



GEF-7 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project two-steps

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT INFORMATION

Project Title:	Strengthening Thailand's institutional and technical capacities to comply with the Enhanced Transparency Framework of the Paris Agreement		
Country(ies):	Thailand	GEF Project ID:	10150
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01691
Project Executing Entity(s):	Office of Natural Resources and Environmental Policy and Planning	Resubmission Date:	2 September, 2019
GEF Focal Area(s):	Climate Change	Project Duration (Months)	36

A. INDICATIVE FOCAL/NON-FOCAL AREA ELEMENTS

Programming Directions	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM-3-8 Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency	GEF TF	1,991,000	1,000,000
Total Project Cost		1,991,000	1,000,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Thailand has the necessary capacities and institutional arrangements to comply with the requirements of the Enhanced Transparency Framework.						
Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Strengthening data collection processes and data quality for Greenhouse Gases (GHG) inventory preparation	Technical Assistance	1.1 Thailand has the institutional and human capacities to regularly prepare accurate and transparent GHG inventories	1.1.1 Institutional arrangements, including processes and procedures for data collection and reporting are formalized 1.1.2 Sectorial guidelines, templates and tools for data collection are developed and training provided to support operationalization of the web-based inventory system 1.1.3 Country-specific emission	GEF TF	480,000	260,000

			<p>factors following IPCC¹ Guidelines are developed in the sectors Energy, IPPU², and Agriculture</p> <p>1.1.4 Methodology and system for QA/QC³ for data from the sectors Energy, IPPU, Agriculture and Forestry is developed</p>			
2. Strengthening tracking and reporting of mitigation actions for NDC implementation	Technical Assistance	2.1 Thailand's transparency framework enabled to track progress in implementing its Nationally Determined Contributions (NDC) and report regularly as per Paris Agreement	<p>2.1.1 Institutional arrangements for tracking of mitigation actions, including quality check of GHG reduction estimations, are formalized</p> <p>2.1.2 Monitoring indicators and information matrix to track progress of NDC mitigation actions are developed, and training to lead agencies to report indicators is provided</p> <p>2.1.3 Methodologies, tools, and templates for estimating GHG emissions reduction impacts in the sectors Energy, Waste, IPPU and Agriculture are developed, and capacity-building of stakeholders on the usage of the</p>	GEF TF	600,000	300,000

¹ Intergovernmental Panel on Climate Change (IPCC)

² Industrial Processes and Product Use (IPPU)

³ Quality Assurance/Quality Control

			tools is provided			
3. Enhancing tracking of support for NDC implementation	Technical Assistance	3.1 Thailand has systems and tools to effectively track international support received and report transparently as per international obligations	3.1.1 Institutional arrangements to track support received are established 3.1.2 Templates and training for reporting of the MRV ⁴ of support are disseminated	GEF TF	326,000	190,000
4. Strengthening of transparency framework for adaptation actions and resilience building	Technical Assistance	4.1 Thailand has tools and human capacities to monitor and evaluate adaptation actions and assess vulnerabilities to climate change, as well as use the information for adaptation policy development	4.1.1 Metrics and indicators and adjustment for subnational and local use of existing metrics, indicators and methodologies for tracking the adaptation goals outlined in the NDC are developed 4.1.2 Template for a national information gateway on climate risk, vulnerability and adaptation are disseminated 4.1.3 Capacity on integrating information on V&A ⁵ into policy formulation, and on monitoring and evaluation of adaptation activities strengthened in at least one sector	GEF TF	404,000	200,000
Subtotal				GEFTF	1,810,000	950,000
Project Management Cost (PMC)				GEFTF	181,000	50,000
Total Project Cost					1,991,000	1,000,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

⁴ Monitoring, Reporting and Verification

⁵ Vulnerability and Adaptation

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)
Recipient Country Government	Ministry of Natural Resources and Environment	In-Kind	Recurrent expenditures	1,000,000
Total Co-financing				1,000,000

Describe how any "Investment Mobilized" was identified: Co-finance amount was estimated considering recurrent related expenditures through consultation with the Ministry

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b)	Total (c)=a+b
UNEP	GEFTF	Thailand	Climate Change	CBIT Set-Aside	1,991,000	189,145	2,180,145
Total GEF Resources					1,991,000	189,145	2,180,145

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
UNEP	GEFT F	Thailand	Climate Change	CBIT Set-Aside	50,000	4,750	54,750
Total PPG Amount					50,000	4,750	54,750

F. PROJECT'S TARGET CONTRIBUTIONS TO GEF 7 CORE INDICATORS

Provide the relevant sub-indicator values for this project using the methodologies indicated in the Core Indicator Worksheet provided in Annex B and aggregating them in the table below. Progress in programming against these targets is updated at the time of CEO endorsement, at midterm evaluation, and at terminal evaluation. Achieved targets will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Core Indicators		Expected at PIF
1	Terrestrial protected areas created or under improved management for conservation and sustainable use (Hectares)	
2	Marine protected areas created or under improved management for conservation and sustainable use (Hectares)	
3	Area of land restored (Hectares)	
4	Area of landscapes under improved practices (excluding protected areas)(Hectares)	
5	Area of marine habitat under improved practices (excluding protected areas) (Hectares)	
	Total area under improved management (Hectares)	
6	Greenhouse Gas Emissions Mitigated (metric tons of CO2e)	
7	Number of shared water ecosystems (fresh or marine) under new or	

	improved cooperative management	
8	Globally over-exploited marine fisheries moved to more sustainable levels (metric tons)	
9	Reduction , disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)	
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	125 women and 125 men

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicators targets are not provided.

This CBIT project will strengthen Thailand's transparency system and provide a function information system in assessing its climate goals and planning new NDCs to the Paris agreement. It will enhance the capacity of the country to implement the NDCs and have an evidence-based system for preparing NDC and climate change policies. This strengthening of capacity and systems will indirectly contribute to GHG emissions reduction. An exact quantification of the mitigated GHG emissions is however not feasible.

G. PROJECT TAXONOMY

Please fill in the table below for the taxonomic information required of this project. Use the GEF Taxonomy Worksheet provided in Annex C to help you select the most relevant keywords/ topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
Influencing Models	Transform policy and regulatory environments		
	Strengthen institutional capacity and decision-making		
	Convene multi-stakeholder alliances		
Stakeholders	Private Sector	Large corporations	
	Civil Society	Non-Governmental Organization	
		Academia	
	Type of Engagement	Information Dissemination	
		Consultation	
Participation			
Capacity, Knowledge and Research	Enabling Activity		
	Capacity Development		
	Knowledge Generation and Exchange		
	Learning	Indicators to measure Change	
	Knowledge and Learning	Knowledge management	
		Capacity Development	
	Stakeholder Engagement Plan		

Gender Equality	Gender results areas	Capacity development	
		Awareness raising	
Focal Area/Theme	Climate Change	United Nations Framework Convention	Capacity Building Initiative for Transparency
		Climate Finance (Rio Markers)	Climate Mitigation 2 Climate Adaptation 1

PART II: PROJECT JUSTIFICATION

1a. *Project Description*. Briefly describe:

1) *the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);*

The Paris Agreement establishes an Enhanced Transparency Framework (ETF) for all Parties with a view to build mutual trust and confidence, and most importantly, to provide a clear understanding of climate change action towards limiting the global temperature increase "to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". To achieve this temperature goal, Parties have to undertake domestic climate actions, and regularly prepare and communicate their ambitious efforts in the form of nationally determined contributions (NDCs) that they intend to achieve. Parties further have to account for their NDCs in a transparent, accurate, complete, comparable and consistent manner. Building on the existing transparency arrangements under the United Nations Framework Convention on Climate Change (UNFCCC), Parties regularly have to provide a national greenhouse gas (GHG) inventory report, information to track progress of the implementation of their NDCs and information related to climate change impacts and adaptation as well as information on support needed and provided/received.

The Enhanced Transparency Framework demands substantial and immediate progress in countries' domestic monitoring, reporting and verification (MRV) systems and strategic de-carbonization planning. This entails moving from often disintegrated, not consistently updated and different methodologies for data collection to integrated and robust systems. This requires countries to set up new transparency governance structures, develop and implement MRV methodologies, and update, implement, and integrate new data and information flows with pre-defined periodicity. A key condition for successful implementation of the Paris Agreement's transparency requirements is the provision of adequate and sustainable financial support and capacity building to enable developing countries to significantly strengthen their efforts to build robust domestic and regulatory processes.

Thailand is an upper-middle income country and the second largest economy in Southeast Asia with an expected annual Gross Domestic Product (GDP) growth rate of 3%. The economic growth has caused a continuous increase of GHG emissions as well as large losses of primary forest areas in the country. At the same time, climate change poses an increasing challenge for Thailand which, due to its geography and socio-economic characteristics, is highly vulnerable towards the adverse impacts of climate change.

Thailand has a total coastline of over 3,150 kilometers, housing more than 12 million people, and ranks among the ten most affected countries by climate change. The country is experiencing an increase in temperatures as well as changes in rainfall patterns, which lead to severe droughts, floods and subsequent landslides. The country has already been affected by a number of extreme floods in recent years, most notably the flood in 2011. As one of the largest rice producers in the world and with one third of the country's labor force employed in the agricultural sector, those climatic changes can lead to great economic losses and jeopardize the country's food security. Drought severely affect subsistence farmer as they largely depend on rain-fed agriculture, and approximately 80% of the farmland in the North and Northeast of Thailand is without irrigation. The impacts on infrastructure through floods is also substantial, and the flood

in 2011 alone led to economic damages and losses of approximately USD 46.5 billion, mostly within the Bangkok metropolitan area. Adaptation to climate change is therefore seen as a top priority in the country.

Recognizing these serious threats posed by climate change, and to safeguard the livelihoods of the population dependent on agriculture and in support of the global efforts to address climate change, Thailand ratified the UNFCCC and the Kyoto Protocol (KP) in 1994 and 2002 respectively, and the Paris Agreement in September 2016. Thailand is committed to mitigate its emissions and is increasing its efforts towards a low-carbon economy. At COP 20 in Lima in 2014, Thailand pledged to lower its CO₂ emissions from 7-20% by 2020, compared to BAU, through Nationally Appropriate Mitigation Actions (NAMAs) within the sectors Energy and Transport.

Important policies and plans to promote low-carbon development and green growth in Thailand include the '12th National Economic and Social Development Plan' (2017-2021) and the 20-Year Strategy (2017-2036) by the National Economic and Social Development Board (NESDB), and most importantly the 'Thailand Climate Change Master Plan' (2015-2050), developed by the Office of Natural Resources and Environmental Policy and Planning (ONEP) and its Climate Change Management and Coordination Division, in close collaboration with the public. The Climate Change Master Plan (CCMP) serves as a framework document and mechanism for the country's response to climate change for the transition towards a low-carbon and climate-resilient society, in line with a sustainable development pathway and based on the philosophy of sufficiency economy. To achieve this vision, the CCMP specifies the three key strategies of 1.) Adaptation for coping with the negative effects of climate change, 2.) Mitigation of greenhouse gas emissions and increase of greenhouse gas sinks and 3.) Strengthening the capacity of human resources and institutions and to manage the risks from the effects of climate change and cross cutting issues. The document sets out a number of short-term (2016), medium-term (2020) and long-term (2020-2050) targets for the three strategies.

Thailand communicated its Intended Nationally Determined Contribution (INDC) on 1 October 2015 and its first NDC on 21 September 2016 to the UNFCCC. The NDC (2021-2030) contains a mitigation and adaptation component and lays out an economy-wide (excluding Land Use, Land-Use Change and Forestry (LULUCF)) GHG emissions reduction of 20 percent compared to the business-as-usual (BAU) level, which is estimated to be 555 MtCO₂ in 2030. Through means of implementation in the form of capacity-building, financial resources and technology development and transfer, the emission reduction goal is expected to be increased to 25%. Thailand's adaptation component includes a large number of prioritized adaptation efforts such as the promotion of sustainable agriculture and the increase of national forest cover to 40% through local community participation. To raise Thailand's adaptive capacity, the need for adequate financial resources and technology development and transfer as pointed out, especially for the agriculture sector and for water resource management.

For the implementation of its NDC and for achieving its emission reduction goal, ONEP has been developing the NDC Roadmap since 2016. The Government of Thailand approved the NDC Roadmap on Mitigation for the period from 2021 to 2030 on May 23, 2017. The NDC Roadmap lays out mitigation actions in the sectors Energy & Transport, Waste and Industrial Processes and Product use (IPPU) and is based on a number of national plans such as the Energy Efficiency Plan and the Alternative Energy Development Plan. The NDC Roadmap is envisioned to bring about a GHG emission reduction of 115.6 MtCO₂.

In order to effectively plan, implement and monitor these climate actions, and to overcome existing gaps and barriers, it is necessary to enhance Thailand's institutional, human and technical capacities in a long term. Some of the main gaps include the methodology for GHG data collection, compilation and reporting especially from subsectors under the main five sectors, the need for enhanced technical capacities of key staff involved in the inventory process and the need for a transition towards the 2006 IPCC Guidelines. Addressing these gaps will significantly enhance the GHG inventory quality and will enable the country to report GHG inventory according to the 2006 IPCC Guidelines. In addition, Thailand will be able to track

progress of NDC implementation by accounting on emission and removal correspond to its GHG inventory. The improvement will support the country's transparency system as required by the Paris Agreement and also help utilize the existing resources in the most cost-efficient way.

