



# Mid-term Review

of the UNDP-GEF Project

## “Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)”

Project ID: 00092225

PIMS#5245

Final Report

July 2019

*prepared by International MTR Consultants*

*Mr Andreas Karner*

*Mrs Dang Ngoc Dung*

## Evaluation Team

This Mid-term Review of the UNDP-supported GEF-financed project “Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)” was carried out between 1 December 2018 and 15 July 2019. It covers the project period starting from April 2016 until December 2018.

The evaluation has been conducted for the United Nations Development Programme (UNDP) in Viet Nam by the Evaluation team, comprised of International Expert - Mr Andreas Karner ([andreas.karner@conplusultra.com](mailto:andreas.karner@conplusultra.com)), and the National Expert Mrs Dang Ngoc Dung ([dungdhn@gmail.com](mailto:dungdhn@gmail.com)).

## Acknowledgements

The authors, serving as an international Mid-Term Review (MTR) expert team, would like to express their gratitude to all project stakeholders and external experts whom they have met and interviewed during the project mid-term evaluation mission to Hanoi and Ho Chi Minh City in March 2019 and who generously provided their views and opinions on project results and impacts.

The authors would like to express thanks specifically to all members of the project team at the UNDP country office and the Project Management Unit at the Ministry of Construction, as well as to all other interviewed parties, who provided all requested information and valuable inputs for the project evaluation. The cooperation with the project team, all project partners and UNDP was effective, and the evaluators received all information requested.

## Table of Contents

<b>1</b>	<b>Executive Summary .....</b>	<b>7</b>
1.1	PROJECT INFORMATION SUMMARY .....	7
1.2	BRIEF DESCRIPTION OF THE PROJECT .....	7
1.3	SUMMARY OF PROJECT PROGRESS .....	8
1.4	MTR RATINGS & ACHIEVEMENT .....	9
1.5	CONCLUSIONS .....	10
1.6	SUMMARY OF RECOMMENDATIONS.....	11
<b>2</b>	<b>Introduction .....</b>	<b>15</b>
2.1	CONTEXT AND PURPOSE OF THE EVALUATION .....	15
2.2	EVALUATION METHODOLOGY .....	15
2.3	STRUCTURE OF THE MTR REPORT .....	16
2.4	ASSESSMENT OF PROJECT FINDINGS .....	16
<b>3</b>	<b>Project Description and Background Context .....</b>	<b>17</b>
3.1	PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS .....	17
3.2	IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT .....	18
3.3	PROJECT DESCRIPTION AND STRATEGY .....	20
3.4	PROJECT IMPLEMENTATION ARRANGEMENTS .....	22
3.5	PROJECT TIMING AND MILESTONES .....	23
3.6	KEY PARTNERS AND STAKEHOLDERS .....	24
<b>4</b>	<b>Findings .....</b>	<b>24</b>
4.1	PROJECT STRATEGY.....	24
4.1.1	<i>Project Design.....</i>	<i>24</i>
4.1.2	<i>Results Framework (Logframe).....</i>	<i>26</i>
4.2	PROGRESS TOWARDS RESULTS.....	29
4.2.1	<i>Progress Towards Outcomes Analysis .....</i>	<i>29</i>
4.2.2	<i>Remaining Barriers to Achieving Project Objective .....</i>	<i>34</i>
4.3	PROJECT IMPLEMENTATION AND ADAPTIVE MANAGEMENT.....	34
4.3.1	<i>Management Arrangements .....</i>	<i>35</i>
4.3.2	<i>Work Planning .....</i>	<i>36</i>
4.3.3	<i>Finance and Co-financing .....</i>	<i>38</i>
4.3.4	<i>Project Level Monitoring &amp; Evaluation Systems .....</i>	<i>42</i>
4.3.5	<i>Stakeholder Engagement .....</i>	<i>43</i>
4.3.6	<i>Reporting .....</i>	<i>44</i>
4.3.7	<i>Communications.....</i>	<i>44</i>

4.4	IMPACT AND SUSTAINABILITY.....	45
<b>5</b>	<b>Conclusions and Recommendations.....</b>	<b>51</b>
5.1	CONCLUSIONS.....	51
5.2	RECOMMENDATIONS .....	53
<b>6</b>	<b>Annexes.....</b>	<b>56</b>
6.1	ANNEX 1: MID-TERM REVIEW – TERMS OF REFERENCE .....	56
6.2	ANNEX 2: MTR EVALUATIVE MATRIX .....	68
6.3	ANNEX 3: DOCUMENTS REVIEWED.....	69
6.4	ANNEX 4: MISSION ITINERARY AND MEETINGS HELD.....	70
6.5	ANNEX 5: CODE OF CONDUCT FOR EVALUATORS/MIDTERM REVIEW CONSULTANTS .....	76

## List of Tables

Table 1: Key Planned Outputs and Barriers Addressed by the Proposed UNDP/GEF Project (at CEO Endorsement stage).....	20
Table 2: Project events and milestones.....	23
Table 3: Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets) .....	30
Table 4: Project Budget and Expenditures (in USD) .....	39
Table 5: Co-financing of Project Partners (in USD).....	40
Table 6: Risk Analysis of the EECB Project – updated at MTR stage .....	47

## List of Figures

Figure 1: Assessment of the project’s logframe in regard to “SMART” criteria .....	26
Figure 2: Project Implementation Structure .....	36

## Acronyms and Abbreviations

APR	Annual Project Review
AWP	Annual Work Plan
BEMS	Building Energy Monitoring System
BRH	Bangkok Regional Hub
CBO	Community Based Organisation
CEEB	Center for Energy Efficiency in Buildings
CO <sub>2</sub>	Carbon dioxide
CSO	Civil Society Organization
DIC	Centres for Energy Efficiency in Buildings
DOC	Department of Construction
DOSTE	Department of Science Technology and Environment
DUPA	Department of Urban Planning
ECC	Energy Conservation Center
EE	Energy Efficiency
EE&C	Energy Efficiency and Conservation
EE&C Law	Energy Efficiency and Conservation Law
EEBC	Energy Efficiency Building Code
EOP	End of Project
ESCO	Energy Service Companies
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoV	Government of Vietnam
HCMC	University of Architecture, National University
HS	Highly satisfactory
HU	Highly unsatisfactory
IA	Implementing Agency
IDAE	Instituto para la Diversificación y ahorro de la Energía
IPCC	Inter-Governmental Panel on Climate Change
KC	Knowledge Centre
L	Likely
MOC	Ministry of Construction
MOIT	Ministry of Industry and Trade
MOF	Ministry of Finance
MOST	Ministry of Science and Technology
MoU	Memorandum of Understanding
MPI	Ministry of Planning and Investment
ML	Moderately Likely
MU	Moderately Unlikely
MS	Moderately satisfactory
MTR	Mid-Term-Review
M&E	Monitoring and Evaluation
M&V	Measurement and Verification

NGO	Non-governmental Organization
NIM	National Implementation Modality
NPD	National Project Director
ODA	Official Development Assistance
PIF	Project Information Form
PIMS	Project Implementation Management System
PIR	Project Information Report
PMU	Project Management Unit
PSC	Project Steering Committee
S	Satisfactory
SEC	Specific Energy Consumption
ST	State Treasury
TA	Technical Assistance
TOR	Terms of Reference
U	Unsatisfactory
UNFCCC	United Nations Framework Convention on Climate Change
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNDP-CO	UNDP Country Office
UNDP RCU	UNDP Regional Coordination Unit
USD	United States Dollar
VAA	Viet Nam Association of Architects
VACEE	Viet Nam Association of Civil Engineering Environment
VCEP	Viet Nam Clean Energy Program
VGBC	Viet Nam Green Building Council
VNEEP	Viet Nam National Energy Efficiency Program

## 1 Executive Summary

### 1.1 Project Information Summary

<b>Project Title:</b>			
<b>ENERGY EFFICIENCY IMPROVEMENT IN COMMERCIAL AND HIGH-RISE RESIDENTIAL BUILDINGS IN VIET NAM (EECB)</b>			
UNDP Project ID (PIMS #):	5245	PIF Approval Date:	12.09.2013
ATLAS Business Unit, Award # Proj. ID:	Award ID: 00084022, Project ID: 00092225	GEF Project ID (PMIS #):	5365
		CEO Endorsement Date:	14.07.2015
Country:	Viet Nam	Date project manager hired:	01.07.2016
Region:	South-East Asia	Inception Workshop date:	26.08.2016
Focal Area:	Climate Change	Midterm Review completion date:	15.07.2019
GEF Focal Area Strategic Objective:	CCM-2	Planned closing date:	05.04.2020
Trust Fund [indicate GEF TF, LDCF, SCCF, NPIF]:	GEF TF	If revised, proposed op. closing date:	
Executing Agency/Implementing Partner:	Ministry of Construction		
Other execution partners:			
<b>Project Financing</b>	at CEO endorsement (USD)	at Midterm Review (USD) *)	
[1] GEF financing:	3,198,000	1,196,844	
[2] UNDP contribution:	2,230,000	1,276,000	
[3] Government:	2,700,000	2,050,755	
[4] Other partners:	16,568,000	72,417,692	
[5] Total co-financing [2 + 3+ 4]:	21,498,000	75,744,447	
<b>PROJECT TOTAL COSTS [1 + 5]</b>	<b>24,696,000</b>	<b>76,941,291</b>	

\*) status: 31 December 2018

### 1.2 Brief description of the Project

The “Energy Efficiency Improvement in Commercial and High-Rise Residential Building in Viet Nam” (EECB) Project has the goal to reduce intensity of GHG emissions from the building sector in Viet Nam. The Project objective is to improve the energy utilization performance of commercial and high-rise residential buildings in Ho Chi Minh and Hanoi. The primary target buildings are those with gross floor areas exceeding 2,500 m<sup>2</sup>, including government and private sector offices, hotels, hospitals, shopping centers, educational institutes, condominiums and service apartments. The realization of this objective will be facilitated through the removal of barriers to the stringent enforcement of the revised EEBC, and to the greater uptake of building energy efficiency technologies, systems, and practices.

The Project objective will be achieved through implementation of three (3) components each consisting of a number of complementary activities designed to remove barriers to the widespread adoption of the recently revised EEBC and applications of EE technologies in the building sector in Viet Nam.

- **Component 1:** Improvement and Enforcement of Energy Efficiency Building Code
- **Component 2:** Building Market Development Support Initiatives
- **Component 3:** Building EE Technology Applications and Replications

Collectively, these components seek to put in place cornerstone policy instruments for energy efficiency in buildings on a national level, including enforcement on the national, provincial, district and municipal levels. It is supported by technical, policy-related, educational, and demonstration activities.

The Project was commenced in April 2016, and the Inception Workshop was held on August 26, 2016. The Project duration is until April 2020.

### 1.3 Summary of Project Progress

The EECB Project has been operational for about 33 months (out of planned 48 months) since it has been kicked-off, with only about 37% of the GEF funds being expended so far. It had encountered difficulties during the set-up phase namely recruitment of human resources, especially development of technical TORs. Due to its first involvement in a GEF project, MOC and its PMU needed more time at the beginning to become familiar with the *national implementation modality* (NIM mechanism).

The progress of the Project to date can be characterized as follows:

#### **Component I:**

*Component 1.1 is focusing on enforced, improved and comprehensive policy, legal, and regulatory frameworks on the energy efficient design, construction and operation of commercial and high-rise residential buildings.*

*Component 1.2 is on strengthened compliance of the energy efficiency building code for commercial and high-rise residential buildings in Hanoi and HCMC.*

- Completed the development of a roadmap and action plans for EE promotion in high-rise buildings
- Completed the development of the database of energy efficient construction materials and end-use equipment
- Completed energy survey in 25 of 165 buildings, thereof 10 in Ha Noi, and 15 in Ho Chi Minh City
- Draft report on specific energy consumption (SEC) profiles and energy efficiency benchmarking system provided, and EE labelling systems report
- In the process of developing 5 national standards on EE building materials and products; construction structure and parts
- Contributed comments to the development of the National Programme on Energy Efficiency Usage led by MOIT
- To improve product quality, the PMU has organized a consultation workshop on the development of roadmap and action plans for EE promotion in high-rise buildings, a workshop on the database of energy efficient construction materials and end-use equipment, a workshop on the methodology of development of SEC profile and energy benchmarking of high-rise buildings (5 types of building and 2 climatic zones) and EE labelling methodology.

#### **Component II:**

*Component 2 is focusing on increased local capacity in the EE design, construction, and operation of commercial and high-rise residential buildings.*

- In the process of developing incentive mechanism(s) for promotion of EE in buildings.
- Developed training materials to improve the capacity of EE building practitioners
- Organized a study tour to study international experiences in three countries of the Netherlands, United Kingdom and Spain (August 2018). Concerning EE issues, the delegation has met with experienced organizations on development of EE incentive mechanism, related technical standards (BRE, IDAE, Westminster University, etc.). After the study tour, in October 2018, DOSTE signed an MoU with BRE on technical cooperation in smart cities, green and EE buildings.



**Component III:**

Component 3 is dealing with increased use of EE building materials and application of EE building technologies in demonstration buildings supported in Hanoi and HCMC.

- Selected and signed MoU with 13 building owners – 5 retrofits, thereof 3 in 2017 and 2 in 2018 (including e.g. Melia Hotel, District 10 People’s Committee Administrative Central Building; DIC Office Building) and 8 new buildings, thereof 5 in 2017 and 3 more in 2018 (including Daikin Office Building, Condotel Building and DIC Hotel in Vung Tau).
- Technical assistance for 13 building designs and retrofits: implemented energy audits, analyzed and assessed energy savings in case of using EE solutions for retrofit buildings; supported the evaluation of bidding documents and the process of installing new equipment (Somerset). For new buildings, a provision of guidelines on code-compliance and beyond-code design is under development (QCVN09:2013/BXD and QCVN 09:2017/BXD in replacement of QCVN09:2013/BXD; and provided technical assistance during construction phase (technical specifications of bidding documents)
- In addition, in June 2018, PMU has actively contributed to the Sixth GEF Assembly and Associated Meetings organized in Da Nang, especially a site event on Energy efficiency promotion in the construction sector. During this event, the Ministry of Construction and EECB Project has shared international experiences in energy efficiency usage.

#### 1.4 MTR Ratings & Achievement

Measure	MTR Rating	Achievement Description
Progress Towards Results	Objective Achievement Rating: <b>Moderately Satisfactory</b>	The overall achievements of the Project are to be assessed so far; mainly considering the achievement of GHG emission reductions envisaged by the Project, and number of indicators proposed that cannot be assessed without mid-term monitoring results being available so far.
	Outcome 1.1 Achievement Rating: <b>Moderately Satisfactory</b>	Parts of the planned achievements, mainly concerning proper enforcement tools and guidelines to be provided to public administration and building practitioners as well as capacity building, are not yet in place.  Progress has been made though on developing 5 building EE standard documents, EE labelling and certification programs.
	Outcome 1.2 Achievement Rating: <b>Moderately Satisfactory</b>	Strengthened compliance of the energy efficiency building code for commercial and high-rise residential buildings in Hanoi and HCMC is still not achieved. Project foresees several capacity building and training activities and needs to ensure strong focus on enforcement requirements until EOP.
	Outcome 2 Achievement Rating: <b>Moderately Unsatisfactory</b>	Increased local capacity in the EE design, construction, and operation of commercial and high-rise residential buildings is ongoing and has still several outstanding targets to be achieved by EOP.
	Outcome 3 Achievement Rating: <b>Satisfactory</b>	13 demonstration projects are directly supported by EECB Project so far; M&V systems have been developed and recommended as part of demonstration at 1 existing building and 3 new buildings. Installation of the systems for existing buildings will take place when the technical support completes in 2019/2020. Monitoring data is not available yet; the Project is doing surveys and data will be available in 2019 and 2020 mainly.
Project Implementation	<b>Moderately Satisfactory</b>	The Project shows overall substantial progress made especially in year 2 regarding all outcomes and maintains a good cooperation basis and exchange with all project partners and external

Measure	MTR Rating	Achievement Description
& Adaptive Management		stakeholders. There are, however, few adaptive measures proposed concerning the Project Log frame, the project level monitoring and communications required.
Sustainability	<b>Moderately Likely</b>	Taking into consideration some prevailing risks and the mitigation strategies to be considered by the Project, the sustainability prospects are rated Moderately Likely.

## 1.5 Conclusions

The EECB Project has been operational for about 33 months (out of planned 48 months), with only about 37% of its TA budget expended. However, it has provided value added to the development of energy efficiency in the buildings framework in Vietnam and has provided additional quality to the political and administrative decision-making process.

In a nutshell, the design and progress of the Project to date can be characterized as follows:

- **As an overall objective**, the Project was designed to remove barriers concerning a lack of knowledge and enforcement capacity in applying energy efficiency design and construction elements in the building sector in Viet Nam, by means of technical assistance, development of technical standards and working tools for practitioners and public authorities approving the designs, training and capacity building, facilitation of incentive programs, and accompanying the design and implementation of demonstration projects. It has partly achieved these objectives so far with great efforts to be maintained until EOP still.
- **Relevance:** The Project is in line with country priorities and national sector development priorities, and relevant to UNDP Country Strategy and GEF objective. The relevant partner institutions on governmental level have been involved (MOC, MOIT, and provincial levels), however the Project Document can be considered very (over) ambitious from the beginning, since it covered too many outcomes/outputs. In addition, it seems that time to develop and implement the enforcement mechanisms (capacity building activities, implementation of supporting tools) and demonstrations projects have been far underestimated which has to do with lack of experience and awareness in most areas of implementation (policy-making, municipal administration, building developers and professionals, academia).
- **Progress towards Results:** The Project is facing large challenges on realisation of outcomes 1-3 so far, with majority of outputs and activities still ongoing. The Project has to cope with the risk of non-achievement of legal/regulatory targets, while having progressed on the gap analysis and preparatory activities for legal decision making.  
The Project has, however, made significant progress after delays in the first year after inception. Achievements of outcomes 1 and 2 are not fully consistent with the Project’s implementation timelines due to outstanding deliveries and outputs still under development. Outcome 3 and demonstration activities are partly facing challenges time-wise, but with great efforts made on the mobilisation of additional projects and funds by approaching developers and owners to cooperate under the EECB Project.
- **Management arrangements:** The PMU has successfully applied adaptive management from the beginning and was facing lack of technical competences and awareness concerning energy efficiency in buildings. The recruitment of both, international and national consultants was rather difficult as national expertise is still at an early stage in Viet Nam; however, further expertise is required to be hired concerning capacity building, training and dissemination activities.
- **Planning and Procurement:** The procurement implementation faced delays in authorization of procurement activities under EECB to the DOSTE General Director and therefore causing several delays in the project-related procurement process; delays in recruitment of appropriate consultants due to lack

of consultants in the field of energy efficiency resulted in several positions had to be re-advertised, which took time. UNDP has offered to provide procurement support for PMU to speed up the process.

- **Finance and co-financing:** Although the Project was already more than half-way through its overall duration by end December 2018, the Project disbursement rate was too low (disbursed only USD 1,196,844 equivalent to 37% of total GEF Grant). Nearly 2/3 of total GEF budget need to be disbursed within less than one-and-a-half years time remaining (January 2019 to April 2020 – official closing month). The major concerns therefore are how to increase the disbursement rate and implementation progress in its remaining duration. Private co-financing is on track and has been scaled up significantly (about 3 times compared to the Project Document).
- **Communication:** Communication means have been established through a communication plan; however, it seems that the Project has not received too much public attention so far, apart from few articles and publications concerning energy savings and efficient use of energy in buildings been published. The PMU decided not to develop a specific project website but instead produces regular articles for the website “Energy Saving” of the Ministry of Construction to ensure the sustainability of project results after the project ends. Much more efforts will be required in the second half of the project implementation, including an update on the communication plan.
- **Sustainability and impact.** The ability of the Project to create long term impact has been partly achieved so far. Most of activities are ongoing and so their results and achievements are to be viewed in a longer perspective. In the long term, energy efficiency considerations must become mandatory for all new and reconstructed buildings no matter where the funding comes from (public or private funds). It’s also very critical to ensure continued commitment by MOC, MOIT for enforcement of the EE legislative framework, and ensure institutional sustainability, in the sense that all expertise and tools developed under the Project, e.g. the database of EE building materials, SEC reviews of existing buildings, etc. will be regularly updated and become open knowledge.  
The partnership of the Project with private sector residential building developers clearly demonstrates that energy efficiency measures in construction projects can be easily accommodated in the initial design with a proper calculation of costs and benefits. Essentially, all the current activities started by the Project but requiring to be expanded and extended into the future require substantive development, and the element of proper financial mechanisms to be established.
- **Project termination.** As for the planned remaining activities, they need to be reconsidered in terms of available resources and likeliness of timely implementation. The completion date of the Project is initially foreseen to be April 2020, but is recommended to consider an extension of the project to fully achieve the committed results or greater efforts needed to be made to achieve the project results by the planned closing date. The main reasons for an extension are related to initial difficulties during the set-up phase of the Project with regard to recruitment of human resources, especially development of technical TORs, which was caused by the fact that this was MOCs first involvement in a GEF project, and MOC and its PMU needed more time at the beginning to become familiar with the national implementation modality (NIM mechanism). With a time-wise extension it can be ensured that crucial achievements and results can be produced and properly promulgated and disseminated, for example the EE standards to be approved by MOC, or the energy labelling of buildings. Furthermore, the finalization of the pilot projects, which is to be expected with delay from today’s point of view, makes an extension of the project duration inevitable, considering the sustainability of results, especially in respect to monitoring the achievements in terms of energy savings, and impact on user comfort.

