

Enabling China to Prepare Its Fourth National Communication, and Biennial Update Reports on Climate Change

Part I: Project Information

GEF ID
10707

Project Type
EA

Type of Trust Fund
GET

CBIT
 CBIT

Project Title
Enabling China to Prepare Its Fourth National Communication, and Biennial Update Reports on Climate Change

Countries
China

Agency(ies)
UNDP

Other Executing Partner(s)
Ministry of Ecology and Environment

Executing Partner Type
Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, United Nations Framework Convention on Climate Change, Enabling Activities, Paris Agreement, Climate Change Adaptation, Stakeholders, Communications, Awareness Raising, Gender Equality, Capacity, Knowledge and Research, Capacity Development, Knowledge Generation, Knowledge Exchange

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

433,790.00

Type of Reports	Submission Date	Expected Implementation Start
UNFCCC National Communications (NC)	12/31/2022	6/1/2021
UNFCCC Biennial Update Report (BUR)	12/31/2022	6/1/2021
UNFCCC Biennial Update Report (BUR)	12/31/2024	6/1/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-EA	GET	4,566,210.00	1,466,000.00
	Total Project Cost (\$)	4,566,210.00	1,466,000.00

B. Indicative Project description summary

Project Objective

To enable China to prepare its fourth National Communication (4NC) and the third Biennial Update Report (BUR3) and the fourth Biennial Update Report (BUR4), in order to fulfill the obligations under the United Nations Framework Convention on Climate Change.

Project Component	Project Outcomes	Project Outputs	GEF Amount(\$)	Co-Fin Amount(\$)
1. National greenhouse gas (GHG) inventory	<ul style="list-style-type: none"> •Clearer understanding of the magnitude, trend and causes of the GHG emissions and removals from the different sectors. •Improved capacity to prepare time-series consistent inventories applying 2006 IPCC guidelines. •Improved national system for GHG inventory preparation. 	1.1. National GHG Inventories 2017 and 2018 for the 4NC and BUR3 with recalculation of historic GHG inventories applying IPCC 1996 guidelines in the following sectors: <ul style="list-style-type: none"> 1.1.1. Energy 1.1.2. Industrial Processes 1.1.3. Agriculture 1.1.4. Land Use, Land Use Change 	3,550,000.00	562,912.00

& Forestry
(LULUCF)

1.1.5. Waste

1.2. National
GHG
Inventory
2020 for the
BUR4 with
recalculatio
n of historic
GHG
inventories
applying
2006 IPCC
guidelines in
the
following
sectors:

1.2.1.
Energy

1.2.2.
Industrial
Processes

1.2.3.
Agriculture

1.2.4.
LULUCF

1.2.5. Waste

1.3.
Improved
national
GHG
inventory
database
system and

updated
inventory
database.

1.4.

Improved
national
system and
mechanism
for a
sustainable
GHG data
collection,
preparation
and
archiving
process with
extensive
stakeholder
engagement
, smooth
and timely
data
collection
and
coordinated
and
effective
organization

.

1.5

Completed
capacity
building of
relevant
government
departments
in collecting
required
data and
information

for
conducting
and
preparing
GHG
inventories.

2. Impacts of vulnerability and adaptation to climate change	•Better understanding of China's vulnerability to the threats of climate change and improved accuracy of prediction of impacts in the vulnerable sectors of the country.	2.1. Results of the updated analyses of climate change characteristics and future trends in China. 2.2. Report on the climate change impact and vulnerability assessments in agriculture, water resources, coastal zones, terrestrial ecosystems, human health.	100,000.00	150,110.00
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2.3. Report on the impacts of the frequency and intensity of extreme climate events and climate change related disasters.

2.4. Report on the effectiveness analysis on implemented adaptation actions.

2.5 Completed capacity building for relevant government departments on collecting climate data/information and assessment of climate change impact and vulnerability.

3. Mitigation policies and actions for climate change	<ul style="list-style-type: none"> • Enhanced understanding of the appropriate policies to enable the proper planning and implementation of prioritized applicable and feasible climate change mitigation (CCM) actions for China. • Improved accounting of the results and impacts of implemented CCM actions through an improved national MRV system. 	<p>3.1. Summary of national CCM policies and measures.</p> <p>3.2. Refined methodology and related assumptions for assessing the impact and estimated emission reduction of CCM actions.</p> <p>3.3. Report on the completed improvements in, and the operational performance of, the country's measurement, reporting and verification (MRV) system.</p> <p>3.4. Completed capacity building for relevant</p>	200,000.00	150,110.00
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government departments on assessment of the effectiveness of implemented CCM policies.