2) *the baseline scenario and any associated baseline projects,*

Thailand's climate change efforts are led by the National Committee on Climate Change Policy (NCCC), which was established by the Government in 2006 and is chaired by the Prime Minister. The NCCC is responsible for national climate change policy and strategy, determination of national positions in international negotiations under the UNFCCC as well the monitoring and evaluation of the implementation of policies and strategies by government agencies. The NCCC comprises of representatives from 12 ministries, as well as other governmental agencies such as the Bureau of Budget as well as a group of nine experts. Work in the NCCC is conducted through its four sub-committees on 1. Climate Change Policy and Planning Integration, 2. Climate Change Knowledge and Database 3. Climate Change Negotiation and International Cooperation and 4. Action for Climate Empowerment and Public Relations. Under the Subcommittee Climate Change Knowledge and Database, five sectoral working groups were set up to review the GHG inventory and provide recommendations on which Measurement, Reporting, and Verification (MRV) systems are suitable for the country. The Office of Natural Resource and Environmental Policy and Planning (ONEP), under the Ministry of Natural Resources and Environment (MoNRE), serves as secretariat to this subcommittee.

The regular submission of National Communications (NC) is part of the transparency obligations under the UNFCCC. The National Communication is a vital medium for the exchange of information on Parties' responses to climate change and the UNFCCC process. With support from the Global Environment Facility through UNDP, Thailand submitted its Initial National Communication (INC) in November 2000, its Second National Communication (SNC) in March 2011 and its Third National Communication (TNC) in August 2018. Thailand has submitted its First Biennial Update Report (FBUR) in December 2015 and went through the International Consultation and Analyses process (ICA) in 2016. The Second Biennial Update Report (SBUR) was submitted in 2017 and is awaiting facilitative consideration.

The GHG inventories as part of these documents are based on the 1996 Revised IPCC Guidelines and cover the sectors Energy, Industrial Processes, Agriculture, Land-use Change and Forestry as well as Waste.

ONEP, as the National Focal Point (NFP) to the UNFCCC and the KP, leads the preparation of Thailand's national GHG inventories. Based on data provided by different lead agencies, ONEP will prepare estimations of GHG emissions for all sectors, which are then submitted to the five working groups under the Sub-Committee on Climate Change Knowledge and Database for review and quality assurance (QA). The final GHG inventory as one component of the NC and BUR will be approved by the National Committee on Climate Change Policy before submission to the UNFCCC. The Working Group on GHG Inventory and Mitigation Measures under the Sub-committee on Climate Change Knowledge and Database will be responsible for quality check (QC) for the results of GHG emission estimations and for approving the methodology and emission reduction results of mitigation measures, outlined in Thailand's NAMA roadmap. The emission reduction results are then verified by the Sub-committee on Climate Change Knowledge and Database and approved by the NCCC.

In preparation of the NDC Roadmap and building on the existing structure for tracking of NAMAs, ONEP, the Thailand Greenhouse Gas Management Organization (TGO) and agencies in charge of the mitigation measures will collaborate to develop MRV guidelines, which will facilitate annual monitoring and reporting of the mitigation actions under the NDC Roadmap in its implementation phase from 2021 to 2030.

With support of the Australian Government, Thailand is currently establishing the Thailand Greenhouse Gas Emissions Inventory System (TGEIS), a software-based system to enable data input and estimation from the five sectors. Lead agencies from the five different sectors will compile the activity data and check the quality of the data before submitting it to ONEP. ONEP will enter the data into the system (TGEIS) which will calculate the GHG emissions. ONEP will be in charge of managing and maintaining the TGEIS which is expected to be fully implemented in 2019. This IT system will support the preparation of future GHG inventories. However, templates and guidelines for data collection from the line agencies within the five sectors are still lacking as well as guidelines for the lead agencies to assess the quality of collected data.

As explicitly stated in its NDC, adaptation is a “top priority in Thailand’s national response to climate change”. The country consistently ranks at the top of climate vulnerability and risk indices, suffering from extreme weather, sea level rise, and climate-sensitive health impacts. Moreover, such impacts are magnified in the country’s poor and vulnerable groups. In line with the country’s national communications and NDC, the CCMP 2015-2050 prioritizes six adaptation components: 1) Flood, drought and water management, 2) Agriculture and food security, 3) Tourism, 4) Public health, 5) Natural resource management, 6) Human settlement and security. On that basis, Thailand started in 2015 the process for the development of its National Adaptation Plan (NAP), taking into account climate projections and assessments of vulnerability and risk in six priority sectors: Water management, Agriculture and Food Security, Tourism, Public Health, Natural Resources, and Human Settlements and Security. The draft NAP was completed in January 2017, and its implementation piloted with help from the Deutsche Gesellschaft für International Zusammenarbeit (GIZ) in three line-ministries covering three sectors (Tourism, Public Health, and Human Settlement and Security), and in four pilot geographical areas, covering the four regions of Thailand. The pilot projects’ progress and outcomes will be combined in the final NAP draft. Lessons learned from the pilot projects serve as guidelines for implementation.

ONEP is currently working on a Monitoring and Evaluation (M&E) framework for the NAP and adaptation implementation including developing definitions and patterns of resilience and indicators for M&E in six sectors, and an overall structure for an Adaptation M&E system. The NAP of Thailand is expected to be launched this year and submitted for consideration successively by the National Working Group on Adaptation, the sub-Committee on Climate Change Policy and Planning Integration, and to the National Committee on Climate Change Policy (NCCC).

With the provision of international support, Thailand has engaged in a number of projects and initiatives with a view to enhance its institutional and technical capacities for transparency. These projects are summarized in the table 1 and 2 below, including the support projects for its NCs and BURs.

Table 1: Projects related to transparency for climate change mitigation and adaptation with international support

Project Name	Project Period	Donors	Description of Support
MITIGATION			
Fourth National Communication and Third Biennial Update Report to the UN Framework Convention on Climate Change (UNFCCC)	2019 - 2023	GEF/UNDP	The project provided support to Thailand for the preparation of its Fourth National Communication (TNC) under Decision 17/CP7 and the Third Biennial Update Report (BUR) under Decision 2/CP17 to the UNFCCC.
Third National Communication	2014- 2018	GEF/UNDP	The project provided support to Thailand for the preparation of its Third National Communication

TNC and Biennial Update Report to the UN Framework Convention on Climate Change (UNFCCC)			(TNC) under Decision 17/CP7 and the first Biennial Update Report (BUR) under Decision 2/CP17 to the UNFCCC.
Thailand's Second Biennial Update Report (SBUR) to the UNFCCC	2017-2018	GEF/UNDP	This project supported the preparation of Thailand's Second Biennial Update to the UNFCCC Project involves the preparation of the SBUR for submission to UNFCCC, in accordance with its commitment as a party to the Convention as per Decision 2/CP.17 taken at COP 17.
Thailand Refrigeration and Air Conditioning NAMA (RAC NAMA)	2016 - 2021	NAMA Facility on behalf of BMUB/GIZ	The RAC NAMA project aims to promote the widespread dissemination of green cooling technologies through financial mechanism and market support, technical assistance and policy support. The establishment of a proper Monitoring, Reporting and Verification (MRV) system for tracking emission reductions from use of green cooling technology is included in the project.
Thailand Greenhouse Gas Emissions Inventory System (TGEIS)	2017 - 2018	Government of Australia	<p>This project supported ONEP in the development of Thailand Greenhouse Gas Emissions Inventory System (TGEIS), similar to the Australian Greenhouse Emissions Information System (AGEIS). The IT system developed under this project provides an IT based system for developing the GHG inventory and automating the data entry, data quality check and estimation of the GHG inventory. The project will develop guidelines for using the TGEIS and data entry process for the system but will not develop templates and guidelines for methodology of data measurement or data collection and how to report and verify these data.</p> <p>The TGEIS is for the use and operation of ONEP team, which is responsible for preparing the GHG Inventory. The team collects the data from line ministries and enters it into the TGEIS. Phase II (starting 2019) will focus on trial running the system and resolving system bugs, as well as train the ONEP staff in using the TGEIS.</p>
Thailand's Domestic Preparation for Post-2020 Contributions	2014-2016	GEF/UNDP	This project aimed to identify Thailand's contributions to the post-2020 global climate agreement (called 'Intended Nationally Determined Contributions' or 'INDC') and to strengthen Thailand's engagement in the UNFCCC negotiation process leading to the post-2020 agreement.

Greenhouse Gas Reduction Roadmap	2011-2016	BMUB ⁶ & IKI ⁷ /GGGI ⁸	This project developed a GHG Reduction Roadmap for the industrial sector with focus on automotive, palm oil, and frozen seafood industries, including recommendations for Thailand's data situation.
ADAPTATION			
Risk-NAP	2015-2019	GIZ	Supporting the development of a risk-based national adaptation plan (NAP) and integrating it into national and subnational planning processes, in order to strengthen Thailand's capacity to adapt to the risks of climate change.
ADAP-T	2015-2019	JICA	Building a knowledge base for climate change; create research committees consisting of members from ONEP and related government as well as research institutions; brainstorm potential adaptation measures; assess adaptation measures; and co-design action plans
NDC Support Programme	2018-2020	UNDP	(Adaptation component) Climate Change Benefits Analysis (CCBA) carried out for adaptation in the agriculture sector, jointly with other UNDP projects and FAO.
NAP-GCF		UNDP	Support in the context of the NAP of a marine-coastal risk database, adaptation options and project-based M&E.

Table 2: Projects with focus on capacity-building with international support

Project Name	Project Period	Donors	Description of Support
MITIGATION			
USAID ⁹ Low Emissions Asian Development (LEAD) Program	2014-2016	USAID	Under the USAID LEAD program, training and e-learning has been provided to Thai governmental officers on the 2006 IPCC ¹⁰ Guidelines.
Capacity Development on Climate Change Mitigation/Adaptation in the Southeast Asia	2013-2016	JICA ¹¹	This project delivered training programs through domestic and international courses, among others on greenhouse gas inventory and climate finance. It also established a climate change network through an annual conference.

⁶ Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (now BMU)

⁷ International Climate Initiative

⁸ Global Green Growth Institute

⁹ United States Agency for International Development

¹⁰ Intergovernmental Panel on Climate Change

¹¹ Japan International Cooperation Agency

Region			
ADAPTATION			
EU-GSEI	2016-2020	EU	Promoting the role of environmental Civil Society Organizations (CSOs) to ensure good governance in national climate change adaptation planning: activities include community-based training, awareness raising, and adaptation plans
TGO CITC	2018-2020	JICA	Capacity building for key officials; Training program for municipalities, including training of trainers; Catalyzing private-sector involvement: Awareness & Investment
CROSS-CUTTING ISSUES			
Strengthening Thailand's Capacity to Link Climate Policy and Public Finance	2013-2017	SIDA ¹² /UN DP	The project aimed to support Thailand in strengthening its institutional capacity to link a coordinated and coherent green growth and climate change policy with its budgetary allocations and to report and measure over time the effectiveness of those policies and expenditures. The focus of project is to track national budget allocation to address climate change.

In 2016, Thailand went through the process of International Consultation and Analysis for its first BUR which was submitted at the end of 2015. During the technical analysis process, Thailand provided additional information on methods, activity data and emission factors used for the estimation of its GHG emissions. The Technical Team of Experts (TTE) identified 12 capacity-building needs with regard to reporting to the UNFCCC and Thailand identified priority capacity-building needs. The TTE also noted that the transparency of reporting could be increased by including information on underlying assumptions and description of domestic MRV arrangements for mitigation actions outside the scope of the NAMA roadmap. Regarding the reporting on institutional arrangements, the TTE pointed out that the transparency could have been improved if Thailand had included a description of roles of the different entities, mechanisms for information and data exchange as well as QA/QC procedures. Under the ICA process for the SBUR, Thailand has received a number of comments from the technical analysis, including questions on how country-specific emission factors for agriculture have been developed and whether the institutional arrangements of the FBUR process are still valid.

Assessment of barriers, gaps and needs for Thailand to comply with the requirements of the ETF

Although Thailand has made significant progress in enhancing its arrangements for the preparation of GHG inventories through the capacity-building projects mentioned above, a number of gaps remain to be addressed before Thailand can successfully comply with the ETF framework of the Paris Agreement. Under the BUR and NC processes, Thailand identified a number of barriers and needs, especially with regards to the quality of its GHG inventories and data collection procedures. These gaps will be addressed through this CBIT project and are summarized below.

