

PMR PROJECT IMPLEMENTATION STATUS REPORT (ISR)

The PMR Project Implementation Status Report should be prepared by the Implementing Country or Technical Partner, with the support of the Delivery Partner and/or the PMR Secretariat. For any questions related to the preparation of the PMR Project Implementation Status Report, please contact the PMR Secretariat at: pmrsecretariat@worldbank.org.

1. SUMMARY INFORMATION

Implementing Country/Technical Partner:	P.R. China
Reporting Period:	From February 25 th , 2019 to March 1 st , 2020
Report Date:	March 31 st , 2020
Implementing Agency:	Department of Climate Change, Ministry of Ecology and Environment, PR of China (DCC MEE)
Contact Person:	Mr. Wenbo LIU

Grant Executed By:	World Bank
Grant Effectiveness and Closing Dates:	03/23/2015 - 31/06/2020
Grant Amount (USD):	USD 10,000,000
Funding Mobilized (USD):	USD 109,900,000
Funding Committed (USD)	USD 117,900,000

2. OVERVIEW

Objectives

The China Partnership for Market Readiness Project (CPMR Project) has been implemented by the Government of China (GOC), with the World Bank (WB) as the delivery partner. China is an Implementing Country Participant in the Partnership for Market Readiness (PMR). The CPMR project's development objective (PDO) is to enable China to design a national Emissions Trading Scheme (ETS).

Indicators

The PDO is on track to be achieved. In particular, the PDO is measured through the following intermediate output indicators:

- 1) Proposal on methodologies of scope, coverage, caps and allocation. Completed in 2019.
- 2) Proposal on legal framework and governing system of the national ETS. Completed in 2019.
- 3) Proposal on the MRV system for the national ETS. Completed in 2019.
- 4) Proposal on improve the national registry. Completed in 2019.
- 5) Thematic research reports on SOEs and power sector. Completed in 2019.

- 6) Supporting 6 provinces to participate National ETS. Completed in 2019.
- 7) Advanced allowance allocation methodologies. Submit the research outline.
- 8) Proposal on connecting of Registry system, exchange system. Submit the research outline.
- 9) Proposal on guidelines of enterprise level carbon asset and supervision of price of allowance. Submit the research outline.
- 10) Studies on the interaction between carbon market and climate financing policies. Submit the research outline.
- 11) Proposal on trading product of national ETS. Submit the research outline.
- 12) Report on case study of good practices. Submit the research outline.

In addition to the above, training was provided to 1400 participants in 14 provinces, in 2019. The provinces are Sichuan, Chongqing, Guizhou, Yunnan, Tibet, Xinjiang, Xinjiang Corps, Qinghai, Shanxi, Gansu, Ningxia, Liaoning, Jilin and Heilongjiang.

Monitoring and evaluation is given high priority at all project levels and the indicators for monitoring and evaluation will be relevant when measuring the effective and timely implementation of all activities and their impact. Monitoring of the implementation of the proposed project will involve: (a) monitoring of performance indicators as included in the results framework in Table 4; (b) semi-annual progress reports; and (c) a midterm and a final evaluation of implementation.

The Project Management Office (PMO), with the supervision of Steering Committee, is responsible for overall monitoring and systematic evaluation of implementation progress including collection of project performance information and reporting on the impact and results of the project. Day-to-day technical and financial monitoring is a continuous process of the project executed by the PMO and DCC MEE.

China's national ETS has been launched on 19 December 2017. CPMR supported the decision and updated the timeline of activities, including inputs to the technical outputs and policy recommendations. Considering there are many specific works to do in the next phase of ETS construction, PMR support is needed especially in the field of carbon market financing management and annual updating of benchmarking and default values in the allowance allocation.

The additional grant of US\$2 million is under implementation to support China transitioning into the implementation of its national ETS. Under the support of PMR, DCC MEE designed additional activities, i.e. AF1: Extended study on sectoral emissions benchmarks for allowance allocation, AF2: Study on monitoring and evaluation of construction and maintaining the Registry & Exchange platform as well as linking study between pilot and national ETS. AF3: Study on regulatory of National ETS. AF4: Study of the interaction between the carbon market and climate financing policies. AF5: Study of national ETS productions developing road map. AF6: Study of good practice on carbon trading.

In 2019, DCC has been reviewing the benchmarking methodology and testing the allocation of allowances; decide the list of key emission entities; push forward the issue technical guidelines, and ministry documents about third party verifiers and key emission entities; constructing the registry and exchange system; as well as strengthen the capacity building. March 2019, *Regulation of National Carbon Market* has launched the 2nd round of consultation. Which is published online : http://fgs.mee.gov.cn/yfxzyfzjfs/201904/t20190403_698483.shtml

A number of important policies have been issued in 2019, including the MEE's 'Notice on Preparation Works in 2019 Annual Carbon Emission Report and Verification and the List of Key Emitting Units in the Power Generation Sector' (Huanban Qihou Han [2019] No. 943) issued in December 2019, and the Ministry of Finance's 'Regulations on Accounting Treatment of Carbon Emission Trading System' (CAIKUAI [2019] No. 22) .

