Case Study Report:
China Clean Development Mechanism Fund

A case study providing inputs to discussions in Asia-Pacific region on the design and management of National Climate Funds, jointly prepared by UNDP and the CCDMF.
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Introduction

This paper aims to enrich knowledge sharing about the establishment and management of national climate funds (NCFs), which is organized by the Asia-Pacific Community of Practice on Climate Finance. To provide a technical input to the knowledge sharing, UNDP commissioned seven case studies on existing national funds in the fields of environment, conservation, energy, climate change and development. This paper reports the lessons learned extracted from the establishment and management of the China Clean Development Mechanism Fund (CCDMF), which is one of seven national funds across the Asia-Pacific region selected as a case study.¹

The CCDMF is selected to provide an interesting case for countries in Asia-Pacific due to the following characteristics:

1. **The role of the CCDMF within the overall climate finance architecture in China** – As of the end of 2011, the CCDMF managed RMB 10 billion with the granting and investment portfolio of approximately RMB 285 million (US$ 4.5 million) and RMB 1.6 billion (US$ 253 million) respectively. Considering the amount of resources invested in energy efficiency, renewable energy and environmental protection by the Chinese central government (around RMB 170 billion in 2012),² the CCDMF should play a strategic role in overall climate finance in China to be of added value. The CCDMF is currently focusing on leveraging private sector engagement and supporting policy research and capacity building in addressing climate change in China.

2. **The source of capital** – The source of capital of the CCDMF, which is injected regularly by government levies collected from CDM projects, is a unique example of an innovative source of revenue for financing climate actions. The collection of the levies from CDM projects was mainly driven by the intention of the government to prevent industries from producing excessive HFC (to generate certified emission reductions), particularly considering the magnitude of CDM HFC-23 projects in China. The revenues collected are specifically earmarked to finance climate actions in the country.

3. **Innovative programs funded by the CCDMF to leverage more resources** - The revenue collected by the CCDMF is used mostly to finance investment programs to leverage additional resources from the private sector and to test out innovative financial and economic instruments to support actions to address climate change. Another endeavor is conducted together with commercial banks through a wealth management program to promote investment in energy efficiency and renewable energy.

This report provides the summary of the overall design of the CCDMF and a short description about the process of the establishment and the management of the CCDMF. A brief analysis of the lessons learned from the establishment and management of the CCDMF are then presented. The case study analysis involved: literature review to set the scope of the study and in-depth interviews with relevant stakeholders: 1) the Fund Manager and Staff from the CCDMF, 2) board members: the Ministry of Finance (Deputy Director, International Financial Institution Division III), and the China Meteorological Administration, and 3) beneficiaries: the Energy Research Institute (affiliated to NDRC) and the Huafeng Group of Meteorological Audio & Video Information (affiliated to the China Meteorological Administration). Prior to finalization, the report has been reviewed by the CCDMF team and the UNDP China Country Office.

¹ National funds selected for the case study analysis are: Bhutan Trust Fund for Environmental Conservation, China CDM Fund, Cambodia Climate Change Alliance Trust Fund, Thailand Energy Conservation Promotion Fund, Lao Environmental Protection Fund, Micronesian Conservation Trust and Tuvalu Trust Fund. [http://www.snap-undp.org/elibrary/default.aspx](http://www.snap-undp.org/elibrary/default.aspx)

² Source: [http://www.gov.cn/gzdt/2012-05/24/content_2144823.htm](http://www.gov.cn/gzdt/2012-05/24/content_2144823.htm)
The design of the CCDMF at a glance

The role of the CCDMF in financing climate actions in China

The establishment of the CCDMF was driven by the characteristics of CDM projects in China. Of particular importance is the magnitude of CDM HFC-23 projects in China, hosting 11 out of 19 CDM HFC-23 projects worldwide. Certified Emission Reductions acquired by phasing out HFC-23, whose Global Warming Potential (GWP) is 11,700, are therefore significant. To avoid industries benefiting excessively from phasing out HFC-23, the government is applying levies to CDM HFC projects in China and also other types of CDM projects with a lesser extent.