Arrangements for Data Collection and Reporting

¹² Swedish International Development Agency

- A significant barrier in the GHG inventory process is the lack of mandates of agencies involved in the GHG inventory compilation to collect and provide data in a comparable and consistent manner. A multitude of agencies is involved in data collection within each of the five IPCC sectors, e.g. in the Energy sector alone more than 20 agencies are involved. In addition, the collection of data from the private sector, for instance with regard to wood harvested, is currently cumbersome and needs to be enhanced through data collection agreements. This also applies to data collection from local governments. Lessons learned from Thailand's NAMAs also showed that access to sectoral data can be difficult and that there is a need for clear institutional mandates for relevant agencies for data input for ex-ante assessment as well as data collection overall. Overall, there is a need to identify and implement the necessary legal and formal arrangements for data collection and reporting. The TNC also points out the need for stable permanent institutional arrangements in general for effective planning and implementing of climate change strategies.
- In its TNC, Thailand determined the need of developing and implementing a national GHG data management system, including the necessary procedures and plans, for tracking and archiving inventory information of each inventory period. For documentation and archiving, the need for capacity-building is pointed out.
- Reporting of activity data for sectors with involvement of multiple agencies, needs to be unified through standardized templates and guidelines. For example, each agency involved in data collection for the LULUCF Sector, such as the Royal Forest Department and the Forest Industry Organization, is currently using different methodologies and formats for data collection, which impediments harmonization and comparison of submitted data. Standardized reporting templates for each sector will support streamlining data collection processes as well as enhancing data consistency and comparability. Templates for data compilation for the lead agencies of the five sectors already exist, but for line ministries and agencies there are no templates and guidelines for the data collection process.
- Standardized reporting templates are equally needed for improving data collection processes on vulnerability and adaptation from sectors prioritized in the Climate Change Master Plan. The standardization of the various sources of data on vulnerability and adaptation has been highlighted as a need and barrier throughout the NAP process. The involvement of subnational and local authorities is crucial for an effective tracking of adaptation goals, which requires adjustment of existing metrics, indicators and methodologies to the subnational level.
- Under the NAMA process, it became clear that capacity-building for MRV is needed in all sectors. Here capacity-building should be continued from NAMAs and expanded to other key sectors. The TNC also identified the need for technical trainings for systematic data collection, including techniques for data gap filling. Capacity-building on data collection processes and quality check is required for line agencies which collect and compile activity data within the NAMA and NDC sectors and especially within the related sub-sectors.
- In addition, targeted training of national experts is required to address the barrier of limited technical expertise in the country for the development and implementation of climate change policies. The need for training and technical assistance on quality control and quality assurance, documentation and archiving are also recognized.

GHG Inventory Quality

- For the estimation of Thailand's GHG emissions as part of its BUR and NC processes, the 1996 Revised IPCC Guidelines have been used until now. However, to improve the GHG inventory quality and to comply with the Enhanced Transparency Framework of the Paris Agreement, towards

the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for estimating GHG emissions of all sectors is crucial. In the facilitative sharing of views under the ICA process, Thailand identified the challenge of using the IPCC Guidelines due to lack of activity data and time constraints. A transition also requires a substantial strengthening of professional capacities of technical staff involved in the inventory process. As identified in the TNC, capacity building and enhancement of local experts in the GHG inventory is necessary. In the LULUCF sector, Thailand faces the challenge of producing a time-series land-cover map following the IPCC guidelines. Similar maps have already been produced by different agencies but are inconsistent and not comparable.

- Although Thailand has already applied country-specific emission factors (EF) for a few sub-sectors, such as enteric fermentation (cattle and buffalo) and rice cultivation, IPCC default emission factors are used for the majority of sub-sectors. Within the sectors energy and industrial processes, no country-specific emission factors exist so far. The TNC specifically identifies the need to develop country-specific emission factors for the main fuels used in Thailand including biofuels. The team of technical experts (TTE) of the ICA process for Thailand's first BUR, also identified the need to develop country-specific emission factors for biomass burning and to investigate the emission factors of biomass under different conditions, e.g. biomass of degraded land and biomass under agroforestry systems. An investigation of country-specific emission factors for livestock and agricultural soils within the agriculture sector is also pointed out. The TNC also points out the need for research and development obtain country-specific data for estimation of F-gases. In the light of new data and methodologies, existing country-specific emission factors require updating with a view to enhance data accuracy.
- In addition to enhancing and developing local emission factors, there is a strong need to advance the quality of activity data in most sectors. Thailand experiences difficulties in transitioning to higher tier methodologies due to lack of research support. For the sectors Energy and Industrial Processes, only Tier 1 level methodologies have been applied for calculating GHG emission data. Within the Agriculture, Land Use, Land-Use Change and Forestry (LULUCF) and Waste sectors, a combination of Tier 1 and Tier 2 methodologies have been used. The transition from Tier 1 methodologies to Tier 2 and Tier methodologies is especially important for key categories in Thailand's GHG inventories. The TNC points out the need to improve data collection processes on fuels by end-users and technologies within the Energy sector to estimate emissions for Tier 2 and Tier 3. This also applies for the Energy sub-sector manufacturing industries and construction. Within the Industrial Processes sector, improved methodologies, through measurement and modeling, to obtain higher tier activity data are also required. More accurate activity data for sub-sectors in the Agriculture, LULUCF and Waste sectors, such as for solid waste disposal, are also pointed out. Improvement of activity data is in particular important for the LULUCF sector, as Thailand is planning to include this sector in its next NDC submission with a view to enhance the country's ambition.
- The need for the development and implementation of a Quality Assurance and Quality Control (QA/QC) system as well as an enhanced process for uncertainty analysis have been identified in Thailand's TNC process. Guidelines for quality control for the data collection process by line ministries are needed as well as for guidelines for lead agencies of the different sectors on how to assess the quality of data collected by their line ministries. QA/ QC procedures and uncertainty analysis need to be especially strengthened within the Energy and Agriculture Sectors.

Tracking of Mitigation Actions

- As identified in the TNC process, Thailand is lacking relevant methodologies and tools, and related human capacities, for tracking progress of mitigation actions outlined in its NAMAs and NDC

Roadmap. Under the ICA process, Thailand also stated that strengthening national capacity for the development of assumptions for all mitigation actions is a priority capacity-building need.

- Another barrier which has been identified in the TNC regulates to the transparency of climate finance and specifically on how to enhance the accountability of institutions dealing with climate finance. A system is required to monitor the use of climate finance and to manage the allocation of domestic financial resources.

MRV of Support Received and Climate Expenditures

- During 2012 and 2013, as a part of LECB and the technical support of UNDP, a first pilot of the Climate Public Expenditure and Institutional Review Methodology (CPEIR) was conducted. The Working Committee is chaired by Fiscal Policy Office (FPO) of the Ministry of Finance with core members from ONEP, of the Ministry of Natural Resources and Environment, the office of National Economics and Social Development Board (NESDB) and the Bureau of Budget (BoB) under the Prime Minister's office. Several ministries (including Ministry of Agriculture and Cooperatives) were participating with a common objective of contributing to a future process of a systematization of the reporting of climatic public expenditure.
- With the support from UNDP in 2016, Thailand implemented the methodology to track Private Climate Finance Flows at the National Level in Thailand in energy sub-sectors covered are renewable energy (RE), energy efficiency (EE) in buildings and energy service companies (ESCOs).
- A number of gaps need to be addressed and can be summarized in: 1) The need to strengthening the current sectoral capacities, enhancing their scope and involving other ministries and continuing their capacity building; 2) The need to improving the instruments elaborated to registering the MRV of support and expenditures through guidelines and pilots.

The CBIT project will help Thailand strengthening its nascent MRV system that was developed for the preparation of NCs and BURs as well as tracking of Nationally Appropriate Mitigation Actions (NAMAs), NDC and make the institutional arrangements permanent. The implementation of these activities will not only be of great benefit for Thailand, but also for the region and for developing countries worldwide.

3) the proposed alternative scenario with a brief description of expected outcomes and components of the project;

This project will take a two-fold approach to enable Thailand to comply with the transparency requirements of the Paris Agreement and will focus on the four elements of the preparation of GHG inventories, the tracking of Thailand's NDC mitigation actions and of finance support received as well as the monitoring and evaluation of adaptation actions.

The first objective is to strengthen Thailand's national institutions for transparency-related activities and formalize its institutional arrangements in alignment with national priorities, including the development of clear institutional mandates and data-sharing agreements to be adopted by the government. The second objective on the other hand is targeted towards institutional capacities. Specifically, the second objective focuses on developing capacity in institutions on tools and building and enhancing adequate technical and institutional capacities to meet the provisions stipulated in Art. 13 of the Paris Agreement. This will be complemented by assessing the staffing needs in the institutions and ministries, mandated to support the transparency work, as well as by identifying an existing institution to provide training modules and capacity-building activities for existing and specifically for new staff, hereby addressing the problem of staff turnover in the institutions.

This two-fold approach will improve the overall data quality and data management procedures for the tracking of NDC implementation, with a view to inform the national decision-making processes as well as the global stocktake, and will enhance the quality of GHG inventories for adherence to the principles of transparency, accuracy, completeness, consistency and comparability (TACCC), as identified in its TNC process.

In order to address the multitude of gaps, barriers and needs as mentioned above, this project has been structured in order to achieve three key outcomes and related outputs. The outputs for each of the components will be finalized through public consultation processes to allow for broader feedback to the development of the transparency system. This will both help raising awareness among the public on the importance of transparency and on climate change in general, as well as increase the acceptance of the transparency system and thus contributes to its longevity. The TNC specifically states that public awareness "play(s) a fundamental role in the effective development and implementation of climate change policies and actions" and is considered a "means of building national capacity".

Outcome 1.1 Thailand has institutional and human capacities to regularly prepare accurate and transparent GHG inventories through its national GHG inventory system

The first outcome focuses on enhancing Thailand's institutional arrangements for transparency, specifically through the formalization of processes and procedures for data collection and reporting as well as through defining clear roles and mandates of the different agencies involved in the GHG inventory process. Building on the existing institutional arrangements established for the BUR and NC processes, the formalization of procedures and processes for data collection and reporting and the clear definition of roles and mandates of the different agencies, will support the establishment of permanent institutional arrangements for transparency in the long term, in stark contrast to the ad-hoc arrangements for the preparation of BURs and NCs. This also has been identified one of the areas for strengthening as per the BUR technical review. Formalized institutional arrangements will also improve interagency coordination, which is crucial for sharing information and streamlining processes. Complementing the formalisation of institutional arrangements, an assessment exercise of staffing needs in key institutions will be conducted to ensure that a sufficient number of staff is available for implementing the transparency activities in this project.

The development of sectorial guidelines, templates and tools for data collection will enhance, harmonize and streamline the overall data collection processes from the multiple ministries and agencies involved in the GHG inventory preparation, with a view to strengthen data flow, consistency and comparability. These guidelines and templates, complemented with a training provided to key staff in the different agencies, will support building in-house capacity over time and ease future GHG inventory preparation. An existing institution for the provision of training to staff, existing as well as new staff, will be identified in order to ensure the sustainability of those capacity-building activities over time.

The development of country-specific emission factors in key sectors, taking into account national specifics, will substantially enhance the quality and accuracy of GHG emission estimations and thus provide a more scientific base for decision-making. This will improve adherence to the 'TACCC' accounting principles, which Thailand aims to achieve for its future GHG inventories. The development of a QA/QC system for activity data for the Energy, Agriculture and Forestry sector will equally improve the accuracy of GHG emissions data, as also required by the Paris Agreement¹³.

Output 1.1.1 Institutional arrangements, including processes and procedures for collecting and reporting of GHG emissions data are formalized

¹³ Paris Agreement Art. 4 para 13: "In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement."

This output will formalize Thailand's institutional arrangements for transparency, including processes and procedures for GHG data collection and reporting of GHG emissions data. As outlined in the barrier analysis above, the lack of mandates and roles of the multiple ministries and agencies involved in the GHG inventory process currently impedes a streamlined and efficient data collection process. Data-sharing agreements with all relevant data providers as well as a clear definition of roles, mandates and responsibilities of the involved ministries, agencies and other data providers such as local governments and the private sector to produce and share activity data in a timely and consistent manner, will significantly enhance and streamline the data collection process and guarantee access to data. Data-sharing agreements will also help to increase the awareness of the private sector, e.g. industrial owners and other stakeholders about the importance of accurate GHG estimations.

This output will significantly build on the existing arrangements that have been established for the purpose of the BUR and the NC processes, as well as the tracking of NAMAs under Thailand's NAMA roadmap, for retaining institutional memory, including the lead agencies for each sector, and will empower ONEP as the national lead agency to manage Thailand's GHG inventory process. The output will also complement the establishment of the Thailand Greenhouse Gas Emission Inventory System (TGEIS), a software-based data management system where data from the different sectors is provided by their respective lead agencies. Here, data-sharing agreements will support the data collection processes in the different sectors and make the overall inventory process more efficient.

Proposed activities

- Outline clear and detailed institutional roles, mandates and responsibilities of involved ministries, agencies and external data providers for data production, collection and reporting
- Empower ONEP as overall lead agency as well as the lead agencies of the different sectors through a clear authority status
- Draft and implement data-sharing agreements for the different data providers in each of the five sectors (Energy, IPPU, Agriculture, Forestry and Waste), including data-sharing agreements with the private sector and subnational institutions
- Organize a stakeholder workshop with all involved data providers to inform about the institutional roles and tasks

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to strengthen national institutions for transparency-related activities in line with national priorities, (a) Support to national institutions to lead, plan, coordinate, implement, monitor, 4 and evaluate policies, strategies, and programs to enhance transparency, including identification and dissemination of best/good practices for institutional strengthening and national network of practitioners; (c) Assistance with deployment and enhancement of information and knowledge management structure to meet Article 13 needs.