3. IMPLEMENTATION REPORT BY COMPONENT

Differences between the Objectives/Activities in the Market Readiness Proposal and the Grant Agreement

<p>Are there any important and material differences between the objectives/activities proposed in the Market Readiness Proposal and endorsed by the Partnership Assembly of the PMR and those agreed to in the Grant Agreement with the Delivery Partner and described in the Project’s Results Framework?</p>	<p>The project has extended its closing date to August 31, 2020.</p> <p>Previously the following information has been updated and got no objection by WB team.</p> <p>Activities of Component 7 has slight change. The component initially plans to support all of 32 provinces to participate national ETS, including identify key enterprises, collection of essential data for ETS, and support a wide scope of data collection, analysis and stakeholder consultation at provincial levels to vet design aspects of the ETS so as to facilitate a smooth ETS roll out. However, considering the current status of ETS preparation and the gaps in technical support, the DCC MEE has discussed and agreed with the Bank team to focus on six key provinces that are in need for most assistance.</p>
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Implementation Progress by Component

<p>A. Component 1.1: Coverage, cap, allocation methodologies and supplementary mechanisms</p>	
<p>Status: Completed</p>	<p>The Component has been completed. The activities under this component is summarized as below:</p> <ol style="list-style-type: none"> 1) Evaluation of domestic experiences: Completed comparative analysis and performance evaluation of the seven regional pilot ETS, including coverage, allocation mechanisms, offset mechanisms, emissions reduction effectiveness, degree of compliance, market performance etc. 2) Evaluation of international experiences: Completed review of ETS design in six international case studies (EU, California, Quebec, Australia, New Zealand, and South Korea), including ETS scope, emissions cap, allocation mechanism, market regulation, offset mechanisms, and international linkages. 3) Analysis of the coverage and scope of the national ETS: Completed and submitted policy recommendation on “Coverage of the National ETS”, including GHG type, emission type, emission

	<p>boundaries, enterprise threshold standards, and sectors included.</p> <ol style="list-style-type: none"> 4) Determination of national emissions caps (ETS and non-ETS caps): Complete. 5) Determination of regional emissions caps (ETS and non-ETS caps): Complete. 6) Methodology development for allocating emission allowances: Completed and submitted preliminary policy recommendations for the “ETS Allowance Allocation Method”, including general principles for allocation, two allowance allocation methods, and recommended allocation guidelines for 8 sectors (18 sub-sectors). Field investigations and data collection are being conducted to assess feasibility of the allocation methods for the 8 sectors. 7) Study on market regulation mechanisms: Complete 8) Study on offset mechanisms: Complete 9) Study on international ETS linkages: Complete
Comments:	This component has been complete.
B. Component 1.2: Legal Framework and supervision system	
Status: Completed	<p>The Component has been completed. The activities under this component is summarized as below:</p> <ol style="list-style-type: none"> 1) Administrative Rules of the Management System of China’s National ETS: a) Completed review of legal framework and regulatory systems governing major international ETS (EU, California, and Quebec) and China’s seven pilot ETS; b) Completed draft Regulations on Administration of Emission Trading, including general provisions, management of emission allowances, emission trading, reporting, auditing and settlement, information disclosure and supervision management, legal liability, and supplementary provisions, based on stakeholder comments solicited by the NDRC in April 2015, feedback from a public hearing held in July 2015 and stakeholder comments received in January 2016. 2) Administrative Rules for Exchanges in China’s National ETS: a) Completed review of management methods of exchanges in international ETS (including trading rules, supervisory and regulatory models, and organizational frameworks of key exchanges in the EU) and prepared draft report; b) Completed review of management methods of exchanges in domestic pilot ETS (including their main functions, administrative and supervisory rules, key issues and lessons learned) and prepared draft report; c) Completed review of management methods and regulatory requirements for traditional financial exchanges (e.g. securities and futures) and prepared draft report; d) Completed preliminary draft of Administrative Rules of Exchanges in China’s National ETS and solicited stakeholder comments on the draft. 3) Administrative Rules for Market Supervision of China’s National ETS:

	<p>a) Completed review of regulatory mechanisms for the EU ETS and US RGGI carbon markets, including legal and institutional framework, key risks and issues; b) Completed review of lessons learned in regulating and supervising domestic carbon and financial markets, including pilot ETS, securities and futures exchanges; c) Identified regulatory requirements for the national ETS, including targets and activities to be regulated; d) Completed preliminary draft of Administrative Rules for Market Supervision of China's National ETS, including general provisions, auctioning of allowances, trading platform, basic trading rules, trading service institutions, carbon trading association, supervision and management, legal responsibilities, and supplementary provisions.</p> <p>4) Compliance Mechanisms: a) Completed review of compliance related regulations in international ETS, including compliance authorities, period, rules, offset mechanisms, penalty mechanisms, etc.; b) Completed review of compliance mechanisms in the domestic pilot ETS, including degree of compliance, key issues, and lessons learned.</p> <p>5) Feasibility Study on Futures Trading in China's National ETS: Completed literature review on carbon futures markets in the EU and US, consulted national and local stakeholders on the status of carbon spot trading and the need for futures trading, and identified major challenges for establishing a carbon futures market in China</p>
<p>Comments:</p>	<p>This component has been complete.</p>
<p>C. Component 1.3: MRV system</p>	
<p>Status: Completed</p>	<p>The Component has been completed. The activities under this component is summarized as below:</p> <ol style="list-style-type: none"> 1) Improve existing sectoral GHG emissions accounting methods and reporting guidelines: a) Completed <i>Guidance on Accounting Methods and Reporting of Greenhouse Gas Emissions for Enterprises</i> in different industries; b) Completed <i>Accounting and Reporting Template for Supplementary Data on Carbon Emissions by National Carbon Emission Trading Enterprises</i> in eight industries, which have been released as Annex 2 and Annex 3 of NDRC Notice Climate [2016] 57 and NDRC Notice Climate [2017] 1989. 2) Develop Regulations for GHG Emissions Reporting by Companies: a) Completed draft Regulations for GHG Emissions Reporting by Key Companies and Institutions, covering accounting methods, monitoring plan requirements, reporting requirements, internal data management, and penalties for non-compliance; b) Completed <i>The Carbon Emission Monitoring Plan Template</i>, which has been released as Annex 4 of NDRC Notice Climate [2017] 1989. 3) Develop Regulations for Third Party Verification Companies: a) Completed a suggestion draft of <i>Interim Measures for Management</i>

	<p>of Third Party Verification Companies in the National ETS, covering qualification requirements and application procedures, code of conduct, supervision and management, and legal liabilities, etc.; b) Completed <i>Reference Conditions of Third-party Institutions and Personnel of National ETS</i>, which have been released as Annex 4 of NDRC Notice Climate [2016] 57.</p> <p>4) Develop Guidelines for Third Party Verification Companies: a) Developed a suggestion draft of <i>Guidelines for Third Party Verification of the National ETS</i>, covering the principles, procedures, requirements for verification and review of reported data (including verification report template); b) Completed <i>Reference Guidance on Third party Verification of National ETS</i>, which has been released as Annex 5 of NDRC Notice Climate [2016] 57; c) Completed <i>Reference Guideline on Third party Verification of Monitoring Plan and Carbon Emission Reporting of National ETS</i>, which has been released as Annex 5 of NDRC Notice Climate [2017] 1989.</p> <p>5) Design electronic reporting system for emissions verification: Ongoing. Completed the Design Scheme of Electronic Reporting System for Emissions Verification.</p> <p>6) Capacity building on emissions accounting and reporting for companies: a) Completed training implementation plan; b) Completed training materials of eight key industries; c) Completed Training of Industry Accounting Reporting Guidelines, Supplementary Data Forms and Third Party Verification Guidelines, which were carried out in Shanghai, Wuhan, Tianjin, Chengdu, etc</p>
<p>Comments:</p>	<p>This component has been completed.</p>
<p>D. Component 1.4: Improvement of registry</p>	
<p>Status: Completed</p>	<p>The Component has been completed. The activities under this component is summarized as below:</p> <ol style="list-style-type: none"> 1) Review of existing national and local registries: Completed assessment of the current status and identified areas for improvement of the carbon trading registries at the national level and at the seven pilot ETS (through a series of consultation meetings). 2) Gap analysis of existing functions in the national registry: Completed recommendations on the functional improvements needs in the national registry based on user feedback from Task 1. 3) Identification of required software changes: Completed the identification of the software changes needed to implement the functional improvements identified in Task 2. 4) Software development/ update: Completed software changes identified in Task 3. 5) User manual update: Updated user manual based on the changes to the registry completed in Task 4.

Comments:	This component has been completed.
E. Component 1.5: Research on large state-owned enterprises	
Status: Completed	<p>The Component has been completed. The activities under this component is summarized as below:</p> <ol style="list-style-type: none"> 1) Analysis of SOE Characteristics: a) Completed assessment of SOE management characteristics; b) Completed assessment of SOE energy consumption and GHG emission characteristics, including SOE emissions reduction efforts and emissions management systems. 2) Assessment of SOE Participation in the National ETS: a) Completed analysis on the SOE involvement in the seven pilot ETS, China Certified Emission Reduction (CCER) projects, and Clean Development Mechanism (CDM) projects; b) Completed assessment of SOE readiness for participation in the National ETS, focusing on power, petrochemical and chemical, non-ferrous metals, construction material, iron and steel, light industry (paper), and the aviation industries; c) Completed the assessment and identification of challenges for SOE participation in the national ETS; d) Completed preliminary recommendations for SOE participation in the national ETS 3) Study of allocation methods for SOE emissions: complete 4) Study of SOE carbon trading management system: Complete 5) Technical Assistance to the PMR PMO: Completed preliminary report based on above progress in November 2016.
Comments:	This component has been completed.
F. Component 1.6: Research on power sectors	
Status: Completed	<p>Final draft report has been completed. Currently, the PMO is implementing the final review of the Component. After the final review, PMO will work together with WBG and MEE to finalize the component and disburse the final capital in line with the contract.</p> <p>The component activities are summarized as below:</p> <ol style="list-style-type: none"> 1) Analysis of Existing Status and Characteristics of the Power Sector: Completed assessment of the development trends and key characteristics of the power sector in China, including power generation and consumption trends; key technologies; management methods and relevant policies; emissions trends; pricing reform; management of power companies, etc. 2) Assessment of the Power Sector's Participation in the National ETS: a) Completed review of international and domestic case studies of power sector participation in emissions trading systems, including the EU ETS, California cap and trade system and RGGI in the US,

