

**Energy Efficiency Pubic Buildings Project**

**Midterm Review Report**

Removing Barriers to Increase Investment in Energy

Efficiency in Public Buildings in Ukraine through the ESCO

modality in Small and Medium Sized Cities

- EEPB -

November 21 – 2019

**Submitted to:**

United Nations Development Programme Ukraine

**Prepared by:**

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**Acknowledgements**

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## Project Information Table

Programme Period: 2015-2020

Atlas Award ID: 00088958

Project ID: 00095405

PIMS # 4114

Start date: August 2016

End Date: Jan 2021

Management Arrangements: NIM

PAC Meeting Date: 22 July 2016

Total resources required: US$ 62,153,195

Total allocated resources: US$ 62,153,195

Regular UNDP (cash): US$ 200,000

UNDP (in-kind) US$ 700,000

Other

GEF US$ 5,480,000

Other Cash US$ 42,424,779

In-kind US$ 13,348,416

|  |  |
| --- | --- |
| Project Title: | Removing Barriers to increase investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO modality in Small and Medium Sized Cities |
| GEF Project ID: | 4114 |
| UNDP Project ID: | 00095405 |
| Region and countries included in the project: | Eastern Europe and Ukraine |
| UNPF Outcome # 1 | Sustainable economic growth, environment and employment |
| UNDP Country Programme Document (2018-2022): Outcome # 3 | National institutions, private business and communities implement gender-responsive policies and practices to achieve sustainable management of natural resources, preservation of ecosystems, mitigation, adaptation to climate change and generation of green jobs |
| UNDP Strategic Plan (2018-2022): Outcome # 2 | Accelerate structural transformations for Sustainable Development; Output 5: close the clean energy gap |
| Executing Agency/Implementing Partner and other project partners | UNDP/ State Agency on Energy Efficiency & Energy Saving of Ukraine and Ministry of Regional Development, Construction, Housing and Communal Services (MinRegion). |
| Project Start Date | August 2016 |
| Project End Date | January 2021 |
| GEF grant | USD 5,480,000 |
| Co-financing | USD 61,605,195 |

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# Acronyms and Abbreviations

APR Annual Project Review

CO UNDP Country Office

CO2 Carbon dioxide

CTA Chief Technical Advisor

EE Energy Efficiency

EMIS Energy Management Information System

EMIS&C Energy Management Information System and Control

EPC Energy Performance Contract

ESCO Energy Service Company

EU European Union

EPT End of the Project Timeframe

FSM Financial Support Mechanism

GEF Global Environment Facility

GHG Greenhouse Gas

IEA International Energy Agency

IATI International Aid Transparency Initiative

kWTH Kilowatt Thermal

kWhTH Kilowatt-hour Thermal

M&E Monitoring and Evaluation

MinRegion Ministry of Regional Development, Construction, Housing and Communal Services

Mtoe Million tons of oil equivalent

MWTH Megawatt Thermal

MWHTH Megawatt-hour Thermal

NGO Non-Governmental Organization

OECD Organization for Economic Cooperation and Development

OEMA Odesa Energy Management Agency

QPR Quarterly Progress Report

PIF Project Identification Form

PIR Project Implementation Review

PMU Project Management Unit

PPG Project Preparation Grant

RSC UNDP Regional Service Centre

RTA UNDP Regional Technical Adviser

SAEEState Agency on Energy Efficiency and Energy Savings of Ukraine

SDG Sustainable Development Goals

SEAP Sustainable Energy Action Plan

SECAP Sustainable Energy and Climate Action Plan

SEE Sustainable energy and environment

toe Tons of oil equivalent

UNDP United Nations Development Programme

# 1. Executive Summary

## 1.1. Project Description

Before going further, it is important first to recall the Project Goals, in addition to GHG emissions reduction:

* Formulate and introduce a streamlined and comprehensive framework to promote energy efficiency in public buildings through the strengthening of monitoring and enforcement mechanisms

Promote private investments in energy efficiency in public buildings through the establishment of a Financial Support Mechanism (FSM)

Implement at least 10 pilot projects using the Energy Performance Contract modality to demonstrate the energy and cost-saving potential of energy efficiency measures in different municipalities

Establish an institutional basis and comprehensive nationwide Energy Management and Information System (EMIS)

Assist the Government in addressing the barriers that inhibit the transformation of the market toward investments in energy efficiency in public buildings

In line with these Goals, expected results should be the following:

Streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings is developed

An Innovative Financing Support Mechanism is adopted and capacity of ESCOs developed in order to promote investments in energy efficiency for public buildings

Pilot projects, which demonstrate the energy and cost-saving potential of new energy efficient measures are implemented

Institutional basis established to support energy efficiency in public buildings and implementation of a nationwide Energy Management and Information System

By the end of the project it is expected that at least 10 pilot EPC energy savings projects will be implemented in 10 different municipalities within Ukraine, and achieve annually 1,870 MWh of thermal energy and 166 MWh of electrical energy savings. The expected savings will result in a reduction of 8,893 tons of CO2 equivalent to the 20-year equipment lifetime. The project is expected to achieve this target by introducing or enhancing the regulatory framework for the establishment and operation of ESCOs through the EPC modality, and by putting in place a financial support mechanism that, together, will facilitate private sector participation in implementing energy efficiency measures in public buildings. This will be combined with thee national energy consumption database in public buildings via an energy management information system, which will facilitate additional investments in energy efficiency.

The Project will encompass the following four components:

Component 1: To formulate and introduce a streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings through strengthening of monitoring and enforcement mechanisms.

Component 2: To promote private investments for energy efficiency in public buildings through appropriate catalytic financial incentives, including the establishment of a Financial Support Mechanism (FSM).

Component 3: To implement at least 10 pilot projects in several selected public buildings to demonstrate the potential for energy and cost-saving via energy efficiency measures.

Component 4: To establish an institutional basis and comprehensive nation-wide Energy Management Information System for public buildings in Ukraine to support energy efficiency in these buildings.

A major outcome of the project is to provide support for to create the necessary conditions for private investments in the municipal public sector and ESCO market development in Ukraine, including the signing of at least 10 EPC’s in 10 different cities in Ukraine.

The second highest priority focus is related to the introduction & operation the EMIS as well as the involvement of Energy Managers at the municipal level. Data made available by municipalities must be centralized and analyzed at the central level by the SAEE to act as a nationwide database.

## 1.2. MTR Ratings & Achievement Summary Table

Table 1 provides information on the outcome-based achievements and results. The Evaluator recommends paying close attention to Table 3 in the core report to look at the output-based achievements and results.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Objective and Indicators** | | | **End of Project Targets (EPT) and Status at Midterm (SMT)** | | | | **R** |
| To assist the Government in addressing the barriers to transform the market for investments in energy efficiency in public buildings in the country.  Indicators:   * Emissions reduction (in tCO2 over 20-yr timeline). * Investment in energy efficiency. * Number of green jobs created. | | | EPT:   * 8,893 tons of CO2 reduced over 20-year equipment lifetime. * Indirect post-project GHG reduction of 1,440,000 tons of CO2. * Investment of $ 21 million from ESCOs. * 3,000 green jobs created.   Status at Midterm:   * Almost 80% of CO2 reduction target has been reached in the amount of 7.080 tCO2/20Yrs – according to Pilot EPC contracts (20) implemented and ongoing. This is a very good result at midterm. * 2 million $ invested by ESCO, Municipalities and UNDP. | | | | **S** |
| OUTCOME 1 Objective and Indicators | | | End of Project Targets (EPT) and Status at Midterm (SMT) |  | | R | |
| Outcome 1: Streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings through strengthening of monitoring and enforcement mechanisms.  Indicator:  Existence of adequate policy and regulatory framework. | | | EPT: Completed within 12 months of project initiation and approved by Government by the end of year 2.  Status at Midterm:   * Law on New Investment opportunities in Energy Efficiency (“ESCO Law”) #327 adopted in 2015, amended in January 2019. * Law “On Energy efficiency in buildings” #2118, adopted in 2018. EEPB is working on amendments to these laws. * The Parliamentary Committees and members of parliament (MPs) have approved the Draft Law No. 9386 as of 10.12.2018 “On the improvement of the ESCO mechanism” and recommend it to be passed in the first Parliamentary reading but the document was not voted yet due to dissolution of the Verkhovna Rada (June 2019). * The core legislation is set. EEPB is working on amendments improvement the law “On the energy efficiency of public buildings.” | | **S** | | |
| Outcome 2 Objective and Indicators | End of Project Targets (EPT) and Status at Midterm (SMT) | | | |  | | |
| Outcome 2: Innovative Financing Mechanism is adopted and capacity development is provided for ESCOs to promote investment in support of Energy Efficiency in public buildings.  Indicator:  Innovative Financing Mechanism established and working. | | | EPT: Completed within 24 months of project initiation and applied by all stakeholders.  Status at Midterm:   * The basic FSM has been put in place and already operational in 3 EPC projects. The ‘’ESCO Factoring’’ modality can allow ESCOs to more easily deal with the banks’ requirements related to co-lateral when ESCOs ask for a loan. * Work in progress to support the SAEE in developing the Green Fund and another FSM for ESCOs. | | **S** | | |
| Outcome 3 Objective and Indicators | | End of Project Targets (EPT) and Status at Midterm (SMT) | | | R | | |
| Outcome 3: Pilot projects in selected public buildings, which demonstrate energy and cost-saving potential of new energy efficient measures.  Indicator:  Pilot projects completed. | | EPT: Completed within 48 months of project start.  Status at Midterm:   * Pilot projects are already implemented over the expected target at the end of the project timeframe (EPT). At midterm, the EEPB project identified 11 Pilot EPC projects, 10 are at the implementation stage. * Work in progress for another series of pilot projects already identified and agreed. | | | **S** | | |
| Outcome 4 Objective and Indicators | | End of Project Targets (EPT) and Status at Midterm (SMT) | | |  | | |
| Outcome 4: Institutional basis for supporting energy efficiency in public buildings and implementing a nation-wide Energy Information Management System (EMIS) is in place.  Indicator: Existence of adequate framework. | | EPT:   * Organizational structure in place within 24 months of project initiation. * At least 20 new cities in Ukraine are implementing EMIS by the end of the project and at least 5 cities implementing EMIS by the half way point * Increased awareness among stakeholders in place to promote and develop the market for energy efficiency in public buildings.   Status at Midterm:   * Nation-wide Energy Information Management System design is in progress. | | | **S** | | |

Table 1 Summary of Outcomes/Outputs-based MTR Evaluation and Rating

## 1.5. Recommendations and Conclusion

### 1.5.1 Conclusion

Based on the midterm results, and despite the slow progress related to (i) ESCO additional legislations being submitted but not approved (ii) some barriers to the EMIS&C and energy management at the local level, in a few municipalities, being present during the midterm, and (iii) the slow progress with regard to the EMIS-Database being driven by the SAEE at the national level, the Evaluator is confident that objectives/outcomes are likely to reach the desired level of achievement by the end of the project timeframe. The midterm progress is likely to secure the rest of the project, although a significant effort has to be directed towards next two years especially in regards to the expected EE investment.

Despite the aforementioned optimistic conclusion, and despite the Logframe Matrix still being relevant, the whole project implementation is likely to be more difficult than anticipated, due to a myriad of factors and not solely due to the interest rate, which is a sizeable obstacle in and of itself.

The EEPB should review its implementation strategy in order to optimize for efficiency by dealing with the following priority topics:

* Conclude with the national secondary regulation or decree for making the involvement of an Energy Manager in all cities mandatory with the aim of, among others, making the upcoming web-based national EMIS Database (SAEE) fully operational.
* Intensively support the SAEE in preparing the Feasibility Study related to the development and implementation of the ‘’Green Fund’’ and the ESCO financial support mechanism.
* Setting up the needed Task Force to support the SAEE in regard to countrywide EMIS Database development and implementation.
* Enhancement of the partnership with municipalities for getting their involvement and commitment toward the development of the national EMIS Database, the SEAP, the mandatory involvement of municipal Energy Manager and the required incentive.
* The implementation a series of ESCO EMIS&C pilot projects and information dissemination at the local level.
* Select a full-time team member dedicated to dealing with ESCO EMIS&C and other ESCO pilot projects.
* Select a full-time team member for intensively supporting the EMIS Database Task Force (SAEE) and closely work with the international EMIS Database expert.
* Increase the involvement capacity with the EMIS Database international expert during the year 2020 to support the SAEE Task Force and train the EMIS Database national expert, who could become a potential candidate for the role of EMIS Database Administrator when the system will become fully operational.

### 1.5.2 Recommendations

Based on the two-week mission, documents available, meetings with stakeholders, the following recommendations could be considered. Although the EEPB Project Manager must make the decision on the implementation (or not) of recommendations listed below, the Evaluator allows himself to provide a few guidelines related to his view on the practical way to implement recommendations. Details on the following five recommendations and guidelines are highlighted in Section 5.

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| # | Recommendations |
| 1 | **New FSM and Project Financing Enhancement**  With the aim of establishing a relevant and an efficient FSM on a long-term basis, the EEPB project should make an arrangement to work with the SAEE at the “Green Fund’’ design stage and Feasibility Study. The EEPB should provide an intensive technical assistance to the SAEE at all stage of the FS to include a built-in ESCO financing component in the fund design. |
| 2 | **Enhancement of EMIS Barriers removal**  EMIS-Database: The Evaluator recommends to more intensively support (TA) the SAEE and the Working Group with the aim of speed up the outline of a comprehensive methodology and rollout the needed tools for web-based collection and analysis of data at the central level (SAEE). This recommendation aims at extending the EMIS in a large spread of municipalities countrywide and EMIS&C[[1]](#footnote-1) at the local building level. The rollout of the countrywide EMIS Database is critical because it is a major deliverable of the EEPB. If need be, the Project Manager could involve more than one national expert (2 is appropriate), in addition to the intensive involvement of the international expert. A large amount of work remains to be achieved by the end of the project timeframe. National and international experts along with the needed SAEE’s technical staff members should work together as a sort of ‘’Task-Force’’ in early 2020. A successful implementation of a central EMIS Database within the sub-region (e.g.: Serbia and Bosnia) should be replicated in some form. |
| 3 | **Strengthen Awareness and Dissemination of Achievements**  At the end of the project timeframe, the EEPB should plan an international conference (regional) on ESCO EPC implementation in public buildings; such an event must be supported by a high quality EEPB Final Report with the aim of sharing its experience and raising the awareness of the donor’s community. |
| 4 | **Implementation of a series of EMIS&C pilot projects**  The Project should implement a series of 10 ESCO EMIS&C pilot and support their extended replication (low-cost investment for EMIS&C and basic EE measures) for reaching an annual GHG emission reduction of 5,000 tons/yr rather than 1,238 t/yr, such it has been achieved until now by the EEPB. |

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| 5 | **Project Timeframe Extension**  Take into consideration a 12-month extension for the EEPB Project timeframe: UNDP CO could consider applying to UNDP GEF management in New York for getting one-and-a-half-year extension. Such an extension is needed with the aim of: (i) finalizing the nationwide operational EMIS Database through an appropriate platform and the needed intensive TA; (ii) implementing additional Pilot EMIS&C projects (10) and EPC Projects (10); and (iii) providing the needed TA to SAEE for carrying out the ‘’Green Fund’’ feasibility study useful to the EPC Projects financed through an adapted FSM. |

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# 2. Purpose-Methodology and Structure of the MTR report

## 2.1. Purpose of the MTR and objectives

As per the MTR Guidelines (UNDP), the MTR must assess the progress pertaining to the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project’s success or failure, with the goal of identifying the necessary changes that must be made to set the project on-track. The MTR also reviews the project’s strategy and risks in term of sustainability. To this end, Section 5 is related to recommendations that are of the utmost importance for the refinement of the project over the second half of its (extended) timeframe. The MTR is carried out embarking relevance, effectiveness, efficiency, sustainability and impact as five OECD - Development Assistance Committee (DAC) commonly used evaluation criteria.