Output 1.1.2. Sectorial guidelines, templates for data collection are developed and training provided

This output will deliver standardized sectorial guidelines, templates and tools for data collection with a view to enhance consistency and comparability of data and to facilitate the overall data collection process, especially from line and auxiliary agencies. The guidelines, templates and tools will institute the procedures on how and what kind of data is collected, processed and reported. Currently, standardized templates for data collection only exist for the lead agencies of the different sectors but not for the multiple line agencies below them. In each of the sectors, more than ten agencies are involved in the data collection; in the Energy sector even 20 different agencies are involved.

Consistent and comparable GHG emission data are preconditions for a robust and transparent GHG inventory and will, through common quality requirements, also enable further improvements in data quality over time. It further allows for a holistic evaluation of GHG emissions development which is key for

enhancing ambition of climate actions and related policy adjustments. This output directly addresses the barrier of different data collection formats and methodologies in the different sectors, most notably in the LULUCF, as described in the barrier analysis above. As of now, every agency is using different formats and methodologies for the collection of activity data which burdens the sectoral lead agencies and most importantly ONEP, as coordinating agency, to harmonize the data and compile the overall GHG inventory. The guidelines and templates will be developed in collaboration with national and/or regional experts for the five sectors with a view to reflect the unique needs and characteristics of each of the sectors.

This output complements the establishment of the Thailand Greenhouse Gas Inventory System (TGEIS). The TGEIS project supported developing an IT based tool in line with the IPCC 2006 Guidelines for estimating GHG emissions. This system is meant for use of the ONEP staff, the entity responsible for preparing and submitting the national GHG inventory. The first phase is completed and the primary objective of phase 2 is to support training of ONEP staff in using the TGEIS in preparing its Third Biennial Update Report (TBUR) in 2020 and using the TBUR to trail and run and de-bug the system where required.

This component will build on the TGEIS work and develop guidelines and templates for use by line agencies in collecting data required for input to the TGEIS system. The training on the guidelines and the use of the templates and tools will be provided to staff in line agencies to build the necessary technical capacity in-house instead of outsourcing this task to external consultants. An annual repetition of the training will build the technical capacity of new staff in the different agencies. The training will be provided by national experts from local universities with a view to enhance the national technical capacity and to ensure the durability of the training. The development of sectorial guidelines directly addresses the issue of high staff turnover and will help to ensure continuity of data collection processes in the different sectors.

Proposed activities

- Develop sector-specific guidelines, templates for data collection in all five sectors (Energy, IPPU, Agriculture, LULUCF and Waste)
- Provide a training on sectorial guidelines and templates to a broad range of technical staff from different line agencies, involved in the GHG inventory process, as well as other relevant data-providers (i.e. private sector and sub-national entities)

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13 (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities; (e) Country-specific training and peer exchange programs on transparency activities, such as establishing domestic MRV systems, tracking nationally determined contributions (NDCs), enhancement of greenhouse gas (GHG) inventories and economic and emissions projections, including methodological approaches, data collection, and data management, and adaptation monitoring, evaluation, and communication measures.

Output 1.1.3 Country-specific emission factors following the IPCC guidelines are developed in the sectors Energy, IPPU and Agriculture

Thailand has been using IPCC default emission factors for calculating GHG emissions from all of the five inventory sectors. Only in some sub-sectors, notably within Agriculture, LULUCF and Waste, country-specific emission factors have been applied. Within Agriculture for instance, country-specific emission factors have been developed for rice cultivation, manure management and enteric fermentation (cattle and buffalo, not swine). The use of default emission factors likely leads to an overestimation of Thailand's GHG emissions. In the second BUR for example, the national GHG emissions from the SNC have been

recalculated for the years 2000-2004 through the use of updated activity data and revised emission factors, which led to total lower GHG emissions for the whole period. Thus, using country-specific emission factors significantly enhances the accuracy of GHG emissions estimations due to a more precise reflection of national circumstances.

For the GHG inventory represented in the TNC, only IPCC default emission factors have been applied in the Energy and IPPU sector. Considering that the Energy sector contributes more than 70% (or 260 Mt CO₂e)¹⁴ to Thailand's total GHG emissions, the development of country-specific emission factors within this sector will likely have a large impact on the accuracy of Thailand's overall GHG inventory. The TNC specifically points out the need to develop country-specific emission factors for the main fuels in the country, including bio-fuels, as well as for emission factors in certain sub-sectors within agriculture. Under the NC4-BUR3 project which has been recently approved, an initial step is taken to improve the emissions factors but the focus will be on reviewing the literature and updating the existing default emission factors used. The CBIT project will help to take this further by developing local emission factors within Energy, IPPU, and Agriculture¹⁵, as the sectors with the largest GHG emissions in Thailand. This will include mapping the process and technologies used and undertaking actual measurements to collect the necessary data to determine country specific emission factors in these sectors. Starting from these sectors, emission factors for the other sectors can be developed, which has been recognized as need in Thailand's TNC process (see barrier analysis above).

Proposed activities

- In collaboration with a local university, conduct an emissions-factor study for the different types of fuel used within the Energy sector
- In collaboration with a local university, conduct an emissions-factor study for the key emission sources in the Industrial Process and Product Use (IPPU) sector, e.g. cement production
- In collaboration with local experts, develop country-specific emission factors for a number of Agriculture sub-sectors: field burning of agricultural residues, agricultural soils, enteric fermentation (for swine) and manure management

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (f) Development of country-specific emissions factors and activity data.

Output 1.1.4 Methodology and system for QA/QC for data from the Energy, IPPU, Agriculture and Forestry sector is developed

Quality assurance (QA) and quality control (QC) are essential procedures for ensuring the quality of data in the process of GHG inventory compilation. Establishing a QA/QC system, including the elaboration of a QA/QC plan and related procedures, facilitates a regular GHG inventory compilation, which involves large amounts of data and information, provided by different agencies and institutions. Eleven and ten different agencies are involved in the Agriculture and Forestry sector respectively. The Energy sector equally involves a large number of agencies as well as private sector companies and subnational institutions.

For the purpose of preparing the SBUR and TNC, Thailand has established QA/QC procedures where lead agencies from each sector check and verify GHG emissions data (QA) provided by the different agencies. Those agencies follow internal QC procedures at each step of the data collection process. However, QA/QC procedures within Agriculture and Forestry remain insufficient. This output therefore directly addresses the need for an enhanced QA/QC system as outlined in the barrier analysis above and is complemented by

¹⁴ GHG emission data from 2014, retrieved from CAIT <https://www.climatewatchdata.org/countries/THA>

¹⁵ Agriculture contributes approximately 17% to Thailand's total GHG emissions, based on CAIT <https://www.climatewatchdata.org/countries/THA>

output 1.1.1 on formalized institutional arrangements. This output will also complement the Thailand Greenhouse Gas Emission Inventory System which when fully implemented, will provide a first GHG database system for Thailand.

Building on the QA/QC procedures of the BUR and NC processes, this output will deliver a well-defined and institutionalized QA/QC system for the Energy, IPPU, Agriculture and Forestry sector, including methodologies and guidelines for the different agencies, with a view to strengthen the integrity, correctness and completeness of Thailand's GHG inventories and enhance technical capacities in the long-term. The compilation of a GHG inventory is not an on-off exercise but a regular and comprehensive undertaking. Thus, standardized procedures for data collection and estimation with several control points are necessary to ensure a standard quality of the GHG inventory and to increase adherence to the TACCC accounting principles, which is considered good practice. A QA/QC system will also allow for continuous improvement of the GHG inventory process with a view to comply with the Enhanced Transparency Framework. The QA/QC system will follow 2006 IPCC's General Guidance and Reporting procedures (vol.1, Ch. 6.) as well as sector-specific IPCC guidance (vol. 2 & vol. 4).

Proposed activities

- Develop a QA/QC plan for the Energy (power generation, transport sector, etc.), IPPU, Agriculture and Forestry sectors including:
 - defining general and category-specific QC procedures and methods for line agencies, following IPCC guidance;
 - defining QA review procedures for lead agencies to assess the quality of data collected and provided by line agencies;
 - outlining a schedule for sector-specific QA/QC activities of lead and line agencies in the two sectors, from initiation of the inventory process through to the reporting of the final GHG results;
 - assigning personnel within lead agencies to coordinate and undertake those QA/QC activities;
 - defining documentation, reporting and archiving procedures of inventory material and QC activities
- Develop guidance and training material for staff in lead and line agencies on the application of QA/QC procedures in the GHG inventory compilation;
- Provide training to staff in the different agencies involved in the GHG inventory process to introduce the QA/QC plan and distribute checklists.

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities; (e) Country-specific training and peer exchange programs on transparency activities, such as establishing domestic MRV systems, tracking nationally determined contributions (NDCs), enhancement of greenhouse gas (GHG) inventories and economic and emissions projections, including methodological approaches, data collection, and data management, and adaptation monitoring, evaluation, and communication measures.

Outcome 2.1 Thailand's transparency framework is enabled to track progress in implementing its NDC and report regularly as per Paris Agreement

The project's second component and related outcome refers to the enhancement of Thailand's capacity to track progress of the implementation of mitigation actions outlined in its NDC. This would be done through

establishing permanent institutional arrangements for the monitoring of GHG emissions reductions as well as developing monitoring indicators and an information matrix for tracking progress of Thailand's NDC and providing a training. This outcome will further provide methodologies and templates for estimating GHG emission reductions in the Waste and Agriculture sectors.

For the implementation of its contribution, Thailand has outlined an NDC Roadmap on Mitigation (2021-2030) covering mitigation actions within Energy, Transport, IPPU and Waste to be achieved through a large number of sectoral plans such as the Power Development Plan. Monitoring of mitigation actions is crucial to understand the extent to which those actions have been effective to achieve the NDC, and to determine whether policy adjustments and further resources are required for the implementation. In order to comply with the Enhanced Transparency Framework of the Paris Agreement, requiring Parties to regularly "*provide information necessary to track progress made in implementing and achieving its nationally determined contributions*", Thailand needs to enhance its institutional and technical capacities for transparency on NDC implementation. Tracking progress is also crucial for raising ambition, as each NDC submission has to present a progression of the previous NDC.

Outcome 2.1 will be achieved through the delivery of the following three outputs:

Output 2.1.1 Institutional arrangements for tracking of mitigation actions, including quality check of GHG reduction estimations, are formalized

This output will deliver formalized institutional arrangements for the tracking of mitigation actions. In 2014, Thailand presented Nationally Appropriate Mitigation Actions with the objective of reducing its GHG emissions by 7-20% by 2020. Under the BUR process, Thailand has established initial institutional arrangements for monitoring progress of its NAMA Roadmap. NAMAs are based on different national policies such as the Alternative Energy Development Plan under the Ministry of Energy (MoE), whereas the climate change policies are placed under the Ministry of Natural Resources and Environment (MoNRE). The monitoring of NAMAs requires therefore substantial inter-ministry and inter-agency cooperation as data is collected in different agencies and different formats (e.g. energy units vs. GHG units). The MRV process of renewable energy NAMAs for example involves the Ministry of Energy, the Energy Regulatory Commission (ERC), the Energy Policy and Planning Office (EPPO) as well as the Thailand Greenhouse Gas Management Organization (TGO) and ONEP. Since Thailand's NDC Roadmap is also based on a number of national policies and plans¹⁶, the tracking of mitigation actions requires equal inter-ministry and inter-agency collaboration efforts.

Even though the institutional arrangements for monitoring of mitigation actions have improved from the FBUR to the SBUR, there is a need for a formalized and permanent institutional framework for the evaluation of Thailand's climate actions. Building on the preliminary institutional structure, notably through the Working Group on GHG Inventory and Mitigation Measure under the National Committee on Climate Change, this output will formalize the necessary institutional arrangements of the monitoring of GHG emission reductions, including processes and procedures for collection, reporting and quality control of GHG estimations, with a view to enable the effective implementation of Thailand's NDC Roadmap, starting in 2021, with the emission reduction goal of 20% compared to Business-as-Usual in 2030. This output will focus on procedures and processes for GHG emissions reduction estimates within the Energy sector (including transport) as the primary sector in Thailand's NDC Roadmap and the largest emission reduction potential.

¹⁶ These plans specifically are the Power Development Plan; Thailand Smart Grid Development Master Plan; Energy Efficiency Plan; Alternative Energy Development Plan; Master Plan for Sustainable Transport System and Mitigation of Climate Change Impacts; National Industrial Development Master Plan; Waste Management Master Plan; Environmental Quality Management Plan, Montreal Protocol implementation and RAC NAMA project.

The formalization of institutional arrangements will enhance the collaboration between ministries and as well as the bottom-up and top-down communication between institutions, providing the GHG impact data, and Thailand's decision-making bodies, adjusting policies if needed. Well-functioning inter-ministry collaboration is key for achieving a long-term sustainable transparency framework and streamlining overall information processes and flows.

Proposed activities

- Formalize and strengthen the institutional arrangements for the monitoring of mitigation actions, including outlining the responsibilities of ministries and agencies to deliver the necessary data and information to track progress according to the monitoring indicators to be developed in this project in output 2.1.2;
- Adjust and develop processes and procedures for collection, reporting, and quality control of GHG estimations from mitigation measures, especially in the Energy sector (including transportation);
- Provide training to related agencies to enhance technical capacities on processes and procedures for data collection, reporting and quality control of GHG emission reductions.