Channeling revenues collected from CDM projects through the traditional budget system would make it difficult to track the use of the revenues, as they would become part of the overall state budget. There were concerns that this could become subject to international criticism of using CDM projects to generate state revenues. The idea of the establishment of the CCDMF therefore came up following the meeting between Ministry of Finance, National Development and Reform Commission (NDRC), Ministry of Foreign Affairs, and Ministry of Science and Technology. Managing the revenues collected from CDM projects through the CCDMF is a way to ensure that the government allocates the collected levies to address climate change issues in the country.

The CCDMF serves specific purposes in the overall climate finance architecture in China. The CCDMF specifically provides support for policy studies and leverage private sector contributions and investments in climate mitigation and adaptation projects in China. Three main strategic focuses of the CCDMF in supporting climate actions in China are:

1. Providing immediate supports for line ministries to conduct policy studies, international negotiation, capacity building and public awareness. The CCDMF provides specific support through its granting program for line ministries to carry out the aforementioned activities, which are considered as immediate actions to be implemented to address climate change.
2. Piloting innovative economic and financial instruments to reduce risks and remove market barriers in climate investments. The Ministry of Finance is then expected to allocate state budget to support the application of cost effective instruments that have been proven well functioning to address climate change at the national level.
3. Exploring and developing new models for bridging between public and private actors to leverage more capital support for China’s efforts in combating and adapting to climate change. The fund positions itself as a policy institution that integrates government and market functions and pursues direct cooperation with business partners in the market to address issues of climate change.

The legal status

The CCDMF is a public institution that is affiliated with the Ministry of Finance. The CCDMF Management Center, which is running the day-to-day activities related to the collection, management and use of the CDM fund, is subject to the supervision of the Ministry of Finance. The Board of CCDMF is an interministerial body, which reviews the strategic planning and the regulation of the fund. (See discussion on the governing body of the CCDMF in detail in the next section).
As a public fund, the CCDMF adopts market-oriented operation model and cooperates closely with companies and commercial financial institutions. As an innovative climate financing mechanism, the China CDM Fund will combine government fund, international assistance and social funding and serve as a platform for financing, action, cooperation and information gathering and exchange.

**The model: a revolving fund**

The CCDMF is a revolving fund that receives regular capital injection from levies collected by the government on CDM projects in China. Other possible sources of revenues are donations from international and domestic institutions, fiscal allocation and operating revenue of the fund. As of now, the revenues mostly come from the levies on CDM projects, which are totaling approximately **RMB 10 Billion** as of the end of 2011 from a total of 800 CDM projects currently receiving certified emission reductions (CERs).

The rates of levies applied to CDM projects in China are:
- 65 percent of levy on CER transfer benefit from HFC projects
- 30 percent of levy on CER transfer benefit from nitrous oxide (N₂O) projects related to adipic acid production
- 10 percent of levy on CER transfer benefit from N₂O projects related to the production of nitric acid
- 5 percent of levy on CER transfer benefit from perfluorocarbons (PFC) projects
- 2 percent of levy on CER transfer benefit from other CDM projects.

To understand the composition of the revenue from the government levies of CDM projects, out of the total RMB 10 billion (US$ 1.5 billion) of the levies collected by the end of 2011, the HFC and the N₂O projects made up the highest portion of the collected revenue, which was 89.2 percent and 9.3 percent respectively. The remaining CDM projects only contributed to around 1.5 percent to the overall revenue.