## 2.2. Scope & Methodology

The Evaluator is required to carry out the MTR in line with the latest UNDP guidelines. The MTR should follow a collaborative and participatory approach ensuring close engagement with the key participants including the Commissioning Unit, the RTA, the involved UNDP Country Office(s), government counterparts (GEF Operational Focal Point (OFP)), the MTR team, and other key stakeholders. The MTR team is required by the TORs to comply with the detailed methodology and data collection methods as highlighted in the UNDP MTR Guidelines 2019 (ref. Footnote below[[2]](#footnote-2)).

It is ensured that during the evaluation process all stakeholder groups have been treated with integrity and confidentiality.

The evaluation methodology is based on the mixed methods and involves the use of commonly applied evaluation tools such as documentary review, interviews, information triangulation, analysis, and synthesis. Data collection, formulation of recommendations and identification of lessons learned were elaborated within participatory approach. The evaluation approach had at least four stages for the quality assurance:

1. Development of Inception Report and plans to assure the meeting of all requirements and expectation of UNDP;

2. Presentation and discussion of the preliminary findings;

3. Draft evaluation report negotiation;

4. An acceptance procedure for the finalization of the report.

Evaluation activities were organized according to the following stages: 1) planning; 2) data collection; and, 3) data analysis and reporting.

**Data collection**

The evaluation envisaged the following Data collection strategy:

1. Desk review
2. Field study

* *Key stakeholders Interviews* - central authorities, local authorities (Western Ukraine, Odessa and Kiev oblast) representatives project and UNDP CO and PMU staff.
* *Direct observations –* perceptions of the evaluator on the most visible changes generated by the project and/or additional opportunities created by the project.
* *Special purpose studies – (2)- Small grants programme review, pilot projects study* (study of the effectiveness, efficiency, relevance of pilot projects)

**Data analysis**

Information obtained through out the evaluation process was processed within the method of triangulation:

Documentation – PMU presented data – Stakeholders Perceptions - Results

All of the data obtained during evaluation was evidence based in order to assure the mitigation of inappropriate conclusions production.

Special attention is payed to the collection of data on Pilot projects. As a result, Data sheets on a series of 15 pilot projects are presented in *Appendix 8 EPC Site visits - Findings and Key Data.*

**Cross-cutting issues**

*Special attention in the evaluation process was payed to the project cross-cutting issues such as address gender specific issues and level of contribution to the achievement of the SDGs in Ukraine.*

|  |  |
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| Methodological Limitations | Mitigation |
| Time limitation | Mission is planned in a way to maximize the coverage of project sites with proper representation of geography and types of the activities implanted (ing) by the PMU. |
| The project activities are still underway | The estimation of the project intermediate results is conducted with proper end results projections indicating risks of their delivery. |
| Absence of possibility to interview some of key stakeholders during the field mission. | Skype meetings were organized in cases of inability of stakeholders to have face-to-face meetings. |
| Measurement of future impact: as it can only be measured in the long-term and few years after the completion of the project implementation. | This evaluation shows how current results can lead to the achievement of the impact the project, some “emergent impacts” are also recorded and factors that influence the achievement of the above impact are identified. |

The evaluation was carried out in accordance with the UNDP-Evaluation Guidelines, independent consultants must carry out the MTR, taking into consideration the following limitations and requirements:

The Evaluation team:

1. Must present information that is complete and fair in its assessment of the strengths and weaknesses, so that any decisions or actions taken are well founded.
2. Full disclosure of the 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. The MTR team should provide maximum notice, minimize demands on time, and respect people’s right to not engage. Evaluators must respect the 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. If evidence of wrongdoing is uncovered 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, and must be sensitive when addressing issues of discrimination and gender equality. They should with all stakeholders, be in line with the UN Universal Declaration of Human Rights. Evaluators should avoid offending the dignity and self-respect of those persons with whom they come in contact with during the course of the evaluation. Knowing that the evaluation might negatively affect the interests of some stakeholder; evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders’ dignity and self-worth.
6. The MTR team is responsible for the performance and product(s), 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.

It is not unusual to face a situation where one facet or a sub-component of the project has not performed as intended; the MTR report is required to assess how the project should apply the timely adaptive management methodology to achieve the intended outcomes and overcome pitfalls in line with the Project Document. At the end of the day, the MTR should likely aid in the overall enhancement of the UNDP CO programming.

The project started on 14 December 2016 (the Project Document signature date) with the project team being hired during the first half of April 2017. The project is now in its third year of implementation. The MTR should be completed by the end of September 2019.

# 3. Project Description and Background Context and Coherency

## 3.1. Development context and Summary

The EEPB Project is in line with the UNDP Development Context by dealing with GHG emissions reduction in coherency with a series of other UNDP’s projects at different stages of implementation as highlighted in the sub-section below.

The Project was initiated in December 2016, but the project manager was not hired until April 2017. The project got off to a slow start, with most of 2017 being used for hiring and placement the project team. The DIM modality for implementing the EEPB has been approved by the UNDP Regional Director in 2018.

2017 also led to a number of personnel decisions on key team members[[3]](#footnote-3). Eight consultants including, national (4) and international (4) were selected in 2017-2018. In 2019 two international consultants and two national consultants are currently still involved. They all made significant contributions towards the overall success of the project implementation. The Evaluator met the former consultants (ESCO expert, financial expert and EMIS expert) during the MTR mission in July; it was stated that they provided the EEPB with the required deliverables.

### 3.1.1 Environmental and Socio-economic

The “Energy Strategy of Ukraine to 2030”, has been updated in 2012 to“ address and provide support for the growing importance of energy efficiency. This was in the context of a world with rising oil and gas prices, where there is greater emphasis on security of supply and the need to reduce emissions of GHG. It is precisely because of the EE direct and positive impact on the economic, social and environmental dimensions of energy systems that it is widely recognized by policy makers[[4]](#footnote-4) as the priority toward the sustainable progress on energy and climate goals.

The development context for this project is also consistent with the UNDP and GEF priorities globally and in Ukraine as well. In particular, it falls within the:

* UNPF Outcome #1: Sustainable economic growth, environment and employment
* UNDP country Programme Document (2018-2022): Outcome #3: National institutions, private business and communities implement gender-responsive policies and practices to achieve sustainable management of natural resources, preservation of ecosystems, mitigation, adaptation to climate change and generation of green jobs
* UNDP Strategic Plan (2018-2022): Outcome 2: Accelerate structural transformations for sustainable development; Output 5: Close the clean energy gap

The UNDP is currently supporting a series of five major projects having environmental and socio-economic impacts in Ukraine:

- European Union/United Nations Development Program ‘’Home Owners of Ukraine for Sustainable Energy Solutions (Houses)’’ project[[5]](#footnote-5):

The European Union (EU) is implementing the Energy Efficiency Support Programme for Ukraine (EE4U), which is intended to increase energy efficiency in the Ukrainian residential sector and reduce greenhouse gas emissions. In this context, the EU and Germany are supporting the activities of the Energy Efficiency Fund, established by the Government of Ukraine, which will provide technical and financial support to energy efficiency measures in multi-apartment buildings across the country. The UNDP provides the technical assistance through the project, which lasts from 1 October 2018 until 30 September 2020.

- UNDP [Support to the Parliament of Ukraine on sustainable energy and environment](http://www.ua.undp.org/content/ukraine/en/home/projects/green-caucus-secretariat.html)[[6]](#footnote-6):

Ukraine has a long list of reform priorities in the area of sustainable energy and environment (SEE). However, their introduction is slowed down by the difficulties in legislation adoption and quality of some legal initiatives. To speed up the sustainable energy and environment related reforms and ensure representation of the SEE issues in the governmental programs, UNDP Ukraine seeks to improve the capacity of the Parliament of Ukraine and enhance environmental advocacy among politicians, mass media and the public through the new project implementation.

- Development and Commercialization of Bioenergy Technologies in the Municipal Sector in Ukraine[[7]](#footnote-7):

The objective of the project is to significantly increase the use of biomass energy as a fuel source for heating and hot water services in the municipal sector in Ukraine by at least 20% over the baseline scenario in order to reduce direct greenhouse gas emissions by 63,577 tons of CO2 over the 4-year lifespan of the project and, subsequently, 19,143 tons of CO2 during each year of the remaining 16-year lifespan of the boiler equipment.

- Removing Barriers to Increase Investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO Modality in Small and Medium Sized Cities (EEPB Project)[[8]](#footnote-8):

Over the five-year implementation period, 10 pilot energy saving projects will be implemented in 10 different Ukrainian cities and are expected to serve as best practice examples to be replicated in other towns throughout the country. The project will actively engage women and contribute to gender equality in a traditionally male-dominated energy sector. The project will lead to 2,346 MWh of thermal and 268 MWh of electrical energy savings as well as a total CO2 emission reduction of 8,893 tons.

As per the updated 2012-2030 Strategy mentioned above, and with the support of the UNDP’s project (but not only), it is expected that a comprehensive EE program will result in a reduction in energy consumption of 30-35% by 2030, thus reducing the energy cost burden and increasing the energy independence and competitiveness of the economy.

### 3.1.2 Quick Recall of recent Experiences in that field in Ukraine

The EEPB Project was not starting from scratch because of a series of related activities carried out by a few major development agencies and international organizations over the last 15 years, among others:

ESCO

It is important to mention that this isn’t the first Project that the UNDP Ukraine has attempted, with regards to the development of an ESCO business model. The UNDP/GEF supported phase 1 and 2 of its first ESCO project initiative in Rivne municipality from year 2000 to 2010. The project focused on the establishment of a municipal ESCO. At that time the project did not perform as expected because of major lacks in the national regulation and the questionable selection of EE measures, which were not at all in line with the ESCO business model and EPC modalities

In 2015, the OECD Eurasia Competitiveness Programme[[9]](#footnote-9) worked with the Government of Ukraine to develop a framework to create a market for sustainable energy service companies (ESCOs), as part of Phase III of the OECD Project “Sector Competitiveness Strategy for Ukraine”, co-financed by the European Union and the Government of Sweden. This monitoring note assesses the progress made by Ukraine during the three years since endorsement of the policy recommendations in 2015 and makes recommendations for future activities. The monitoring review has been carried out with the financial support of the Slovak Republic and Flanders.

Four sets of policy recommendations pertaining to the support of ESCO development in Ukraine were proposed in 2015, aimed at enhancing the country’s competitiveness while supporting the transition to a more energy efficient economy. The first one focused on easing access to energy services and project financing. The second one deals with the incentive mechanism for energy efficient activities, and the third policy is related to a better matching of energy supply and demand through co-ordination and skill enhancements among market players. Finally, the fourth policy aims at improving awareness and the promotion of the ESCO model.

EMIS

In 2013 UNIDO-GEF launched a full-sized project with the aim of “Preparing and detailing a strategy to accelerate the adoption of an energy management system standard for the Ukrainian industry.’’ To improve energy management in the Ukrainian industrial sector, the UNIDP Project promoted the widespread implementation of energy management systems (EnMS) complying with the international energy management system standard (ISO 50001). The UNIDO Project Outcomes were not linked with the building sector and so, not appropriately transferable to the EEPB project.

Ukraine has launched several awareness and capacity-building campaigns to promote the use of energy services. The 2017 “Action Plan for the Energy Management System Implementation in Public Institutions” tasks SAEE to promote activities such as trainings and seminars on implementation of energy management systems in public institutions.

In 2017 together with the Friedrich Ebert Foundation and GIZ, SAEE developed a communication plan on ESCOs and regional energy management through a series of seminars in regional centres throughout the country. Targeted at the heads of local administrations, local governments and budgetary institutions, seminars aimed at providing guidelines to implement the energy management systems. The Government of Ukraine has been actively increasing awareness and knowledge of the ESCO model among regional and local authorities. Most of the regions and larger cities expressed intention to implement the ESCO mechanism by signing a memorandum with SAEE on using energy services for public buildings.

### 3.1.3 Institutional Challenge and Policies

The Climate change mitigation and, in particular, GHG emission reduction in the communal sector at national and local level is priority of the UNDP 2018-2022 (UNPF) Policy frameworks and mechanisms to ensure reversal of environmental degradation, climate change mitigation and adaptation, prevention and response to natural and man-made disasters.

At the institutional level and municipal level as well, Ukraine has faced a turbulent economic situation for the past 5 years and beyond. Although some regulations have been updated to promote and secure ESCOs’ investments, most of the small municipalities are not eager or willing to implement EE improvements, much less challenge the energy management issues. To face such an institutional challenge, the EEPB must update its strategy, as recommended at Section 5.

## 3.2. Problems that the project sought to address

It is important to recall that the primary objectives of the EEPB which aims at ‘’Removing Barriers to Increase Investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO EPC modality.’’

At the time of the project design (2014-2015), the cost of capital in Ukraine was already significantly high (19%) and the project intended facilitating investments through the implementation of the required FSM, but the EEPB project did not encompass any project budget for investments in the required sustainable financial support mechanism. The EEPB project framework is mainly based on the Grant Mechanism used as a cost-sharing mechanism with the aim of facilitating ESCO’s investment.

Table 4, under Section 4.3.2 provides the list of barriers and threats and their status at midterm.

The main threat the ESCO business model faces at midterm is the high cost of money. As mentioned in Section 4 (Output-based results) the EEPB project did not manage to raise the needed capital-intensive investment in EE projects carried out by ESCOs. Rather than 21 million USD, ESCO will not be in a position to invest more than 2 million USD over the project time horizon. Due to interest rate practices by the central bank and financial/commercial institutions, only low capital-intensive investments are allowed. This situation will remain unchanged, as long the economic situation in Ukraine will continue to drastically impede the access to investment capital.

