

A. Template for Funding Proposals Related to Activities to Complement Existing PMR Activities

I. Overall mitigation strategy and (Intended) Nationally Determined Contribution (INDC/NDC)

The purpose of this section is to provide an overview of the overall mitigation strategy and commitments of the Implementing Country Participant (ICP) or Technical Partner (TP), as put forward in its INDC/NDC, including the expected role of carbon pricing instruments toward meeting them.

i. Brief status of INDC/NDC preparation and implementation, including:	
<p>Overview of the country's commitments:</p>	<p>Country Context:</p> <p>China has taken significant and demonstrable steps in recent years to reduce its GHG emissions, including energy efficiency and renewable energy targets within its national planning targets and through its international climate change commitments. Although per capita and historical emissions are still modest, in terms of annual emissions, China has become the largest GHG emitter in the world. In 2015, overall GHG emissions in China (not including LULUCF) were around 7.467 billion tons of CO₂eq. In addition, and according to the latest public GHG inventory data, the share of CO₂, CH₄, N₂O and HFCs was 80.03%, 12.49%, 5.27, and 2.21% respectively in 2005. As the LULUCF GHG sink is 0.421 billion tons of CO₂, the overall emissions ratio for CO₂, CH₄, N₂O, and HFCs is 78.82%, 13.24%, 5.59%, and 2.34%.</p> <p>Overall quantifiable targets in China's NDCs:</p> <p>China's NDC includes targets to reduce CO₂ emissions per unit of GDP by 40-45% by 2020, and by 60-65% by 2030 from 2005 baseline levels. The current progress (2014) on this target is a reduction of CO₂ by 33.8% based on statistical data. In addition, the 13th national five-year plan includes commitments to achieve the peaking of carbon dioxide emissions around 2030, while making the best efforts to peak earlier.</p> <p>Commitments in different sectors by 2020:</p> <p>China's NDC also includes a number of targets and commitments in specific sectors. They are as follows:</p> <ul style="list-style-type: none"> • Reduce the non-fossil fuel share of primary energy consumption by 15% by 2020. Current progress is at - 11.2% based on 2014 statistical data. • Increase forest area by 40 million (hectares) by 2020. Present progress (in 2014) is 21,600 thousand hectares compared to the 2005 level.

	<ul style="list-style-type: none"> • Increase value of forest stock volume of 13,000 million m³ by 2020. Present forest stock volume is 2,188 million m³ (based on the date from 2014). • Increase geothermal energy utilization to 50 million tce by 2020. Increase the installed capacity of hydropower, on-shore wind, solar, and nuclear power to 300, 96, 28, and 20 million kW respectively (based on 2014 data). • 2020 target of coal consumption of electricity generation by newly built coal fired power plants is 300 gce per kwh. • Increase the share of natural gas in Primary Energy Consumption by 10%. • 2020 target for coal-bed methane production is 30,000 million m³. • 2020 target of the added-value share of strategic emerging industries is 15% of total GDP. • Reduce HCFC-22 production by 35% by 2020, and by 67.5% by 2025 compared to the 2010 level. • Increase share of green buildings in newly built buildings to 50% in 2020. • Increase share of public transport in motorized travel in big-and-medium-size cities to 30% by 2020. <p>Key policies and measures have been put into place:</p> <p>Key policies and measures in energy conservation and emission reduction in the 12th five-year plan (2011-2015) include:</p> <ul style="list-style-type: none"> • Construction and improvement of target decomposition and implementation mechanism. • Improvement of energy and emission metering, statistics, monitoring and alert system. • Improvement of industry and energy construction. • Enhance energy conservation management in industry, architecture, transportation, logistics, agriculture, public entities, and key energy consumption entities and facilities. • Development of recyclable economy. Implement the programs of energy conservation and emission reduction. • Enhance energy conservation techniques and supporting service systems. • Construction and improvement of energy conservation and emission reduction market mechanisms. • Enhance the supervision and inspection of implementation policies and measures for energy conservation and emission reduction. • Improve public awareness.
<p>Emission reductions objectives and targets set in the INDC/NDC:</p>	<p>Based on its national circumstances, development stage and priorities, sustainable development strategy and stated</p>

	<p>international responsibility, China has determined its actions by 2030 at the national level, as follows:</p> <ul style="list-style-type: none"> • To achieve the peaking of carbon dioxide emissions around 2030 and making best efforts to peak early; • To lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level; • To increase the share of non-fossil fuels in primary energy consumption to around 20%; and • To increase the forest stock volume by around 4.5 billion cubic meters on the 2005 level. <p>Reference scenario is consistent with the target of GHG emission in “12th Five Year Plan”.</p> <p>Modeling approach: energy and economy modeling. For this analysis, the research team uses the China-in Global Energy Model, a multi-regional simulation model of the global energy and economy system. The C-GEM is an empirically-calibrated global energy-economic simulation model that is capable of capturing the impact of policy through its effects on the relative prices of energy and other goods, which in turn affects fuel and technology choices, the composition of domestic economic activities and global trade dynamics.</p>
<p>Roadmap/action plan:</p>	<p>State Council issued the “13th Five Year Work Plan for Controlling GHG emissions” which is aimed at promoting industry and energy reform, construction of low-carbon city policies, development of national ETS, and other activities.</p> <p>In particular, as stated in the “U.S.-China Joint Presidential Statement on Climate Change” from 2015, China committed to promote green power dispatch, giving priority, in distribution and dispatching, to renewable power generation and fossil fuel power generation of higher efficiency and lower emission levels.</p> <p>As part of the roadmap, China also plans to start in 2017 its national emission trading system, covering key industry sectors such as iron and steel, power generation, chemicals, building materials, paper-making, and nonferrous metals.</p> <p>In addition, China committed to promote low-carbon buildings and transportation, with the share of green buildings reaching 50% of newly built buildings in cities and towns by 2020 and the share of public transport in motorized travel reaching 30% in big- and medium-sized cities by 2020. It will finalize next-stage fuel efficiency standards for heavy-duty vehicles in 2016 and implement them in 2019.</p> <p>Finally, actions on HFCs continue to be supported and accelerated, including effectively controlling HFC-23 emissions by 2020.</p>