	<p>Korea ETS, and the seven pilot ETS in China; b) Completed assessment of participation of power generation companies and power grid companies in the national ETS, including analysis of their current carbon management practices, key factors affecting their participation, key players, etc. c) Completed the development of preliminary recommendations for incorporating the power sector into the ETS</p> <p>3) Study of allocation methods and standards for power sector emission allowances: a) Completed review of the allocation of allowances for the power sector in international case studies, including in the EU ETS, the US RGGI and Western Climate Initiative (WCI), and the Korean ETS; b) Completed review of methods for allocating allowances for the power sector in the seven pilot ETS in China, including lessons learned for the national ETS; c) Completed analysis of the carbon emissions trends in the power generation, transmission and distribution sectors, including the impact of production technologies and processes on emissions; d) Completed recommendations for allocating emissions allowances in the power sector.</p> <p>4) Study of the effect of pricing mechanisms on the power sector's participation in the national ETS: a) Completed evaluation of the current pricing mechanisms across the power sector, the impact of ETS participation on profits and emissions reduction costs, the impact of sector and pricing reforms on power companies, etc.; b) Completed review of emissions reduction costs and responsibilities are shared across the power generators, transmitters, and consumers both in China and abroad; c) Completed preliminary recommendations on adjusting pricing mechanisms to facilitate effective participation of the power sector in the national ETS</p> <p>5) Study on risk management and allowance adjustment mechanisms for the power sector's participation in the national ETS: a) Completed evaluation of the impact of emissions trading schemes on the power sector (e.g. on electricity supply, structure, prices etc.) in international and domestic case studies, including the EU ETS, US RGGI, California ETS, Australia carbon pricing mechanism, Korea ETS, and China's pilot ETS; b) Completed identifications of key risks in the power sector's participation in the national ETS; c) Completed dynamic simulations of a province's electric power system under various scenarios (e.g. different allocation methods, power generation scheduling methods, carbon prices) to identify potential risks; d) Completed recommendations for risk management and allowance adjustment mechanisms for the power sector's participation in the national ETS.</p>
<p>Comments:</p>	<p>This component has been completed.</p>

G. Component 1.7: Supportive researches from the provinces	
Status: Completed	<p>Six key region/provinces are selected for the research on emission cap allocation and provincial level enterprises and economic data collection and consultation. The six key region/provinces include Inner Mongolia Autonomous Region, Heilongjiang Province, Liaoning Province, Shandong Province, Shanxi Province, and Chongqing City (pilot region). Six separate sub-contracts will be awarded under component 7 and the procurement process is currently ongoing. The contract was signed in 2017. Which above has been no-objected by WBG.</p> <p>All of the six province project have 3 parts, i.e. Policy recommendation, Capacity building. Research of verification. All of the verification research is complete. Capacity building is complete 70~100%. Policy recommendation has submit the final draft. All of the six project will be complete in June 2019.</p>
Comments:	This component has been completed.
H. Component 3: AF1 Extended study on sectoral emissions benchmarks for allowance allocation.	
Status: On going	<p>The progress to date of this component activities is summarized as below:</p> <ol style="list-style-type: none"> (1) Refine ideas and methods of carbon allowance allocation in power, cement and Electrolytic aluminum sectors. (2) Update carbon allowance allocation models for different sectors covered by China carbon market. (3) Based on the new scenarios, analyze the future emission and emission reduction potential of industries covered by China's carbon emission trading system. (4) Survey user demand of enterprise allowance calculation (5) Build a draft visualized enterprise allowance calculator (6) Survey the emission reduction targets and development trends of sectors for allowance allocation. (7) Based on new enterprise data, new MRV methods and parameters, estimate the total carbon allowances and carbon emission reductions amount of the power sector in the future based on the possible allowance allocation benchmark.
Comments:	All of the outlines are submitted. The PMO and Department of Climate Change MEE are reviewing the submission.
I. Component 3: AF2 Study on monitoring and evaluation of construction and maintaining the Registry & Exchange platform as well as linking study between pilot and national ETS.	
Status: On going	<p>The related work progress is reported as follows.</p> <ol style="list-style-type: none"> 1. The research team held the first launch meeting on December 22, 2019 to discuss the project plan and clarify everyone' responsibilities.