## 3.3. Project Description and Strategy: objective, outcomes and expected results

The objective of this project is to accelerate implementation of energy efficiency measures in public buildings in Ukraine through the ESCO modality, utilizing EPC contracts, by leveraging over significant private sector investments through the needed financial support mechanism (FSM), as well as through the introduction of a single nationwide Energy Management Information System (EMIS). Outcomes, Outputs and Results are highlighted in Section 4 below.

## 3.4. Project Implementation Arrangements

### 3.4.1 Institutional Arrangement

The Project Management arrangement is seemingly efficient, allows for collaboration, planning and follow-ups of on-going activities. Section 4.4.1 provides details on the management arrangement.

Key implementation partners and co-financers are:

* State Agency on Energy Efficiency & Energy Saving of Ukraine (SAEE)
* Ministry of Regional Development, Construction, Housing and Communal Services (MinRegion).
* The SGP Unit for providing training sessions and EE projects implementation.
* National and international consultants.
* UNDP CO
* Bilateral Aid Agencies (NEFCO credit)

### 3.4.2 Pilot Projects and Grants decision making

The EEPB project should not provide any grants or TA to projects (pilot or replication) beyond its primary scope, that is to say EPC (barriers removal), EMIS and EMIS&C. In addition, the only one decision-maker in regards to grant provided to projects must be the EEPB Project Manager (UNDP CO – DIM), and Project Board for the grants planning approval.

The appropriate budget line must be used for providing grants. The budget line no. 72200 must be dedicated to grants for pilot projects only, inclusive TA to pilot projects. Other budget lines must cover the cost of training sessions or information dissemination activities.

## 3.5. Project timing and milestones

The GEF approved the EPB in August 2016, but in practice the Project began in July 2017 because of the unfavorable context in Ukraine and the slow pace with regards to the decision-making process by the key implementation partner (MinRegion). By shifting from NIM to DIM the decision-making process has been more efficient and as a result, the EEPB Project has almost completely made up for lost time (2016-2017).

The Evaluator is confident that the objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings, although an intensive effort must be put forward with regard to Outcome 4, which is related to the ensuring a fully operational countrywide EMIS Database.

### 3.5.1 Project Key Results at midterm

At midterm the EEPB reached its key milestones as follows:

* An ESCO business model has been rolled out and 11 pilot projects[[10]](#footnote-10) have been launched
* Consultation and expert support have been carried out on a series of 38 other projects with the ESCO model in partner-cities
* Because of the direct project support, 7211 women and 5570 men raised their awareness on energy efficiency, ESCO market and importance of energy efficient measures in small and medium-sized cities
* Changes on the ESCO legislation were made and registered in the Verkhovna Rada: The Law #9386 dated 10.12.2018 on the changes to the Law of Ukraine on Large Scale Energy Modernization, and the Las #9387 dated 10.12.2918 on the Changes to the Budget Code
* The Consultancy Center on Energy Efficiency and Energy Saving was created with the direct support of the UNDP EEPB Project through the the SGP Unit;
* 33 energy audits were carried out
* 20 conferences, 3 round tables, 3 study tours were organized; 8 guidelines were created and disseminated among the partner municipalities
* Because of the direct support of EEPB Project, 10 cities in Ukraine have installed and are successfully using local EMIS (energy management information systems). List of cities: Dubno, Ternopil, Chortkiv, Khotyn, Fastiv, Bila Tserkva + Eastern Ukraine (Selidove, Sloviansk, Druzhkivka, Dobropillia)
* Using SGP mechanism the EEPB project introduced EMIS in more than 100 objects in two Eastern regions
* EEPB Project has created a network of partner-cities - 24. List of cities: Sudova Vyshnya, Drogobych, Dubno, Chortkiv, Khotyn, Borodyanka, Fastiv, Bila Tserkva, Kaniv, Obukhiv, Slavutych, Nizhyn, Savran, Mykolaiv, Poltava, Bilgorod-Dnistrovkyi, Selidove, Melitipol, Sloviansk, Druzhkivka, Dobropillia, Korosten, Odesa)
* The Financial Support Mechanism (FSM), ‘’ESCO Factoring’’ is fully operational and three banks are currently providing the ‘’factoring’’ facilities in accordance with 50% of the ESCO/EPC receivables
* The MTR has been carried out as per the planning in July 2019
* Two PIR were prepared, the latest one (2019) two weeks behind the planning

### 3.5.2 Project team members involvement

Although the project officially started up in August, 2016, the key team members were involved after April 2017.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Task** | **Name** | **Origin** | **from** | **to** |
| Project Manager | Sergii Varga | National | April-17 | Sept.-20 |
| Operations Associate | Ievgen Spivakovskyi | National | January-17 | March-20 |
| Driver | Vadym Yachnyk | National | January-17 | March-20 |
| International Consultant on FSM | Michael Devoe | International | September-18 | Sept.-18 |
| CTA on EMIS | Goran Cacic | International | April-18 | Oct.-20 |
| CTA on ESCO | Oleksandr Novoseltsev | International | October-17 | October-18 |
| CTA for E&E Cluster | Paata Janelidze | International | December-18 | March-20 |
| Task Leader on EMIS | Igor Cherkashyn | National | October-17 | March-20 |
| Task Leader on ESCO | Airat Khakimzyanov | National | October-17 | March-19 |
| Task Leader on ESCO | Oleksii Korchmit | National | June-19 | June-20 |
| EPC market development consultant | Oleksii Korchmit | National | August-18 | May-19 |

Table 3.5.2 Team Members

### 3.5.3 Project Implementation Key Achievements: August 2016 to July 2019

2016 EEPB Hard to take off:

Ukraine is a country that characterized by high energy consumption and carbon intensity throughout almost all sectors of its economy, including both residential and public buildings. The country also suffers from a volatile political situation, as well as financial instability, underdeveloped social institutions and an economic situation that discourages business growth.

Ukrainian’s legal system could be described as over-regulated, with thousands of secondary law regulations and norms, many of them are outdated.

Rapid changes and fast, yet turbulent, pace of reforms was one of the reasons why one of national implementation agencies (Minregion) was reluctant to accept full responsibility for taking part into steering of the Project. At the same time, Ukrainian government and international organizations put significant efforts towards political and economic reform, which brings a lot of opportunities but at the same time contributes towards an increase in the level of uncertainty, which requires a new project strategy.

The Project concept was designed in 2013, however, the Project was approved for implementation in late 2016. By the time the Project was signed, the Project Team started to receive comments that despite the main objects being pragmatic the approach and strategy for achieving the primary goals should be revised in all major directions with the utmost amount of care and precision; selection of regulatory acts had to be developed and amended, the importance of municipalities in energy efficiency ESCO Projects had to be stated and the shape of national EMIS system had to be built.

Facing such monumental adaptation challenges, the Project concentrated on engaging a broad selection of expert stakeholders, relevant governmental bodies and international organizations, NGOs, businesses via a dialogue on how to actualize the Project, in order to improve chances of success.

Key stakeholders attended the Inception workshop:

* representatives of municipalities
* governmental bodies, ministries, international organizations
* financial institutions
* national and international experts, and ESCO companies

The Project team expanded further developed this approach, continued the dialogue and conducted 4 round tables on EMIS, ESCO development and, legislation; two of them were broadcasted via social networks. The Project team participated, presented and discussed project goals on several national and international conferences. A special discussion group was created on Facebook.

Bearing in mind the multi-stakeholders and nationwide nature of the Project and the major role of decentralized municipal administrations, the Project focused its efforts on building a network of partners who supported the objective and methodology of the Project. Therefore, the Project signed MoUs with 16 partner-cities, two municipal associations, GIZ and Ukrgazbank.

Major political and administrative risks were successfully mitigated by changing the implementing modality from NIM to DIM. The Project managed to enhance effective communication and gain the support of major stakeholders, which were approved by Project Board.

2017 EEPB finally launched:

July – inception workshop conducted and the report was submitted to the RTA for comments. Within the Inception report, a revised Log Frame has been suggested and related mostly to risk mitigation measures.

Key recommendations of the Inception Workshop:

* Additional Barriers have been identified
* The municipality is in better position to be a borrower than ESCO
* All stakeholders should be engaged with the project implementation to ensure national ownership
* Small cities and amalgamated communities also should be included as partners (not only medium-size)
* Ensure donor coordination on EMIS introduction in Ukraine
* Review the existing EMIS systems available on Ukrainian energy market
* Create favourable conditions for Croatian EMIS transfer
* Apply adaptive management to ensure FSM coverage of ESCO market and include additional baking /financial institutions
* Analyse and design new financial models like Municipal ESCO, Energy supplier ESCO, Leasing, Insurance mechanisms, Municipal EE fund, Green Bonds

Key 2017 Achievements

Studies and manuals were developed:

1. Green bonds as an instrument for municipalities

* 2. PPP in Ukraine – new possibilities/opportunities

3. Financial and operational leasing – practical solutions for producers and ESCO (ongoing)

* 3. ESCO manual for municipalities
* 4. Municipal ESCO company – how to setup, operate and benefits (on-going)
* 5. Logical packaging of EE measures regarding cost of capital and IRR
* 6. Study and practical use of Municipal EE Fund

In addition:

* 10 EMIS pilots in 10 cities, with 3 mains Ukrainian EMIS software providers
* Promotion of ESCO and EMIS within the grant mechanism. From the positive side, an ESCO support help desk created, EMIS in … small towns and energy managers trained. Co-financing 388K USD and CO2 reductions achieved (ref.: Igor Komendo Report on SGP cooperation: [Appendix 9](#_3vac5uf))
* Transition from NIM to DIM (took almost 2 month and huge efforts)

2018-2019 Project challenges and key break-throughs:

* Understanding, that the main partner and a client of the Project are municipalities. Terms and procedures for partnership and EPC pilot projects were developed. MoUs with first municipalities were signed.
* PSP (project support platform) concept was developed, which describes principles of targeted, demand-oriented expert support for partner municipalities, in exchange for their support to EPC and EE projects, preferably using FSM mechanism. It begun with the Kaniv city, where Biomass project started in cooperation with the municipality in order to help them in becoming a pioneer with Oshadbank/IFC FSM and then “passed the baton” to EEPB project.

An idea of creating a Project Support Platform (PSP) was first presented by RTA on Project Board in December 2017. PSP received positive feedback from the Project Stakeholders. The concept of PSP, which is in the development process, envisages facilitation role of UNDP in channelling international organizations and financial institutions funding those who need it most, but suffers from lack of capacity to actively formulate and implement new bankable energy efficiency projects. This is especially applicable for small and medium sized cities – main recipients of the project support. The Project already achieved the following tangible results in this area:

* Due to expert support from the Project, the city of Chortkiv adopted and implemented performance-based incentives for municipal energy managers. Recommendations provided by the Project helped to make renovation of the public-school project, financed by NEFCO, more efficient
* A remarkable example is the city of Ternopil, where a Project is facilitating the city to obtain loan from EIB. Three hundred thousand Euros has been allocated for installing remote energy monitoring systems on all public buildings within the city. The Project is helping to design technical requirements in accordance with highest modern international standards (smart digital metering)
* Various experts and the provision of legal support helped Kanyv city to approve loan from state Oshchadbank (UNDP/IFC mechanism)
* Development of alternative financial instruments and mechanisms for ESCOs tested:
* Leasing of EE equipment for ESCO (not worked)
* Bank credit using EPC contract as a collateral; insurance instrument (that planned savings would be achieved). Successfully in Dubno pilot project; pushing Oshadbank and Kaniv towards each other to conclude first “UNDP/IFC FSM” (both were very reluctant); EPC Pilot project in Dubno deals with 6 buildings and 6 contracts.

### 3.5.4 What is the ‘’Enhanced ESCO’’ model

It is important to understand the local context, Ukraine municipalities want to get savings from EPC contracts immediately, and when ESCO proposes 5 -10% share of savings, the general consensus of the public is to be sceptical of the ESCO’s intent, despite 100% of the investments being derived from the ESCO! And furthermore, Ukrainians (including decision and policy makers) believe that the ESCO should provide a full rehabilitation, with a payback period up to 20 years and a certain of gratitude for the usage of old school buildings etc.! This is why, the project experts of the team suggested to stress on importance for municipalities to invest more in their poorly maintained public buildings; this was the reason behind the inception of the “Enhanced ESCO” model.

ESCO Business model Concepts promoted by EEPB Project:

Classic ESCO is a normal EPC contract with 100% investments from private ESCO; it is the ‘’fast-out’’ model. In Ukraine, the municipality must announce an e-tender (Prozoro Platform) and cannot select neither ESCO nor what EE measures will be implemented. The winner is the company that proposes larger savings over shorter period of time.

The project assists the partner municipality with selection of objects, preparation of tender documents, energy management solutions.

The EEPB promotes the ‘’Enhanced partnership ESCO’’ model. In accordance with this model, municipalities also invest in the same object as ESCO company, savings are then split proportionally based on the calculated effects from EE measures, determined by the measure that each party choose to implement. ESCO selects those with short payback period, while the owner of a building invests in less profitable measures (insulation, windows etc). UNDP may provide financing for other expenses (that do not lead to direct energy savings, but are necessary) such as energy audits, technical design, metering devices, EMIS, energy recovering ventilation etc) – up to 20% of the project (usually less).

## 3.6. Main stakeholders

For promoting EE investments in public buildings through private and public investments, the EEPB is dealing with the following main stakeholders:

* Commercial Banks, among others: ComInBank, Oshchadbank, Tasbank, and Ukrgazbank. Three banks agreed to embark on the ESCO Factoring FSM (ComInBank, TAScombank and UkrGazbank)
* Numerous private ESCOs or candidate ESCOs; in practice less than 10 ESCOs are in a position of providing the full-fledged set of services for dealing with the EPC modalities
* Selected Cities: At midterm, a series of 10 small and medium sized cities in Ukraine duly signed EPC with ESCOs and 20 cities involved energy managers
* The SGP Unit has been a critical and efficient partner for delivering training sessions, documents preparation and EE/RE projects implementation in small cities and communities.

# 4. Findings - Project Design- Strategy and Outputs-based Rating

## 4.1 Main Findings

Strategy update:

The PIF has been drafted in early 2013 and many adjustments to social, economic and political environments have been made since that time. It is recommended that after a period of six years or less after the PIF stage a period should be allocated for reflecting and updating the project strategy.

Despite the PIR 2018 call for the development of a new strategy for the EEPB implementation (cf. page 11 PIR 2018) to support and improve the general implementation strategy highlighted in Section 2 of the Project Document, the Evaluation Team has not been informed nor do they have access to any document pertaining to the integrated strategy.

The EEPB Project Manager drafted some activity-based strategy documents, but there has not been a document that deals with the project as a whole through an integrated strategy, which is geared toward the successful implementation in terms of effectiveness and identified barriers removal.

The Evaluator must mention, however, that the Project Manager made a presentation at the Project Steering Committee meeting in December 2018 related to his priority topics that must be dealt in 2019. But at midterm, the PM did not outline the integrated strategy with the aim of linking the project Outcomes as a whole.