3.5 Completed impact assessment and emission reduction estimation of implemented CCM actions.

4. National circumstances, related financial, technical, and capacity needs, and other relevant information	<ul style="list-style-type: none"> • Enhanced capacity to determine, analyze, refer to, and articulate key national circumstances information in the national communication (NC) reports and biennial update reports (BUR). • Enhanced understanding and capacity to 	4.1 Completed sets of vetted data/information on each pertinent indicator (e.g., natural resources, energy, environment, social and economic) that collectively	100,000.00	159,492.00
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determine applicable, feasible and cost-effective CCM and climate change adaptation (CCA) technologies, techniques and measures, and the most suitable financial resources and financing options that can be applied to implement action that address CCM and CCA issues.

- Further enhanced public awareness of climate change issues.

characterize the country's national circumstances.

4.2 Report on capacity-building needs for the identification and determining applicable, feasible and cost-effective CCM&CCA technologies, techniques, and measures.

4.3. Report on capacity needs for determining financial resources and financial options for the implementation of appropriate CCM&CCA technologies,

techniques,
and
measures.

4.4
Completed
document
on the
results,
conclusions,
and
recommend
ations of the
implemente
d activities
for
enhancing
public
awareness
about
climate
change
issues.

4.5
Completed
report on
GHG
concentratio
n, climate
observation
and
monitoring
in China.

4.6
Completed
capacity
building for
relevant
government
departments

on collecting information and in assessing technologies, financing of technology applications, and capacity building needs for technologies.

<p>5. Communication of the GHG inventories, NCs, and BURs of the Hong Kong and Macao Special Administrative Regions (SARs)</p>	<p>• Better understanding of GHG emissions and sinks in the Hong Kong and Macao SARs, and improved capacities for NC, and BUR.</p>	<p>5.1. Completed workshops on coverage and implementation of Hong Kong and Macao SAR's GHG inventories for the year 2017, 2018 using the IPCC 1996 guidelines, and 2020 utilizing the IPCC 2006 guidelines.</p>	<p>50,000.00</p>	<p>65,673.00</p>
		<p>5.2. Completed workshops on assessment</p>		

methodologies for Hong Kong and Macao's mitigation actions.

5.3. Completed chapters of Hong Kong and Macau NC and BUR in the 4NC, BUR3 and BUR4 Reports.

5.4. Updated GHG inventories in the Hong Kong and Macao SARs for years 2017, 2018, and 2020.

5.5. Updated supplementary information on climate change in the Hong Kong and Macao SAR's.

6. UNFCCC reporting obligations, e.g., NC and BUR	• China's compliance to the reporting obligations to the UNFCCC.	6.1. Improved working mechanisms for the preparation of the required reports UNFCCC (4NC, BUR3 and BUR4) reporting.	350,000.00	212,656.00
		6.2. Completed capacity building of relevant departments participating in the report preparation.		
		6.3 Finalized and submitted 4NC, BUR3, and BUR4 (Chinese & English) to the UNFCCC.		
			Sub Total (\$)	4,350,000.00
Project Management Cost (PMC)				1,300,953.00
				216,210.00
				165,047.00

Sub Total(\$)	216,210.00	165,047.00
Total Project Cost(\$)	4,566,210.00	1,466,000.00

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Government of People's Republic of China	In-kind	Recurrent expenditures	1,366,000.00
GEF Agency	UNDP	Grant	Recurrent expenditures	100,000.00
			Total Project Cost(\$)	1,466,000.00

Describe how any "Investment Mobilized" was identified

N/A

D. GEF Resources Requested by Agency, Trust Fund, Country, Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	China	Climate Change	CC STAR Allocation	4,566,210	433,790	5,000,000.00
Total GEF Resources(\$)					4,566,210.00	433,790.00	5,000,000.00

Part II. Enabling Activity Justification

A. ENABLING ACTIVITY BACKGROUND AND CONTEXT

Provide brief information about projects implemented since a country became party to the convention and results achieved

China joined the United Nations Framework Convention on Climate Change (UNFCCC) in June 1992. Recalling Articles 4 and 12 of UNFCCC, each Party shall submit its national communication. As a non-Annex I party to the Convention, China has attached great importance to its international obligations. Upon receiving the grants from the Global Environment Facility (GEF) in 2001, China launched the project of Enabling China to Prepare its Initial National Communication and submitted the People's Republic of China Initial National Communication on Climate Change to UNFCCC on December 10, 2004. With the funds from GEF, China conducted the Enabling China to Prepare its Second National Communication project from 2009 to 2013 and submitted the People's Republic of China Second National Communication on Climate Change to UNFCCC on November 8, 2012.

As a non-Annex party, China shall submit a national communication every four years and a biennial update report every two years and the support for the preparation of the reports should be ensured by developed country Parties and other developed Parties included in Annex II to the Convention by means of resources on the basis of agreed full-cost funding. Decision 18/CMA.1 urges and requests the Global Environment Facility to support developing country Parties in preparing their first and subsequent biennial transparency reports.