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to strengthen national institutions for transparency-related activities in line with national priorities: (a) Support to national institutions to lead, plan, coordinate, implement, monitor, and evaluate policies, strategies, and programs to enhance transparency, including identification and dissemination of best/good practices for institutional strengthening and national network of practitioners; (c) Assistance with deployment and enhancement of information and knowledge management structure to meet Article 13 needs.

Output 2.1.2 Monitoring indicators and information matrix to track progress of NDC mitigation actions are developed, and training to lead agencies to report indicators is provided

This output will deliver monitoring indicators and an information matrix to track progress of NDC mitigation actions in the different sectors and will provide training to staff from the lead agencies in the relevant sectors.

As outlined in the barrier analysis above, Thailand is lacking relevant methodologies and tools, and related human capacities, for tracking progress of mitigation actions outlined in its NAMAs and NDC Roadmap, which will be addressed through this output.

Proposed activities

- In collaboration with sectorial experts and agencies, identify sector-specific indicators and information matrix for tracking of Thailand's mitigation actions;
- Develop monitoring and evaluation system to monitor the implementation of NDCs;
- Provide training to staff in relevant agencies on the use of the information matrix and the reporting on the specific indicators;
- Organize a regional peer-to-peer exchange workshop on tracking progress of NDC mitigation actions in Bangkok

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (g) Assistance in quantifying and reporting impact of policy measures.

Output 2.1.3 Methodologies, tools, and templates for estimating GHG emissions reduction impacts in the sectors Energy, Waste, IPPU and Agriculture are developed, and capacity-building of stakeholders on the usage of the tools is provided

The NDC is based on the implementation of the Waste Management Roadmap, among others. The waste sector in Thailand accounts for 4% of the total GHG emissions in 2012.

Thailand announced its Alternative Energy Development Plan (AEDP 2015-2036) with the objective of achieving 30% renewable and alternative energy in Thailand's total final energy consumption by 2036, of which 30% is to come from bioenergy and municipal solid waste, representing an important step in the transition to a low-carbon economy.

The focus on waste and agricultural residues in the AEDP is a good example of policy coordination and alignment with decentralized implementation. The AEDP objectives are aligned with those of the National Economic and Social Development Plan (NESDP) as well as laws for municipal level governance.

Thailand's economy is largely based on the production and export of agricultural products such as rice, sugarcane and palm oil, and related biomass residues can be used for the production of electricity or biogas.

Proposed activities

- Appropriate and adapt existing tools to estimate GHG emissions reductions in the Energy, Waste, IPPU and Agriculture sectors
- Provide training on tools to key staff in the respective line agencies within the Energy, Waste, IPPU and Agriculture sectors

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities; (g) Assistance in quantifying and reporting impact of policy measures.

Outcome 3.1 Thailand has systems and tools to effectively track international support received and report transparently as per international obligations

This outcome will complement existing national systems and protocols to measure and track the financial flows and identify the institutional arrangements for the existing donor procedures/guidelines for tracking, reporting and verifying the support received towards climate change mitigation and adaptation in Thailand. The BUR guideline on finance states that 'Non-Annex I Parties should provide updated information on constraints and gaps, and related financial, technical and capacity-building needs' as well as 'provide updated information on financial resources, technology transfer, capacity-building and technical support received from the Global Environment Facility, Parties included in Annex II to the Convention and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change'. Ideally, the system to track climate finance must characterize financial sources as domestic, bilateral or multilateral, divided into financing instruments (grants, concessional loans, non-concessional loans as well as in-kind contributions), and tag these with purpose of the finance. Such tagging can follow CPEIR principles, should differentiate between mitigation and adaptation purposes, and identify the finance flow as recurrent spending or investment. Outcome 3.1 will be achieved through the delivery of the following two outputs:

Output 3.1.1 Institutional arrangements to track support received are established

This output will deliver relevant legal/institutional arrangements proposals to enhance the coordination and information flow among ministries in order to report progress indicators and make the link with the NDC investment strategy.

Proposed activities

- Take stock of current institutional arrangements, including procedures and processes of involved agencies and ministries
- Identify gaps and barriers, especially with regard to the flow of information and interministerial communication
- Establish and formalize institutional arrangements, outlining reporting responsibilities

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to strengthen national institutions for transparency-related activities in line with national priorities: (a) Support to national institutions to lead, plan, coordinate, implement, monitor, and evaluate policies, strategies, and programs to enhance transparency, including identification and dissemination of best/good practices for institutional strengthening and national network of practitioners; (c) Assistance with deployment and enhancement of information and knowledge management structure to meet Article 13 needs;
- Activities to assist with improvement of transparency over time: (j) Capacity needs assessment for transparency, in particular to assess institutional arrangements for data collection, analysis, and reporting: the assessment supports mapping of current baseline and planned reporting and related activities, including associated institutions, tools, methodologies, MRV systems, associated data systems.

Output 3.1.2 Templates and training for reporting of the MRV of support are disseminated

Although some progress has been made in terms of climate expenditure, further training of the public sector is required, extending the lessons learned and agreements reached to functionaries that have not participated in this project, including also the civil society. A training plan is required to progressively integrate the ministries and stakeholders that have not participated yet. This includes the scope and objectives associated with reporting climate expenditure and piloting the instruments designed to report information.

Proposed activities:

- Develop monitoring and evaluation framework and related methodology with stakeholders for tracking international support of both in mitigation and adaptation actions.
- Deliver training on reporting climate expenditures and support received
- Pilot activities with selected sectors
- Report on support received

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (i) Assistance in quantifying and reporting on support provided and received.

Outcome 4.1 Thailand has tools and human capacities to monitor and evaluate adaptation actions and assess vulnerabilities to climate change, as well as use the information for adaptation policy development

This outcome is focused on improving the use of existing data and the ongoing collection of data on vulnerability and adaptation in order to mainstream climate change adaptation into relevant sectoral policies in Thailand.

The supporting work for the NAP and the plan itself is set to contribute decisively to improve information on vulnerability and risks, as well as the monitoring and evaluation of adaptation in Thailand. As part of the NAP process, some key M&E elements were produced: 1) risk maps based on risk or vulnerability georeferenced databases, 2) a database of existing adaptation measures to reduce vulnerability, and 3) an

M&E framework. However, the implementation of systematic climate risk and vulnerability assessment, and adaptation M&E will face significant challenges, including the absence of a comprehensive-scope database that integrates the mentioned elements, and/or additional information. Such additional information may be highly relevant, including research, case studies, and project M&E results. Thus, there would be clear value in developing a unified platform for planners in line ministries where they could access: 1) Sectoral vulnerability indicators; 2) Risk maps and georeferenced databases; 3) Adaptation options; and 4) Projections. Ongoing projects and processes, notably the NAP, are oriented in that direction by building up the evidence base and M&E procedures and indicators. The CBIT can support these efforts by targeting some of the many intermediate steps in the in the process towards such platform. The following outputs would support outcome 4.1:

Output 4.1.1 metrics and indicators and adjustment for subnational and local use of existing metrics, indicators and methodologies for tracking the adaptation goals outlined in the NDC, are developed

Besides their fundamental role in vulnerability reduction and resilience building, subnational and local authorities are crucial stakeholders for an effective tracking of adaptation goals. However, their involvement in adaptation M&E tends to be limited, as is more generally in adaptation policy. Often times the metrics, indicators and methodologies used at the national level are not operational for regular use at the subnational or local levels (e.g. different scales, varying quality of information. Current vulnerability and adaptation tracking in Thailand remains largely centralized and top-down. However, recent activities are aiming at the involvement of local authorities in adaptation planning, with local plans being developed in several regions. Adapting metrics, indicators and methodologies to their needs and circumstances while maintaining comparability could help in their engagement.

Proposed activities

- Development of a full set of operational climate risk, vulnerability or adaptive capacity indicators to be collected locally and aggregated to the national level, for at least one of the “highly impacted sectors” identified in the NDC
- Adjustment of currently used tools and methodologies for tracking adaptation at the national level for use at the subnational or local level, for at least one of the “highly impacted sectors” identified in the NDC

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities, (e) Country-specific training and peer exchange programs on transparency activities, such as establishing domestic MRV systems, tracking nationally determined contributions (NDCs), enhancement of greenhouse gas (GHG) inventories and economic and emissions projections, including methodological approaches, data collection, and data management, and adaptation monitoring, evaluation, and communication measures;
- Activities to assist with improvement of transparency over time: (k) Support to introduce and maintain progress tracking tools for transparency related actions and progress towards targets/goals.

Output 4.1.2. Template for a national information gateway on climate risk, vulnerability and adaptation are disseminated

Information relevant to vulnerability and adaptation tends to be generated with a sectoral view, conforming datasets built with disparate structures and standards. The standardization of the various sources of data on vulnerability and adaptation has been highlighted as a need throughout the NAP process, and a barrier. A related matter is the interoperability of climate-related databases (that is, to integrate heterogeneous

autonomous databases in a way that a query spanning different ones can be resolved) an issue frequently encountered when thinking about M&E of adaptation in the practice. The standardization and interoperability of all relevant databases is a significant challenge that can only be tackled in the medium term and will require a baseline analysis and proposed mechanisms to be established.

Proposed activities

- Taking stock and analyzing attributes, usability and actual use of existing data sources and databases, particularly those regularly maintained and updated (as opposed to one-off evaluations)
- Feasibility study for the standardization and interoperability of climate risk, vulnerability and adaptation databases
- Identification of short-term standardization and interoperability gains, as well as medium-term and long-term strategies

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities, (e) Country-specific training and peer exchange programs on transparency activities, such as establishing domestic MRV systems, tracking nationally determined contributions (NDCs), enhancement of greenhouse gas (GHG) inventories and economic and emissions projections, including methodological approaches, data collection, and data management, and adaptation monitoring, evaluation, and communication measures;
- Activities to assist with improvement of transparency over time: (j) Capacity needs assessment for transparency, in particular to assess institutional arrangements for data collection, analysis, and reporting: the assessment supports mapping of current baseline and planned reporting and related activities, institutions, tools, methodologies, MRV systems, associated data systems.

Output 4.1.3 Capacity on integrating information on V&A into policy formulation, and on monitoring and evaluation of adaptation activities strengthened in at least one sector

Knowledge and awareness have been identified as constraints for implementation in the NAP process. Mainstreaming basic mechanisms for transparency in adaptation require significant human and institutional capacities across sectors, including on the use of risk, vulnerability and adaptation data and their effective integration in the policy cycle. Moreover, beyond the availability of relevant indicators and metrics, substantial capacities are needed for effective adaptation tracking, monitoring and evaluation.

Proposed activities

- Analysis of current practices in the collection, reporting, and policy planning use of V&A information in at least one of the “highly impacted sectors” identified in the NDC
- Development of tools for the effective integration of information on V&A into policy formulation in at least one of the “highly impacted sectors” identified in the NDC
- Capacity building of national and local stakeholders on M&E of adaptation actions and conducting vulnerability assessments in at least one of the “highly impacted sectors” identified in the NDC
- Capacity building of national and local stakeholders on strategies to integrate information on V&A into policy formulation in at least one of the “highly impacted sectors” identified in the NDC

The proposed scope of work aligns to the following activities listed in the CBIT national programming directions (GEF/C50/06):

- Activities to strengthen national institutions for transparency-related activities in line with national priorities: (a) Support to national institutions to lead, plan, coordinate, implement, monitor, 4 and

- evaluate policies, strategies, and programs to enhance transparency, including identification and dissemination of best/good practices for institutional strengthening and national network of practitioners; (b) Support on how to integrate knowledge from transparency initiatives into national policy and decision-making; (c) Assistance with deployment and enhancement of information and knowledge management structure to meet Article 13 needs.
- Activities to provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13: (d) Access to tools, templates, and applications to facilitate the use of improved methodologies, guidelines, datasets, and database system tools and economic models needed for implementation of enhanced transparency-related activities; (e) Country-specific training and peer exchange programs on transparency activities, such as establishing domestic MRV systems, tracking nationally determined contributions (NDCs), enhancement of greenhouse gas (GHG) inventories and economic and emissions projections, including methodological approaches, data collection, and data management, and adaptation monitoring, evaluation, and communication measures;
 - Activities to assist with improvement of transparency over time: (j) Capacity needs assessment for transparency, in particular to assess institutional arrangements for data collection, analysis, and reporting: the assessment supports mapping of current baseline and planned reporting and related activities, including associated institutions, tools, methodologies, MRV systems, associated data systems.

4) Alignment with GEF focal area and/or Impact Program strategies;

This CBIT project addresses the GEF Focal Area Climate Mitigation 3-8 “*Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through capacity building initiative for transparency*”.

The GEF-7 Climate Change Focal Area Strategy aims to support developing countries in undertaking transformational changes towards low-emission and climate-resilient development pathways. The Capacity-Building Initiative for Transparency, as per COP decision¹⁷ of the 21st session of the COP, complies with this Focal Area Strategy by:

- Strengthening national institutions for transparency-related activities in line with national priorities;
- Providing relevant tools, training and assistance for meeting the provisions stipulated in Article 13 of the Agreement; and
- Assisting in the improvement of transparency over time.

The project addresses the need for enabling conditions to mainstream climate change concerns into the national planning and development agenda through its support for enabling activities, including obligations of the Convention and the Capacity-Building Initiative for Transparency through sound data, analysis, and policy frameworks.

