

# Terminal Evaluation Report

Basic Report Information	
Title of UNDP-supported GEF-financed project	ENABLING CHINA TO PREPARE ITS THIRD NATIONAL COMMUNICATION TO THE UNFCCC (TNC)
UNDP PIMS ID	5032
GEF ID	4882
TE timeframe and date of final TE report	November 11, 2020-March 3, 2021
Region and countries included in the project	China
GEF Focal Area/Strategic Program	GEF-5 Climate Change Strategic Objective
Executing Agency, Implementing partner and other project partners	Ministry of Ecology and Environment (MEE); National Development and Reform Commission (NDRC)
TE Team members	Litong Xu (international consultant), Prof. Zhijie Wei, Jifeng Li (national consultant)

## ACKNOWLEDGEMENTS

The TE team would like to thank all who assisted in the evaluation process, particularly the MEE PMO and UNDP China for providing technical and logistic support. For all the stakeholders (project teams from UNDP and MEE, PSC members, TAP members, subcontractors) who took time to receive our interview and gave their insights, we owe them a profound debt of gratitude.

The report is developed in compliance with the terms of reference for the assignment. The conclusions and recommendations set out in the following pages are solely those of the evaluators and are not binding on the project management and sponsors.

# ACRONYMS AND ABBREVIATIONS

2NC	Second National Communication
3NC	Third National Communication
4NC `	Fourth National Communication
APR	Annual Project Report
AR4	The Fourth Assessment Report
BEF	Biomass expansion factor
BOD	Biological Oxygen Demand
BUR	Biennial Update Report
CAAS	Chinese Academy of Agricultural Sciences
CAF	Chinese Academy of Forest
CAS	Chinese Academy of Sciences
CASS	Chinese Academy of Social Sciences
CCA	Climate change adaptation
CCM	Climate change mitigation
CDM	Clean Development Mechanism
CH4	Methane
CICETE	China International Center for Economic And Technical Exchanges
CMA	China Meteorological Administration
CNCCP	China's National Climate Change Programme
CO2	Carbon dioxide
COD	Chemical Oxygen Demand
COP	Conference of Parties
CRAES	Chinese Research Academy of Environmental Sciences
DOC	Degradable organic composition
EA	Executing agency
ERI	Energy Research Institute
FEEI	Forest Ecology & Environment Institute of Chinese Academy of Forestry
FOD	First Order Draft
GDP	Gross domestic product
GEF	Global Environment Facility
GHG	Greenhouse gas
GOC	Government of China
GWP	Global warming potentials
HFCs	Hydrofluorocarbons
IAP	Institute of Atmospheric Physics (of Chinese Academy of Sciences)
ICA	international consultation and analysis
ICE	Information, Communication and Education
IEDA	Institute of Environment and Sustainable Development in Agriculture, CAAS
IFEFP	Institute of Forest Ecology, Environment and Protection (of Chinese Academy of Forestry)
INC	Initial National Communication

IPCC	Intergovernmental Panel on Climate Change
LFA	Logical framework analysis
LHV	Low Heating Value
LNG	Liquid natural gas
LUCF	Land use change and forestry
LULUCF	Land use, land use change and forestry
MCF	Methane correction factor
MDGs	Millennium Development Goals
MEE	Ministry of Ecology and Environment
MEP	Ministry of Environmental Protection
MERP	Methane emission of rice paddy field
MFA	Ministry of Foreign Affairs
MOF	Ministry of Finance
MOST	Ministry of Science and Technology
MOT	Ministry of Transport
MSW	Municipal solid waste
N <sub>2</sub> O	Nitrogen monoxide
NBS	National Bureau of Statistics
NC	National Communication
NCSC	National Center for Climate Change Strategy and International Cooperation
NDC	nationally determined contributions
NDRC	National Development and Reform Commission
NEX	National Execution
NGO	Non-governmental Organization
NLGCC	National Leading Group on Climate Change
NPC	National Project Coordinator
NPD	National Project Director
ODS	Ozone depleting substances
PC	Project Coordinator
PFCs	Perfluorocarbons
PIR	Project Implementation Report
PMO	Project Management Office
PRC	People's Republic of China
PSC	Project Steering Committee
PWLW	Paddies Water-Logged in Winter
SAR	Special Administrative Regions
SCCF	Special Climate Change Fund (under UNFCCC)
SEPA	State Environmental Protection Administration
SF <sub>6</sub>	Sulfur hexafluoride
SMART	Specific, measurable, attainable, relevant and time-sensitive
SNC	Second National Communication
SOC	Soil organic carbon
TAP	Technical Advisory Panel
TNC	Third National Communication

TOR	Terms of Reference
TPR	Tripartite review
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
V&A	Vulnerability and Adaptation

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# EXECUTIVE SUMMARY

## PROJECT INFORMATION TABLE

Table 1 PROJECT INFORMATION TABLE

Project Details		Project Milestones	
Project Title	Enabling China to Prepare Its Third National Communication to the UNFCCC (TNC)	PIF Approval Date:	October 1, 2012
UNDP Project ID (PIMS #):	5032	CEO Endorsement Date (FSP) / Approval date (MSP):	July 18, 2014
GEF Project ID:	4882	ProDoc Signature Date:	March 3, 2015
UNDP Atlas Business Unit, Award ID, Project ID:	88737	Date Project Manager hired:	October 17, 2014
Country/Countries:	CHINA, People's Republic	Inception Workshop Date:	March17, 2015
Region:	Asia-Pacific	Mid-Term Review Completion Date:	June 17, 2018
Focal Area:	Climate Change	Terminal Evaluation Completion date:	March, 2021
GEF Operational Programme or Strategic Priorities/Objectives:	GEF-5 Climate Change Strategic Objective	Planned Operational Closure Date:	March 3, 2019  First Extension Closing Date June 31, 2020 Second Extension Closing Date December 3, 2020
Trust Fund:	GEF Trust Fund		
Implementing Partner (GEF Executing Entity):	National Development & Reform Commission (NDRC), Ministry of Ecology and Environment (MEE)		
NGOs/CBOs involvement:			
Private sector involvement:			
Geospatial coordinates of project sites:			
Financial Information			
PDF/PPG	at approval (US\$M)		at PDF/PPG completion (US\$M)
GEF PDF/PPG grants for project preparation			
Co-financing for project preparation			

Project	at CEO Endorsement (US\$M)	at TE (US\$M)
[1] UNDP contribution:	100,000	100,000
[2] Government:	800,000	1,143,219
[3] Other multi-/bi-laterals:		
[4] Private Sector:		
[5] NGOs:		
[6] Total co-financing [1 + 2 + 3 + 4 + 5]:	900,000	1,243,219
[7] Total GEF funding:	7,280,000	7,280,000
[8] Total Project Funding [6 + 7]	8,180,000	8,523,219

## PROJECT DESCRIPTION

This project is to enable China to fulfill its commitments under the UNFCCC to prepare its Third National Communication (3NC) and Initial Biennial Update Report (BUR) and to gradually establish a supporting system of developing NCs and BUR in accordance with the Guidelines for the Preparation of National Communications from Non-Annex I Parties (17/CP.8) and Biennial Update Reporting Guidelines for Non-Annex I Parties (2/CP.17) adopted by the Conference of Parties (COP). Based on the experience and lessons learned from the previous two NCs, the project will broaden and consolidate the network of stakeholders, including those in the government, research and education institutions, associations, social groups, enterprises, individuals and NGOs, enhance technical capacity of national experts, and strengthen the institutional framework for the preparation of NCs and BURs. Furthermore, the project will place greater emphasis on relevant policies on mitigation of and adaptation to climate change and the results of their implementation, promote the establishment and improvement of the domestic systems for measurement, report and verification, so as to enable China to effectively address climate change in the process of pursuing national sustainable development.

The project will develop comprehensive national Greenhouse Gas (GHG) inventory of 2010 and 2012, with extended categories and sources of GHG emissions and reduced uncertainties of the inventory. It will further improve the national GHG inventory database management system, with a view to administering inventory data in a more scientific way and making the preparation of GHG inventories a continuing process. The project will further improve the approach for projecting GHG emissions in China and estimate China's CO<sub>2</sub> emission from energy activities in 2025. It will also identify key impacts of climate change and corresponding adaptation measures, describe relevant policies and measures which China adopts to address climate change, and introduce the activities of enhancing public awareness on climate change. It will provide relevant information on addressing climate change by Hong Kong and Macao. The project will lead to the submission of the 3NC and BUR to the Conference of the Parties (COP) to the UNFCCC.

## EVALUATION RATINGS TABLE

Table 2 EVALUATION RATING TABLE

1. Monitoring & Evaluation (M&E)	Rating
M&E design at entry	S
M&E Plan Implementation	S
Overall Quality of M&E	S
2. Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	Rating
Quality of UNDP Implementation/Oversight	S
Quality of Implementing Partner Execution	S
Overall quality of Implementation/Execution	S
3. Assessment of Outcomes	Rating
Relevance	HS
Effectiveness	HS
Efficiency	MS
Overall Project Outcome Rating	S
4. Sustainability	Rating
Financial sustainability	L
Socio-political sustainability	L
Institutional framework and governance sustainability	L
Environmental sustainability	L
Overall Likelihood of Sustainability	L

## CONCLUSIONS AND LESSONS LEARNED

TNC is aligned with the development strategy and priority of GEF/UNDP, GOC, and the project is of significant help to achieve national and global environment benefit. The Chinese Government at the highest levels has expressed its support for full compliance to the UNFCCC. As such, the TNC project have been effectively used as platform on which to improve understanding of climate change in China and to inform CC policies across all important economic sectors.

The project design draw lessons learnt from previous NC projects, the decision-making process involved all the major stakeholders, the implementation proved that the project design and Logframe is SMART.

The project experienced 2 big, unexpected changes in its implementation period. In mid-2019 the GOC initiated the national wide administrative restructuring, which moved the entire project management from NCRC to MEE. In late 2019, the Covid-19 hit the project. The project therefore extended twice. The TE found that Implementing and Executing Agencies have adaptively managed the project, making refinements to planned project implementation mechanisms based

on learning from this and other projects, and to adapt to the changing development context. The PMO's performance in the whole progress towards the desired results is effective, exercising enough capacity and intelligence in adapting to changing situations and priorities; however, due to the inefficient financial planning and time-consuming approval procedure, the delivery rate of the project had been chronically low.

All targets of project outcomes have been fulfilled. In terms of project goal and objective, the actual achievements significant exceeded the targets set in the ProDoc.

The Project's partners and stakeholders have significantly always been manifesting their strong support and commitment to the success of the project. The project's experience and approach, including project management mechanism and key activities are replicable and sustainable in the future GOC or GEF-UNDP projects.

The overall TE rating of the project is shown in Table 2 EVALUATION RATINGS TABLE.

The lesson learnt from the TNC project is, as a project management team, you must be prepared for the unprepared, in other word, adaptive management is critical to the success of a project.

The major changes during project implementation were the two extensions, which resulted a series of consequential adjustments to the project implementation and results.

In March 2019, as discussed in the MTR report, the GOC restructuring began, which was unanticipated by the project design, and later led the project management totally moved from NDRC to MEE. On May 31, 2019, MEE requested the first extension of the project from its termination date extended from June 2019 to September 30, 2020. According to the MEE's request, apart from some minor reasons (preparing of 4NC project and better knowledge sharing), the main reason is that local governments must restructure Department of Climate Change (DCC) from local Development and Reform Commission (DRC) to local Bureau of Ecology and Environment (BEE). Accordingly, As the institutional restructuring of the local governments has not yet been completed until March 2019, some of the activities of the 3NC Project in 2018 have not yet been carried out. The request was reviewed and agreed by UNDP, and later approved by the TPR meeting.

In late December 2019, the Covid-19 broke out in China nationwide. The project, like the nation, was in suspension for several months. On August 25, 2020, MEE filed the second extension request with termination date putting forward to December 3, 2020. Given the obvious reason, the UNDP agreed with and TPR meeting approved the extension.

In response to the unprecedented big changes and inevitable extensions as the consequence, the UNDP, MEE, and the PMO communicated closely and reacted actively. The work plan was revised, the activities and budget plan were adjusted accordingly in consistence with the formal GEF/UNDP procedure and rules. As a result, all the major designed targets (namely the 2BUR, 2BUR, TNC) had been completed and submitted to the Convention on time. Besides of the completion of all the original planned activities, the project took advantage of the opportunities, added several

additional activities aiming to achieve the following extra achievements: 1) Technical guidance and support of the provincial level inventory development, which resulted in the release of 62 inventory reports covering 32 provinces in both the year 2012 and 2014; 2) development of 4NC project, which resulted in the submission of 4NC PIF document; 3) Research and proposal of mainstreaming the NC related activities into the MEE administration.

In conclusion, the TNC addressed the unexpected risks well with effective adaptive management skills. From its experiences, the key of coping with the risks is close cooperation among the management team, Implementing Agency, Executing Agency, and stakeholders.

## RECOMMENDATIONS

*Table 3 RECOMMENDATIONS TABLE*

Rec #	TE Recommendation	Entity Responsible	Time frame
A	Comprehensively incorporate the best practices and lessons learnt of TNC into 4NC preparation and implementation		
A.1	<i>–More specific plan on risk control and adaptive management</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
A.2	<i>–More inclusive stakeholder involvement plan</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
A.3	<i>–Feasibility study to move the PMO to the outside of MEE</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
B	Information dissemination internationally		
B.1	<i>–Documentation, and Dissemination of Success Stories, as well as more knowledge sharing actions</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
B.2	<i>–Seek new South-South cooperation project under the coordination of UNDP</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>

# 1 INTRODUCTION

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## 1.1 EVALUATION PURPOSE

The objective of the TE is to gain an independent analysis of the progress of the project. The Terminal Evaluation will identify potential project design problems, assess progress towards the achievement of the project objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP-GEF projects), and make recommendations regarding specific actions that should be taken to improve the project in future. The TE will assess early signs of project success or failure and identify the necessary changes to be made. The project performance will be measured based on the indicators of the project's logical framework and various Tracking Tools.

## 1.2 SCOPE OF THE EVALUATION

The scope of the TE covers the entire UNDP/GEF-funded project and its components as well as the co-financed components of the project.

The TE assessed the project implementation taking into account the status of the project activities and outputs and the resource disbursements made up to the point of the start of the review.

The evaluation involved analysis at two levels: component level and project level. On the component level, the following were assessed:

- Whether there is effective relationship and communication between/among components so that data, information, lessons learned, best practices and outputs are shared efficiently, including cross-cutting issues.
- Whether the performance measurement indicators and targets used in the project monitoring system are specific, measurable, achievable, reasonable and time-bounded to achieve desired project outcomes.
- Whether the use of consultants has been successful in achieving component outputs.

The evaluation included such aspects as appropriateness and relevance of work plan, compliance with the work and financial plan with budget allocation, timeliness of disbursements, procurement, coordination among project team members and committees. The issues or factors identified as impeding or accelerating the implementation of the project or any of its components, including actions taken and resolutions made had been highlighted.

On the project level, TE assessed the project performance in terms of: (a.) Progress towards achievement of results, (b.) Factors affecting successful implementation and achievement of results, (c.) Project Management framework, and (d.) Strategic partnerships.

### 1.3 METHODOLOGY

The TE process followed a collaborative and participatory approach ensuring close engagement with key participants including the Commissioning Unit, Country Office M&E Focal Points and Programme Officers, Government counterparts and other key stakeholders. A mixed methods approach was adopted in the TE process with a combination of qualitative and quantitative evaluation methods and instruments.

The TE Team became well versed as to the project objectives, historical developments, institutional and management mechanisms, activities and status of accomplishments. Information were gathered through document review, group and individual interviews and site visits. Review relevant project documents and reports will be based on the following sources of information: review of documents related to the project and structured interviews with knowledgeable parties.

The team reviewed all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review. The list of documents that TE Team received and reviewed is as follows:

- The Project Document and Project Brief
- Inception Report
- Annual Work and Financial Plans
- Annual Project Report/Project Implementation Review (APR/PIR)
- Executive summary of all quarterly reports
- Internal monitoring results
- Terms of Reference for past consultants' assignments and summary of the results
- Past audit reports

Interviews were held with the following organizations and individuals:

1. UNDP country office.
2. Executing agencies (including NPD and task team/ component leaders: MEE, key experts and consultants.
3. PSC members and TAP members.
4. Key subcontractors.

5. Other stakeholders, including academia, representatives from sectors covered by TNC.

TE Team conducted the project review according to international criteria and professional norms and standards as adopted by the UN Evaluation Group.

## 1.4 DATA COLLECTION AND ANALYSIS

In Section 1.3 the report elaborated how data has been collected and analyzed. This includes the sources of information (documents, stakeholders, beneficiaries, etc.), the rationale for their selection and how the information obtained addressed the questions in the Evaluation Criteria Matrix. Lists of documents reviewed and persons interviewed were annexed to the report.

In order to ensure maximum validity and reliability of data, the TE team used triangulation of the various data sources and describe in the TE report the methods used for triangulation.

