



Partnership for Market Readiness

Expression of Interest and Questionnaire on Market Readiness Capacity China

January 31, 2011

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and
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China**

Content

Introduction - Capacity building needs assessment: How to get started?	3
List of acronyms	4
A. Expression of interest	5
B. Questionnaire on market readiness capacity	8
(i) Policy, legal frameworks and institutions.....	9
Institutional setting in the government for climate policy.....	9
Integration of climate mitigation issues into overall national policy	9
Administrative relations with the UNFCCC	10
National Communication under the UNFCCC	11
CDM/VER project development capacity	11
Relevant environmental/energy related policies and legislation.....	12
Experiences with environmental (or other) trading schemes to meet policy objectives.....	14
Institutions for ensuring compliance with regulation	15
Previous capacity building activities related to GHG mitigation and market instruments	16
(ii) Measurement, reporting and verification (MRV)	17
National (and sub-national) GHG inventory and GHG accounting.....	17
Analysis of the national (or sub-national) mitigation potential	18
Tools and skills for data management of a domestic trading system (and/or crediting system)	19
Independent verification for a trading (or crediting) system.....	20
Previous or related current capacity-building activities.....	20
(iii) Understanding of the sector(s).....	22
Overall data availability.....	22
Determination of future scenario(s) and mitigation potential.....	23
Organization of the sector.....	23
(iv) Non-governmental actors.....	25
Awareness	25
Data availability	25
Application of quality management systems	26
Technological capacity at source level	26
Capacity of financial institutions	26
Support for compliance with regulation	27
Previous capacity-building activities	27
Annex 1: Market instruments being discussed internationally	28

Introduction - Capacity building needs assessment: How to get started?

This document is meant to provide a framework for countries to express their interest in participating in the Partnership for Market Readiness (PMR)¹. It contains a series of questions designed to help countries make an early assessment of opportunities to use market-based instruments² within their national and/or sectoral mitigation strategies, their existing capacity and what gaps may need to be filled. Capacity is a central element in the overall process to implement market-based instruments, both in the design and implementation phase. The individual needs for additional capacity vary substantially depending on the starting point of a country, the selection of instruments and the scope of the envisaged implementation.

The process is divided in two parts.

A. The **Expression of interest**, which includes an official cover letter and a policy statement, provides an opportunity for a country to formally seek support from the PMR and express its interest in using market instruments as a potential mechanism to achieve climate mitigation actions within its national political context.

B. A **Questionnaire** supports the Expression of Interest. The Questionnaire is used to provide detailed technical information on the country's existing capacity to implement market mechanisms. While it is not required to respond to all the questions, interested countries are encouraged to provide as much information as possible in order to shed light on their domestic contexts and provide an understanding of their respective market readiness capacity. The questionnaire covers five areas:

- *Policy, legal frameworks and institutions*: this section covers the existing policy framework, national policy-making processes, and institutions related to climate change which form an important part of the relevant government capacity – crucial for the effectiveness of any policy instrument, especially market-based instruments. This section looks at regulatory capacity, links to the UNFCCC, experience with the Clean Development Mechanism (CDM), and other environment-related market-based instruments.
- *Measurement, reporting and verification (MRV)*: this section provides an overview of government capacity and existing procedures for data management and MRV of energy use and GHG emissions. This is important both for the use of market instruments, but also for assessing non-market based mitigation actions.
- *Understanding of the sector(s)*: this section is intended to provide a more detailed insight related to individual sectors, particularly with respect to government capacity, data availability and organization of the sector.
- *Non-governmental actors*: while the focus of the capacity needs assessment is clearly on public capacity, to successfully implement mitigation actions, especially market-based instruments, a solid capacity base within non-governmental actors is essential. This section therefore assesses this capacity, to enable a government to evaluate the overall situation and capacity building needs within the country.

¹ The reader should refer to the design document of the Partnership for Market Readiness for a detailed description of the PMR.

² For reference purposes, Annex 1 contains an overview of market instruments being discussed internationally.

List of acronyms

CDM	Clean Development Mechanism
DNA	(CDM) Designated National Authority
DOE	Designated Operational Entity
GHG	Greenhouse gas
ISO	International Organization for Standardization
JI	Joint Implementation
LEDS	Low emissions development strategy
MRV	Measuring, reporting and verification
NAMA	Nationally Appropriate Mitigation Action
PMR	Partnership for Market Readiness
VER	Voluntary Emission Reduction
UNFCCC	United Nations Framework Convention on Climate Change

A. Expression of interest

Partnership for Market Readiness (PMR)

Expression of interest in participating in the PMR

Countries seeking support from the PMR are requested to prepare a cover letter, including a short statement confirming the country's interest in participating in the PMR. The cover letter should be accompanied by an Annex containing the following information:

1. Name of the government agency submitting expression of interest

NATIONAL DEVELOPMENT AND REFORM COMMISSION OF CHINA

2. Name and contact information of designated PMR Government focal point

Sun Cuihua, tel:86-10-68502963, sunch@ccchina.gov.cn

Wang Shu, <tel:86-10-68501553>, fax:86-10-68502358, wangshu@ccchina.gov.cn

3. Domestic mitigation action: outline what are the purposes and main objectives of your country's mitigation strategy.

- a. Provide an overview of domestic mitigation policies and plans and the status of the implementation - at both the national and sub-national levels.
- b. Briefly identify the key sectors targeted by the mitigation strategy.

In November 2009, the Chinese government set its target of controlling GHG emission which consists of a number of goals, such as, to reduce CO2 emission per GDP unit 40-45% by 2020 on the 2005 levels; to raise the proportion of non-fossil fuel in the primary energy up to 15%; to increase cumulative forestry reserves 1.3billion cubic meters and to increase forest coverage 40 million hectare.