Using a portion of the total revenues collected, the CCDMF implements investment projects to support industrial activities to pursue climate mitigation projects. The investment projects include approaches such as equity investment, entrusted loans, financing guarantees and other government-approved approaches. The return of the investments then allows the CCDMF to provide grants and finance climate-related efforts in China, particularly for line ministries dealing directly with the issues of climate change. Grant projects cannot be financed by the CCDMF main capital. Various programs currently implemented by the CCDMF can be summarized below (Figure 1):

1. **Grant Projects** – in 2008, the CCDMF launched its first 14 grant projects, totaling of RMB 25 million (US$ 3.9 million). The projects mainly focus on policy studies, research and public campaign on climate change. In 2011, another 125 grant projects were prepared for launching, with a total amount of RMB 260 million (US$ 41 million). The projects will formulate climate action plans and compilation of GHG inventories in all provinces in China as well as to develop carbon trade pilots in five provinces and others.

2. **Investment projects** – directly working with Chinese enterprises, as of the end of 2011, the CCDMF has provided concessional loans for 32 projects to reduce emissions in 14 cities and provinces in China. From these projects, the CCDMF have leveraged RMB 9.5 billion (US$ 1.5 billion) from the total investment made by the CCDMF of RMB 1.6 billion (US$ 253 million).

3. **Wealth Management** – for the surplus capital, the CCDMF pursue risk-free wealth management such as making deposits in commercial banks. The CCDMF is not allowed to invest in stocks, stock-investing mutual funds, real estate, futures and other financial derivatives. Another form of wealth management activity pursued by the CCDMF is a contract-based cooperation model with commercial banks where it can leverage contributions from commercial banks for energy conservation and emission reduction projects. The CCDMF is working with the China Zheshang Bank and Industrial Bank respectively in the area of wealth management for clean development, which attract 100 percent additional commercial capital to support China’s climate efforts.
The CCDMF currently has a rough planning for the portion of financial resources allocated for grants, investments and those retained as cash. However, as the total resources managed by the CCDMF are increasing over time, there is no fixed proportion of allocation between grants, investment and cash. In early 2011, the total revenue managed by the CCDMF was RMB 8 billion and the investment portfolio was 1.6 billion. This year, the total revenue is RMB 10 billion and with stronger capacity, the CCDMF wishes to enlarge investment portfolio. The CCDMF aims to allocate about RMB 100-200 million annually for grant projects, although the line ministries expect to use as much resources as possible for grant projects. However, the CCDMF Management Center has to ensure financial discipline in the allocation of resources for grant projects to ensure sustainability.

**Governing body and beneficiaries**

The China CDM Fund is governed by the Board of the China CDM Fund and the China CDM Fund Management Center. The Board is an inter-ministerial body consisting of 7 line ministries responsible for climate actions in China: National Development and Reform Commission (NDRC), Ministry of Finance, Ministry of Foreign Affairs, Ministry of Science and Technology, Ministry of Environmental Protection, Ministry of Agriculture and China Meteorological Administration. The NDRC, responsible for climate change coordination in China, has been appointed by the State Council as the chair of the Board with the Ministry of Finance as the vice chair. The Board reviews the basic regulations as well as strategic planning of the fund, grant applications, annual budget plans, and financial accounts.

The CCDMF Management Center, as a daily administrative body, is responsible for collection, management and use of the fund under the guidance of the Board. The CCDMF Management Center consists of several committees:

- **Strategic Development Committee** of the Management Center is responsible to research and provide recommendations on mid- and long-term development strategies, major investment decisions, financing plans and major capital.

- **Investment Review Committee** is a deliberative and executive organ of the Management Center that is mainly responsible for investment planning and the evaluation of investment projects before decisions are made. The committee is under the
supervision of the Management Center and its assessment result will be taken as a reference by the Management Center while making investment decisions.

- **Risk Control Committee** is an ad hoc deliberative organ of the Management Center that is responsible for monitoring and managing the fund’s systematic and structural risks as well as the investment risk.