The four different components of this project are well aligned with the transparency-related activities of the Proposed Programming Priorities specified under paragraph 18 (national level) in the CBIT Programming Directions (GEF/C50/06)¹⁸. The alignment of the specific project outputs with the CBIT Programming Directions can be found under each respective output in section 3 above.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

¹⁷ FCCC/CP/2015/L.9/Rev.1, para 85, available at <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

¹⁸ Available at: https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.50.06_CBIT_Programming_Directions_0.pdf

Thailand places great importance on the global efforts towards addressing climate change and will continue to play a constructive role in the UNFCCC process. The country's efforts towards transparency of its GHG emissions and climate actions have been demonstrated with the preparation of two BURs and three NCs, with the TNC to be published in 2018.

However, the newly established Enhanced Transparency Framework poses a great challenge to countries requiring them to significantly enhance their transparency systems as a whole, including transparency of mitigation, adaptation and support needs and support received. Building on the activities and outcomes of Thailand's BUR and NC processes, this project will establish formalized and permanent institutional arrangements for GHG data collection and reporting as well as tracking of mitigation actions and will provide the necessary methodologies and tools to improve data collection and quality.

The CBIT project for is targeted towards addressing the barriers, gaps and needs identified in the BUR, NC and ICA processes, such as the need for developing country-specific emission factors and establishing a QA/QC system for certain sectors. The need for improved data collection processes from the various agencies involved in the GHG inventory process will be addressed through this CBIT project, specifically through data-sharing agreements and sectoral templates and guidelines. Thailand is currently establishing its Greenhouse Gas Emission Inventory System, an IT system to enable data input and estimation. However, there no templates or guidelines available for line ministries on how to collect activity data, and guidelines for the sectorial lead agencies to assess the quality of data collected and provided by their line ministries are also lacking. This represents a significant gap in Thailand's transparency system and a barrier to enable the full functionality of the TGEIS which will be addressed through this CBIT project. In addition, this project will support Thailand in transitioning towards the 2006 IPCC Guidelines, as the recent inventories were based on 1996 Revised IPCC Guidelines, and help to enhance transparency of climate finance, as an emerging area of concern in Thailand. This CBIT project will support Thailand in its aim to improve its inventory quality in terms of transparency, accuracy, completeness, consistency, and comparability.

The outputs of the project will allow Thailand to develop and enhance its transparency system in line with the requirements of the Enhanced Transparency Framework. Enhancing data quality and strengthening capacities to monitor progress are preconditions for the effective implementation of climate actions outlined in Thailand's NDC and related NDC Roadmap, and ultimately to enhance NDC ambition. In addition, relevant agencies in various sectors are now in the process of formulating specific sectoral plans to address climate change including concrete mitigation and adaptation activities which can be supported by establishing an improved transparency system in the country.

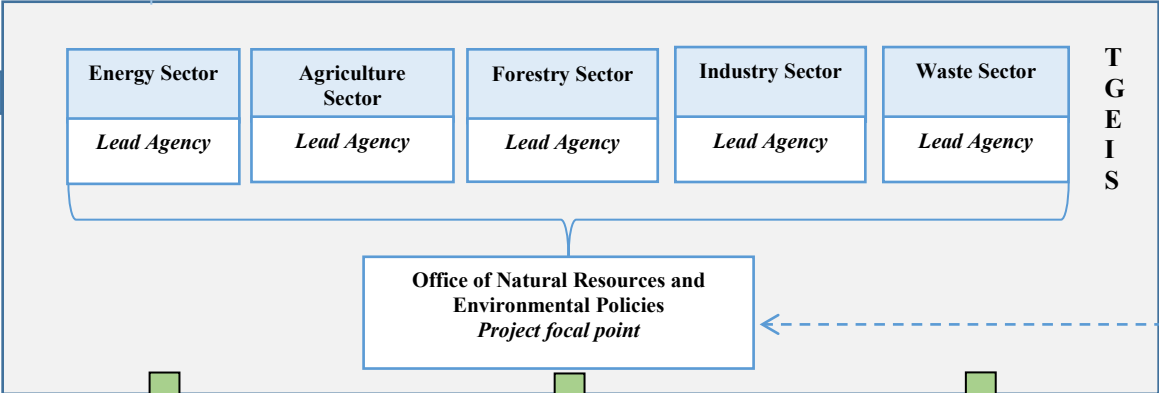
Without this CBIT project, Thailand's technical and institutional capacities will remain insufficient to fulfill the transparency provisions of the Paris Agreement. The CBIT intervention in Thailand is illustrated more specifically in Figure 1.

The GEF CBIT program is designed to improve mandatory reporting of signatories of the UNFCCC. As such, this project is financed on fully agreed cost basis. In the case of this program, eligible activities have been described in the GEF document Programming directions for the Capacity Building Initiative for Transparency (GEF/C.50/06). The activities of this project are consistent with the scope of the programming directions. Co-financing is not a necessary requirement for this project, however the Kingdom of Thailand through the Office of Natural Resources and Environmental Policy has anticipated contributing to the project with an in-kind co-financing of USD 1,000,000, as has been included in table B and C.

CBIT Intervention

Government of Thailand

National Development and Planning Policies
*National Economic and Social Development Plan
 Climate Change Master Plan
 NDC and the NDC Roadmap*



National Committee on Climate Change Policy
Subcommittee on Climate Change Knowledge and Database

Transparency related Processes
NC & BUR

Institutional arrangements, including processes and procedures for data collection and reporting are formalized

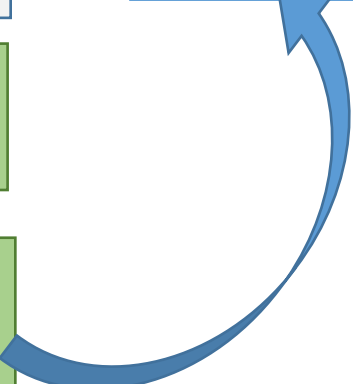
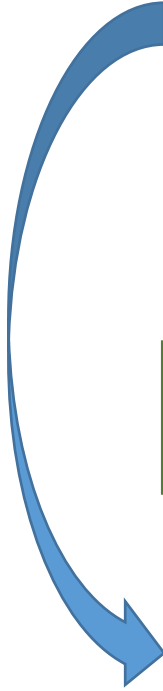
Institutional arrangements for tracking of mitigation actions, including quality check of GHG reduction estimations are formalized

Institutional arrangements to track support received are established

Country-specific emission factors are developed following IPCC guidelines are developed in the sectors Energy, IPPU and agriculture
 Sectorial guidelines, templates and tools for data collection are developed and training provided to support operationalization of the web-based inventory system
 Methodology and system for QA/QC for data from the sectors Energy, IPPU Agriculture and Forestry is developed
 Monitoring indicators and information matrix to track progress of NDC mitigation actions are developed, and training to lead agencies to report indicators is provided
 Methodologies, tools, and templates for estimating GHG emissions reduction impacts in the sectors Energy, Waste, IPPU and Agriculture are developed, and capacity-building of stakeholders on the usage of the tools is provided
 Templates and training for reporting of the MRV of support are developed
 Development of metrics and indicators, and adjustment for subnational and local use of existing metrics, indicators and methodologies for tracking the adaptation goals outlined in the NDC
 Development of the template for a national information gateway on climate risk, vulnerability and adaptation
 Capacity on integrating information on V&A into policy formulation, and on monitoring and evaluation of adaptation activities strengthened in at least one sector

CBIT Global Coordination Platform

Lessons learned



6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and

Global environmental benefits from this project are directly related to supporting Thailand in the implementation of its first NDC as well as enhancing ambition for future rounds of NDC submissions. This project will establish permanent institutional arrangements for transparency and will enhance the quality and accuracy of Thailand's GHG inventory through sectorial templates, country-specific emission factors as well as a QA/QC system for the Agriculture and Forestry sector, the country's second and fourth largest sources of GHG emissions¹⁹. The implementation of climate actions in Thailand's NDC will not only result in GHG emissions reduction but will also bring about a variety of environmental and social co-benefits, not the least a decrease in air pollution.

This project is linked to the GEF-7 climate change mitigation focal area, Indicator 3 on MRV systems for emissions reductions in place and reporting verified data. The indicator has 10 levels and the baseline and target will be set during project development. The project will monitor an additional indicator for qualitative assessment of institutional capacity built for transparency-related activities under Article 13 of the Paris Agreement. The baseline and target will be set during the project development phase, following the scale of 1-4 as per the guidance on Annex IV: Indicator for qualitative assessment of institutional capacity for transparency-related activities of the CBIT programming direction.

The project will further provide monitoring indicators and methodologies to track progress within Agriculture and Waste and will thereby strengthen Thailand's institutional and technical capacities to track progress of its mitigation actions. Monitoring of climate actions is a precondition to make necessary adjustments and enhance ambition and will enable Thailand to comply with the requirements of Art. 4 of the Paris Agreement stating that each Party's consecutive NDC will represent a progression of its current NDC and reflect its highest possible ambition. Tracking progress in the implementation of Thailand's NDC will also inform the Global Stock take with a view to enhance the global response to climate change in line with the long-term temperature goals of the agreement.

7) innovation, sustainability and potential for scaling up.

Innovation

The innovation potential of this project lies in formalizing and making permanent Thailand's institutional arrangements for transparency, which so far have served the purpose of preparing BURs and NCs, as well as in elaborating data-sharing agreements and institutional mandates. This will improve communication and coordination with different agencies and ensure greater involvement of the sectors in transparency work and NDC implementation as a whole.

Thailand is an industrialized country and a significant part of the energy use and energy generation as well industrial emissions arises from the private sector. Thus, participation of the private sector in the GHG inventory process as well as NDC tracking is key to a comprehensive and reliable reporting system. The project will include the private sector in the institutional arrangements for collecting data and preparing GHG inventories. Agreements will be designed for identified key stakeholders from the private sector to enable this participation.

One of the key challenges in countries is the availability of adequate human resources and dedicated resources to undertake the MRV work in coordinating the different ministries and line ministries. The project will address this by assessing the staffing needs in the institutions and ministries, mandated to support the transparency work.

¹⁹ Data based on Climate Watch, accessed <https://www.climatewatchdata.org/countries/THA>

The project will also anchor the capacity in existing institution within the country. The project will engage the experts based in national institutions for training and also identify arrangements for enabling backstopping of government capacity. Another innovation element of the project is the development of guidelines and templates in collaboration with national and/or regional experts with a view to reflect the unique needs and characteristics of each of the sectors as well as create long term capacity.

Measurements and data collection for the development of the country-specific emission factors might require the use of innovative technologies, especially within the agriculture and forestry sectors.

Sustainability

The development of standardized templates, guidelines and tools for line agencies in each sector is a new activity as so far, no such templates and guidelines exist, i.e. guidelines for line ministries on how to collect data and guidelines for lead agencies to assess the quality of data. Streamlining and standardizing collection of GHG data from the different sectors will be an innovative building block of this project and will complement the implementation of the Thailand Greenhouse Gas Emission Inventory System, the first GHG database system in Thailand. The development of a full set of operational climate risk, vulnerability or adaptive capacity indicators as well as a template for a national information gateway on climate risk, vulnerability and adaptation for standardized reporting are equally innovative and will both enhance the quality and consistency of data.

A key factor for the sustainability of the project outcomes is ensuring adequate human and technical resources in the government to operate the system for collecting information, analyzing data and preparing the necessary reports. The project will undertake the assessment of staffing requirements for ONEP and line ministries for managing the system and recommend to the government for action. Complemented with the clear definition of mandates of the various stakeholders, this will create the backbone to continue operate the system beyond the project.

To ensure a continuity in retaining the capacity in the government stakeholders and also train new human resources, the research and university organizations will be engaged in the training of the stakeholders. At the Project Preparation stage, the options for engaging the existing institution to provide training modules and capacity-building activities for existing and specifically for new staff, hereby addressing the problem of staff turnover in the institutions will be identified.

Scaling up

In addition, the experience to be gained from data collection, monitoring, stakeholder consultation, data management and documentation will be used to expand activities in a more detailed manner in a number of sectors, at both national and subnational level. Output 1.1.3 for example can be expanded to improve already existing country-specific emission factors, incorporating the latest science in the respective sectors

Thailand attaches great importance to south-south cooperation and is a key provider of capacity-building for MRV to other countries. The project outputs and their related capacity built will be used to support other countries in the region and thereby offer opportunity for scaling up and replicating similar activities in Southeast Asia and beyond. Considering that all countries undergo similar processes of enhancing their transparency systems and capacities, sharing of lessons-learned through different fora and platforms will be an important element of this project.

1b. *Project Map and Coordinates.* Please provide geo-referenced information and map where the project interventions will take place.

The project will take place within the borders of the Kingdom of Thailand and seeks to achieve positive impacts in the entire country. As a country in Southeast Asia, Thailand is located latitude 15.8700323 and longitude 100.9925385²⁰

The table below provides geographical coordinates of the location of key stakeholders involved in this project.