To achieve the goal by 2020, a series policies and actions are being implemented. The 12th Five-Year Plan of National Economic and Social Development is under formulation in which the target of controlling GHG emission will become a binding index. In order to better address climate change, both central and local governments are drafting strategic plans which aim to accelerate the adjustment of industrial structure, to promote energy-saving and resource-saving, to develop clean energy, to increase the proportion of non-fossil fuels in primary energy, to increase afforestation and forestry carbon off-set, and to study the establishment of the scheme to allocate the 2020 target of carbon intensity at provincial level. The government also intends to establish GHG emission inventory, to strengthen capacity building, to establish climate change accounting system gradually, to set up assessment measures, to accelerate the development of low carbon technologies, to formulate climate related laws, rules and standards so as to better the climate change management system in China. The formulation of climate related laws and the standards on carbon intensity per unit, as well as timing and conditions of imposing carbon tax are under exploration. China is also willing to adopt a market driven force to facilitate GHG emission control, to encourage and regulate the pilot projects on carbon emission trading, to raise the awareness of climate change from the public, to advocate a low carbon lifestyle in the society and last but not least, to encourage social participation in low carbon development.

The overall national strategy on mitigation intends to cover a variety of industries, such as power sector, transportation, construction, iron and steel, non-ferrous metal and chemical

engineering.

4. Market Instruments³: briefly outline experience to date with relevant market instruments as well as future plans.

- a. Provide a brief description of experience to date with market-based instruments, e.g., type of instrument, dates of implementation, scope, and key outcomes.
- b. To the extent that one (or more) specific market instrument is already identified for future implementation, provide a brief overview of the status of development/implementation and its relevance to the country's overall mitigation strategy.

To better address climate change, market instruments attract increasing attention from the government of China. Firstly, the government encourages and supports in CDM projects, which contribute to global GHG emission reduction. It was estimated that approximately 2900 CDM projects had been approved by NDRC by the end of 2010, with expected annual emission reduction around 500 million tons CO₂ equivalent. More than 1000 projects have been successfully registered at EB, which takes up to 42% of the overall number of global registered projects, with expected annual emission reduction about 240 million tons of CO₂ equivalent which takes up to 62% of the global total. Both of the numbers of projects and annual emission reduction rank the top in the world. Among the registered projects, there are more than 300 projects which have been issued CERs. The total issued CERs is about 230 million tons of CO₂ equivalent, which takes up 52% of global total.

Secondly, China aims to lead and regulate voluntary carbon emission trading, to guide and encourage enterprises to take more social responsibilities, so as to address climate change actively. NDRC has finished drafting national regulation on voluntary carbon emission trading. The regulation is expected to be issued in 2011.

Regarding the issue of carbon trading, NDRC organized a series of extensive investigation, research, and workshops, focusing on the key challenges of developing carbon trading in China.

Market mechanism should be brought into play in the achievement of the carbon emission intensity reduction target 2020 that the Government promised. Therefore, it is necessary to apply market mechanism to facilitate controlling GHG emissions and to explore the potentiality of carbon trading development in China.

5. Support from the PMR: provide a short summary of your current assessment of the capacity needs and gaps for which support from the PMR is being sought. To the extent that one (or more) specific market instrument is identified, outline the type of support that your country may be seeking from the PMR.

As a developing country, China regards capacity building as the key to better address climate change. China therefore needs the support from the PMR. Firstly, capacity building needs to take place on the establishment of a registration system of voluntary carbon emission trading, which aims

³ Without prejudging future developments on market instruments, this question refers to instruments providing a price signal that create an incentive to use or invest in climate-friendly technologies and/or processes. Such market instruments can include domestic instruments (e.g., emissions trading and non-GHG based schemes such as renewable energy and energy efficiency trading systems) and international market instruments such as reformed CDM, sectoral, and NAMA crediting.

to ensure justice, equity and transparency of the trading activities, to guarantee the healthy development of the market, to improve the trading efficiency as well as to reduce the trading cost. There is also a need for capacity building in those regions and industries which are able to experiment potentiality of carbon emission trading. To encourage and support carbon trading at these regions and industries, research on target setting, target allocating, trading platform development, establishment of monitoring and management system, and experimentation on trading practice are crucial.

6. Institutional setting: how would you plan to coordinate the PMR efforts at the domestic level, i.e., which Ministry would lead and which government agencies would be involved?

The Climate Change Department, National Development & Reform Commission, as the authorized focal point on climate change related issues, will be responsible for coordinating the PMR. The Division of National Policy & Compliance of Climate Change Department will take on all related practical work.

7. Stakeholder participation: are there intentions/plans /processes to engage non-governmental stakeholders (e.g., private sector)? If so, provide brief description.

Under the support of PMR, NDRC will convene all excellent experts and agencies together to work on related tasks, including CITIC Securities Co., Ltd. (CITICS), Tsinghua University, Energy Research Institute of NDRC, Beijing Environmental Exchange, Shanghai Environment and Energy Exchange, Tianjin Climate Exchange, Research institutions under the Peoples' Bank of China, China Securities Regulatory Commission, and other related institutions.

8. Initiatives by other bilateral and multilateral development partners: outline any initiative(s) pursued with other international partners underway in your country that is (are) relevant to market readiness support (e.g., low carbon development strategies, MRV, etc).

NDRC is working on a low carbon development project cooperated with Energy Fund of USA. The project covers a variety of subjects, including research on low carbon strategies, low carbon technologies, low carbon development experiences in developed countries, as well as training program on GHG inventory at local level.

NDRC is implementing a project cooperated with CPF, the World Bank to develop new CDM methodology in the power sector, and to develop CDM projects in the field of biogas electricity.