ii. Overview of the additional analysis needed to support the design/implementation of the policies, including:	
Assessment of critical readiness gaps:	<p>ETS is considered to be one of the most important means, which will facilitate resource allocation and contribute to achieving the GHG reduction target outlined in China's NDC in the most cost effective manner.</p> <p>The first phase of the China PMR (CPMR) Project has played an important role in supporting China to design the policy framework of the national ETS. With the support of the CPMR Project, the overall building blocks and framework of the national ETS has taken shape. However, as the national market moves onto implementation phase, the initial policy framework will need to be evaluated and refined. In addition, supplementary regulations will need to developed to operationalize policy implementation.</p> <p>Specifically, at the initial phase of the national ETS implementation, urgent support is needed to refine allowance allocation, which is a critical element of the ETS. Improving data quality, through deepening and widening of data collection and reporting, will directly contribute to enhancing credibility and fairness of allocation. In this regard, sectoral benchmarks will need to be reviewed and improved with updated detailed data. This approach will consequently address the gaps of data completeness and quality due to time limit prior to the ETS launch.</p> <p>In addition, and looking forward, as the system matures over time, readiness needs to be built for financing for the carbon market. In particular, price formation system, price stabilization mechanisms and compliance management will need to be further defined and strengthened for the market to be fully operational.</p>
iii. The role of carbon pricing instruments in achieving the country's mitigation strategy, as identified in its INDC/NDC, including:	
Planned/existing carbon pricing instrument(s):	<p>The planned carbon pricing instrument in China is the national ETS. The national ETS is a low-cost tool to achieve GHG emission reduction through resources allocation. The instrument of the national ETS includes the legal framework, cap setting and allowance allocation, MRV system, and registration system. The design and preparation for implementation of all of the key elements of the national ETS are under progress. Eight sectors will initially be covered by the national ETS: petrochemicals, chemicals, building materials, iron and steel, nonferrous metals, paper making, power, and aviation. Enterprises with an annual CO₂ emission exceeding 26,000 tons in any year from 2013 to 2015 are required to participate in the ETS. In the first stage of the national market, from 2017 to 2020, it is expected that the ETS will cover</p>

	<p>the largest emitters of the country (estimated to be 7,000 to 9,000 enterprises), accounting for 40 to 50 percent of nation-wide emissions. China’s ETS will then overtake the EU to become the world’s largest carbon cap-and-trade market.</p>
Analysis/modeling:	<p>Energy-Economy Hybrid Model is used to analyze and support the design and implementation of the carbon pricing instrument. The hybrid model utilizes the carbon pricing assessment cycle to analyze and assess the allowance allocation scheme and carbon price.</p>
Future plan for developing and submitting the country’s NDC:	<p>China submitted its NDC to the UNFCCC on 30 June, 2015. China will continue to participate in the international processes, including in terms of reviewing and monitoring its NDCs under the UNFCCC Framework.</p>

II. Level of political commitment to carbon pricing within the country and clarity on the institutional arrangement for implementation

The purpose of this section is to demonstrate the country’s political commitment to carbon pricing, along with the existing political support for the proposed activities.

i. Overview of legal and institutional framework, including:	
Existing/planned laws and directives:	<p>China has enacted a number of policies that form the basis for the future carbon pricing instrument (i.e. national ETS) design and implementation. They are as follows:</p> <ul style="list-style-type: none"> - “Carbon Emission Right Exchange Management Regulation”, promulgated by the National Development and Reform Commission in 2014 - “Greenhouse Gas Voluntary Emission Reduction Exchange Management Regulation”, promulgated by the National Development and Reform Commission in 2012 - “Greenhouse Gas Voluntary Emission Reduction Project Validation and Verification Guidelines”, promulgated by the National Development and Reform Commission in 2012
Institutional arrangements:	<p>National Development and Reform Commission is the responsible ministry for the carbon pricing instrument, with the Department of Climate Change in charge of implementation of national-level actions, which includes the legal framework, the methodology for calculating allocations, and the MRV framework. Sub-national authorities will be in charge of assigning the allocations to enterprises, and for monitoring and enforcement.</p>

ii. Assessment of in-country political support for the implementation of the carbon pricing instrument(s) and the proposed activities, including:	
Public statements and official documents:	<ul style="list-style-type: none"> - National 12th Five-Year Plan - National 12th Five-Year Work Plan for Controlling GHG emissions - National 13th Five Year Plan - National 13th Five-Year Work Plan for Controlling GHG emissions - National Plan for Climate Change 2014-2020 - In 2014, the central government considered the development of national ETS as one of economic reform works. - 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. - In 2015, the Chinese government issued the Program on Ecological Civilization Reform, in which the development of national ETS is considered as one of important means to realize green and low carbon development.
Other evidence:	U.S.-China Joint Announcement on Climate Change, 2015 France-China Joint Announcement on Climate Change, 2015 China's NDC submitted to the UNFCCC, 2015
iii. Summary of stakeholder engagement and consultations with relevant ministries and other stakeholders regarding the development of the proposal, including:	
Key government ministries/agencies involved:	<p>National Development and Reform Commission (NDRC), Ministry of Finance, Ministry of Industry and Information Technology, Ministry of Environmental Protection, National Bureau of Energy, National Bureau of Statistics, Securities and Futures commission, Civil Aviation Administration of China.</p> <p>The NDRC is the responsible ministry leading the design and implementation of the ETS. The other ministries and agencies have actively participated in the consultation process throughout the policy development. In the implementation stage, the stakeholders will continue to be engaged in consultation and coordination of the detailed regulations development.</p>
Other stakeholders involved:	Chinese Academy of Engineering, Energy Research Institute, National Center for Climate Change Strategy and International Cooperation. Academic and research organizations are critical for the design of the ETS, including the modelling of the impacts and results of different ETS policies. Other stakeholders engaged in the consultation process including the state owned enterprises