## 1.5 ETHICS

The TE followed the highest ethical standards. and signed a code of conduct upon acceptance of the assignment. The evaluation was conducted in accordance with the principles outlined in the United Nations Evaluation Group (UNEG) 'Ethical Guidelines for Evaluations'.

## 1.6 STRUCTURE OF THE TE REPORT

The evaluation report is structured in the following sections:

- The first section is the summary of the overall TE assignment.
- The second section of the report outlines the Purpose and Methodology of the Evaluation.
- The third section then presents the Project Development Context and gives a background to the relevant activities in China, as well as the project profile.
- Section 4 of the report reviews and evaluates the following: A) the project formulation and progresses by far toward results. The section first presents a review of Project Concept and Design, and then the results achieved under each of the seven main component Outcomes, assessing relevance, effectiveness, and efficiency of project delivery to date. B) Project Implementation and the impact of processes that affected attainment of the intended results. It includes the analysis of stakeholder involvement, Implementing and Executing Agencies performance, financial management of the project. mechanisms used to monitor, evaluate, and adaptively manage the delivery and performance of the project, the assessment of the monitoring and evaluation plan and the implementation and effectiveness of monitoring and evaluation activities. C) Progress towards objective and expected outcomes, and the likelihood of sustainable Impact.
- The final section of the report summarizes Lessons and draws together the evaluators' Recommendations to consolidate the results achieved and increase the likelihood of sustainable impact in future related actions. Evaluation Ratings are provided by the TE as an



indication of the overall conclusions reached by the TE on the core aspects of Project Design, Implementation, Monitoring and Evaluation, Stakeholder Involvement, and the extent of achievement of each of the 7 project Outcomes under the GEF evaluative criteria of Relevance, Effectiveness and Efficiency. The likelihood of Sustainable impact is also rated, looking specifically at financial, institutional, socio-economic, and environmental aspects of sustainability, following the GEF sustainability rating criteria.

## 2 PROJECT DESCRIPTION

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### 2.1 PROJECT START AND DURATION

The detailed project timeline is presented in Table 1 PROJECT INFORMATION TABLE in this report. PIF was approved on October 1, 2012. The Project Document (ProDoc) was officially signed on March 3, 2015 which marked the official commencement of the Project. The inception meeting was held on March 17, 2015. The original project duration was 4 years according to the approved ProDoc. The four-year TNC Project is expected to be completed by March 3, 2019.

The time span of the project was extended twice, and actual termination date of the project was December 3, 2020. As one of the major significant changes occurred in the project, the causes and fallout of the extensions were discussed specifically in Section 3.2.1 of this report.

### 2.2 DEVELOPMENT CONTEXT

Climate is an important component of the natural environment that sustains human beings. A moderate and stable climate system is essential for the survival and evolution of all living creatures, and necessary for the sustainable development of human society. Scientific research concludes that the global climate is undergoing a significant change – climate system is warming, and extreme climate events have become more frequent. Global climate change will affect human society in all aspects. It will not only affect the stability of ecosystem, but also the development of human society.

Undoubtedly, climate change attaches great concern of the global community. The Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) states that “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations”. In addition, the Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC) has further strengthened the scientific conclusion that human activity accounts for climate change. As international consensus on addressing climate change continues to deepen and China’s strength increases, China is faced with a new situation regarding the climate change issue.

There are many measures have been taken to address climate change effectively and efficiently, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted by the international community in June 1992 and came into force in March 1994, thanks to the joint efforts of all related parties. The UNFCCC stipulates clearly that the Parties to the Convention shall protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Additionally, the UNFCCC also requires all Parties to submit national inventories, which include anthropogenic emissions by sources and removals by sinks of all greenhouse gases (GHGs). It further provides that all Parties shall formulate, implement, publish and regularly update national programmes to address climate change, promote the development

and application of technologies that reduce or prevent anthropogenic emissions of GHGs. Moreover, it is urgent to improve the sinks of GHGs, develop adaptation plan and promote the exchange of information about climate change and response measures; promote education, training and public awareness related to climate change. According to the UNFCCC, each Party has the responsibility to exchange communication, including a national inventory of emissions by sources and removals by sinks of all GHGs, a general description of steps taken and envisaged to implement the UNFCCC as well as other information that the Party considers appropriate.

The Chinese government attaches great significance to its international obligations, and engaged officials and experts of relevant government departments, social groups, research institutes, universities and enterprises to develop China's Initial National Communication (hereinafter referred to as INC) in accordance with the UNFCCC Guidelines for the preparation of national communications from non-Annex I Parties. The INC was completed after 3-year concerted efforts of more than 400 experts from about 100 organizations and submitted to the Secretariat of the UNFCCC in October 2004. In 2008, China launched the preparation of its Second National Communication (hereinafter referred to as 2NC). After four-year coordinated efforts of relevant government departments, scientific research institutions, universities, state-owned enterprises and civil societies, with further elaboration by the National Leading Group on Climate Change (NLGCC), the 2NC was completed and approved by the State Council in 2012 and submitted to the UNFCCC on 8 November 2012. The compilation of 2NC was based on the guidelines for the preparation of the second national communications from non-Annex I Parties, which were adopted by the Conference of the Parties (COP) at its eighth session.

The 2NC is composed of 8 parts providing information on national circumstances, national GHG inventory, climate change impacts and adaptation, policies and actions for climate change mitigation, other relevant information on achieving the objective of the Convention, needs for financial support, technologies and capacity building, basic situation of the Hong Kong Special Administrative Region (SAR) and Macao SAR on addressing climate change. The 2NC has fully reflected China's national circumstances related to climate change. Overall, China will sincerely carry out all the tasks in the China's National Climate Change Programme, strive to build a resource conservative and environmentally friendly society, enhance national capacity to mitigate and adapt to climate change, and make further contribution to the protection of the global.

## **2.3 PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS**

In this context, the Third National Communication of the People's Republic of China on Climate Change (hereinafter referred to as 3NC) project will be conducive for China to establish national systems, methodologies and further strengthen coordination and institutional arrangements for the preparation of national communications. It will further strengthen China's capacity to develop national GHG inventory, including the capacity to determine activity data, appropriate emission factors, collecting field measurement data and controlling inventory quality. The 3NC will enhance China's ability to project future GHG emissions, develop and maintain national GHG emission database. The 3NC will comprise 2012 national GHG inventory and emission projections, policies and measures for climate change mitigation, analysis on mitigation actions, and institutional

structure of Measurement, Reporting and Verification (MRV), promotions for public awareness related to climate change, GHG inventory and basic information of the Hong Kong SAR and Macao SAR on addressing climate change. It will also assess the impacts of and vulnerability to climate change to identify adaptation options in the short and long terms.

Decision 2/CP.17 adopted by the seventeenth session of the Conference of the Parties (COP) of the UNFCCC stipulates that “non-Annex I Parties, consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report by December 2014. In using the Guidelines, non-Annex I Parties should take into account their development priorities, objectives, capacities and national circumstances. Non-Annex I Parties shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. The first biennial update report submitted by non-Annex I Parties shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and that subsequent biennial update reports shall cover a calendar year that does not precede the submission date by more than four years”. Therefore, the preparation and submission of China’s Initial Biennial Update Report (hereinafter referred to as BUR) will be important demonstration and guarantee to improve the consistency, transparency, integrity, accuracy and timeliness of data contained in its national communications.

The 3NC and the BUR will enable China to better assess domestic climate change impacts, vulnerability and adaptation measures, enhance China’s capacity in measurement, statistics and monitoring, and promote public awareness related to climate change. On the other hand, the preparation of the 3NC and the BUR will also demonstrate and strengthen China’s efforts to address climate change. It will assist the international community to better comprehend China’s climate change actions and enhance international cooperation and exchanges.

## **2.4 IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT**

The project goal is to enable China to prepare and submit the 3NC and BUR to the UNFCCC in accordance with Article 12 of the Convention, Decision 17/COP 8 and Decision 2/COP 17.

The overall objective of the project is to strengthen capacity in integrating climate change concerns into national and sector development priorities while fulfilling obligations to the UNFCCC.

## **2.5 EXPECTED RESULTS**

By implementing the designed activities under the above components, the TNC seeks to achieve the following results by the end of the project:

1. Updating of National GHG Emission Inventory and GHG Inventory Database, and Enhancement of GHG Emission Forecasting and Modeling Systems.

2. Assessment on Impacts of, Vulnerability and Adaptation to Climate Change.
3. Updating of Climate Change Mitigation, Measures, Options and Actions for 3NC.
4. Improving Public Awareness and Informing Policy Decision Making on Climate Change.
5. Inventory of GHG Emissions and Other Relevant Information on Climate Change in Hong Kong and Macau SARs.
6. Supplementary Support for Achieving Convention Objectives and Publication and Dissemination of the 3NC Report.
7. Supporting China Biennial Update Report completed and Submitting to the UNFCCC.

The quantitative targets of these results are specified in the ProDoc PPM as follows:

*Table 4 EXPECTED RESULTS*

Indicator	Incremental Target
No. of CCM and CCA measures formulated under the 3NC process and included in the completed 3NC Report that are planned for implementation by end-of-project (EOP)	4
Completed and submitted Third National Communications Report to the UNFCCC	1
No. of Biennial Update Reports completed by EOP	2
No. of GOC agencies/institutions that are actively involved in the inventory and analysis of sectoral GHG emissions by EOP	25
No. of center and local governments that integrate CCM and CCA concerns in their development planning by EOP	32
No. of national and local government agencies, and private sector entities that were involved in the 3NC process (inclusive of BURs) by EOP	45

## 2.6 MAIN STAKEHOLDERS

In general, the stakeholders of the Project encompass organizations and groups involved in GHG emission administration, research, and related industries and sectors. The mandates of these stakeholders are directly or indirectly linked to the outcomes of developing TNC and enhancing national capacity of mitigating or adapting climate change.

The project's main stakeholders and their respective roles are described in Annex VII.

## 3 FINDINGS

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### 3.1 PROJECT DESIGN/FORMULATION

#### 3.1.1 *Analysis of Results Framework*

The Project was conceptualized and designed by a project development team through a consultative and participative approach starting 2013 using a Logical Framework Analysis (LFA) under the guidance and supervision of RTA. The project framework design was developed using the Outcome – Output -- activity linkage to address the identified barriers and concerns about NC.

Due to the experience and lessons learnt from previous NC projects, the designing process is result-oriented and implementing-driven. Given the 5 year implementing results, the original design of Logical Framework is proven to be realistic, and specific against the changing conditions and requirement. At outcome and output levels, the indicator set is relevant, achievable and measurable. Although the original design did not develop the annual targets (other than the EOP ones) which made the targets not fully time-bound in the implementing process, due to the strict delivery requirement of NC and BUR, the overall implementation and result delivery has not been affected.

The TNC project adopted an integrated intervention strategy in enhancing the national executing partner's capability of develop its nationwide GHG emission information compiling systems. Replication has been assimilated in the major components of the project and activities, which include knowledge sharing, policy, capacity building and inventory compiling at local levels. In particular, such activities as the development of CC policies, as well as enhancing the local governments inventory compiling capacity, effectively mainstream the action into various GOC entities at the central, provincial, and local levels.

In conclusion, the evaluation team found the process of project formulation and the project design is clear, practicable and feasible within its time frame, the project designed to address country priorities and be country-driven, and the Results Framework SMART (Specific, Measurable, Attributable, Relevant, Time-bound/Timely/Trackable).

#### 3.1.2 *Assumption and Risks*

In the project design phase, the development team made intentional efforts try to identify potential risks and deploy risk-control measures based upon previous projects experiences. In general, the project design is cognizant of the major potential risks associated with implementation of the 7 components, including the effectiveness of organizing and coordinating a large, complex project with key stakeholders: technical capacity of implementing partners, especially at provincial and city level. Accordingly, practical mitigation actions were listed for each of these risks, e.g., the establishment of a strong Project Steering Committee (PSC), and extensive stakeholder involvement plan, etc.

The design also stipulated for revision of these risks at the Inception Stage in accordance with the implementation realities during key stages. Similarly, to be responsive to the evolving needs, the design authorized the Project Steering Committee (PSC) to evaluate and approve any adjustments in the project approach during the implementation time frame.

Nonetheless, the project design failed to anticipate the upcoming of the Pandemic eruption, as well as the GOC restructuring which shifted the project from NDRC to MEE. In retrospective, the two events became the major causes of implementation delay, and the project had to extended twice subsequently.

### 3.1.3 Lessons from Other Relevant Projects

The most distinguished feature of the TNC project is that the project is built upon the basis and lessons learnt of the SNC project. During the project formulation, the designing team seeks to improve the scope covered by the GHG emission inventories and the methodologies. According to the TNC project design, the scope of inventories will be further expanded, and higher tier method will be adopted during the compiling of inventories in comparison with that in SNC. The table 2 summarized the major inventory scope and methodologies improvements.

*Table 5 TNC INVENTORY SCOPE AND METHODOLOGIES IMPROVEMENTS AGAINST SNC*

Items	TNC Improvements
Key Category Analysis	The 2005 inventory had 51 key categories, including CO <sub>2</sub> emissions from public electricity and heat production, CO <sub>2</sub> emissions from road transport, N <sub>2</sub> O emissions from adipic acid production, HFC-23 emissions from HCFC-22 production, CH <sub>4</sub> emissions from rice cultivation, annual amount of carbon uptake by forests, and CH <sub>4</sub> emissions from solid waste disposal. Emissions from these key categories were calculated with higher-tier methods and country-specific emission factors in the 2012 National Greenhouse Gas Inventory as many as possible.
Energy	Compared with China's National Greenhouse Gas Inventory of 2005, the following items were newly added: CH <sub>4</sub> emissions from energy industries, and CH <sub>4</sub> and N <sub>2</sub> O emissions from manufacturing industries and construction, and other sectors.
Industrial Processes	Compared with the 2005 inventory, the 2012 inventory expands to cover CO <sub>2</sub> emissions from glass production in mineral products and that from soda production in chemical industry, CO <sub>2</sub> and CH <sub>4</sub> emissions from ferroalloy production, and CO <sub>2</sub> emissions from primary aluminum, magnesium, lead and zinc production.
Agriculture	Compared with the 2005 inventory, the 2012 inventory made a few changes: non-dairy cattle was classified into beef cattle, yaks and other cattle in enteric fermentation and manure management, and N <sub>2</sub> O

	emissions from field burning of agricultural residues in agricultural fields were newly added.
Waste	Compared with the 2005 inventory, CH <sub>4</sub> and N <sub>2</sub> O emissions from biological treatment of urban domestic waste and from waste incineration are newly included.

### 3.1.4 *Planned Stakeholder Participation*

The TE team found that the project was designed using a participative approach. Stakeholders with various backgrounds were extensively and consistently consulted since the beginning of project formulation, and stakeholders' financial commitments and buy-in was obtained at the design stage.

Several stakeholder consultation-workshops and a logical framework analysis (LFA) exercise were conducted and which gave way in mobilizing interest and support from various proponents. Key stakeholders such as GOC agencies and institutes, industry associations, research bodies, and other relevant stakeholders, etc. were consulted. The experiences and recommendations of consulted stakeholders informed targets for key project activities and stakeholder feedback was integrated into the project design and logical framework. These pre-project activities therefore led the various stakeholders to participate actively and commit valuable resources and support to serve not only in their own programs but also in the achievement of the overall government goals. The stakeholders described the perceived barriers and offered means of addressing the barriers and overcoming the challenges.

### 3.1.5 *Linkage with Other Interventions*

As a non-Annex I Party to the UNFCCC and for the purpose of effective implementation of its commitments under the Convention, China officially submitted its INC during COP 10 of the UNFCCC in December 2004, and later submitted its 2NC to the Secretary of the UNFCCC in 2012. China faces a situation of resource shortage under such a large population. Moreover, it is highly vulnerable to the adverse impacts of climate change. Given the situation, the Chinese government takes coping with climate change as its strategic priority. As early as in 1990, National Leading Group on Climate Change (NLGCC) was established under the NDRC, which was chaired by the Premier and consisted of 30 members from different ministries. In 2008, the Department of Climate Change was established within the NDRC to coordinate and deal with climate change issues. Respective institutions on climate change have also been established throughout relative ministries and provincial governments. The TNC project further promotes the effective implementation of China's sustainable development strategy, which will eventually contribute to global mitigation of and adaptation to climate change.



## 3.2 PROJECT IMPLEMENTATION

### 3.2.1 *Adaptive Management*

The major changes during project implementation were the two extensions, which resulted a series of consequential adjustments to the project implementation and results.

In March 2019, as discussed in the MTR report, the GOC restructuring began, which was unanticipated by the project design, and later led the project management totally moved from NDRC to MEE. On May 31, 2019, MEE requested the first extension of the project from its termination date extended from June 2019 to September 30, 2020. According to the MEE's request, apart from some minor reasons (preparing of 4NC project and better knowledge sharing), the main reason is that local governments must restructure Department of Climate Change (DCC) from local Development and Reform Commission (DRC) to local Bureau of Ecology and Environment (BEE). Accordingly, As the institutional restructuring of the local governments has not yet been completed until March 2019, some of the activities of the 3NC Project in 2018 have not yet been carried out. The request was reviewed and agreed by UNDP, and later approved by the TPR meeting.