B. Questionnaire on market readiness capacity

In addition to submitting a cover letter with the Annex outlined in part A (above), countries are strongly encouraged to provide as many responses as possible to the Questionnaire on market readiness capacity. The questionnaire is not a mandatory requirement per se, but is designed to help each country seeking support from the PMR to better outline its particular situation in terms of climate change mitigation actions, its current experience and capacity, and its market readiness capacity needs. (It is not necessary to respond to all questions, as some may not be appropriate or relevant for all countries).

(i) Policy, legal frameworks and institutions

This section should provide a more detailed overview of national policies related to climate change mitigation. Depending on the instrument use, the implementation of GHG emission reduction actions requires strong and well-working government institutions at different levels. It also requires a reliable policy-making process that can cope with the necessary complex decisions. This section should also provide information on existing institutions and the policy-making process.

Institutional setting in the government for climate policy

- 1. Is there a national focal point/institution for cross-governmental coordination and implementation of climate change-related programs?** Yes/no
Describe the institutional setup of the focal point or other forms of national coordination of climate related activities, if existing.
Yes
The National Development and Reform Commission
- 2. If yes, is the institutional focal point a governmental unit with clear tasks and a separate appointed budget?** Yes/no
Describe where the unit is located within the government, the mandate, and responsibility of the institution. If possible, provide brief overview of resources allocated for the institution to fulfill this mandate.
Yes
The Climate Change Department
- 3. Are there other governmental institutions/agencies with responsibility for implementation of climate change-related programs?** Yes/no
Provide an overview.
Fill in here

Integration of climate mitigation issues into overall national policy

- 4. Has the country developed a national climate strategy and/or a low emissions development strategy (LEDS)?** Yes/no
Provide URL and brief overview of the strategy (e.g. identify general objectives, priorities as well as main components and key pillars of the strategy) and how it links to the national development policy.
Yes
The main objectives such as reducing the CO₂ emission per unit of GDP by 40-45% by 2020 based on the 2005 level, increasing the non-fossil fuels consumption to 15% of primary energy, increasing the forestry reserves by 1.3 billion m³, increasing the new forestation area by 40 million ha, and utilizing market-based instruments, etc., are stated by the government officials as priorities and would be integrated into the 12th Five-Year Plan of National Economic and Social Development. But the detailed strategy, including specific actions, regulations, etc., is still in the process of drafting.

5. **If yes, which parts of the government prepared the strategy and which institutions were involved in its preparation?**
The NDRC, in together with other line ministries, relevant research institutions, corporations, etc. will prepare the strategy.
6. **What, if any, obstacles and challenges were encountered in elaborating the strategy?** Yes/no
Provide details.
Capacity building is necessary at the local level, but the condition and experience of utilizing the market-based mechanism to address climate change is insufficient.
7. **Does the strategy consider market-based instruments as a possible instrument for mitigation action, such as the CDM or other types of market instruments (e.g., domestic emissions trading, or domestic trading schemes for energy efficiency or renewable energy certificates?)** Yes/no
If yes, provide information on the type and scope of potential use of market instruments.
Yes.

CDM and voluntary emission trading.
8. **If no, are market-based instruments under consideration by the government outside of the climate strategy?**
Provide details and comment.
Fill in here
9. **Does the national government have full responsibility for implementing climate, energy and environmentally related policies or are responsibilities shared with sub-national (e.g. provincial or state) governments.** Full/shared
Provide details on institutional / jurisdictional setup with respect to responsibilities over climate change and related areas.
Shared

The national government has full responsibility to formulate the related policies, and to implement them with the sub-national governments.

Administrative relations with the UNFCCC

10. **Is there a registered UNFCCC focal point in the country?** Yes/no
Briefly describe the institutional setup of the focal point.
Yes

The Climate Change Department, National Development and Reform Commission
11. **Is there a Designated National Authority (DNA) for the CDM (Clean Development Mechanism) registered at UNFCCC?** Yes/no
Briefly describe the institutional setup of the DNA, including in which ministry it is located.
Yes

The National Development and Reform Commission

National Communication under the UNFCCC

12. Is a (or more than one) National Communication under the UNFCCC available? Yes/no
 Comment.
 Yes

**13. Which entity prepared the latest available National Communication?
 Which ministries and agencies were involved?**
NDRC is responsible for preparing the Second National Communication.

Several relevant ministries and agencies were involved as well in addition to NDRC.

CDM/VER project development capacity⁴

14. Are the different public agencies (DNA, ministries, and administration) familiar with the CDM and the CDM project cycle? Yes/no
 Comment on extent of familiarity (e.g., low, medium, high) for different relevant public agencies.
 Yes

DNA and some of the relevant ministries are very familiar with the CDM and the CDM project cycles.

15. How many projects have been approved by the DNA? projects
How many DNA-approved projects have been registered by the UNFCCC? percent
 Provide details on the status of DNA approved projects in the UNFCCC registry.

By the end of 2010, around 2900 CDM projects have been approved by NDRC, and more than 1000 projects have successfully registered by the UNFCCC.

16. Which types of projects have been approved by the DNA / registered by the UNFCCC?

*Provide details on the different types of projects.
 Types of registered projects are summarized to list as below:*

<i>Project Types</i>	<i>Amount of projects registered in UNFCCC</i>
<i>biomass energy</i>	<i>28</i>
<i>cement</i>	<i>5</i>
<i>coal bed/mine methane</i>	<i>37</i>
<i>EE households</i>	<i>2</i>
<i>EE own generation</i>	<i>87</i>
<i>fossil fuel switch</i>	<i>22</i>
<i>fugitive</i>	<i>1</i>
<i>HFCs</i>	<i>11</i>
<i>Hydro</i>	<i>558</i>
<i>landfill gas</i>	<i>34</i>
<i>methane avoidance</i>	<i>8</i>
<i>N2O</i>	<i>26</i>
<i>Reforestation</i>	<i>3</i>
<i>solar</i>	<i>4</i>

⁴ Please furthermore provide details if your country has capacity related to JI (Joint Implementation).