A few strategic elements are mentioned in the Project Document (page 24, section 2: Strategy). Once again, the EEPB project should have improved or upgraded the general strategy highlighted in the Project Document by taking into consideration the actual situation and the existing barriers to EPC development. It is essential to outline a strategy during the midterm.

|  |
| --- |
| The updated strategy should, among others, pay a greater attention on the extension of the EMIS&C at the municipal level, and more importantly, quickly conclude with the nationwide integrated EMIS-Database, as a priority. |

The SGP’s involvement: 498,978 USD

The EEPB involved the SGP Unit for providing TA and for implementing some EE/RE projects. Although the SGP input is valuable and helpful to the EEPB Project through the TA to small communities, EMIS training sessions, and documents preparation, the Evaluator points out that activities carried out by the SGP did not directly result in EPC projects. See [Appendix 9](#_3vac5uf) for the review of the 11 SGP projects.

Taking into account the limited time for the Project implementation in 2017 (as Project de-facto started in April 2017), broad consultations were conducted to identify the most efficient mechanism to deliver project results within a limited period of time.

The Project cooperated with the GEF SGP in order: (1) to establish better links with local governmental authorities; (2) to promote ESCO and Energy Monitoring among small and medium cities; (3) to raise the awareness on energy efficiency opportunities, consequentially creating demand for ESCO services.

The decision to work through SGP was based on previous implementation of project activities within Biomass UNDP/GEF project framework.

The list of achieved SGP projects and costs are highlighted in [Appendix 9](#_3vac5uf) SGP Projects Review. Hereafter some information related to the 11 SGP projects were carried out within the EEPB project framework:

Energy audit, EMIS and some EE measures: Grant 49,273 USD

* Recommendations on EE measures for thermo-modernization of the Rehabilitation Center for Disabled Personnel of the Melitopol City Council of Zaporizhzhya Oblast.
* Thermal imaging inspection and a survey of the engineering systems of the building was carried out (heating systems, hot and cold-water supply systems, lighting and ventilation systems), heat engineering and energy indicators buildings.
* Energy monitoring system was installed.

Solar Panels: Grant 49,748 USD

Solar 5kW PV Demonstration project for indoor and outdoor lighting.

* Replacing of 318 internal and 18 external incandescent light bulbs at the Center for Integrated Rehabilitation for Persons with Disabilities in Melipotopol city.
* The monitoring system has been installed.
* Energy audit and documentation for conducting an ESCO tender.

Energy Management Information Systems: Grant 50,000 USD

* The EMIS in the Liman and Volnovakh region has been set up.
* Seminars on energy management in the Luhansk region were held: Novopskovsky, Bilovodsky, Novoyadyrsky, Belokurakinsky, Swatovsky, Troitsky, Milovsky, Starobilsky, Markovsky, Popasnyansky, Kremensky districts.
* And in Donetsk region - Slavic, Bakhmut, Konstantinovsky, Dobropolsky, Volnovasky, Volodarsky, Mangushsky districts, Limansky amalgamated districs.
* Training sessions for energy managers. Setting up EMISs in 286 buildings among the 25 small cities and 23 villages.

Capacity building in Zhytomyr for increasing energy efficiency in public buildings; Grant 49,780 USD

* A series of Eleven (11) awareness raising materials regarding for Energy Management as well some handbooks for energy managers.
* Delivery of five trainings workshops dedicated to energy management.
* In addition, full-time position of energy manager for the Zhytomyr Oblast.
* Recommendations for introducing a motivation system for employees involved in energy efficiency and energy management in Zhytomyr City (Council approval in 2018).

Energy efficiency in public buildings through the installation of solar panels:

Grant 49,700 USD

* Energy Management and Monitoring Systems were introduced in 4 municipal objects in Puscha-Voditsa city.
* 4 energy managers were trained to oversee the EE measures in above-mentioned objects.
* In addition, some EE measures based on renewables were introduced to reduce GHG footprint. (Sanatorium for Children).

Training of Energy Managers and EMIS: Grant 22,530 USD

* Set up of a Training Centre for energy managers in Cherkassy Oblast.
* 17 energy managers were assigned.
* In addition, EMIS has been introduced in 17 public buildings and EE measures using renewable solar energy were implemented in the Training Centre.
* 1100 people have been trained in energy management and energy saving. The Center of Practitioners are now able to monitor the energy consumption of public buildings in the district (17 objects) and promptly report deviations from the optimally predicted level.

Setting up of the EE Centre as a platform for supporting community development: Grant 49,950 USD

* The Energy Efficiency Centre has been set up in the city of Zhytomyr, which now works in close cooperation with the Zhytomyr oblast administration.
* The EE Centre provides trainings for energy managers for the surrounding cities (so far 72 energy managers were trained and employed). In addition, EE improvement/repair works in the premises of Centre were achieved.

Smart energy for education: Grant 28,300 USD

* A training course related to energy management and energy auditing for children has been developed. The so-called “School of young energy auditors and managers” was created and workshops for school children were conducted in 16 cities of central Ukraine.
* Guidelines have been established on basic indoor sanitary conditions (air quality, radiation of walls) and equipment for measuring the basic parameters of buildings and premises were purchased and transferred to energy managers.

Regional information center on energy efficiency: Grant 49,697USD

* Energy audits in Kremenets city (Ternopil oblast), methodical materials for carrying out the ESCO tender have been outlined and submitted for consideration.
* Set up of a Regional Consultation Center (Kremenets city) on energy efficiency for displaced persons; connected to the central Help Desk.

Vulgarization of low-carbon technologies for local communities: Grant 50,000 USD

* Information Center Chornobyl was created in the premises near the checkpoint "Dytyatki" in the village of Dytyatki of the Ivankiv district of the Kyiv region in close cooperation with the State Agency of Ukraine for Management of the Exclusion Zone, State Enterprise ZOTIZ.
* The energy audit of the building was carried out and a number of solutions included in the work plan were proposed.
* A number of repair works were carried out at the Chernobyl Informational Center.
* The Centre promotes Energy Efficiency through training sessions for energy managers, energy auditors and dissemination of awareness materials.

Set up of the nationwide Information Center on Energy Efficiency: Grant 50,000 USD

* The Help Desk on ESCO and Energy Efficiency has been set up as required in the Project Document. In 2019 the SAEE expressed its interest to support its operation after the end of the project timeframe.

Pilot Projects already implemented:

The number of EPC projects is impressive (33) and is indicative of the reduction of barriers to obtaining investments for the ESCO, though, investments are not capital-intensive due to the current cost of money in Ukraine. At midterm, the project already exceeded the expected target but the series of demonstrations (Pilot) will not be presented at the end of the midterm, especially in regard to EMIS and EMIS&C.

GHG Emissions Reduction:

At midterm the EEPB reached approximately 80% of the stated direct emissions reduction target; most of them come from the EMIS & Control at the local level, which can be considered as a positive result. The work is still being refined through additional replication and pilot projects.

Energy Management Information Systems (EMIS Component 4):

The acronym ‘’EMIS’’ is not accurate for the purpose of EPC modalities because the Energy Management must, as a priority, deal with the control of energy consumption and demand. Such a feature of the Energy Management activity has been taken into consideration (unavoidable) by ESCO while implementing EPC projects supported in a way of another by the EEPB project. On the other hand, the EMIS at the local level is a basic requirement for feeding the countrywide database, which is not yet operational.

EMIS&C Implementation:

The EEPB did exemplary work in terms of implementing the EMIS&C at the local level in selected buildings where EPC pilots and replication projects were implemented. The EEPB project duly signed 27 MoUs with selected municipalities rather than 10 as stated in the Project Document. The MoU requires the involvement of a designated Energy Manager, a conditionality, for getting a Grant for Pilot Projects as well that the development of the Sustainable Energy Action Plan and the implementation of the EMIS&C: 10 SEAPs have been submitted until now and 10 EMIS Plans have been developed in the selected municipalities. This work is a work-in-progress and a considerable effort is required to extend it nation-wide.

Again, the Evaluator recalls that EMIS is, as a priority, a centralized task to be managed by the SAEE. At the local level, the priority should be given to EMIS and Control with the aim of reducing the energy consumption and demand and feeding data to central EMIS (SAEE).

Nation-wide Energy Consumption Database and EMIS at the local level:

The nation-wide extension of the EMIS is a significant challenge. To extend the nation-wide EMIS (database) the database must be centralized. There must be mandatory reporting of energy consumption data as well, an assigned energy manager for each municipality, among others, to fill out data into the web-based EMIS. At this point in time, there are 3 operational databases implemented out of the project framework: (i) the Kiev Oblast Energy Efficiency Center (KOEEC); (ii) the State Agency for EE (SAEE), and iii) the Odesa Energy Management Agency (OEMA). Some other municipalities have also rolled out their own ‘’platform’’ for data gathering in their buildings. Based on information gathered during site visits and from documents, only OEMA has connected its database with the distance metering equipment installed in 23 buildings by EPC projects. It is a good start, but the EEPB project is not on the verge of extending the EMIS Database countrywide.

A significant amount of work must be done by the SAEE for that purpose. Therefore, the Evaluator recommends providing an intensive TA to the SAEE for that purpose. All parties agreed that the SAEE is responsible for implementing, managing and updating the national database. At the moment each municipality having rolled out an EMIS and the related database are utilizing different types of software and web-based “platforms” to collect and analyze data. Due to this the SAEE is facing serious challenge for centrally merging those different platforms.

The software developed with the financial support of the UNDP in Croatia has demonstrated its exemplary performance but the transfer of such a platform to Ukraine is proving difficult. To fulfill its commitment, the SAEE and the EEPB set up a Technical Committee involving the EEPB, SAEE, and the Ministry of Regional Development to address issues and the barriers that must be removed to create an integrated database. The EEPB should take the lead and use its resources for providing a comprehensive TA to SAEE to solve the problem with the integration of the Croatia software. The international expert’s (Mr. Goran) involvement must be improved. The new web-based platform (or the adapted one) must not be developed from scratch due to the EEPB timeframe and cost constraints.

Financial Support Mechanism – FSM (Component 2):

The EEPB held meetings with financial institutions with the aim of isolating the most appropriate and ‘’feasible’’ FSM. The Analytical Note (drafted in 2019) finally recommends the implementation of the ‘’receivable factoring’’ modality, so called by the EEPB project ‘’ESCO Factoring’’ modality.

To achieve an ideal scenario, the most appropriate FSM is the one providing a low-cost financing and acceptable conditions related to collateral requirements in addition to the financial capacity of the facilities’ owner and ESCO to invest upfront in the EPC project. Some financial Instruments are existing to overcome the primary barriers: e.g. the involvement of a Development Fund (alike the EEF in Ukraine), linked with a Loan Guarantee Fund could be put in place by an international donor (previously done by the UNDP) or by a national entity.

The EEPB is implemented in Ukraine where the cost of capital is incredibly high (+/-25% first year) and without any donor or third party willing to provide the needed loan guarantee scheme. In addition, the EEF (Ukraine) is not allowed to provide any financial support for EE projects in public buildings. The bankers the evaluator met during the MTR mission mentioned that some financial companies could be willing to provide a form of loan or payment guarantee. The associated fees and taking into consideration the current cost of capital, the whole financing cost of EPC projects could reach about 30%. The buyout-financing scheme is not more suitable because of the cost of money.

The option promoted by the EEPB is the Factoring scheme. Taking into consideration all constraints mentioned above, the Financial Expert who drafted the Analytical Note (2019) pointed out that the factoring system is adequate for the current point in time to provide partial collateral to the banks. The use of a ‘factoring mechanism’ is well known in all countries where the ESCO business model has been developed over the last 40 years. It is in line with the best international practice as a basic FSM that can be implemented at low cost.

Again, because of the cost of money and collateral requirements, the easiest FSM is, at the moment, the receivables factoring. The EEPB negotiated with the banking institutions and at least three of then agreed to provide the ‘’factoring’’ modality up to 50% of receivables payments. It is a good start but it doesn’t reduce the constraint on the cost of capital. At the moment there is only one ESCO intending to use the ‘’ESCO-Factoring’’ instrument: KyivESCO by a Ukrainian private bank ComInBank using “ESCO-factoring” FSM. Two other banks (TAScom bank and UkrGazbank) also embarked on the ESCO Factoring scheme. The EEPB must go further for rolling out another FSM when Ukraine will get access to low-cost capital.

Searching for a long-term solution:

An additional effort must be rolled out to introduce another more convenient FSM to lessen the current cost of capital. The Evaluator made a recommendation (#1) for that purpose. On the other hand, a third-party co-financing is in progress. On the basis of MoU and Action Plan, the EEPB is providing TA to city of Kaniv for the retrofitting of two buildings. The financing scheme is on the verge to be closed. City of Kaniv will receive a credit from NEFCO (officially confirmed) in an amount of USD 570 thousand (interest rate 3%). It goes on the right way but it takes time, and the donor community will likely rely, to some extent, on the EEPB project results to get more and more involved in Ukraine in the field of EE projects financing.

Crosscutting issues

***Gender equality***

The Project Document stipulates achieving gender equality through the empowerment of women to fully participate in all project activities and specifically those related to capacity development under the various components through working, for example, with NGOs like “Krona”, the Ukrainian Women’s Fund, La-Strada, School of Equal Opportunities, All-Ukrainian Women Centre of Information and Social-Economic Adaptation, Association of Energy Auditors.

It was found that project didn`t conduct any gender assessment in the target areas and all the activities carried out were predominantly gender blind. However, the PMU pays special attention in assessing gender balance while implementing each of the Pilot projects (Component 3).

Taking to account that the majority of Pilot projects have been implemented on the basis of kindergartens, schools, gymnasiums and hospitals, the majority of final beneficiaries of the project are children (particularly in schools, gymnasiums and kindergartens). On average, the number of girls in these institutions reaches 60%, however, given the individuality of each institution, there were opposite examples. Teachers occupy a niche less than 10% in the gender balance and given the fact that Ukrainian schools adhere to traditional values (that women are more responsible and careful when it comes to teaching and raising children) the distribution between men and women is about 10-15% and 85-90% respectively. It is hard to assess gender distribution in hospitals, due to large and unstable turnover of people. Analyzing the whole project and taking into account people who worked with the project and who are direct users of public buildings involved in the project, the gender distribution was 54% of women and 46% of men, which shows to be identical to the gender situation in Ukraine.

The implementation of other Components of the project (EMIS introduction and awareness raising, legal framework development, FSM creation) does not foresee any specific strategy on sustaining gender balance.

***Human rights***

The project design does not address or demand directly any specific human rights references. The PMU demonstrated no special strategy towards human rights aspect in the delivery of project Components. However, good human health is the key to a high quality of life and high productivity. The health quality is influenced by most of the equivalent factors, one of which is a safe working environment. In the given context, the project, by introducing ESCO mechanism and EMIS, provided the municipal buildings` operators with the opportunity to create a comfortable and safe temperature regime, thereby creating favorable working conditions for teachers, students, children, doctors, patients and other employees of institutions supported by the project. Thus, the project addresses predominantly the “right to education” supporting one of its main pillars “Availability” which stipulates that educational buildings should meet both safety and sanitation standards.