	<p>We invited experts, related institutions, etc. to solve various problems in the implementation of the project and amend the research direction.</p> <p>2. The research team went to Wuhan and Shanghai from January 13 to 14, 2020 to investigate the construction of the national carbon trading registration system and trading system. We have a discussion with the local exchange in Wuhan and Shanghai and have a deep understanding of the construction of the two systems, as well as the problems and solutions in the docking process, and then formed preliminary evaluation opinions.</p> <p>3. Based on the investigation, the research team held video conferences for several times, invited external experts to participate ,and analyzed the feasibility of the two national systems. Based on the meeting and discussion, we have prepared and completed the preliminary report.</p> <p>4. The research team collected and sorted out the current development status of domestic local carbon trading markets, the construction of trading systems, differences in trading markets, and the need to interface with the national unified market to form a preliminary report.</p> <p>5. Based on the previous investigation and data collection, the research team completed the project’s opening report. We analyzed the current research situation, formulated the research objectives, technology Program and work plans. Simultaneously the work in the opening report has laid a solid foundation for its future research.</p>
<p>Comments:</p>	<p>All of the outlines are submitted. The PMO and Department of Climate Change MEE are reviewing the submission.</p>
<p>J. Component 3: AF3 Study on Regulatory Mechanism for China’s National ETS</p>	
<p>Status: On going</p>	<p>Research report is being drafted. The progress to date of the component activities is summarized as below:</p> <p>1) Implications of other trading market oversight on carbon market regulation in China: a) Completed review of the experience and deficiencies of environmental oversight and law enforcement in China’s other trading markets (ETS pilots, forest rights trading system, water rights trading system, securities trading market and futures trading market); b) Completed the analysis of developing trend of China’s other trading system; c) Completed summary of key elements(laws and regulations, regulatory agencies, regulatory measures, regulatory pattern, etc.) in China’s other trading system; d) Completed the comparative analysis of key elements in different trading markets.</p> <p>2) Coordination of Supervision and Law Enforcement between China’s National ETS and Environmental Regulation: a) Completed review of supervision and law enforcement mechanism of domestic ETS pilots and EU ETS; b) Completed investigation of supervision and law enforcement mechanism of domestic environmental system; c) Completed comparative analysis of core elements of supervision and law enforcement between ETS and environmental regulation; d)</p>

	<p>Researching on the feasibility and applicability of supervision coordination between ETS and environmental regulation.</p> <p>3) Supervision Mechanism of Enterprise Carbon Assets Operation: a) completed review of the international management experience of enterprises carbon assets operation; b) Completed review of asset management experience in financial market; c) Completed the analysis of status and development of carbon assets operation of enterprises; d) Drafting proposals for implementation of regulatory measures from the level of transactions subject and authority; e) Designing the trading rules for China’s national ETS.</p> <p>4) Supervision Mechanism of Carbon Price for China’s National ETS: a) Completed review and identification of sources for possible price risks in carbon market from the perspective of supply side, demand side and market violations; b) Completed influence analysis of price risks on the operation of carbon market; c) Completed review of management measures for price risks in domestic ETS pilots; d) Completed review of management measures for price risks in major international ETS (EU, California, RGGI, etc); e) Researching on the supervision mechanism of carbon price for China’s national ETS.</p>
<p>Comments:</p>	<p>All of the outlines are submitted. The PMO and Department of Climate Change MEE are reviewing the submission.</p>
<p>K. Component 3: AF4a Study on the Policy Coordination between Emission Trading Scheme and Investment and Financing for Climate</p>	
<p>Status: on going</p>	<p>Some activities have been taken and their progress to date are summarized as follows:</p> <p>1) Research in investment and financing incentives for ETS compliance entities and demonstration projects: a) The policy development of China's climate investment and financing has been reviewed; b) The current situation of China’s climate investment and financing policy framework and its potential development trend have been studied; c) The climate investment and financing policies issued (formed) by competent departments, relevant ministries, financial institutions, etc. have been systemically reviewed, and the characteristics of China's climate investment and financing policies have been preliminarily summarized; d) The investment and financing policies related to ETS compliance entities and demonstration projects was in focus and have been studied, and phased research outcomes have been formed.</p> <p>2) Dialogue platform to enhance synergy between ETS and climate finance: a) The materials of dialogue platform construction in other fields have been collected to provide experience and reference for the design of dialogue platform to enhance synergy between ETS and climate finance; b) Keep close communication with all stakeholders, clarify the demands of all parties, and make basic preparation for the</p>