The Chinese Government has successively completed the 2 national communication projects and have submitted the pertinent national communication reports to the UNFCCC (1NC report in 2004 and 2NC in 2012). Under the current "Enabling China to Prepare its Third National Communication (3NC) on Climate Change" Project, the Chinese Government prepared and submitted its first Biennial Update Report (BUR1) to the UNFCCC in early 2017 and submitted its 3NC and BUR2 in June 2019. Through efforts in the past decade, a permanent management agency, an established and operational experts' team and project-based working mechanism for preparing implementation reports such as NCs, as well as the database of national GHG inventories and related information, have been in place. The compiled provincial GHG inventories in 2005, 2010, 2012 and 2014 are also stated, as well as the ETS pilots, which have been operational for several years and the national ETS has just kicked off. In addition, there is also the establishment of emission factors for specific sub-sectors such as coal combustion in the power, cement, iron & steel industries that can also be utilized by other countries with the same circumstances as China. These collectively, presents a solid foundation for the preparation and submission of the planned 4NC Report, BUR3 and BUR4.

From September 2019 to March 2020, the UNFCCC secretariat conducted the technical analysis on the BUR2 of China. In consultation with China, a Team of Technical Expert identified the following needs for capacity-building that could facilitate the preparation of subsequent BURs and participation in ICAs, which are mainly on the strengthening the institutional framework for the preparation of the GHG inventory. The proposed capacity building activities in the 4NC RCCEA take into consideration this suggestion from the UNFCCC, as well China's capacity building needs in BURs.

Under a business-as-usual scenario, the follow-up project on "Enabling China to Prepare its Fourth National Communication, and Biennial Update Reports on Climate Change" or 4NC Project will be carried out following the procedures and activities that were carried out in the 3NC Project. In that regard, most of the

project results will be updates of the previous NC reporting. The coverage of the project will also remain the same as that of the 3NC Project. Lastly, it will be carried out without full consideration of the recent COP 24 decisions, and that is because the existing team and the stakeholders may not be able to fully comply with the new transparency requirements.

B. ENABLING ACTIVITY GOALS, OBJECTIVES, AND ACTIVITIES

The proposal should briefly justify and describe the project framework. Identify also key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable. Describe also how the gender equality and women's empowerment are considered in project design and implementation

The proposed 4NC project will enable China to prepare its fourth National Communication (NC4) and third and fourth Biennial Update Reports (BUR3 and BUR4) on Climate Change in order to fulfill the obligations under Articles 4.1 and 12.1 of the United Nations Framework Convention on Climate Change (UNFCCC), is highly consistent with "National Communications (NC) under UNFCCC", "Biennial Update Report (BUR) under UNFCCC".

The main outputs would include the national GHG inventories of 2017, 2018, and 2020, renewed assessments of climate change impact, vulnerability and adaptation, refined policies and actions for climate change mitigation, updated information about financial, technology and capacity-building support needed and received, and enhanced public awareness, as well as finalized NC4 and BUR3, and BUR4.

In addition, this project is also consistent with China's national climate change strategies and plans. Addressing climate change is a common mission of mankind. Devoted to promoting ecological progress and green, circular and low-carbon development, China has incorporated climate change into medium- and long-term planning for national economic and social development, with equal emphasis put on mitigation and adaptation, and taken a combination of legal, administrative, technical and market means to advance work on all fronts. As a responsible developing country, China attaches great importance to the foundational work and capacity building for addressing climate change, successfully accomplished the 1NC, 2NC and 3NC projects, submitted the NCs and BURs to the UNFCCC Secretariat as scheduled, and established a professional inventory-preparation and report-writing team. The activities under this project are completely consistent with the tasks of "establishing sound mechanisms for statistical accounting and evaluation and assessment" and "preparing the national and provincial greenhouse gas emission inventories on a regular basis" set forth in the Outline of the 13th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Work Plan for Controlling Greenhouse Gas Emissions during the 13th FYP Period. They will further improve the relevant working mechanisms and fulfill the reporting obligations under the Convention on the basis of previous efforts.

Stakeholders

Institution	Role in 4NC Project Preparation	Means of Engagement
Ministry of Ecology and Environment	Project implementation agency. Design of the 4NC RCCEA	Preparation of 4NC RCCEA; conduct and coordination of consultation meetings and workshops; data gathering work
Ministry of Finance	GEF project management agency. Endorse the 4NC RCCEA application	Evaluation of proposed 4NC RCCEA and provision of guidance on GEF-related matters
	Provide inputs/advice in project	Discussions on the work mechanism for