## 1.6 Summary of Recommendations

### **Recommendation 1: Focus on using time and resources efficiently for the remaining project period**

- The Project Log frame requires adaptations and rephrasing of some of the project indicators (refer to details provided in chapter 4.1.2)
- A mandatory building EE legislation and enforcement of the building code and other laws and regulations to be achieved in the future is crucial to ensure the long-term sustainability of the project results; however, in the short term (e.g. 5 years) a voluntary system is more likely to be implemented. Therefore, a main focus shall be on the finalization and delivery of outstanding activities considering the enforcement of the new building code requirements and capacity building among building professionals and public administration (see recommendation 2).
- Capacity building and training activities concerning EE in buildings need to properly address the demand for building practitioners on the one hand and public administration involved in building design approvals and construction permits. Topics concerned: (i) compliance with new codes and standards developed, (ii) methods for calculating building energy performance, and best practices in energy-efficient building design, (iii) including integrated building design into standard design practices, (iv) integration of low-cost and no-cost energy efficiency principles into building design, (v) using tools and measurements in the design of buildings, and (vi) understanding lessons learned and best experience available internationally with a special focus on the climatic conditions similar to Viet Nam. Training materials shall be developed and made available for wider use.
- The initially foreseen activities concerning the introduction of financing mechanisms in the form of ESCO models seem not appropriate under this EECB Project. However, government policies are critical in stimulating the uptake of the ESCO model by providing strong guidance to the market; in fact the ESCO market requires sufficient market drivers to be in place, such as access to finance, consistent EE building standards in place and enforced, and a developed market of available ESCO companies that are recognised by the government. Since this project is working on the development and promulgation of the basic EE legislation for buildings, starting from a rather early stage of market development, it is not likely that the project will be able to also stimulate the development of ESCOs during the remaining project duration. The MTR Consultant therefore recommends to remove activities concerning the ESCO mechanism and rather use the project resources on highlighting non-financial incentives and their application in the framework of the responsibilities within MOC/DOC.

**Recommendation 2: Legislation and policy framework has been developing with the support of the Project, but focus is needed to ensure enforcement and financial support in the long-term.**

- Delivering key movement on Outcome #1 is one of the main targets of this Project. Its success will very much determine the success of the whole project and its future market transformation impact in providing the path for a more energy efficient construction regime in the country.
- An effective implementation and enforcement mechanism to apply the new QCVN 09:2017 building code on the construction market will be therefore the key for success. In fact, the new code will require a steady and continuous development and implementation of by-laws, regulations and procedures and the relevant public bodies to be assigned with specific tasks: building energy audits to update SEC and EE benchmarks in order to be able to classify buildings according to consumption profiles (e.g. introducing building energy passports), include building materials and equipment labelling and certification, enforce the building inspection and design approval, etc.
- In this context the *“Roadmap and Action Plans for EE Promotion in Vietnam’s Building Sector”* (version 2018 developed under EECB) requires an update and including the new requirements of the building code QCVN 09:2017 and aligning with National Energy Efficiency Program targets.
- Financial mechanisms are considered a bottleneck for promoting EE concepts in the building and infrastructure sectors. Considering the type of building and related investments into energy efficiency international experience shows that financial incentives may be appropriate mainly in the refurbishment of existing buildings, whereas in new building developments, with appropriate building energy codes enforcement and compliance checking mechanisms in place, financial incentives are in most cases not needed, since the building developers will reflect the additional costs of EE in the price of the buildings, and users will benefit from lower energy bills. In a transition phase, like Viet Nam, when there is only a voluntary

system in place, it is possible to use soft loans for new EE buildings. Since the project is mainly about building energy codes (for new building developments), financial incentives are not considered the main priority – and even if the EECB Project would allow achieving greater impact with a financial incentive mechanism in the long term, it is under current budget limitations and the reaching of the public debt ceiling (65% of the GDP) unrealistic that such mechanism could be implemented within the coming years.

**Recommendation 3: Ensure that institutional bodies take energy efficiency forward and market awareness is created in the longer term**

- A mandatory building EE legislation considering minimum energy performance standards is required in Viet Nam (similar to other countries in the region) following international best practice, and the Project should provide the grounds as much as possible for continuous.
- Enforcement of the new building code and other (by-)laws and regulations will be required and thus public bodies to be created/assigned with specific tasks; although this development is at very early stage in Viet Nam so far and will need more time and efforts to create basic awareness among governmental and institutional stakeholders, building design and construction experts acting on the market, and the general public (mainly residents and users of buildings). Challenges laying ahead are related to the adoption of appropriate energy auditing and the introduction of building energy passport mechanisms, energy monitoring and performance-based billing systems, building materials and equipment labelling/certification, building inspection and design approval mechanisms.
- Basic assessments and information on the energy use in buildings (not only residential, but also public and private service buildings) will be required to better understand the quantitative and qualitative use of energy in buildings across different building types (and also old and new buildings). The level of (statistical) information is quite weak and initial baseline assessments are being conducted within the Project through a set of energy audits in selected buildings; without such basic analysis, strategies to utilize the potential of energy efficiency conditions in the Vietnamese building sector cannot be elaborated, since firm information on the actual quality of buildings in would be factually not available.
- Since the Project is supporting this process by providing basic energy audit, building assessments and studies (e.g. such as indicators and benchmarks on energy efficiency in the building sector available through energy audits and simple energy management methods introduced), institutional building for developing a country building statistics and information base for building energy consumption in Viet Nam should be envisaged in the longer term, since it is understood that such institutions do not exist currently.

**Recommendation 4: Introduce a higher level of public outreach and institutionalise public awareness measures in the frame of the country's policy framework**

- The Project must improve the current level of information dissemination and public awareness creation activities throughout the remaining project period. An update of the Project's communication strategy and plan is required.
- Considering the limited possibilities to publish project results and achievements through own channels (such as project website, which is not deemed effective due to low general visibility), co-operation should be sought with national media and it should be possible to share several substantial success stories and provide specific awareness measures throughout the remaining project period (e.g. among building developers, building users). This plan also will make the EECB project in Viet Nam more consistent with other projects throughout the region, which are already actively documenting their projects' successes via publications, internet, and mass media.
- Dissemination of results and benefits achieved should be assured by "Story telling" to visualize best-practice examples in buildings.
- What is missing in the country is to "institutionalize energy efficiency awareness" through government stakeholders and specific agencies – e.g. link up with activities provided through the existing ECCs or supporting relevant associations (e.g. VGBC). The Project shall emphasize to build a country-wide "Knowledge Center (KC) for Energy Efficiency in Buildings" by providing all information, reports, tools, training materials, publications, guidelines developed by the Project and make them publicly available online. MOC should maintain to be the KC for EE topics in the future.

- In order to increase the public attention towards energy efficiency in buildings, the Project may explore the opportunity with cities in launching specific calls for innovative projects in new urban developments. Possibilities shall be sought to launch e.g. architecture competitions where green building concepts will be included in the competition requirements or establishing green city development areas. Green Cities strive to build a better and more sustainable future for urban spaces and their residents by identifying, prioritizing and connecting cities' environmental challenges with sustainable infrastructure investments and policy measures.
- Furthermore, in terms of networking and know-how exchange, the Project shall establish exchange of experience and information through the UNDP network and engage with other on-going international projects supporting building EE in the region (e.g. UNDP-GEF Projects being implemented on Buildings Energy Efficiency in Thailand, India or Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan and Armenia), as well as projects supported by World Bank/IFC, Asian Development Bank or others.

**Recommendation 5: Monitoring & evaluation of GHG mitigation levels and project impacts to be reviewed**

- Although the activities are to a large extent not finished and real impact can hardly be measured it is moderately likely that the Project will by the end reach valuable results in terms of direct GHG emission reduction benefits.
- It is highly recommended that relevant criteria will be considered for a GHG monitoring for the remaining duration of the Project and should thus be integrated into the overall monitoring activities under outcome 3. So far, the PMU is doing well in monitoring the direct GHG impact of demonstration buildings that are receiving technical assistance through the Project; a weak point remains the monitoring of indirect GHG emission reductions, since required data (either from national energy statistics or specific building statistics, e.g. level of building construction, refurbishments, building energy consumption, etc.) is hardly available and requires high efforts for collection.
- Finally, a "Lessons-learned report" shall be developed towards EOP summarizing the achievements and challenges the Project has overcome in regard to EE in buildings in Viet Nam, and outstanding support that is required for policies (enforcement), technologies and information sources to be replicated in the area of EE in buildings in future (follow-up projects).

## 2 Introduction

### 2.1 Context and purpose of the evaluation

This Mid-Term Review (MTR) has been conducted on a request of UNDP CO in Viet Nam; it is a key element of standard project monitoring and evaluation procedure within the GEF Project Cycle.

UNDP acts as the GEF Agency for this Project. The Project is implemented by the Ministry of Construction (MOC) of Viet Nam, with the Department of Science, Technology and Environment (under MOC) acting as the implementing entity.

Mr Andreas Karner, energy consultant from Austria, and Ms Dang Ngoc Dung, local expert from Viet Nam, have been contracted to carry out the Evaluation.

The MTR assesses progress towards the achievement of the Project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the Project on-track to achieve its intended results. The MTR also reviews the Project's strategy, and its risks to sustainability.

The MTR is targeting to assess and review

- the overall **project strategy** in terms of appropriateness of project design, its objectives, planned outputs, activities and inputs compared to other cost-effective alternatives,
- the **implementation** of the Project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out as well as overall management and stakeholder involvement
- the **project outputs, outcomes and impact** and how the objectives of the Project contribute to the realization.

### 2.2 Evaluation Methodology

The Monitoring and Evaluation (M&E) policy at the project level in UNDP-GEF has generally four objectives:

- to monitor and evaluate results and impacts;
- to provide a basis for decision making on necessary amendments and improvements;
- to promote accountability for resource use; and
- to document, provide feedback on, and disseminate lessons learned.

The methodology used for the Project mid-term review is based on the **UNDP-GEF Monitoring & Evaluation Policies** and includes following key parts:

- I. Project documents review prior to the evaluation mission
- II. Evaluation mission and on-site visit conducted in February 2019, interviews with project management unit (PMU), UNDP CO, project partners and stakeholders, as well as with independent experts. Discussion with project management on key issues to be addressed and implemented until the end of the project period, and presentation of the preliminary findings and recommendations to Project Stakeholders and UNDP CO.
- III. Drafting the MTR report and ad-hoc clarification of collected information/collection of additional information
- IV. Circulation of the draft MTR report for comments
- V. Finalizing the report, incorporation of comments

## 2.3 Structure of the MTR report

This mid-term review follows in general the structure and content as specified in its Terms of Reference (see 6.1 Annex 1) and according to UNDP “Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects” (2014). After the description of the project background and context, including the immediate and development objectives, project strategy and implementation approach (Chapter 3), Chapter 4 provides the detailed findings of the MTR. Final conclusions and recommendations are presented in Chapter 5.

## 2.4 Assessment of Project Findings

In line with the evaluation methodology presented above and the Evaluation Framework presented in Annex 2, the MTR consultant has assessed the following four categories of project findings.

### I. Project Strategy

#### **Project design:**

The MTR Consultant has undertaken an analysis of the design of the project as outlined in the Project Document in order to identify whether the strategy has proved to be effective in reaching the desired results; in case where not, the MTR is proposing changes needed to get the project back on track.

#### **Results Framework/Logframe:**

The MTR Consultant has undertaken a critical analysis of the project’s logframe, in order to assess how “SMART” the midterm and end-of-project targets are (Specific, Measurable, Achievable, Relevant, Time-bound), and suggests specific amendments/revisions to the indicators or targets, as necessary.

Furthermore, it has been examined, if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. improved governance etc...) that should be included in the project results framework and monitored on an annual basis.

### II. Progress towards Results

The MTR Consultant has assessed the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*. A colour code is being used to evaluate the progress in a “traffic light system” based on the level of progress achieved; finally, a rating on progress for each outcome has been assigned, and recommendations regarding the areas marked as “Not on target to be achieved” (red) provided.

### III. Project Implementation and Adaptive Management

The MTR team has reviewed the project implementation and adaptive management of the project, identified challenges and proposed additional measures to support more efficient and effective implementation. The following aspects of project implementation and adaptive management have been assessed:

- project management arrangements,
- work planning,
- finance and co-finance,
- project-level monitoring and evaluation systems,
- stakeholder engagement,
- reporting, and
- communications.

A rating of achievements of project objectives in terms of the criteria above is being provided using a six-level scale as follows:

- Highly satisfactory (HS) - the project has no shortcomings
- Satisfactory (S) - minor shortcomings
- Moderately satisfactory (MS) - moderate shortcomings



- Moderately unsatisfactory (MU) - significant shortcomings
- Unsatisfactory (U) - major shortcomings
- Highly unsatisfactory (HU) - severe shortcomings.

The selected rating and a description/explanation of that rating is included in the *MTR Ratings & Achievements Summary* table provided in the Executive Summary.

#### **IV. Sustainability**

The purpose of reviewing the sustainability of the Project during the Midterm Review is to set the stage for the Terminal Evaluation, during which sustainability will be rated by each of the four GEF categories of sustainability (financial, socio-economic, institutional framework and governance, and environmental). Sustainability is generally considered to be the likelihood of continued benefits after the Project ends. Consequently, the assessment of sustainability at the midterm considers the risks that are likely to affect the continuation of Project outcomes.

The MTR Consultant has validated whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date.

In addition, the MTR Consultant has approached the assessment of sustainability as a way to begin discussions with the Project Team to gear their thinking towards sustainability risk factors, as well as opportunities to build risk management into the project plan in a thorough manner at the midterm, if it is not there already.

Based on the assessment of the categories above, the MTR Consultant assigned **one overall Sustainability rating** from the 4-point scale:

- Likely (L),
- Moderately Likely (ML),
- Moderately Unlikely (MU), and
- Unlikely (U).

## **3 Project Description and Background Context**

### **3.1 Problems that the Project sought to address**

Viet Nam is struggling with challenges associated with rapid urbanization, modernization and growing energy demand, being the result of increased economic activities and demand for natural resources, exhaustion of fossil fuel energy, increase in emission of greenhouse gases, and environment pollution. With annual carbon dioxide emissions of 122 million tons, Viet Nam ranks 18th among developing countries<sup>1</sup>. According to the Viet Nam's Initial Biennial Updated Report to the UNFCCC, the energy sector is the largest in terms of Greenhouse Gas (GHG) emission, accounting for about 53% of the total GHG emissions. As more and more people move to urban areas in search of economic opportunities, the number of buildings needed to house them and energy consumption in the building sector continues to rise. At current trends, Viet Nam's GHG emissions could triple by 2030 unless significant mitigation options are undertaken. That poses a challenge to both the local and global environment since buildings are major consumers of energy and are responsible for 30 to 40 percent of all carbon dioxide emissions.

The Government of Viet Nam has realized the significance of energy consumption and GHG emissions coming from the building sector in the country, and to respond to this alarming trend, considerable efforts have been undertaken by responsible government agencies to enhance EE in the building sector. These include but are not limited to promulgation of a National Technical Code for Building Energy Efficiency (QCXDVN 09:2005) by the Ministry of Construction (MOC) in 2005 (the 2005 version superseded by the improved version - QCVN 09:2013/BXD - issued in late 2013 and QCVN 09:2017 from 2017), and implementation of the Viet Nam National

---

<sup>1</sup> Source: Project Document

Energy Efficiency Program (VNEEP) by Ministry of Industry and Trade (MOIT), in which identification and implementation of EE in designated buildings are one of the program's components.

The concept of energy efficiency in buildings is all in all very new in Viet Nam. It was only by the introduction of the new revised Building Code in 2013 that the building industry and other stakeholders started to be introduced to the concept of energy efficient buildings, how they can be designed and implemented.

While in other countries a Building Code on Energy Efficiency in Buildings is typically introduced after one or two decades of voluntary implementation of EE concepts in buildings, in Viet Nam, this uptake on EE in buildings must happen alongside the concurrent implementation of mandatory requirements on EE in new buildings. This explains why there is no full implementation of the mandatory requirements in Viet Nam. It takes time for the industry to adapt and implement new technologies and systems that reduce energy consumption in buildings. In particular, neither at the introduction of the Building Code in 2013 nor the updated version approved in 2017, there was no tradition nor experiences in the building industry on the concept of Energy Efficiency in Buildings.

Poor enforcement was basically the result of lack of capacity and sustainable supporting implementation mechanisms. It has been widely recognized by MOC, DOCs and other stakeholders in the building industry that additional support mechanisms have been unavailable at the stage of the project design and were thus required to ensure the effective implementation framework of a revised EEBC, together with the promotion of improved EE building design concepts that go beyond the EEBC requirements.

The EEBC Project has been developed in the light of the high level of government interest and commitment to providing improved living conditions for the population of Viet Nam on the one hand, and the interest in increasing the effectiveness of "Policies, regulations and fiscal tools for green economic development, including efficient use of natural resources" as expressed in Outcome 1.4.1 of the UNDAF 2016<sup>2</sup> otherwise.

The Project's goal is to improve the energy performance of commercial and high-rise residential buildings in Viet Nam and reduce the GHG intensity of buildings in the medium to long-term. It has been designed to address climate change risks on EE buildings through promotion of EEBC which will improve the building thermal performance against the climate impacts. In updating the EE building code, greater attention will be paid to expected climate change impacts, particularly higher temperatures. Measures such as advanced insulation techniques and passive solar design can reduce the expected increase in air conditioning loads, but they also impact the social costs for energy expenditures as well as the living comfort.

However, as buildings being constructed and refurbished in a baseline case are designed and built without any attention to energy efficiency, they are effectively "locking in" patterns of energy consumption. The Project is thus to overcome a set of given barriers: political and institutional and basic awareness and capacity related barriers directed towards enhancing energy efficiency in high-rise buildings. Improvements in building energy performance will only come slowly in pace with partial enforcement of the revised EEBC and phasing out of obsolete technologies, rather than being at the forefront of technology development. This is largely a consequence of the fact that without awareness/knowledge of the cost implications of design and construction of low EE buildings, without access to attractive and reliable financing to build better, without effective implementation of the revised EEBC, and without supportive networks of information, incentives and expertise, there is little pressure on the market to move faster than a least-building-construction-cost philosophy would demand. Therefore, raising awareness among building occupants is important, as building users generally respond to a warmer climate by choosing options that increase cooling energy consumption rather than other means, such as insulation, shading or ventilation, which consume less energy.

### 3.2 Immediate and Development Objectives of the Project

The UNDP-GEF Project addresses the institutionalization of energy efficiency in buildings through improved building codes, construction materials certification, training, and demonstration. greenhouse gas emissions in the building sector in Viet Nam by facilitating the improvement and enforcement of the energy efficiency building code (EEBC) and reducing energy consumption.

---

<sup>2</sup> Source: One Plan 2012-2016 between The Government of the Socialist Republic of Viet Nam and The United Nations in Viet Nam

The “Energy Efficiency Improvement in Commercial and High-Rise Residential Building in Viet Nam” Project has the goal to reduce intensity of GHG emissions from the building sector in Viet Nam. The Project objective is to improve the energy utilization performance of commercial and high-rise residential buildings in Ho Chi Minh and Hanoi. The primary target buildings are those with gross floor areas exceeding 2,500 m<sup>2</sup>, including government and private sector offices, hotels, hospitals, shopping centres, educational institutes, condominiums and service apartments.

The realization of this objective will be facilitated in the long term through the removal of barriers to the stringent enforcement of the revised EEBC, and to the greater uptake of building energy efficiency technologies, systems, and practices.

The baseline efforts to promote EE in the building sector in Viet Nam have delivered limited impacts so far due to unconnected strategies and unsynchronized efforts of state management and local enforcement authorities.

The realization of this objective will be achieved through implementation of three components:

- **Component 1:** Improvement and Enforcement of Energy Efficiency Building Code (EEBC)
- **Component 2:** Building Market Development Support Initiatives, and
- **Component 3:** Building energy efficient Technology Applications and Replications.

Each component comprises a number of complementary activities designed to remove barriers to the stringent enforcement of the revised EEBC, and to the greater uptake of building energy efficiency technologies, systems, and practices in commercial and residential buildings.