In late December 2019, the Covid-19 broke out in China nationwide. The project, like the nation as a whole, was in suspension for several months. On August 25, 2020, MEE filed the second extension request with termination date putting forward to December 3, 2020. Given the obvious reason, the UNDP agreed with and TPR meeting approved the extension.

In response to the unprecedented big changes and inevitable extensions as the consequence, the UNDP, MEE, and the PMO communicated closely and reacted actively. The work plan was revised, the activities and budget plan were adjusted accordingly in consistence with the formal GEF/UNDP procedure and rules. As a result, all the major designed targets (namely the 2BUR, 2BUR, TNC) had been completed and submitted to the Convention on time. Besides of the completion of all the original planned activities, the project took advantage of the opportunities, added several additional activities aiming to achieve the following extra achievements: 1) Technical guidance and support of the provincial level inventory development, which resulted in the release of 62 inventory reports covering 32 provinces in both the year 2012 and 2014; 2) development of 4NC project, which resulted in the submission of 4NC PIF document; 3) Research and proposal of mainstreaming the NC related activities into the MEE administration.

The detailed information on these additional activities were presented in Table 8 Achievements in addition to ProDoc Plan of Section 3.3.1.

### 3.2.2 *Actual Stakeholder Participation and Partnership Arrangements*

Institutional arrangements for project management and implementation were executed in line with the structure established during design with some adjustment made during the project inception. A national Project Management Office (PMO) was established in Beijing within NDRC and a national Project Steering Committee (PSC) was established to guide the overall strategic

direction of the project. PSC played a key role in facilitating overall project implementation and in disseminating project outputs and recommendations by providing access to high level policy makers and other relevant agencies. PSC is also critical in facilitating the coordination of project implementation across 31 provinces with multi-sectors collaboration. The national level PSC was established on March 17, 2015. NDRC chairs the PSC (and MEE took over the position after the project moved from NDRC to MEE in mid-2019) which is consisted of representatives from 9 departments and agencies including, MOF, MIIT, NDRC, MOEP, MOST, NFB, MOA, CMA, MFA. At the national level the PSC performs an important multi-sector advisory role, helping to ensure that the project remains aligned with relevant national CC strategies, and to share project learning and impact across a range of relevant agencies. The central level PSC have actively supported project implementation through the annual combined PSC - TPR meetings. Several additional PSC meetings have also been called when PMO / UNDP CO felt it to be necessary to get additional guidance and support.

Apart from original design, in order to draw more effective technical supports, NEX decided, and approved by PSC during the inception, to set up a Technical Advisory Panel (TAP). The major function of TAP is to provide high quality guidance to the NC activities, and provide needed expertise to NDRC and PMO in ensuring the quality control of the outputs from subcontracts. The role of TAP in providing expert advice to local management institutions has also been critical in ensuring that project activities and implementation strategies are based on sound knowledge. For instance, the TAP members mentioned during the TE interview that, due to the timely and effective supports from the TAP, the technical barriers in project implementation in the both SARs have been effectively removed, and the completion and submission of the inventories are timely and with high quality.

Over the course of implementation, the project has partnered with various public and industrial stakeholders. These include central government agencies, local governments, industry associations, manufacturing enterprises, research institutes, etc. Major partnership activities included policy development and implementation, inventory compiling at national level and BUR development, local inventory development, and M&E of project activities.

Overwhelming part (budget wise) of project activities were carried out through subcontracting and individual consulting. The PMO held annual knowledge sharing workshops among the teams and subcontractors. These meets have facilitated the unification of methodology and enhanced the quality control of the outputs.

The detailed stakeholder list was presented in Annex VII.

### *3.2.3 Project Finance and Co-finance*

China International Centre for Economic and Technical Exchanges (CICETE) was appointed to manage the GEF funds under the project. As an administratively autonomous agency which operates directly under the Ministry of Commerce, CICETE was established to provide professional financial management service for international aid programs. CICETE signed a financial management service agreement with NDRC/MEE to support the current UNDP /GEF/MEE project

in 2015. The main financial management tool used by CICETE is the Project Management System (PMS). They use the quarterly work plan and annual work plan provided by PMO to manage project budgets, applying to UNDP for pre-payment in to the exclusive RMB and US\$ accounts set up by CICETE for the payments of project activities or contracts that are supported by GEF Funds are managed by CICETE who review invoices and require a payment confirmation paper signed by the national project director (NPD). CICETE submits quarterly Funding Authorization and Certificate of Expenditure (FACE) reports to UNDP at the end of each quarter and a Combined Delivery Report (CDR) to PMO and UNDP at the end of each financial year.

The project was subject to the financial auditing of both within MEE management, and UNDP recruited independent auditing firm on yearly basis. TE team reviewed the complete financial data of the project, as well as the audit reports, to date, 100% of total GEF funds have been spent. The expenditure deviations from planned Outcome budgets as well as the approval process were reviewed by TE. According to GEF rules, the expenditure deviations from planned Outcome budgets in the project were Minor amendments involving amounts of less than 10% of the total project budget. These reallocations had been planned and approved by TPR and documented in APR/PIR.

However, for a major part of the project implementation, management of GEF outcome budgets has been chronically less satisfactory in terms of annual delivery rates. Besides of the reasons mentioned in Section 3.2.1, PMO acknowledged that one of the reasons for the low delivery rate is the insufficient planning skills and procrastinated approval process within NDRC/MEE due to the more stringent financial management policy by GOC. Although the PMO managed to deliver the major planned outputs on schedule, which means those subcontractors have to implement their activities without pay for quite some time, because they trusted the creditability of PMO through their long-term partnership.

Overall actual co-financing expenditure accounts for 138% of the total committed co-finance budget until end of project. The source of co-finance was solely from GOC in the form of in-kind recurrent expenditure.

*Table 6 Co-FINANCING*

Co-financing (type/source)	UNDP financing (US\$)		Government (US\$)		Partner Agency (US\$)		Total (US\$)	
	Planned	Actual	Planned	Actual	Planned Actual	Actual	Planned Actual	Actual
Grants								
Loans/Concessions								
In-kind support	100,000	100,000	800,000	1,143,219			900,000	1,243,219
Other								
Totals	100,000	100,000	800,000	1,143,219	-	-	900,000	1,243,219

Table 7 CONFIRMED SOURCES OF CO-FINANCING AT TE STAGE

Sources of Co-Financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (US\$)
Donor Agency	UNDP	In-Kind	Recurrent expenditure	100,000
Recipient Country Gov't	NDRC, MEE	In-Kind	Recurrent expenditure	1,143,219
Total Co-Financing				1,243,219

### 3.2.4 Monitoring & Evaluation

#### M&E design at entry

The Project Document sets out the standard UNDP / GEF monitoring and evaluation procedures and an overall budget for key monitoring and evaluation activities. The Project Document specifies that further detail on monitoring responsibilities and events should be developed as part of the project's inception phase. The Inception Report provides some further detail on monitoring responsibilities. Output indicators were also identified as part of project inception. Key elements of project monitoring within the project design include: Annual Project Reports (APR) to be prepared by PMO as part of monitoring and reporting procedures for the UNDP Country Office and annual Performance Project Implementation Reviews (PIR) to be prepared by PMO and UNDP CO as the main monitoring tool required by the GEF. Project Steering Committee (PSC) meetings provide high level strategic review and advice and meet annually or more regularly if required; an annual Tripartite Review Report (TPR) is the highest policy level meeting of the parties directly involved in project implementation. The APR and PIR form the main information documents for the TPR. Day to day monitoring is the responsibility of the PMO, which also prepare quarterly progress reports. The Project Document also clearly outlines the project logic and rationale, which is important to any assessment of the effectiveness of project impact and achievements. The overall framework of Objective /Outcome / Output is clear and logical within the text of the document and the logframe.

In conclusion, according to the project design, UNDP China, MEE, PMO, and PSC have been assigned responsibilities of overall project M&E. In addition, the design provided a clear M&E plan and budget. The M&E plan was well-conceived, practical and sufficient at the point of CEO Endorsement. The M&E plan included a baseline, SMART indicators and data analysis systems. The baseline conditions, methodology, logistics, time frames, and roles and responsibilities were articulated. The M&E budget in the project document was realistic and sufficiently covered all the M&E activities. At the functional level, the TNC had a three-tiered, inclusive, innovative, and participatory monitoring systems with the following key components: 1) M&E of project activities and progress according to the established UNDP-GEF M&E Guidelines (Comprising of standard

program and financial progress reports); 2) M&E of local activities; 3) M&E of NC and BUR at national level. The designed system had been complete, and well covered all aspects of project implementation.

### M&E implementation

During the project implementation, the designed M&E plan had been carried out in a consistent and effective manner. The M&E budget was appropriately planned and allocated, the data on indicators/tracking tools specifically gathered and documented, the progress and financial reporting were conducted timely and with solid quality, the M&E results were effectively circulated and discussed among the parties concerned (especially between MEE and UNDP CO), based on the circulation and discussion, the reactions were quick and focused, as a result, the information provided by the M&E system was used to improve and adapt project performance. Since the inception, the UNDP CO had led the training courses to guide the PMO, PSC, TAP, and other stakeholders to familiarize themselves with GEF/UNDP M&E rules and methodology, and later these kinds of training were taken over by PMO and further carried out among more and more project participants.

Key challenges associated with M&E included the large number of stakeholders and sectors involved in inventory data collection and compiling. As the local project management teams were based in different GOC agencies, at times it was difficult to consolidate project progress information that was outside the standardized reporting formats used for regular project M&E. Moreover, the M&E of NC and BUR was more complicated as compared to M&E of other EE projects. However, due to the solid M&E plan, institutional arrangement and implementation skills, the challenges have been soundly overcome.

The PMO with support from the provincial-level project management teams and subcontractors has been responsible for monitoring the progress and reporting to the UNDP. At the activity level, different stakeholders were responsible for M&E. For instance, TAP members were delegated to the unit undertaking the local activities, e.g., the NCSC, Tsinghua Univ., etc.

The evaluation team concluded that the TNC project's M&E at both design and implementation met the expectations and were satisfactory, therefore the overall M&E performance of the project was satisfactory.

### *3.2.5 Assessment of UNDP Implementation/Oversight and MEE Execution*

In TE interviews with all the representatives of various stakeholders, one of the major consensus was that the Implementing and Executing Agencies were working closely together to plan, manage and review overall project implementation and had maintained a good working relationship with PSC members.

The UNDP China's designated Program Manager has effectively provided periodic oversight in implementation, including prompting timely reporting, providing guidance about reporting to ensure that the progress is implemented in line with UNDP-GEF guidelines, and providing

feedback on project planning accordingly. For instance, UNDP CO representatives have been in regular attendance of the PSC meetings. Moreover, the UNDP CO has also arranged the project's MTR.

Similarly, the MEE and PSC has effectively undertaken its M&E responsibilities, including the review and approval of AWP's and Budgets (for endorsement to UNDP-GEF for the latter's final approval), providing guidance on the effectiveness of project implementation, and overall M&E of project implementation. For instance, some PSC members triangulated the project results with the data generated by their respective organizations. Similarly, inventory compiling methods and recommendations for activities were provided by members based on information received from their own organizations.

Based on the above elaboration, the TE concluded that the performance of both UNDP and MEE were satisfactory.

### *3.2.6 Risk Management*

Compared with regular GEF/UNDP projects, TNC encountered some unique and multiple challenges in terms of risk management. As discussed in Section 3.2.1, in mid-2019, the GOC initiated its institutional restructuring, which resulted in the movement of the whole project from NDRC to MEE, and the fallout went further deep into the local branches. Later the same year, the project was hit again by the global pandemic. Although luckily the major assignments relating to the submission of 2 BURs and TNC had been narrowly completed before the events and the TNC had been submitted to the Convention on time, some other activities were left behind the schedule, the overall implementation of the project was inevitably delayed.

In retrospective, the TE believed that such uncertainties do exist which beyond the capacity of proficient project development to foresee their coming, the significance will be addressing the unexpected, and dealing with it in the right and effective way.

According to the interviews made by the TE team with UNDP, MEE, PMO and other stakeholders and through reviewing the M&E documents, the TE found the following counter measures were taken: 1) the events were reported timely by the PMO to UNDP and PSC; 2) the discussion was initiated quickly; 3) the critical decision was made to extend the project implementation; 4) the annual work plan was revised based on cooperative discussion, more activities were added, budget reallocated; 5) MEE and NPD organized a series meeting and coordination among the MEE national system to settle down the project management at central level, and pushed the deployment of local project management as quickly as possible; 6) during the broke-out of the Covid-19, the physical line of duty inside PMO managed to be maintained, at the same time, the tele-conference were adopted to keep the communication of project implementation at work.

As the result, the major targets (2 BURs and TNC) were delivered on time, the activities especially related with local management were eventually delivered, yet behind the schedule. Overall all the targets set in project design were fulfilled, and quite some of which were overfulfilled. The details of the results were presented in Section 3.3.1 of the report.

### 3.3 PROJECT RESULTS AND IMPACTS

#### 3.3.1 Progress Towards Objective and Expected Outcomes

The TE report individually assessed the achievement of outcomes against indicators by reporting on the level of progress or each objective and outcome indicator at the time of the TE with final achievements. The TE report assessed the extent to which expected outcomes were achieved and also the extent to which outcome achievement was dependent on delivery of project outputs, and other factors that affected outcome achievement, e.g., project design, project's linkages with other activities, extent and materialization of co-financing, stakeholder involvement, etc. Regarding outputs, the TE report assessed the extent to which the key expected outputs were delivered, and also identified and assessed the factors that affected delivery of outputs.

The project goal is to enable China to prepare and submit the 3NC and BUR to the UNFCCC in accordance with Article 12 of the Convention, Decision 17/COP 8 and Decision 2/COP 17. The overall objective of the project is to strengthen capacity in integrating climate change concerns into national and sector development priorities while fulfilling obligations to the UNFCCC.

To achieve these goal and objectives the activities were carried out related to the following 7 components: Component 1) Updating of National GHG Emission Inventory and GHG Inventory Database, and Enhancement of GHG Emission Forecasting and Modeling Systems; Component 2) Assessment of impacts of vulnerability and adaptation to climate change; Component 3) Updating of climate change mitigation, measures, options and actions; Component 4) Improving Public Awareness and Informing Policy Decision Making on Climate Change; Component 5: ) Inventory of GHG emissions and other relevant information on climate change in Hong Kong and Macao SARs; Component 6) Supplementary Support for Achieving Convention Objectives and Publication and Dissemination of the 3NC Report; Component; 7) Supporting China Biennial Update Report completed and submitting to the UNFCCC

The achievement of outcomes against end-of-project targets is presented in Table 7 Achievement of Outcomes against EOP Targets at the end of the Section. Details of accomplishments under each component are provided below.

##### *3.3.1.1 Component 1 : Updating of National GHG Emission Inventory and GHG Inventory Database, and Enhancement of GHG Emission Forecasting and Modeling Systems*

Under Outcome 1.1: Clearer understanding of the magnitude and causes of the GHG emissions from Energy Activities:

- GHG inventory in 2010, 2012, and 2014 of Fossil fuel combustion, Biomass combustion, CH<sub>4</sub> emissions from coal mining and post-mining activities, CH<sub>4</sub> fugitive emissions from oil and gas system, Non-energy uses of fossil fuel, International bunkers, have been completed.
- At both national and provincial level, in order to develop the GHG inventory, totally 31 research have been conducted.

Outcome 1.2: Clearer understanding of the magnitude and causes of the GHG emissions from Industrial Processes:

- GHG inventory in 2010, 2012, and 2014 of Mineral products processing, Industrial chemical processes, Industrial metal production processes, Production of halocarbons and sulfur hexafluoride, Consumption of halocarbons and sulfur hexafluoride, have been completed.
- At both national and provincial level, in order to develop the GHG inventory, totally 32 research have been conducted.

Outcome 1.3: Clearer understanding of the magnitude and causes of the GHG emissions from Agriculture:

- GHG inventory in 2010 and 2012 of CH<sub>4</sub> emissions from paddy fields, N<sub>2</sub>O emissions from croplands, CH<sub>4</sub> emissions from animal enteric fermentation, CH<sub>4</sub> and N<sub>2</sub>O emissions from manure management systems, have been completed.
- At both national and provincial level, in order to develop the GHG inventory, totally 33 research have been conducted.

Outcome 1.4: Clearer understanding of the magnitude and causes of GHG Emissions/Removal from Land Use, Land Use Change and Forestry sector

- GHG inventory in 2010, 2012, and 2014 of Forests and woodlands, Change in soil organic content in croplands, Grasslands, Wetlands, Lands converted to residential lands and other lands, have been completed.
- At both national and provincial level, in order to develop the GHG inventory, totally 27 research have been conducted.