Ministry of Foreign Affairs	t design	GHG inventory and NC/BUR reporting in puts
Ministry of Science and Technology	Same as above	Same as above
Ministry of Agriculture and Rural Affairs	Same as above	Same as above
Meteorological Administration	Same as above	Same as above
National Bureau of Statistics	Review and provide comments and inputs to 4NC RCCEA design	Same as above
National Center for Climate Change Strategy and International Cooperation	Participate in development of the 4NC RCCEA	Participation in the drafting of the 4NC RCCEA
Member of the Chinese Delegation for Climate Change Negotiations	Same as above	Participation in drafting of the 4NC RCCEA, and in review consultations
Experts for Review of UNFCCC Biennial Update Reports	Same as above	Same as above
Experts for Review of UNFCCC National Greenhouse Gas Inventories	Same as above	Same as above
Authors of the IPCC Guidelines for National Greenhouse Gas Inventories	Same as above	Same as above
Editorial Board Membership of the IPCC Greenhouse Gas Inventory Database	Same as above	Same as above
Environmental Protection Department of Hong Kong SAR	Provision of inputs to the design of Hong Kong SAR NC and BUR preparation activities.	Coordination with the MEE Team on the design of the Hong Kong SAR NC and BUR preparations.
Macao Meteorological and Geophysical Bureau	Provision of inputs to the design of Macau SAR NC and BUR	Coordination with the MEE Team on the design of the Macau SAR NC and BUR p

	preparation activities	reparations.
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A detailed stakeholder engagement plan will be prepared during the project design and development.

Gender Equality and Women’s Empowerment.

China has always been committed to promoting gender equality and women's empowerment. Female professionals are actively involved in the current endeavor on climate change. In the future, female engagement will be further strengthened, including raising the degree of participation and equality of female professionals (including daily activities required for the job and salary level), providing more training and support for them, and increasing the number of female professionals in key positions.

The design and implementation of the project to produce the 4NC report, and BUR3, and BUR4 of China will be done in such a way that gender equality is mainstreamed into the project activities. As part of the project design, gender assessment will be carried out to ensure that women and men participate in the project activities, address gaps in achieving gender equality, especially in the context of mitigation and adaptation planning, policy making and the implementation.

An initial gender analysis across all activities will be conducted during the 4NC, BUR3, and BUR4 preparation to assess and understand where deeper analysis and actions are required to make all these reports more credible, realistic, sustainable, and gender.

The project will ensure that women gain equal opportunities to engage in the design and implementation of the project activities starting from the project preparation, implementation, and evaluation. At the end of the project, it is expected that women will be more empowered with the knowledge, tools, and skills gained through training and capacity building activities under the 4NC/BUR3 and BUR4, so that they will benefit themselves as individuals and as community members in addressing the climate change.

In the preparation of this 4NC PIF, the Chinese government paid attention to gender equity. Women actively participated in the preparation process. For example, there were 27 people in the 4NC PIF preparation team and women accounted for 56% of team members. The number and the importance of female engagement in the 4NC project preparation and implementation will be scaled-up, with emphasis on skills training; and promoting and strengthening the exchanges and experience sharing between Chinese female professionals and those working in other countries and international organizations around the world. Among others, the project management office will take note of the number of women and men involved in the preparation of 4NC report/BUR3 and, BUR4, the number of women and men participating in the inception workshop, midterm workshop and final workshop of 4NC project, and the number of women and men participating the capacity building workshop on the application of the 2006 IPCC guidelines for national greenhouse gas inventories.

Focusing closely on Article 17 "Gender Equality" of the United Nations Sustainable Development Goals, the project will attach importance to women's rights, gender equality, and protect the rights of women and gender vulnerable groups in accordance with the law

Private sector engagement

The private sector will be engaged in the design and implementation of the main activities of the project. For example, a private printing company provides the reproduction services of the prepared national communications and biennial update reports. Like in the previous national communications project, the private sector will be engaged in the implementation of specific activities of this 4NC Project. In the preparation of national greenhouse gas inventory, capable and qualified private sector entities will be engaged in conducting the planned investigations and data gathering about activity data and emission factors. In the conduct of the planned studies on climate change mitigation and adaptation, selected private sector entities will be engaged to provide services.

C. DESCRIBE THE ENABLING ACTIVITY AND INSTITUTIONAL FRAMEWORK FOR PROJECT IMPLEMENTATION

Discuss the work intended to be undertaken and the output expected from each activity as outlined in Table A

The 4NC Project consists of six components: (a) preparing the national GHG inventories of five sectors; updating Chinese GHG inventory database management systems; (b) assessing China's climate change impact and vulnerability, and analyzing and assessing policies and actions for climate change adaptation; (c) identifying and evaluating policies and actions for climate change mitigation, and reporting China's action plan for climate change mitigation; (d) national circumstances, related financial, technical and capacity needs and other relevant information; (e) communication of the GHG inventories and climate change-related information of Hong Kong and Macao Special Administrative Regions; (f) preparation and submission of the fourth NC report and the Third and Fourth Biennial Update Reports.