The abovementioned components will address the Project’s main barriers – the expected outcomes of the three components are the following:

- Enforced, improved and comprehensive policy, legal, and regulatory frameworks on the energy efficient design, construction and operation of commercial and high-rise residential buildings;
- Strengthened compliance of the energy efficiency building code for commercial and high-rise residential buildings in Hanoi and HCMC;
- Increased local capacity in the EE design, construction, and operation of commercial and high-rise residential buildings;
- Increased use of EE building materials and application of EE building technologies in Hanoi and HCMC.

Without the Project being implemented, it is very likely that neither new construction nor refurbishment projects would consider the energy performance of the buildings involved. Conservative estimates place the potential for savings in new buildings at a minimum of 10% and in reconstructed buildings at a minimum of 50%. The main source of energy in buildings is electricity and its use within the service sector (mainly commercial, hotels and restaurants) and residential sector has been reported by national utility EVN at about 41,500 GWh in 2010. The energy consumption of the building sector in Hanoi and HCMC based on analysis of building stock and SEC was estimated at about 1,290 GWh in 2016, and this is forecast to increase to 1,874 GWh by end of the project in 2019. The CO<sub>2</sub> emissions from the building sector in Hanoi and HCMC due to electricity consumption have been estimated to about 795 ktons in 2016 and 1,155 ktons by end-of-project.

The three components therefore involve various planned outputs and activities, all designed to remove the barriers enumerated above. Table 1 shows how the project outputs in the design of the project were to address the major barriers.

**Table 1: Key Planned Outputs and Barriers Addressed by the Proposed UNDP/GEF Project (at CEO Endorsement stage)**

Output	Barriers addressed					
	Policy / regulatory	Technical	Information / knowledge	Institutional	Financial	Market
1.1.1 Improved and enforced implementing policy framework and regulations on EE in buildings, including revised/improved EE Building Code (EEBC),	X	X		X		X
1.1.2 Established and operational EE certification scheme for buildings	X	X	X	X		X
1.2.1 Approved guidelines that support EE building initiatives and market	X	X	X			X
1.2.2 Established and implemented building measurement & verification (M&V) scheme		X	X	X		X
1.2.3 Established and implemented building energy benchmarking system that is linked to the certification scheme		X	X			X
1.2.4 Completed energy consumption survey of selected commercial and high-rise residential buildings		X	X			X
2.1 Formulated, approved, funded and implemented financial mechanisms and incentives to support EE efforts in the buildings	X	X		X	X	X
2.2 Fully operational Centres for Energy Efficiency in Buildings (CEEBs)		X	X	X		X
2.3 Trained CEEB staff to implement awareness and training programs to promote EE in the building sector	X	X	X	X		X
2.4 Operational support program for ESCOs	X			X	X	X
3.1 Developed Five-year EE&C plans for 16 selected commercial and high-rise residential buildings		X				X
3.2 Completed demonstration projects with building design based on EEBC		X	X	X	X	X
3.3 Documented and disseminated results and lessons from the demonstrations			X			X

### 3.3 Project Description and Strategy

As an overall objective, the Project was designed to remove barriers concerning a lack of knowledge and enforcement capacity in applying energy efficiency design and construction elements in the building sector in Viet Nam, by means of technical assistance, development of technical standards and working tools for practitioners and public authorities approving the designs, training and capacity building, facilitation of incentive programs, and accompanying the design and implementation of demonstration projects.

The **global environmental benefits** targeted at the end of the project lifetime were defined as follows:

- Direct energy savings of 383,531 MWh per year, from which 70,848 MWh/a from demonstration projects, 299,912 MWh/a from building codes components and 12,771 MWh/a from financial components

- Direct GHG emission savings of 236,382 tCO<sub>2e</sub> per year, from which 43,666 tCO<sub>2e</sub>/a from demonstration projects, 184,845 tCO<sub>2e</sub>/a from building codes components and 7,871 tCO<sub>2e</sub>/a from financial components
- Indirect bottom-up GHG emission savings of 123,069 tCO<sub>2e</sub>/a and 246,353 tCO<sub>2e</sub>/a indirect top-down emission savings

The Project Document specified expected project results – project outputs for each project component that relate to the immediate objectives.

**Immediate objective – outcome 1.1:**

**Enforced, improved and comprehensive policy, legal, and regulatory frameworks on the energy efficient design, construction and operation of commercial and high-rise residential buildings**

- **Output 1.1.1: Improved and enforced implementing policy framework and regulations on EE in buildings, including revised/improved EE Building Code (EEBC), with a full EEBC compliance guide.** The activities to deliver this output will collectively improve the enforcement of the revised Building Code of 2017 EEBC through promotion of comprehensive implementation guidelines that will better fit knowledge and skills of key stakeholders, such as, regulators, building project developers, building designers, to support administration and implementation of the revised EEBC. Adoption and utilization of the compliance guidelines and toolkits among different user groups will be assured through implementation of advocacy and promotional programs.
- **Output 1.1.2: Established and operational EE certification scheme for buildings.** This output will facilitate the development and implementation of an EE certification approach/methodology for buildings and a subsequent building certification/labelling scheme. The EE certification approach/methodology will also strengthen the EE certification component in larger building certification schemes/programs in Viet Nam, e.g. the LOTUS certification promoted by the Viet Nam Green Building Council (VGBC) and the EDGE certification scheme developed by WB/IFC.

**Immediate objective – outcome 1.2:**

**Strengthened compliance of the energy efficiency building code for commercial and high-rise residential buildings in Hanoi and HCMC**

- **Output 1.2.1 Approved guidelines that support EE building initiatives and market.** This output will produce “beyond-code” guidelines that will enhance adoption of EE technologies and practices among building practitioners in Viet Nam to move beyond the EEBC requirements and to achieve a higher level of EE in building designs and operations. Activities will also include implementation of direct education and awareness raising campaigns targeting at building practitioners, and EE technology suppliers.
- **Output 1.2.2 Established and implemented building measurement & verification (M&V) scheme.** This output will enable credible Measurement and Verification (M&V) of energy savings as results of EE implementations in commercial and high-rise residential buildings to become available.
- **Output 1.2.3 Established and implemented building energy benchmarking system that is linked to the certification scheme.** A building energy benchmarking system will be created to enable market competition for EE building investments. This output will also involve the implementation of GEF incremental activities launched through the Viet Nam Clean Energy Program which includes formulation of building energy performance database as well as development of energy efficiency benchmark for types of typical buildings in different climate zones.
- **Output 1.2.4 Completed energy consumption survey of selected commercial and high-rise residential buildings.** A comprehensive set of data on energy consumptions, operations and usages will be developed, identified and compiled through energy consumption data of commercial and high-rise residential buildings that will serve as good representations of the building sector in Viet Nam. The findings will serve as the foundations for establishments of the building energy benchmarking systems (Output 1.2.3) and the building certification systems (Output 1.1.2).

**Immediate objective – outcome 2:**

**Increased local capacity in the EE design, construction, and operation of commercial and high-rise residential buildings**

- **Output 2.1 Formulated, approved, funded and implemented financial mechanisms and incentives to support EE efforts in the buildings sector and cost norms for construction.** This output is a set of

formulated, approved and implemented financial mechanisms and incentives to support EE efforts in the building sector. It will develop and approve innovative financing mechanisms for EE buildings, develop and promote an economic evaluation toolkit and formulate a detailed implementation and operationalization plan seeking approval in regard to the financial mechanism.

- **Output 2.2 Trained a group of Energy Assessors to facilitate the EEBC process and serve as training experts for the building industry.** This output will ensure sound and sustainable operation of the Energy Assessors group under MOC through upgrading of organizational frameworks and operational plans, and generating of revenues through provision of technical support services on EE buildings to prospective clients in Viet Nam. The delivery of this Output will be achieved through selection, training, capacity building for and continued support to energy assessors, and design and implementation of a capacity building program for ESCOs.
- **Output 2.3 Trained Energy Assessors Group to implement awareness and training programs to promote EE in the building sector.** This output will ensure sound technical and financial knowledge of Energy Assessors which are critical to the success of project design, development and implementation of building EE projects.
- **Output 2.4 Operational support program for ESCOs in the negotiation and implementation of building energy performance contracts.** Capacity building will be a major component of the support program, and design and implementation of capacity building activities will follow the approach and structure proposed for Output 2.3, but they will be tailored to suit the ESCOs' requirements. The operational support program will comprise two (2) key components: capacity building and communication and outreach.

#### Immediate objective – outcome 3:

##### **Increased use of EE building materials and application of EE building technologies in Hanoi and HCMC**

- **Output 3.1 Developed Five-year EE&C plans for the selected commercial and high-rise residential buildings.** This output is a set of five-year EE&C (energy efficiency and conservation) plans that respond to current situation in each demonstration site. EE&C recommended in the plan will take into account various considerations including magnitude of savings, return on investment, and resources required. Activities will comprise of energy audits conducted in selected demonstration buildings and development of the five-year EE&C plans.
- **Output 3.2 Trained a group of Energy Assessors to facilitate the EEBC process and serve as training experts for the building industry.** The output will focus on completed demonstrations of successful implementation of EE&C measures to comply with the EEBC requirements in new and retrofitted buildings, and also demonstrate feasibility of applying EE&C measures to go beyond the code requirements. Implementation and operation of demonstration projects will lead to improvement of the level of knowledge, skills and competency of personnel attached to the demonstration buildings through direct involvement. The Project will support the final design of the EE&C implementations in demonstration sites and procurement of EE equipment and systems.
- **Output 3.3 Documented and disseminated results and lessons from the demonstrations of implementing EEBC and EE&C in new and existing buildings.** This output will improve the level of awareness and knowledge of local building practitioners both in the government and private sectors from visible real-life demonstrations of the principles and technologies advocated to make buildings more energy efficient. Activities will comprise of documentation of results and lessons learnt from the demonstration projects and dissemination of successful case studies.

### 3.4 Project Implementation Arrangements

The Project is executed under **National Implementation Modality (NIM)** as per the NIM project management implementation guidelines agreed by UNDP and the Government of Viet Nam. **UNDP is the GEF Implementing Agency (IA)** for the Project. UNDP provides overall management and guidance from its Country Office in Hanoi and the Bangkok Regional Hub (BRH) in Bangkok, and will be responsible for monitoring and evaluation of the Project as per normal GEF and UNDP requirements.

**Project Steering Committee (PSC)** has been established and consists of a Chairperson (MOC Vice Minister) and with PSC members from MOIT, MOF, MOST, UNDP Viet Nam. The primary functions of the PSC are to provide the

strategic and necessary direction for the Project to function and achieve its policy and technical objectives. The project reports are to be submitted to PSC by PMU annually. PSC meeting is undertaken once a year.

The **Project Implementing Partner (IP) is MOC**. MOC has designated a senior official of the Department of Science, Technology and Environment (DOSTE) as the National Project Director (NPD) and has set up the Project Management Unit for the Project. DOSTE as an IP is responsible for approving AWP and procurement activities.

The **Project Management Unit (PMU)** reports to the Director General of DOSTE under MOC. The PMU is in charge of overall project administration and coordination with project sites and relevant organizations, under the overall guidance of the PSC. The PMU is responsible to MOC, the PSC and UNDP for implementing the Project, planning activities and budgets, recruiting specialists, conducting training workshops and other activities to ensure the Project is executed as per approved work plans.

The NPD is responsible for overall guidance to project management, including adherence to the Annual Work Plan (AWP) and achievement of planned results as outlined in the ProDoc, and for the use of GEF funds through effective management and well established project review and oversight mechanisms. The NPD also ensures coordination with various ministries and agencies provide guidance to the project team to coordinate with UNDP, review reports and look after administrative arrangements as required by the Government of Viet Nam and UNDP.

As a GEF implementing agency, UNDP also has a role of project assurance. This role is exercised by the UNDP Programme Officer responsible for the Project, based in the UNDP Country Office (CO).

The PMU implements mechanisms to ensure ongoing stakeholder participation and effectiveness with the commencement of the Project by conducting regular stakeholder meetings, issuing a regular project electronic newsletter, conducting feedback surveys, implementing strong project management practices, and having close involvement with UNDP Viet Nam as the GEF implementing agency.

### 3.5 Project Timing and Milestones

*Table 2: Project events and milestones*

Project event/milestone	Responsible Parties	Timing
PIF	<ul style="list-style-type: none"> <li>UNDP CO, UNDP GEF</li> </ul>	12 September 2013
Endorsement date	<ul style="list-style-type: none"> <li>UNDP CO, UNDP GEF</li> </ul>	14 July 2015
Start date	<ul style="list-style-type: none"> <li>Project Manager, UNDP CO, UNDP GEF</li> </ul>	April 2016
End date	<ul style="list-style-type: none"> <li>Project Manager, UNDP CO, UNDP GEF</li> </ul>	April 2020
Inception Workshop and Report	<ul style="list-style-type: none"> <li>Project Manager, UNDP CO, UNDP GEF</li> </ul>	26 August 2016
Mid-term Evaluation	<ul style="list-style-type: none"> <li>Project manager and team</li> <li>UNDP CO</li> <li>UNDP RCU</li> <li>External Consultants (i.e. evaluation team)</li> </ul>	December 2018 – August 2019
Final Evaluation	<ul style="list-style-type: none"> <li>Project manager and team,</li> <li>UNDP CO</li> <li>UNDP RCU</li> <li>External Consultants (i.e. evaluation team)</li> </ul>	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> <li>Project manager and team</li> <li>UNDP CO</li> <li>local consultant</li> </ul>	At least three months before the end of the project

### 3.6 Key partners and stakeholders

Project key partners and the stakeholders include:

- Ministry of Construction (MOC)
- Ministry of Industry and Trade (MOIT)
- Ministry of Finance (MOF)
- Ministry of Science and Technology (MOST)
- Provincial and District Departments of Construction
- Center for Energy Efficiency in Buildings (CEEBs)
- Energy Conservation Centers (ECCs) in Hanoi and Ho Chi Minh
- Academia (Hanoi University of Architecture, HCMC University of Architecture, National University of Civil Engineering)
- Building Developers (Viet Nam National Construction Consultants Corp., CONINCO., JSC, Housing and Urban Development Corporation)
- Building Practitioners (Designers, Design Consultants, Building Sector Consultants, Contractors, Operators)
- Viet Nam Association of Civil Engineering Environment (VACEE), Viet Nam Association of Architects (VAA) and Viet Nam Green Building Council (VGBC)
- Other stakeholders such as building owners, energy managers, groups of building technical managers (e.g. hotel chief engineers) tenants and house/apartment buyers who directly pay for the energy consumed.

## 4 Findings

### 4.1 Project Strategy

#### 4.1.1 Project Design

##### ***Lessons from other relevant projects incorporated into project design***

During inception phase, the project has reviewed and considered various ongoing activities that directly and indirectly enhance EE in the building sector in Viet Nam such as the “Promotion of Energy Efficiency in Vietnam Building Sector Project” (2013-2017) initiated by MOC; the “Low Carbon Transition in Energy Efficiency Sector Project” (2014-2016); Viet Nam Clean Energy Program (VCEP, 2014-2018) implemented by the MOC aims to assist in the implementation of the National Green Growth Strategy; the project on “Strengthening Capacity and Institutional Reform for Green Growth and Sustainable Development in Viet Nam” (CIGG, 2015-2018) implemented by the Ministry of Planning and Investment (MPI) in collaboration with UNDP Viet Nam; Capacity Building for Implementation of National Climate Change Strategy Project (CBICS, 2014 – 2017) implemented by MONRE & MARD with technical and financial support from UNDP Viet Nam.

The Project also conducted an in-depth review and analysis of the actual barriers on implementation of EEBC and EE in the Building Sector in Viet Nam. The analysis focused on the policy/regulatory, technical, information and knowledge, institutional and market barriers. The policy/regulatory barrier emphasized on the (i) lack of capacity to develop comprehensive supporting mechanisms and tools for EEBC compliance, and (ii) lack of resources for upgrading EEBC requirements. The technical barrier analysed the (i) lack of technical capacity in energy efficient building design, (ii) lack of credible information on energy efficient building products and equipment, (iii) lack of tools and guidelines for technical assessment and evaluation, and (iv) lack of competent energy service companies (ESCOs) to support EE investments in the building sector. With the information and knowledge barrier, Viet Nam suffered from the beginning from a (i) lack of knowledge about the revised EEBC, (ii) lack of awareness of energy efficiency opportunities, (iii) lack of easy access to information on commercial building EE, and (iv) lack of successful demonstrations on cost-effective, and (v) new and innovative building EE concepts. The institutional barrier consisted of (i) lack of institutional arrangements to support capacity building and dissemination of information on EE Buildings, (ii) financial barrier, (iii) absence of effective financing models for building EE investments; the market barrier analysed on (i) lack of market incentives for development of EE Buildings since



tenants do demand buildings to be energy efficient, (ii) unattractive economic benefits of EE investments for electricity end-users due to subsidized electricity tariffs.

Based on the analysis of barriers on implementation of EEBC and EE in the Building Sector in Viet Nam, the inception report provided the two scenarios of baseline and alternative: (i) baseline scenario without the EEBC project intervention and MOC carries on as usual and the (ii) alternative scenario with the EEBC Project intervention to see the value added.

Analysis of barriers on implementation of EEBC and EE in the Building Sector in Viet Nam is appropriate with reality of EE in the Building Sector in Viet Nam and the alternative scenario for project intervention is appropriate for Viet Nam. However, the Project Document was from the very beginning very (over) ambitious – since it covered too many outcomes/outputs which seem not feasible to be implemented within the Project duration. See more details in section 4.1.2.

**Extent to which Project addresses country priorities and is country-driven.**

**Project is in line with country priorities and national sector development priorities:** The National Green Growth Strategy for the period of 2011-2020 and Vision to 2050 approved by Prime Minister on 25/09/2012 through the Decision No. 1393/QĐ-TTg having the general objective “Green growth, moving towards a low-carbon economy, enriching natural resources becomes a mainstream trend in sustainable economic development; reducing emissions and increasing the ability to absorb greenhouse gases gradually become mandatory and important indicators in socio-economic development”. The strategic mandate is “Reducing the intensity of greenhouse gas emissions and promoting the use of clean energy and renewable energy according to the following key criteria: during the period 2011 – 2020, reducing the intensity of greenhouse gas emissions 8-10% compared to 2010, reducing energy consumption per GDP by 1 - 1.5% per year. Reducing greenhouse gas emissions in energy activities from 10% to 20% compared to the normal development plan. In which voluntary level is about 10%, the remaining 10% is strives level when there is more international support”. The Strategy also specifies promulgation of compulsory application of green building measures in new and retrofitted buildings and green material technology in construction as solutions to achieve Green Growth and low carbon economy. The EEBC Project’s goal is to reduce intensity of GHG emissions from the building sector in Viet Nam. The project objective is to improve the energy utilization performance of commercial and high-rise residential buildings in Ho Chi Minh and Hanoi. Specifically, the proposed project is supposed to reduce carbon emissions by an estimated 20 ktons of CO<sub>2</sub> per year by end of the project (cumulative total of about 37.7 ktons of CO<sub>2</sub> up to end of project). Ten years after the project end, CO<sub>2</sub> emissions are forecast to be about 6% lower in annual emissions that in the absence of the Project. Therefore, the EEBC Project is absolutely relevant to the Strategy.

The National Targeted Programme to Respond to Climate Change in 2008, which outlines nine targets for 2009-2015, including the formulation and implementation of GHG mitigation options. The main objective of the NTP on Climate Change is to determine sectoral and regional impacts for each time period, so as to develop feasible action plans to effectively respond to climate change, in the short and long term, in order to achieve sustainable development. The Targeted Program to Respond to Climate Change and Green Growth for 2016-2020 accordance to Decision No. 1670/QĐ-TTg issued by Prime Minister dated 31/10/2017 deploys the plan to implement and achieve the Goal of National Green Growth Strategy “Reduce greenhouse gas emissions towards the implementation of commitments to reduce greenhouse gas emissions after 2020” and specific objective “reducing the intensity of greenhouse gas emissions 8-10% compared to 2010, reducing energy consumption per GDP by 1 - 1.5% per year”. Therefore, as mentioned above the project is absolutely relevant to the Strategy and Targeted Program to Respond to Climate Change and Green Growth.

The Energy Efficiency and Conservation Law (EE&C Law) No. 50/2010/QH12 issued on 17/06/2010 was in force since 01/01/2011. The EE&C in the building sector is clearly regulated by the EE&C Law through Articles 15, 16, 17 and 18. Article 16 of the Law governs that “MOC in collaboration with MOIT and relevant line ministry issue the building energy benchmark system, building code on design, construction, materials in order to energy saving and efficiency”. Decree No. 21/2011/ND-CP, issued on 29/03/2011, stipulates roles and responsibilities of various Ministries involved in EE&C, as well as criteria and solutions of designated energy-using buildings. The EEBC Project is designed to make a significant contribution to “the improvement and enforcement of EE building code” (Project component 1), and Project output 1.2.3 is “established and implemented the building energy benchmark system”, it proves that the project is implementing the EE&C Law.