***SDGs***

One of the key elements of the project is the introduction of the ESCO mechanism and EMIS in public buildings making possible for its operators: (1) provide the most efficient use of energy in heating and hot water supply systems by increasing the efficiency of thermal installations and the rational use of energy recourse; (2) use advanced renewable energy sources and energy installations; (3) produce budget savings; (4) reduce greenhouse gas emissions.

This contributes to the advancement of SDG 7: “Providing access to affordable, reliable, sustainable and modern energy sources for all”, and SDG 13: “Taking urgent action to combat climate change and its effects.” on the country level.

All of the abovementioned gives an opportunity to predict even more impact on two SDGs by the end of the project.

## 4.2 Project Design and Strategy Outline

### 4.2.1 Strategy outlined in 2015 is still relevant

The objective of this project is, among others, to assist the Government of Ukraine, as outlined in the “Energy Strategy of Ukraine to 2030”.

In the business as usual scenario, implementation of energy efficiency meaures in public buildings with reliance on budgetary resources and without the participation of the private sector, will take an extended period of time to materialise. In accordance with the project design, the EEPB will support the Government of Ukraine in:

* Creating attractive and competitive business terms and conditions for investors/ESCOs, such as initial support in the preparation of feasibility studies and in terms of an investment grant for 10 pilot projects, which will give developers long-term stability and provide a sufficient ROI
* Establishing an Innovative Financing Mechanism to make it easier for ESCOs to obtain commercial financing in order to implement EPC contracts
* Development of financial incentives is to be provided to ESCOs to invest in Energy Efficiency in public buildings such as income tax holiday for a specific period, duty and tax exemptions on equipment and services
* Providing capacity development to ESCOs in order to promote investment in support of Energy Efficiency in public buildings
* Support for improved energy management in public buildings in Ukraine, through more metering and energy management information systems, as tools to encourage and promote additional investments in energy efficiency

At midterm of the EEPB project, as pointed out in the Project Document (designed in 2015-2016, and approved in March 2016), the economic situation is still remaining difficult and the high cost of capital remains a key barrier to capital-intensive investments in EE projects. The strategy promoted by the EEPB aiming to involve the private sector and the Energy Performance modality remains a relevant strategy to face the current and mid-term economic situation in Ukraine. Although most of EE-EPC investments are low capital-intensive, one can say that the ‘’pump has been primed’’ through a series of EPC projects implemented by ESCOs because of the EEPB project.

### 4.2.2 Project Design and Logframe

The project’s goal is to reduce GHG emissions by creating a favorable legal, regulatory and market environment and strengthening institutional, administrative and technical capacities to promote the implementation of the ESCO model through EPC contracts model and by supporting the involvement of energy managers in public buildings. The Project Document goes in that direction. Its four components encompass the required basic support to Ukraine and local authorities (small to medium-sized cities) for attracting the ESCO business model and private investment in EE project initiatives under the EPC modality.

In addition, the combined focus on Energy Management Systems and ESCO market development was somewhat innovative in the public sector. Other donors worked on ESCO market development or on energy management systems, but there was no project supporting a combined and integrated approach to ESCO market development and energy management. The project design was appropriate and relevant, taking into consideration the economic and social contexts.

Despite the good project design, the EEPB project faced some problems under the Component 3 (Pilot Projects) while the budget line (BL) 72 200 (the most important BL: 1,250,000 USD) was not clearly dedicated to grants for pilot or demonstration projects because of its general title ‘’Equipment and Furnitures’’. On the other hand, the objective and budget limitation (50,000 USD per project, for a series of 10 Pilot projects) of that ‘’crypto-grant’’ BL were defined in the Project Document (cf.: Project Document, page 16): ‘’Creating attractive and competitive business terms and conditions for investors/ESCOs, such as initial support in the preparation of feasibility studies and in terms of an investment grant for 10 pilot projects, which will give developers long-term stability for an appropriate ‘’return on investment’’. Within the same BL, the SGP has been involved (11 projects, see Appendix 9) for supporting a series of training deliveries mainly related to EMIS and Energy Managers. In addition, the SGP implemented a few EE projects with the aim of demonstrating the relevance and performance of RE and EE measures.

The project design (Project Document) evaluated the investment target to be achieved in line with the EPC modality. An amount of 21 million USD is the related target[[11]](#footnote-11). Because of the incredible cost of money in Ukraine (25% in 2018-2019), such a target is likely not realistic. Even in year 2015 (at the time of the project design), the interest rate was already quite high (19%). Such an amount (21 million USD) mentioned as a target in the Project Document is questionable due to the significant cost of money already known at that time. For example, because of the cost of money a series of capital-intensive investments with a payback period of, let’s say 7 years at 23%, makes the financing cost breakdown share 50% for capital amortizing, and 50% for interest payment. Because of the cost of money, the EPC modality is significantly difficult to implement when the payback period is longer (twice as long) as a direct result of the interest rate. Perhaps, such a fundamental financial analysis should have been conducted at the project design stage.

As a rule, it is quite difficult, at midterm, to change a key indicator or quantitative target, but at least the Evaluator points out that weakness (or defect). Such a situation must be taken into consideration for evaluating the actual results at the end of the project timeframe.

In regard to other quantitative targets, the EEPB project has already overcome majority of them, except the target related to investment carried out by ESCOs. The EEPB should perhaps consider, at the Final Evaluation stage, including the municipal investments in EE projects carried out for implementing many capital-intensive EE measures (e.g. envelope of the building) as an ESCO’s co-investment if the major retrofitting of the building has been carried out while the ESCO was implementing a series of low-cost EE measures in the same building.

Hereafter the Evaluator provides details on questions and likely issues required by the MTR TORs:

Analysis of the project’s Logframe indicators and targets, and assess how 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.

* As a rule, by the end of the project timeframe targets and outcomes should be achieved. The Evaluator clearly mentioned his concern (ref.: Table 1 and the paragraph above) on the ‘’private ESCO’’ co-financing estimated to 21 million USD in accordance with the Project Document, should have been invested by ESCOs within the project timeframe.
* The Evaluator also pointed out the issue of a countrywide EMIS which is to be implemented by the SAEE. Another concern is related to the involvement of municipal energy managers at the city level. The EEPB project should intensively address these outputs and targets in the upcoming years, including the 18-month extension.

Are the project’s objectives and outcomes or components clear, practical, and feasible within the project time frame?

* The Evaluator does not recommend any change. On the other hand, the EEPB should take into consideration the list of recommendations (section 5).

Is the project on track to achieve its global environmental benefits in terms of tonnes of CO2 to be reduced (direct and indirect GHG emissions) as defined in the project document?

* In terms of direct GHG emissions reduction, the EEPB should overcome the stated target. On the base of final achievements and proven results, GEF Tracking Tool will provide data and information in regard to indirect impacts at the end of the project timeframe.

Examine if the progress made so far has led to, or could in the future, catalyse beneficial development effects that should be included in the project results framework and monitored on an annual basis:

* The most valuable result is the practical implementation of the ESCO business model and EPC modality. Such a positive result will catalyse additional investments in the future. This is the most sustainable impact of the EEPB. The high cost in Ukraine has been pointed out as the main barrier that restricts capital-intensive investments over a long ROI. However, the EEPB will have a sustainable impact because it proved, demonstrably, that the ESCO business model works at a municipal level. The long-term impact will be monitored by the nationwide EMIS to be implemented by the end of the project timeframe.

### 4.2.3. Results Framework Coherency and Performance

Through its four components, the whole EEPB Project framework is coherent with the approved objectives: ‘’Accelerating the implementation of EE measures in public buildings through the ESCO business model utilizing the EPC modality.”

In term of quantitative results, the EEPB project is performing well, and the Evaluator is confident that objectives and outcomes should be achieved, with only minor shortcomings under Outcome 2:

* Output 2.1: Financial Support Mechanism (FSM) established and capitalized to support private investment (ESCO) in Public Buildings in Ukraine toward a non-realistic target (21 million USD) as mentioned in the previous paragraph
* Still under Outcome 2, the EEPB project did not implement the necessary FSM to face the high cost of capital in the banking system in Ukraine. Because of the EEF regulation, which does not allow financing EE projects in public buildings, and in the absence of a donor or a third party willing to invest on a long run commitment (e.g.: a dedicated fund) a significant amount of money for providing soft-loans to ESCOs or other EE investors in the public sector, the design of a comprehensive FSM is just a theoretical exercise

However, with the aim of foreseeing further development, the Evaluator makes a recommendation (#1) to soundly support the SAEE at the first stage of the Green Development Funds and through the establishment of a sustainable mechanism helpful to ESCO business model development and EPC modality. For that purpose, the EEPB must intensively cooperate with the SAEE.

On the other hand, the Evaluator would like to point out the basic FSM put in place and already operational. The ‘’ESCO Factoring’’ modality can allow ESCOs more fluidity for dealing with the banks’ requirements related to collateral for obtaining a loan from the bank. This is in line with the international best practice but it does not resolve the issue of the high cost of capital.

The number of Pilot Projects (which does not include EE/RE projects carried out by the SGP Unit), the GHG emissions reduction, the implementation of a basic FSM (ESCO Factoring) already rolled out by some financial institutions (3), the required regulation adjustments administered and pending (in the government’s pipeline), and the development of EMIS&C at the municipal level, and works-in-progress to establish a more reliable national database (under the SAEE), all these achievements are all positive results at the midterm stage. The objectives/outcomes are expected to achieve most of its end-of-project targets but with only minor shortcomings taking into consideration the economic context.

Details and review of results are highlighted in Section 4.3 below.

## 4.3 Progress towards Results Outcomes / Outputs Analysis

This Section of the MTR report is the most important one for evaluating and rating the Outcomes/Outputs-based project implementation. The Evaluator met with key decision-makers and stakeholders, as well as ESCOs’ project beneficiaries in 4 cities (Ref.: Mission Agenda Appendix 6). In addition, the evaluation team met many times with the EEPB PMU and the UNDP CO for collecting the reliable data and cross-checking information with regard to the implementation process and results.

**Key Achievements**

In practice, the Project was initiated in April 2017 (involvement of the PM) the EEPB Project has improved its performance, and to a certain extent recovered for the lost time (Dec. 2016 - April 2018). The lack of performance during the first year is mainly related to NIM scheme as defined in the Project Document and the lack of interest of the MinRegion, the key implementation partner.

In 2018 the project shifted to DIM implementation modality. Most of tasks were launched in 2018-2019, especially the series of Pilot Projects, EMIS at local level, training deliveries, the setup of the ‘’Intergovernmental Technical Working Group Working Group’’ to develop the National Energy Management and Monitoring System as well than other activities described and rated in Section 4.3 in terms of result, efficiency and effectiveness.

The Evaluator is confident that the objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings, although more intensive work must be done with regard to Outcome 4 to ensure a fully operational countrywide EMIS Database[[12]](#footnote-12).

At the end of June 2019, the main current achievements of the Project are as follows:

* ESCO EPC modality has been implemented (duly signed) through a series 11 EPC pilot and 23 replication projects. ESCO EPC Modality refers to mutual financial participation in EE improvements of both parties: ESCO and municipality (owner of the building). All technical and commercial risks belong to the ESCO investor
* 7 211 women and 5 570 men raised their awareness on energy efficiency, ESCO markets and the importance of energy efficient measures in small to medium-sized cities through the events organized by the Project
* Changes on the ESCO legislation were made and registered in the Verkhovna Rada: The Law #9386 dated 10.12.2018 on the changes to the Law of Ukraine on Large Scale Energy Modernization, and the Law #9387 dated 10.12.2018 on the Changes to the Budget Code
* The Consultancy Center on Energy Efficiency and Energy Saving was created with the direct support of the UNDP EEPB Project
* 33 energy audits conducted in 13 cities yielded the following results:
  + 20 EPC contracts concluded with 4 still in progress (tender procedures)
  + 4 as part of FSM Factoring development (4 in progress and 1 cancelled)
  + 2 as part of SECAP for municipalities
  + 2 for UNDP office premises
  + 1 ventilation system audit in Mykolaiv (full energy modernisation by municipality)
* 20 conferences, 3 round tables, 3 study tours were organized; 8 guidelines were created and disseminated among the partner municipalities
* Because of the direct support of EEPB Project, 10 cities in Ukraine have installed and are successfully using local EMIS (energy management information systems). The of list of cities is as follows: Dubno, Ternopil, Chortkiv, Khotyn, Fastiv, Bila Tserkva & Eastern Ukraine (Selidove, Sloviansk, Druzhkivka, Dobropillia)
* In addition, because of the SGP, the Energy Management and Monitoring System and training was introduced in Lugansk (Novopskovsky, Bilovodsky, Novoyadyrsky, Belokurakinsky, Swatovsky, Troitsky, Milovsky, Starobilsky, Markovsky, Popasnyansky, Kremensky districts) and Donetsk (Slaviansk, Bakhmut, Konstantinovsky, Dobropolsky, Volnovasky, Volodarsky, Mangushsky, Limansky districts) regions. There was a total of EMIS set up in 286 buildings among the 25 small cities and 23 villages
* EEPB Project has created a network of 24 partner cities. List of partner cities: Sudova Vyshnia, Drogobych, Dubno, Chortkiv, Khotyn, Borodyanka, Fastiv, Bila Tserkva, Kaniv, Obukhiv, Slavutych, Nizhyn, Savran, Mykolaiv, Poltava, Bilgorod-Dnistrovkyi, Selidove, Melitipol, Sloviansk, Druzhkivka, Dobropillia, Korosten, Odesa)
* The Financial Support Mechanism (FSM) with the IFC and Oshchadbank, has not worked out as intended and by using the Adaptive Management methodology the Project has moved to an ESCO factoring[[13]](#footnote-13) mechanism; the Financial Support Mechanism (FSM), ‘’ESCO Factoring’’ is fully operational and three banks are already providing the ‘’factoring’’ facilities in accordance with 50% of the ESCO/EPC receivables
* The total investment made by ESCOs is about 454,000 USD, which is significantly inadequate in comparison to the set target of 21 million USD. By the end of the project, the Evaluator figures the total private investment (ESCO) to be between 1 and 2 million USD if 30 or 60 additional similar EPC projects are achieved before the end of the project timeframe. Such a situation is a direct result of a high interest rate. Spread over the upcoming 20 years, all things being equal (small-scale EPC), the total investment made by the private sector (ESCOs) should be 7 million USD. The multilateral co-financing is somewhat poor in comparison to the target of 25 million, although the NEFCO provided a loan of 580,000 USD to Kaniv city; and Ternopil city aimed at receiving a loan for energy efficient modernization from EIB of 32 million USD, still in progress
* The EEPB supported ESCOs in two ways (i) Grants 10 EPC; and (ii) TA only 23 EPC. Bank providing the FSM Factoring modality to 3 EPC (from Ukrgazbank, ComInBank, Tascombank).