**Selection of grant projects** -- The project cycle for grant projects is usually started by a call for project proposals, which will be conducted by line ministries. These ministries will gather proposals from their affiliated organizations. Proposals are then sent for screening during the Board meeting, which is chaired by the NDRC. A group of experts consisting of financial, managerial and technical experts review the qualification of the applicants, the completeness of the proposals and the feasibility of the projects and the justifiability of the requested grant amount. The group will formulate and submit its opinion to the Board of China CDM Fund for deliberation and verification. While the Board will be responsible for screening the technical components of project proposals, the CCDMF will be responsible on the financial aspect of the proposals. The Board will verify the project and put forward its opinion of shorted-list projects and their corresponding grants. The NDRC and Ministry of Finance will jointly approve the annual list of grant projects and the amount of grants based on the opinion of the Board. Following project approval, project proponents will then sign contracts with the CCDMF and the NDRC.

**Selection of investment projects** -- The CCDMF identifies investment projects in cooperation with provincial finance bureaus. An applicant should then submit the application to the CCDMF Management Center through its provincial finance bureau. The provincial finance bureaus will conduct the necessary due diligence, where the CCDMF will provide management fees to the bureaus for the service they provide. The Management Center will consider national economic, industrial and climate policies when reviewing investment projects. For an investment project that is larger than RMB 70 million, approval from the Board is required as it is considered a strategically important project. However, projects with the total value of lower than RMB 70 million will be approved by the CCDMF. The CCDMF has more decision power for reviewing and approving investment projects, since the investment projects usually face more financial risks, therefore, expertise in project selection of investment projects is required to mitigate such risks. The CCDMF needs to ensure the money put into the investment projects is recovered and if possible with some interests.

**The establishment process of the CCDMF**

The process of establishment of the CCDMF was started in 2005 following to the decision that the revenues from the CERs generated by CDM projects in China should be shared between the government and project implementers. Following after the announcement on the percentages of levies to be collected on CDM projects in September 2005, the Ministry of Finance then took the lead in the preparation work for establishing the CCDMF, which was also joined by the NDRC, the Ministry of Foreign Affairs and the Ministry of Science and Technology. The preparation took over a year with a joint effort of several ministries. Technical assistance was also provided by the Asian Development Bank (ADB) to help the CCDMF design the governance structure, compiling the basic regulations, improving management capability and others. In May 2006, a joint application for establishing the CCDMF and its Management Center was submitted jointly by the Ministry of Finance, the NDRC, the Ministry of Foreign Affairs, and the Ministry of Science and Technology to the State Council. In August 2006, an official approval was signed by principal leaders. In March 2007, the Management Center of the CCDMF was registered at State Administration of Public Institution Registration. Soon after, the CCDMF officially opened its exclusive account.

During the first meeting of the China CDM Board in 2007, the work on formulating rules and regulations of the CCDMF was officially launched. In the same month, the fund started its business operation and received its first national revenue inflow. In October 2008, ADB funded another technical assistance project for capacity building, including formulating rules, regulations and administrative

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3 The facts presented in this Section draws heavily from an ADB report on the CCDMF (2012)
manuals, designing and building IT systems, training staff, carrying out publicity activities at home and abroad and others. In the same year, the Board of China CDM Fund approved the first batch of 14 grant projects.

The establishment process of the CCDMF took 3 years from the initiation of the idea to the launch of the first batch of grant projects. The up-scaling of the CCDMF portfolio accelerated following the issuance of the *Measures for Management of China Clean Development Mechanism Fund* in 2010, which is approximately five years following the formulation of the idea of establishing the CCDMF. The Measures, which was promulgated by the decree of seven ministries sitting in the Management Board, regulates an overall business blueprint for the fund including the administrative organizations and its responsibilities, fund raising, and fund utilization.