Decision No.811/QĐ-BXD issued by MOC dated 18/08/2016 on Action Plan in response to climate change of the building sector, period of 2016-2020; and Decision No.419/QĐ-BXD dated 11/05/2017 on Green Growth Action

Plan of the construction sector to 2020 and orientation to 2030 includes the contents and plans on energy saving and efficiency, and EECB Project is one of important projects of those plans.

**Relevance to UNDP Country Strategy and GEF objective**

The Project is also in accordance with UNDP Viet Nam Country Program Documents for period 2012-2016 and 2017-2021 and the UN One Plan III (2012-2016) and One Strategic Plan 2017-2021 under the “Inclusive, Equitable and Sustainable Growth” focus area, specifically Outcome 1.3 on the climate change adaptation, mitigation and disaster risk management.

The Project is aligned with the GEF Climate Change Objective 2: Promote Market Transformation for Energy Efficiency in Industry and the Building Sector. The Project has been designed to contribute to all key expected outcomes, i.e. appropriate policy, legal and regulatory frameworks adopted and enforced; sustainable financing and delivery mechanisms established and operational, and; GHG emissions avoided.

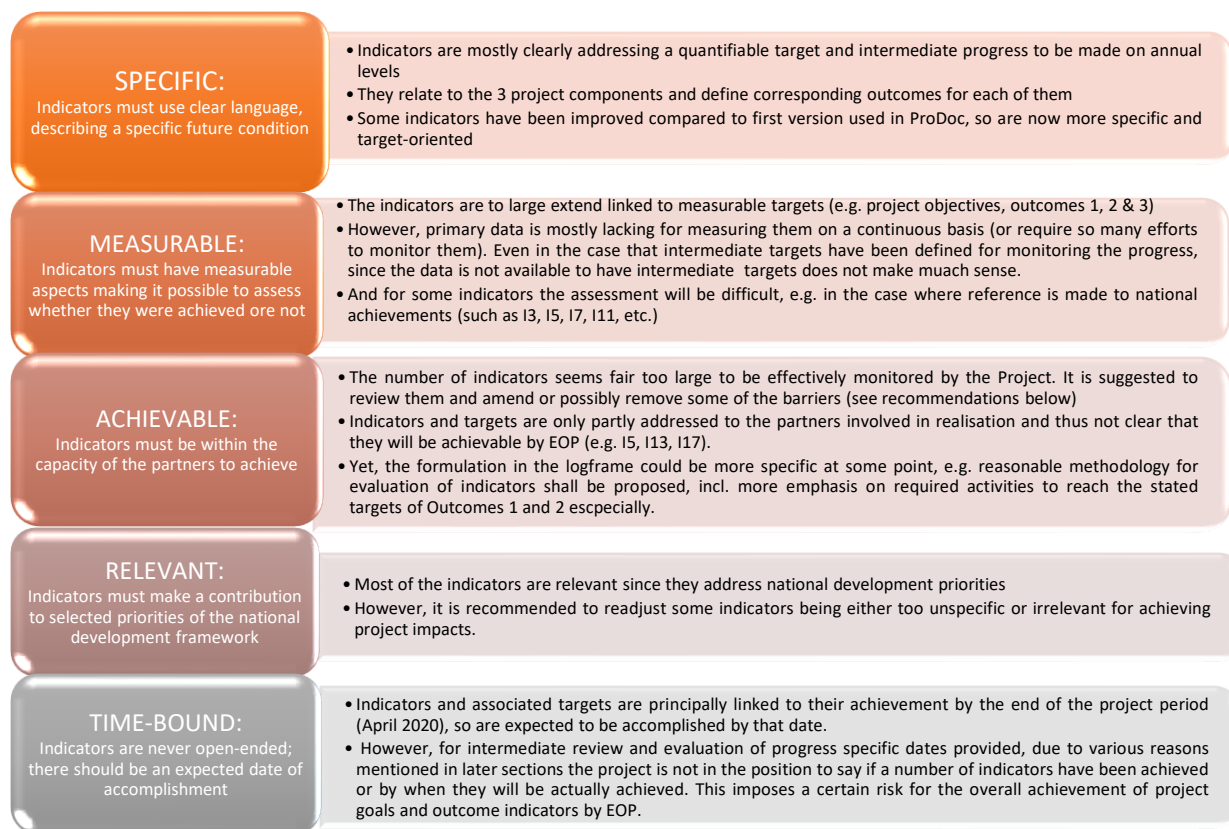
**4.1.2 Results Framework (Logframe)**

The GEF Project Results Framework (logframe) is a key basis for planning the detailed activities under the implementation framework that was defined in the Project Document. It is also used as a basis for reporting on the progress towards achievement of development objectives and implementation progress to GEF in the middle of the calendar year (end of GEF fiscal year) in a combined Annual Project Review (APR) and Project Implementation Report (PIR), together with the UNDP format for internal project management and reporting done on an annual basis (Standard Progress Reports).

The logframe in principle serves to monitor & evaluate the overall project achievements – based on defined targets and indicators to measure these targets. Indicative activities are related to each output and output target.

The following table provides an overview on the MTR assessment of the project’s logframe and how “SMART” the mid-term achievements are compared to the defined end-of-project targets (**S**pecific, **M**easurable, **A**chievable, **R**elevant, **T**ime-bound).

**Figure 1: Assessment of the project’s logframe in regard to “SMART” criteria**



During the project inception the logical framework has been reviewed and a few changes have been introduced mainly to the EOP target of some indicators (see details in Table 3 in chapter 4.2.1 below):

- **I5:** Baseline value has been increased from 4 to 20 whereas target value remained at 60 employments. Assumptions were changed to staff employed by CEEBs, demo projects and certified EE buildings and not in the overall building sector of Viet Nam.
- **I12:** Initial assumption in the ProDoc was 70%, corrected with the Inception Report to 25% of commercial and high-rise residential buildings referencing M&V schemes in EE implementation by EOP.
- **I19:** Number of demonstration projects were initially set to be 16. It was changed during inception to include 16 demonstration projects to be implemented by the EECB Project and 5 demonstration projects been implemented by IFC/WB and DEA. The PIF proposed 20 demonstration sites for the EECB Project, however the number of demonstration projects concluded during the project design phase was reduced to 16 projects and these have already offered a good mix of different types of commercial and high-rise residential buildings in Viet Nam as well as EE technologies and practices to be implemented. Co-financing committed by the 13 building owners selected at the MTR phase for the EECB project has already exceeded the initial amount of co-financing specified in the PIF. Fewer number of demonstration projects also offer a better focus for the project management team.

Although the logframe is based on 100% quantifiable targets, including annual targets that were defined within the ProDoc, at MTR stage it was hardly possible to evaluate the quantified progress of the outcomes defined (except objective indicators I1 and I2 as well as indicator I19) – basically, because energy volumes reduced as a result of policy support are hard to verify and/or because the data was not available so far. Annual progress reports (PIRs) referred to a data survey to be conducted in year 3 (actually 2019) – during the mission of the MTR team the data collection was still ongoing.

Consecutively, a continuous monitoring of (annual) target achievements is in fact not possible.

In addition to the lack of availability of data for progress monitoring the number of defined indicators seem to exceed the average number of indicators for a project of this size. There are several indicators that are hardly measurable without conducting large scale (nation-wide) assessment studies (see below), or some do not necessarily refer to specific outcomes stipulated by the project (e.g. I5).

For example:

- **I3:** % of new buildings that are fully compliant with the revised Energy Efficiency Building Code by EOP
- **I5:** No. of people gainfully employed in the building sector in Viet Nam by EOP
- **I11:** % of building practitioners nationwide that reference the EE design guideline to achieve a higher level of EE than the EECB requirements by EOP
- **I15:** % of stakeholders in the building sector that are satisfied with services provided by CEEBs by EOP

It is therefore suggested to amend the list of project indicators stipulated in the logframe accordingly by reformulating some indicators while possibly omitting others to reduce the overall number.

An initial recommendation for adjustment has been already discussed among the PMU, especially with the M&E expert, and is further recommended by the MTR team for adaptation as follows:

No	Original indicator (as in ProDoc)	Recommended adjustment by M&E Expert	Further recommendation at MTR stage	Reasons
I5	No. of people gainfully employed in the building sector in Viet Nam	<b>No. of people working in EE field</b> of building sector in Viet Nam	Specifying the number of people only employed by demo buildings or otherwise involved by EECB	The original indicator is too general and does not reflect the impact of EECB Project. Narrow it down to how many people have been trained by the EECB Project, qualified technical staff involved in the demonstration projects
I9	No. of national testing standards for energy performance of building	<b>No. of national standards for energy performance promulgated</b>	No further recommendation	EECB Project only develops national standards that will be referenced in national technical standards.

No	Original indicator (as in ProDoc)	Recommended adjustment by M&E Expert	Further recommendation at MTR stage	Reasons
	construction materials promulgated			
I10	No. of existing and new commercial buildings and high-rise residential buildings in Viet Nam certified as EE buildings	No. of existing and new commercial buildings and high-rise residential buildings in Viet Nam <b>certified as EE buildings under the pilot certification of EECB Project</b>	No further recommendation	There has not been any regulation on EE buildings or their certification. EECB Project will pilot such certification.
I14	No. of financial mechanisms and incentives for commercial and high-rise residential buildings approved and implemented	<b>No. of supporting mechanisms</b> for commercial and high-rise residential buildings proposed by EECB Project	Support mechanisms shall be referring to financial (grants, tax incentives, reduced levies, etc.) and non-financial incentives	EECB Project only drafts support mechanisms for commercial and high-rise residential buildings – and is not going to develop a financing mechanism
I16	% of CEEB trainees that are engaged in EE building designs, implementation and M&V by EOP	<b>I16.1 % of trainees (building project developers, design &amp; appraisal experts, appraisal officers of DOCs) that are trained on EE building designs and construction by EOP</b> <b>I16.2 % of trainees (relevant officers of DOCs, energy auditors, building operation managers) that are trained on building operation and M&amp;V by EOP</b>	No further recommendation	The indicator has been extended and separated into two sub-indicators. The focus on CEEBs has been removed since the project does not focus on trainings of CEEBs only but building experts (design, construction, M&V) in general.

**The following indicators are suggested to be omitted:**

No	Original indicator (as in ProDoc)	Reasons
I13	% of overall commercial and high-rise residential building stakeholders that are satisfied with availability and quality of energy benchmarking data by Year 4	The target indicator seems to be not very relevant. Checking the availability and quality of this energy benchmarking data from the participants of meetings and workshops does not impact the project outcomes. Suggested to be removed from outcome 1.2
I15	% of stakeholders in the building sector that are satisfied with services provided by CEEBs by EOP	The target indicator seems also to be not relevant. Measuring the satisfaction level of stakeholders is not very objective and does not impact the project results. For the sake of monitoring efforts recommended to be removed from outcome 2.
I17	No. of commercial and high-rise residential buildings that implement EE projects using the ESCO models by EOP	The ESCO approach requires institutional and legal conditions which are not in place in Viet Nam yet, and moreover focuses as a financial instrument on the rehabilitation of buildings only. Within this scope, it is rather a project for its own, and since this EECB Project focuses on new EE building code and its enforcement (in fact relevant mainly for new buildings) the activity would require too many project resources to achieve visible results. To not jeopardize overall project results/impacts its recommended to remove the associated outputs/activities under outcome 2.

No	Original indicator (as in ProDoc)	Reasons
I18	% of new and retrofitted commercial and high-rise residential buildings that are partly or entirely based on EE building materials and applications being promoted and demonstrated by EOP	Data is supposed to be collected through surveying 16 demonstration buildings and 50 retrofit buildings of VCEP <sup>3</sup> . However, the indicator is not very specific (...buildings that are partly or entirely....) and value added of this information is not clear. More specific is the M&E of achieved savings, which is already reflected in I1 and I2. Recommended for removal due to repetition.
I21	No. of new EE building projects designed based on or influenced by, the results of the demonstration projects, by EOP	The indicator refers to replication of demo project results. It is doubtful that they will be available before the EOP, therefore replication will be realistically achievable only after EOP. It is suggested to remove the indicator from outcome 3.

## 4.2 Progress Towards Results

### 4.2.1 Progress Towards Outcomes Analysis

The MTR expert has rated the project’s progress towards its objective and each outcome. The assessment of progress is based on data provided in the PIRs, supplemented by data provided in the GEF TTs, the findings of the MTR mission, and interviews with the project stakeholders.

Table 3 below summarizes the progress towards the **end-of-project (EOP) targets** for the project objective and each outcome. Footnotes refer to initial assumptions made in the ProDoc.

**Indicator Assessment Key used for the evaluation at mid-term stage:**

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
-----------------	----------------------------------	-----------------------------------

<sup>3</sup> VCEP: [Viet Nam Clean Energy Program](#), an initiative managed by USAID and supporting Energy Efficiency Promotion in the Building Sector of Viet Nam

Table 3: Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicator	Baseline	Level in PIR 2018 (self-reported)	EOP Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
<b>GOAL: Reduced intensity of GHG emissions from the building sector</b>	<b>I1:</b> Cumulative CO <sub>2</sub> emission reduction from the building sector by End-Of-Project (EOP, Year 2020), tCO <sub>2e</sub> per year	1,568 <sup>4</sup>	N/A	37,680 <sup>5</sup>	11,207 t/a by EOP	S	Substantial progress on pilot activities is expected to result of savings target for demo component to be achieved at the end of the Project. So far, 4 new demo projects and 4 existing buildings have received TA by project. Estimated GHG savings are 11,207 t/a from demo activities (initial target: 8,473 t/a), which is highly satisfactory. However, GHG emission cuts from building code and financial components are not yet accountable (no monitoring results available so far), which takes time to materialize.
<b>OBJECTIVE: Improved energy utilization performance of commercial and high-rise residential buildings in Ho Chi Minh and Hanoi</b>	<b>I2:</b> Cumulative energy savings from the commercial building by EOP (Year 2019), MWh/a	2,528	9,626	61,137	13,769 MWh/a by EOP	MS	Analogous to the GHG emission cuts, substantial progress on pilot activities is expected to result in energy savings target to be achieved by EOP.
	<b>I3:</b> % of new buildings that are fully compliant with the revised Energy Efficiency Building Code by EOP	20 <sup>6</sup>	N/A	50	Assessment of the indicator is ongoing at MTR stage		Difficulty to assess this indicator (see chapter 4.1.2 to amend the indicator target) due to practically unavailable primary data (lack of national statistics). Implementation is facing significant issues if not .
	<b>I4:</b> % of existing commercial and high-rise residential buildings that adopt EE technologies and practices and achieve at least 10% electricity savings by EOP	Less than 5%	N/A	20% <sup>7</sup>	Assessment of the indicator is ongoing at MTR stage; achievement of 20% target requires effective dissemination towards developers		Adoption of EE technologies/practices is a very general indicator. Achievement of 20% target is questionable, the > 10% electricity savings seem achievable (average of demo retrofits is about 14%)
	<b>I5:</b> No. of people gainfully employed in the building sector in Viet Nam by EOP	20 <sup>8</sup>	N/A	60	Work in progress		The original indicator is too general and does not reflect the impact of EECB Project. Based on the footnote remark, considering no. of employments in pilots seems achievable.

<sup>4</sup> Cumulative CO<sub>2</sub> emission reduction in the baseline scenario is a result of 0.5% annual reduction in baseline energy consumption due to adoption of EE technologies and EE investments in commercial and high-rise residential buildings in Viet Nam in absence of GEF intervention. The calculation is based on the guideline and Excel spreadsheet tool published by GEF in March 2013.

<sup>5</sup> Cumulative CO<sub>2</sub> emission reduction in the EECB project scenario is a result of better compliance with the revised building code (from 20% without GEF intervention to 50% at the end of project), together with direct emission reductions from demonstration projects and their replications.

<sup>6</sup> The revised 2013 EEBC cannot be effectively enforced due to various barriers identified in the ProDoc.

<sup>7</sup> Baseline and EOP indicators based on consultation with local stakeholders and national experts during the ProDoc preparation

<sup>8</sup> Staff employed by CEEBs, demo projects and certified EE buildings

Project Strategy	Indicator	Baseline	Level in PIR 2018 (self-reported)	EOP Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
<b>COMPONENT 1: Improvement and enforcement of energy efficiency building code</b>							
<b>OUTCOME 1.1: Enforced, improved and comprehensive policy, legal, and regulatory frameworks on the energy efficient design, construction and operation of commercial and high-rise residential buildings</b>	<b>I6:</b> % of DOCs nationwide that reference EEBC compliance toolkits and guideline developed by the baseline and the projects by EOP	30% of DOCs nationwide	N/A	70% of DOCs nationwide (at least)	Assessment of the indicator is ongoing at MTR stage; requires proper enforcement tools and guidelines to be provided to DOCs and building practitioners as well as capacity building	MS	MOC through IFC support has developed the compliance toolkits and guidelines. The reference to the updated toolkits and guideline will be assessed in 2019.
	<b>I7:</b> % of building practitioners nationwide that reference EEBC compliance toolkits and guideline developed by the baseline and the projects by EOP	20% of building practitioners	N/A	50% of building practitioners			
	<b>I8:</b> % of applications for new commercial and high-rise residential building constructions submitted to DOCs comply with EEBC 2013 by EOP	20%	N/A	50%	Work in progress		Data is not available yet; the Project is doing the survey and data shall become available during 2019. The Project has been supporting 5 new buildings from design to construction stage to ensure EE compliance in their design and application. However, the MTR suggests the indicator to be removed.
	<b>I9:</b> No. of national testing standards for energy performance of building construction materials promulgated by EOP	0 <sup>9</sup>	0	5	Work in progress		5 standards are under development by an institute contracted by EECB Project. The result is expected to be available at end of 2019.
	<b>I10:</b> No. of existing and new commercial buildings and high-rise residential buildings in Viet Nam certified as EE buildings by EOP	0 <sup>10</sup>	0	20	Work in progress		There has not been any regulation on EE buildings and this would require a national register of certified buildings. EECB Project will pilot such certification. EE labelling and certification programme has been developed and will be available for piloting from 2019 onwards.
<b>OUTCOME 1.2: Strengthened compliance of the energy</b>	<b>I11:</b> % of building practitioners nationwide that reference the EE design guideline to achieve a higher level of EE than the EEBC requirements by EOP	20% <sup>11</sup>	N/A	50%	Work in progress	MS	Data is not available, the Project is doing the survey and data shall become available in 2019. The guideline will be developed in 2019 based on the results of the pilot EE for new buildings

<sup>9</sup> No national testing standards for energy performance of building construction materials

<sup>10</sup> No development or implementation of EE certification/labelling for commercial and high-rise residential buildings in Viet Nam.

<sup>11</sup> There is no current plan for development of EE design guidelines planned by MOC.

Project Strategy	Indicator	Baseline	Level in PIR 2018 (self-reported)	EOP Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
<b>efficiency building code for commercial and high-rise residential buildings in Hanoi and HCMC</b>	<b>I12:</b> % of commercial and high-rise residential buildings referencing M&V schemes in EE implementation by EOP	0% <sup>12</sup>	0%	25% <sup>13</sup>	Work in progress		Data is not available; the Project is doing the survey during 2019 and data shall become available.
	<b>I13:</b> % of overall commercial and high-rise residential building stakeholders that are satisfied with availability and quality of energy benchmarking data by Year 4	20% <sup>14</sup>	N/A	70% (at least)	Work in progress		The benchmark is being developed, so this target will be assessed in 2019 and 2020, when the benchmark is available and disseminated. At MTR stage, survey teams have been on board to carry out energy surveys which will work as inputs to the benchmark. However, the MTR suggests the indicator to be removed.
<b>COMPONENT 2: Building market development support initiatives</b>							
<b>OUTCOME 2: Increased local capacity in the EE design, construction, and operation of commercial and high-rise residential buildings</b>	<b>I14:</b> No. of financial mechanisms and incentives for commercial and high-rise residential buildings approved and implemented by EOP	0	0	1	Not on target so far.		A national expert was contracted in late 2018 to support this task. The result is expected to be available in Q.IV 2019. However, EECB Project only develops (and proposes) the draft of support mechanisms for commercial and high-rise residential buildings. Questionable if this target will be achieved at all.
	<b>I15:</b> % of stakeholders in the building sector that are satisfied with services provided by CEEBs by EOP	0% <sup>15</sup>	0%	70% (at least)	Not on target; Achievement of the 70% target requires capacitation of CEEBs	MU	It seems unclear what the target is about. The reason seems to be that there is no services on EE by the CEEBs because it is no longer relevant to be supported by the project. CEEBs' operation does not include the EE services. However, the MTR suggests the indicator to be removed.
	<b>I16:</b> % of CEEB trainees that are engaged in EE building designs, implementation and M&V by EOP	0%	0%	50%	Work in progress		The MTR suggests the indicator to be revised and the focus on CEEBs being removed. The pilot of EE in new building has engaged experts in building sector and architects in all stages from design to implementation and M&V. Besides, there will be several technical courses launched in 2019.
	<b>I17:</b> No. of commercial and high-rise residential buildings that	5 <sup>16</sup>	N/A	10	Not on target so far		The ESCO market in Viet Nam including that for the EE building is faced with a number of challenges including financial and legal constraints and limited human capacity. With the Project

<sup>12</sup> There are no M&V schemes for EE implementation in buildings recommended by MOC.