In 2017 the EEPB involved the SGP Unit for providing TA and for implementing some EE/RE projects. Although the SGP input is valuable and helpful to the EEPB project via the TA to small communities, EMIS training sessions, and document preparation, the Evaluator points out that activities carried out by the SGP did not directly result in EPC projects. See [Appendix 9](#_3vac5uf) for the ‘’SGP Projects Review’’ carried out by the MTR National Evaluator. The RTA raised some administrative issues related to the involvement of the SGP Unit. The Evaluator asked the national Evaluator to carry out a review ([Appendix 9](#_3vac5uf)) of activities achieved by the SGP Unit in 2018 and 2019. These issues, if any, should be discussed between the UNDP CO and the UNDP HQ and the RTA.

### 4.3.1 Results Outcomes / Outputs Analysis Ratings

The following table is very important to rule on the EEPB implementation performance and achievements. In addition, the results review toward targets and objectives, Table 4.2.1 rates the efficiency and effectiveness of each Outcome. The rating is in line with the UNDP-GEF MTR Evaluation Guidelines highlighted in the MTR TORs ([Appendix 1](#_3q5sasy)):

|  |  |  |
| --- | --- | --- |
| Definition of Ratings for Progress Towards Results: (Outcomes and Outputs-based) | | |
| 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. |

Table 2 Definition of Ratings for Progress Towards Results

The corresponding weight (between 1 to 6) of each Output is based on results and achievements toward targets. The Outcome is rated on the average rating of the build-in Outputs under each project component (Outcome).

Although Table 3 is slightly long, however the Evaluator recommends reading it for understanding the rational and the evidence-based evaluation, at least for quantitative result

