Reduction reached 2,742; 861 projects had registered, among which 254 projects already issued CCERs, with total emission reductions amounting to 52,832,846 tCO₂e.

2,742

Validated CCER projects

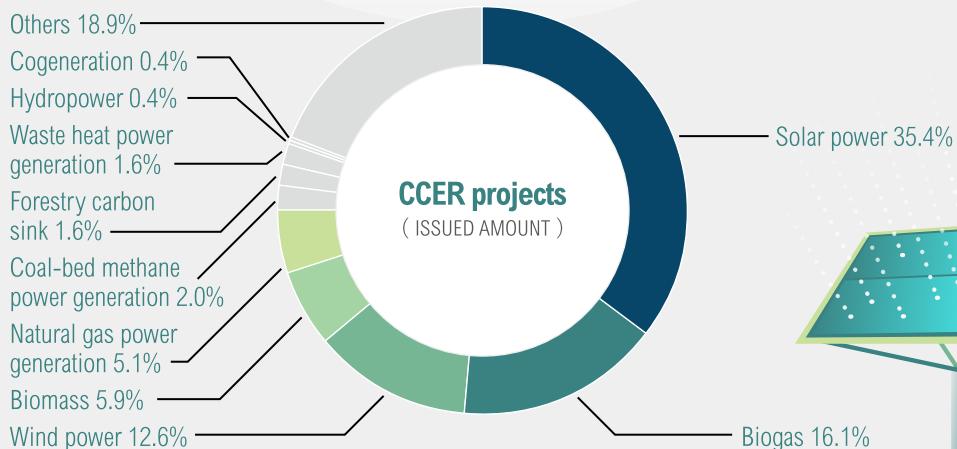
861

Registered CCER projects

254

Issued CCER projects

Issued amount **52,832,846 tCO₂e**





Potential Impacts of CCER Projects:

Gray Carbon Offset Project

Gray carbon offset projects: There are carbon offset projects in the carbon ETS that have massive amount of emissions reduction, but with potential environmental and social issues, such as the large hydropower, waste incineration power generation, nitrogen oxides (N_2O), and thermal power plant fuel substitution.

Features: No additionality, low environmental and social effectiveness, and violation of the principle of sustainable development.

According to CCER's transaction management regulation, CCER projects can be registered if they are not registered as a CDM project. This will directly lead to two possible problems:

- (1) The possibility of double counting is increased, i.e. carbon offsets are registered and issued in two or more registration systems. The CCER system mentions that the third-party organization needs to verify whether the project has been registered in other places;
- (2) Projects with issues flow back to China: Because these so-called 'gray' projects which were rejected in other ETS or had low demand internationally, most of them have already returned to the CCER pipeline.

GRAY PROJECTS IN THE CCER PIPELINE

Project type	Potential issues
Waste incineration	Unreasonable subsidies; environmental, health and social issues
Large hydropower	Immigration issues and ecological impact
HFC-23 decomposition	May produce more ozone-depleting substances
Nitrous oxide (N_2O) decomposition	Carbon leakage problems; hinders efficient technology applications
Coal-fired power plant related	Encourage the use of more coal

Case study of gray carbon offset project:

Municipal solid waste incineration project is not suitable for entering the carbon market

The original intention of the carbon offset project should be a means to attract investments in carbon emissions reduction and carbon sink projects in developing regions, to promote the transfer of advanced technology, and to make contributions to local sustainable development. However, similar to many other gray projects, waste incineration power generation projects have problems in meeting the basic entry requirements of the carbon market.

- **Waste incineration is not sustainable**

Waste incineration does not meet 8 of the 17 UN Sustainable Development Goals (SDGs)



- **Issues of waste incineration project in arguing for an eligible carbon offset project**

- The preferred measure of low-carbon waste treatment is not to incinerate
- Wrong baseline selection in project design document
- Waste incineration project is no longer additional

Waste incineration projects do not meet the principle of sustainable development. It is not a preferred measure for low-carbon waste management, nor can it satisfy the argument for CCER projects. Therefore, it is not suitable for entering the carbon market.





Improve the sustainability of carbon offset projects

International organizations have made efforts to improve the quality of carbon offset projects. Various policy advocacy groups and environmental research institutions have proposed quality evaluation criteria for carbon offset projects.

According to the criteria of sustainable development, civil society organizations have developed different standards for evaluating the quality of carbon offset projects, including the Gold Standard, Climate, Community and Biodiversity Standard, and Social Carbon Standard. These three voluntary standards focus on different sectors while all focus on improving the sustainability of carbon offset projects.