Outcome 1.5: Clearer understanding of the magnitude and causes of the GHG emissions from Waste treatment:

- GHG inventory in 2010, 2012, and 2014 of CH<sub>4</sub> emissions from waste landfills, Waste incineration, CH<sub>4</sub> and N<sub>2</sub>O emissions from biological treatment of solid waste, CH<sub>4</sub> emissions from domestic and commercial wastewater treatment, CH<sub>4</sub> emissions from industrial wastewater treatment, N<sub>2</sub>O emissions from wastewater treatment, have been completed.
- At both national and provincial level, in order to develop the GHG inventory, totally 32 research have been conducted.

Outcome 1.6: Updating China's GHG Inventory Database

- 2 updated sectoral data sets uploaded to the National GHG Emissions Database.
- 2 formulated sets of CCM and CCA policies uploaded in the National GHG Emissions Database.
- 2 formulated sets of CCM and CCA action plans uploaded to the National GHG Emissions Database.

Outcome 1.7: Better understanding of the appropriate climate change options for China, and enhanced action plan to implement prioritized mitigation actions.

- 1 study based on the GHG inventories on the characteristics and future trends of climate change in China has been completed.
- 2 comprehensive research/studies have been conducted and completed for use in the



identification and evaluation of potential CC mitigation actions.

- 3 operational improved/modified simulation models for forecasting GHG emissions and emission trends using the updated GHG inventory data have been completed.
- 3 scenario analyses have been developed using the improved/modified simulation models and utilized in CCM and CCA policy making and action planning.

*3.3.1.2 Component 2: Assessment of impacts of vulnerability and adaptation to climate change*

- 1 national climate change adaptation programs have been developed and implemented by GOC as influenced by the 3NC process. In 2017, NDRC and MOHURD jointly issued the Pilot City Action Plan on Climate Change Adaptation.

*3.3.1.3 Component 3: Updating of climate change mitigation, measures, options and actions.*

- 1 national climate change mitigation programs have been developed and implemented by the GOC as influenced by the 3NC process. In 2017, NDRC initiated the Third Round Pilot on Low-carbon City.

*3.3.1.4 Component 4: Improving Public Awareness and Informing Policy Decision Making on Climate Change*

- According to the on-line statistics, 332,684 visitors have browsed the China Climate Change Info-Net since 2015.
- 1 local climate change program has been developed and implemented as influenced by the advocacy and public awareness campaigns that were carried out under the 3NC process. In 2016, the Government of Zhejiang Province initiated its county level inventory compilation.

*3.3.1.5 Component 5: Inventory of GHG emissions and other relevant information on climate change in Hong Kong and Macao SARs*

Outcome 5.1: Better understanding and enhanced capacity in GHG emission inventory and national communication compilation in the Hong Kong

- The 2010, 2012, and 2014 Hong Kong SAR GHG inventory has been completed.
- 2 CCM and CCA policies and actions have been formulated by the Hong Kong SAR based on the GHG inventories and included in the completed 3NC Report, which are the Hong Kong Climate Action Blueprint 2030 Action Plan, and the Plan of Coping with Climate Disasters.

Outcome 5.2: Better understanding and enhanced capacity in GHG emission inventory and national communication compilation in Macau SARs

- The 2010, 2012, and 2014 Macau SAR GHG inventory has been completed.
- 2 CCM and CCA policies have been formulated by the MAC SAR based on the GHG inventories and included in the completed 3NC Report, which are the Macao Five Year Plan on Climate Change, and the Green Automobile Standard.

*3.3.1.6 Component 6: Supplementary Support for Achieving Convention Objectives and Publication and Dissemination of the 3NC Report.*

Outcome 6.1: Improved capacity and technical inputs in meeting obligations to the UNFCCC

- 62 research and studies have been conducted in the context of the 3NC that were carried out by local experts in the development of provincial inventory of 2010 and 2012.
- 74 local experts were involved in the GHG inventories as well as in the analysis of the GHG inventory result.
- 99 Climate Change mitigation policies and measures have been developed by local experts.
- 1 Climate Change adaptation policy has been developed by local experts.
- 1 research on systematic observation of climate has been conducted by local experts.
- 2 projects have contributed inputs on climate change technology transfer & cooperation.
- 190 people that were involved in the 3NC process received training on NC formulation.
- 190 people that received training on NC formulation were employed for NC-related activities on a regular basis.

Outcome 6.2: Improved and integrated climate change action planning both at the local and national levels

- 99 integrated CCM and CCA measures and action plans have been developed and formulated by the national government and local governments.
- 33 local governments have initiated GHG inventories and other NC process activities at the local level.

Outcome 6.3: Publication, dissemination and submission to the UNFCCC of the 3NC Report

- 20 national and local government agencies have made use of the 3NC for their development planning activities. In 2016, the GOC and 19 provincial governments have incorporated TNC inventory data into the compulsory development planning targets.

*3.3.1.7 Component 7: Supporting China Biennial Update Report completed and submitting to the UNFCCC.*

- The 2 BURs have been submitted to the UNFCCC.
- 1 adjustment has been made on the CCM and CCA policies, measures and plans based on the findings and recommendations of the BUR. Based on the 2012 inventory, which was presented in BUR 1, the GOC began to update the accountability system on coal, oil and gas emission supervision.
- 8 GOC agencies (NDRC, MOA, BOF, MOEP, NBS, MOT, BOE, and MOURHD) have adopted the designed measurement, reporting and verification (MRV) process developed as part of the BUR.

Table 8 ACHIEVEMENT OF OUTCOMES AGAINST EOP TARGETS

Strategy	Indicator	Baseline	Target	Incremental EOP Target	EOP
<b>Goal:</b> Support China toward a low carbon development path	· No. of CCM and CCA measures formulated under the 3NC process and included in the completed 3NC Report that are planned for implementation by end-of-project (EOP)	· 11	· 15	4	8
<b>Objective:</b> Strengthened capacity in integrating climate change concerns into national and sectoral development priorities while fulfilling obligations to the UNFCCC	· Completed and submitted Third National Communications Report to the UNFCCC	· 0	· 1	1	1
	· No. of Biennial Update Reports completed by EOP	· 0	· 2	2	2
	· No. of GOC agencies/institutions that are actively involved in the inventory and analysis of sectoral GHG emissions by EOP	· 75	· 100	25	25
	· No. of center and local governments that integrate CCM and CCA concerns in their development planning by EOP	· 33	· 65	32	32
	· No. of national and local government agencies, and private sector entities that were involved in the 3NC process (inclusive of BURs) by EOP	· 110	· 155	45	45
Outcome 1.1: Clearer understanding of the magnitude and causes of the GHG emissions from Energy Activities	· No. of completed GHG inventories in the energy sector:				
	· Fossil fuel combustion by EOP	· 2	· 4	2	3
	· Biomass combustion by EOP	· 2	· 4	2	3
	· CH <sub>4</sub> emissions from coal mining and post-mining activities by EOP	· 2	· 4	2	3
	· CH <sub>4</sub> fugitive emissions from oil and gas system by 2017	· 2	· 4	2	3
	· Non-energy uses of fossil fuel by 2017	· 2	· 4	2	3
	· International bunkers by Year 2017	· 2	· 4	2	3
	· No. of comprehensive researches/studies conducted and completed for use in the compilation of GHG emissions inventory of the energy sector by EOP	· 2	· 33	31	31
Outcome 1.2: Clearer understanding of the magnitude and causes of the GHG emissions from Industrial Processes	· No. of completed GHG inventories from industrial processes:				
	· Mineral products processing by EOP	· 0	· 2	2	3
	· Industrial chemical processes by 2017	· 0	· 2	2	3
	· Industrial metal production processes by EOP	· 0	· 2	2	3
	· Production of halocarbons and sulfur hexafluoride by EOP	· 0	· 2	2	3
	· Consumption of halocarbons and sulfur hexafluoride by EOP	· 0	· 2	2	3
	· No. of comprehensive researches/studies conducted and completed for use in the compilation of GHG emissions inventory of industrial processes by EOP	· 9	· 41	32	32
Outcome 1.3: Clearer understanding of the magnitude and causes of the GHG emissions from Agriculture	· No. of completed GHG inventories in the agriculture sector:				
	· CH <sub>4</sub> emissions from paddy fields by EOP	· 2	· 4	2	3
	· N <sub>2</sub> O emissions from croplands by EOP	· 2	· 4	2	3
	· CH <sub>4</sub> emissions from animal enteric fermentation by EOP	· 2	· 4	2	3

	· CH <sub>4</sub> and N <sub>2</sub> O emissions from manure management systems by EOP	· 2	· 4	2	3
	· No. of comprehensive researches/studies conducted and completed for use in the compilation of GHG emissions inventory of the agriculture sector by EOP	· 4	· 37	33	33
Outcome 1.4: Clearer understanding of the magnitude and causes of GHG Emissions/Removal from Land Use, Land Use Change and Forestry sector	· No. of completed GHG inventories in the land use, land use change & forestry sector:				
	· Forests and woodlands by EOP	· 2	· 4	2	3
	· Change in soil organic content in croplands by EOP	· 0	· 2	2	3
	· Grasslands by EOP	· 0	· 2	2	3
	· Wetlands by EOP	· 0	· 2	2	3
	· Lands converted to residential lands and other lands by EOP	· 2	· 2	0	0
	· No. of comprehensive researches/studies conducted and completed for use in the compilation of GHG emissions inventory of the land use, land use change and forestry sector by EOP	· 5	· 32	27	27
Outcome 1.5: Clearer understanding of the magnitude and causes of the GHG emissions from Waste treatment	· No. of completed GHG inventories in the waste sector:				
	· CH <sub>4</sub> emissions from waste landfills by EOP	· 2	· 4	2	3
	· Waste incineration by EOP	· 2	· 4	2	3
	· CH <sub>4</sub> and N <sub>2</sub> O emissions from biological treatment of solid waste by EOP	· 0	· 2	2	3
	· CH <sub>4</sub> emissions from domestic and commercial wastewater treatment by EOP	· 2	· 4	2	3
	· CH <sub>4</sub> emissions from industrial wastewater treatment by EOP	· 2	· 4	2	3
	· N <sub>2</sub> O emissions from wastewater treatment by EOP	· 2	· 4	2	3
	· No. of comprehensive research/studies conducted and completed for use in the compilation of GHG emissions inventory of the waste sector by EOP	· 5	· 37	32	32
Outcome 1.6: Updating China's GHG Inventory Database	· No. of updated sectoral data sets uploaded to the National GHG Emissions Database by EOP	· 2	· 4	2	2
	· No. of formulated sets of CCM and CCA policies uploaded in the National GHG Emissions Database by EOP	· 2	· 4	2	2
	· No. of formulated sets of CCM and CCA action plans uploaded to the National GHG Emissions Database by EOP	· 2	· 4	2	2
Outcome 1.7: Better understanding of the appropriate climate change options for China, and enhanced action plan to implement prioritized mitigation actions	· No. of completed studies based on the GHG inventories on the characteristics and future trends of climate change in China by EOP	· 0	· 1	1	1
	· No. of comprehensive research/studies conducted and completed for use in the identification and evaluation of potential CC mitigation actions by EOP	· 2	· 4	2	2
	· No. of operational improved/modified simulation models for forecasting GHG emissions and emission trends using the updated GHG inventory data by EOP	· 1	· 2	1	3

	<ul style="list-style-type: none"> <li>No. of scenario analyses developed using the improved/modified simulation models, and utilized in CCM and CCA policy making and action planning by EOP</li> </ul>	· 3	· 6	3	3
Outcome 2: better understanding of China's vulnerability to the threats of climate change and predicted impacts in five sectors	<ul style="list-style-type: none"> <li>No. of national and local climate change adaptation programs developed and implemented by the national and local governments as influenced by the 3NC process by EOP</li> </ul>	· 1	· 2	1	1
Outcome 3: Better understanding of the appropriate climate change mitigation options for China, and enhanced action plan to implement prioritized mitigation actions	<ul style="list-style-type: none"> <li>No. of national and local climate change mitigation programs developed and implemented by the national and local governments as influenced by the 3NC process by EOP</li> </ul>	· 2	· 3	1	1
Outcome 4: Improving Public Awareness and Informing Policy Decision Making on Climate Change	<ul style="list-style-type: none"> <li>No. of users of the China Climate Change Info-Net each year starting 2015</li> </ul>	· 150,000	· 160,000	10000	332684
	<ul style="list-style-type: none"> <li>No. of national and local climate change programs developed and implemented by the national and local governments as influenced by the advocacy and public awareness campaigns that were carried out under the 3NC process by EOP</li> </ul>	· 2	· 3	1	1
Outcome 5.1: Better understanding and enhanced capacity in GHG emission inventory and national communication compilation in the Hong Kong	<ul style="list-style-type: none"> <li>No. of completed GHG inventory of the Hong Kong SAR</li> </ul>	· 1	· 3	2	3
	<ul style="list-style-type: none"> <li>No. of CCM and CCA policies and actions formulated by the Hong Kong SAR based on the GHG inventories and included in the completed 3NC Report by EOP</li> </ul>	· 3	· 5	2	2
Outcome 5.2: Better understanding and enhanced capacity in GHG emission inventory and national communication compilation in Macau SARs	<ul style="list-style-type: none"> <li>No. of completed GHG inventory of the Macau SAR</li> </ul>	· 1	· 3	2	3
	<ul style="list-style-type: none"> <li>No. of CCM and CCA policies formulated by the MAC SAR based on the GHG inventories and included in the completed 3NC Report by EOP</li> </ul>	· 3	· 5	2	2
Outcome 6.1: Improved capacity and technical inputs in meeting obligations to the UNFCCC	<ul style="list-style-type: none"> <li>No. of research and studies conducted in the context of the 3NC that were carried out by local experts by EOP</li> </ul>	· 9	· 11	2	62
	<ul style="list-style-type: none"> <li>No. of local experts that were involved in the GHG inventories as well as in the analysis of the GHG inventory results by EOP</li> </ul>	· 7	· 31	24	74
	<ul style="list-style-type: none"> <li>No. of Climate Change mitigation policies and measures developed by local experts by EOP</li> </ul>	· 11	· 110	99	99
	<ul style="list-style-type: none"> <li>No. of Climate Change adaptation policies and measures developed by local experts by EOP</li> </ul>	· 0	· 1	1	1

	· No. of research and studies on systematic observation of climate conducted by local experts by EOP	· 0	· 1	1	1
	· No. of projects that contributed inputs on climate change technology transfer & cooperation by EOP	· 1	· 2	1	2
	· No of trained nationals on NC formulation that were involved in the 3NC process by EOP	· 20	· 30	10	190
	· No. of trained nationals on NC formulation that were employed for NC-related activities on a regular basis	· 7	· 11	4	190
Outcome 6.2: Improved and integrated climate change action planning both at the local and national levels	· No. of integrated CCM and CCA measures and action plans developed formulated by the national government and local governments by EOP	· 11	· 110	99	99
	· No. of local governments that have initiated GHG inventories and other NC process activities at the local level by EOP	· 0	· 33	33	33
Outcome 6.3: Publication, dissemination and submission to the UNFCCC of the 3NC Report	· No. of national and local government agencies that made use of the 3NC for their development planning activities with climate change mainstreamed in it by EOP	· 0	· 10	20	20
Outcome 7: Submission of the Biennial Update Report to the UNFCCC	· No. of BUR submitted to the UNFCCC	· 0	· 2	2	2
	· No. of adjustments made on the CCM and CCA policies, measures and plans based on the findings and recommendations of the BUR by Year 2	· 0	· 1	1	1
	· No. of national government entities that are making use of the designed measurement, reporting and verification (MRV) process developed as part of the BUR by EOP	· 0	· 5	5	8

*Table 9 ACHIEVEMENTS IN ADDITION TO PRODOC PLAN*

Strategy	Indicator	Baseline	Target	Incremental EOP Target	EOP
Outcome 6	Evaluating provincial GHG inventory	0	0	0	64
Outcome 6	4NC PIF preparation	0	0	0	1
Outcome 6	4NC PD preparation	0	0	0	1
Outcome 6	Research on design of obligations fulfillment under UNFCCC in the 14th Five-year Plan	0	0	0	1
Outcome 6	Study on basic environmental data and statistical data of climate change supporting developing national GHG inventories and GHG emission control and management plan	0	0	0	1

Outcome 7	Study on basic environmental data and statistical data of climate change supporting developing national GHG inventories and GHG emission control and management plan	0	0	0	1
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### 3.3.2 Relevance

#### Alignment with national priorities

The Chinese government attaches great significance to its international obligations, and engaged officials and experts of relevant government departments, social groups, research institutes, universities and enterprises to develop China's Initial National Communication (hereinafter referred to as INC) in accordance with the UNFCCC Guidelines for the preparation of national communications from non-Annex I Parties. The INC was completed after 3-year concerted efforts of more than 400 experts from about 100 organizations and submitted to the Secretariat of the UNFCCC in October 2004. In 2008, China launched the preparation of its Second National Communication (hereinafter referred to as 2NC). After four-year coordinated efforts of relevant government departments, scientific research institutions, universities, state-owned enterprises and civil societies, with further elaboration by the National Leading Group on Climate Change (NLGCC), the 2NC was completed and approved by the State Council in 2012 and submitted to the UNFCCC on 8 November 2012. The compilation of 2NC was based on the guidelines for the preparation of the second national communications from non-Annex I Parties, which were adopted by the Conference of the Parties (COP) at its eighth session.