	design of the dialogue platform.
Comments:	Currently, the interim report is being prepared, and the research on climate investment and financing policies and the design of the platform for policy dialogue related to ETS compliance entities and demonstration projects and the design of the platform for policy dialogue are promptly under progress
L. Component 3: AF4b Developing an Ecosystem for Investment and Financing for Climate	
Status :on going	<p>The progress to date of the component activities is summarized as below:</p> <p>1) Chinese climate finance evaluation framework: a) Completed review of climate bond standards in China and globally, covering relevant climate bonds taxonomy, technology criteria, climate benefits assessment methodologies, etc., with comparative analysis performed to identify gaps and differences between the existing approach in China and international best practices; b) Completed preliminary draft of climate finance evaluation framework , including climate bond taxonomy, climate bond evaluation indicators and methodologies, etc.; c) Completed preliminary policy recommendations on incentives, based on interviews and surveys to key stakeholders, such as the People's Bank of China (PBOC), China Banking and Insurance Regulatory Commission (CBIRC), etc..</p> <p>2) A comparative study of information disclosure system with international approach and policy recommendation: a) Completed review of the current climate information statistical system and information disclosure requirements in China, including a comparative analysis with international mainstream climate disclosure framework such as Task Force on Climate-related (TCFD), Climate Disclosure Standards Board (CDSB), etc.; b) Completed preliminary draft of the information statistics system of China's climate investment and financing and the framework of information disclosure requirements.</p>
Comments	First draft has been completed. Currently, the preliminary research results are in consultation with key stakeholders, such as Ministry of Ecology and Environment (MEE), the People's Bank of China (PBOC), China Banking and Insurance Regulatory Commission (CBIRC), China Securities Regulatory Commission (CSRC), and relevant financial institutions. After the consultation, the draft report will be revised according to the advice.
M. Component 3: AF5 Study of National ETS product developing roadmap	
Status: On going	<p>The progress of component of activities to date is summarized as follows:</p> <p>1. Complete reviews of the development process of trading products in</p>

	<p>the international carbon market, including the main trading product path and structure, market basis, product design, regulatory process, etc;</p> <ol style="list-style-type: none"> 2. Complete review of the history, current situation and trend of domestic bulk commodity market, including the experience of forward, futures, option, index, OTC and other products in different stages from the generation background, market characteristics, participant types, market scale, risk management, etc; 3. Complete analysis of the current situation of China's carbon market, including the experience of ETS pilots and the future construction of China's carbon market; 4. Complete analysis of the necessity of introducing derivatives into China's carbon market, starting from the problems such as liquidity, volatility and pricing mechanism existing in current carbon market, presenting that carbon derivatives can improve the problems of single spot market in terms of price discovery function, risk management and integration with the international market; 5. Complete analysis of the feasibility of introducing derivatives into China's carbon market from the perspective of its legal system, market basis, technical conditions and participants' ability; 6. Complete suggestion on the structure and path of trading product system in China's carbon market, as well as analysis of the market conditions and interrelations of different products such as forward, swap, futures, OTC derivatives and index; 7. Complete preliminary study on the basic framework of China's carbon derivatives market, including the legislation, participants, products, trading and clearing system, risk control measures, etc.
Comments	All of the outlines are submitted. The PMO and Department of Climate Change MEE are reviewing the submission.
N. Component 3: AF6 Carbon Trading Typical Case Study	
	<p>The on-going working details to date are summarized as followed:</p> <ol style="list-style-type: none"> 1) Made analysis on electric power market and the space for power saving. Make a qualitative analysis of the links between investment-transform-operation and the carbon market. The analysis is finished as to date. The preliminary determinations have been made to pick typical cases from management, mechanism innovation, new project investment, energy saving technology, pollutant emission control and renewable energy. 2) Aiming typical cases from pilot carbon trade emission-control power plant based on carbon market trading experience. A) analyze carbon asset management, carbon finance innovation, production and operation optimization, energy saving and emission control project financing. B) pick typical cases from carbon asset management, financial

	<p>innovation, volunteer emission reduction offset.</p> <p>3) Select typical cases aiming at emission control organization that will be included in the national carbon market combine with technology transform experience. A) sort key technology of clean electrical power generation, energy saving transformation and pollutant emission control. B) pick typical cases based on new project, energy saving transformation and pollutant emission control.</p>
Comments	All of the outlines are submitted. The PMO and Department of Climate Change MEE are reviewing the submission.

4. PROGRESS, CHALLENGES, AND LESSONS LEARNED

Important policy or regulatory developments related to the Grant's objectives and activities:

Developments:

Chinese government is very active in pushing forward the development of national ETS, which is considered to be one of the most cost-effective way to reduce GHG emission, and also, a good approach to realize the economy transformation targets that have been put forward in the Central Economic Work Conference. In terms of the international commitments, the development of ETS is also a significant policy instrument which will contribute to achieving targets in China's NDC and contribute to achieving global targets under the Paris Agreement. Specific policy developments include:

- 1) In 2014, the central government considered the development of national ETS as one of economic reform works.
- 2) In the Government Work Report of 2015 presented by Premier Minister, it was stated that China would develop national ETS as one of the measures to address climate change.
- 3) In 2015, the Chinese government issued the Program on Ecological Civilization Reform, in which the development of national ETS is considered as one of the import means to realize green and low carbon development.
- 4) In 2015, Presidents Xi and Obama announced together the China-U.S. Joint Statement in Climate Change in 2015, in which it was stated that China would launch national ETS in 2017.
- 5) In 2015, in the document of the Fifth Plenary Session of the 18th CPC Central Committee, it is stated that the carbon quota allocation mechanism would be established and to raise the trading market.
- 6) In the Thirteenth Five Year Plan approved in March 2016, the development of national ETS and establishment of allowance management is written in the article of climate change, as one of important measures to be implemented in the next 5 years.
- 7) In April 2016, the State Council agreed to put the rules of national ETS in the waiting list of laws to be issued.
- 8) In December 2017, National Development of Reform Commission issued the "General Constructing Plan of China's national Carbon Market". The Plan define the key elements, framework, implementing phase and key tasks of national carbon market.
- 9) In March 2019, *Regulation of National Carbon Market* has launched the 2nd round of