Component 1: National GHG Inventories - The first activity that will be carried out under this component is capacity building for the China 4NC Team and relevant stakeholders on the application of the 2006 IPCC guidelines for national GHG inventories, considering the capacity-building needs identified in the ICA that was done during the BUR1 preparation process. The national GHG inventories for years 2017 and 2018 will be prepared using 1996 IPCC guidelines, and the GHG inventory for year 2020 will be prepared using 2006 IPCC guidelines, and the sectors that will be covered are energy, industrial processes, agriculture, land-use, land-use change and forestry, and waste. The national GHG inventories for year 2017 and 2018 will be reported in 4NC and BUR3. The national GHG inventories for years 2020 will be reported in BUR4. One important activity is GHG inventory recalculations for year 2005, 2010, 2012 and 2014 in order to provide time-series consistency inventories. Lastly, the updating of the national GHG inventory database will also be carried out and a working mechanism that meets the requirements for a time series inventory every two years will be established.

The GHG inventory in the energy sector will cover combustion emissions and fugitive emissions. Research on calorific value, carbon content, and carbon oxidation rate of key energy sector emission categories will be carried out to update country-specific emission factors. Besides the source categories reported in the 3NC project, GHG inventories for years 2017, 2018, and 2020 will include carbon transportation and storage to cover all GHG source and sink categories in the 2006 IPCC Guidelines. Considering the convenience and cost of acquisition of activity data, and to achieve the requirement of compiling a time series inventory every 2 years in the future, the COPERT model (COPERT methodology is the official road transport emission inventory preparation in European Economic Area (EEA) member countries. It is part of the EMEP/EEA air pollutant emission inventory guidebook for the calculation of air pollutant emissions and is consistent with the 2006 IPCC Guidelines for the calculation of greenhouse gas emissions) will be used to obtain the average emission coefficient by fuels for methane and nitrous oxide emissions from road transportation while Tier 2 method will be applied to estimate the emissions. Uncertainty analysis will be done. Emissions of nitrogen oxides or other indirect GHG emissions from the energy sector will be estimated as much as possible considering the enhanced transparency recommendations identified in the ICA that was conducted during the BUR1 preparation.

The GHG inventory in the industrial processes sector will cover mineral products, chemical industry, metal production, and halocarbons and sulfur hexafluoride (SF₆) production and consumption. Besides the source categories reported in the 3NC project, it will include methane (CH₄) emissions from chemical industry to further improve completeness of the national inventory. Uncertainty analysis will be done.

The GHG inventory in the agricultural sector will include CH₄ emissions from enteric fermentation, CH₄ and nitrous oxide (N₂O) emissions from animal manure management, CH₄ emissions from rice cultivation and N₂O emissions from agricultural soils. For key categories, more samples will be used to obtain the CH₄ emission factor of ruminant animals and the CH₄ emission factor for manure management. CH₄ emission from rice cultivation will be calculated

using Tier 2 methods while Tier 3 models will be used to calculate emission coefficient for CH₄ emissions. The IAP-N model will be used to obtain the emission factor and emission coefficient by provinces, and N₂O emission from agricultural soils will be calculated using Tier 2 method. Besides the source categories reported in 3NC project, it will include indirect N₂O emission emissions from animal manure management to further improve completeness of the national inventory. Uncertainty analysis will be done.

The GHG inventory in land-use, land-use change and forestry (LULUCF) will include GHG emissions and sinks in six land categories: forest land, cropland, grassland, wetlands, settlements, and other land. The GHG emissions/removal from cropland will be calculated using Tier 2 methods, and Tier 3 models to calculate emission coefficient. Uncertainty analysis will be done. More LULUCF activity data will be reported in the inventory chapter of 4NC and BUR3 and BUR4 to increase the transparency of the reports.

The GHG inventory in the waste sector will include CH₄ and N₂O emissions from solid waste disposal on land and wastewater/sewage (domestic and industrial) treatment, and CO₂, CH₄ and N₂O emissions from waste incineration. GHG emissions from solid waste landfill will be calculated using the first-order decay model (Tier 2). Uncertainty analysis will be done.

China's national GHG inventory database will be updated with new inventory data from the energy, industrial processes, agriculture, LULUCF and waste sectors. Using the prescribed methodologies of the 2006 IPCC guidelines, the database management system will be updated to become an effective tool for inventory data management and inventory information analysis and management. Database system is used also as quality assurance/quality control (QA/QC) practice for national GHG inventories to verify calculation of inventory data.

The working mechanism for preparing national GHG inventories will be improved to enhance the sustainability of inventory preparation. Capacity building for the relevant government agencies on working mechanism for preparing national GHG inventories based on good practice of other countries will also be carried out. The refined working mechanism will support extensive stakeholder engagement, smooth and timely data collection and coordinated and effective organization. Procedures will be established for archiving, quality assurance/quality control, and improvement planning.