The 2NC is composed of 8 parts providing information on national circumstances, national GHG inventory, climate change impacts and adaptation, policies and actions for climate change mitigation, other relevant information on achieving the objective of the Convention, needs for financial support, technologies and capacity building, basic situation of the Hong Kong Special Administrative Region (SAR) and Macao SAR on addressing climate change. The 2NC has fully reflected China's national circumstances related to climate change. On the whole, China will sincerely carry out all the tasks in the China's National Climate Change Programme, strive to build a resource conservative and environmentally friendly society, enhance national capacity to mitigate and adapt to climate change, and make further contribution to the protection of the global.

In this context, the Third National Communication of the People's Republic of China on Climate Change (hereinafter referred to as 3NC) project will be conducive for China to establish national systems, methodologies and further strengthen coordination and institutional arrangements for the preparation of national communications. It will further strengthen China's capacity to develop national GHG inventory, including the capacity to determine activity data, appropriate emission factors, collecting field measurement data and controlling inventory quality. The 3NC will enhance China's ability to project future GHG emissions, develop and maintain national GHG emission database. The 3NC will comprise 2012 national GHG inventory and emission projections, policies and measures for climate change mitigation, analysis on mitigation actions, and institutional structure of Measurement, Reporting and Verification (MRV), promotions for public awareness related to climate change, GHG inventory and basic information of the Hong Kong SAR and Macao

SAR on addressing climate change. It will also assess the impacts of and vulnerability to climate change so as to identify adaptation options in the short and long terms.

Decision 2/CP.17 adopted by the seventeenth session of the Conference of the Parties (COP) of the UNFCCC stipulates that “non-Annex I Parties, consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report by December 2014. In using the Guidelines, non-Annex I Parties should consider their development priorities, objectives, capacities and national circumstances. Non-Annex I Parties shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. The first biennial update report submitted by non-Annex I Parties shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and that subsequent biennial update reports shall cover a calendar year that does not precede the submission date by more than four years”. Therefore, the preparation and submission of China’s Initial Biennial Update Report (hereinafter referred to as BUR) will be important demonstration and guarantee to improve the consistency, transparency, integrity, accuracy and timeliness of data contained in its national communications.

The 3NC and the BUR will enable China to better assess domestic climate change impacts, vulnerability and adaptation measures, enhance China’s capacity in measurement, statistics and monitoring, and promote public awareness related to climate change. On the other hand, the preparation of the 3NC and the BUR will also demonstrate and strengthen China’s efforts to address climate change. It will assist the international community to better comprehend China’s climate change actions and enhance international cooperation and exchanges.

•Alignment with UNDP and GEF strategic priorities:

According to the provisions of the UNFCCC and the requirements of the relevant COP decisions on national communications from non-Annex I Parties, China needs to prepare its 3NC Report in accordance with the revised Guidelines for the Preparation of National Communications from non-Annex I Parties and develop national GHG inventory for national communications and biennial update reports in accordance with the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. Guidelines for the Preparation of National Communications from non-Annex I Parties encourages non-Annex I parties to make use of the IPCC Good Practice Guidance and Uncertainty Management and to take into account the improvement of transparency, consistency, comparability, integrity and accuracy of the inventory; to provide information on anthropogenic emission sources of hydrofluorocarbons (HFCs), perfluorocarbon (PFCs) and sulfur hexafluoride (SF<sub>6</sub>); and to provide information about the implemented or planned mitigation programmes and measures, etc.

The development of national communication is a continual process that entails continual improvement of the capacity for developing national communications. Furthermore, as human beings deepen their knowledge about climate change, the COP sets a higher standard to the parties in terms of the time and scope relating to GHG emission and policy measures, and also puts higher demand on technicians involved in developing national communications in



developing countries (such as China). Therefore, financial and technical support is needed to conduct training and international exchanges, and to continually improve the technical level and comprehensive capability of the staff that are involved in developing national communications; besides, China's GHG database needs to be improved in order to effectively manage China's GHG inventory information, provide support to inventory data analysis and quality control, and to lay a sound foundation for the continuous development of national GHG inventory.

Moreover, in accordance with decision 2/CP.17 and with the support of GEF, China, as a non-Annex I Party to the UNFCCC, hopes to develop the BUR which would report China's basic circumstances, national GHG inventory, mitigation of GHG emission and the effects, constraints and gaps, related financial, technical and capacity needs, and other updated information for realizing the targets set forth in the UNFCCC. The development of the BUR is a completely new work for China as China has never done such work before. To develop the GHG inventory, China needs to conduct special survey on part of activity data and on emission factors as well. Therefore, it is necessary to strengthen relevant capacity building.

#### Stakeholder engagement and linkage with other interventions

Throughout the project development and implementation, the TNC draw extensive and inclusive stakeholders' participation. The stakeholders from various governmental agencies, industries, sectors, academic were not only involved in the project activities, but also involved in the decision-making process, as well as M&E of the project. In Addition, the TNC project continued and built upon the previous cooperation with GEF/UNDP on 2NC and 1NC, the lessons learnt and the best practices of the previous NC projects had been fully reflected in the TNC project design and implementation.

In conclusion, the project's objectives are highly relevant with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. The TE considered the rating of the project is highly satisfactory.

#### *3.3.3 Effectiveness*

In terms of the extent to which the project's objectives were achieved or are expected to be achieved, TNC's performance exceeded the expectations entirely and significantly.

As indicated in Section 3.3.1, Table 7 Achievement of Outcomes against EOP Targets, at the level of project goal and objective, by the end of the project, TNC fulfilled all the targets set in the ProDoc. With respect to the indicator of project goal, namely "the number of CCM and CCA measures formulated under the 3NC process and included in the completed 3NC Report that are planned for implementation by end-of-project (EOP)", the actual EOP achievement doubled the ProDoc target.

At outcome level, as the major content of the TNC and 2BURs, the number of inventories developed under the project is 50% higher than that of the ProDoc target throughout the fields of Fossil fuel combustion, Biomass combustion, CH<sub>4</sub> emissions from coal mining and post-mining

activities, CH<sub>4</sub> fugitive emissions from oil and gas system, Non-energy uses of fossil fuel, International bunkers. Moreover, the project voluntarily raised the bar, and adopted a more advanced methodology in calculating a significant part of the inventories (see Table 10 Methodologies Used for the National GHG Inventory of 2014).

*Table 10 METHODOLOGIES USED FOR THE NATIONAL GHG INVENTORY OF 2014*

Source/ Sink Categories	CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O	
	Method	Emission Factors	Method	Emission Factors	Method	Emission Factors
Energy industry	T2	CS	T1,T2	D,CS	T1,T2	D,CS
Manufacturing industries and construction	T2	CS	T1	D	T1	D
Transportation	T2	CS	T1,T3	D,CS	T1,T3	D,CS
Other sectors	T2	CS	T1	D	T1	D
Other	T2	CS	T1,T2	D,CS	T1,T2	D,CS
Fugitive emissions from solid fuels			T1,T2	D,CS		
Fugitive emissions from oil and natural gas			T1,T3	D,CS		
Mineral products	T1,T2	D,CS				
Chemical industry	T1,T2	D,CS	NE	NE	T3	CS
Metal production	T1,T2	D,CS	T1	D	NE	NE
Enteric fermentation			T1,T2	D,CS		
Manure management			T1,T2	D,CS	T2	D,CS
Rice cultivation			T3	CS		
Agricultural soils			NE	NE	T1,T2	D,CS
Field burning of agricultural residues			T1	D,CS	T1	D,CS
Forest land	T2	CS				
Cropland	T3	CS	IE	IE	IE	IE
Grassland	T2	CS	IE	IE	IE	IE
Wetlands	T2	CS	T2	CS	NE	NE
Settlements	T2	CS				
Other land	T1	D				
Harvested wood products	T2	CS				
Solid waste	T1,T2	CS	T1,T2	D,CS	T1	D,CS
Wastewater treatment			T1,T2	D,CS	T1,T2	D,CS

- Note: 1. The methodological codes T1, T2 and T3 represent Tier 1, Tier 2 and Tier 3 methods respectively.*
- 2. The emission factor code CS represents the country-specific emission factor in China, D represents the defaulted IPCC emission factor.*
- 3. IE (included elsewhere) stands for sources which have been calculated and reported under other sub-categories. NE (not estimated) stands for existing emissions and removals which have not been estimated.*
- 4. Their parallel appearance shows that the sub-items use different Tier methods or emission factor data sources.*

In response to the extensions of the project, the project went beyond the tasks assigned in the ProDoc, added a few more activities (refer to Table 8 Achievements in addition to ProDoc Plan for the details), which is aiming at further mainstreaming the NC activities into the GOC policy and decision-making framework, therefor fully in line with the project's goal and objectives.

The TE concluded that in terms of the effectiveness, the performance of TNC is highly satisfactory.

### 3.3.4 Efficiency

#### Resource allocation and cost effectiveness:

As elaborated in Section 3.2.3, the GEF budget allocation among project components were well balanced with less than 10% variation against the original plan, 38% more co-finance had been leveraged, the use of the fund and human resources was efficient financially.

As discussed in Section 3.3.1 and 3.3.3, the project completed the planned activities and met or exceeded the expected outcomes in terms of achievement of global environmental and development objectives, more cost-effective than what initially planned given the fixed budget and extended time span, and even more so when compared with the project of similar size and magnitude.

#### Project management and timeliness

Although such of the causes of project extension as administrative restructuring and pandemic were hard to be foreseen and avoided, the TE investigation revealed that the more sophisticated management and institutional arrange could have made the things better, especially with regard to the chronical low delivery rate. In order to find the answers to the project's lingering low delivery rate, extensive and in-depth discussion had been made by the TE team with all the parties concerned, especially MEE and PMO. In summary of the discussion, the decisive and immediate reason is the complex and time-consuming supervision procedure of budget planning and allocation within the MEE managerial system due to the increasingly stringent anti-corruption policy of GOC. The solution to the quagmire does exist, as the project team put, which is to put the PMO outside the managerial body of MEE without giving away its supervision and line of duty in terms of GEF/UNDP project. By doing so, without sacrificing the high standard GEF/UNDP financial management, the timeliness of budget planning and allocation could be much faster and more efficient. The MEE and its project team had realized it, for the TNC too late though, and they had made decision to correct it in the presumable future 4NC project.

In conclusion, the TE consider the rating of the TNC in the category of efficiency is moderately satisfactory.

### *3.3.5 Overall Project Outcome*

The calculation of the overall project outcome rating was based on the ratings for relevance, effectiveness, and efficiency, of which relevance and effectiveness are critical. Overall project outcome is assessed using a six-point scale, described in Annex VI TE Rating scales.

According to the rules of GEF/UNDP TE guideline, and combined with the individual scores of relevance, effectiveness, and efficiency, the TE concluded the overall rating of the TNC outcome is satisfactory.

### *3.3.6 Sustainability*

#### FINANCIAL SUSTAINABILITY:

In general, according to relevant requirements of the Convention, “new” and “additional” climate finance support from developed countries is required to addressing the climate change in China, and other developing countries. Regarding the NC activities in particular, the manifesto mandate of the Convention ensured the financial support for future.

On the other hand, through the continual NC history, GOC showed a good track record to provide sufficient co-finance as of TNC, 38% more actual input than committed in the ProDoc. According the public statement, the GOC will continual the like kind of commitment financially in the future.

In conclusion, the TE consider the financial sustainability of the project be likely.

#### SOCIO-POLITICAL SUSTAINABILITY:

GOC showed strong commitment and political wills to further enhance its efforts of addressing the climate change.

In, 2015, the Chinese government officially submitted to the UNFCCC with its nationally determined contributions (NDC) target documents, presenting China's enhanced actions and measures on climate change as its nationally determined contributions that are made to achieve the objective set out in Article 2 of the Convention and represent its utmost efforts in addressing climate change.

According to the document, China has set NDCs targets for 2030: 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 m<sup>3</sup> on the 2005 level.

In conjunction with the targets, the document also presented the comprehensive policy and action plans to ensure the fulfillment of the targets.

Based upon the above evidence, the TE concluded the social-political sustainability of the project is likely.

#### INSTITUTIONAL FRAMEWORK AND GOVERNANCE SUSTAINABILITY

Since the Initial National Communication on Climate Change, the Chinese government has preliminarily established a national system for the preparation and reporting of National Communications on Climate Change and formed a relatively stable team for the preparation of National Greenhouse Gas Inventories, National Communications on Climate Change and Biennial Update Reports. According to the responsibilities of the departments engaging in the work on climate change, the national competent department is responsible for the preparation of National Greenhouse Gas Inventories, while the National Bureau of Statistics organizes relevant departments to provide basic statistical data, coordinates relevant industry associations and typical enterprises to provide relevant data and establishes national greenhouse gas inventory database to support the preparation of the National GHG Inventory database and data management. Upon completion, National Communications on Climate Change and Biennial Update Reports are approved by National Authority Responding to Climate Change and officially submitted to the secretariat of the Convention.

According to the public statement of GOC, the preparing and submitting National Communications and Biennial Update Reports, including National Greenhouse Gas Inventories, is a continuous, deepening task requirement. Therefore, the institutional framework and governance will be maintained for future NC activities.

The TE concluded the institutional sustainability of the project is likely.

#### ENVIRONMENTAL SUSTAINABILITY:

On one hand, the on-going climate change have been justified by more and more scientific evidence; on the other hand, coping with the climate change are drawing more and more consensus globally. As one of the fundamental efforts to address the issue, NC will continue in the future. Therefore, the like activities will be sustainable environmentally.

The TE concluded the environmental sustainability of the project is likely.

#### OVERALL SUSTAINABILITY

Based on the above individual scores on socio-political, financial, institutional, as well as environmental factors, the TE consider the overall sustainability of the project is likely.

### 3.3.7 *Country ownership*

The TE assessed the extent of country ownership from following aspects:

- As elaborated in the Section 2.2, the project concept was directly originated within the national sectoral and development plans.
- The outcomes from the project have been successfully incorporated into the national sectoral and development plan. For instance, 8 CCM and CCA measures formulated under the TNC process and included in the completed TNC Report have been included in the GOC plan for implementation, which exceeded the EOP targets by 100%.
- As discussed in Sections 3.1 and 3.2, there are strong and numerous evidence which showed that relevant country representatives (e.g., governmental official, civil society, etc.) actively involved in project identification, planning and implementation. They were also included in the decision-making process as the members of the project/ board, namely, PSC.
- As discussed in Section 3.2.3 and 3.3.6, the recipient government maintained financial commitment to the project during the implementation of the project and will be so in the future.
- As discussed in Section 3.3.6, the government approved policies and modified regulatory frameworks in line with the project's objectives.
- The PSC of the project worked as intergovernmental committee given responsibility to liaise with the Project Team and involved multi-agencies into the project.

In summary, the project showed strong country ownership.

### 3.3.8 *Catalytic/Replication Effect*

The TE assessed the catalytic or replication effect of the project in following aspects:

#### SCALING-UP:

Since the beginning of the 12th FYP, China has broken down national carbon emission control targets into provincial (regional, municipal) ones. During the 13th FYP period, provincial-level carbon emission intensity control targets are to reduce carbon emission by 20.5%, 19.5%, 18%, 17% and 12% respectively.

#### DEMONSTRATION:

At present, 23 Chinese provinces, regions or cities initiated low carbon pilots, with targets of reaching the peak of CO<sub>2</sub> emissions before 2030, of which 8 cities including Ningbo and Wenzhou have set the targets of reaching the peak during the 13th FYP period (2016-2020), 7 cities including Wuhan and Shenzhen planned to reach the peak during the 14th FYP period (2021-2025) and 8 provinces and cities including Yan'an and Hainan to reach the peak during the 15th FYP period (2026-2030).

#### REPLICATION:

China has established a statistical indicator system on climate change, and by including basic statistical indicators on GHG emission into the government statistical indicator system, China has established a basic statistical system matching the preparation of GHG inventories. In 2014, NBS, together with NDRC, Ministry of Transport, and other relevant departments, set up a 23-member Leading Group on Climate Change Statistics. The operational mechanism is to put the government statistical authority at the core with collaboration and coordination from member departments. China has actively carried out capacity building of the basic statistical team on climate change.