<sup>13</sup> Initial assumption: 70%, corrected with the Inception Report to 25%

<sup>14</sup> Some types of energy benchmarking systems for the building sector in Viet Nam will be developed by USAID's TA.

<sup>15</sup> There is no comprehensive capacity building program being planned for CEEB

<sup>16</sup> Estimations by the Energy Conservation Centers in Hanoi and Ho Chi Minh City



Project Strategy	Indicator	Baseline	Level in PIR 2018 (self-reported)	EOP Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
	implement EE projects using the ESCO models by EOP						focussing on improved EEBC and new buildings, an ESCO model approach seems not viable for implementation. The MTR suggests the indicator to be removed.
<b>COMPONENT 3: Building EE technology applications and replications</b>							
<b>OUTCOME 3: Increased use of EE building materials and application of EE building technologies in Hanoi and HCMC</b>	<b>I18:</b> % of new and retrofitted commercial and high-rise residential buildings that are partly or entirely based on EE building materials and applications being promoted and demonstrated by EOP	5%	N/A	30%	Work in progress	S	Data is not available yet; the Project is doing the survey and data will be available in 2019. The database EE building materials and appliances have been developed by the Project. In addition, key potential outcome of demonstration including energy saving and cost effectiveness have been documented for dissemination.
	<b>I19:</b> No. of demonstration projects that adopted EE equipment, building materials and building energy monitoring and management/control systems promoted by the EEBC Project by EOP	5	12	21 <sup>17</sup>	18 projects so far; work in progress		13 projects directly supported by EECB Project so far, plus 5 demo buildings that have been implemented by IFC/WB and DEA (see footnote 15 below). The construction of all foreseen pilot buildings might not be completed; however, all of related designs have been revised thanks to the project support.
	<b>I20:</b> No. of completed M&V exercises in accordance with the guidelines proposed by the Project by EOP	0	0	16	Work in progress		M&V systems have been developed and recommended as part of demonstration at 1 existing building and 3 new buildings. Installation of the systems for existing buildings will take place when the technical support completes in 2019/2020.
	<b>I21:</b> No. of new EE building projects designed based on or influenced by, the results of the demonstration projects, by EOP	5	5	50	Work in progress		Data is not available yet; the Project is doing the survey and data will be available in 2019. Based on the initial results of demo projects, documented best practice, benefits will be published and disseminated through workshops during 2019 and 2020. However, MTR suggests to omit the indicator on replication (see 4.1.2), since it shall be achieved after EOP only.

<sup>17</sup> This target now includes 16 demonstration projects to be implemented by the EECB project and 5 demonstration projects have been implemented by IFC/WB and DEA.

#### 4.2.2 Remaining Barriers to Achieving Project Objective

Among the prevailing barriers that were considered in the project design to be mitigated by the EECB Project, the following remain to be addressed throughout the outstanding project lifetime:

- **Lack of enforcement and technical capacity in energy efficient building design approval:** Already in the ProDoc it was mentioned that the application of modern energy efficient designs and techniques/practices has been a slow process due to requirements to build in-country capacities. Shortage of technical experts and consultants as well as skillful workforce providing building energy efficiency related services are still prevailing in Viet Nam. Especially at the level of DOCs, the provincial departments of construction, proper personnel and number of staff assigned for verification of building designs prior to issuance of building construction permissions are missing. Staff consists of mainly architects whose technical knowledge and needed skills on civil and electrical engineering requires further strengthening and providing them with proper tools and checklists to approve buildings according to the requirements of the revised building code and technical standards.
- **Low awareness capacities of building sector players:** Lack of skills among building design and construction professionals are still a main barrier necessary to integrate energy efficient technologies and design techniques into their work. The Project needs to continue building awareness and capacity among market actors and make sure that energy benchmarks and successful demonstration projects applying these practices are properly and widely disseminated. GEF funding will also support training & capacity development of current and future architects, engineers and building practitioners, and disseminate good practice and lessons learned.
- **Immature market for EE products and energy management practices:** energy efficient construction practices, materials and technologies have not yet penetrated the building sector widely. Low energy prices also increase the return on investments and therefore impede EE new design and retrofitting works. Together with the new building code enforcement and technical standards to be put in place building developers need to introduce state-of-the-art energy efficient design and construction practices and energy efficient equipment including building energy monitoring systems (BEMS).
- **Absence of Effective Financing Models for Building EE Investments:** Financing commercial building EE projects in Viet Nam is generally treated as regular financing, and in general the collateral financing approach is applied. Suitable and effective incentive mechanisms and policy instruments (e.g. off-balance sheet financing, tax incentives) as well as non-financial support mechanisms (e.g. to support EE buildings designs and investments are not yet available in Viet Nam and although activities have been initiated results are not available yet.
- **General low consumer awareness on energy efficiency:** One of the reasons for the slow spread of energy efficiency, even when it is cost-effective, is the lack of consumer awareness about energy consumption, the benefits of energy efficiency improvements, and how to implement these measures. The nature of energy savings is a difficulty in itself. Energy savings represent energy that was not consumed, something that did not happen. Thus, there is no asset on which to base a loan. Since Viet Nam is undergoing a very rapid economic development with high increase of energy demand and orientation towards more energy consumption, the term 'energy savings' is still understood as a step backward. Without a minimum level of awareness being created also with Project funds, there is little chance of reaching a significant take-up level in the market.

#### 4.3 Project Implementation and Adaptive Management

The MTR expert has reviewed the project implementation and adaptive management of the Project, identified challenges and is going to propose in this report additional measures to support more efficient and effective implementation. The following aspects of project implementation and adaptive management have been assessed:

- management arrangements,
- work planning,
- finance and co-finance,
- project-level monitoring and evaluation systems,
- stakeholder engagement,
- reporting, and
- communications.

Achievements of project implementation and adaptive management have been rated in terms of the criteria above at a six-level scale as follows:

- Highly satisfactory (HS) - the project has no shortcomings
- Satisfactory (S) - minor shortcomings
- Moderately satisfactory (MS) - moderate shortcomings
- Moderately unsatisfactory (MU) - significant shortcomings
- Unsatisfactory (U) - major shortcomings
- Highly unsatisfactory (HU) - severe shortcomings.

The results of the review and justification for the rating provided is described in the following paragraphs. The selected rating and a description/explanation of that rating is included in the *MTR Ratings & Achievements Summary* table (refer to summary, chapter 1.4).

#### 4.3.1 Management Arrangements

The Project Management arrangements are as follows:

- At inception stage, the PMU planned to have 3 full time staff including a National Project Manager, Project Coordinator, and Accountant cum Administrative Assistant. Currently PMU consists of 4 full time staff including a National Project Manager, Financial Officer, Technical Officer and Interpreter cum Administrative Assistant. PMU just newly recruited a Technical Officer to assist PMU in technical issues and work closely with International technical advisor. The current Project Coordinator position is assigned by MOC and is paid by government funds, not by GEF.
- A team of national and international specialists has been established to ensure proper implementation of the project activities and timely delivery of the expected outputs. The expert team is mobilized to implement project activities in line with the Project Logframe and Project Annual Work Plan. The most recent work plan for 2019 with allocation of expert tasks has been provided and reviewed by the MTR consultant. The Logframe and Project Performance Analysis summarizing achieved progress and pending tasks as of end December 2018 has been introduced in Table 3.
- National experts hired under the Project comprised:
  - Part-time National Technical Advisor,
  - Part-time Monitoring and Evaluation Consultant
  - Part-time 2 Demonstration Technical Leaders and
  - Part-time 6 Technical Officers for demonstration projects
- International experts hired under the Project comprised:
  - Part-time International Technical Advisor

The Project faces with difficulties in recruitment of both international and national consultant in EE, due to this field has few (especially national) experts. For some positions (for example the technical officer) the Project needed to call for bidding three times till to be able to recruit. The Project even reduces or uses lower qualification requirements to make it easier to recruit the consultants.

The consultant recruitment process of the Government is rather long and complicated. The PMU has to request UNDP to recruit to save the time. In average, it took the Project 3 months for approval of procurement plan, 4-5 months for firm recruitment, 2-3 months for individual consultants, but in reality the procurement duration was sometimes twice as much as initially foreseen.

Some firm procurement packages took 9-10 months till to recruit the consultancy firm, for example: firm recruitment packages No. 8 & 9 was delayed and took about 10 months, due to the initial bidding call which took 4-5 months, but with no firms interested. Re-posting of the call for tenders took again more than 4-5 months.

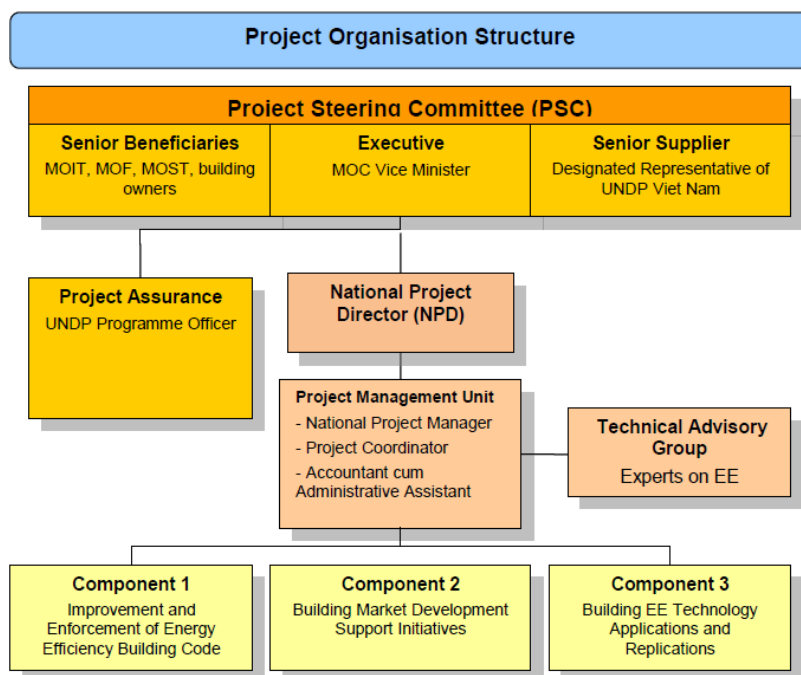
The Project has experienced changes in the National Project Director position as the former NPD was moved to another institution, which resulted in the Project to be a bit delayed in implementation for one or two months; but all stakeholders confirmed that it was not a critical issue.

PMU is in the need of further national and international experts:

- A National Technical Advisor to work on full time basis. Actually, PMU would like the current National Technical Advisor to work full time instead of part-time (add more tasks on project promotion and dissemination and coordination of demo projects). PMU has already foreseen this position in the Annual Work Plan 2019.
- Demonstration coordinator
- Material and Equipment Database consultant;
- Energy labelling, M&V consultant;
- Energy Benchmarking consultant;
- Communication consultant;
- Two teams of energy survey staff.
- A dedicated International Technical Specialist who will provide the technical and strategic policy advice, coordination and reporting for the Project. PMU has already foreseen this position in the Annual Work Plan 2019. This position is under recruitment.

The Project management structure proposed at the beginning of the Project is summarised in the figure below.

Figure 2: Project Implementation Structure



#### 4.3.2 Work Planning

- Master Plan and Annual Workplans (AWPs) were made by result-based planning method. In the Master Plan the results were phased out by different stages of the project time life, to allow easier monitoring or checking results by each stage. The annual workplans were prepared and submitted on time and followed NIM modality on preparation and approval of AWPs. The activities were planned in the current

implementation year but if not implemented during the current year, were able to be moved on to the next year.

- While the Annual Workplans were prepared and submitted on time, the approval of the procurement plan 2017 was delayed by 3 months (from March to June). During 2018, the project implemented the remaining procurement packages which were approved in 2017. The procurement plan 2019 consists of only 3 procurement packages that have been submitted to the Planning and Financial Department under MoC for the GoV approval process.
- Some procurement packages have been submitted to Vice Minister for approval which created delays. The article 100 of Decree No. 63/2014/ND-CP regarding the detailed guidelines on some articles of the Procurement Law on tender selection, regulates the responsibility of Minister and Head of line ministry agencies in appraisal and approval in tender selection. In the EECB Project the Ministry of Construction is the project owner, and therefore the Minister has responsibility in approval of proposal requirements and approval of procurement results. In line with the procurement requirements, therefore the project submitted all packages to Vice-Minister for approval; however, article No. 104 of this Decree also regulates responsibility of appraisal institutions, by this the Minister is able to assign the relevant institution in the ministry to assist the Minister on those. In the case of EECB the DOSTE Director General is in this position. Similarly, Decree 16/2016/ND-CP issued on 16/3/2016 regarding management and utilization of ODA and concessional loan funded programs/projects and Circular No.12/2016/TT-BKHDT issued on 8/8/2016 guiding the implementation of a number of articles of the Decree 16/2016 /ND-CP provide the same guidelines. As a conclusion, there was a delay in authorisation of procurement activities under EECB to the DOSTE Director General and therefore causing several delays in the project-related procurement process.
- The delays in procurement were also related to the difficulties in recruitment of appropriate consultants since energy efficiency was and still is a new topic in Viet Nam. Therefore, there is a lack of appropriate consultants for recruitment (two packages 8 & 9 were delayed by 4-5 months due to no consulting firms interested in and project needed to recall the bid; in average, corporate procurement process takes about 4-5 months, those packages took 10 months for recruitment).
- UNDP provided a lot of supports for PMU on procurement process to speed up the process. UNDP procured all bidding packages recruiting the international consultants for the Project and tendering about 50% of bidding packages to recruit the national consultants so far.

During MTR, the consultant team discussed with UNDP and PMU about the Project unallocated budget for the upcoming years 2019 and 2020. Total of Project unallocated budget is USD 576,255, which almost comes from the component 3 investment parts not been disbursed so far and implementation ongoing. PMU proposes to allocate USD 550,000 for policy development and training & capacity building activities under two components 1 & 2, for which component 1 is proposed to allocate USD 350,000 more and component 2 an extra of USD 200,000. The rest of unallocated budget (USD 26,255) is allocated for project management to be spent if the project is extended for implementation of newly proposed activities. See Table 4 (section 4.3.3) below for more details.

The MTR consultant thinks that these reallocations do indeed make sense. Additional resources for component 1 are of specific importance to ensure that the necessary works on the policy and EE building standards and rating tools can be properly finalised and within component 2 the capacity building activities (trainings) concerning enforcement of compliance with the new code/standards be properly ensured among policy makers (DOCs, MOC), building practitioners and developers.

Proposed activities should cover the following:

- EE buildings Certification;
- Development of SEC and energy benchmarks for residential, educational and health services buildings including the guiding regulations for MOC to disseminate the new standards;
- Develop a strategy and master plan for development of a green city zone and carry out related demonstration activities

#### 4.3.3 Finance and Co-financing

At MTR stage, the Project disbursed USD 1,196,844 equivalent to 37% of total GEF Grant. The project disbursement rate is low while the Project was by end December already more than half-way through its overall duration. Nearly 2/3 of total GEF budget need to be disbursed within less than one-and-half years left of time left (January 2019 to April 2020 – official closing month). The major concerns therefore are how to increase the disbursement rate and implementation progress in the remaining time of the Project.

Table 4: Project Budget and Expenditures (in USD)

Project Component	Type of expenditure	GEF grant (ProDoc)	Budget spent by MTR (USD)	Revised budget (planned)		Total spent and planned (USD)	Remaining unallocated	Newly Proposed Activities	Re-allocated Budget
				2019	2020		Total (USD)		
Component 1	TA	635 500	368 311	257 699	95 391	721 401	- 85 901	350 000	1 071 401
Component 2	TA	807 500	309 968	200 022	135 437	645 427	162 073	200 000	845 427
Component 3	TA	893 000	457 501	350 229	229 072	1 036 802	- 143 802	0	1 036 802
Component 3	INV	712 000	-	20 000	80 000	100 000	612 000	0	100 000
Project Management	PMC	150 000	61 063	27 051	30 000	118 115	31 885	26 255	144 370
<b>TOTAL GEF</b>		<b>3 198 000</b>	<b>1 196 844</b>	<b>855 000</b>	<b>569 900</b>	<b>2 621 745</b>	<b>576 255</b>	<b>576 255</b>	<b>3 198 000</b>

Table 5: Co-financing of Project Partners (in USD)

Sources of co-financing	Name of co-financer	Type of co-financing	Amount confirmed at CEO Endorsement (USD)	Amount confirmed at Mid-term (USD)	Actual amount Contributed at stage of Mid-term Review (USD)	Actual % of expected amount	Comments
<b>Subtotal in USD</b>			<b>21,498,550</b>	<b>6,707,563</b>	<b>4,138,527</b>		
National Government	Ministry of Construction (MOC)	In-kind	2,100,000	2,100,000	1,445,755	69%	Provided the PMU office, meeting rooms, a part of PMU operating costs, salary for GoV secondment staff, etc.
Local Government	Ministry of Industry and Trade (MOIT) through ECC Hanoi	In-kind	300,000	300,000	550,000	183%	Contributed by consultancy services or provided the comments
Local Government	ECC HCMC	In-kind	300,000	300,000	55,000	18%	
Private sector	Melia Hanoi Hotel	Equity	77,700	77,700	0	0%	
		In-kind	3,750	3,750	0	0%	
Private sector	Hanoi energy management staff training center	Equity	665,000	665,000	480,000	72%	
		In-kind	35,000	35,000	10,000	29%	
Private sector	Majestic Hotel	Equity	248,950	248,950	0	0%	
		In-kind	134,050	134,050	0	0%	
Private sector	Saigon office & service apartment (Somerset)	Equity	320,000	613,113	317,744	52%	
		In-kind	80,000	10,000	4,028	40%	
Private sector	14 diverse projects initially foreseen in ProDoc	Equity	11,528,450				Replaced by newly selected projects during implementation phase
		In-kind	3,265,550				
GEF Agency	UNDP	In-kind	2,070,000	2,070,000	1,276,000	62%	Provided the advisory for GoV in EE
		Cash	150,000	150,000	0	0%	



Sources of co-financing	Name of co-financer	Type of co-financing	Amount confirmed at CEO Endorsement (USD)	Amount confirmed at Mid-term (USD)	Actual amount Contributed at stage of Mid-term Review (USD)	Actual % of expected amount	Comments
<b>Additional co-financing leveraged (USD)</b>			<b>0</b>	<b>118,767,293</b>	<b>71,605,919</b>	<b>60%</b>	
Private Sector	Nam Linh (cải tạo)	Equity		180,000	0	0%	Newly selected buildings
Private Sector	CONINCO	Equity		16,782,278	6,489,147	39%	
		In-kind			3,000		
Private Sector	Golden Lotus	Equity		162,000		0%	
Private Sector	Felix En Vista	Equity		52,415,000	45,308,000	86%	
Private Sector	Anland 2	Equity		49,228,015	19,805,772	40%	
<b>TOTAL</b>			<b>21,498,550</b>	<b>125,474,856</b>	<b>75,744,447</b>	<b>60%</b>	

Co-financers in private sector have changed compared to the CEO endorsement stage; 12 building developers that initially committed an amount of about USD 15 million at have not engaged with the Project, and only 4 co-financers kept their commitments to the Project (USD 3.78 million). To achieve the Project targets the Project needed to look for other new co-financing sources.

Luckily, the Project has been able to engage with 5 new project developers with an investment commitment of about **USD 118.8 million** and making the total investment commitment of the project by EOP to reach about **USD 125.5 million**. At the MTR stage, the **actual amount contributed by 5 new co-financers reached to USD 71,605,919 making the total actual investment of the project achieved to USD 75,744,447, or an equivalent of 352% in comparison to the amount committed at endorsement stage.** See above table for more details.

#### **Financial Management:**

- When the donor transfers the financial contribution to the PMU account, the PMU needs to process the “revenue record” procedure with MoF. Every year, PMU needs to process the “expenditure record” procedure after disbursement with State Treasury (ST). PMU has undertaken those procedures for the years of 2016 and 2017. For the year 2018, PMU has done the “revenue record” procedure but still needs to do the “expenditure record” procedure with ST.
- With ODA resources, earlier financial data was recorded by financial software to use for UNDP projects, however, faced some difficulties and PMU decided to use a new software for that, named Bravo. With counterpart funds PMU uses the software of government system, so far it provides the acceptable performance: able to produce the required reports.
- Financial Reports are produced and submitted to both UNDP and Government system (Planning and Finance Department under MoC).
- Audit activities were conducted yearly in December; however, the end of year is a peak time for disbursement. Financial Officer and PMU are so busy for disbursement procedure in the meantime therefore it is suggested that the audit might be best fit for PMU in April every year.