Name of Key Stakeholders	Geographical Coordinates
Office of Natural Resources and Environmental Policy & Planning (ONEP)	Bangkok 13.783544 N, 100.536416 E http://www.onep.go.th/
Energy Policy and Planning Office (EPPO)	Bangkok 13.755970 N, 100.525725 E http://www.eppo.go.th/index.php/en/
Office of Agricultural Economics (OAE)	Bangkok 13.845198 N, 100.573981 E http://www.oae.go.th/view/1/Home/EN-US
Department of Industrial Works (DIW)	Bangkok 13.763119 N, 100.497303 E http://www.diw.go.th/hawk/en/index.php
Land Development Department (LDD)	Bangkok 13.838258 N, 100.574474 E http://www.ddd.go.th/ddd_en/
Department of Health (DOH)	Bangkok 13.847984 N, 100.514340 E https://www.moph.go.th/
Office of Transport and Traffic Policy and Planning (OTP)	Bangkok 13.757896 N, 100.522632 E http://www.otp.go.th/
Pollution Control Department (PCD)	Bangkok 13.785712 N, 100.541390 E http://www.pcd.go.th/indexEng.cfm

2. *Stakeholders*. Select the stakeholders that have participated in consultations during the project identification phase:

- Indigenous Peoples and Local Communities;
- Civil Society Organizations;
- Private Sector Entities;
- If None of the above, please explain why.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

²⁰ Source: <https://www.geodatos.net/en/coordinates/thailand>

Key Stakeholder	Responsibility	Role in the Project
Office of Natural Resources and Environmental Policy & Planning (ONEP)	The Office of Natural Resources and Environmental Policy & Planning provides information about policies and regulations on conservation and management of natural resources and the environment. ONEP is the national climate change focal point to the UNFCCC.	Responsible for the overall coordination of the activities defined in this project and for ensuring communication with other key stakeholders.
Energy Policy and Planning Office (EPPO)	The Energy Policy and Planning Office is responsible for recommending national energy policies and plans, including energy-related measures and energy conservation to ensure well-proportioned, adequate and efficient supply of energy which corresponds with the situation of the country.	Responsible for conducting and supervising the project of developing methodologies, tools and templates for tracking mitigation measures in hospitals and develop methodology for MRV and tracking mitigation measures in the transportation sector.
Office of Agricultural Economics (OAE)	The Office of Agricultural Economics is Thailand's lead organization in developing and formulating agricultural strategies, providing agricultural data and information services, conducting research and preparing reports on the agricultural economic situations as well as monitoring of projects undertaken by the Ministry of Agriculture.	Responsible for supervising the project of developing methodologies for MRV for estimating changes in soil carbon, and developing methodologies, tools and templates for estimating GHG emissions from the agricultural sector.
Department of Industrial Works (DIW)	The Department of Industrial Works (DIW) is the designated government agency in charge of the supervision of state-owned enterprises (SOE's). The department is tasked with the monitoring of state-owned factories to ensure effective production processes and to improve the quality and quantity of products. The DIW is also responsible for maintaining adequate price levels of the products.	Responsible for conducting and supervising the project of developing methodologies, tools and templates including the development of methodology for monitoring and tracking mitigation measures in the IPPU sector.
Land Development Department (LDD)	The Land Development Department has the duty to conduct soil surveys and analyses as a basis for establishing land classification and utilization maps, land development, and to define land use areas, and soil and water conservation areas according to a land census. It is further responsible for the collection of statistics as a basis for conducting land censuses.	Responsible for conducting and supervising the project of developing monitoring methodology for estimating change in soil carbon.
Department of Health (DOH)	The Department of Health is responsible for developing and supporting policies and laws for health promotion and environmental health of the country, as well as developing and transferring knowledge, innovation and technology.	Responsible for conducting and supervising the project of developing methodologies, tools and templates for tracking mitigation measures in hospitals in Thailand.

Office of Transport and Traffic Policy and Planning (OTP)	The Office of Transport and Traffic Policy and Planning (OTP) is responsible for submitting policies, formulating transport and traffic plans, undertaking comprehensive studies and analysis, supervising the operations of agencies under the Ministry of Transport.	Responsible for supervising and conducting the project of developing methodology for MRV and tracking mitigation measures from the transportation sector.
Pollution Control Department (PCD)	The Pollution Control Department makes recommendations for the establishment of environmental quality standards and emission/effluent standards and has the authority to set the criteria, methods and conditions for pollution management of solid waste, hazardous substances, water quality, air quality, noise and vibration levels.	Responsible for conducting and supervising the project of developing methodologies, tools and templates for estimating GHG emissions from the waste sector.
National Universities and Academia	E.g. Chulalongkorn University, Thammasat University, Joint Graduate School of Energy & Environment at King Mongkut's University of Technology Thonburi	They will provide important information and experience related to mitigation options, since they were involved in the TNC and research projects. They will be invited to participate in training, workshop and meetings in order to have an efficient exchange of knowledge and best practices.
National Technical Institutions	E.g. Thailand Greenhouse Gas Management Organization (TGO)	National experts from technical institutions will be consulted and/or involved in different activities of the project, e.g. training provision to staff in agencies.
Civil Society Organization	Civil society organization relevant to the project will be identified during the preparation phase of the project.	Civil society organizations will provide input during the public consultation process and will be consulted throughout the entire project phase.
Private Sector Entities	The project in designing institutional arrangements for MRV include the engagement of private sector in reporting data relevant to GHG inventory and NDC implementation. The specific private sector entities and association will be identified during the project preparation stage.	Private sector entities will be engaged to develop ways for their participation in supporting information sharing for GHG inventory preparation and NDC tracking. They will also participate in training programmes.

3. *Gender Equality and Women's Empowerment.* Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? yes /no / tbd ; If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or

generating socio-economic benefits or services for women.

Will the project's results framework or logical framework include gender-sensitive indicators? yes /no / tbd

In a Global Ranking on gender gap issues, Thailand is ranked number 75 out of a total of 144 countries, according to the World Economic Forum's *Global Gender Gap Report 2017*. The country has seen a notable increase of women in ministerial positions and has according to the report fully closed its gender gap on the technical and professional workers indicators. Despite those improvements, gender issues still remain present in the country and will therefore also be included in this project.

Considerations of gender equality and women's empowerment will be integrated in the project design and the implementation of the project activities, notably through a balanced gender representation in the training and capacity-building provided to experts and staff in different agencies. Gender considerations will also be mainstreamed in the selection of the project management team as well as the consultants and experts for this project. Though targeted towards NCs and BURs, the *Gender Responsive National Communications Toolkit* by UNDP will provide an entry point for gender mainstreaming in this CBIT project. References shall also be made to the GEF Gender Equality Action Plan (GEAP) 2015-2018 as well as to the UN Environment Gender Equality and the Environment policy brief to further integrate gender in transparency work.

The project activities are also aligned with the 12th National Economic and Social Development Plan which includes the activity of guiding development in the sub-region, region and other developing economies under the SDG agenda, including inequality reduction and social opportunities for women. The 12th National Economic and Social Development Plan also builds on a number of complimentary plans, notably the draft Women's Development Plan. Thailand has regularly prepared five-year Women's Development Plans and is also signatory to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals. Thailand also published the Gender Equality Act of 2015. The National Committee for Sustainable Development (CSD), Thailand's mechanism for sustainable development, comprises of 37 members from the public and private sector, as well as academia and civil society. In 2015, Thailand appointed the permanent secretaries of the different ministries as Chief Gender Equality Officer to promote gender equality in their respective ministries, which will be consulted for advice during the implementation of this project. Thailand's Voluntary National Review of the implementation of the SDGs also stated that elements of SDG 5 on gender equality will be implemented in the next Women Development Strategy.

To ensure gender equality and sensitivity throughout the project design and implementation phases, the undertaking of the following activities is foreseen:

- Women participation in trainings will be registered and encouraged;
- Whenever it is possible and/or relevant, the project will aim to include gender-disaggregated data
- Documents and communication campaigns will be designed and targeted considering gender sensitiveness to assess and evaluate potential impact and related policy integration of specific gender considerations;
- All training material must avoid gender stereotypes, employ inclusive language and use appropriate illustrations;
- Significant women representation will be encouraged during capacity building workshops (both, among trainers and training participants) to promote gender parity;
- Gender will be addressed in the project team and stakeholder meetings, to help identify other areas where gender goals could be established.

By enhancing Thailand's capacity for establishing a sustainable transparency framework for climate action, the project supports the implementation of climate actions outlined in its NDC, which will directly benefit local communities and the Thai society at large.

4. Private sector engagement. Will there be private sector engagement in the project? (yes /no). Please briefly explain the rationale behind your answer.

The engagement of stakeholders from the private sectors is essential for enhancing Thailand's transparency system and ensuring its sustainability. As stated in the assessment of barriers above, the data collection from the private sector, for instance in the forestry sector, is currently burdensome. Improved reporting of data from the private sector can be ensured through data sharing agreements in the different sectors, as is included in output 1.1.1 of this project. Obtaining activity data from the private sector will be key to enhance the overall data quality of Thailand's GHG inventory. These data-sharing agreements with the private sector will also contribute to increase trust and collaboration between private sector entities and governmental agencies.

Engagement with stakeholders from the private sector will take place in both the project design and implementation phase in order to collect their input on the development of sectoral reporting templates and tools, among other. With a view to utilize local expertise and capacities, private sector experts will be engaged throughout the project implementation, where relevant.

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved or may be resulting from project implementation, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Project Risk	Description	Rating	Mitigation
Insufficient participation of key institutions	Participation of lead agencies in the overall GHG inventory process, i.e. data collection and reporting, is key for the preparation of inventories and for tracking progress of the NDC implementation.	Low	The formalization of the institutional arrangements, including procedures and processes definition of roles and responsibilities for data collection and reporting, and related trainings will raise awareness and ensure a greater buy-in of lead agencies in the national GHG inventory process and other key institutions. This is also built on existing informal coordination used for NCs and BURs.
Limited cooperation on data and information sharing among stakeholders	The provision of data from the various ministries, agencies and other stakeholders is a precondition for the elaboration of a national GHG inventory encompassing all relevant sectors.	Low	The elaboration of data-sharing agreements with line ministries and agencies as well as other data providers, notably the private sector, in each sector will set clear expectations of their contributions to the inventory process and will thereby increase data sharing and overall cooperation between related agencies and ministries. Formalized institutional arrangements and clear institutional mandates will also enhance trust and accountability of involved agencies and thus support interagency collaboration.
Slow or inexistent coordination among institutions	Ministries tend to work independent from each other with limited or no coordination between them. Lack of coordination can lead to a duplication of work, ineffective use of resources and jeopardizes sharing of information and the harvesting of synergies.	Medium	This project will build on existing institutional arrangements for transparency and climate change as a whole, established for the BUR and NC processes. Formalizing the institutional arrangements for data collection and defining clear roles will also enhance coordination and the communication flow between ministries and agencies. ONEP is also part of the National Committee on Climate Change Policy, comprising members

			from various ministries.
Professional and staff turn-over	The provision of capacity-building support is an integral part in this project. A high staff turnover, especially in key institutions, can lead to a loss of technical capacities and the overall institutional memory.	Medium	The development of sectorial guidelines, templates for data collection processes, as well as regularly provided trainings ensure the continuity of required technical capacities and skills.
Lack of political willingness	High political support is crucial for the overall process and to ensure the buy-in of all relevant ministries and agencies.	Low	The National Committee on Climate Change Policy (NCCC) is chaired by Thailand's Prime Minister and has members from 15 ministries and agencies such as the Ministry of Commerce and the Ministry of Transport and Communications. The Climate Change Master Plan, Thailand's framework document for coping with climate change, is approved by the cabinet. Thailand has further integrated climate change in a number of national policies, most notably the '2th National Economic and Social Development Plan ', serving as the country's overall strategic development plan. Thailand has already submitted two National Communications, with the third one being published in August 2018, and two Biennial Update Reports, showing Thailand's overall commitment of complying with the international reporting requirements of the UNFCCC.
Duplicity of activities among other related projects	Communication between relevant stakeholders and coordination of on-going projects is essential to harvest synergies and avoid overlaps.	Medium	This project will build on existing institutional arrangements set-up for the preparation of the BURs and NCs, with ONEP as the lead coordinating agency for GHG inventories as well as the national focal point to the UNFCCC in order to sustain institutional arrangements. Key stakeholders involved in pre-existing transparency work will be engaged from the beginning of this project with a view to retain institutional memory.

6. *Coordination.* Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

This project will build on the activities and outcomes of other transparency-related initiatives which have been undertaken in Thailand (please see baseline scenario), notably the support provided for the preparation of Thailand's two Biennial Update Reports and three National Communications, with support from GEF through the United Nations Development Programme. The Office of Natural Resources and Environmental Policy as the national climate change focal point has been coordinating the preparation of GHG inventories for the BURs and NCs. Building on the institutional structures, put in place for the preparation of the BURs

and NCs, ONEP will act as this project's Executing Agency, coordinating the different activities and stakeholder involvement, and will thus be able to identify overlaps and synergies with other activities and initiatives. ONEP will also be in charge of managing the Thailand Greenhouse Gas Emissions Inventory System, supported by the Australian Government, which will complement the activities outlined in this project. The project can also draw on the lessons-learned of the project "*Achieving Low Carbon Growth in Cities through Sustainable Urban Systems Management in Thailand*", supported by GEF through, UNDP, which produced a GHG inventory for each of the project cities. Data collection of subnational governments is crucial to substantiate national GHG inventories and enhance overall inventory quality.