consultation. Which is published online :

http://fgs.mee.gov.cn/yfxyfzjfs/201904/t20190403_698483.shtml

10) In September 2019, Ministry of Ecology and Environment organized 17 trainings, covers 31 provinces. PMR China project support 5 trainings and 14 provinces. The organization document is published online:

http://www.mee.gov.cn/xxgk2018/xxgk/xxgk06/201909/t20190930_736483.html

11) In December 2019, Ministry of Ecology and Environment issued “Notice on Preparation Works in 2019 Annual Carbon Emission Report and Verification and the List of Key Emitting Units in the Power Generation Sector” (Huanban Qihou Han [2019] No. 943) which is published online:

http://www.mee.gov.cn/xxgk2018/xxgk/xxgk06/202001/t20200107_757969.html

The government’s enhanced commitment provides an even more positive environment for the implementation of the project, and the outcomes of the project will also play an important role in the policy making on climate change within the Chinese government. That said, there are a number of challenges that remain to be tackled, including additional work that will have to be done, in order for China’s national ETS to become operational.

Challenges:

Challenge 1: The process of developing legislation and related procedures is complex and lengthy. The CPMR project plays a critical role in facilitating these processes.

Challenge 2: The general allowance allocation methodologies have been proposed with the support of the project. As a part of lessons learned from the European experience, China has made a decision to use the benchmarking approach, which could be more effective in promoting technological developing. On the other hand, the benchmarking approach requires solid and comprehensive database. Therefore, despite the key principles of the allocation methodologies have been proposed, substantial further work is required to optimize the applicability of the methodologies and enhance the fairness and effectiveness of allocation.

Challenge 3: Data and collection remain challenges in some sectors. For example, the chemicals sector has multiple processes with multiple products and by-products, therefore extensive data is needed for defining boundaries and coefficients. The CPMR is expected to address this challenge by proposing some solutions in this area.

Challenge 4: There is the lack of financial support for development of the ETS, including for verification, construction and operation of the national registry. Based on the CPMR project findings, among others, the DCC is proposing to establish a specific agency for management of the registry and apply for financial support from the Chinese government.

Challenge 5: Capacity of local government, companies, verifiers, and others is sometimes weak. The CPMR is addressing this challenge by having a strong capacity development aspect.

Challenge 6: The outputs of the CPMR project are considered to be critical for the design and operationalization of the national ETS. However, during the implementation phase additional readiness gaps have been identified which would be key for the successful implementation of the ETS. They include issues of sectoral benchmarking on national ETS, and carbon finance management.

Challenge 7: Updating the benchmark and default value in allowance allocation and compliance. Benchmarking is main method to determine the allocation. It is necessary to monitor and analysis the variation of the benchmark and default value, in the initial phase of national ETS. MEE (formerly NDRC) propose to apply PMR additional funding to study on identify benchmark and default value.

Challenge 8: Carbon financing management is a challenge to the Chinese government as the launch of

the ETS will have to evolve from a regulatory compliance policy instrument to market measures. To study the mechanism of price formation and put forward a comprehensive carbon finance management system policy suggestion and carbon trading product management research report as a carbon market construction policy reserve.

Challenge 9: Capacity building becomes more important to the China's National ETS due to the government restructuring. The DCC move from NDRC to MEE in national level, however, part of the provincial level government officers were not moved to ecology and environment system, almost all of the city or below level government officers are not moved to ecology and environment system. Which means the key point and new tasks of capacity building of the ETS will focus on the local officers.

Challenge 10: The outbreak of novel CoronaVirus (COVID-19) effect the on-site research and consulting. The researchers and stuffs shall work base at home, some of the work shall pause or delay. Since end January, the Chinese government has triggered the government's emergency response to address public health threats. A number of planned workshops and business meetings can no longer be convened during the period.

Lessons learned:

Lesson 1: Legislation process serves as a basis of the ETS design and given the lengthy procedures in this regard, it is critical to initiate legislative processes as early as possible in the design stages.

Lesson 2: Historical GHG data is very important for allowance allocation, for which reason the solid MRV system is a key.

Lesson 3: Pursuing pilot programs before the national instrument design and implementation is a very useful approach, which enables the identification of issues early on. For large countries, specific areas with higher level readiness could pilot and pioneer for collecting early lessons learned (like China's case). And for smaller countries, piloting could be done in phases to support gradual rolling out of national programs. A piloting phase could allow adjustments in policy design while building capacity and readiness.

Lesson 4: The scope of work around the ETS design is massive and having adequate financial and human resources is critical for moving the agenda forward.

Lesson 5: Given the lack of capacity or differences in capacity among various stakeholders, capacity development activities should be given a priority.

Lesson 6: Mobilization of enterprises is very important issues and should be factored in the schedule.