Capacity building will also be carried to improve relevant ministries/departments' ability in collecting fundamental data and information for developing national GHG inventories. In 2018, function of addressing climate change has been transferred from National Development and Reform Commission to the newly Ministry of Ecology and Environment. In this regard, capacity building for the relevant personnel of this new government entity has to be provided, particularly in carrying out GHG inventories. That capacity building will be carried out under this project component. This is also in line with the International Consultation and Analysis on China's BUR2, wherein capacity building for collecting and inventory data and coordinating data from various sectors will be strengthened to facilitate the preparation of subsequent BURs.

Component 2: Impact of and vulnerability and adaptation to climate change - This component involves activities for updating of the climate change assessment of China and the impact and vulnerability assessments of climate change in key areas, and identification of strategies for climate change adaption and measures in key areas.

Based on review of current research and related capacity building, the assessment of climate change will be largely based on the research of current China's climate models. The description of China's climate change features and the analysis of China's future climate change trends will be updated based on China climate model.

Climate change impact and vulnerability assessments will also be updated in key areas, covering the impacts and vulnerabilities, under the scenario of representative concentration pathways (RCPs), in areas including agriculture, water resources, coastal zones and offshore resources and environment, forests and other natural ecosystems, human health, and infrastructure. Workshop on extreme climate events and climate insurance will be conducted to build the capacity of the 4NC team.

The implemented climate change adaptation program will be evaluated. The strategies and actions for climate change adaptation and measures in climate change adaptation, will be developed. An integrated assessment report on climate change impacts, vulnerability and adaptation will be prepared. Capacity building for relevant government departments/agencies on collecting information and assessment of climate change impact and vulnerability will also be conducted.

Component 3: Policies and actions for climate change mitigation - This component involves activities that are intended to enhance the understanding and improve the impact assessment of national climate change mitigation policies and actions, improve the function of domestic measurement, reporting and verification systems.

A review of relevant documents on implemented national climate change mitigation policies and actions will be carried out to sort out and enhance the 4NC Team's understanding of these policies and actions. To improve the assessment of policy and action for climate change mitigation, the methodology for the quantitative calculation of the impacts of any mitigation action or policy based on the outputs of the previous national communication and biennial update reports, will be developed. The study will propose the improved assessment methodology for mitigation effects of climate change policies and actions and systematically sorts out the related hypothesis. In addition, the mitigation effects of implemented climate change policies and actions will be evaluated to support the preparation of the climate change mitigation effect form in the biennial update reports.

The existing national policy measures and actions identified in Working Program for Controlling Greenhouse Gas Emissions in the 13th FYP Period will be reviewed to enhance the understanding of national mitigation policies and actions. Based on capacity building workshop on methodologies and good practice from other Parties, considering the need identified in ICA of BUR1 and BUR2, refined methodologies to disaggregate overlaps in emission reduction estimation of CCM actions will be suggested to improve the reliability of the estimation. The effects of policies and actions that have been implemented will be evaluated as required to report in a tabular format in BURs. To estimate expected mitigation effects, average emission coefficient by kind of energy sources will be calculated based on new inventory data. Moreover, capacity building for the relevant government departments/agencies on the assessment of the effectiveness of implemented CCM policies will be conducted.

Information on domestic measurement, reporting and verification (MRV) will be updated and documented.

The MRV system and other timely information will help to support the initial accounting of the carbon intensity decline degree in the latest year, thereby improving the carbon intensity monitoring capability.

Capacity building on assessment of the effectiveness of implemented CCM policies from relevant department will be conducted.

Component 4: National circumstances, related financial, technical, and capacity needs, and other relevant information - This component involves activities that will identify key natural resources and social and economic indicators and formulate an institutional arrangement for NC, and BUR preparation.

Part of the activities is to assess the current needs of China for finance, technology, and capacity-building to address climate change issues. These are meant to enhance the understanding and update the information on available financial resources, technology transfer and capacity-building and technical support received for addressing climate change. Based on the good practice from other countries and related capacity building, the needs for finance, technology, and capacity-building (Aside from these, there will be capacity development activities for that will be considered for the 4NC Project Team such as participation in the annual inventories review for annex-I countries, technical analysis for BURs, IPCC conference, and IPCC task force meeting on national GHG inventories. The team will benefit from learning good practices of other countries and exchange preparation experiences with other non-Annex I countries to seek joint improvements.) and in addressing the gaps and barriers to achieve the objectives of climate change mitigation and adaptation will be analyzed, with details provided for key technologies, financial resources, and capacity building. The updated needs for finance, technology, and capacity-building will be shown in text combined with tables. The scope of financial, technology and capacity-building support received for addressing climate change will be further defined in the NC and BURs and the support already received will be summarized in order to enhance understanding and update relevant information. Furthermore, capacity building for the relevant government departments/agencies on the collection of information and assessment of technologies, financing of technologies, and capacity building needs for the application of the technologies will be conducted.