Table 3 Outcomes/Outputs-based MTR detailed Evaluation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Indicator** | **End of Project Targets** | **Results/Achievements at Midterm** | **Rating** | | |
| Objective |  |  | MTR team Comments and Evaluation/results/Progresses at Mid-Term |  | |  |
| To assist the Government in addressing the barriers to transform the market for investments in energy efficiency in public buildings in the country. | Emission reductions (in tCO2 over 20-yr timeline).  Investment in energy efficiency.  Energy saved by capacity installed (MWh/MWhTh).  Number of green jobs created. | 8,893 tons of CO2 reduced over 20-year equipment lifetime.  Indirect post-project GHG reduction of 1,440,000 tons of CO2.  Investment of $ 21 million from ESCOs.  3,000 green jobs created. | As per the Evaluator’s evaluation the breakdown of GHG emissions reduction is as follows:   * Because of the implementation of 21 Pilot Project (not related to SGP): 354 tCO2/Yr * Because of SGP Project: 30 tCO2/Yr   Sub-total for implemented projects: 384 tCO2/Yr   * Because of EMIS in Eastern Ukraine (587 bldgs): 500 tCO2/Yr   NOTE: such an estimate must be double-checked through 10 EMIS Pilot Projects to be implemented by the PMU by the end of 2019 as per the Evaluator’s recommendation.  At midterm, the estimated GHG emissions reduction from Pilot Projects and EMIS is 7,680 tCO/20Yrs which is already significantly overpassing the target stated in the Project Document.  Almost 80% of CO2 reduction target has been reached in the amount of 7.080 tCO2/20Yrs – according to Pilot EPC contracts (21) implemented and ongoing. This is a very good result at midterm.  In regard to investments required for EPC (33) projects:   * ESCO: 454,000$ * Municipalities: 1,400,000$ * UNDP Grant: 147,000$   The Evaluator took into account other replication projects (series of 23 EPC) not at all financed by the grant budget provision, ESCO invested about 454,000$.  In other words, the total investment made by ESCOs (is about 454,000$) is quite far of the target set in the Project Document (21 million$).  Reference: the excel document CO2 emissions reduction by project CTA Paata Janelidze.  <https://drive.google.com/open?id=1e_ReX08B_RDHxsALxBgymUexIc5Y3wtN> | **S** | | 5 |
| **Outcomes** | **Indicator** | **End of Project Targets** | **Results/Achievements at Midterm** | **Rating** | | |
|  |  | |
| Outcome 1: Streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings through strengthening of monitoring and enforcement mechanisms. | Existence of adequate policy and regulatory framework. | Completed within 12 months of project initiation and approved by Government by the end of year 2. | * Law on New Investment opportunities in Energy Efficiency (“ESCO Law”) #327 adopted in 2015, amended in January 2019. * Law “On Energy efficiency in buildings” #2118, adopted in 2018.   EEPB is working on amendments to these laws.  The Parliamentary Committees and members of parliament (MPs) have approved the Draft Law No. 9386 as of 10.12.2018 “On the improvement of the ESCO mechanism” and recommend it to be passed in the first Parliamentary reading.  The document was not voted yet due to the dissolution of the Verkhovna Rada (June 2019).  The core legislation is set. EEPB is working on the law (other amendments improvement) “On the energy efficiency of public buildings”. Work in progress.  Reference  <https://zakon.rada.gov.ua/laws/show/327-19>  https://zakon.rada.gov.ua/laws/show/328-19  <https://zakon2.rada.gov.ua/laws/show/2118-19> | **S** | 5 | |
| Output 1.1: Signature of MoUs with 10 small and medium sized cities in Ukraine to work on ESCO and energy management | Signed MoUs between UNDP and 10 small and medium sized cities in Ukraine to work on ESCO and energy management | At least 10 signed MoUs | Status: done above the target  The MoUs have been signed with 27 small and medium cities and deal with aggregated pilot projects in line with the approved SEAP. In addition, the EEBP PMU concluded MoU with 3 profile associations concerned: (1) Association of energy efficient cities of Ukraine; (2) Association of small cities of Ukraine; (3) Associations of amalgamated local communities. In accordance with the MTR Team’s view, a Pilot Project is an EPC contract. A municipality is not per se a Pilot Project. On this basis, there are a total of 27 Pilot Projects duly signed and 21 replication EPCs are at various implementation stages. Those Replication Projects should be commissioned when equipment is installed and in operation.  Out of 21 pilot projects with EPC duly signed 11 are commissioned (6 in Dubno and 5 in Drogobych) and operational.  Reference: <https://drive.google.com/open?id=1ikgX3iQJUa18pD8HeVdMgB23F_RRKA2Q> | HS | 6 | |
| Output 1.2: Support for the preparation of Sustainable Energy Action Plans (SEAPs) and signature of EU Covenant of Mayors (as required) | SEAPs prepared and published for 10 Ukrainian small and medium sized cities | SEAPs prepared EU Covenant of Mayors Signed | Status: in progress:  Two are completed: Nyzhin and Kaniv  EEPB established cooperation with Covenant of Mayors EAST. SEAPs of Kaniv and Nizhyn cities on the sustainable energy and climate action plan for municipal heat supply system were delivered to the cities by EEPB.  At midterm the result is moderately satisfactory because more than 2 municipalities should have already drafted their SEAP.  Reference: <https://drive.google.com/open?id=1Na4IK3Jb80VgTFJ10X8EXt_BhB5ihHT8> | MS | 4 | |
| Output 1.3: Development and adoption of secondary legislation to support new law including financial incentives provided to ESCOs to invest in Energy Efficiency in public buildings such as income tax holiday for a specific period of time, duty and tax exemptions on equipment and services they provide. | Existence of secondary regulations to support ESCO market development | Completed within 2 years of project initiation. | Status: in progress  EEPB developed, submitted and registered the draft law to the parliament of Ukraine (Verhovna Rada) amending existing legal framework on EPC modality. The draft law waits on the line to be considered in the first reading of the parliament. The Energy Cluster supported the development of the draft law.  At this stage, the work has been done satisfactorily, but the final approval is still postponed at the Parliament level.  Reference: concept of the draft law  <https://drive.google.com/open?id=15VmatQ_agWN30L89OJkRRazjBOmsdCI9> | S | 5 | |
| Output 1.4: Regulations to support the development of secondary market for EPC contracts in order that the contracts can be sold to investors to provide for further liquidity and additional investment | Existence of secondary regulations concerning sale of EPCs | Completed within 2 years of project initiation. | Status: in progress  EEPB developed the regulation on EPC secondary market but no support of the parliament and Ministry of Finance of Ukraine obtained for the adoption of such a buyout option.  According to Project Progress Report (2018), there are no regulations required to enable the selling of the EPC contract.  As per the Evaluator experience, such a modality (buyout) can be rolled out only on a mature market. The Evaluator figured out the rating of Output 1.4 as Not Applicable (N.A.) at this point in time.  Reference: <https://drive.google.com/open?id=14KmqyE-oDHK055A5TglAS4TnsCsvMbRR> | N.A. |  | |
| Implementation Progress Rating Outcome 1 | | | | **S** | 5 | |
| Outcome 1 Implementation Efficiency Rating: Despite the time lost during the first year, the actual results in term of regulations has been carried out in an efficient way with some reservations related to regulation toward the ‘’mandatory’’ involvement of Energy Managers in all cities. The need toward the adoption of secondary legislation as well than regulations to support the adoption of nation and citywide energy management for public buildings still exists and must be fulfilled as soon as possible. | | | | MS | | |
| Outcome 1 Implementation Effectiveness Rating: The effectiveness of the regulation is good, but the EEPB is still waiting for approval and enforcement of the regulation related to improvement of ESCO mechanism. | | | | MS | | |
| **Outcomes** | **Indicator** | **End of Project Targets** | **Results/Achievements at Midterm** | **Rating** | | |
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| Outcome 2: Innovative Financing Mechanism is adopted and capacity development is provided for ESCOs to promote investment in support of Energy Efficiency in public buildings. | Innovative Financing Mechanism established and working. | Completed within 24 months of project initiation and applied by all stakeholders. | In the absence of a donor (or third party) willing to invest on a long run commitment a significant amount of money for providing soft-loans to ESCOs or other EE investors in the public sector, the design of a comprehensive FSM is just a theoretical exercise. The basic FSM is put in place and already operational. The ‘’ESCO Factoring’’ modality can allow ESCOs to more easily deal with the banks’ requirements related to co-lateral when ESCOs ask for a loan. This is in line with the international best practice but it does not solve the issue of the high cost of capital. | S | 4.6 | |
| Output 2.1: Financial Support Mechanism (FSM) established and capitalized to support private investment (ESCO) in Public Buildings in Ukraine. | Financial Support Mechanism (FSM) established and capitalized. | Completed within 12 months of project initiation and applied thereafter.  $ 21 million invested in energy efficiency in public buildings. | Status: in progress despite the very high interest rate in Ukraine  The initial FSM idea was to adapt an IFC/UNDP product that was supposed to be operational in 2018, which did not take off because of the interest rate. On the other hand, local experts said that the Biomass Project FSM was not transferable to ESCO Project mainly because of many reasons, among others: the borrower must be the municipality; the interest rate was still high (18%); term up to 5 years, and the loan to municipality must be related to municipal infrastructure investment. If ESCO deals with the building infrastructure, e.g. the envelope of the building, roofs and walls, the payback period is most of the time longer than 10 years.  The EEPB PMU undertook a number of actions in regard to financial issues and modalities:   1. Creation of municipal ESCO structure (in Kaniv and Bila Tserkva. 2. Developed a partnership ESCO modality, in order to include municipalities and their capacities to get significant financial resources and to use it in EPC energy – efficient modernizations 3. Developed financial support mechanism – “ESCO factoring” which is a basic FSM in line with the international best practice. In addition, UNDP support in form of equipment that is required for the Energy Management and the monitoring and control of savings in the amount of 10% of the project cost (up to 50,000$ but as a rule 10 000 USD per EPC) is considered by the PMU as a mechanism to make loans somewhat affordable. But the Evaluator considers this ‘’grant’’ mechanism as non- sustainable, although its impact is beneficial to lessen loans needed to finance pilot projects. The ESCO factoring modality is now applied by 3 commercial banks. The first EPC project financed under the “ESCO-factoring” modality has taken place in the city of Drohobych (Lviv region), with the project amount totaling to UAH 2.8 mln (ca. USD 108 thousand).   The second “ESCO-factoring” loan has been granted by the same bank (ComInBank) to KyivESCO LLC. The loan total amount equals to UAH 15.5 mln  (ca. USD 607 thousand) and is planned to be provided in two tranches: the first one (for 7.5 mln.), which is intended for EPC in Odessa and Slavutych, has already been disbursed; and the second one (for 8 mln) is scheduled for October 2019 for EPC financing in Severodonietsk, Pervomaysk and Korosten.  Two other banks (TAScom bank and UkrGazbank) are now also offering ESCO-factoring loans.; so the market already faces a certain competition, which might be one of the factors that led to better terms and conditions, i.e. the second loan’s interest rate was by 2 percent lower (25% instead of 27%), and the loan period is now 2 years instead of 1 year as it was before.  At mid-term the Pilot EPC projects (33) co-financed (10) by UNDP (grant) and others without any grant, is broken down as follows:   * ESCO: 454,000$ (\*) * Municipalities: 1,400,000$ * UNDP Grant: 147,000$   In addition, if the Evaluator take into account other replication projects (series of 23 EPC) not at all financed by the grant budget provision, ESCO invested about 454,000$.  All this is a first step in the right direction, in line with the international best practice but it does not impede the barrier of such high cost of capital in Ukraine (24 to 27%). An involving international donor involved in the ‘’Green Fund’’ should enable the rolling-out of a more sustainable FSM. At the moment the EEF (Ukrainian fund) is not allowed to provide any financial support to public buildings.  Reference: <https://drive.google.com/open?id=1pJCjHUrgefs1yhnXJnqwKCz_2DDzdYj1> |  | 5 | |
| Output 2.2: Model Municipal EPC Procurement package for launching EPC tenders in selected 10 cities is prepared and launched | Municipal EPC Procurement Package is Available | Completed within 12 months of project initiation. | Status: done above the target  The Manual on how to prepare energy service call for proposal, Manual on how to set up baseline and carry out Walkthrough as well as the way on how to prepare documents for advertising announcing ESCO tenders were developed. 7 trainings sessions were carried out. Video training has been produced. The ‘’tender package’’ includes an EPC template.  Reference: <https://drive.google.com/open?id=13TRiJTbpgD3webtR-M7bzb3tMhQenykP> | HS | 6 | |
| Output 2.3: MOUs signed with banks that are active in small and medium sized cities in Ukraine to use the financial support mechanism | Signed MoUs with banks | Signed MoU with banks and commercial financing available and accessible for ESCO financing | Status: partly done  The MoUs were signed with 3 banks – ComInvest bank, TAScom bank and Ukrgazbank. MOUs are mainly related to factoring modalities.  In addition, the signed MoUs are about cooperation and mutual support in developing new financial instruments for municipalities and ESCOS.  At midterm, the Evaluator was expecting a larger involvement and commitment of the financial institutions. But three banks already involved is already a more or less good result.  Reference: <https://drive.google.com/open?id=1QVNDQn6piacoLhnH3pxNlCD-u0QQmwnk> | MS | 4 | |
| Output 2.4: Capacity development of and support to banks with standardized banking products to support development of ESCO market using the EPC modality | Training package with standardized banking products prepared and delivered  Commercial loan(s) for ESCO are made in Ukraine using the EPC as the security for the loan by the borrower | Standardized banking products being used by banks in Ukraine to provide financing for ESCO related activities.  The first commercial loan(s) for an ESCO (using market rates and on a project finance basis) are made in Ukraine. (i.e – loan made using the EPC as the guarantee not on the bank of separate assets pledged by the ESCO) | Status: in progress, but in late.  Two Banks have developed and field-tested the banking products to support development of ESCO market using the EPC modality (operationalized).  Materials are prepared to replicate it for other banks.  This sub-component is in late. In the Evaluator’s view, the related materials must be completed and operationalized by the end of the year 2019 and even earlier.  Reference: <https://drive.google.com/open?id=1n3Vcaf1WreUlU_EZmI-4F53E2ua5UamB> | MS | 4 | |
| Output 2.5: Capacity development of and technical support to ESCOs, including setting up of a Help Desk, to implement energy efficiency measures in public buildings using the EPC modality. | Help Desk established. | Capacity of 20 -30 ESCOs developed and at least 20 cities in Ukraine have energy managers in place using EMIS and funded by government | Status: done  ESCO Help-desk developed through SGP 11 activities and trainings, is fully operational under the SAEE. At midterm the ESCO Help-desk reply to 143 information requests from municipalities as well than ESCOs.  286 people were trained in 10 partner cities and in 2 administrative regions. Staff members were assigned as energy managers. Energy Managers and their salaries are paid by local budgets.  Over the last year, 31 ESCOs or candidate ESCOs asked for information through established Help desk set up by EEPB.  The work is not fully achieved because the target is 20 cities, not only 10 cities. For midterm it is, however, a more or less good result.  Reference: <https://drive.google.com/open?id=1T0PQMZXVhcldewxTQMPTq1BAhzf3ElAi>  <https://drive.google.com/open?id=1YTbtCSVCz7ehhnJNoboGBo_IoCi_D4Ie> | MS | 4 | |
| Implementation Progress Rating Outcome 2 | | | | S | 4.6 | |
| Outcome 2 Implementation Efficiency Rating: Because the FSM (ESCO Factoring) is operational and used by ESCOs, and because the SGP provided ‘’grants’’ to community-based people and small cities in an efficient way (11 SGP projects, mainly related to TA), and although the ‘’grant scheme’’ is not sustainable, the TA provided to ESCOs and project beneficiaries has been delivered in an efficient way. | | | | S | | |
| Outcome 2 Implementation Effectiveness Rating: Although the FSM is currently focusing on ‘’Factoring’’, the involvement of three commercial banks to support the ESCO-Factoring FSM is, at this stage, a good and effective result; but more than only three banks should embark on the ‘’factoring’’ modality by the end of the project timeframe. Additional efforts in the regard should be made. | | | | MS | | |
| **Outcomes** | **Indicator** | **End of Project Targets** | **Results/Achievements at Midterm** | **Rating** | | |
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| Outcome 3: Pilot projects in selected public buildings, which demonstrate energy and cost-saving potential of new energy efficient measures. | Pilot projects completed. | Completed within 48 months of project start. | Pilot projects (heating systems) carried out in 6 public buildings in Dubno and 5 other public buildings in Drogobych are completed and commissioned.  Nine (9) additional pilot EPC contracts that include co-financing from UNDP in 6 cities (12 pilot buildings) are in progress. Improvements to heating systems are planned to be fully operational with the upcoming heating season (October 2019).  Because of the EEPC TA and support and additional series of 42 EPC contracts in the partner cities without any grant. Projects are 100% financed by ESCO companies (EPC signed; equipment will be commissioned in autumn 2019). | S | 5.4 | |
| Output 3.1: ESCO Market Help Guide prepared to support the implementation of EPC energy savings projects in Ukraine in public buildings | ESCO Market help guide completed, focused on ESCOs support for investments in public buildings and on commercial financing for ESCO activities working with local banks | Completed within 24 months of the start of the project | Status: done on target  Help-Guidance Report on how to conduct a feasibility study for ESCO project has been issued.  Manual on how to start a PPP project issued.  Manual on how to set up a municipal ESCO issued.  For energy audits the EEPB rolled out the ISO standard DSTU ISO 50002:2016” Energy Audits: requirements and implementing guides” for standardizing the EA procedures and quality.  The SGP Unit carried out both activities highlighted above.  Reference:  <https://drive.google.com/open?id=1fpd0BZNQDj6BAx7GGhjmvhp4NI-CasMe>  [http://eepb.org.ua/post/metodychni\_rekomendatsii\_zi\_stvorennia\_esco\_kompanii](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fmetodychni_rekomendatsii_zi_stvorennia_esco_kompanii&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323636071&sdata=XVRcCV50fUrNcFYTuWRGBY%2BrfDVnY3VhAs9g6z8Fm4c%3D&reserved=0)  [https://drive.google.com/file/d/1G4myRuzdSr1TVHZkkpEc7JG0qNFLKVEB/view](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdrive.google.com%2Ffile%2Fd%2F1G4myRuzdSr1TVHZkkpEc7JG0qNFLKVEB%2Fview&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323646066&sdata=twYr72TTbRmrF%2BYuz%2FMHB9slsZAzYTTaOeYyOCChi9U%3D&reserved=0)  [http://eepb.org.ua/post/posibnik-z-pidgotovki-dokumentiv-dlya-zakupivli-energoservisu](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fposibnik-z-pidgotovki-dokumentiv-dlya-zakupivli-energoservisu&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323656068&sdata=K9F9hBQYVEPE77IFiSQkGmeAgAcOoaElePh1b8Bj0W0%3D&reserved=0)  [http://eepb.org.ua/post/pidgotovka\_terytorialnyh\_gromad\_do\_vprovadzhennya\_energoservisy](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fpidgotovka_terytorialnyh_gromad_do_vprovadzhennya_energoservisy&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323656068&sdata=YCpUF4ck%2FvZVKcUgEOUl1UJF2cWR62elsz6QlDhX4n0%3D&reserved=0) | HS | 6 | |
| Output 3.2: At least 20 energy audits carried out in schools, kindergartens, hospitals, and administrative government buildings | Audit completion reports. | Completed within 12 months of the start of the project | Status: done significantly above the target   * 33 energy audits completed; * 17 more to be completed by the end of the project;   Reference: <https://drive.google.com/open?id=1N-UUayJC97L5EC6QH1bP2kMZT6y3ZJCa>  <https://drive.google.com/open?id=1IMzUNxbK4-OzZzad6soi9dmVfgXF0V-o> | HS | 6 | |
| Output 3.3: Pilot projects in schools, kindergartens, hospitals and administrative government buildings using the ESCO/EPC modality. | 20 energy audits completed.  10 pilot EPC projects completed. | At least 20 energy audits and 10 pilot EPC projects completed within 48 months of project initiation. | Status: done above the target with reservation  As per the current definition (\*) of EPC project the result is as follows:   * 11 EPC contracts signed, installation works completed and fully commissioned (Dubno and Drogobych) * 10 other Pilot EPC duly signed and in progress, will be commissioned this year (2019).   \*NOTE 1: A commissioned EPC Pilot project is a project fully operational producing energy savings and the related cash flow.  NOTE 2: The SGP implemented 11 TA/EE projects (total cost of +/- 500k$) not all significantly connected to barriers removal toward the rolling out of EPC modality. In the Evaluator’s view, as well as the PMU understanding, those projects are not considered as pilot projects in regard to EEPB project objectives. The EEPB by itself developed a series of 21 EPC projects with a few grants (9 projects got a grant: total +/- 147 k$) in line with the project objective.  Reference:  <https://drive.google.com/open?id=1CDxpIGP0Z8YosEyw3Ky5-2tkgw6iBXyB>  <https://drive.google.com/open?id=1RqhL1nRV0KBNbpNeD_SRn7vkMeqGfPM1> | HS | 6 | |
| Output 3.4: Capacity development of designated “Energy Managers” to monitor energy use in public buildings through EMIS and propose/implement necessary energy efficiency measures. | Capacity available. | Capacity of 40-50 “Energy Managers” developed and Energy Managers are employed in at least 20 cities across Ukraine | Status: done  EEPB launched 10 pilot cities with EMIS + 2 regions totaling 37 energy managers trained (in line with MoUs) in 771 buildings.  The selected EMIS service provider (through the SGP) carried out the needed training to project beneficiaries.  This outcome is yet to be completely achieved as only a portion of the targeted EMs have been appointed in the targeted cities; the involvement of a trained Energy Manager is the primary requirement for dealing with EMIS at local level. But the progress up to the midterm is positive. There is more work required to progress further in the EM involvement and to convince some city councils on the relevance to assign an EM, but a significant effort must be still rolled out.  Reference: <https://drive.google.com/open?id=1dOSKVOt0sMWfHn4IRil6WiS0rRJsqJ4t> | S | 5 | |
| Output 3.5: Walk-through days with senior public officials to view the demonstration projects. | 20 walk-through days completed. | Implementation completed 6 months prior to project completion. | Status: in progress  5 walk-through days in Nizhyn, Kaniv, Zhitomyr Melitopil and in Dubno city were conducted by EEPB.  3 study tours organized with the aim of familiarizing senior official with EE projects in public buildings:   * Croatia, Zagreb (EMIS) * Lithuania, Riga (ESCO, Labeef fund), * Portugal, Lisbon (ESCO, Energy management).   Based on a series of EPCs carried out in small and medium cities and the proven good results, the best showcase will come up at the end of the project timeframe. The Evaluator makes a recommendation (#5) to this end.  Reference:  <https://drive.google.com/open?id=1Ugflm8GSQ_Gr1vBRkdGxg_y0Bk-ocjCZ> | MS | 4 | |
| Implementation Progress Rating Outcome 3 | | | | S | 5.4 | |
| Outcome 3 Implementation Efficiency Rating: at midterm the EEPB project is above the target in regard to Pilot projects | | | | S | | |
| Outcome 3 Implementation Effectiveness Rating: EPC Pilot projects implemented by the EEPB were designed and implemented in line with the ESCO business model. Those pilot EPCs and other upcoming projects are in line with the basic project objective, that is to say ‘’ barriers removal to EE investments. | | | | HS | | |
| Outcomes | Indicator | End of Project Targets | Results/Achievements at Midterm | Rating | | |
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| Outcome 4:(a): Institutional basis for supporting energy efficiency in public buildings and implementing a nation-wide Energy Information Management System (EMIS) is in place.  (b): Documented, disseminated and institutionalized project results providing a basis for further replication. | Existence of adequate framework. | Organizational structure in place within 24 months of project initiation.  At least 20 new cities in Ukraine are implementing EMIS by the end of the project and at least 5 cities implementing EMIS by the half way point  Increased awareness among stakeholders in place to promote and develop the market for energy efficiency in public buildings. | Status: in progress  Nationwide Energy Information Management System design is progressing slowly. In essence, the nationwide EMIS is a database, which must be efficiently and reliably updated at the central level by the SAEE. Work is still in progress and the Evaluator made a recommendation in this regard.  EMIS design for 10 cities (498 buildings) and 2 regions (25 small cities, 23 villages) is developed and implemented in 286 buildings.  10 additional cities must get involved in the current EMIS support by the end of the project timeframe.  In 2018 the EEPB Project set up the Technical Working Group on National EMIS, which is hosted by SAEE and includes experts from UNDP, GIZ and NGOs and EMIS companies (AIS Energoservice, Umuni, Fiatu, ASEM, Energoplnan, Energobalans). The purpose of the group is the outline of the necessary methodology and draft legislation for the introduction of National EMIS in Ukraine. The Project plans to have all documents and draft laws by the end of 2019.  Reference: completion reports <https://drive.google.com/drive/folders/1dOSKVOt0sMWfHn4IRil6WiS0rRJsqJ4t>  <https://drive.google.com/open?id=1nNTaKrSex7x1a5ApkhtNKybRv1MX81k5> | S | 4.7 | |
| Output 4.1: Fully mandated and capacitated state agency (SAEE) with a responsibility to monitor and enforce the energy savings and CO2 emission reductions in public buildings through EMIS and with approved annual budget to carry out this function. | Existence of adequate framework. | Monitoring/enforcement activities completed at 40 - 50 public buildings 6 months prior to project completion. | Status: in progress, but already overpassing expectation at midterm.  EMIS is operational on municipal level for 10 cities and 2 regions for 286 buildings in total. It already is (midterm) a good result but the energy management system is not yet fully operational at the central level. An intensive amount of work is still required up until the completion of the project timeframe. The Evaluator made a recommendation (#2) to this end.  The development of nation-wide EMIS is in progress.  Reference:  <https://drive.google.com/open?id=1BNovzWgEj6qkLOTMkv0xjzyiCNy7z5mH>  https://drive.google.com/open?id=12dFkLebfn0BPadTZa1OTFiGLgWftz4MG | S | 5 | |
| Output 4.2: An approved national energy audit program for promoting larger number of energy audits of public buildings with approved budget. | Existence of national audit program. | Completed within 12 months of project completion. | Status: Done  In 2017 the law “On the energy efficiency of public buildings” was adopted. It foresees the obligatory certification of buildings (including public buildings) in which energy audits precede as initial stage.  Fully operational licenses system for energy auditors is established.  As of today, 552 energy auditors are trained, 270 buildings received energy certificates, and 30 universities and colleges offer trainings.  Reference: https://drive.google.com/open?id=1rr4tMXymnEJH1Z2L3kmva9IBH0hQ3Gw1  <https://zakon2.rada.gov.ua/laws/show/2118-19> | HS | 6 | |
| Output 4.3: Developed and published public awareness raising materials and completed nation-wide awareness and information campaign advocating the benefits of energy efficiency measures in public buildings (incl. project website). | Availability of reports. | Completed within 3 months of project end. | Status: in progress  EEPB launched a fully operational website.  In additional, the following materials are developed:  On benefits of partnership ESCO model, on how to set up a municipal ESCO, on ESCO and PPP, on green bonds instrument.  ESCO help desk site used as a primary informational channel.  References: [http://eepb.org.ua/post/metodychni\_rekomendatsii\_zi\_stvorennia\_esco\_kompanii](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fmetodychni_rekomendatsii_zi_stvorennia_esco_kompanii&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323636071&sdata=XVRcCV50fUrNcFYTuWRGBY%2BrfDVnY3VhAs9g6z8Fm4c%3D&reserved=0)  [https://drive.google.com/file/d/1G4myRuzdSr1TVHZkkpEc7JG0qNFLKVEB/view](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdrive.google.com%2Ffile%2Fd%2F1G4myRuzdSr1TVHZkkpEc7JG0qNFLKVEB%2Fview&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323646066&sdata=twYr72TTbRmrF%2BYuz%2FMHB9slsZAzYTTaOeYyOCChi9U%3D&reserved=0)  [http://eepb.org.ua/post/posibnik-z-pidgotovki-dokumentiv-dlya-zakupivli-energoservisu](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fposibnik-z-pidgotovki-dokumentiv-dlya-zakupivli-energoservisu&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323656068&sdata=K9F9hBQYVEPE77IFiSQkGmeAgAcOoaElePh1b8Bj0W0%3D&reserved=0)  [http://eepb.org.ua/post/pidgotovka\_terytorialnyh\_gromad\_do\_vprovadzhennya\_energoservisy](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fpost%2Fpidgotovka_terytorialnyh_gromad_do_vprovadzhennya_energoservisy&data=02%7C01%7Csergii.varga%40undp.org%7C24c7a809ed8b40855e2808d71107c250%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996597323656068&sdata=YCpUF4ck%2FvZVKcUgEOUl1UJF2cWR62elsz6QlDhX4n0%3D&reserved=0)  [http://eepb.org.ua/storage/%D0%97%D0%B5%D0%BB%D0%B5%D0%BD%D1%8B%D0%B5%20%D0%BE%D0%B1%D0%BB%D0%B8%D0%B3%D0%B0%D1%86%D0%B8%D0%B8%20(%D0%B2%D0%B5%D1%80%D1%81%D0%B8%D1%8F%2011).pdf](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Feepb.org.ua%2Fstorage%2F%25D0%2597%25D0%25B5%25D0%25BB%25D0%25B5%25D0%25BD%25D1%258B%25D0%25B5%2520%25D0%25BE%25D0%25B1%25D0%25BB%25D0%25B8%25D0%25B3%25D0%25B0%25D1%2586%25D0%25B8%25D0%25B8%2520(%25D0%25B2%25D0%25B5%25D1%2580%25D1%2581%25D0%25B8%25D1%258F%252011).pdf&data=02%7C01%7Csergii.varga%40undp.org%7Cbf63524ad82a4e8a217108d7110e1b51%7Cb3e5db5e2944483799f57488ace54319%7C0%7C0%7C636996624586298826&sdata=qTh6q8tvY7dIv0pbMiV8fje6g8qoEQmKe9U9GJ0UaQI%3D&reserved=0)  Other:  <http://eepb.org.ua/coryses>  <http://energoefektivnaukraina.org.ua/> | S | 4 | |
| Output 4.4: National Database of public buildings re. energy consumption established and energy monitoring and information management system put in place to eventually cover all public buildings in Ukraine | Availability of national database on energy consumption in public buildings | Completed by the end of the project | Status: in progress  Nationwide Energy Information Management System (database) design is in progress but the issue of merging different databases is still a barrier for making the National Database fully operational, centralized and reliable.  The EMIS database is ready for 10 cities (see 4.5). In 2018, the EEPB Project created the Technical Working Group on National EMIS (database), which is hosted by SAEE and includes experts from UNDP, GIZ and NGOs and EMIS companies. The purpose of the group is creation of all necessary methodology and draft legislation for the introduction of National EMIS in Ukraine, which also includes the national database on energy consumption in public buildings. The Project plans to have all documents and draft laws by the end of 2019. Local EMIS companies already have their databases:   * AIS Energoservice - 22000 objects * Umuni - 4000 objects * Fiatu - 3274 objects * ASEM - 2691 objects * Energoplnan - 1861 objects * Energobalans - 1000 objects   It is agreed that they will share data with national one when it will be operational.  The Evaluator makes a recommendation to this end. (cf: Recommendation 6).  Reference:  <https://drive.google.com/open?id=1BscZzaTsTfx3FzKE6a35ldfLF3Ag7vEK> | MS | 4 | |
| Output 4.6: Energy Management Information Systems implemented in at least 10 selected Ukrainian small and mid-size cities which includes installation of meters in all public buildings in the selected cities | Availability of energy management information systems (EMIS) in selected cities | Completed within 36 months of the start of the project | Status: done  EMIS (local) is implemented in 10 Ukrainian small to medium-sized cities, which includes installation of meters and distance reading/data gathering technology in all public buildings. An intensive effort must be expended to extend the local EMIS & C in much more cities, but at midterm the project reached the minimum stated target.  Reference: <https://drive.google.com/open?id=1rHGNz_hPAn-XH6bFKmpOgCOsj4JH-EWE> | S | 5 | |
| Output 4.7: Agreed methodology and sustainable institutional arrangements for annual monitoring of energy efficiency in public buildings through adoption and implementation of an Energy Management and Information System (EMIS). | Existence of methodology | Annual monitoring of 20 public buildings 24 months after project initiation. | Status: in progress  EEPB Project, through the Technical Working Group on National EMIS, is drafting the methodology for introduction of national wide monitoring of energy efficiency in public buildings through EMIS adoption. The methodology as well as draft laws for support will be ready by the December 2019. Meanwhile in 10 cities and 2 regions of Donetsk and Luhansk Oblasts, the EMIS was introduced with support of EEPB Project; annual monitoring is already in place.  Reference: <https://drive.google.com/open?id=1VBr4okg9PDSp6klb_vubp-Pv8Ui5jXI1> | MS | 4 | |
| Output 4.8: International Conference on energy efficiency in public buildings in Ukraine. | Existence of conference proceedings | Completed within 3 months of project completion. | Status: not started  The evaluator recommends holding such an International Conference at the end of the project timeframe. Prior to the conference, the EEPB project must issue its FINAL REPORT, (colors and quality edited document) for knowledge sharing purposes and as a showcase. | N.A |  | |
| Implementation Progress Rating Outcome 4 | | | | S | 4.7 | |
| Outcome 4 Implementation Efficiency Rating: At midterm the EEPB has a good result at the local (municipal) level only. | | | | MS | | |
| Outcome 4 Implementation Effectiveness Rating: the EEPB made the difference between the EMIS at local level, and the national EMIS. The first one is already operational for proceeding to distance data gathering and control at the local level where pilot and replication projects were implemented, while the national-wide EMIS is only dealing with data gathering (database). The problem is the way to integrate the local EMIS to the national EMIS. The EEPB should work intensively on this point until the EPT. | | | | S | | |