17. How many voluntary market (VER) projects are being implemented in the country? Which types of projects are these?

Comment.

The specific number of VER projects being implemented is unknown.

18. Are there 'lessons learned' emerging from setting up the CDM process in the country and from ongoing activities in this area?

Yes/no

Provide details on successes, challenges and problems that have been encountered since the initial activities to set up the CDM system.

Yes

- *Chinese DNA has the process of controlling the quality of the development, which helps to ensure the quality of Chinese CDM development.*
- *Some information are not accessible for the individual project owner, therefore some CDM project development is hindered, DNA has finally organized the information collection and publication to solve some of the problems.*

19. Does the government actively engage in the CDM (e.g. , promotion of CDM project development, capacity building, awareness raising, data collection or calculations, etc.)?

Yes/no

If yes, describe in which form and through which activities.

Yes

There are many activities organized by the government in recent years, and some of them are listed below:

- *In 2001 National Coordination Committee on Climate Change (NCCCC) organized experts and responsible officials of relevant departments to begin drafting the Interim Measures for the Operation and Management of Clean Development Mechanism Projects. The interim measures took effect in Jun 30, 2004, and were updated on Oct. 12, 2005.*
- *Carried out CDM capacity building programme in China in cooperation with other countries and international organizations.*
- *Organized ICS-CDM China Workshop and released the CDM Country Guide for China in Jan 2006.*
- *Organized a CDM experience exchanging conference*
- *Released books, literatures and information about CDM in website <http://cdm.ccchina.gov.cn/>, including the grid baseline emission calculation*

For more information, please check the following website:

<http://cdm.ccchina.gov.cn/english/>

Relevant environmental/energy related policies and legislation

20. Are there other relevant national (or sub-national) policy frameworks (e.g., energy strategy, waste management strategy, air pollution plans) that are relevant for GHG mitigation?

Yes/no

Provide details.

Yes.

Some other relevant national policy frameworks are as follows:

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- *Renewable Energy Law;*
- *Energy Conservation Law;*
- *Energy Conservation Regulations of civil building;*
- *Energy Conservation Regulations of public building;*
- *Cleaner Production Promotion Law;*
- *Solid Waste Pollution Prevention Law;*
- *Circular Economy Promotion Law;*
- *Municipal solid waste management approach.*

21. What is the general political process for the formulation and implementation of new / amended legislation on environmental and climate issues?

Provide details on the involved institutions and the overall process and key requirements for approvals.

A new/amended climate law is generally proposed by the NDRC. When the draft is finished, the Ministry shall hold stakeholder consultation meetings to solicit opinions. After the suggestions are fully considered, the revised law will be submitted to State Council and if necessary, to the Peoples' Congress for approval and issuance.

22. Are there stakeholder consultations included in the policy making processes?

Yes/no

If yes, specify what type of stakeholders (e.g., environmental, business, academia/research, etc.) are involved, in which relevant areas (e.g., climate change policy, energy, industry, and waste management) consultation processes are taking place, if they are voluntary or mandatory, and at which point within the policy making process they take place.

Yes.

Generally, stakeholders from environmental, business and research institutes, individuals and other relevant parties are voluntarily involved in the consultation processes.

23. Is there climate-change related legislation in force that requires regular periodic reporting from entities in different sectors?

Yes/no

Provide details on key aspects of the legislation and the reporting requirements.

No

24. Are there experiences gained from implementing environmental (or other, such as energy) policies in the past that may be particularly relevant when considering market-based instruments?

Yes/no

Provide details on key relevant achievements, challenges, and problems that were encountered in the process.

Yes

The relevant information is listed below. But those experiences are not very helpful for considering the GHG market-based mechanism.

Experiences with environmental (or other) trading schemes to meet policy objectives

- 25. Are there environment-related trading systems at the national or regional level?** Many/
This could for example include renewable energy (green) certificate schemes, some/none
energy efficiency (white) certificate schemes or SO₂-trading schemes etc.

Provide details.

Yes.

There are some environment-related trading systems at the regional level such as sulfur dioxide emissions trading system and piloting trading system for the major water pollutant emissions in Taihu Lake Basin within Jiangsu Province.

- 26. If yes, is there a clearly defined national/regional entity responsible for their regulation and supervision?** Yes/no/not
applicable

Provide details on institutional setup.

Yes.

The Environmental Protection Department is now the defined national entity responsible for their regulation and supervision, but there is still a great deal of confusion in the implementation.

- 27. If yes, are there important experiences emerging from implementing existing trading schemes?** Yes/no/partly

Provide details on key outcomes, challenges, and problems that have been encountered in the process.

Partly

In 2003, Taicangkong Environmental Power Corporation of Jiangsu and Nanjing Xiaguan Power Plant reached a trading of SO₂ emission rights, which was the first inter-regional trading in China. However, since the existing management system, especially the supervision and management mechanism, is not good enough in China. There is a serious lesson that can be considered in the future market based mechanism.

- 28. If yes, does the country have experience in allocation and/or auctioning of permits/tradable certificates?** Yes/no/partly

Provide details.

Partly

The Country does have some relevant experiences, but few of them are very successful.

- 29. What are the steps required in the policy making process to establish and implement a market mechanism?**

Provide details on which institutions need to be involved and what the process is (e.g. approvals and documentation requirements).

There must be a piloting system before formulating the policy to establish and implement a market mechanism, for example, Chinese VER market system and the market system in certain area could be the piloting system for the national market mechanism in the future.

- 30. Are there any research studies on the use of market-based mechanisms for GHG mitigation in the country?** Many/
some/none

List key studies, dates and who conducted them and indicate if they are publicly available.

Some

There are some studies on the use of market-based mechanisms for GHG mitigation in the country. Some of them are listed below.