#### **4.3.4 Project Level Monitoring & Evaluation Systems**

The Project is subject to standard UNDP monitoring and evaluation procedures. The elements of the project level monitoring and evaluation system have been defined in the ProDoc as follows:

- **Project Inception Workshop:** to assist all partners to fully understand and take ownership of the project, and agree on possible revisions of the indicators, targets and their means of verification, while rechecking assumptions and risks.
- **Project Implementation Workplan:** with a work plan to outline the general timeframe for completion of key project outputs and achievement of outcomes.
- Quarterly monitoring of project progress (UNDP Enhanced Results Based Management Platform), update of risk logs in ATLAS from which Project Progress Reports can be generated.
- Project Implementation Report (PIR) and PMU Progress Reports to monitor progress made since project start and in particular for the previous reporting period.
- AWP and expenditure reports
- Project Steering Committee (PSC) meetings
- Periodic Monitoring site visits.
- Mid-Term Review and Terminal Evaluation in accordance with UNDP and GEF requirements and providing recommendations for follow-up activities.
- Learning and knowledge sharing: results from the Project to be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

An Inception Report has been prepared, and as a result of the Inception Workshop, has foreseen slight changes in the project target indicators formulated in an updated Results Framework (log frame). Regular quarterly progress reports have been prepared since Q3.2016; in addition, annual project implementation reports (PIR) for 2017 and 2018 have been prepared. PIR do provide a critical assessment of the project implementation which was hampered by delays especially in the years 1 and 2.

PSC meetings are supposed to be used to monitor and present progress to and receive additional inputs and recommendations from stakeholders. So far, three PSC meetings have taken place (16.12.2016, 08.03.2018 and 24.01.2019) and meeting minutes including discussion points and were provided. PSC input is relevant to receive orientation on the project implementation. Participants have been usually 5-7 PSC members comprising of the Vice Minister Ministry of Construction, the Deputy Director of Department of Economic and Technological Sciences, Ministry of Sciences and Technology, Director, Vice-Director and Officials of DOSTE (Department of Science Technology and Environment) at MOC as well as UNDP Head of Sustainable development cluster and Programme officer. Other participants were from PMU at MOC, EECB project team and other experts.

The M&E progress reports have been prepared for 2017 and 2018. As indicated in the ProDoc and the Project's Inception Report, a monitoring and evaluation framework and targets have been committed with the donor, of which implementation results are supposed to be assessed annually during the project duration. To apply this M&E framework, an M&E system, including methodologies, processes, an Excel-based tool and plan to monitor the project indicators have been developed by the M&E Expert with support and inputs from the PMU and consultation from relevant agencies. The system was expected to be used to carry out the assessment of project outcomes, outputs, results, and impacts and recommending corrective actions if required. The assessment results have been planned to be presented in M&E annual, mid-term and EOP reports. However, mid-term M&E report was not ready at the development of this MTR report, so M&E results are not available. This is a significant deviation from project plan and leaves the PMU and PSC with a certain ambiguity concerning the likelihood to achieve the project targets and indicators by its termination given the fact that the measurement of project impacts is relatively complex (e.g. continuous data and statistics about building sector in Viet Nam are not easily accessible) and time-consuming.

#### 4.3.5 Stakeholder Engagement

The project management team has generally a good working relationship with major stakeholders from Government of Viet Nam. The relationship on a personal basis allows linking key partners to the Project and achieving their necessary commitment throughout the overall project activity.

Taking into consideration the efforts of the project team, the key government partners appear ready to provide their full support to the Project when needed. However, a differentiated view is required between the general interest and overall commitment shown by some project partners and their actual readiness (and eventually willingness) to implement the activities they have agreed to.

Some elements demonstrating the effectiveness of the project partnership and challenges facing by major stakeholders and beneficiaries are summarized below:

MOC and MOIT are two primary government agencies at the state management level with mandates to promote EE in the building sector in Viet Nam. The inception report envisages that *"the role of several stakeholders is crucial for the success of the project, in particular the Ministry of Industry and Trade (MOIT) and the Ministry of Finance (MoF)"*, however, while other members of PSC are strongly present, the involvement of MoF in the Project is rather limited. The Project might need more active participation of MOF in development of incentives mechanisms for EE in Buildings in coming times.

Department of Construction (DOC) in charge of reinforcement of EE standards at local level. DOC in HCM City face with difficulties in insufficient staff and capacity in design, appraisal and issuing the construction license.

Centres for Energy Efficiency in Buildings (CEEBs) in Ho Chi Minh and Hanoi City: CEEBs under MOC as designed will be involved in gathering relevant data, delivering technical training for energy managers, energy auditors, and conducting research and development on EE in buildings. CEEB in HCM conducts trainings on energy audit, however CEEB still has limitation in capacity to meet the requirements. CEEB in Hanoi does not operate yet.

ECC in HCM has an energy audit database and undertakes procurement package No.9 with conducting survey and assessment of energy consumption in Commercial and High-rise Residential Buildings in Central and Southern of Viet Nam; provides consultancy on implementation of energy efficiency retrofitting works in existing demonstration buildings – Procurement package No.14. ECC in Hanoi is conducting survey and assessment of energy consumption in Commercial and High-rise Residential Buildings in Hanoi; apart from that, ECC HN organises a green energy competition for building owners and diverse awareness programs on EE measures in households. ECC in Hanoi is also a potential collaborator for communication and dissemination activities, since they carry out dissemination activities on commune and household level by addressing the efficient use of household appliances and equipment and organising an annual award to outstanding households.

Viet Nam Association of Civil Engineering Environment (VACEE), Viet Nam Association of Architects (VAA) and Viet Nam Green Building Council (VGBC): There have been some networking activities taking place with VAA, VGBC and others, such as Association of Vietnam Contractors, VN Institute of Building Materials, to engage them in policy

reviewing/commenting and sharing experience. They were partly already included in some of technical activities (through own experts).

Academia (Hanoi Construction University, HAU, HUA) are interested in collaboration in developing specific curricula with consideration of design aspects, development and implementation of EE criteria in buildings, furthermore, providing consultancy, cooperation in research and trainings. They are expected to have demonstration software and equipment for students to provide the construction solutions in application of the construction standard in Viet Nam.

Several buildings committed to invest (co-financing) to undertake the demonstration at the beginning phase, do not continue to commit to involve in the Project, so far including HITC Building, Hanoi Sheraton Hotel, FPT telecom Building, JW Marriot Hanoi Hotel, Cendeluxe Hotel, Michelia hotel, Vinpearl Resort, Riverside Renaissance Hotel, Intercontinental Hotel, and Pedagogical University of HCMC. But luckily, the Project has made efforts to involve new buildings to replace those above, the new involvements are including Coninco, Golden Lotus, Nam Linh, Anland 2, Felix En Vista.

The Project, however, has faced difficulties to persuade developers and buildings owners (co-financiers) to join in EE efforts, since energy efficiency is a new topic in Viet Nam and people are not aware or too much interested in it yet. Building owners will not be interested to promote energy efficiency in buildings if they are not capacitated and realise their benefits in advance, as well as their customers (apartment or home buyers) are not aware and consider energy efficiency criteria as a requirement for their purchase/rent.

Overall conclusion is that the project management has achieved appropriate partnerships with relevant national stakeholders (ministries, national institutions, local authorities of HCMC and Hanoi), private sector (building developers and practitioners), energy efficiency centres, academia, and associations is visible throughout the Project. Governmental stakeholders support the objectives of the Project and are involved in strategic decision-making and setting directions through the Project Steering Committee.

Ultimate beneficiaries, such as local authorities and building developers/practitioners have been proactively involved in the project activities from the beginning, with visible results expected by EOP and replication in the longer term.

#### 4.3.6 Reporting

The Project produces two reporting systems, one for UNDP and another one for the Government. Different reporting formats require additional time to prepare. With UNDP reporting requirements, the Project produces quarterly and annual reports (quarterly report in Excel file and annual report is PIR). The Vietnam GoV reporting requirements ask for the same in parallel, quarterly and annual reports using separate templates which are regulated by Decree No. 16/2016/ND-CP and Circular No. 12/2016/TT-BKHDDT and are applied to all projects in Vietnam. Besides that, the Project produces the annual report for the Project Steering Committee.

#### 4.3.7 Communications

The Project uses different communication channels through newspaper articles, leaflets, calendar books, workshops and study tour and shares products widely and results of study tour, workshops to relevant interested people.

The PMU decided not to develop a specific project website as it was considered that when the Project finishes nobody will continue maintaining it, but the project produces regular articles for the website "Energy Saving" of the Ministry of Construction <http://tietkiemnangluong.xaydung.gov.vn/project-t263.html>. And MOC will continue operating this website beyond the EECB termination. Thus, ownership and sustainable dissemination will be likely higher than running a separate project website; however, the Project will need to increase the dissemination activities and frequency of information provided to the public and specific stakeholder groups throughout the remaining duration.

Articles and publications concerning energy savings and efficient use of energy in buildings have been rarely published so far. The Project recruited a communication specialist who was not successful in producing the articles

for newspapers/websites; currently the project office contracts with some journalists to write regularly articles for the Project.

In 2019, publications are planned with highlights on project progress and results as well as promoting awareness on energy efficiency in both, paper and online media; contracts will be issued with journalists to write regular articles and updates for the “Energy Saving” website. The Project also plans to organize a public contest on energy saving.

As the Project is half-way through its duration and at the stage of MTR the demonstration activities have led already to intermediate results, documentation, evidence and communication on the achievable energy savings through improved building design and technical solutions applied to construction and operation of buildings (e.g. building energy management) shall be communicated.

During MTR, many building developers or design companies revealed that energy efficient design for buildings is only considered if their clients (building or apartment buyers) explicitly require or wish so. Nevertheless, it is recommended to give stronger focus in the remaining project lifetime to the end users of EE buildings and the building developers and designers since public awareness on energy efficiency in general is likely to remain low in public perception Viet Nam. People are currently very much unaware of the benefits of energy efficient buildings and how they contribute to increase the tenants’ comfort, reduce their operational costs, understand how decision-making at point of sale is influencing energy demand throughout the building lifetime etc.

In this respect, what is recommended and where the Project shall provide its assistance is to link the TA activities and design support for the demonstration buildings in component 3 with dedicated EE awareness activities developing and sharing a “specific energy information package” or user guide that will highlight benefits, user comfort, energy savings etc. and other impacts towards the developers and the users.

## 4.4 Impact and Sustainability

### **Project impacts**

Taking into consideration the specific situation of the country and its recent political will to foster energy efficiency measures to evolve in and around the building sector, as of the MTR, the Project with its envisaged targets and outputs has a good prospect to create a significant impact in the country.

The building sector in Viet Nam is considered very relevant in terms of energy consumption due to its high dynamic development and growth. This sector offers also large and cost-effective opportunities to improve its energy efficiency in new constructions but also within existing building refurbishments (similar to other countries). Covering a wide range of new and existing high-rise building types, the Project anticipates bridging policy implementation and technical best practices through some of its major outcomes:

- Improvement and enforcement of EE building code
- Promotion of energy audit, energy management, and investment opportunities in new and existing buildings
- Demonstration of best practices in new building design and renovations.
- Education and outreach to build replications.

Without the Project, improvements in building energy performance will only come slowly in pace with partial enforcement of the revised EEBC and phasing out of obsolete technologies, rather than being at the forefront of technology development. This is largely a consequence of the fact that without awareness/knowledge of the cost implications of design and construction of low EE buildings, without access to attractive and reliable financing to build better, without effective implementation of the revised EEBC, and without supportive networks of information, incentives and expertise, there is little pressure on the market to move faster than a least-building-construction-cost philosophy would demand.

### **Prospects of Sustainability**

Sustainability is generally considered to be the likelihood of continued benefits after the Project ends.

The Project is designed to have a balanced mix of capacity building and enabling environment activities tailor-made to the specific market and regulatory environment in Viet Nam. Such balanced mix of activities is expected

to promote the enforcement of the revised EEBC and the application of building EE technologies. Replication is considered to be an integral component of the project design as the expected energy savings from the application of EE technologies in the building sector in Viet Nam rely on the replication of the relevant Project activities.

The purpose of reviewing the sustainability of the Project during the Midterm Review is to set the stage for the Terminal Evaluation, during which sustainability will be rated by each of the four GEF categories of sustainability (financial, socio-economic, institutional framework and governance, and environmental). Consequently, the assessment of sustainability at the midterm considers the risks that are likely to affect the continuation of project outcomes.

The MTR Consultant has reviewed the risks identified in the Project Document, Inception Report, PIRs and the ATLAS Risk log and evaluated whether the risk ratings applied are appropriate and up to date.

In addition, the MTR Consultant has started discussions with the Project Team to gear their thinking towards sustainability risk factors, as well as opportunities to build risk management into the project plan in a thorough manner throughout the remaining project period. The following table provides a summary of the updated risk analysis how it has been evaluated by the MTR Consultant.

Table 6: Risk Analysis of the EECB Project – updated at MTR stage

RISK CATEGORY	DESCRIPTION OF RISK	Probability Rating from 1 (low) to 5 (high)	Impact	UPDATED STATUS (at Project Mid-term)
				Justification
Financial	<b>Financial mechanism risk to promote the EE, and potential resources for replication</b>	3	3	<p>Viet Nam’s rising economic prosperity is impacting on its development financing landscape. Viet Nam graduated from concessional borrowing from the World Bank in 2017 and Asian Development Bank in 2019. Since now Viet Nam faces with high borrowing interest. At the same time, Viet Nam’s access to international capital market is limited due to after large increases in public debt over the past few years, the public debt reached to 63,7 % GDP in 2016 (the debt peak) and nearly attained the current debt ceiling of 65% of GDP. Therefore, the Government of Viet Nam tries to stabilize and then gradually reduce the public debt, through a combination of both revenue and expenditure measures. On the revenue side, coordinated tax policy and administration efforts are needed to stabilize the revenue to-GDP ratio while creating a balanced tax structure suitable for an emerging middle-income economy. On the expenditure side, necessary reforms should focus on enhancing spending efficiency including of public investment. Therefore, it is difficult for Viet Nam to borrow more and that influences to develop the “financial mechanism and incentives to promote the commercial and high-rise residential buildings” (one of indicators of EECB outcome 2) during the project implementation and few years after that.</p> <p>At the MTR stage, the Project has been able to leverage co-financing sources of about USD 75 million and is expected to triple the committed amount by EOP compared to the CEO endorsement. This suggests that the Project has high potential of co-financing and replication.</p> <p>Yet, the Project is not likely to successfully introduce an ESCO model, which is currently not experienced in Viet Nam and would be another pillar for achieving financial sustainability.</p>
Socio-Economic	<b>Economic growth reduced or not continuously growing</b>	3	3	<p>Viet Nam’s development record is remarkable, transitioning from one of the world’s poorest to a lower middle-income country in less than thirty years. Per capita income has more than tripled since 1990. Since 2011, Viet Nam has placed increasing focus on achieving macroeconomic stability with an annual GDP growth more than 6%. Viet Nam’s economy has proven resilient despite a subdued global economic environment. Growth is underpinned by robust domestic demand and export-oriented manufacturing. During the recent years, Economic growth in 2016, 2017, 2018 reached 6.21%, 6.81%, 7.08%. The economics growth of 2018 is the highest increase in 11 years.</p> <p>However, in the context of slowing world economic growth and potential unpredictable factors, global trade increases more slowly than expected due to changes in US trade policy, the US-China trade war is increasingly complicated. In addition, trade tension among major countries along with the trend of increasing trade protectionism has an impact on the production and export of Vietnam and other countries in the region.</p>

RISK CATEGORY	DESCRIPTION OF RISK	Probability Rating from 1 (low) to 5 (high)	Impact	UPDATED STATUS (at Project Mid-term)
				Justification
	<b>Risk on Level of stakeholder ownership</b>	2	3	Government of Vietnam (GoV) has a high level of ownership regarding the Project. In particular, major ministries in EE involved in the Project (MOC, MOIT, MOST); EECB Project is a relevant activity under the Green Growth Action Plan of the construction sector 2016-2020 with its orientation to 2030.  All other stakeholders also have high level of ownership, for example building owners, designers,...applied the EE solutions to their buildings, they decide to participate and co-finance in the Project. However, they also are able to decide to leave the Project at any time they like.
	<b>Market actors are not interested in energy efficiency concepts</b>	2	3	Building developers and building users are increasingly showing interest in EE concepts, especially in new buildings. Technical assistance for building professionals (developers, designers, consultants) offered within EECB demonstration projects is an important take-away for them. Successful co-operation with building developers, construction companies, designing/engineering companies on a case-by-case initiated. Intl. developers push the EE market introducing Green Building Certification (e.g. Greenmark, LEED, Lotus, Edge) increasing the competition among developers.
<b>Institutional framework &amp; Governance</b>	<b>Lack of government commitment to EE</b>	3	4	The government is expected to continue to provide a policy and regulatory framework towards EE in the industrial and building sectors. At MTR, the Targeted Program to Respond to Climate Change and Green Growth for 2016-2020 issued by Prime Minister dated 31/10/2017 through the Decision No. 1670/QĐ-TTg deploys the plan to implement and achieve the Goal of National Green Growth Strategy “Reduce greenhouse gas emissions towards the implementation of commitments to reduce greenhouse gas emissions after 2020”. This continues to show the commitment of the GoV to energy efficiency.  Decision No.811/QĐ-BXD issued by MOC dated 18/08/2016 on Action Plan in response to climate change of the building sector, period of 2016-2020; and Decision No.419/QĐ-BXD dated 11/05/2017 on Green Growth Action Plan of the construction sector to 2020 and orientation to 2030 includes the contents and plans on energy saving and efficiency, and EECB Project is one of important projects supporting those plans.
	<b>Lack of institutional capacity to implement and manage the project</b>	3	4	Since the inception phase, the institutional and technical capacity and experience of MOC in EE projects continues to ensure sound management and implementation of the Project. MOC dedicated management staff and a number of full-time staff responsible for EECB Project. The MOC’s research and academic institutions participate in the activities of the Project to enhance institutional capacity of EE sector.  MOC has established two CEEBs in Hanoi and HCMC aiming to further enhanced its institutional capacity. CEEB’s functions are research, providing the trainings and consultancy on energy saving and EE in building sector. The EECB Project will also implement a comprehensive capacity building program for these two CEEBs to ensure that they can provide necessary supports to sustain the enforcement of the EEBC and EE implementations in the building sector as a whole. At the MTR, CEEB in HCMC conducts trainings on energy



RISK CATEGORY	DESCRIPTION OF RISK	Probability Rating from 1 (low) to 5 (high)	Impact	UPDATED STATUS (at Project Mid-term)
				Justification
				audit and energy consultancies (energy audits), but its capacity is still limited and requires more capacity building programs to enhance it. CEEB in Hanoi does not operate yet.
	<b>Proposed policy changes are not adopted or not sufficiently enforced</b>	3	4	Although progress is made on the policy level and approval of the new EE building code and implementation standards, yet the enforcement is lacking capacities, resources and proper assessment tools on the level of the administrative governmental institutions (e.g. DOCs). Therefore, the governance risk remains and is rated medium to high.
<b>Environmental</b>	<b>Indirect Energy savings and GHG emission reductions achieved through replicative actions are not materialising</b>	3	5	Substantial progress on pilot activities is expected to result of savings target for demo component to be achieved at the end of the project. So far, 4 new demo projects and 4 existing buildings have received TA by Project. Estimated GHG savings are 11,207 t/a from demo activities (initial target: 8,473 t/a), which is highly satisfactory. However, GHG emission cuts from building code and financial components are not yet accountable (no monitoring results available so far), which takes time to materialize. Since several of the targeted outputs are still in implementation or not started yet the final evaluation report will have to provide an assessment of any further direct and indirect GHG emissions avoided through the Project's activities.

### **Outstanding risks**

Some of risks mentioned above are still valid; the most obvious risks the Project faces currently (at the MTR stage) are related to:

- Policy framework and regulations for EE buildings not fully implemented within the project lifetime
- Complementary efforts to focus on EE building replications in mainly new high-rise buildings are not achieved and thus targeted GHG emission reductions are not achieved
- Knowledge and capacity requirements for municipal specialists remain low
- Institutional embodiment: ensure that materials/tools developed under the Project, e.g. database of EE building materials, SEC review, etc. will be regularly updated.