Important changes in the technical design or approach related to the Grant's activities:

The project received an additional grant of US\$2 million. The implementation of the new activities has been facing challenges due to the disruption by the COVID19 since February.

Key capacity issues (implementation, technical, financial management, procurement) related to the Grant's activities:

Developments:

Institutional:

- 1) Local DEEs are the key institutions to implement in ETS, especially in complies and allowance

allocation. Many local DRCs established climate change division to deal with ETS and other climate change tasks.

- 2) The MEE/DEE established MRV experts group to help companies to finish GHG reporting work.
- 3) Through the implementation of the CPMR, a strong experts team was brought together to support the Chinese government in its effort to establish a national ETS.
- 4) Some large state-owned enterprise groups already set up a specific carbon asset management company.

Technical: N/A

Financial management:

- 1) The PMO employed a professional finance manager to help PMO's financial management. And PMO often organizes the training on finance management for all consultants which is part of the reason why the procurement process has been effective.
- 2) The Ministry of Finance is managing the budget till .

Procurement: N/A

Challenges:

- 1) The finalization of payment processing is sometimes lagging due to the heavy workload of MoF.
- 2) The capacity of newly established agencies in the institutional set-up is sometimes inadequate and needs to be enhanced.

Lessons learned:

Lesson 1: Good communication and coordination among different sectors and stakeholders is critical.

Lesson 2: Change of the current domestic financial management structure is expected.

Lesson 3: The role of the PMO in project management is key.

Lesson 4: Delivery partner's knowledge of the country processes is an important factor that facilitates the implementation.

Lesson 5: Procurement can be an important factor affecting the implementation progress. The project's key TORs have been designed and approved by the Bank's team prior to implementation start. This set a smooth start of implementation at the initial stage. During implementation, it is also important to keep close communication with the Bank's team as World Bank procurement rules can be different from the government.

Coordination with other carbon pricing initiatives, including those funded by other donors:

Developments:

- 1) China is cooperating with the EU on capacity building in ETS with the aim to enhance stakeholders' capacity, including from the government, companies, and verification companies. Now it is being discussed about the possibilities of expanding the cooperation to stage II.
- 2) China-UNDP-Norwegian cooperation is assisting China to design national registry, develop GHG reporting guidelines, to make capacity building training. This project is at the second stage and is aimed at supporting the improvements of allocation methodologies, development of provincial

implementation program, capacity building, and design of the information sharing platform on ETS.

- 3) China is cooperating with Australia to develop GHG accounting and reporting guidelines in several sectors, and to assist several provinces to finish GHG reporting work.
- 4) Chinese government is also establishing bilateral dialogue mechanism with EU, Germany, South Korean, Russia, etc. in which the ETS is always one of exchange topics.
- 5) China is participating the carbon trading round table of Asian-Pacific region, and to contribute our experiences and lessons.
- 6) China is implementing south-south capacity training for other developing countries, and the development of ETS is one of training courses.
- 7) Norway –China cooptation project in ETS. Which is Establishment of National Registry System for Domestic Emissions Trading Scheme and Voluntary Carbon Emission Reduction Project.

Challenges:

- 1) The coordination and harmonization of different initiatives is necessary.
- 2) The lack of human resources to attend all the relevant meetings under each of the initiatives.

Lessons learned:

- 1) Learning experiences related to coordination of different initiatives is useful.
- 2) It is import to identify which initiative is most relevant to which scheme/instrument.
- 3) Understanding both sides is the catalyst for cooperation.
- 4) Lesson on the complementarities of different initiatives can be added – showing how different initiatives support different aspects of the ETS design and as such are complementary.

Stakeholder engagement related to the Grant's activities:

Developments:

- 1) In the process of developing the ETS rules, the NDRC has organized large scale stakeholder consultation meetings in order to collect feedback and suggestions from different stakeholders.
- 2) The State Council is consulting all stakeholders' comments on the ETS rules.
- 3) For some important policies, the NDRC specifically engaged concerned stakeholders to collect their comments and suggestions.
- 4) The MEE (formerly NDRC) is using the capacity building events to also conduct wider stakeholders' consultations.
- 5) The MEE (formerly NDRC) is often inviting stakeholders from 7 pilot regions to discuss the design of national ETS, so that the related lessons can be taken into account more effectively

Challenges:

- 1) While there's an extensive stakeholder engagement taking place, the level of stakeholder engagement is not sufficient yet.
- 2) It is sometimes challenging to reconcile different opinions of different stakeholders

Lessons learned:

- 1) Stakeholders' consultations is necessary and useful.
- 2) Identification of relevant stakeholders is important.
- 3) Stakeholders' consultation should be integrated other activities, which will make the implementation smoother.

Other issues related to the Grant's activities

Please describe any developments, challenges and lessons learned regarding any other issue related to the achievement of the Grant's objectives and the implementation of the Grant's activities.

5. ADDITIONAL INFORMATION

In this Section, please provide any additional information that may be relevant for the achievement of the Grant's objectives and/or the implementation of the Grant's activities. Please also provide any relevant information related to carbon pricing and the use of market-based instruments for climate change mitigation.