PARTNERSHIP FOR MARKET READINESS: Template for expression of interest & questionnaire on market readiness capacity

2010.03-now, national '973' program, Research of Carbon Tariff and Carbon Market, conducted by CITIC Securities Co., Ltd. (CITICS), Tsinghua University, Energy Research Institute of NDRC, etc. [Confidential]

2006-2010, National Science & Technology Pillar Program during the Eleventh Five-Year Plan Period, CDM capacity building and demonstration in electricity power industry, conducted by Tsinghua University, Energy Research Institute of NDRC, etc. [Confidential]

- 31. Have any tests or pilots for market-based mechanisms for GHG mitigation been undertaken in the country?** Many/
some/none

List and provide details incl. geographic scope, coverage – sectors and instruments scale, stage of implementation, domestic implementation and funding partners, etc.

None

- 32. Is there any (further) interest in piloting new market instruments? If yes, which type of market instrument and which sector could be considered potentially suitable for implementing a pilot?** Yes/no

Provide details below.

Yes.

The Chinese VER market, which is carried out within the management framework of the government, could be a chosen as a pilot. And the cap-and-trade system in the specific region or industry will be considered as another choice for piloting.

Institutions for ensuring compliance with regulation

- 33. If a national climate strategy exists, does it include reporting and/or monitoring provisions?** Yes/no/partly

Provide details, e.g., on milestones, evaluation team, success indicators, etc.

Not applicable

- 34. If monitoring provisions exist, which entity is assigned to implement and enforce them?** XXX

Provide details on the institution and the process.

Not applicable

- 35. Do other relevant policy frameworks/strategies (e.g., energy, air pollution) include reporting and/or monitoring provisions?** Yes/no/partly

Provide details.

Partly

For example, the environment-related trading systems, such as sulfur dioxide emissions trading system, including the framework for reporting and monitoring provisions such as monthly or annual inspection, reporting, self-test, etc. But the implementation is not good.

- 36. Do national/sub-national institutions exist to enforce activities such as permitting, validation of reports, verification, supervision for existing regulations, auditing (e.g., air quality or waste)?** Yes/no/partly

Provide details

Partly

The sub-national institutions under the Environmental Protection Department exist to enforce some of the activities such as permitting, validation of reports, verification, supervision for existing regulations, auditing.

Previous capacity building activities related to GHG mitigation and market instruments

37. Have any capacity building activities focusing on institutional setup been undertaken in the past, or are activities ongoing in this area? Many/
some/none

List and provide details including scope, coverage, domestic implementation and funding partners, etc.

1. *The National CDM Project Board (the Board) is established, and a national CDM Project Management Center is established under the Board. NDRC and the Ministry of Science and Technology (MOST) serve as co-chairs, and The Ministry of Foreign Affairs (MOFA) serves as vice chair of the Board, which also includes The Ministry of Environmental Protection, the China Meteorological Administration, the Ministry of Finance and the Ministry of Agriculture. The Board will review CDM project activities, participation requirements, PDD, CERs price, issues related to funds and technology transfer, Sustainable development effects of the project, Report to the Committee implementation of CDM project activities, possible problems and make recommendations, Make recommendations on the revision of national CDM rules.*

2. *NDRC is China's Designated National CDM Authority CDM, Receive project application, Approve CDM project activities jointly with MOST and MOFA, according to the review result of the Board, Present written approval on behalf of the Chinese Government, Supervise the implementation of project activities, Establish CDM project management authority, in consultation with other agencies, Deal with other foreign issues.*

3. *Under the support of Ministry of Science and Technology, 27 provincial clean development mechanism centers were established responsible for managing related CDM activities in the corresponding provinces and cities, such as the Hunan CDM Project Service Center, the Clean Development Mechanism Sichuan Center, the Henan Province Clean Development Mechanism (CDM) Service Center, etc.*

(ii) Measurement, reporting and verification (MRV)

National (and sub-national) GHG inventory and GHG accounting

- 38. Are historical GHG emissions data available per sector and per gas for recent years?** Yes/no
 Provide details.
No
- 39. Is there a national system in place for the estimation of GHG emissions by sources and removals by sinks?** Yes/no
 Provide details.
Yes

NDRC is organizing a group of experts from all related research institutions to estimate national GHG emissions.
- 40. If yes, is the national GHG accounting methodology compatible with the 2006 version of the IPCC guidelines for national greenhouse gas inventories?** Yes/no/partly
 Comment.
Yes
- 41. Are there sub-national (e.g., city, state or province) systems in place for the estimation of GHG emissions (reporting/data collection) by sources and removals by sinks?** Yes/no
 Provide details.
Yes.

Develop & Reform Commissions in all provinces are organizing expert teams for the estimation of GHG emission at local level.
- 42. What is the frequency of reporting / data collection by the different sectors?** XXX
 Provide details and comment, including entities responsible for reporting and data collection.
To be decided.
- 43. What are the auditing procedures for the national greenhouse gas inventory (and/or for sub/national GHG data collection if appropriate)?** XXX
 Provide details and comment.
To be decided.
- 44. Are there GHG inventories or frameworks (e.g., the GHG Protocol) used by government or private entities to account, quantify and manage their GHG emissions?** Yes/no/
 maybe
 If yes, provide details and comments on the entities undertaking such accounting exercises and the tools used.
No

Analysis of the national (or sub-national) mitigation potential

45. Are there any national (or sub-national) scoping studies on energy consumption, energy efficiency, GHG emission, clean production or mitigation potentials and costs available? If yes, for which sectors are they available? Many/
some/none

List studies (with dates) and highlight general findings/conclusions.