**Overall, the project implementation faces currently a medium to high-level risk that is related to mainly outcome 1 (especially on achieving sufficient policy enforcement) and outcome 2 (sufficient capacity and awareness building activities in place) – refer to the review of the *Project Results Framework* (chapter 4.1.2).**

**Risk mitigation** should therefore be focused around the following strategies and activities to be considered throughout the 2<sup>nd</sup> implementation period of the EEBC Project. However, at MTR stage there is still a gap in the Project's anticipated targets to be met and thus creating *real* impact of project outputs.

- Maintain a clear focus on component 1 policy framework development (EE building codes for new buildings) and increasing the capacity of enforcement, and do not insist on other instruments to be too much in focus, such as ESCO financing schemes (which mostly apply on rehabilitated buildings). Priorities have to be considered to avoid the risk that the EE building code will not be fully implemented.
- The new building code QCVN 09:2017 recently approved by the Government needs to be enforced. The code will have to be accompanied by official guidance manuals that will follow each of the code's requirements (intended to help building designers to understand the codes, their calculation methods, and various design solutions needed to achieve compliance), they will help increasing the awareness among technical experts and eventually also with governmental stakeholders.
- Demonstration projects will show that through improved design energy savings of at least 10-15% (for new buildings) and 45 %-55 % (for renovated buildings) are realistic to be achieved compared to a baseline. However, it can be also argued that energy efficiency levels to be achieved by the demonstration projects are not energy efficient enough when comparing specific energy consumptions (in other countries) of showcase buildings with today's common practice, even in countries in the region with similar climate. However, the country is doing its first steps in addressing the issue of building energy efficiency and thus moving slowly, but hopefully steadily into an era that will put greater emphasis into an energetically optimised and comfortable building stock.
- Such strategy has a limited impact in short term, during project implementation, due to its relatively long adoption time. However, its long-term potential impact in terms of GHG emission savings is substantial. Achievement of the quantitative targets of the project for gas savings and avoided GHG emissions will depend on activities and outcomes that reach the Vietnamese construction sector on a broad scale – revised building code requirements, education on building design, and programs for building renovation and energy management of existing buildings. Results in all of these areas remain pending as of the MTR stage, with significant remaining uncertainties.
- The Project requires an exit strategy, demonstrating continued commitment by MOC, MOIT in thriving to continuously engage with enforcement of the new EE building legislative framework (assuming that there is a high probability that it will not be fully enforced by 2020).

### **Achievement of GHG emission reductions**

The project objective is to reduce energy consumption and associated GHG emissions in the Vietnamese building sector. The Project Document provides the key assumptions used for the calculation of the project direct and indirect CO<sub>2</sub> emission reductions; they are summarised below:

- *Direct Emission Reductions:* The Project is according to the ProDoc supposed to support the implementation of up to 16 demonstration buildings. As a result of these activities, direct emission reductions **totalling 37,680 tons of CO<sub>2eq</sub>** by the EOP and about **236,680 tons of CO<sub>2eq</sub>** are to be achieved over 10 years after the project termination. Estimated realized GHG savings at MTR stage are about 11,207 t/a from demo activities (initial target: 8,473 t/a), which is highly satisfactory. However, GHG emission cuts from building code and financial components are not yet accountable (no monitoring results available so far), which takes time to materialize.
- *Indirect Emissions Reductions:* Using the GEF top-down (TD) methodology, **indirect emission reductions** from new buildings constructions attributable to the Project have been estimated at **246,353 tons of CO<sub>2eq</sub>** calculated for the period 2016-2029 using a GEF causality factor 2 (40% - the GEF contribution is modest, and substantial). For the demonstration and diffusion module and the financial instrument module, a replication factor of 2 has been applied, based on the consideration that while the Project can offer profitable EE implementation models, the replications in most cases will still be restricted to availability of funds and technical capacity of the project owners.

The following criteria are regarded to be the key for measuring the GHG benefits as a result of project activities:

- Accuracy of baseline data: Based on an average total heat demand (expressed in kWh/m<sup>2</sup> and year) for residential and non-residential buildings the total heat demand and equivalent CO<sub>2</sub> baseline emission reductions have been calculated.
- Improving the energy demand of buildings in new construction (and rehabilitations) based on minimum energy performance standards that are being implemented and enforced during building inspection. Monitoring of implemented demonstration projects will provide real case data and thus the opportunity to validate existing assumptions on building energy demand.
- Level of compliance with new codes and regulations (as part of enforcement as well) and its improvement over the years
- Year of implementation of new code and its enforcement, regulations and improved design elements in buildings, since this influences the annual penetration rate and in worst case delays the achievement of GHG emission reductions.

## 5 Conclusions and Recommendations

### 5.1 Conclusions

The EECB Project has been operational for about 33 months (out of planned 48 months), with only about 37% of its TA budget expended. However, it has provided value added to the development of energy efficiency in the buildings framework in Vietnam and has provided additional quality to the political and administrative decision-making process.

In a nutshell, the design and progress of the Project to date can be characterized as follows:

- **As an overall objective**, the Project was designed to remove barriers concerning a lack of knowledge and enforcement capacity in applying energy efficiency design and construction elements in the building sector in Viet Nam, by means of technical assistance, development of technical standards and working tools for practitioners and public authorities approving the designs, training and capacity building, facilitation of incentive programs, and accompanying the design and implementation of demonstration projects. It has partly achieved these objectives so far with great efforts to be maintained until EOP still.
- **Relevance:** The Project is in line with country priorities and national sector development priorities, and relevant to UNDP Country Strategy and GEF objective. The relevant partner institutions on governmental level have been involved (MOC, MOIT, and provincial levels), however the Project Document can be considered very (over) ambitious from the beginning, since it covered too many outcomes/outputs. In

addition, it seems that time to develop and implement the enforcement mechanisms (capacity building activities, implementation of supporting tools) and demonstrations projects have been far underestimated which has to do with lack of experience and awareness in most areas of implementation (policy-making, municipal administration, building developers and professionals, academia).

- **Progress towards Results:** The Project is facing large challenges on realisation of outcomes 1-3 so far, with majority of outputs and activities still ongoing. The Project has to cope with the risk of non-achievement of legal/regulatory targets, while having progressed on the gap analysis and preparatory activities for legal decision making.

The Project has, however, made significant progress after delays in the first year after inception. Achievements of outcomes 1 and 2 are not fully consistent with the Project's implementation timelines due to outstanding deliveries and outputs still under development. Outcome 3 and demonstration activities are partly facing challenges time-wise, but with great efforts made on the mobilisation of additional projects and funds by approaching developers and owners to cooperate under the EECB Project.

- **Management arrangements:** The PMU has successfully applied adaptive management from the beginning and was facing lack of technical competences and awareness concerning energy efficiency in buildings. The recruitment of both, international and national consultants was rather difficult as national expertise is still at an early stage in Viet Nam; however, further expertise is required to be hired concerning capacity building, training and dissemination activities.
- **Planning and Procurement:** The procurement implementation faced delays in authorization of procurement activities under EECB to the Director General of DOSTE and therefore causing several delays in the project-related procurement process; delays in recruitment of appropriate consultants due to lack of consultants in the field of energy efficiency resulted in several positions had to be re-advertised, which took time. UNDP has offered to provide procurement support for PMU to speed up the process.
- **Finance and co-financing:** Although the Project was by end December 2018 already more than half-way through its overall duration, the Project disbursement rate was too low (disbursed only USD 1,196,844 equivalent to 37% of total GEF Grant). Nearly 2/3 of total GEF budget need to be disbursed within less than one-and-a-half years time remaining (January 2019 to April 2020 – official closing month). The major concerns therefore are how to increase the disbursement rate and implementation progress in its remaining duration. Private co-financing is on track and has been scaled up significantly (about 3 times compared to the Project Document). Audit activities were conducted yearly in December; however, the end of year is a peak time for disbursement. Financial Officer and PMU are so busy for disbursement procedure in the meantime therefore it is suggested that the audit might be best fit for PMU in April every year.
- **Communication:** Communication means have been established through a communication plan; however, it seems that the Project has not received too much public attention so far, apart from few articles and publications concerning energy savings and efficient use of energy in buildings been published. The PMU decided not to develop a specific project website but instead produces regular articles for the website "Energy Saving" of the Ministry of Construction to ensure the sustainability of project results after the project ends. Much more efforts will be required in the second half of the project implementation, including an update on the communication plan.
- **Sustainability and impact.** The ability of the Project to create long term impact has been partly achieved so far. Most of activities are ongoing and so are their results and achievements are to be viewed in a longer perspective. In the long term, energy efficiency considerations must become mandatory for all new and reconstructed buildings no matter where the funding comes from (public or private funds). It's also very critical to ensure continued commitment by MOC, MOIT for enforcement of the EE legislative framework, and ensure institutional sustainability, in the sense that all expertise and tools developed under the Project, e.g. the database of EE building materials, SEC reviews of existing buildings, etc. will be regularly updated and become open knowledge.

The partnership of the Project with private sector residential building developers clearly demonstrates that energy efficiency measures in construction projects can be easily accommodated in the initial design with a proper calculation of costs and benefits. Essentially, all the current activities started by the Project but requiring to be expanded and extended into the future require substantive development, and the element of proper financial mechanisms to be established.

- **Project termination.** As for the planned remaining activities, they need to be reconsidered in terms of available resources and likeliness of timely implementation. The completion date of the Project is initially foreseen to be April 2020, but is recommended to be extended for a period to be decided in agreement with the PSC, for the reason to ensure that crucial achievements and results can be produced and properly promulgated and disseminated, for example the EE standards to be approved by MOC, the development of a green city zone and related demonstration activities or the energy labelling of buildings. Furthermore, the finalization of the pilot projects, which is to be expected with delay from today's point of view, makes an extension of the project duration inevitable, considering the sustainability of results, especially in respect to monitoring the achievements in terms of energy savings, and impact on user comfort.

## 5.2 Recommendations

### **Recommendation 1: Focus on using time and resources efficiently for the remaining project period**

- The Project Log frame requires adaptations and rephrasing of some of the project indicators (refer to details provided in chapter 4.1.2)
- In the long-term, a mandatory building EE legislation and enforcement of the building code and other laws and regulations is crucial to ensure the long-term sustainability of the project results. Therefore, a main focus shall be on the finalization and delivery of outstanding activities considering the enforcement of the new building code requirements and capacity building among building professionals and public administration (see recommendation 2).
- Capacity building and training activities concerning EE in buildings need to properly address the demand for building practitioners on the one hand and public administration involved in building design approvals and construction permits. Topics concerned: (i) compliance with new codes and standards developed, (ii) methods for calculating building energy performance, and best practices in energy-efficient building design, (iii) including integrated building design into standard design practices, (iv) integration of low-cost and no-cost energy efficiency principles into building design, (v) using tools and measurements in the design of buildings, and (vi) understanding lessons learned and best experience available internationally with a special focus on the climatic conditions similar to Viet Nam. Training materials shall be developed and made available for wider use.
- The initially foreseen activities concerning the introduction of financing mechanisms in the form of ESCO models seem not appropriate under this EECB Project. ESCO model approach is a mechanism more relevant for rehabilitation and refurbishment of buildings, while this project focuses mainly on the segment of new buildings and appropriate enforcement of the new EE building code. MTR Consultant therefore recommends removing activities concerning the ESCO mechanism and rather use the project resources on highlighting non-financial incentives and their application in the framework of the responsibilities within MOC/DOC.

### **Recommendation 2: Legislation and policy framework has been developing with the support of the Project, but focus is needed to ensure enforcement and financial support in the long-term.**

- Delivering key movement on Outcome #1 is one of the main targets of this Project. An effective implementation and enforcement mechanism to apply the new QCVN 09:2017 building code on the construction market will be therefore the key for success. In fact, the new code will require a steady and continuous development and implementation of by-laws, regulations and procedures and the relevant public

bodies to be assigned with specific tasks: building energy audits to update SEC and EE benchmarks in order to be able to classify buildings according to consumption profiles (e.g. introducing building energy passports), include building materials and equipment labelling and certification, enforce the building inspection and design approval, etc.

- In this context the “*Roadmap and Action Plans for EE Promotion in Vietnam’s Building Sector*” (version 2018 developed under EECB) requires an update and including the new requirements of the building code QCVN 09:2017 and aligning with National Energy Efficiency Program targets.
- Financial mechanisms are considered a bottleneck for promoting EE concepts in the building and infrastructure sectors. Considering the type of building and related investments into energy efficiency international experience shows that financial incentives may be appropriate mainly in the refurbishment of existing buildings, whereas in new building developments, with appropriate building energy codes enforcement and compliance checking mechanisms in place, financial incentives are not needed, since the building developers will reflect the additional costs of EE in the price of the buildings, and users will benefit from lower energy bills. Since the project is mainly about building energy codes (for new building developments), financial incentives are not considered the main priority – and even if the EECB Project would allow achieving greater impact with a financial incentive mechanism in the long term, it is under current budget limitations and the reaching of the public debt ceiling (65% of the GDP) unrealistic that such mechanism could be implemented within the coming years.

**Recommendation 3: Ensure that institutional bodies take energy efficiency forward and market awareness is created in the longer term**

- A mandatory building EE policy framework for future policy actions that considers minimum energy performance standards is required in Viet Nam (similar to other countries in the region) following international best practice. To increase the impact of this Project for future benefits, the Project should provide the grounds as much as possible for continuous enforcement and implementation of the EE policy framework in Viet Nam.
- Enforcement of the new building code and other (by-)laws and regulations will be required and thus public bodies to be created/assigned with specific tasks; although this development is at very early stage in Viet Nam so far and will need more time and efforts to create basic awareness among governmental and institutional stakeholders, building design and construction experts acting on the market, and the general public (mainly residents and users of buildings). Challenges laying ahead are related to the adoption of appropriate energy auditing and the introduction of building energy passport mechanisms, energy monitoring and performance-based billing systems, building materials and equipment labelling/certification, building inspection and design approval mechanisms.
- Basic assessments and information on the energy use in buildings (not only residential, but also public and private service buildings) will be required to better understand the quantitative and qualitative use of energy in buildings across different building types (and also old and new buildings). The level of (statistical) information is quite weak and initial baseline assessments are being conducted within the Project through a set of energy audits in selected buildings; without such basic analysis, strategies to utilize the potential of energy efficiency conditions in the Vietnamese building sector cannot be elaborated, since firm information on the actual quality of buildings in would be factually not available.
- Since the Project is supporting this process by providing basic energy audit, building assessments and studies (e.g. such as indicators and benchmarks on energy efficiency in the building sector available through energy audits and simple energy management methods introduced), institutional building for developing a country building statistics and information base for building energy consumption in Viet Nam should be envisaged in the longer term, since it is understood that such institutions do not exist currently.

**Recommendation 4: Introduce a higher level of public outreach and institutionalise public awareness measures in the frame of the country’s policy framework**

- The Project must improve the current level of information dissemination and public awareness creation activities throughout the remaining project period. An update of the Project’s communication strategy and plan is required.

- Considering the limited possibilities to publish project results and achievements through own channels (such as project website, which is not deemed effective due to low general visibility), co-operation should be sought with national media and it should be possible to share several substantial success stories and provide specific awareness measures throughout the remaining project period (e.g. among building developers, building users). This plan also will make the EECB project in Viet Nam more consistent with other projects throughout the region, which are already actively documenting their projects' successes via publications, internet, and mass media.
- Dissemination of results and benefits achieved should be assured by "Story telling" to visualize best-practice examples in buildings.
- What is missing in the country is to "institutionalize energy efficiency awareness" through government stakeholders and specific agencies – e.g. link up with activities provided through the existing ECCs or supporting relevant associations (e.g. VGBC). The Project shall emphasize to build a country-wide "Knowledge Center (KC) for Energy Efficiency in Buildings" by providing all information, reports, tools, training materials, publications, guidelines developed by the Project and make them publicly available online. MOC should maintain to be the KC for EE topics in the future.
- In order to increase the public attention towards energy efficiency in buildings, the Project may explore the opportunity with cities in launching specific calls for innovative projects in new urban developments. Possibilities shall be sought to launch e.g. architecture competitions where green building concepts will be included in the competition requirements or establishing green city development areas. Green Cities strive to build a better and more sustainable future for urban spaces and their residents by identifying, prioritizing and connecting cities' environmental challenges with sustainable infrastructure investments and policy measures.
- Furthermore, in terms of networking and know-how exchange, the Project shall establish exchange of experience and information through the UNDP network and engage with other on-going international projects supporting building EE in the region (e.g. UNDP-GEF Projects being implemented on Buildings Energy Efficiency in Thailand, India or Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan and Armenia), as well as projects supported by World Bank/IFC, Asian Development Bank or others.

**Recommendation 5: Monitoring & evaluation of GHG mitigation levels and project impacts to be reviewed**

- Although the activities are to a large extent not finished and real impact can hardly be measured it is moderately likely that the Project will by the end reach valuable results in terms of direct GHG emission reduction benefits.
- It is highly recommended that relevant criteria will be considered for a GHG monitoring for the remaining duration of the Project and should thus be integrated into the overall monitoring activities under outcome 3. So far, the PMU is doing well in monitoring the direct GHG impact of demonstration buildings that are receiving technical assistance through the Project; a weak point remains the monitoring of indirect GHG emission reductions, since required data (either from national energy statistics or specific building statistics, e.g. level of building construction, refurbishments, building energy consumption, etc.) is hardly available and requires high efforts for collection.
- Finally, a "Lessons-learned report" shall be developed towards EOP summarizing the achievements and challenges the Project has overcome in regard to EE in buildings in Viet Nam, and outstanding support that is required for policies (enforcement), technologies and information sources to be replicated in the area of EE in buildings in future (follow-up projects).

## 6 Annexes

### 6.1 Annex 1: Mid-Term Review – Terms of Reference

#### TERMS OF REFERENCE

##### Midterm Review of the UNDP-GEF Project on Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)

<b>Project title:</b>	Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)
<b>Implementing Partner:</b>	Ministry of Construction (MOC)
<b>Duty Location:</b>	Hanoi (Viet Nam) with in-country travel as required
<b>Duration:</b>	November 2018 – April 2019

#### 1. INTRODUCTION

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the *full sized project titled Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB) (PIMS 5245)* implemented through the *Ministry of Construction (MOC)*, which is to be undertaken in 2018-2019. The project started on the 22 April 2016 and is in its *third* year of implementation. In line with the UNDP-GEF Guidance on MTRs, and progress of the project, this MTR process was initiated after the submission of the second Project Implementation Report (PIR). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* ([http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance\\_Midterm%20Review%20\\_EN\\_2014.pdf](http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf)).

The MTR is primarily a monitoring tool to identify challenges and outline corrective actions to ensure that a project is on track to achieve maximum results by its completion. The output/deliverable of a MTR process is the MTR report with issues and management responses that will be useful for the project steering committee, implementing partner (MOC), Project management unit and UNDP for necessary corrective actions (if any) and continued management and implementation of the project towards achievement of its results by its completion.

#### 2. PROJECT BACKGROUND INFORMATION

Viet Nam's socio-economic growth is the rapid urbanization of Viet Nam and has led to development of construction sector as well as higher energy demand for building sector. The report by World Business Council for Sustainable Development (WBCSD) showed that energy use in buildings accounts for 40% of the world energy use and generates an amount of CO2 emissions accounting for 30%.



In response to the challenges, Vietnamese Government has set forth many sustainable solutions namely National targeted program on climate change, National Strategy and Action Plan on Green Growth, Law on Energy Efficiency and Conservation. These are important legal bases for implementing activities on energy efficiency in building sector, namely the Decision No. 811/QĐ-BXD by the Ministry of Construction dated 18 August 2016 on Action Plan in response to climate change of the Building sector, period of 2016-2020; the Energy Efficiency building code (QCVN 09:2013) and the Green Growth Action Plan of the construction sector.

Under this situation, the Ministry of Construction (MOC) in cooperation with the United Nations Development Program (UNDP) implements the Project “Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam” (EECB) funded by Global Environment Fund (GEF). The Project’s goal is to reduce intensity of GHG emissions from the building sector in Viet Nam. The project objective is to improve the energy utilization performance of commercial and high-rise residential buildings in Viet Nam. Realization of this objective will be achieved through implementation of three components: (i) Improvement and Enforcement of Energy Efficiency Building Code; (ii) Building Market Development Support Initiatives, and (iii) Building EE Technology Applications and Replication

The Project will be implemented over a 4-year period starting from April 2016 and is expected to generate GHG emission reductions of about 37,680 tCO<sub>2</sub>e. The cumulative direct reduction in GHG emissions over the lifetime of the project is envisioned to be 236,382 tCO<sub>2</sub>e.

The total funding of the project is USD 24,696,550 of which GEF grant funding is \$3,198,000 and the remaining amount of \$21,498,550 is co-financed by national counterparts including MOC and building owners.

The project was formally launched in August 2016 and should end by end of 2020. All project components are under implementation.

### **3. OBJECTIVES OF THE MTR**

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project’s strategy, its risks to sustainability.