	(SOEs), industrial associations, private sector businesses, and third party service providers.
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III. Progress made on PMR activities under the first proposal¹

The purpose of this section is to provide an assessment of the progress made on the initial PMR activities, as outlined in the first proposal, as well as to report on the allocation of funds and progress made on achieving the original objectives and outcomes.

i. Brief summary of the country's most recent Implementation Status Report (ISR), including:	
Objectives included in the first proposal:	<p>The objective of the China PMR (CPMR) project is to enable China to design a national ETS. To achieve that, the CPMR is comprised of the following components: (1) enabling design of key building blocks for a National Emissions Trading Scheme (ETS), and (2) China PMR Synthesis Report, Consultations and Project Management.</p> <p>In addition, the CPMR objective is measured through the following project-level intermediate output indicators:</p> <ol style="list-style-type: none"> 1) Proposal on methodologies of scope, coverage, caps and allocation (Sub-component 1.1) 2) Proposal on legal framework and oversight system (Sub-component 1.2) 3) Proposal of Measuring, Reporting, and Verification (MRV) system for the national ETS (Sub-component 1.3) 4) Proposal to improve the national registry (Sub-component 1.4) 5) Thematic research reports on state-owned enterprises (SOEs) and power sector (Sub-components 1.5 and 1.6) 6) Project synthesis report (Component 2)
Description of the progress made on the initial PMR activities:	The main activities for the CPMR are covered in Sub-components 1.1-1.6. The inception report and draft technical reports have been completed for each sub-component. Currently, this group of activities is progressing smoothly and the rate of disbursement

¹ In this document, "first proposal" refers to the first Market Readiness Proposals submitted by PMR Implementing Countries or the first Proposals for Targeted Technical Support submitted by Technical Partners to the Partnership Assembly.

	<p>has reached above 32%. The practical aspects of work have a higher completion rate (see attached most recent ISR).</p> <p>The CPMR Project has delivered policy recommendations (as interim outputs) to the NDRC on the proposed types of greenhouse gases to be covered, emission source boundary, threshold standards and the sectors to be covered in the initial national ETS. Based on this, the NDRC published a number of important national policies:</p> <ul style="list-style-type: none"> - The Notice on Key Works to Start the National Carbon Emissions Trading Market (No. 57, Document of NDRC, 2016) - Disaggregation Plan of the National Carbon Emission Target in the “Notice of the State Council on Issuing the Work Plan for Greenhouse Gas Emission Control During the 13th Five-Year Plan Period” (No. 61, Document of State Council, 2016) - Accounting and Reporting Template for Supplementary Data on Carbon Emissions by National Carbon Emission Trading Enterprises in Eight Industries (No.57 Document of the Department of Climate Change, NDRC, 2016) (Developed with joint support from a number of international partners) - Criteria for Third-Party Institutions and Personnel of National Carbon Emission Trading Scheme, (No.57 Document of the Department of Climate Change, NDRC, 2016) - Guidance on Third-party Verification of National Carbon Emission Trading Scheme, (No.57 Document of the Department of Climate Change, NDRC, 2016) <p>In addition, the highest-level legislative document “National Carbon Emissions Trading Management Regulation” has been approved by the NDRC and endorsed by ministries. It has entered the approval process of the State Council.</p>
<p>Progress made towards achieving the expected results and outcomes of activities under the first proposal:</p>	<p>Draft reports have been developed for sub-components 1.1-1.6 and have contributed significantly to the design of the national ETS, which is due to be launched in later part of 2017. Sub-components 1.7-1.12 are supporting ETS at the provincial level. The activities will complete the contracting process by February 2017.</p>
<p>ii. Important policy or regulatory developments:</p>	
<p>Since the PMR Partnership Assembly allocated funding for the implementation of China’s MRP, a number of important developments occur due to which the project has gained additional relevance. They include:</p> <ol style="list-style-type: none"> 1) In 2014, the central government considered the development of national ETS as one of the country’s economic reform works. 2) In the Government Work Report of 2015 presented by Premier Li Keqiang, 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 the national ETS is considered one of the important means to realize green and low carbon development.
- 4) In 2015, President Xi and Obama announced the China-U.S. Joint Statement on Climate Change, in which it was stated that China would launch its national ETS in 2017.
- 5) In 2015, in the document of the Fifth Plenary Session of the 18th CPC Central Committee, it was stated that the carbon quota allocation mechanism would be established and the carbon trading market would be developed.
- 6) In the Thirteenth Five Year Plan approved in March 2016, the development of the national ETS and establishment of allowance management is written in the Article on climate change, as one of important measures to be implemented in the next 5 years. In April 2016, the State Council accepted the draft “National Carbon Emissions Trading Management Regulation” in the national legislation process. Currently, first round of comment period is finished. The state council is revising the draft based on the comments. For the next steps, it would be a second round of comment in ministry and provincial level, 2nd the final draft should be approved by the executive meeting of the state council. With this, the legislation will become effective as the highest level national legislation, which governs the management and operations of the national ETS.

iii. Initial funding that has been committed for each of the activities under the first proposal:

US\$6.5 million has been fully committed to component 1 (key building blocks of the ETS) as of February 2017. This includes US\$2million for development of methodologies for coverage, cap, allocation and supplementary mechanisms; US\$1 million for development of a legal framework and oversight system, US\$0.8 million for development of a data collection and MRV system; US\$0.5 million for development of ETS registry; US\$0.3 million for research on participation of state-owned enterprises; US\$0.3 million for research on Power sector issues for a national ETS; and US\$1.6 for provincial level enterprise and economic data collection and consultation. Draft reports have been developed for the key building blocks and have contributed significantly to the design of the national ETS.