Based upon the achievements of 1NC, 2NC and TNC, China has further improved relevant data management system, providing technology support for the normalization and standardization of compilation of GHG inventories, and has strengthened CO<sub>2</sub> emission accounting and situation analysis of the performance of carbon emission intensity reduction targets. By the end of 2014, 31 provinces (autonomous regions, municipalities) and the Xinjiang Production and Construction Corps completed compilation of GHG inventories for 2005 and 2010, and the assessment format table and joint review indicator system of provincial-level GHG inventories took an initial shape. In 2015, China further arranged the compilation work of provincial-level GHG inventories for 2012 and 2014 in provinces (autonomous regions, municipalities) . To support the compilation work of provincial-level GHG inventories, TNC organized relevant capacity building programs to train the capabilities of the personnel working at inventory compilation institutions, enhancing local GHG inventory compilation capacity.

In conclusion, TNC typified the best practices in terms of engaging catalytic/replication effect of GEF interventions. The major lessons learnt from the project are: 1) strategic and comprehensive long-term plan; 2) Step-by-step continual and persistent efforts; 3) extensive capacity building; 4) close cooperation and coordination among governmental agencies, academic, industries. 5) Powerful and persistent enforcement and accountability system.

#### *3.3.9 Progress to Impact*

As the latest phase of a lasted and successful cooperation between China and GEF/UNDP, and one of the fundamental pieces of the nation's infrastructure of addressing the climate change, TNC made its significant contribution to the nation and the international community in enabling the nation continually to improve and scale-up its climate change data collection and reporting system, and thereby contribute to the long term impact of relevant national plan and actions.

## 4 CONCLUSIONS AND RECOMMENDATIONS

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### 4.1 MAIN FINDINGS

#### PROJECT DESIGN & FORMULATION:

- Overall, the project design and formulation is found to be sound, based on standard UNDP-GEF project design criteria.
- The project design is fully in line of country and GEF strategic priorities.
- The project's logic framework is found to be SMART.
- Although the project design failed to anticipate the up-coming of GOC administrative restructuring and Covid-19 pandemic, which are the critical reasons for the extensions of the project, the original assumptions and risk management plans have drawn lessons from the previous projects, and proven practical in later project implementation.
- The project is found to be inclusive and effective in involving various stakeholders in the process of project design.

#### PROJECT IMPLEMENTATION

- Adaptive Management:
  - The major changes during project implementation were the two extensions, which were caused mainly by the GOC administrative restructuring and the Covid-19 broke out.
  - In response to the unexpected big changes and extensions as the consequence, the UNDP, MEE, and the PMO communicated closely and reacted actively. The work plan was revised, the activities and budget plan were adjusted accordingly in consistence with the formal GEF/UNDP procedure and rules.
  - As a result, all the major designed targets (namely the 2BUR, 2BUR, TNC) had been completed and submitted to the Convention on time. Besides of the completion of all the original planned activities, the project took advantage of the opportunities, added several additional activities aiming to achieve the extra achievements (see Table 8 Achievements in addition to ProDoc Plan for the details).
- Actual Stakeholder Participation:
  - The institutional arrangement ensured the inclusive and comprehensive involvement of all the targeted stakeholders in the implementation.
  - The multi-agencies PSC and multi-disciplinary/multi-industrial TAP actively involved in the project management, AWP development, financial planning and other decision-making process.
  - M&E process also actively involved the stakeholder participation.
  - PSC members, TAP members, and local governments directly involved in the inventory development and refinement, so as to contribute to the progress towards achievement of project objectives.
- Project Finances & Co-Finance
  - The financial management is found fully in line with the GEF/UNDP rules and policies. The financial management and auditing was practiced on regular basis by the independent



financial firms appointed by UNDP. The planning, reporting, approving and documentation processes had been practiced in accordance with the GEF/UNDP requirement by all the parties (financial management firm, auditing firm, MEE, PMO, UNDP CO).

- The expenditure deviations from planned outcome budgets were minor amendments involving amounts of less than 10% of the total project budget. These reallocations had been included in AWP and approved by TPR and documented in APR/PIR.
- However, for a major part of the project implementation, management of GEF outcome budgets has been chronically less satisfactory in terms of annual delivery rates. Besides of the GOC restructuring and Covid-19, PMO acknowledged that one of the reasons for the low delivery rate is the insufficient planning skills and procrastinated approval process within NDRC/MEE due to the more stringent financial management policy by GOC. Although the PMO managed to deliver the major planned outputs on schedule, which means those subcontractors have to implement their activities without pay for quite some time, because they trusted the creditability of PMO through their long-term partnership.
- Overall actual co-financing expenditure accounts for 138% of the total committed co-finance budget until end of project. The source of co-finance was solely from GOC in the form of in-kind recurrent expenditure.
- Monitoring & Evaluation:
  - M&E design at entry: The M&E plan was well-conceived, practical and sufficient at the point of CEO Endorsement. The M&E plan included a baseline, SMART indicators and data analysis systems. The baseline conditions, methodology, logistics, time frames, and roles and responsibilities were articulated. The M&E budget in the project document was realistic and sufficiently covered all the M&E activities.
  - M&E implementation: During the project implementation, the designed M&E plan had been carried out in a consistent and effective manner. The M&E budget was appropriately planned and allocated, the data on indicators/tracking tools specifically gathered and documented, the progress and financial reporting were conducted timely and with solid quality, the M&E results were effectively circulated and discussed among the parties concerned (especially between MEE and UNDP CO), based on the circulation and discussion, the reactions were quick and focused, as a result, the information provided by the M&E system was used to improve and adapt project performance.
  - The evaluation team concluded that the TNC project's M&E at both design and implementation met the expectations and were satisfactory, therefore the overall M&E performance of the project was satisfactory.
- UNDP Implementation/Oversight and MEE Execution:
  - The UNDP China's designated Program Manager has effectively provided periodic oversight in implementation, including prompting timely reporting, providing guidance about reporting to ensure that the progress is implemented in line with UNDP-GEF guidelines, and providing feedback on project planning accordingly.

- MEE and PSC has effectively undertaken its line of duty on day-to-day project management, M&E responsibilities, including the review and approval of AWP's and Budgets (for endorsement to UNDP-GEF for the latter's final approval), providing guidance on the effectiveness of project implementation, and overall M&E of project implementation. For instance, some PSC members triangulated the project results with the data generated by their respective organizations. Similarly, inventory compiling methods and recommendations for activities were provided by members based on information received from their own organizations.
- TE conclude that the performance of both UNDP and MEE were satisfactory.
- Risk Management:
  - The project failed to anticipate the upcoming of GOC restructuring and Covid-19, and resulted 2 extensions. Nonetheless, the project team reacted quickly and effectively. As the result, the major targets (2 BURs and TNC) were delivered on time, the activities especially related with local management were eventually delivered, yet behind the schedule. Overall, all the targets set in project design were fulfilled, and quite some of which were overfulfilled. The details of the results were presented in Section 3.3.1 of the report.

#### PROJECT RESULTS AND IMPACTS

- Progress Towards Objectives & Expected Outcomes:
  - At the level of project goal and objective, by the end of the project, TNC fulfilled all the targets set in the ProDoc. In particular, with respect to the indicator of project goal, namely "the number of CCM and CCA measures formulated under the 3NC process and included in the completed 3NC Report that are planned for implementation by end-of-project (EOP)", the actual EOP achievement doubled the ProDoc target.
  - At outcome level, as the major content of the TNC and 2BURs, the number of inventories developed under the project is 50% higher than that of the ProDoc target throughout the fields of Fossil fuel combustion, Biomass combustion, CH<sub>4</sub> emissions from coal mining and post-mining activities, CH<sub>4</sub> fugitive emissions from oil and gas system, Non-energy uses of fossil fuel, International bunkers. Moreover, the project voluntarily raised the bar, and adopted a more advanced methodology in calculating a significant part of the inventories.
  - The TE concluded that in terms of the effectiveness, the performance of TNC is highly satisfactory.
- Relevance:
  - the project's objectives are highly relevant with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. The TE considered the rating of the project is highly satisfactory.
- Effectiveness:

- The TE concluded that in terms of the effectiveness, the performance of TNC is highly satisfactory.
- Efficiency:
  - TE consider the rating of the TNC in the category of efficiency is moderately satisfactory.
- Overall Project Outcome
  - The calculation of the overall project outcome rating was based on the ratings for relevance, effectiveness, and efficiency, of which relevance and effectiveness are critical. Overall project outcome is assessed using a six-point scale, described in Annex VI TE Rating scales. According to the rules of GEF/UNDP TE guideline, and combined with the individual scores of relevance, effectiveness, and efficiency, the TE concluded the overall rating of the TNC outcome is satisfactory.
- Sustainability:
  - TE found the project is financially, institutional, socio-politically, and environmentally sustainable. The overall sustainability of the project is therefore likely.
- Country Ownership:
  - TE found the project showed strong country ownership.
- Catalytic & Replication Effects:
  - TNC typified the best practices in terms of engaging catalytic/replication effect of GEF interventions. The major lessons learnt from the project are: 1) strategic and comprehensive long-term plan; 2) Step-by-step continual and persistent efforts; 3) extensive capacity building; 4) close cooperation and coordination among governmental agencies, academic, industries. 5) Powerful and persistent enforcement and accountability system.
- Progress to Impact:
  - As the latest phase of a lasted and successful cooperation between China and GEF/UNDP, and one of the fundamental pieces of the nation's infrastructure of addressing the climate change, TNC made its significant contribution to the nation and the international community in enabling the nation continually to improve and scale-up its climate change data collection and reporting system, and thereby contribute to the long term impact of relevant national plan and actions.

## 4.2 LESSONS LEARNED

The big lesson learnt from the TNC project is, as a project management team, you must be prepared for the unexpected, in other words, adaptive management is critical to the success of a project.

The major changes during project implementation were the two extensions, which resulted in a series of consequential adjustments to the project implementation and results.

In March 2019, as discussed in the MTR report, the GOC restructuring began, which was unanticipated by the project design, and later led the project management totally moved from NDRC to MEE. On May 31, 2019, MEE requested the first extension of the project from its termination date extended from June 2019 to September 30, 2020. According to the MEE's request, apart from some minor reasons (preparing of 4NC project and better knowledge sharing), the main reason is that local governments must restructure Department of Climate Change (DCC) from local Development and Reform Commission (DRC) to local Bureau of Ecology and Environment (BEE). Accordingly, As the institutional restructuring of the local governments has not yet been completed until March 2019, some of the activities of the 3NC Project in 2018 have not yet been carried out. The request was reviewed and agreed by UNDP, and later approved by the TPR meeting.

In late December 2019, the Covid-19 broke out in China nationwide. The project, like the nation as a whole, was in suspension for several months. On August 25, 2020, MEE filed the second extension request with termination date putting forward to December 3, 2020. Given the obvious reason, the UNDP agreed with and TPR meeting approved the extension.

In response to the unprecedented big changes and inevitable extensions as the consequence, the UNDP, MEE, and the PMO communicated closely and reacted actively. The work plan was revised, the activities and budget plan were adjusted accordingly in consistence with the formal GEF/UNDP procedure and rules. As a result, all the major designed targets (namely the 2BUR, 2BUR, TNC) had been completed and submitted to the Convention on time. Besides of the completion of all the original planned activities, the project took advantage of the opportunities, added several additional activities aiming to achieve the following extra achievements: 1) Technical guidance and support of the provincial level inventory development, which resulted in the release of 62 inventory reports covering 32 provinces in both the year 2012 and 2014; 2) development of 4NC project, which resulted in the submission of 4NC PIF document; 3) Research and proposal of mainstreaming the NC related activities into the MEE administration.

In conclusion, the TNC addressed the unexpected risks well with effective adaptive management skills. From its experiences, the key of coping with the risks is close cooperation among the management team, Implementing Agency, Executing Agency, and stakeholders.

### 4.3 CONCLUSIONS

TNC is aligned with the development strategy and priority of GEF/UNDP, GOC, and the project is of significant help to achieve national and global environment benefit. The Chinese Government at the highest levels has expressed its support for full compliance to the UNFCCC. As such, the TNC project have been effectively used as platform on which to improve understanding of climate change in China and to inform CC policies across all important economic sectors.

The project design draw lessons learnt from previous NC projects, the decision-making process involved all the major stakeholders, the implementation proved that the project design and Logframe is SMART.

The project experienced 2 big, unexpected changes in its implementation period. In mid-2019 the GOC initiated the national wide administrative restructuring, which moved the entire project management from NCRC to MEE. In late 2019, the Covid-19 hit the project. The project therefore extended twice. The TE found that Implementing and Executing Agencies have adaptively managed the project, making refinements to planned project implementation mechanisms based on learning from this and other projects, and to adapt to the changing development context. The PMO's performance in the whole progress towards the desired results is effective, exercising enough capacity and intelligence in adapting to changing situations and priorities; however, due to the inefficient financial planning and time-consuming approval procedure, the delivery rate of the project had been chronically low.

All targets of project outcomes have been fulfilled. In terms of project goal and objective, the actual achievements significant exceeded the targets set in the ProDoc.

The Project's partners and stakeholders have significantly always been manifesting their strong support and commitment to the success of the project. The project's experience and approach, including project management mechanism and key activities are replicable and sustainable in the future GOC or GEF-UNDP projects.

The overall TE rating of the project is shown in the table below.

1. Monitoring & Evaluation (M&E)	Rating
M&E design at entry	S
M&E Plan Implementation	S
Overall Quality of M&E	S
2. Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	Rating
Quality of UNDP Implementation/Oversight	S
Quality of Implementing Partner Execution	S
Overall quality of Implementation/Execution	S
3. Assessment of Outcomes	Rating
Relevance	HS
Effectiveness	HS
Efficiency	MS
Overall Project Outcome Rating	S
4. Sustainability	Rating
Financial sustainability	L
Socio-political sustainability	L
Institutional framework and governance sustainability	L
Environmental sustainability	L
Overall Likelihood of Sustainability	L

## 4.4 RECOMMENDATIONS

Rec #	TE Recommendation	Entity Responsible	Time frame
A	Comprehensively incorporate the best practices and lessons learnt of TNC into 4NC preparation and implementation		
A.1	<i>–More specific plan on risk control and adaptive management</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
A.2	<i>–More inclusive stakeholder involvement plan</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
A.3	<i>–Feasibility study to move the PMO to the outside of MEE</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
B	Information dissemination internationally		
B.1	<i>–Documentation, and Dissemination of Success Stories, as well as more knowledge sharing actions</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>
B.2	<i>–Seek new South-South cooperation project under the coordination of UNDP</i>	<i>MEE, UNDP CO</i>	<i>Apply immediately for future projects.</i>

# ANNEXES

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## I. TERM OF REFERENCE

### ***Project Background***

Climate is an important component of the natural environment that sustains human beings. A moderate and stable climate system is essential for the survival and evolution of all living creatures, and necessary for the sustainable development of human society. Scientific research concludes that the global climate is undergoing a significant change – climate system is warming and extreme climate events have become more frequent. Global climate change will affect human society in all aspects. It will not only affect the stability of ecosystem, but also the development of human society.

Undoubtedly, climate change attaches great concern of the global community. The Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) states that *"most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations"*. In addition, the Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC) has further strengthened the scientific conclusion that human activity accounts for climate change. As international consensus on addressing climate change continues to deepen and China's strength increases, China is faced with a new situation regarding the climate change issue.

There are many measures have been taken so as to address climate change effectively and efficiently, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted by the international community in June 1992 and came into force in March 1994, thanks to the joint efforts of all related parties. The UNFCCC stipulates clearly that the Parties to the Convention shall protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Additionally, the UNFCCC also requires all Parties to submit national inventories, which include anthropogenic emissions by sources and removals by sinks of all greenhouse gases (GHGs). It further provides that all Parties shall formulate, implement, publish and regularly update national programmes to address climate change, promote the development and application of technologies that reduce or prevent anthropogenic emissions of GHGs. Moreover, it is urgent to improve the sinks of GHGs, develop adaptation plan and promote the exchange of information about climate change and response measures; promote education, training and public awareness related to climate change. According to the UNFCCC, each Party has the responsibility to exchange communication, including a national inventory of emissions by sources and removals by sinks of all GHGs, a general description of steps taken and envisaged to implement the UNFCCC as well as other information that the Party considers appropriate.

The Chinese government attaches great significance to its international obligations, and engaged officials and experts of relevant government departments, social groups, research institutes,

universities and enterprises to develop China's Initial National Communication (hereinafter referred to as INC) in accordance with the UNFCCC *Guidelines for the preparation of national communications from non-Annex I Parties*. The INC was completed after 3-year concerted efforts of more than 400 experts from about 100 organizations and submitted to the Secretariat of the UNFCCC in October 2004. In 2008, China launched the preparation of its Second National Communication (hereinafter referred to as 2NC). After four-year coordinated efforts of relevant government departments, scientific research institutions, universities, state-owned enterprises and civil societies, with further elaboration by the National Leading Group on Climate Change (NLGCC), the 2NC was completed and approved by the State Council in 2012 and submitted to the UNFCCC on 8 November 2012. The compilation of 2NC was based on *the guidelines for the preparation of the second national communications from non-Annex I Parties*, which were adopted by the Conference of the Parties (COP) at its eighth session.