Gold Standard[®]

Climate Security & Sustainable Development



The Climate, Community & Biodiversity Alliance



SOCIALCARBON[®]

Suggestions to the Chinese CCER system

In order to avoid the possible negative impact of the controversial carbon offset projects and only allow those offsets which are true, measurable and additional, the carbon market regulatory authorities should consider the following suggestions:



Strengthen the management of CCER project system and enhance information disclosure



Make requirements on the categories and sources of carbon offsets that are allowed for transactions



Effectively adjust the supply and demand and price of carbon offsets

■ United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC is an international treaty that was agreed in 1992 in Rio de Janeiro to stabilize the concentration of greenhouse gasses in the atmosphere. The UNFCCC itself does not state which countries should reduce greenhouse gasses and by when. That is why Kyoto Protocol was agreed in 1997, in order to make the reduction legally-binding.

■ The Clean Development Mechanism (CDM)

CDM is one of the three flexible mechanisms contained in the Kyoto Protocol. It allows entities from Annex I (developed) Parties to develop emission-reducing projects in non-Annex I (developing) countries, and generate tradable credits corresponding to the volume of emission reductions achieved by that project.

■ China Certified Emission Reductions (CCER)

CCER is the Chinese carbon offsets from emission reduction and carbon sink projects whose voluntary emission reductions approved by the regulatory authority. According to the offsetting mechanism, CCER, as a supplement to the allowance, can be used for compliance by the controlled entities to offset their carbon emissions.

CDM/CCER

KEYWORDS AND

ABBREVIATIONS



■ Gray carbon offset project

Gray is relative to green. Gray projects are those carbon offset projects that do not have additionality, show low environmental and social effectiveness, and violate the principles of sustainable development.

■ Carbon sinks

Generally, a sink refers to something that absorbs carbon dioxide, such as forest, grassland, agricultural land or ocean. However, this may be expanded in the future to include other types, such as Carbon Capture and Storage (CCS).

■ Project Registration

Registration is a formal process by which the regulatory authority accepts a carbon offset project proposal. After registration, greenhouse gases (GHGs) emissions reduction will be monitored and verified, and carbon offset credits will be issued.

■ Methodology

A methodology is a set of requirements that states how GHGs should be reduced and measured in carbon offset projects. They vary in employment depending on the project type and size. There are many methodologies designed for different project types and sizes.

■ Project Design Document (PDD)

The PDD is the key document in the CDM/CCER process as it includes all relevant information about the project. As soon as this document is handed to the regulatory authority, the public consultation period starts. All the assessments by the third party for validation, verification and registry will be based on this document.

■ Additionality

A project is additional if it was built only because of the extra income from selling carbon offsets generated. If a project would have happened anyway, then its offsets do not represent any reduction in total emissions.

■ Baseline / Business-as-usual (BAU)

Baseline emissions are calculated to estimate how many emissions would be generated in absence of a given carbon offset project. The baseline concept is critical to assess whether the project meets additional criteria, and how many carbon offsets can be issued.

■ Leakage

Leakage refers to the increased GHG emissions that occur outside the project boundary.

CARBON

MARKET

KEYWORDS



Carbon Emission Trading System (ETS)

The ETS is a market-based emission reduction policy tool used to reduce GHGs emissions, and follow the 'Cap and Trade' principle. Because the ETS uses market means to reduce carbon emissions, it is often simply referred to as carbon market or carbon trading.

Controlled entity

Those companies or organizations, in some cases the installations, that are determined by the regulatory authority to be included in the ETS, most of them are from the energy and industrial sectors with large GHGs emissions.

Allowance

Allowances are the allowable emission targets initially allocated by the carbon market regulatory authority to controlled entities. Usually an allowance represents one ton of CO₂ emission. There are two basic methods for determining allowance: the grandfathering method based on historical emissions for a given period, and the benchmarking method based on product or industry emission performance.

Carbon offset mechanism

The carbon offset mechanism refers to the emissions reduction mechanism that reduces carbon emissions through specific projects (activities outside the scope of ETS). Carbon offsets can also come from carbon sinks in terrestrial ecosystems. Typical offset projects include renewable energy, energy conservation, waste management, and afforestation projects.

Main references:

- 1 The Information Platform of China's Voluntary Greenhouse Gases Emissions Reduction
- 2 The World Bank Reports: State and Trends of the Carbon Market
- 3 International Carbon Action Partnership (ICAP): Carbon Market Status Reports
- 4 The Clean Development Mechanism (CDM) Toolkit by the Carbon Market Watch
- 5 Working Manual on China Carbon Market by REEI

ABOUT ROCK ENVIRONMENT AND ENERGY INSTITUTE

The Rock Environment and Energy Institute (REEI) was established in July 2012. Since its establishment, RREEI has been committed to pursuing a more inclusive, just, and sustainable society through the promotion of environmental policy, based on critical reasoning, Integrating social justice, environmental sustainability and public health. RREEI produces studies and reports on the carbon market, energy policy, clean air policy, and municipal solid waste management.

Vision:

We advocate for environmental policy making mechanisms that are based on procedural justice and rational critique. We aim to make our society become more inclusive, just and sustainable.