### **4. DETAILED SCOPE OF THE MTR**

The MTR team will consist of two independent consultants that will conduct the MTR - one international consultant as team leader and one national expert as team member.

The MTR team will assess the following four categories of project progress. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for extended descriptions.

## i. Project Strategy

### Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Review the relevance of the project strategy and assess whether it provides the most effective and efficient route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement.

### Results Framework/Log-frame:

- Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

## ii. Progress Towards Results

### Progress Towards Outcomes Analysis:

- Review the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; colour code progress in a "traffic light

system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved" (red).

**Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)**

Project Strategy	Indicator <sup>1</sup>	Baseline Level <sup>2</sup>	Level in 1 <sup>st</sup> PIR (self-reported)	Midterm Target <sup>3</sup>	End-of-project Target	Midterm Level & Assessment <sup>4</sup>	Achievement Rating <sup>5</sup>	Justification for Rating
Objective:	Indicator (if applicable):							
Outcome 1:	Indicator 1:							
	Indicator 2:							
Outcome 2:	Indicator 3:							
	Indicator 4:							
	Etc.							
Etc.								

**Indicator Assessment Key**

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
-----------------	----------------------------------	-----------------------------------

In addition to the progress towards outcomes analysis:

- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Evaluation.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

**iii. Project Implementation and Adaptive Management**

**Management Arrangements:**

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.

<sup>1</sup> Populate with data from the Logframe and scorecards

<sup>2</sup> Populate with data from the Project Document

<sup>3</sup> If available

<sup>4</sup> Colour code this column only

<sup>5</sup> Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ logframe as a management tool and review any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

Project-level Monitoring and Evaluation Systems:

- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

**iv. Sustainability**

- Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- In addition, assess the following risks to sustainability:

Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

### Conclusions & Recommendations

The MTR team will include a section of the report setting out the MTR's evidence-based conclusions, in light of the findings.<sup>6</sup>

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR team should make no more than 15 recommendations total.

### Ratings

The MTR team will include its ratings of the project's results and brief descriptions of the associated achievements in a *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTE report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTE Ratings & Achievement Summary Table for *Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)*

Measure	MTE Rating	Achievement Description
Project Strategy	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	

<sup>6</sup> Alternatively, MTR conclusions may be integrated into the body of the report.

	Outcome 2 Achievement Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
Project Implementation & Adaptive Management	(rate 6 pt. scale)	
Sustainability	(rate 4 pt. scale)	

#### 5. MTR APPROACH & METHODOLOGY

The MTR must provide evidence based information that is credible, reliable and useful. The MTR team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review). The MTR team will review the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTR field mission begins.

The MTR team is expected to follow a collaborative and participatory approach<sup>7</sup> ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Adviser, and other key stakeholders. Engagement of stakeholders is vital to a successful MTR.<sup>8</sup> Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to executing agencies, senior officials and task team/ component leaders, key experts and consultants in the subject area, Project Board, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR team is expected to conduct field missions to local provinces in Viet Nam, including the project sites where project activities such as demonstration, replication and training have taken place.

The review will follow UNEG norms and standards for evaluations, as well as ethical guidelines.

<sup>7</sup> For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see [UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results](#), 05 Nov 2013.

<sup>8</sup> For more stakeholder engagement in the M&E process, see the [UNDP Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 3, pg. 93.

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

#### 6. MIDTERM EVALUATION DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	MTR Inception Report	MTR team clarifies objectives and methods of Midterm Review	No later than 2 weeks before the MTR mission	MTR team submits to the UNDP and project management
2	Presentation	Initial Findings	End of MTR mission:	MTR Team presents to project management and the UNDP
3	Draft Final Report with Notes of all meetings with stakeholders	Full report (using guidelines on content outlined in Annex B) with annexes	Within 3 weeks of the MTR mission:	Sent to the UNDP, reviewed by RTA, Project Coordinating Unit, GEF OFF
4	Final Report*	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTE report	Within 2 weeks of receiving UNDP comments on draft:	Sent to UNDP

\*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

#### 7. TIMEFRAME, DUTY STATION AND EXPECTED PLACES OF TRAVEL

**Duration and Timing:** Estimated 20 working days for an international consultant and 15 working days for one national consultant during the November 2018 – April 2019.

**Duty station:** Home based and Hanoi with in-country travel as required

The detailed schedule will be developed and agreed with the UNDP and project management team (UNDP) before commencing. The assignment shall include a 5-working day mission in Hanoi, Viet Nam. In case of in-country travel (if needed), travel costs will be covered by the Project based on the UNDP policy.



Options for site visits should be discussed in advance with the PMU and UNDP and provided in the Inception Report.

The tentative MTR timeframe is as follows:

TIMEFRAME	ACTIVITY
<i>(26 October 2018)</i>	Application closes
<i>(10 November 2018)</i>	Select MTR Team
<i>(15 November 2018)</i>	Prep the MTR Team (handover of Project Documents)
<i>(20 November 2018)</i>	Document review and preparing draft MTR Inception Report
<i>5 December 2018</i>	Finalization and Validation of draft MTR Inception Report- latest start of MTR mission
<i>5 days (10 – 15 December 2018)</i>	MTR mission: stakeholder meetings, interviews, field visits
<i>15 December 2018</i>	Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission
<i>15 January 2019</i>	Preparing draft report including suggestion for Preparation and Issues of management response (note: taking into account of 1 week off for Christmas and New Year)
<i>15 March 2019</i>	Incorporating audit trail (see Annex G) from feedbacks on draft report/Finalization of MTR report (note: accommodate time delay in dates for circulation and review of the draft report and the Vietnamese New Year in early February)
<i>30 March 2019</i>	Finalisation of Preparation & Issues recommended for Management Response
<i>30 April 2019</i>	Expected date of full MTR completion

#### 8. TEAM COMPOSITION AND EXPECTED QUALIFICATIONS

The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The ideal candidates shall have the following minimum qualifications and experience:

##### For International Consultant (Team Leader)

- Master's degree in project management, energy efficiency, environmental sciences or relevant fields.
- At least ten (10) years of international experience in the areas of project development, project implementation, and project evaluation for donor-funded development projects in developing countries.

- Recent experience with results-based management evaluation methodologies; Experience working with the GEF or GEF-evaluations; Project evaluation/review experiences within United Nations system will be considered an asset;
- Work experience in climate change mitigation projects in developing countries in Asia is an advantage; work experience in energy efficiency in buildings is an advantage
- Experience applying SMART indicators and reconstructing or validating baseline scenarios; Experience applying participatory monitoring approaches;
- Good interpersonal and analytical skills and ability to work under diverse/varied cultural environments;
- Demonstrated command over writing professional reports in English.

Specifically, the international expert (team leader) will perform the following tasks:

- Lead and manage the evaluation mission;
- Design the detailed evaluation scope and methodology (including the methods for data collection and analysis);
- Recommend the division of labor within the evaluation team;
- Conduct an analysis of the outcome, outputs and partnership strategy (as per the scope of the evaluation described above);
- Draft the evaluation report and recommend issues for management response; and
- Finalize the entire evaluation report.

For National Consultant (Team member)

- Graduate degree in degree in project management, energy efficiency, environmental sciences or relevant fields
- At least five (5) years of experience in the areas of project development, project implementation, and project evaluation for donor-funded development projects in Viet Nam;
- Familiarity and past experience with evaluation of GEF projects, especially in energy efficiency or energy efficiency in buildings projects is an advantage
- Work experience in climate change mitigation for donor-supported projects is an advantage
- Experience applying SMART indicators and reconstructing or validating baseline scenarios; Experience applying participatory monitoring approaches
- Good interpersonal and analytical skills and ability to work under diverse/varied cultural environments;
- Excellent English skills with evidence through practical experience.

Specifically, the national expert will perform the following tasks:

- Documentation of evaluation and data gathering and consultation meetings;
- Contributing to the development of evaluation plan and methodology;
- Conducting specific elements of the evaluation determined by the International Lead Consultant;
- Contributing to presentation of the evaluation findings and recommendations at the evaluation wrap-up meeting;
- Contributing to the drafting and finalization of the MTR reports, notes of the meetings and other related documents prepared by the international consultant

- Performing translation for the international consultants during meetings with various stakeholders and necessary documents discussed during the international consultant's mission.

#### 9. MTE IMPLEMENTATION ARRANGEMENTS

UNDP CO in Viet Nam will be responsible for selection and procurement of both international and local consultant. The international consultant will be the team leader and responsible for overall planning, execution and quality, contents and timely completion of the deliverables. Upon selection and procurement of international and local consultants, the UNDP CO in Viet Nam shall coordinate the initial communication between the two consultants and PMU, after which the international consultant shall assume the leadership role.

The selected consultants will work closely with UNDP programme Officer and Project Management Unit (PMU) under the guidance of the Head of Climate Change and Environment Unit at UNDP Viet Nam. All logistical arrangements (transport, accommodation, communications, arranging meetings, supplying copies of required documentation, etc.) to support evaluation team will be supported by PMU/UNDP.

With the exception of a 5-day field mission, the members of the MTR team are expected to work mostly from their home based offices and communicate among themselves and with UNDP, PMU and other stakeholders electronically. The MTR team can seek out both UNDP and PMU for reasonable assistance and support that they may require to fulfill their responsibilities.

#### 10. PAYMENT MODALITIES AND SPECIFICATIONS

- The first installment of 60% of contract value will be paid upon submission and approval of the draft MTR report with supporting documents and notes of the meetings.
- The second and final payment of 40% will be paid upon the completion of the final products under the contract, with satisfactory acceptance by UNDP.

#### 11. CONSULTANT PRESENCE REQUIRED ON DUTY STATION/UNDP PREMISES

NONE                      PARTIAL                       INTERMITTENT                      FULL-TIME

## 6.2 Annex 2: MTR Evaluative Matrix

<b>Ratings for Progress Towards Results: (one rating for each outcome and for the objective)</b>		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as “good practice”.
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.

<b>Ratings for Project Implementation &amp; Adaptive Management: (one overall rating)</b>		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as “good practice”.
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

<b>Ratings for Sustainability: (one overall rating)</b>		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project’s closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

### 6.3 Annex 3: Documents Reviewed

The UNDP Project Manager has submitted a list of documents to the MTR Consultant in advance of the evaluation mission for review:

Nr.	Document Title
1.	PIF
2.	UNDP Initiation Plan
3.	UNDP Project Document
4.	UNDP Environmental and Social Screening results
5.	Project Inception Report
6.	All Project Implementation Reports (PIR's)
7.	Quarterly progress reports and work plans of the various implementation task teams
8.	Audit reports
9.	Finalized GEF focal area Tracking Tools at CEO endorsement and midterm (climate change mitigation)
10.	Oversight mission reports
11.	All monitoring reports prepared by the project
12.	Financial and Administration guidelines used by Project Team
13.	Project operational guidelines, manuals and systems
14.	UNDP country/countries programme document(s)
15.	Diverse project results and technical reports (by package and progress)

## 6.4 Annex 4: Mission Itinerary and meetings held

No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
<b>Monday, 25 Feb 2019</b>						
1.	9:00 - 10:30, Monday, 25 Feb 2019	UNDP CO/PMU	Ms. Vu Thi Thu Hang Ms. Hoàng Thị Kim Cúc Mr. Yannick Millet	UNDP Programme officer EECB Project Manager ITA	*Briefing meeting with project team *Sharing additional information *Project Implementation and Adaptive Management *Project internal & external communication means *M&E Tools *Update of mission agenda (if needed)	37 Lê Đại Hành, Hai Bà Trưng, Hà Nội
2.	10:30 - 12:00, Monday, 25 Feb 2019	Ministry of Construction (MOC)/ Department of Science Technology and Environment (DOSTE) - PMU	Mr. Vũ Ngọc Anh Mr. Nguyễn Công Thịnh Mr. Đinh Chính Lợi Ms. Le Mai Hong	Director General of DOSTE, Director of EECB Project  Vice Director- DOSTE & EECB PMU  Official DOSTE- National Coordinator of EECB PMU Official DOSTE- EECB PMU member	Project Progress overall *specific achievements so far *Progress as per list of indicators *Challenges/barriers *Adaptive management - how to bring project on track	37 Lê Đại Hành, Hai Bà Trưng, Hà Nội
3.	13:30 – 15:00 Monday, 25 Feb 2019	Department of Energy Efficiency and Sustainable Development, Ministry of Industry and Trade (MOIT)	Mr. Trinh Quoc Vu	Vice Director	*Status on main activities: Responsible party involved in developing policies, standards and regulations for energy end-use equipment. Activities related to training, certification system for energy auditors and energy managers in the building sector. - national programme on energy efficiency	54 Hai Bà Trưng, Hoàn Kiếm, Hà Nội

No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
4.	15:30 - 17:00 Monday, 25 Feb 2019	Melia (a refurbishment building)	Mr. Do Minh Tuan	Chief Engineer	*The progress of retrofit works and EECB's recommendations  *Any activities on capacity building, training, workshops and seminars involved?	44 Lý Thường Kiệt, Trần Hưng Đạo, Hà Nội,
5.	17:30 - 18:30, Monday, 25 Feb 2019	UNDP CO	Mr. Dao Xuan Lai  Ms. Vu Thi Thu Hang	Head of Climate Change and Environment  UNDP Programme officer	- Briefing with UNDP, - Overview of the MTR, specific questions from UNDP, issues observed, - UNDP view on project, and some highlights	304 Kim Mã, Ba Đình, Hà Nội
<b>Tuesday, 26 Feb 2019</b>						
6.	9:00 – 10:30 Tuesday 26 Feb 2019	CONINCO (and designers, building consultants, demo consultants etc.)	Mr. Ta Duc Hoang  Mr. Tran Duc Tai  Mr. Dinh Tien Duong	Vice head, Division of Technical Management, Focal point  Leader of design team  Chief Engineer of Project Management Unit  MEP officer of Project Management Unit	*Progress of demonstration project  *Status of development and implementation of capacity building programs  * Any difficulties in applying EE technologies in building	Khu Ngoại giao đoàn Trung Tự, số 06 Đặng Văn Ngữ,
7.	11:00 – 12:00 Tuesday 26 Feb 2019	National University of Civil Engineering	Mr. Tran Duc Luong  Mr. Nguyen Cao Lanh	Vice Dean, Faculty of Environmental Engineering  Vice Dean, Faculty of Architecture and Planning	*Teaching content of EE in building in construction engineering (if any) *capacity building and academic courses on design, development and implementation of EE buildings	55 Giải Phóng, Đồng Tâm, Hai Bà Trưng

No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
			Ms. Pham Thi Hai Ha	Head - Division Of Environmental Architecture, Faculty of Architecture and Planning		
			Mr. Tran Ngoc Quang	Head- Division of Micro-Climate, Faculty of Environmental Engineering		
			Mr. Tran Minh Tu	Vice Dean of Building and Industrial Construction Faculty		
8.	13:30 – 15:30 Tuesday 26 Feb 2019		Mr. Le Nho Hoan	M&E Consultant	EECB Project's M&E issues	37 Lê Đại Hành, Hai Bà Trưng, Hà Nội
	<b>18:00 – 20:00</b>	<b>Flight to HCM</b>				
<b>Wednesday, 27 Feb 2019</b>						
9.	8:30 – 10:00 Thursday, 27 Feb 2019	HCMC University of Architecture	Mr. Nguyen Hoang Minh Vu	Vice Rector	* Teaching content of EE in architectural design *capacity building and academic courses on design, development and implementation of EE buildings	196 Pasteur, Phường 6, Quận 3, Hồ Chí Minh
		Center for Energy Efficiency and Energy Audit in Buildings (CEEB) in HCMC	Mr. Nguyen Hoang Minh Vu	Director	*organizational establishment and operational issue, such as legal framework, mandate, infrastructure, human resources, capacity building program, reputation and relationship with key stakeholders in the building sector	



No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
10.	10:30 – 12:00 Wednesday, 27 Feb 2019	UNDP CO/PMU	Mr. Nguyễn Trung Hòa	EECB Project National Technical Advisor	*Technical aspects of EECB *Pilot projects selection *Actual status of energy efficiency in building in general (e.g. available new building code, other standards/norms, actual market devt.)	196 Pasteur, Phường 6, Quận 3, Hồ Chí Minh
11.	13:30 – 15:00 Wednesday, 27 Feb 2019	Energy Conservation Center (ECC) in HCM	Mr. Hoang Anh Tri  Mr. Ngo Dinh Cuong	Deputy Head of Division Energy solutions and Renewable Energy Department  Startup and Innovation Hub of HCMC (SIHUB) Technical Officer	*Status of research and consultation provided to EECB Project (progress and difficulties) *Status of energy database and benchmarking of buildings	273 Điện Biên Phủ, Phường 7, Quận 3, Hồ Chí Minh
12.	15:30 – 17:00 Wednesday, 27 Feb 2019	Somerset Chancellor Court (a refurbishment building)	Mr. Doan Nhat Hồ  Mr. Liêm	Assistant Engineering Manager Somerset Chancellor Court  Senior Manager Engineering	*Status of demonstration project and co-finance disbursement status  *Any activities on capacity building, training, workshops and seminars involved?	21-23 Nguyễn Thị Minh Khai, Phường Bến Nghé, Quận 1, TP.HCM
<b>Thursday, 28 Feb 2019</b>						
13.	9:00 – 10:00 Thursday, 28 Feb 2019	Capitaland	Mr. Nguyen Dinh Khoa	Project Manager	* Status of demonstration project and co-finance disbursement status  *Status of development and implementation of capacity building programs	Tầng 8, Tòa nhà Vista, Lô Y1, đường Đồng Văn Cống, Quận 2, TP. Hồ Chí Minh
14.	11:00 – 12:00 Thursday, 28 Feb 2019	Golden Lotus	Mr Dinh Tran Khoi Nguyen	Chief Engineer, S&K Construction Design JSC	* Status of demonstration project and co-finance disbursement status	Tầng 1, Tòa nhà Sohude, <a href="#">số 331 Nguyễn Trọng Tuyển, Phường 10,</a>

No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
						<a href="#">Quận Phú Nhuận, Tp. HCM.</a>
15.	14:00 – 15:30 Thursday, 28 Feb 2019	HCM DOC	Mr. Nguyen Ba Thanh  Mr. Nguyen Thanh Xuyen	Vice Director, Department of Construction  Head, Division of Construction Management Quality	*Status on main activities: Sharing of EE incentive policies/measures in buildings Status of code application QCVN 09:2017/BXD Monitoring EE compliance during and after the construction phase and reviewing EE compliance. Specific tasks on energy auditing and certification of EE in buildings?	60 Trương Định, Phường 7, Quận 3, Hồ Chí Minh
16.	15:45-16:45	IFC	Mrs. Do Ngoc Diep	Green Building Specialist, VN Green Buildings Program	* EE/Green building programme/ projects in Vietnam * Orientation of relevant programe/ project development	Sheraton Hotel HCM
	<b>19:00- 21:00</b>	<b>Flight to Hanoi</b>				
<b>Friday, 01 March 2019</b>						
17.	8:30 – 10:00 Friday, 01 March 2019	Energy Conservation Center (ECC) in HN	Mr. Tran Anh Thinh  Mr. Do Van Sang	Official, Energy Conservation Division, Industrial Promotion and Development Consultancy Centre	*Status of research and consultation provided to EECB Project (progress and difficulties) *Status of energy database and benchmarking of buildings	37 Lê Đại Hành, Hai Bà Trưng, Hà Nội
	<b>10:00 – 13:30</b>				<b>*Preparation of Briefing note</b>	
18.	13:30 – 15:00 Friday, 01 March 2019	UNDP CO/PMU	Vu Thi Thu Hang	UNDP Programme officer	*De-briefing *Mission conclusions *Next steps	37 Lê Đại Hành, Hai Bà Trưng, Hà Nội

No	Time	Organization	Name	Position	Meeting contents	Venue and Focal Points
			Mr. Nguyen Cong Thinh Mr. Dinh Chinh Loi	PMU Vice Director PMU Coordinator		
			Hoàng Thị Kim Cúc Yannick Millet Luong Thi Thu Huyen	EECB Project Manager ITA		
19.	15:30 - 16:30 Friday, 01 March 2019	UNDP CO and RTA	Dao Xuan Lai Vu Thi Thu Hang	UNDP head of CC Unit UNDP Programme officer	*De-briefing and highlights *Next steps	304 Kim Mã, Ba Đình, Hà Nội

## 6.5 Annex 5: Code of Conduct for Evaluators/Midterm Review Consultants

### Evaluators/Consultants:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

### MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Andreas Karner

Name of Consultancy Organization (where relevant): INDIVIDUAL CONSULTANT

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Vienna (Place) on 23 July 2019 (Date)

Signature:  \_\_\_\_\_

Name of Consultant: Dung Dang Ngoc

Name of Consultancy Organization (where relevant): INDIVIDUAL CONSULTANT

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Hanoi (Place) on 23 July 2019 (Date)

Signature:  \_\_\_\_\_