ONEP is the executing entity of NC4-BUR3 project which will overlap with the implementation of the CBIT project. The work of CBIT will be closely coordinated, specially by having a common focal point for the two projects in ONEP, to ensure that the outputs of the two projects are developed synergistically and avoid duplication of efforts. Also, where possible the outputs of CBIT will be tested by application to tasks undertaken in NC4-BUR3 project in preparing GHG inventory and reporting on mitigation action progress and impacts.

This project will further coordinate with the ongoing work under the Thailand Refrigeration and Air Conditioning NAMA (RAC NAMA), supported by the NAMA Facility and implemented through GIZ. Coordination will specifically be undertaken with RAC NAMA's activity on establishing an MRV system and enhancing Monitoring and Evaluation for energy efficiency to identify synergies and avoid overlaps with this project's activities. As mitigation activities related to energy efficiency are a major element in the NDC Roadmap, establishing coordination with the RAC NAMA will be essential, especially for activities related the project's second component.

Further coordination with other relevant GIZ projects will be initiated, notably the "*Support for Thailand's Climate Change Policy*" as well as the "*Energy efficiency and climate change mitigation in the land transport sector in the ASEAN region (TCC)*". The latter project assisted ASEAN countries in establishing MRV systems for GHG emissions, including indicators for transport systems, and advises partner institution on the collection of relevant traffic data. Lessons learned should be harvested from this project to feed into the CBIT activities, especially for the development of sectorial guidelines, templates and tools.

With support from World Bank's Forest Carbon Partnership Facility, Thailand is currently developing a national REDD+ strategy, including a component on forest monitoring and emissions, and the development of an IPCC compliant MRV system for REDD+. The development of Reference Emissions Level is stated to require intensive coordination between different agencies in the forestry sector such as the Royal Forest Department and the Department of National Parks and personnel and other stakeholders, from which this CBIT project can benefit. As Thailand is aiming to include the LULUCF sector in its next NDC, coordination with MRV activities under REDD+ is needed to gather lessons-learned and to effectively improve the GHG inventory process in this very sector. Data gathered for Thailand's Readiness Preparation Proposal also indicated that the forestry sector, through deforestation and forest degradation, is a net emitter in the country, in contrast to previous assumptions. As Thailand aims to increase adherence to the TACCC accounting principles, this data has to be considered in the improving the transparency system in the forestry sector. An entry point for coordination with REDD+ activities can be the REDD+ Taskforce, which includes a representative from ONEP.

This project will further establish coordination with activities under the ongoing NAP process and associated projects, which includes as one of the outcomes a Vulnerability Database. This is especially relevant for component 4 of this project. Since the NAP Process will also engage in activities to national climate change budgeting, coordination with component 3 of this CBIT project will be beneficial. Project component 3 will also build on the work of Thailand's Climate Expenditure and Institutional Review (CPEIR), which received technical support from UNDP and CDDE Facility²¹.

²¹ Capacity Development for Development Effectiveness Facility for Asia Pacific (CDDE)

The Partnership for Market Readiness is supporting Thailand in developing readiness of market-based instruments for mitigation in Thailand. Coordination with Thailand's Greenhouse Gas Management Organization, the implementing agency of this project, on activities related to the development of an MRV system for the Energy Performance Certificate Scheme including MRV guidelines for targeted sectors, will therefore be undertaken.

7. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how:

This project is strongly aligned with Thailand's national priorities and builds upon national policies and plans. Thailand's *12th National Economic and Social Development Plan (2017-2021)* has among others the objective to "improve the capacity for greenhouse gas reduction and adaptation" and states that a GHG inventory is critical for developing a reliable MRV systems. One of the activities mentioned in the plan is to prescribe measures and mechanisms to support greenhouse gas reduction in all sectors as well as to encourage the private sector, state enterprises and local administration to collect and report GHG emissions data and other relevant information for updating the national GHG inventory and forecasting GHG emissions development. Those activities will directly benefit from an enhanced national transparency system, established through this CBIT project, especially from strengthened technical capacities monitoring of mitigation actions and enhanced institutional arrangements for data collection. The plan reconfirms Thailand's target of a GHG emission reductions of 7% in the energy and transport sectors by 2020 through its NAMAs, which requires capacities for tracking progress in those sectors.

Thailand's *20-year National Strategy (2017-2036)*, translated into action by the five-year country development plans (i.e. the 12th Economic and Social Development Plan) also establishes the goal of GHG emissions reduction as well as an increase in forest cover, following the overall sufficiency economy philosophy. Establishing permanent institutional arrangements for transparency and enhancing technical capacity of local experts and staff will contribute to this long-term strategy.

This project will also support the implementation of Thailand's framework document on climate change and long-term plan, *the Climate Change Master Plan (CCMP)*. The Plan's vision of a climate-resilient and low-carbon society shall be achieved, through adaptation and mitigation components and cross-cutting activities such as capacity-building and awareness-raising as well as developing appropriate knowledge base, databases and technologies. One of the short-term goals of the Master Plan is the development of a GHG emission database, a GHG mitigation registry and a database to support climate change negotiations. The CBIT project can specifically support this plan by enhancing the quality and extent of national GHG data, and by strengthening technical capacity over time.

The project components are aligned with Thailand's first *NDC* and its related *NDC Roadmap*, with the goal of reducing greenhouse gas emissions by 20% compared to a business-as-usual scenario. The NDC states that several mitigation measures require a high-level of technical capacity and effective coordination across different sectoral agencies that is currently lacking in Thailand. The CBIT project will enhance and formalize the institutional arrangements and interagency coordination and can thereby contribute to overcome barriers identified with regard to NDC implementation. Under the NDC Roadmap, the implementing agencies within the sectors Energy (including transport), Waste and IPPU are to report their progress to ONEP every 6 months. The sectoral guidelines, templates and tools to be developed, among others, under this CBIT project will facilitate this biannual reporting from the different agencies. Adaptation is also a top priority of Thailand's NDC requiring substantive capacity-building of relevant stakeholders. This CBIT project, notably component 4, will support achieving this priority. An enhanced transparency system will further facilitate a more cost-effective implementation and progress-tracking of mitigation and adaptation actions identified in the NDC.

This project is strongly aligned with and will address the national barriers, gaps and needs identified in Thailand's *BUR* and *NC* processes, including the *ICA* process. This project is targeted towards enhancing Thailand's transparency system in the long-term and will therefore support Thailand in complying with requirements under the Enhanced Transparency Framework.

The Department of Environmental Quality Promotion (DEQP) in collaboration ONEP and Thailand Greenhouse Gas Management Organization has been tasked in 2017 to develop a strategy and action plan on capacity-building to support the enhancement and scaling-up of capacity-building efforts under the Paris Agreement. This CBIT project has capacity-building at its core and will substantially contribute to the scale-up of capacity-building efforts.

8. Knowledge Management. Outline the “Knowledge Management Approach” for the project and how it will contribute to the project’s overall impact, including plans to learn from relevant projects, initiatives and evaluations.

ONEP, as the national focal point coordinating climate change action in Thailand, will be leading the management of information and knowledge products resulting from the different project activities and will also provide regular update on those activities to the different agencies and ministries. ONEP will also share project-related information through the National Climate Change Committee (NCCC), which will ensure a wide outreach to the representatives of different ministries and experts. For further knowledge-sharing and coordination, this project will also utilize the structure of Climate Change Coordinator Officers, created under the NCCC as coordination mechanism, in 19 ministries and 11 non-ministerial governmental agencies, who have been involved in NC preparation processes, among others.

Under this project a number of guidelines and guidance documents (e.g. output 1.1.2 and output 2.1.2) as well as tools for data collection will be developed and will serve the knowledge management of this project. The guidelines and guidance documents will further help to address the issue of knowledge loss related to high staff turnover. Involved sectors and their lead agencies will further be engaged in knowledge management of the project, by collecting and providing relevant information to its staff and other agencies and ministries. Data, information and tools produced throughout the project will support strengthening the technical capacities of all ministries and agencies in mainstreaming climate change and tracking progress towards NDC goals. Activities under this project, notably the enhancement of data collection processes and improvement of data quality, will complement the implementation of the Thailand Greenhouse Gas Emission Inventory System, which will be the first national IT system to capture Thailand's GHG data from all five sectors.

As an active member of the ASEAN community and as a major economy in the region, Thailand can assume a leading role in transparency work, aligned with the Paris Agreement, and become a reference point for neighbouring countries in Southeast Asia. The 12th National Economic and Social Development Plan also acknowledges Thailand's increasingly crucial role on the international and regional stage, and in neighbouring countries. The country therefore attaches high importance to the role of South-South Cooperation to achieve climate change as well as sustainable development goals and supports the Southern Climate Partnership Incubator initiative to accelerate climate partnerships among developing countries. Thailand is also participating in different transparency related fora, such as the Partnership on Transparency in the Paris Agreement, which organised a workshop for the Asia Pacific Regional Group in March 2018. Thailand's experience in establishing a national transparency system, building on the experience of preparing two BURs and three NCs as well as the implementation of the TGEIS, can be valuable for other countries in the region.

Under this project, Thailand will further engage in the CBIT Global Coordination Platform for sharing of lessons-learned and other relevant data and information. The project proposal will define how Thailand's CBIT information shall be shared and updated on the Global Coordination Platform.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT²² OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Wijarn Simachaya	Permanent Secretary	Ministry of Natural Resources and Environment	12/18/2018

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies²³ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.
--

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
			Sudhir Sharma		sharma66@un.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attach

²² For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

²³ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES

(when possible)

The project will take place within the borders of the Kingdom of Thailand and seeks to achieve positive impacts in the entire country. As a country in Southeast Asia, Thailand is located latitude 15.8700323 and longitude 100.9925385²⁴. The table below provides geographical coordinates of the location of key stakeholders involved in this project.

Name of Key Stakeholders	Geographical Coordinates
Office of Natural Resources and Environmental Policy & Planning (ONEP)	Bangkok 13.783544 N, 100.536416 E http://www.onep.go.th/
Energy Policy and Planning Office (EPPO)	Bangkok 13.755970 N, 100.525725 E http://www.eppo.go.th/index.php/en/
Office of Agricultural Economics (OAE)	Bangkok 13.845198 N, 100.573981 E http://www.oae.go.th/view/1/Home/EN-US
Department of Industrial Works (DIW)	Bangkok 13.763119 N, 100.497303 E http://www.diw.go.th/hawk/en/index.php
Land Development Department (LDD)	Bangkok 13.838258 N, 100.574474 E http://www.ldd.go.th/ldd_en/
Department of Health (DOH)	Bangkok 13.847984 N, 100.514340 E https://www.moph.go.th/
Office of Transport and Traffic Policy and Planning (OTP)	Bangkok 13.757896 N, 100.522632 E http://www.otp.go.th/
Pollution Control Department (PCD)	Bangkok 13.785712 N, 100.541390 E http://www.pcd.go.th/indexEng.cfm

²⁴ Source: <https://www.geodatos.net/en/coordinates/thailand>

GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, item F to the extent applicable to your proposed project. Progress in programming against these targets for the project will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment				(Number)	
			Estimation		Number Achieved	
			PIF	CEO Endorsement	MTR	TE
		Female	125			<i>To be monitored</i>
		Male	125			<i>To be monitored</i>
		<i>Total</i>	<i>250</i>			<i>To be monitored</i>

Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/ topics/themes that best describe this project.

GEF 7 TAXONOMY

Please identify the taxonomic information required in Part I, Item G by ticking the most relevant keywords/ topics/themes that best describe the project.

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input checked="" type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input checked="" type="checkbox"/> Convene multi-stakeholder alliances		
	<input type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input checked="" type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input checked="" type="checkbox"/> Large corporations	
		<input type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input type="checkbox"/> Beneficiaries		
	<input type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input checked="" type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input type="checkbox"/> Communications		
		<input type="checkbox"/> Awareness Raising	
		<input type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input checked="" type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation	<input checked="" type="checkbox"/> Training	
	<input type="checkbox"/> Targeted Research		
	<input checked="" type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input checked="" type="checkbox"/> Indicators to Measure Change	
	<input type="checkbox"/> Innovation		
	<input checked="" type="checkbox"/> Knowledge and Learning		
		<input checked="" type="checkbox"/> Knowledge Management	

		<input type="checkbox"/> Innovation	
		<input checked="" type="checkbox"/> Capacity Development	
		<input type="checkbox"/> Learning	
	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality	<input type="checkbox"/> Gender Mainstreaming		
		<input type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input type="checkbox"/> Sex-disaggregated indicators	
		<input type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input type="checkbox"/> Access and control over natural resources	
		<input type="checkbox"/> Participation and leadership	
		<input type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input checked="" type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input checked="" type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input checked="" type="checkbox"/> Enabling Activities
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Capacity Building Initiative for Transparency
			<input type="checkbox"/> Paris Agreement
			<input type="checkbox"/> Sustainable Development Goals
		<input checked="" type="checkbox"/> Climate Finance (Rio Markers)	
			<input type="checkbox"/> Climate Change Mitigation 1
			<input checked="" type="checkbox"/> Climate Change Mitigation 2
			<input checked="" type="checkbox"/> Climate Change Adaptation 1
			<input type="checkbox"/> Climate Change Adaptation 2