The 2NC is composed of 8 parts providing information on national circumstances, national GHG inventory, climate change impacts and adaptation, policies and actions for climate change mitigation, other relevant information on achieving the objective of the Convention, needs for financial support, technologies and capacity building, basic situation of the Hong Kong Special Administrative Region (SAR) and Macao SAR on addressing climate change. The 2NC has fully reflected China's national circumstances related to climate change. On the whole, China will sincerely carry out all the tasks in the China's National Climate Change Programme, strive to build a resource conservative and environmentally friendly society, enhance national capacity to mitigate and adapt to climate change, and make further contribution to the protection of the global.

In this context, the Third National Communication of the People's Republic of China on Climate Change (hereinafter referred to as 3NC) project will be conducive for China to establish national systems, methodologies and further strengthen coordination and institutional arrangements for the preparation of national communications. It will further strengthen China's capacity to develop national GHG inventory, including the capacity to determine activity data, appropriate emission factors, collecting field measurement data and controlling inventory quality. The 3NC will enhance China's ability to project future GHG emissions, develop and maintain national GHG emission database. The 3NC will comprise 2012 national GHG inventory and emission projections, policies and measures for climate change mitigation, analysis on mitigation actions, and institutional structure of Measurement, Reporting and Verification (MRV), promotions for public awareness related to climate change, GHG inventory and basic information of the Hong Kong SAR and Macao SAR on addressing climate change. It will also assess the impacts of and vulnerability to climate change so as to identify adaptation options in the short and long terms.

Decision 2/CP.17 adopted by the seventeenth session of the Conference of the Parties (COP) of the UNFCCC stipulates that "*non-Annex I Parties, consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report by December 2014. In using the Guidelines, non-Annex I Parties should take into account their development priorities, objectives, capacities and national circumstances. Non-Annex I Parties shall submit a biennial update report every two years, either as a summary of parts of their national communication in the*



*year in which the national communication is submitted or as a stand-alone update report. The first biennial update report submitted by non-Annex I Parties shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and that subsequent biennial update reports shall cover a calendar year that does not precede the submission date by more than four years".* Therefore, the preparation and submission of China's Initial Biennial Update Report (hereinafter referred to as BUR) will be important demonstration and guarantee to improve the consistency, transparency, integrity, accuracy and timeliness of data contained in its national communications.

The 3NC and the BUR will enable China to better assess domestic climate change impacts, vulnerability and adaptation measures, enhance China's capacity in measurement, statistics and monitoring, and promote public awareness related to climate change. On the other hand, the preparation of the 3NC and the BUR will also demonstrate and strengthen China's efforts to address climate change. It will assist the international community to better comprehend China's climate change actions and enhance international cooperation and exchanges.

### **Project Summary**

This project is to enable China to fulfill its commitments under the UNFCCC to prepare its Third National Communication (3NC) and Initial Biennial Update Report (BUR) and to gradually establish a supporting system of developing NCs and BUR in accordance with the *Guidelines for the Preparation of National Communications from Non-Annex I Parties* (17/CP.8) and *Biennial Update Reporting Guidelines for Non-Annex I Parties* (2/CP.17) adopted by the Conference of Parties (COP). Based on the experience and lessons learned from the previous two NCs, the project will broaden and consolidate the network of stakeholders, including those in the government, research and education institutions, associations, social groups, enterprises, individuals and NGOs, enhance technical capacity of national experts, and strengthen the institutional framework for the preparation of NCs and BURs. Furthermore, the project will place greater emphasis on relevant policies on mitigation of and adaptation to climate change and the results of their implementation, promote the establishment and improvement of the domestic systems for measurement, report and verification, so as to enable China to effectively address climate change in the process of pursuing national sustainable development.

The project will develop comprehensive national Greenhouse Gas (GHG) inventory of 2010 and 2012, with extended categories and sources of GHG emissions and reduced uncertainties of the inventory. It will further improve the national GHG inventory database management system, with a view to administering inventory data in a more scientific way and making the preparation of GHG inventories a continuing process. The project will further improve the approach for projecting GHG emissions in China, and estimate China's CO<sub>2</sub> emission from energy activities in 2025. It will also identify key impacts of climate change and corresponding adaptation measures, describe relevant policies and measures which China adopts to address climate change, and introduce the activities of enhancing public awareness on climate change. It will provide relevant information on addressing climate change by Hong Kong and Macao. The project will lead to the submission of the 3NC and BUR to the Conference of the Parties (COP) to the UNFCCC.

### ***Duties and Responsibilities***

- Define the evaluation methodology and schedule, and report to the PMO
- Documentation of the review
- Leading the TE Team in planning, conducting and reporting on the evaluation
- Deciding on division of labor within the team and ensuring timeliness of reports
- Use of best practice evaluation methodologies in conducting the evaluation
- Leading presentation of the draft evaluation findings and recommendations in-country
- Conducting the debriefing for the UNDP China Office and the TNC PMO
- Leading the drafting and finalization of the TE report

### ***Competencies***

1. Updating of National GHG Emission Inventory and GHG Inventory Database, and Enhancement of GHG Emission Forecasting and Modeling Systems.
2. Assessment on Impacts of, Vulnerability and Adaptation to Climate Change.
3. Updating of Climate Change Mitigation, Measures, Options and Actions for 3NC.
4. Improving Public Awareness and Informing Policy Decision Making on Climate Change.
5. Inventory of GHG Emissions and Other Relevant Information on Climate Change in Hong Kong and Macau SARs.
6. Supplementary Support for Achieving Convention Objectives and Publication and Dissemination of the 3NC Report.
7. Supporting China Biennial Update Report completed and Submitting to the UNFCCC.

### ***Objectives of the Terminal Evaluation***

The objectives of this Terminal Evaluation (TE) seek to fulfill the following overarching objectives of the monitoring and evaluation of GEF projects:

The objective of the TE is to gain an independent analysis of the progress of the project. The Terminal Evaluation will identify potential project design problems, assess progress towards the achievement of the project objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP-GEF projects), and make recommendations regarding specific actions that should be taken to improve the project in future. The TE will assess early signs of project success or failure and identify the necessary changes to be made. The project performance will be measured based on the indicators of the project's logical framework (see Annex 1) and various Tracking Tools.

The TE must provide evidence based information that is credible, reliable and useful. The review team is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. Interviews will be held with the following organizations and individuals at a minimum:

1. UNDP staff who have project responsibilities;
2. Executing agencies (including but not limited to senior officials and task team/component leaders: MEE, key experts and consultants in the demonstration areas, PSC members;
3. The Chair of Project Steering Committee
4. Project stakeholders, including academia, local government and CBOs

The team will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review.

### ***Scope of the Evaluation***

The scope of the TE covers the entire UNDP/GEF-funded project and its components as well as the co-financed components of the project.

The TE will assess the Project implementation taking into account the status of the project activities and outputs and the resource disbursements made up to the point of the start of the review

The evaluation will involve analysis at two levels: component level and project level. On the component level, the following shall be assessed:

- Whether there is effective relationship and communication between/among components so that data, information, lessons learned, best practices and outputs are shared efficiently, including cross-cutting issues.
- Whether the performance measurement indicators and targets used in the project monitoring system are specific, measurable, achievable, reasonable and time-bounded to achieve desired project outcomes.
- Whether the use of consultants has been successful in achieving component outputs.

The evaluation will include such aspects as appropriateness and relevance of work plan, compliance with the work and financial plan with budget allocation, timeliness of disbursements, procurement, coordination among project team members and committees. Any issue or factor that has impeded or accelerated the implementation of the project or any of its components, including actions taken and resolutions made should be highlighted.

On the project level, it will assess the project performance in terms of: (a.) Progress towards achievement of results, (b.) Factors affecting successful implementation and achievement of results, (c.) Project Management framework, and (d.) Strategic partnerships.

*Progress towards achievement of results (internal and within project's control)*

- Is the Project making satisfactory progress in achieving project outputs vis-à-vis the targets and related delivery of inputs and activities?
- Are the direct partners and project consultants able to provide necessary inputs or achieve results?
- Given the level of achievement of outputs and related inputs and activities to date, is the Project likely to achieve its Immediate Purpose and Development Objectives?
- Are there critical issues relating to achievement of project results that have been pending and need immediate attention in the next period of implementation?

*Factors affecting successful implementation and achievement of results (beyond the Project's immediate control or project-design factors that influence outcomes and results)*

- Is the project implementation and achievement of results proceeding well and according to plan, or are there any outstanding issues, obstacles, bottlenecks, etc. on the consumer, government or private sector or other organizations that are affecting the successful implementation and achievement of project results?
- To what extent does the broader policy environment remain conducive to achieving expected project results, including existing and planned legislations, rules, regulations, policy guidelines and government priorities?

- Is the project logical framework and design still relevant in the light of the project experience to date?
- To what extent do critical assumptions/risks in project design make true under present circumstances and on which the project success still hold? Validate these assumptions as presently viewed by the project management and determine whether there are new assumptions/risks that should be raised?
- Is the project well-placed and integrated within the national government development strategies, such as community development, poverty reduction, etc., and related global development programs to which the project implementation should align?
- Do the Project's purpose and objectives remain valid and relevant, or are there items or components in the project design that need to be reviewed and updated?
- Are the Project's institutional and implementation arrangements still relevant and helpful in the achievement of the Project's objectives, or are there any institutional concerns that hinder the Project's implementation and progress.

*Project management (adaptive management framework)*

- Are the project management arrangements adequate and appropriate?
- How effectively is the project managed at all levels? Is it results-based and innovative?
- Do the project management systems, including progress reporting, administrative and financial systems and monitoring and evaluation system, operate as effective management tools, aid in effective implementation and provide sufficient basis for evaluating performance and decision making?
- Is technical assistance and support from project partners and stakeholders appropriate, adequate and timely?
- Validate whether the risks originally identified in the project document and, currently in the APR/PIRs, are the most critical and the assessments and risk ratings placed are reasonable.
- Describe additional risks identified during the evaluation, if any, and suggest risk ratings and possible risk management strategies to be adopted.
- Assess the use of the project logical framework and work plans as management tools and in meeting with UNDP-GEF requirements in planning and reporting.
- Assess the use of electronic information and communication technologies in the implementation and management of the project.

- On the financial management side, assess the cost effectiveness of the interventions and note any irregularities.
- How have the APR/PIR process helped in monitoring and evaluating the project implementation and achievement of results?

*Strategic partnerships (project positioning and leveraging)*

- Asses how project partners, stakeholders and co-financing institutions are involved in the Project's adaptive management framework.
- Identify opportunities for stronger collaboration and substantive partnerships to enhance the project's achievement of results and outcomes.
- Are the project information and progress of activities disseminated to project partners and stakeholders? Are there areas to improve in the collaboration and partnership mechanisms?

***Evaluation Methodology***

The TE Team is expected to become well versed as to the project objectives, historical developments, institutional and management mechanisms, activities and status of accomplishments. Information will be gathered through document review, group and individual interviews and site visits. Review relevant project documents and reports will be based on the following sources of information: review of documents related to the project and structured interviews with knowledgeable parties

The TE Team will conduct an opening meeting with the National Project Director (NPD), Project Management Office (PMO), the Ministry of Finance, and the China International Center for Economic and Technical Exchanges. An "exit" interview will also be held to discuss the findings of the assessment prior to the submission of the draft Final Report.

Prior to engagement with PMO, the TE Team shall receive all the relevant documents including at least:

- The Project Document and Project Brief
- Inception Report
- Annual Work and Financial Plans
- Annual Project Report/Project Implementation Review (APR/PIR) for 2015 and 2016

To provide more details, as may be needed, the following will be made available for access by the TE Team:

- Executive summary of all quarterly reports
- Internal monitoring results
- Terms of Reference for past consultants' assignments and summary of the results
- Past audit reports

All additional material related to the project management and implementation and held by the PMO and their subcontracts will be available for review at the discretion of the Evaluation Team.

The TE Evaluation Team should at least interview (online) the following people:

- National Project Director
- National Project Coordinator
- PMO Director
- International Chief Technical Advisor
- Project Financial Officer
- A representative of the Project Steering Committee
- UNDP Country Office in China in-charge of the Project

It is also anticipated that the TE will interview a number of sub-contractors and recipients of services, and make site visits to implementation areas. However, the degree to which such interactions are required will be at the discretion of the Evaluation Team.

With the aim of having an objective and independent evaluation, the TE Team is expected to conduct the project review according to international criteria and professional norms and standards as adopted by the UN Evaluation Group.

### ***Required Skills and Experience***

The TE Team will be composed of one International Lead Consultant and one National Consultants. The Team is expected to combine international standards of evaluation expertise, excellent knowledge of Energy Efficiency and Climate Change projects and the national context of in which the project is being implemented.

At the minimum, the members of the TE Team shall have the following professional background and responsibilities:

- Minimum of ten years accumulated and recognized experience in the Energy Efficiency and climate change area
- Minimum of five years experience of project evaluation and/or implementation experience in the result-based management framework
- Familiarity with China
- Experience with multilateral and bilateral supported project environments
- Comprehensive knowledge of international project best practices
- Very good report writing skills in English

### ***All TE Team Members***

The members of the team must be independent from both the policy-making process and the delivery and management of the UNDP/GEF assistance to the project. Therefore, candidates who had any direct involvement with the design and implementation of the project will not be considered.

### ***Evaluation Schedule and Deliverables***

The TE is provisionally scheduled to commence in November 2020. The draft evaluation report should be produced within 2 weeks, highlighting important observations, analysis of information and key conclusions including its recommendations. Based on the scope of the TE described above, the Evaluation Report will include, among others:

- Findings on the project implementation achievements, challenges, and difficulties to date;
- Assessments of the progress made towards the attainment of outcomes;
- Recommendations for modifications and the future course of action;
- Lessons learned from the project structure, coordination between different agencies, experience of the implementation, and output/outcome.

The report will be initially shared with UNDP China Office and PMO to solicit comments or clarifications. Consequently, a presentation of the report will be made to an open meeting of all project stakeholders for comment. The final TE report will then be submitted within 1 month of the initiation of the evaluation. Three copies of the report will be submitted to the UNDP China Office and a copy to PMO.



There will be two main deliverables:

- TE report, including an executive summary, fulfilling the evaluation requirements set out in this Terms of Reference (TOR). The final report (including executive summary, but excluding annexes) should not exceed 50 pages.
- A power-point presentation of the findings of the evaluation

### ***Budget***

All the costs incurred for the conduct of the TE for the Project shall be charged against project funds allocated for the conduct of such activity. Payment of the TE Evaluation Team's professional fees shall be made in accordance with the Special Service Agreement to be issued in this regard.

### **Evaluation Criteria**

- The award of the contract will be made to the Individual Consultant who has obtained the highest Combined Score and has accepted UNDP's General Terms and Conditions. Only those applications which are responsive and compliant will be evaluated. The offers will be evaluated using the "Combined Scoring method" where:
- Technical evaluation - 70%; (includes 20% of Job-Related Technical Expertise; 25% of Relevant working experience; 25% of Methodology & Approach to Assignment)
- Financial Evaluation - 30%.