The remaining US\$1.5 million have been committed to support the synthesis report, on-going consultations and technical workshops and daily operation of the project management office.

IV. Scope of work and additionality of proposed activities

The purpose of this section is to provide details on the scope of the proposed activities, as well as to demonstrate ways in which they are expected to complement the initial PMR activities (as outlined in the country’s first proposal) and therefore help fill the identified readiness gaps.

i. Outline of the proposed activities and related deliverable(s) and timeline:

Based on the above referred additional needs that will be critical for the implementation of the national ETS, the proposed additional activities that will complement the existing MRP are (I) Study on

Sectoral Benchmarking on National ETS, and (II) Study on Carbon Market Finance Management System. Details of related deliverables and timeline are as the followings:

Activity 1 Studies on Sectoral Benchmarking

Objective: To propose policy recommendations on sectoral benchmarking and default values. The activity specifically complements, and will provide more extensive and intensive analysis for the eight key sectors, of the on-going CPMR Project's study on scope, coverage, cap setting and allocation. The CPMR study has supported the design of the general allocation methodology of the national ETS that will use the sectoral benchmarking approach for most of the sectors where data is available. This activity will support the next steps of operationalizing the methodologies by conducting deep-dives into each sector to refine, calibrate and enhance the data used to establish benchmarks. Ultimately the sectoral benchmarks will be updated to enhance effectiveness of allocations.

Timeline: Outputs of the activity will directly contribute to the development of sectoral benchmarking methodologies and default values that will be updated in year 2018, 2019 and 2020.

Specific activities include:

Activity 1.1 Industry research

Activity 1.2 Data summary and analysis

Activity 1.3 Data modeling and evaluation of the effectiveness of the initial allocations

Corresponding outputs include:

Output 1.1 Survey report of sectoral benchmarking

Output 1.2 The data model

Output 1.3 Policy recommendations on sectoral benchmarking

Output 1.4 Policy recommendations on the improvement of sectoral allowance allocation methodologies and MRVs

Activity 2 Studies on Carbon Market Finance Management System

Objectives: To support informing policy development for a regulatory environment that enables market liquidity and trading. This will be done through providing policy recommendations for a comprehensive carbon market finance management system. The on-going CPMR Project focuses on supporting the formulation of the ETS frameworks. Moving into its implementation phase, it is important that the carbon finance market develops so that it can play a role in the national ETS scheme, such that the system is not only a compliance system but that trading can occur. This activity provides support to prepare the readiness of the financial market to effectively participate in the ETS at the earliest possible stage.

Timeline: The first draft of the study shall be submitted no later than the 12th month, first draft of the policy recommendations shall be submitted no later than the 14th month, and the final policy recommendations shall be submitted before December 2019.

Specific activities include:

Activity 2.1 Study on the development and status of the carbon market finance system for the international carbon market and pilot region ETS, with a focus on the trading framework of allowances, auctioning, use of financial tools, and other related aspects.

Activity 2.2 Research on International and domestic pilot carbon financial products supervision and management system (focusing on market oversight).

Activity 2.3 China's carbon market finance development policy study (after National ETS Launch)

Activity 2.4 Evaluation on the carbon market finance system in the initial stage of national ETS

Corresponding outputs include:

Output 2.1 Review report on carbon market finance management system

Output 2.2 Policy recommendations on carbon financial products supervision and management

Output 2.3 Policy recommendations on mechanism of allowance auctioning of national ETS

Output 2.4 Policy recommendations on critical elements on carbon pricing of national ETS

Output 2.5 Policy recommendations on financing mode of mortgage on carbon allowance in the initial stage of national ETS

Activity 3 Trainings, consultation and dissemination workshops and project management

Training and dissemination of Activities 1 and 2 are included in Activity 3 of this proposal. The training budget has been allocated for the CPMR Project for the on-going activities. Detailed training and workshop activities are to be defined through the work plan prepared annually by the PMO. The targeted groups for training, consultation and dissemination will initially start with compliance enterprises from the sectors to support them build the capacity in understanding the benchmarking approach. Trainings and consultations will also be provided to central level and local level regulatory authorities, who will need to lead and or participate in the disaggregation of allowance from the central level to provincial level, and to the enterprise level. Industrial associations, research institutes and the wider groups of private sector and civil society stakeholders will be engaged in the consultations. It is expected that four large scale/major launch and dissemination workshops (around 100 persons) will be organized, however, through the implementation process numerous smaller workshops will be organized for interim consultations, for example, topics of sectoral emissions coefficients.

ii. Outstanding readiness gaps and risks/barriers to achieving the objectives of the first proposal and the country's overall mitigation goals:

Following the approval of the first MRP, the NDRC prepared with the Bank's team the China PMR (CPMR) Project to implement the MRP. The CPMR's project development objective (PDO) has been defined as to enable China to design its national ETS. The achievement of the PDO is measured by the CPMR's PDO level intermediate indicators. The CPMR implementation has been on track to meet its PDO. An initial policy framework of the national ETS has been developed by the NDRC with support of the CPMR. And the NDRC has accelerated the process to implement this important policy at the national level. To-date, the CPMR has reached significant impacts. For example, the CPMR Project has delivered policy recommendations (as interim outputs) to the NDRC on the proposed types of greenhouse gases to be covered, emission source boundary, threshold standards, and the sectors to be covered in the initial national ETS. Based on this, the NDRC published a number of important national policies:

- The Notice on Key Works to Start the National Carbon Emissions Trading Market (No. 57, Document of NDRC, 2016)
- Disaggregation Plan of the National Carbon Emission Target in the "Notice of the State Council on Issuing the Work Plan for Greenhouse Gas Emission Control During the 13th Five-Year Plan Period" (No. 61, Document of State Council, 2016)
- Accounting and Reporting Template for Supplementary Data on Carbon Emissions by National Carbon Emission Trading Enterprises in eight industries (No.57 Document of the Department of

Climate Change, NDRC, 2016) (Developed with joint support from a number of international partners)

- Criteria for Third-Party Institutions and Personnel of National Carbon Emission Trading Scheme, (No.57 Document of the Department of Climate Change, NDRC, 2016)
- Guidance on Third-party Verification of National Carbon Emission Trading Scheme, (No.57 Document of the Department of Climate Change, NDRC, 2016)

The highest level legislative document “National Carbon Emissions Trading Management Regulation” has been approved by the NDRC and endorsed by ministries. It has entered the approval process of the State Council.

In the context of China’s overall long-term mitigation goals, the national ETS will play an important role in finding the lowest cost path for the country to meet its NDC. As the national market moves into the implementation phase, the initial policy framework will need to be evaluated and refined; supplementary regulations will need to be developed to operationalize policy implementation. This proposal seeks funding for the most urgent readiness gaps between policy development and implementation.

Specifically, at the initial phase of the national ETS, urgent support is needed to refine allowance allocation, which is a critical element of ETS. Improving data quality, through deepening and widening data collection and reporting directly contribute to enhancing credibility and fairness of allocation. Sectoral benchmarks will be reviewed and improved with updated detailed data. This important exercise will address the gaps of data completeness and quality due to time limits prior to the launch. Looking forward, as the system matures over time, readiness needs to be built for financing for the carbon market. Price formation system, price stabilization mechanisms and compliance management will need to be further defined and strengthened for the market to be fully operational.

iii. Assessment of how the proposed activities are expected to complement the ongoing activities and help fill the readiness gaps:

Proposal on sectoral benchmarking. The State Council has approved the plan of allowance allocation, including the scope of ETS and allocation methodologies for each sector. The CPMR subcomponent 1.1 is working on the sectoral benchmarking study based on historical emissions reported by key enterprises. Outputs of this sub-component will provide the initial benchmarks for each sector. However, during implementation of the ETS, periodic assessment and renewal of benchmarking levels will be essential for promoting continuous improvements in sectoral efficiency. The proposed activities will support reviews and further research on the sectors in order to improve the sectoral benchmarking and default values in the implementation stage (from 2018-2020), and also refine the initial sets of allowance allocation methodologies.

Proposal on mechanism of price formation and carbon market financing management. Liquidity is an important indicator of the effective operation of the carbon emission trading system. Carbon market finance will need to play an important role to enable the optimal allocation of resources under the market mechanism by making use of the financial attributes of carbon trading products. At the national ETS preparation stage, the NDRC has focused on the key building blocks and their framework design due to time constraints. Timely research on this topic will enable the system to prepare for the next stage of implementation of a fully operational carbon trading market.

V. Budget, timeline and outputs

The purpose of this section is to provide an indicative budget and timeline for the proposed activities, including government or other co-financing, as applicable.

i. Outline of planned activities for the additional funding allocation:			
Please refer to the IV.i. above.			
ii. Timeline to complete these activities:			
(I) Studies on Sectoral Benchmarking			
The tasks of the consultant are expected to span over the implementation of the entire project, i.e. a total of 24 months from signing the contract to the end of the implementation period.			
(II) Studies on Carbon Market Finance Management System			
The tasks of the consultant are expected to span over the implementation of the entire project, i.e. a total of 24 months from signing the contract to the end of the implementation period.			
The activities expect to launch in June 2017, close in June 2019.			
Activity	Jan 2018	Dec 2018	Jun2019
Activity 1 Study on sectoral Benchmarking on National ETS	\	\	\
Activity 1.1 industry research	First draft of output 1.1	Second draft of output 1.1	Final Output 1.1 Survey report of sectoral benchmarking
Activity 1.2 Data summary and analysis	First draft of output 1.2	Second draft of output 1.2	Final Output 1.2 The data model
Activity 1.3 Data modeling	First draft of output 1.3 & 1.4	Second draft of output 1.3 & 1.4	Final Output 1.3 Policy suggestion on Sectoral benchmarking Final Output 1.4 Policy suggestion on the improvement of sectoral allowance allocation methodologies and MRVs
Activity 2 Study on Carbon Finance Management System	\	\	\
Activity 2.1 Study on the Development and Status of the Carbon Finance System for the	First draft of output 2.1	Second draft of output 2.1	Final Output 2.1 Study report on Carbon

International Carbon Market and pilot region ETS			financial management system
Activity 2.2 Research on International and domestic pilot carbon financial product management system	First draft of output 2.2	Second draft of output 2.2	Final Output 2.2 Research report on Carbon financial product management
Activity 2.3 Study on China's Carbon Finance Development (after National ETS Launch)	First draft of output 2.3 & 2.4	Second draft of output 2.3 & 2.4	Final Output 2.3 Policy suggestion on Carbon financial management system Final Output 2.4 Policy suggestion on Carbon financial product management
Activity 2.4 Evaluation on the carbon market finance system in the initial stage of national ETS	First draft of output 2.5	Second draft of output 2.5	Final Output 2.5 Policy suggestion on Carbon finance system in the initial stage of national ETS
Activity 3 Trainings and workshops	To be conducted according to annual work plan	To be conducted according to annual work plan	To be conducted according to annual work plan

iii. Financial requirements to support the proposed activities:

Activity	budget (US\$ million)
Activity 1	1.6
Activity 2	0.3
Activity 3	0.1
Total	2.0

iv. Funding sources to cover the financial requirements including:

PMR funding request:	Establishing an emissions trading scheme in China, such a large developing country, is a very complex systematic project, which requires lots of underlying technical work and related financial support. It is preliminarily estimated that more than \$200 million is needed. Until now about \$95 million has been committed to this effort by China's central and local governments, and
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	<p>approximately \$15 million is provided in form of a support from other donors, such as the EU, Norway, Germany, etc.</p> <p>The PMR supports China's effort to design the national ETS with \$8 million grant for the initial MRP activities. For the activities to complement the existing ones, the funding request is made for the amount of \$2 million, for which the specific budget allocations for the proposed activities are shown in the table below. Besides above mentioned, a number of bilateral cooperation projects on ETS are planned, including with Germany, Australia, Japan, to get capital and technology support from those countries.</p>																																								
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<p>Sources of funding for other activities:</p>	<p>The sources are mainly from the European Commission, Norway, Australia, Germany, UK, US. The above table only captures the projects have been established direct cooperation or consulted with the NDRC. Other international cooperation projects not directly coordinated with the NDRC are not recorded in the table.</p>
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Overview of activities and estimated overall budget

Activity	Output(s)	Time required for completion	Estimated completion date	Budget request from PMR (in USD)	<i>National government (if applicable) (in USD)</i>	<i>Other (if applicable) (in USD)</i>
Activity 1	<ul style="list-style-type: none"> - Survey report of sectoral benchmarking - The data model - Policy suggestion on Sectoral benchmarking - Policy suggestion on the improvement of sectoral allowance allocation methodologies and MRVs 	24 months	June 2019	1,600,000	200,000	700,000 (from German, Norway, and other countries; also from State owned enterprises and industry Association)
Activity 2	<ul style="list-style-type: none"> - Study report on carbon market finance management system - Research report on carbon financial product management - Policy suggestion on mechanism of carbon emission right auction of national ETS - Policy suggestion on critical elements on carbon price of national ETS - Policy suggestion on financing mode of mortgage on carbon allowance in the initial stage of national ETS 	24 months	June 2019	300,000	150,000	/
Activity 3	Trainings, consultation and dissemination workshops, and project management	12 months	June 2019	100,000	/	/
Total estimated budget (in USD)	/	/	/	2,000,000	350,000	700,000

VI. Expected Outcomes and Monitoring and Evaluation (M&E)

The purpose of this section is to provide the list of the outcomes that are expected from the implementation of additional activities and a plan to monitor and assess the progress of the proposed activities.

i. Overall objective and outcomes of proposed activities:						
<p>The overall objective of additional funding is to enhance readiness of the national ETS at its initial implementation phase.</p> <p>The policy framework and institutional arrangement will be enhanced for implementation at the launch of the national ETS.</p>						
ii. Indicators that measure progress towards achieving the stated outcomes:						
<p>Progress towards the outcomes of the activities will be measured by timely submissions of the outputs listed in the timeline of activities table under Section V(ii) above.</p> <p>The project-level intermediate output indicators:</p> <ol style="list-style-type: none"> 1. Enhanced sectoral benchmarking proposal made. 2. Policy recommendations on carbon market finance supervision and management system made. 						
iii. Proposed M&E arrangements:						
<p>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 impact of the project intervention. The CPMR PMO will continue to monitor and report the progress of the indicators.</p>						
Indicator Name	Baseline	2017	2018	2019	End Target	Data Collection
Proposal on sectoral benchmarking	Initial methods	First draft report	Final draft report	Final report	Report	PMO
Proposal on carbon market finance supervision and management system	N/A	First draft report	Final draft report	Final report	Report	PMO
iv. Implementing agency's capacity to monitor and evaluate project outcomes:						

The CPMR PMO, housed within the NDRC, will continue to implement the activities included in the proposal for additional PMR funding and current implementation arrangement with the World Bank as a delivery partner will be maintained, while the grant agreement would be amended accordingly. The CPMR PMO demonstrated satisfactory performance since the CPMR started implementation and has a capacity to implement the project. The PMO, led by the Deputy Director General responsible for the implementation of the national ETS, will be best suited to monitor and evaluate the project's impacts and outcomes.

VII. Annex

PMR PROJECT IMPLEMENTATION STATUS REPORT (ISR)

1. SUMMARY INFORMATION

Implementing Country/Technical Partner:	P.R. China
Reporting Period:	From April 1 st 2016 to December 15 th , 2016
Report Date:	January 23 rd , 2016
Implementing Agency:	Department of Climate Change, National Development and Reform Commission, PR of China (NDRC DCC)
Contact Person:	Mr. Wenbo LIU

Grant Executed By:	World Bank
Grant Effectiveness and Closing Dates:	03/23/2015 - 06/30/2018
Grant Amount (USD):	USD 8,000,000
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 is to enable China to design a national Emissions Trading Scheme (ETS).

Indicators

The Project Development Objective will be achieved when a proposal for a national carbon emissions trading system is put forward by the NDRC Department of Climate Change. In particular, the Project Development Objective will be achieved and measured through the following intermediate output indicators:

- 1) Proposal on methodologies of scope, coverage, caps and allocation. The first draft report has been submitted on March 2016. Detailed progress see Section 3.
- 2) Proposal on legal framework and governing system of the national ETS. The first draft report has been submitted on March 2016. Detailed progress see Section 3.
- 3) Proposal of the MRV system for the national ETS. The first draft report has been submitted on October 2016. Detailed progress see Section 3.
- 4) Proposal to improve the national registry. The first draft report has been submitted on May 2016. Detailed progress see Section 3.
- 5) Thematic research reports on SOEs and power sector. The first draft report for SOE and power sector have been submitted on November 2016 and October 2016, respectively. Detailed progress see Section 3.