Progress on GHG concentration observation and monitoring in China and the world will be reviewed. Good practice on modeling greenhouse gas emissions and concentration with application to greenhouse gas emissions verification will be screened. Research on comparison of methane emission estimates with atmospheric concentration in the atmosphere will be conducted as third party verification based on China real circumstance. The research will improve China's capability for greenhouse gas observation and monitoring.

The update of the National Circumstances chapter will consider gender-disaggregated data where possible in order to better understand how the different roles of men and women in social and economic circumstances may affect China's ability to deal with climate change. Project will use following guidance:

- UNFCCC Gender Action Plan;
- Guidance to advance gender equality in GEF projects and programs; and
- Gender Responsive National Communications Toolkit.

Component 5: Communication of the GHG inventories, NCs and BURs of Hong Kong and Macao Special Administrative Regions (SARs) - This component is comprised of activities that will deliver the completed GHG inventories, and the relevant NC reports and BURs of the Hong Kong and Macao SARs. Among these are workshops to discuss methodologies and scope of Hong Kong and Macao's GHG inventories for years 2017, 2018, 2020 and their methodologies to estimate emission reductions of mitigation actions in each of these SARs will be convened to enhance the capacity of inventory team in Hong Kong and Macao SARs. Discussions will be conducted between the national 4NC team and the Hong Kong and Macao teams for NC and BUR preparation.

Component 6: UNFCCC reporting obligations (4NC, BUR3 and BUR4) - This component involves the activities to produce and submit China's NC4 and BUR3, and BUR4. BUR3 will be a summary of parts of the fourth national communication of China and submitted together with NC4 to the UNFCCC, and BUR4 will be an integrated report. Based on lessons learned from the previous NC projects, and on good practices from other countries and knowledge and skills gained from relevant capacity building, the compilation of the results from the other components of this 4NC Project will be carried out to come up Component 6:

UNFCCC reporting obligations (4NC, BUR3 and BUR4) - This component involves the activities to produce and submit China's NC4 and BUR3, and BUR4. BUR3 will be a summary of parts of the fourth national communication of China and submitted together with NC4 to the UNFCCC, and BUR4 will be an integrated report. Based on lessons learned from the previous NC projects, and on good practices from other countries and knowledge and skills gained from relevant capacity building, the compilation of the results from the other components of this 4NC Project will be carried out to come up with the draft reports on the 4NC, BUR3, and BUR4. The draft reports will be presented to the stakeholders for their review and comments. Experts will be engaged in the preparation, discussion, and review of these reports. Capacity building will also be conducted for the relevant government departments/agencies to improve their ability to actively participate in, and contribute to, the preparation of the NC Reports and BURs.

These reports will be finalized for submission to the UNFCCC after the technical review of experts and soliciting the comments and suggestions of stakeholders. The 4NC and BUR3 with inventory 2017 and 2018 and historic recalculation inventory will be submitted in 2022. The BUR4 with inventory 2020 and historic recalculation inventory will be submitted in 2024.

Seminars/exchanges will also be organized and conducted with other countries in line with the process of international consultation and analysis (ICA) of BURs from developing country Parties under the Subsidiary Body for Implementation (SBI), a process that aims to increase the transparency of mitigation actions and their effects, in a manner that is non-intrusive, non-punitive and respectful of the national sovereignty. The preparation of the country's BUR3 and BUR4 will consider the enhanced transparency recommendations identified in ICA of BUR1 and BUR2. Through these experience sharing between national and local inventory teams and other support teams, capacity will be developed in adequately meeting the country's reporting obligations to the UNFCCC.

China has also applied for funding for its Capacity Building Initiative for Transparency (CBIT). While this will focus on building and improving the working mechanism and technical capacity of the country in compiling inventory and biennial transparent report according to modalities, procedures, and guidelines of the enhanced transparency framework under the Paris Agreement, capacity building is a common thread between this and the 4NC RCCEA Project. The two projects will be coordinated in three ways. First, during the development of annual work plans and specific activities since the project team members are from the same departments. Second, during the conduct of capacity building activities the two projects could be coordinated in the design, organization and conduct of these activities, to avoid duplicated work. Third, during the conduct of institutional capacity building activities. For example, in proposing the MRV system or data management plan for GHG inventories, all provisions on NCs, BURs, BTR will be considered, and the ultimate goal is to fulfill the obligation of BTR and NCs, since the preparation of BURs will end in 2024.

Compared to the 3NC Project, this Project will enhance China's capability to prepare and deliver time-series consistent national GHG inventories every two years, applying 2006 IPCC guidelines with higher transparency, increased completeness and accuracy and stronger comparability. A normalization mechanism for GHG inventories and reporting will be established. It will enable China to strengthen and update the impacts and vulnerability assessments of climate change and combine with emissions scenario analysis of policies and actions for climate change mitigation. It will enable China to have a reliable NAMAs and NDCs tracking systems to fulfill the obligations of NCs and BURs. It will enhance China's understanding of the appropriate policies to enable the proper planning and implementation of prioritized applicable and feasible climate change mitigation actions for China low greenhouse gas development.

D. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT

Not applicable.

E. DESCRIBE, DESCRIBE THE BUDGETED M & E PLAN

Project monitoring, evaluation and report will be conducted in accordance with established UNDP and GEF procedures. Project quarterly report, comprehensive annual report and assessment report will be submitted by implementing agencies regularly as requested. Project quarterly report will provide relevant result, progress, change of plan and executive condition related to the project, proposed procedures, and work plan of next quarter with authorized abstract.

1. Project Start:

A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. It should address a number of key issues including:

- a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP China Country Office (CO) and UNDP/GEF Asia-Pacific Regional Coordination Unit (RCU) staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets, and their means of verification, and recheck assumptions and risks.
- c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified, and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

2. Quarterly and annual report:

UNDP will also supervise the progress of this project regularly through quarterly and annual work plan and relevant conferences so as to identify and solve problems in time and ensure the smooth implementation. The quarterly work plan will be prepared in accordance with the overall objective and evaluation index of the project to reflect executive features correctly. PMO will provide PSC with executive progress report and completing performance of project as well as the evaluation and regulation on work plan as needed. The project will be supervised annually by UNDP through annual Tripartite Project Review.

- Quarterly:

Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.

Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).

Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.

Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

- Annual progress via status survey:

Status Survey Questionnaires to indicate progress and identify bottlenecks as well as technical support needs will be carried out once a year.

- Annually:

Project will be evaluated through the Annual Project Report / Project Implementation Review (APR/PIR) which will provide a more in-depth summary about the project progress and implementation performance, and also is the main channel to obtain project implementation experiences and lessons. Any adjustment on the project and that approved by PSC will stand out in the project implementation review.

Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);
- Lesson learned/good practice;
- Annual Workshop Plan (AWP) and other expenditure reports;
- Risk and adaptive management;
- ATLAS QPR; and,
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

3. Mid-term of project cycle:

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (two years after inception workshop). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the

effectiveness, efficiency, and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation, and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC).

The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

4. End of Project:

An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

As the project executing agency, the MEE will make self-supervision regularly on the implementation of the project. A logical framework matrix in the second section offers indicators of the successful implementation of all project activities and their corresponding validation methods. These indicators will also become the important parameters for the MEE to make the self-supervision on project progress and implementation.

To ensure that project activities could be implemented in a consistent, coordinated, and organized manner, project executors with main stakeholders will formulate reasonable operating mechanism, monitoring and evaluation program and implementation arrangements. Project monitoring and evaluation plan will be based on certain project evaluation indicators as well as validation methods related to project objectives, purposes, outputs, and activities etc. Also, PSC will put forward opinions on the monitoring and evaluation plan and pass through this monitoring and evaluation plan.

Every target and activities of the projects during project execution will be monitored and evaluated. Part IV in this document presents the annual objectives and monitoring plan. Project indicators, assessment method and project supervision/assessment of responsibility proposed in project files, will be introduced, and confirmed at the project start meeting and project monitoring and evaluation plan will also be provided and finalized in Inception Report of the project.

Type of M&E activity	Responsible Parties	Budget, US\$	Time Frame
Inception Workshop	MEE, UNDP-China, PMO	3,000	Within first two months of project start up
Inception Report	PMO, UNDP-China	10,000	Immediately following IW
Project Targets, Indicators and Measurement of Success Indicators	PMO	5,000	Project startup, middle, and the end
Measurement of Success Indicators for Project Progress Performance	Prepared by PMO, supervised by UNDP CHINA, examined by GEF-UNDP regional coordination office and executive agencies	5,000	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	PMO, UNDP CHINA, GEF-UNDP	12,000	Annually
Steering Committee Meetings	NDRC PMO	12,000	After IW and at least once a year thereafter
Half Yearly Report and Technical Report	PMO Hired consultants as needed	10,000	TBD by PMO and UNDP CHINA
Mid-Term External Evaluation	PMO UNDP CHINA	25,000	One and half a year after project start up
Final External Evaluation	PMO, UNDP CHINA GEF-UNDP Asia-Pacific Regional Coordination Unit, External Consultant (Evaluation Consultant)	25,000	At the end of project implementation
Total indicative cost (Excluding Project Team staff time and UNDP staff & travel expenses)		107,000	

F. EXPLAIN THE DEVIATIONS FROM TYPICAL COST RANGES (WHERE APPLICABLE)

N.A.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Xiang Peng	GEF Operational Focal Point	Department of International Economic and Financial Cooperation, Ministry of Finance	9/28/2020

B. Convention Participation

Convention	Date of Ratification/Accession	National Focal Point
UNFCCC	7/11/1992	Mr. Li Gao