## II. TE MISSION ITINERARY

PROJECT DATA		
<b>UNDP and GEF Project ID Numbers</b>	UNDP Project ID: 00088737	
<b>Evaluation Time Frame and Date of Evaluation Report</b>	Content	Time
	Inception Meeting	25-Nov-20
	Ongoing data gathering and interviews as requested by the MTR team	November 26-December 9, 2020
	PPT Presentation of initial TE findings and recommendations	10-Dec-20
	Validation of financial and other reporting information, additional analysis	December 11, 2020-March 5, 2021
	Submission of Draft MTR	6-Mar-21
<b>Evaluation Team Members</b>	Litong Xu (International Evaluator) Zhihong Wei, JiFengLi (National Evaluator)	

### III. LIST OF PERSONS INTERVIEWED

Name	Designation	Organization	Role in the Project
Liu Shijun	Project Manager	UNDP China	Implementing agency
Li Dan	Project Assistant	UNDP China	Implementing agency
Sun Zhen	Department Director	MEE	NPD
Miao Weijie	Staff	MEE	PMO Coordinator
Yuan Jiashuang	Department Vice-Director	CMA	PSC member, member of project development team
Sun Yaowei	Department Vice-Director	Energy Bureau, NSRC	PSC member
Ou Xunmin	Associate Professor	Tsinghua Univ.	TAP member
Pan Li	Devision Chief	China Federation of electric power enterprises	TAP member
Li Yongliang	Devision Chief	China Petrochemical Federation	TAP member
Su Minshan	Vice-Director	NCSC	Member of project development team, Subcontractor
Ma Cuimei	Research Staff	NCSC	Member of project development team, Subcontractor
Wang Tian	Research Staff	NCSC	Expert on Hong Kong and Macao, Subcontractor
Liu Bin	Research Staff	Tsinghua Univ.	Subcontractor
Tong Qing	Research Staff	Tsinghua Univ.	Subcontractor
Han Shenghui	Research Staff	CAS	Subcontractor
Zhang Wen	Research Staff	CAS	Subcontractor
Yu Yongqiang	Research Staff	CAS	Subcontractor
Li Yu-e	Research Staff	CAAS	Subcontractor

Zhu Jianhua	Research Staff	CAS	Subcontractor
Yu Yongqiang	Research Staff	CAS	Subcontractor
Gao Qingxian	Research Staff	CRAES	Subcontractor
Ma Zhanyun	Research Staff	CRAES	Subcontractor
Zhou Li	Research Staff	Tsinghua Univ.	Subcontractor

#### IV. LIST OF DOCUMENTS REVIEWED

- 1 Project Identification Form (PIF)
- 2 Final UNDP-GEF Project Document
- 3 CEO Endorsement Request
- 4 Inception Workshop Report
- 5 Mid-Term Review report and management response to MTR recommendations
- 6 All Project Implementation Reports (PIRs)
- 7 All Annual Progress Reports (APRs)
- 8 All Quarterly Reports
- 9 All AWP
- 10 Minutes of TPR Meetings
- 11 Communications between MEE and UNDP on project extensions.
- 12 GEF Tracking Tools (from CEO Endorsement, midterm and terminal stages)
- 13 Co-financing data with expected and actual contributions broken down by type of co-financing, source, and whether the contribution is considered as investment mobilized or recurring expenditures
- 14 Audit reports
- 15 All Electronic copies of project outputs (booklets, manuals, technical reports, articles, etc.)
- 16 list of formal meetings, workshops, etc. held, with date, location, topic, and number of participants
- 17 List of all contracts and procurement items (with budget, duration, task, and contact information)
- 18 List of related projects/initiatives contributing to project objectives approved/started after
- 19 Data on relevant project website activity – e.g. number of unique visitors per month, number of page views, etc. over relevant time period, if available
- 20 UNDP Country Programme Document (CPD)
- 21 List and contact details for project staff, PSC, TPA, subcontractors, and other key stakeholders
- 22 Project deliverables that provide documentary evidence of achievement towards project outcomes

## V. TE QUESTION MATRIX AND QUESTIONNAIRE

### PROJECT DESIGN AND LFA DEVELOPMENT AND EFFECTIVENESS

#### 1. PROJECT SUMMARY TABLE

2. What the considerations of LFA were in terms of inter component inter-output linkage and linkage of component and its output?
3. Who involved in project and LFA design?
4. Lessons learned from SNC? Any change and improvement?
5. How to incorporate SMART principle in LFA design?
6. How effective is the project design on providing guidance for planning and implementation of different activities and outputs listed in the Logical Framework?
7. Do the PMO and other stakeholders find the project PMP/Logframe goals and outcomes to be realistic, indicators to be SMART and outputs to be trackable?
8. Any changes during implementation of LFA and component/activity against original design? (For example, 1BUR?)
9. In retrospective, overall quality of project design, LFA? Lessons learned, best practices? If FNC, any change planned?
10. Target/indicator system in ProDoc and annual WP, discussion on possibility of future improvement?

### PROJECT MANAGEMENT

1. How many staff work at the PMO and what is the respective function of each staff member? Please provide organogram of the PMO
2. Has the project faced any HR challenges, e.g., insufficient or under qualified staff, high turnover, non-availability on in country technical knowhow, etc.? If yes, how have these been resolved?
3. Has there been a turnover/change in personnel on key project positions, e.g., PMO Director, NPD, etc.? If yes, when, and how has this lack of continuity affected the project?
4. Have there been any delays in recruitment of key staff members (e.g., CTA, M&E Officer, etc.) /contractors, etc. If yes, what were the reasons?
5. How has this delayed hiring affected the project?
6. Who are members of the PSC? How often has the PSC met? Dates of PSC meetings. Organization chart, difference from ProDoc?
7. What is the % distribution of PSC members according to sector, i.e. public, private,

international, NGOs, etc.

8. What important decisions have been taken by the PSC?
9. How has the PSC steered the project in the right direction?
10. How could the role of the PSC have been improved?
11. In addition to the PMO and PSC, does the project also have local PMOs and PSCs?
12. What is the role of TAP? Who are the members of this team?
13. What important advice has been provided by the TAP? And how has the TAP contributed to the project's success?
14. How could the roles of TAP have been improved?

#### ADMINISTRATIVE RESHUFFLING

1. What is the plan of this restructuring? When? How? Purpose and objective?
2. Impact on TNC institutional arrangement? (NPD, PMO, PSC, others)
3. Impact on LFA, objective/goal, components/activities?
4. Any anticipated uncertainties and risks? And counter measures?
5. Timeline of change?

#### STAKEHOLDERS (TABLE)

1. Who are the key public sector stakeholders and what is the role of each?
2. Who are the key private sector stakeholders and what is the role of each?
3. Partners at local level? When and how to be involved?
4. Which stakeholders under each project outcome have been particularly active in ensuring the project's success? How?
5. Did any stakeholders not meet their commitments? If yes, who are they and what was the reason?

#### UNDP IMPLEMENTATION AND MEE EXECUTION

1. What support has been provided by the UNDP/MEE to the project? E.g. linkages with international experts, etc.
2. What has been the role of the UNDP/MEE in monitoring and course correction?
3. How could the role of the UNDP/MEE have been improved? E.g. timely budget releases, simpler reporting formats, etc.
4. What support has been provided by the GEF Focal Point?

#### STAKEHOLDER COLLABORATION AND COMMUNICATION

1. How was stakeholders' involvement plan changed in implementation? organizations and entities? Roles? Reason? Results?
2. What were the advantages of including these organizations and entities in the project planning and implementation?
3. How has the project collaborated with some of the other GEF UNDP programs () and with other development partner EE programs, e.g., WB, JICA, etc.
4. What have been some of the synergies or positive outcomes of these collaborations?
5. If the project has not collaborated with any of these projects/programs, what opportunities have been lost?
6. How has the collaboration between the various stakeholders leveraged the project performance?
7. What were key challenges faced by the PMO in facilitating the collaboration of such a large variety and number of stakeholders? How were some of these challenges mitigated?
8. How do the various stakeholders and partners interact to ensure communication and linkages between their respective activities? E.g. quarterly meetings arranged by the PMO or any other events, etc.
9. HK, Macau in particular?

#### ADAPTIVE MANAGEMENT

1. During the time of implementation, have there been any changes in the project document? If yes, what were these changes? Were these changes incorporated in the project's logframe? What was the process of having these changes approved? E.g. approval from PSC, approval from GEF, etc. What challenges were faced by the project for making any changes in the project approach/logframe, etc.?
2. What were the major changes made in the work plan during the inception period (Ref. Inception Report)?
3. Have there been any significant delays in implementation of activities (delay of three months or more)? If yes, which activities were these and what caused the delays?
4. How did these delays affect the project's progress? What was the impact of activity delays on other components and activities? How were these problems mitigated?
5. Were the project target locations / cities identified in the project changed during the implementation ()? If yes, why? And what was the process of identifying the new locations? How did this change affect the project meeting its goals and objectives?
6. Lessons learnt and best practices?



## ASSUMPTIONS AND RISKS

1. ProDoc design and implementation on risk control? (table, no in ProDoc, but in PIR? Why?)
2. Any new risks and countermeasures? Results?
3. Administrative restructuring?
4. Overall comments? Future plan?

## BUDGET AND CO-FINANCING, DELIVERY RATE (TABLES)

1. Is the budget sufficient for the proposed activities? If no, what problems has the project faced regarding budget allocations? What efforts have been made to resolve some of these problems?
2. Is there any revision on budget plan? Why? How? Result?
3. Were all the committed finances (GEF) and co-financing (different sources, etc.) delivered on time? If no, please provide details, e.g. reason for delay in provision of funds, impact of delayed funds on project progress and achievement of outcomes, etc.
4. What was the project's annual delivery rate for each year since project start? What were the reasons for low delivery in some of the years? How were these issues resolved?
5. Were all the key stakeholders, able to meet their co-financing requirements? If no, what was the reason and how did the lack of this financing affect the project?
6. If yes, was the co-financing equal to or more than the expectation in the project design? What was the reason for the low or high co-financing? E.g., change in GOC policy, change in bank policy, interest of consumers, etc.
7. How did the co-financing affect the project's success?
8. Have regular project financial audits been undertaken? Were these audits satisfactory? If not, what were the reasons and how were these issues resolved?
9. Co-financing table and delivery rate table

## M&E AND REPORTING

1. Has the project developed an M&E framework? If yes, what are the main components of the M&E framework?
2. What was the process of developing and approval of this framework? If no, what were the reasons? E.g. lack of qualified personnel in the PMO, lack of funding, lack of initiative by project management, etc.

3. What are the major advantages of using this M&E system? E.g., support to promoting the project's successes, assistance with periodic reporting, etc.
4. What have been the major challenges in undertaking project M&E? How have these challenges been mitigated? E.g., lack of technical training, lack of funding for studies, lack of SMART indicators, etc.
5. How is the logframe used for purposes of Planning, M&E, and Reporting? What problems have been faced by the PMO when reporting against the logframe?
6. Were any of the evaluation reports or results of surveys or impact assessments uploaded to the project website or any other public source?
7. Did the project submit its reports on time? What problems were faced in reporting? How were these resolved?
8. How have the APR/PIR process helped in monitoring and evaluating the project implementation and achievement of results?

#### PERFORMANCE EVALUATION FRAMEWORK

1. Presentation of progress (outcome at component level)
2. PPM, any target unfulfilled, why?
3. Addition activities, outputs, why add these?
4. On the component level, the following shall be assessed:
  - a) Whether there is effective relationship and communication between/among components so that data, information, lessons learned, best practices and outputs are shared efficiently, including cross-cutting issues.
  - b) Whether the performance measurement indicators and targets used in the project monitoring system are specific, measurable, achievable, reasonable, and time-bounded to achieve desired project outcomes.
  - c) Whether the use of consultants has been successful in achieving component outputs.
  - d) Is there any delay or delivery issues? Why? How to deal with it? Result? Plan?
5. Project Level
  - a) What are the key sub-contracted activities under the project? When did each activity start and finish?
  - b) Are there any outstanding activities in any of the sub-contracts?
  - c) What were the challenges in sub-contracting? E.g., availability of local expertise, cost, coordination, commitment, and timely delivery by sub-contractors, etc.?

- d) What was the process of sub-contractor selection? How did the project ensure transparency in selection of sub-contractors' organizations?
- e) Please provide TORs of each sub-contracted activity

### IMPACT

1. What are the unique and irreplaceable contributions of GEF intervention?
2. Has the project undertaken any impact surveys? If yes, what are the major outcomes? E.g., Impact of the promotion and advocacy program, studies on effectiveness of implementation results of formulated policies and standards, etc.
3. Which of the project activities/components have had the highest (most significant) impact? Why?
4. Which of the project activities/components have had the least impact? Why?
5. What problems were faced in assessing the impact? E.g., lack of an M&E system to assess impact, lack of cooperation of project stakeholders in reporting progress/impact, etc.
6. What is the project impact on goal and outcome? What methodology was used to assess this impact?
7. If the project has not been able to achieve these goal and outcome level indicators, what are the reasons for that?

### MAINSTREAMING AND SUSTAINABILITY

1. What have been the key measures of sustainability/replicability embedded in the project design and delivery?
2. Which outcomes/results of the project are particularly sustainable? Why?
3. Which outcomes/results of the project are least sustainable? Why?
4. What are the major risks to the sustainability of the project's activities? E.g., lack of funding, high product cost, lack of technical capacity, etc.
5. What are the points/measures that leverage sustainability at this point? E.g., new govt. policy, increased market demand, etc.?
6. How are the activities being replicated and scaled up? E.g., continuation of trainings, availability of financing, etc.
7. Is there a follow up project planned, either at UNDP or with any of the other sub-contractors/stakeholders, e.g., GEF/UNDP, etc.? If yes, how would this program be linked to TNC? If no, what is the reason?
8. Consideration on next follow-up project? (necessity, significance, advantages, how to

prepare in the future TNC activities)

9. Consideration on possible South-South cooperation?

### CONCLUSIONS AND RECOMMENDATIONS

1. what are some of the key achievements of the TNC project?
2. what are some of the key innovations of the TNC project?
3. what are some of the key best practices of the TNC project?
4. In your opinion, what are some areas in which TNC could have played a more active role but did not play?
5. What are the key lessons learned from the implementation of TNC?
6. What are your recommendations to ensure sustainability of the TNC's key activities?
7. What components/activities would you recommend for a similar program in the future?
8. To what extent does the broader policy environment remain conducive to achieving expected project results, including existing and planned legislations, rules, regulations, policy guidelines and government priorities?
9. Is the project logical framework and design still relevant in the light of the project experience to date?
10. To what extent do critical assumptions/risks in project design make true under present circumstances and on which the project success still hold? Validate these assumptions as presently viewed by the project management and determine whether there are new assumptions/risks that should be raised?
11. Is the project well-placed and integrated within the national government development strategies, such as community development, poverty reduction, etc., and related global development programs to which the project implementation should align?
12. Are the Project's institutional and implementation arrangements still relevant and helpful in the achievement of the Project's objectives, or are there any institutional concerns that hinder the Project's implementation and progress.

## VI. TE RATING SCALES

### Monitoring & Evaluation Ratings Scale

Rating	Description
6 = Highly Satisfactory (HS)	There were no shortcomings; quality of M&E design/implementation exceeded expectations
5 = Satisfactory (S)	There were minor shortcomings; quality of M&E design/implementation met expectations
4 = Moderately Satisfactory (MS)	There were moderate shortcomings; quality of M&E design/implementation more or less met expectations
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of M&E design/implementation was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of M&E design/implementation was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in M&E design/implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design/implementation.

### Implementation/Oversight and Execution Ratings Scale

Rating	Description
6 = Highly Satisfactory (HS)	There were no shortcomings; quality of implementation/execution exceeded expectations
5 = Satisfactory (S)	There were no or minor shortcomings; quality of implementation/execution met expectations.
4 = Moderately Satisfactory (MS)	There were some shortcomings; quality of implementation/execution more or less met expectations.
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of implementation/execution was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of implementation/execution was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in quality of implementation/execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation and execution

### Outcome Ratings Scale - Relevance, Effectiveness, Efficiency

Rating	Description
6 = Highly Satisfactory (HS)	Level of outcomes achieved clearly exceeds expectations and/or there were no shortcomings
5 = Satisfactory (S)	Level of outcomes achieved was as expected and/or there were no or minor shortcomings
4 = Moderately Satisfactory (MS)	Level of outcomes achieved more or less as expected and/or there were moderate shortcomings.
3 = Moderately Unsatisfactory (MU)	Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings
2 = Unsatisfactory (U)	Level of outcomes achieved substantially lower than expected and/or there were major shortcomings.
1 = Highly Unsatisfactory (HU)	Only a negligible level of outcomes achieved and/or there were severe shortcomings
Unable to Assess (UA)	The available information does not allow an assessment of the level of outcome achievements

### Sustainability Ratings Scale

Ratings	Description
4 = Likely (L)	There are little or no risks to sustainability
3 = Moderately Likely (ML)	There are moderate risks to sustainability
2 = Moderately Unlikely (MU)	There are significant risks to sustainability
1 = Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

## VII. MAIN STAKEHOLDERS SUMMARY LIST

Stakeholder	Role in the Project
NCSC	Energy Inventory, database management, 3NC and 1BUR
ERI	Energy Inventory (road transportation and biomass) and others
Tsinghua Univ.	Industrial process inventory, emission forecasting, mitigation
Fudan University	Energy sector GHG Inventory
China Special Equipment Inspection and Research Institute	Energy sector GHG Inventory
China Coal Transportation and Sale Association	Energy sector GHG Inventory
China Petroleum and Chemical Industry Federation	Energy sector GHG Inventory
China Nitrogen Fertilizer Industry Association	Energy sector and Industry sector GHG Inventories
China Iron and Steel Association	Energy sector and Industry
China Cement Association	Sector GHG Inventories
China Non-Metallic Minerals Industry Association	Industrial sector GHG
China Electricity Council	Energy sector GHG Inventory
China Automotive Technology and Research Center	Energy sector GHG Inventory
Coal Information Institute (SAWS)	Energy sector GHG Inventory
China Coal Research Institute	Energy sector GHG Inventory
China Metallurgical Industry Planning and Research Institute	Industrial processes
China's Association of Fluorine and Silicon	Industrial processes
Foreign Economic Cooperation Office of the Ministry of Environment Protection	Industrial processes
Institute of Atmospheric Physics, Chinese Academy of Science	Agriculture sector GHG inventory
Institute of Environment and Sustainable Development in Agriculture(IEDA), CAAS	Agriculture sector GHG inventory, CCA adaptation
Chinese Academy of Forestry	LULUCF sector GHG Inventory

State Forestry Administration Survey Scheme Designing Institute	LULUCF sector GHG Inventory
Chinese Research Academy of Environment Science	Waste sector GHG inventory
Nanjing Institute of Technology	Waste sector GHG inventory