**The management of the CCDMF**

*Grant projects*

The CCDMF currently applies a top-down approach in the selection of grant projects. To date, the calls for proposals have been limited to institutions affiliated to line ministries currently sitting in the Management Board. The government aims to balance transparency and efficiency in screening project proposals to be funded by the CCDMF. The existing approach is considered efficient because these ministries have the mandate to deal with climate change issues and are considered as the most knowledgeable to develop climate related projects. The CCDMF realized that the granting mechanism has just newly established and improvement is required, however, the CCDMF may not go for a public-wide call for proposals in the future, instead a guideline will be developed for screening proposals submitted by line ministries. The guideline, which will be developed in consultation with line ministries, will identify the priorities to be supported by the CCDMF.

The size of grant projects ranges between RMB 200,000 to RMB 6 million. Projects usually have a duration of one to two years. Following the signing of the projects, generally, payments are made in three stages. The first 40 per cent is disbursed upon the signing of the contract. The subsequent 40 percent is disbursed after the mid-term project evaluation, where the NDRC together with the line ministries conduct the monitoring of the outputs and results of the project, while the CCDMF will monitor on the project’s finances (including conducting financial audit). Following the satisfactory acceptance of the reports and the monitoring results, the second payment will then be disbursed. During the closing of the project, the NDRC will also check the results achieved, while the CCDMF will conduct financial audit. If all is found satisfactory, the final payment of 20 percent will be released.

The grant projects mostly aim to support research and policy studies. These are therefore relatively simple in terms of project implementation since these normally do not involve complex and/or large scale procurement of goods and equipment. Project outputs are to be completed within the time frame agreed upon with the respective line ministries.
Investment projects

The CCDMF currently implements and explores three main programs for its investment projects, including:

Concessional loans. In cooperation with local governments, commercial banks and large scale state-owned enterprises, the Management Center provides eligible companies with concessional loans with a rate lower than the interest rate of the People’s Bank of China (PBC). The CCDMF has launched the concessional lending model in cooperation with local governments in 14 cities and provinces including Shaanxi, Shanxi, Hebei, Hunan, Fujian, Jiangsu, Shangdong and Jiangxi, and after coming into production, the projects are estimated to reduce emission of greenhouse gases by 10 million tons of carbon dioxide equivalent (CO\textsubscript{2}e) annually.

The transfer of money for concessional loans will be made 100 percent upon the signing. The CCDMF will make timely and accurate statements about the financial status, the results of capital utilization, and return on assets of investment projects according to the general accounting principles. The project implementer should use the capital based on the content, the purpose, and the timetable of the project set in the contract. At the end of the project, the center will assess the project’s capital utilization, return of capital and project performance, and submit the assessment to relevant administrative authorities and the Board of the CCDMF.

Equity investment. Equity investment is money that is invested in a firm by owing common stock (ordinary shares). Investors recover its money only when they sell their shareholdings to other investors, or when the assets of the firm are liquidated and proceeds distributed among them after satisfying the firm’s obligations.\textsuperscript{4} The CCDMF is one of the largest shareholders of the Shanghai Environment and Energy Exchange. This marks the start of the CCDMF’s equity investment, as well as its participation in domestic carbon market planning and development.

Risk guarantee, the Management Center is currently exploring business model for financing guarantee together with professional guarantee agencies. For instance, the CCDMF is currently examining a Partial Risk Guarantee (PRG) for specific investments in energy efficiency (together with International Finance Corporation and ADB). PRGs usually cover private lenders against the risk of failing to perform its obligations with respect to a project. PRGs ensure payment in the case of default resulting from the nonperformance of contractual obligations. PRGs typically cover outstanding principal and accrued interest of a debt tranche in full. Payment is made only if the debt service default is caused by risks specified under the guarantee.\textsuperscript{5}

The monitoring and evaluation

The recipients of grant projects should implement the projects in accordance to the contract and to guidance from the NDRC, the Management Center and the respective line ministry. These institutions will be responsible for supervising and inspecting the project implementation. All grant projects should submit two reports (mid-term and final reports). Payment will then be made subject to clearance of the submitted reports. For investment projects, the Department of investment within the CCDMF will monitor the investment projects. Every year, local governments will send a report covering both the financial and technical performance of the projects. Irregularities in the implementation process will be penalized and punished by the NDRC and the Ministry of Finance pursuant to relevant regulations.