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, will be 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 will be a continuous process of the project executed by the PMO and NDRC DCC.

The Communist Party of China (CPC) central committee and the State Council decide to launch the national ETS in 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.

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</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</p>
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<p>Delivery Partner and described in the Project's Results Framework?</p>	<p>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 NDRC DCC 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: Coverage, cap, allocation methodologies and supplementary mechanisms</p>	
<p>Status: Ongoing</p>	<p>A number of elements are essential to the functioning of an ETS. The first set of questions that need to be studied and addressed are the coverage and scope, cap setting, allocation, and price containment mechanisms of ETS. The inception report, outline of study report, and first draft report have been completed. Currently, the activities of this component are progressing smoothly. The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of 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 boundaries, enterprise threshold standards, and sectors included. 4) Determination of national emissions caps (ETS and non-ETS caps): Ongoing 5) Determination of regional emissions caps (ETS and non-ETS caps): Ongoing

	<p>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.</p> <p>7) Study on market regulation mechanisms: Ongoing</p> <p>8) Study on offset mechanisms: Ongoing</p> <p>9) Study on international ETS linkages: Ongoing</p>
<p>Comments:</p>	<p>The expected results will be achieved early than planned. According to the Programme Implantation Plan (PIP), the outcome of component 1 shall be submitted in 2018. Since the target date for initiation of national ETS is set to be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee, the NDRC should complete all related tasks as early as possible. According to schedule of reforming work, the main output of program of allowance allocation also has to be finished in 2016, i.e. the allowance allocation plan is approved by the State Council. All other main outputs, i.e. policy recommendations, will be finished in 2017.</p>
<p>B. Component 2: Legal Framework and supervision system</p>	
<p>Status: Ongoing</p>	<p>The smooth operation of the emissions trading scheme needs a comprehensive management and supervision mechanism. It is envisioned the ETS management and supervision system would cover the following elements on which studies and research will be done to provide and analytical basis and recommendations: management system governing the ETS trading market, linkage between national and pilot region, identifying the basic legal framework, identify key issues for an effective compliance mechanism for the ETS, assess the roles of domestic financial institutions and functions of carbon financial derivatives. The inception report, outline of study report, and first draft report have been completed. The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of the component activities is summarized as below:</p> <p>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</p>

	<p>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.</p> <p>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.</p> <p>3) Administrative Rules for Market Supervision of China’s National ETS: 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>The expected results will be achieved early. According to PIP, the outcome of component 4 would be also submitted in 2018. But now, the national target for initiation of ETS will be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee. That means the NDRC should finish all related tasks as early as possible. The issuance of rules is one of pre-conditions</p>

	of launching the ETS, so the objective for this activity is to be completed than planned.
C. Component 3: MRV system	
Status: Ongoing	<p>MRV may be covered by the ETS is an important feature for protecting the interests of participants and precondition for a well-functioning ETS Scheme. The inception report, outline of study report, and first draft report have been completed. The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of the component activities are summarized as below:</p> <ol style="list-style-type: none"> 1) Improve existing sectoral GHG emissions accounting methods and reporting guidelines: a) Completed the assessment of the application of GHG emissions accounting methods and reporting guidelines by different sectors in the seven pilot ETS regions; b) Completed the review and comparison of other emissions reporting methodologies (e.g. under the Ministry of Finance’s Energy Conservation Rewards Program) to the MRV system of the national ETS; c) Completed revisions of emissions accounting methods and reporting guidelines based on public and private stakeholder comments and recommendations 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 draft Supplementary Instructions for GHG Emissions Reporting by Key Companies and Institutions, including supplementary data reporting tables for 15 sectors 3) Develop Regulations for Third Party Verification Companies: Completed a draft for discussion of Interim Measures for Management 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. 4) Develop Guidelines for Third Party Verification Companies: Developed a discussion draft of Guidelines for Third Party, Verification of the National ETS, covering the principles, procedures, requirements for verification and review of reported data (including verification report template) 5) Design electronic reporting system for emissions verification: Ongoing

	6) Capacity building on emissions accounting and reporting for companies: a) Completed Training of Industry Accounting Reporting Guidelines, Supplementary Data Forms and Third Party Verification Guidelines, Shanghai, May 4-5, 2016; b) Completed Training of Industry Accounting Reporting Guidelines, Supplementary Data Forms and Third Party Verification Guidelines, Wuhan, September 20-22, 2016.
Comments:	The expected results will be achieved early. According to PIP, the outcome of component 3 would be also submitted in 2018. But now, the national target for initiation of ETS will be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee. This means the NDRC should finish all related tasks, including the regulations on MRV which should be issued before launch of the national ETS and the reporting platform, which is expected to be used in 2017. The regulations on MRV has finished the second draft, and will be issued in a certain time to support ETS launch.
D. Component 4: Improvement of registry	
Status: Ongoing	<p>The Norwegian Government has supported through the UNDP the NDRC DCC the design and development of the framework of a national registry. PMR grant to refine the existing framework by providing analytical support on special topics such as the relations between the national and local registry, clarifying their function depending on the final design. The inception report, outline of study report, and first draft report have been completed. Currently, the activities of this component are progressing smoothly. The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of the component activities are 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.