Some

A study conducted by Energy Research Institute of National Development and Reform Commission (ERI of NDRC) was completed in 2009, and a book titled "China's Low Carbon Development Pathways by 2050 - Scenario Analysis of Energy Demand and Carbon Emissions" was published at the same time. This is a general study on energy demand and carbon emissions of main sectors including power, transport and industry etc. There were some general findings summarised in the book:

- *It is irreversible for the increasing tendency of energy demand and carbon emissions in future 50 years in China, due to the certain objective of social and economic development ;*
- *Buildings and transport sector will gradually become the main contributor to the increase of energy demand and carbon emissions;*
- *Electricity consumption and CO2 emission per capita will increase significantly in future;*
- *Continuing the current development trend, energy supply system and its sustainable development will face serious challenge;*
- *Energy demand and carbon emissions will be much lower than the scenario of business as usual, if a considerable effort was paid on sustainable energy development including switch to renewable energy and improve energy efficiency;*
- *It is the only way to achieve low-carbon energy development of China that selecting reasonable consumption mode, transforming the mode of economic development and production, promoting vigorously on technology progress and developing high efficiency energy supply system;*
- *The demand of fossil fuel may achieve peak level before 2040, carbon emissions will enter into a slow growth period since that point;*
- *It is possible for China to take the low-carbon energy development path; however, there are various uncertainties;*
- *Without international support, it is difficult for China to create a low-carbon development path.*

46. Are expected emission abatement potentials per measure or sector described in the last national communication or in the national climate strategy (or elsewhere)? Yes/no/partly

Provide details.

Yes

Please refer to the Chinese Initial National Communication which was published by EB.

47. Are there energy and/or emissions models developed at the national (or sub-national) level by the government or through independent research institutes? Yes/no/partly
Provide details, e.g., who conducts such modeling exercises and whether results are publicly available?

Yes

In the study described in the answer of question 45, which was conducted by ERI of NDRC, an analysis model of energy demand and carbon emissions under different development scenarios is established. This model and relevant results were presented in the book.

48. If yes, what are the gaps in these analyses? XXX
Provide details if relevant.

Fill in here

Tools and skills for data management of a domestic trading system (and/or crediting system)

49. Are hardware and software available in the country to establish and manage emissions-related databases or other relevant databases (e.g., energy-related)? Yes/no/partly
Provide details on the institutions where this is available and details of the available systems.

Yes

This system is under construction.

50. Are there any systems in place within the country that already allow direct electronic reporting to the government by companies or individuals of any kind of data, i.e., online access, email-forms, etc.? Yes/no/partly

Provide details on the institutions where this is available and on the systems being used.

No

51. Is there trained staff available to develop, operate emissions databases and to generate reports from the raw data? Yes/no/partly

Describe.

Yes

52. Are schools / institutions available to train staff in managing and processing the data? Yes/no/partly

Describe.

Partly

Some schools / institutions can provide training.

53. Is there capacity to build up a registry system to track and record transactions? Yes/no/partly
If yes, provide details on institutional setup.

Partly

A piloting registry system is being built up to track and record transactions for national VER market.

- 54. Are there gaps/needs in the area of data management and registry systems?** Yes/no/partly
 Provide details if relevant.
Partly
- Some knowledge and investment resources are still needed for data management and for the built-up of the registry system.*

Independent verification for a trading (or crediting) system

- 55. Are officially reported data verified by an independent institution?** Yes/no/partly
 Provide any examples where data is reported by companies or individuals and where official verification is required.
Fill in here
- 56. Is there government experience with independent verifiers for environmental trading/crediting schemes?** Yes/no
 Provide details.
No
- 57. Is there a national (or sub-national) accreditation entity/process that can accredit verifiers to audit company level emission reports?** Yes/no
 Provide details on institutional setup and the accreditation processes in place.
No
- 58. If no, are there plans or ongoing activities to establish such an entity/process?** Yes/no
 Provide details.
There is specific plan to establish such an entity/process related to the Chinese VER market.
- 59. Are ISO and/or other environmental standards applied in the country?** Yes/no/partly
 Provide details on which standards are applied and in which sectors.
Partly
- Please refer to the answers for question 88 and 89.*
- 60. If yes, is verification of compliance with these standards conducted by national experts or by international firms?** National/
 International/
 both
 Describe how widely these standards are applied within the country and on the verification process, e.g., how many verification companies are operating within the country, if there are/have been obstacles to implementing the standards and the verification process, etc.
Fill in here
- 61. Are there any other verification protocols in use?** Yes/no
 Provide details on institutional setup and the accreditation processes in place.
Fill in here

Previous or related current capacity-building activities

- 62. Have any capacity building activities that are relevant for - or contribute to - market readiness (e.g., for MRV, LEDS) been undertaken in the past? Or are activities in this area ongoing?** Many/
 some/none
 List and provide details and funding partners, etc.
Some

PARTNERSHIP FOR MARKET READINESS: Template for expression of interest & questionnaire on market readiness capacity

All the capacity building activities concerning CDM and other issues related to the carbon trading referred to in other questions can contribute to the market readiness.

(iii) Understanding of the sector(s)

This section is intended to give a more detailed insight into government capacity related to individual sectors. The user of this questionnaire can select the sectors that are relevant and important for GHG mitigation, depending on the national circumstances. While some countries will want to focus on one particular sector, others may choose to look at a number of sectors.

If you choose to evaluate only one sector, just add the name of the sector you have selected in the heading.

Example: '4. Cement sector: understanding of the sector'.

If you choose to evaluate more than one sector, copy the whole section 4 for each sector for which you wish to provide information, and insert it after the original section. Then include the respective names of the sectors you have chosen in the title as below.

Example:

4. Electricity sector: understanding of the sector

4. Transport sector: understanding of the sector

4. Iron and steel sector: understanding of the sector

Overall data availability

SPECIFY SECTOR: 4. Electricity sector: understanding of the sector

63. Rate each category on a scale from 0 (no data available) to 10 (data from all installations/ complete sector available). Comment, including specifying whether data is available at the national level (and/or sub-national) level.