\textsuperscript{4} Source: http://www.businessdictionary.com/definition/equity-investment.html
\textsuperscript{5} See more examples of the Partial Risk Guarantee on: http://web.worldbank.org/external/default/main?theSitePK=3985219&pagePK=64143534&contentMDK=20260268&menuPK=64143504&piPK=64143448
A database for all project outputs is maintained. All papers, books and videos are filed. The CCDMF is planning to summarize best experiences for further dissemination, where an annual book summarizing all project outputs will be issued.

**Lessons learned**

*The role of the CCDMF in overall climate finance in China*

In the case of the CCDMF, it has purposely focused on providing grants for projects to support activities related to policy studies, research, capacity building and public awareness related to climate change. More importantly, the Fund has implemented several investment projects to generate contributions from the private sector and to test financial and economic instruments to ensure cost-effective approaches to address issues of climate change in China.

The CCDMF focuses particularly on leveraging private sector engagement to finance climate actions by bridging between the government and the market. This focus will ensure the CCDMF to play a long-term role in the China’s climate finance because national budget support cannot cover all the cost of green and low carbon development both in short term and long term, therefore various financial sources, especially those from the private sector, are required. The CCDMF therefore plays the functions of: (1) creating new efficient financing instruments/approaches for the government, which could be followed by public budget in order to enhance its efficiency; (2) attracting financial sources from private sectors to be involved in green and low carbon activities.

*The source of capital*

The case of the CCDMF provides an example of innovative sources of capital to finance climate actions and investments in a country. The levies collected from CDM projects in China was mainly driven by the government’s intention to regulate CDM projects so that industries are not encouraged to produce more waste in order to obtain more CERs. By applying the levies particularly on the HFC and N₂O projects, the government aims to regulate the behavior of relevant industries and at the same time it generates revenues for the government that can be further allocate to address climate change. Applying the same principle can also help other countries to identify the potential sources of capital for financing climate actions.

The source of capital for a national fund needs to be sustainable at least to cover the operational costs of a fund. If the magnitude of resources collected is not as significant as what is needed to address climate change, the fund can focus specifically on leveraging contributions from the private sector or other potential sources. To further increase the amount of capital, the CCDMF allocates most of its resources investment projects, while grant projects are financed only by the interests generated from the CCDMF operations. This approach ensures that the total amount of capital will not be depleted.

*Innovative programs*

The CCDMF has been very active in exploring potential financial or economic instruments to find cost-effective programs in climate actions. As previously mentioned, several instruments are currently implemented and explored are: concessional loans, equity investment and financial risk guarantee. The application of these instruments is important not only to leverage more resources but also to change behaviors of particular stakeholders.

- **Concessional loans and equity.** By providing a seed money (in the form of a soft loan) for a project proposed by a Chinese enterprise, the CCDMF can leverage larger contribution from the company for specific projects addressing climate change in
China. For instance, by providing RMB 50 million to a company (assuming 20% of the total capital for the energy efficiency project), the project can leverage additional RMB 200 million (the remaining 80% of the capital) from the company.

- **Financial risk guarantee.** The fund covers creditors for specified risks arising of a particular project. One possible form is loss-sharing agreement between the fund and a bank or a firm in which the CCDMF will reimburse it for a portion of the principal losses incurred in a portfolio of eligible assets. This will help firms to lessen the burden that may generate from the risks of pursuing projects in climate mitigation and adaptation.

The uses of these different programmatic instruments will depend entirely on the intended beneficiaries. While the above instruments are useful to engage the private sector in financing climate change actions, there is also a need to provide financial assistance for stakeholders at the community level to address climate change, which may require a different approach. Therefore, a national fund for climate change should be innovative in developing instruments to be financed considering specific characteristics of beneficiaries.

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