	<p>4) Software development/ update: Completed software changes identified in Task 3.</p> <p>5) User manual update: Updated user manual based on the changes to the registry completed in Task 4.</p>
<p>Comments:</p>	<p>The expected results will be achieved early. According to PIP, the outcome of component 4 would be also submitted in 2018. But now, the national target for initiation of ETS will be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee. That implies that the NDRC should finish all related tasks as early as possible. The national registry should be improved continuously and the management agency is expected to be launch registry when the National ETS needed.</p>
<p>E. Component 5: Research on large state-owned enterprises</p>	
<p>Status: Ongoing</p>	<p>This sub-component will provide analytical support to assess barriers and propose measures to facilitate inclusion of State Owned Enterprises (SOE). The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of the component activities are 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: Ongoing 4) Study of SOE carbon trading management system: Ongoing 5) Technical Assistance to the PMR PMO: Completed preliminary report based on above progress in November 2016.

<p>Comments:</p>	<p>The expected results will be achieved a little bit early. The national target for initiation of ETS will be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee. This implies that the NDRC should finish all related tasks as early as possible. According to schedule of reforming work, the key task of program of allowance allocation has to be finished before national launched.</p>
<p>F. Component 6: Research on power sectors</p>	
<p>Status: Ongoing</p>	<p>The component will provide supplementary analytical support for special topics relating to the inclusion of the power sector in the national ETS including in areas of scope, cap setting methodology, MRV and other supporting policies that would be needed to include effective participating of the power sector in the ETS. The inception report, outline of study report, and first draft report have been completed. The completion rate of the project is about 50% based on the actual disbursement, while the actual completion rate, based on the completion of activities and related deliverables is higher. The activity progress is following the development of the ETS, which has been faster than planned; but the disbursement is still following the sub-component contract, which is in line with the original schedule.</p> <p>The progress to date of 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: <ol style="list-style-type: none"> 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, 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 3) Study of allocation methods and standards for power sector emission allowances: <ol style="list-style-type: none"> 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

	<p>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>The expected results will be achieved a little bit early. The national target for initiation of ETS will be in 2017 and the development of ETS is included in the key reforming works led by the Party Central Committee. That implies that the NDRC should complete all related tasks as early as possible, including on the power sector. According to schedule of reforming work, the key task of program of scope, cap setting methodology, MRV and other supporting policies in the power sector has to be finished before national launched.</p>
<p>G. Component 7: Supportive researches from 32 provinces (including Xinjiang Production and Construction Corps)</p>	
<p>Status: Ongoing</p>	<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,</p>

	<p>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 will be signed in Q1 of 2017.</p> <p>Component 7 was meant to provide support to 32 provinces in China to help them prepare for joining the national ETS. In practice, the NDRC found that, given the existing capacity and financial resources, it would be more efficient to concentrate in several key provinces. As a consequence, after the extensive consultations, the NDRC select 6 key provinces to support for them make out necessary preparation work. This component is now under procurement process.</p>
<p>Comments:</p>	<p>The expected results will be achieved on time. Capacity and progress of provinces differs are taken into account and the resources are used in the most cost-efficient manner. The component helps the six selected provinces to participate the national ETS, especially in the data collection and capacity building of enterprises and local governmental officers.</p>

4. PROGRESS, CHALLENGES, AND LESSONS LEARNED

<p>Important policy or regulatory developments related to the Grant's objectives and activities:</p>
<p>Developments:</p> <p>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:</p> <ol style="list-style-type: none"> 7) In 2014, the central government considered the development of national ETS as one of economic reform works. 8) 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. 9) 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. 10) 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. 11) 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.

12) 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.

13) In April 2016, the State Council agreed to put the rules of national ETS in the waiting list of laws to be issued.

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 NDRC 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. 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.

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:
1) Adjustment of Component 7

Refers to session of Implementation Progress by Component.

2) Identified Needs for Additional Activities

The general target of CPMR is that to assist China government to construct national ETS, relative activities is serve for national ETS formation. Considering the construction goes into a new stage, many new issues are raised and should be settled urgently. Regarding this, combined with the key work of ETS, the proposed additional activities are (I) Study on Sectoral Benchmarking on National ETS, and (II) Study on Carbon Finance Management System.

Proposal on sectoral benchmarking. Currently the State Council has approved the plan of allowance allocation, including determination of the scope of ETS and allocation methodologies for each sector. The PMR subcomponent 1.1 consists of the sectoral benchmarking study based on historical emissions reported by key enterprises. Outputs of this sub-component will provide the initial benchmarks for each sector. However, during implementation of the ETS, periodic assessment and renewal of benchmarking levels will be necessary to promote continued improvements in energy utilization efficiency. The proposed activities will support experts to investigate and improve the sectoral benchmarking and default values in the implementation stage (from 2018-2020), and also improve upon the initial allowance allocation methodologies.

Proposal on mechanism of price formation and carbon financing management. A reasonable and stable market is an important indicator of the effective operation of the carbon emission trading system. The development of carbon finance is an important means to realize the optimal allocation of resources under the market mechanism by making use of the financial attributes of carbon trading products. So far, the Department of Climate Change NDRC has not studied the topic of carbon financing systematically, and this aspect was not included in the original MRP proposal. The proposed

activities will support the development of policy recommendations for a carbon finance management system for China's ETS.

Challenges:

For the two additional activities outlined above, additional funding of US\$ 2 million will be needed, for which China has submitted a proposal to the PMR Partnership Assembly for additional resources to complement its ongoing activities. Lessons learned from the PMR project implementation (including on the procurement and contract management) are expected to help the smooth and accelerated implementation of the proposed additional activities.

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

Developments:

Institutional:

- 1) Local DRCs 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 NDRC 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.

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.

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 NDRC is using the capacity building events to also conduct wider stakeholders' consultations.
- 5) The 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.