Production/activity data	1-10
Energy consumption	1-10
Energy mix / used fuel types	1-10
GHG emissions	1-10

64. How do you rate the quality of available data? 1-10

Rate on a scale from 0 (very poor) to 10 (excellent).

Fill in here

65. Who provides the data on the sector? What is the frequency of reporting and what is the process for data collection?

Provide details on the active players and the process.

"China Electric Power Yearbook" is a statistical book for the power sector. It is organized by the China Electricity Council (CEC) and the State Electricity Regulatory Commission. Its contributors include the State Grid Corporation, the China Southern Power Grid Company, the China Huaneng Group, the China Datang Corporation, the China Huadian Corporation, the China Guodian Corporation and China Power Investment Corporation etc.

66. What are the key challenges/gaps (if any) in the data itself, as well as in the collection process, particularly in the context of market instruments?

Comment.

Fill in here

67. Is data provision (reporting) voluntary or mandatory?

Comment.

Voluntary

Voluntary/
mandatory

Determination of future scenario(s) and mitigation potential

- 68. Are scenarios of future *energy consumption* available for this sector (per fuel type)?** Yes /no
 No official scenario.
 But the scenarios from the result of the research are available.
- 69. If yes, who prepared the scenario(s) and how do you rate the quality?** Good/medium/poor
 Provide information on how the scenarios were elaborated and by whom.
 Give a rationale for your evaluation of the quality.
The scenarios were provided by research institutions, including ERI and others, however it is a primary result because the scenario analysis is not in detail.
- 70. If no, are activities on-going to generate such scenarios?**
 Provide details and comment.
Fill in here
- 71. Are scenarios of future *GHG emissions* by this sector available (per gas)?** Yes/no
 No official scenario.
 But the scenarios from the research result are available.
- 72. If yes, who prepared the scenario(s) and how do you rate the quality?** Provide information on how the scenarios were elaborated and by whom. Give a rationale for your evaluation of the quality. Good/medium/poor
The scenarios were provided by research institutions, including ERI and others, however it is a primacy result because the scenario analysis is not in detail.
- 73. If no, are activities on-going to generate such scenarios?** Yes /no
 Provide details and comment.
Fill in here
- 74. Is an analysis of *energy savings* and/or *GHG mitigation* potentials (technical/economic) and associated costs available for this sector?** Yes/no/partly
 Provide details.
Fill in here
- 75. Are initiatives to reduce GHG emissions or energy use being implemented in the sector?** Many/some/none
 Provide overview.
Some

Some activities to reduce energy use are implemented in the power plants during the Eleventh Five-Year Plan Period, but no activity focusing on GHG emission reductions is initiated.

Organization of the sector

- 76. Is there a defined national public entity responsible for this sector?** Yes/no/partly
 If yes, provide details on the entity and overview of its mandate.
yes

Mainly NDRC(National Energy Burea)

77. What is the political process to establish new policies or adjust existing policies for the sector?

Provide an overview of the general process necessary to implement new regulation in the sector.

78. Is there a business association representing the sector?

Yes/no/partly

Provide name of the existing organization(s).

Yes.

The China Electric Power Association

79. If yes, is the business association involved in the areas of energy use, energy efficiency or GHG emissions?

Yes/no/partly

Provide details.

Partly

E.g. an initiative was launched by the China Electric Power Association, which was to promote energy saving through accelerating the transformation of the mode of power development.

80. If yes, does the business association engage in data gathering activities?

Yes/no/partly

Provide details.

Yes.

The statistical work is assessed by the China Electric Power Association.

81. Are there sector-specific barriers to GHG reporting, monitoring or GHG data collection?

Many/
some/none

Provide details on key barriers and order according to severity. Identify key gaps.

Some

(iv) Non-governmental actors

The primary focus of this questionnaire is on public, i.e. government, and capacity. However, the expertise of relevant non-governmental actors is essential to enable effective and efficient implementation of GHG mitigation activities, especially of market based instruments. This section therefore supports the evaluation of this capacity to allow governments to assess the overall situation and capacity building needs within their country.

Awareness

- 82. How do you assess non-governmental actors' awareness of climate change and GHG mitigation?** Good/
medium/
poor
Provide details.
Medium

Due to efforts in the past years, the non-governmental actors' awareness of the concept of climate change and GHG mitigation has been greatly enhanced, but their awareness of relevant details and terms like the market based instruments, MRV, etc. is far from satisfaction.

- 83. If relevant, what is being done and/or would be needed to raise awareness?**
The capacity building and practical activities with the specific focus (market based instruments, MRV, mitigation activities or etc.) should involve some non-governmental actors, especially those that are capable of carrying out relevant activities and that are in the leading position in their fields of work and, for example, CITIC Securities is capable of participating the activities of market-based instruments and is in the leading position among Chinese investment bank.

Data availability

- 84. Is there a system for GHG accounting or monitoring at source/company level available in the different sectors?** Yes/no/partly
Provide details
No.

- 85. Have handbooks, templates, toolkits, spreadsheets or other guiding documents on GHG data been produced?** Yes/no/partly
Provide details on the type and coverage of the documents/tools as well as publishing institution.
Yes

A guidebook on GHG emission estimation at local level is being worked on.

- 86. Are other systems for company level emission monitoring in place, e.g., on air quality?** Yes/no/partly
Provide details on the type, and geographical and sectoral coverage of the systems.
Partly

Systems for monitoring certain air pollutants like SO₂ at company level emission are in place for certain types of projects. But there is no system for GHG emissions.

- 87. If yes, are they voluntary or mandatory? Do they cover whole sectors? Are they related to companies as a whole or to individual installations?** Yes/no/partly

Provide details on how binding the systems are and how enforcement is secured, in case they are mandatory.

Not applicable

- 88. Are industries participating in voluntary international programmes for reporting GHG emissions (e.g., WBCSD/WRI GHG Protocols, Cement Sustainability Initiative, World steel, etc)?** Many/some/none

Provide details on programmes' and usage.

None

There are some industrial associations that are involving in international programmes to develop industrial GHG standards and tools for China; however, almost no industry is participating in voluntary international programmes for reporting GHG emissions.

Application of quality management systems

- 89. Does industry apply quality management systems, such as ISO 9001 and 14001?** Yes/no/partly

Comment, including specifying which industries.

Partly

Some of the companies at various industries apply certain quality management systems, but the main incentive to apply them comes from the requirement of the purchasers.

Technological capacity at source level

- 90. Is measurement equipment (e.g., scales, flow meters) available for measuring of necessary data (emissions, energy)?** Yes/no/partly

Describe the situation of average companies in the sector.

Partly

The measurement equipment for some of the necessary data, such as the energy consumption data and energy production data, is widely available in the companies, but for most of the companies, the measurement equipment available is not enough for measuring all the necessary data, which is required to identify the GHG emission of the company. Furthermore the equipment that measures the GHG directly, can hardly be found in the companies.

- 91. Are schools/institutions available to train staff in operating measurement equipment and in processing the data?** Yes/no/partly

Describe.

Partly

Capacity of financial institutions

- 92. Are there local/sub-national facilities to finance efficiency and GHG reduction projects?** Many/some/none

Provide details.

Between some and none

Some facilities may exist to finance efficiency and GHG reduction projects, but the GHG reduction is obviously not the main incentive to make the decision to finance those projects.

93. **How do you rate the accessibility of their services?** Good/medium/poor
Comment.
Poor

Support for compliance with regulation

94. **Do sectoral associations have capacity to support the sector regarding compliance activities (e.g., achieving performance standards, monitoring of activities and reporting)? Rate on a scale from 0 (very poor) to 10 (excellent).** 1-10
Provide details on the activities in this area and a rationale for your evaluation. The overall evaluation should represent an average across relevant sectors. Mention here, if there are large deviations in individual sectors.
Fill in here
95. **Is there other national or international support available?** 1-10
Rate on a scale from 0 (very poor) to 10 (excellent). Provide details.
Fill in here

Previous capacity-building activities

96. **Have any capacity building activities related to non-government actor expertise been undertaken in the past or are activities in this area ongoing?** Many/
some/none
List and provide details including scope, scale, coverage, domestic implementation and funding partners, etc.
Some

All capacity building activities concerning CDM as well as other issues related to the carbon trading referred to in other questions involve the non-government actor expertise as the trainer or trainee.

Annex 1: Market instruments being discussed internationally

The market instruments listed below include proposals that have been put forward so far by countries and organizations as a potential way to scale-up mitigation efforts beyond the scope of the CDM in its current form. This is an indicative list and is not intended to be exhaustive, nor does it prejudice any further development of the instruments or discussions under the UNFCCC. As yet there is no international agreement on the design and use of these instruments. The definitions provided below have also not been agreed internationally. Hence this list is also not intended to be prescriptive in terms of the types of market instruments countries could choose to pursue through piloting supported by the Partnership.

Offsetting Mechanism

Reformed CDM – e.g., introducing standardized baselines to create consistent performance thresholds that can be applied across multiple projects of the same project type.

Crediting Mechanisms

Sectoral Crediting – a baseline and (ex-post) credit mechanism where a government is responsible for surpassing its sector specific crediting baseline. If the crediting baseline is set below the BAU level of emissions, then the difference between the two represents the country's domestic abatement effort ('own action'). Any abatement beyond the agreed baseline would be eligible for crediting, with the credits equal to the reductions being issued at the end of the crediting period. The government would need to agree its sectoral emissions baseline at the outset, and then use a portfolio of domestic policy instruments to reduce its actual emissions below the baseline. The government could choose to devolve the target across firms or specific installations. Sectoral crediting is sometimes also referred to as a 'sector no lose target', where the "target" could be expressed in the form of absolute reductions or emissions intensity.

Technology based approach – a technology diffusion goal would be established for a specific sector, such as share of the physical capacity of a sector to be fitted with technology X by a specific date or increasing the capacity of technology Y by a specified amount or rate. Countries would then receive emission credits for technology performance beyond the initial goal.

NAMA crediting – credits would be issued for the verifiable emission reductions from the nationally appropriate mitigation actions (NAMAs) undertaken by developing countries. Eligible NAMAs would be supported through full or discounted crediting in the carbon market for activities beyond the baseline or NAMA level.

Allocation Mechanisms

Sectoral Trading – a cap and trade mechanism where a government is responsible for meeting an agreed sector specific emissions target. Emissions allowances would be allocated to the government ex-ante, up to the level of the target. The government would then need to make installations in the sector limit their emissions to the level of this cap during the specified period. Sectoral Trading would involve carbon units (allowances) being issued at the start of the period, and the government ultimately purchasing extra carbon units from abroad if the sector is unable to meet the target domestically.

Domestic Emissions Trading – a cap is set on emissions and allowances are provided ex-ante, either through allocation or auction, to emitters covered by the cap. These emitters are required to submit

allowances equal to the amount of greenhouse gases emitted over a predetermined period. The difference between expected emissions and the cap creates a price for the allowances. Emitters who can reduce emissions for less than the price of an allowance will do so. If, however, abatement costs more than the price of an allowance, it makes sense to purchase additional allowances from other emitters with surplus allowances. The relative difficulty of abatement or scarcity of allowances sets the price of carbon. In theory, those that can reduce emissions most cheaply will do so, achieving the reductions at the lowest possible overall cost to the country.

Sources: Information is drawn from: Global Carbon Trading: a Framework for Reducing Emissions - Mark Lazarowicz & Office of Climate Change (2009), and submissions to the UNFCCC.