NOTE: The PMU defines Pilot Projects as follows:

* EPC pilots using partnership ESCO modality (Municipality provides investments, UNDP provides financial support to install smart energy meters and ventilation units and/or the tailored technical assistance (might include legal support, organizing ESCO tenders’ procedures, Energy Audits, SECAPs (when needed) EMIS, technical design, feasibility studies).
* EPC Pilots that were supported in obtaining financing from banking sector using FSM “ESCO Factoring”.

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### 4.3.2. Remaining barriers to achieving the project objective

The Evaluator reviewed all barriers pointed during the initial stages of the project design 4 years ago. At midterm, the Evaluator is confident that critical barriers will be removed, with the exception of one, which is related to the cost of capital.

|  |  |  |
| --- | --- | --- |
| Barriers | Status in 2016 | Status at midterm – August 2019 |
| Legal/  Regulatory | Absence of secondary legislation that supports the effective implementation of the new laws related to ESCO | Most of the Regulatory barriers have been removed:  The Parliamentary Committees and members of Parliament (MPs) have approved the Draft Law No. 9386 as of 10.12.2018 “On the improvement of the ESCO mechanism” and recommend it to be passed in the first Parliamentary reading. The document was not voted yet due to dissolution of the Verkhovna Rada (June 2019).  Law on New Investment opportunities in Energy Efficiency (“ESCO Law”) #327 adopted in 2015, amended in January 2019.  Law “On Energy efficiency in buildings” #2118, adopted in 2018.  The core legislation is set. EEPB is working on amendments improvement the law “On the energy efficiency of public buildings”. Work in progress toward the mandatory involvement of trained Energy Managers in all cities. |
| Policy | Absence of policies in place at the city level which promote investments in sustainable energy | Barriers removed in 2 cities only:  EEPB established cooperation with Covenant of Mayors. SEAPs of Kaniv and Nizhyn cities on the Sustainable energy and climate action plan for municipal heat supply systems were delivered to the cities by EEPB. The target is 10 cities. Policy barriers removal is still in progress. |
| Financial | Absence of a Financial Support Mechanism (FSM) to promote investment in energy efficiency made by private sector developers/investors (ESCOs) and to enable local commercial banks to lend for ESCO activities | Some financial barriers removed, but key barrier related to cost of capital is still impeding the rollout of capital-intensive EPC projects. Such a barrier is out of the EEPB Project’s control.  The Evaluator points out the basic FSM has been put in place and already operational. The ‘’ESCO Factoring’’ modality can allow ESCOs more fluidity when dealing with the banks’ requirements related to collateral when ESCOs request a loan. This is in line with the international best practice but it does not solve the issue of the high cost of capital. The ESCO-Factoring is used in 5 cities by the selected ESCO.  Ukrainian ESCO Association announced that besides ComInBank, two other banks (TAScom bank and UkrGAazbank) are now also offering ESCO-factoring loans; so we already see certain competition here, which might be one of the factors that led to better terms and conditions, in particular, the second loan’s interest rate was by 2 percent lower (25% instead of 27%), and the loan period is now 2 years instead of 1 year as it was before.  In the absence of a donor willing to invest a significant amount of money for providing soft-loans to ESCOs or other EE investors in the public sector, the design of a comprehensive FSM is just a theoretical exercise. |
| Technical | Absence of full energy audits undertaken for public buildings | Key technical barriers have been removed:   * EPC Procurement Package to support ESCO and municipality for dealing with the EPC modalities * EPC template has been discussed and issued * Energy Audit training and certification procedure were carried out in 10 cities * Energy Managers trained at the municipal level * Pilot Projects achieved through the EPC modality |
| Promotion and Outreach | Lack of promotional/outreach activities and absence of project experience/best practices | Per se this is not a barrier:  Implement outreach/promotional activities and document project experience will be issued at the end of the PTF. In the meantime, the EEPB project issued many Case Studies leaflets. |
| Information and Data | Absence of detailed information and reliable data on energy consumption in public buildings | Not completed: Development and implementation of a nation-wide Energy Management Information System for all public (and other) buildings in the country is under the SAEE’s responsibility. In essence, such a ‘’nationwide EMIS’’ is just a Database. The barrier to be removed is related to the efficient and reliable integration of local and national databases. The EEPB project must continue providing TA to SAEE. |

Table 4 Barriers Status

## 4.4. Project Implementation and Adaptive Management

GEF projects tend to be overdesigned due to an inability to adapt to a new situation or context in the target country or the project design needs minor improvements to be in line with the approved objectives. Adaptive Management softens the common criticism that sometimes Pro Docs are too rigid. On the other hand, it is important to be aware of the changes allowed and levels of authority required for approval.

To shorten implementation delays with regards to TA and EE improvement projects, with the weakness of the national taxation system (inefficient VAT recovering), and to facilitate the implementation of EE projects in public buildings in small communities, the UNDP CO and the PMU asked the SGP Unit to carry out a series of EE activities through the involvement of some NGOs knowledgeable of issues and context of the community-based development. This is a good example of adaptive management, because the whole EEPB project was delayed during the first two years in regard to its planning, and also due to the SGP Unit requiring time to become fully operational and knowledgeable of the requirements and community-based commitment.

To take action in small communities and for dealing with training needs, the SGP Unit carried out a series of 11 projects including training sessions (EM, EMIS and EA) in addition to the ESCO Information Center implemented by NGOs, which was under the sole supervision of the SGP Unit. These actions yielded positive outcomes, which were appropriately monitored and seemingly useful to the community and the EEPB project as well. The list of 11 projects/activities is highlighted in [Appendix 9](#_3vac5uf).

The EEPB requested budget revision to include the budget lines for grants in Output 3 ‘’Pilot projects in selected public buildings’’ (USD 249,582) and Output 4 EMIS (USD 249,394) according to UNDP procedures. The main sources of finances for new lines were “Contractual Services - Companies” and “Equipment and Furniture” for Output 3 and “Audio Visual & Print Production Cost” and” Contractual Services –Companies” for Output 4. The total cost paid by the EEPB project for activities carried out by the SGP Unit is 498,976 USD. In addition, the amount of 388,917 USD was provided as co-financing during the grant implementation both in-cash and in-kind forms. The GEF SGP Unit maintains all documentary evidence of co-financing including bank statements; copies of bank statements were presented.

The most important Adaptive Management decision made by the UNDP CO is related to the project management arrangement by implementing the project activities in accordance with the Direct Implementation Modality (DIM) rather that the National Implementation Modality (NIM). At the project design stage, and at the earliest implementation stage (first year), UNDP faced a predicted situation that could drastically impede the efficiency of the whole project implementation and at the same time the expected results. For some reasons mainly related to the social and political context (2015-2017), the lack of a collaborative approach and the slow decision-making process, as well the MinRegion not being in a position to adequately manage and efficiently contribute to the implementation of activities. After the discussion with the Ministry, all parties made the decision to shift from NIM to DIM. It was a very relevant decision that enabled the whole project to shave off one-and-half-years after the official project start-up. The Adaptive Management approach is rated Satisfactory for recovering the lost time (2016-2017).

### 4.4.1 Management Arrangements

As mentioned in the previous paragraph, the Project is being implemented under the UNDP Direct Implementation Modality (DIM) rather than the NIM as planned in the Project Document. The UNDP Ukraine is fully responsible for the overall management of the project. Full-time Project Manager (PM) is responsible for the day-to-day management and decision-making for the Project’s planning, reporting and supervision of of the Project experts and other Project staff.

Overall rating of the Management Arrangement is rated satisfactory because of the quality involvement of the UNDP CO-Officer, his close working relationship with the SAEE (especially in regard to the on-going nationwide EMIS-database), the dedication of the Project Manager and most importantly the direct link established by the PMU to the municipal sector through cooperation agreements with cities.

The project Management Arrangement is seemingly efficient and collaborative for planning and making the follow-up on going activities:

- The EEPB Project holds Project Board annual meetings: one on Dec 11th, 2017, second on Dec 20th, 2018. The meetings were carried out with the participation of the key ministries and state agencies, international and national experts, municipalities, business representatives, and UNDP CO and RTA.

In order to ensure the support from stakeholders, review of the Project results, assessment of future plans, overcoming unexpected barriers and to facilitate the sharing of opinions and new ideas (brain storming), a number of additional meetings were organized in a form of round tables:

* On financial barriers in 2017
* On Strategy for Development of Energy Management Monitoring System

in Ukraine, in 2017 and 2018

* On legislation barriers for ESCO in 2018
* On methodology and regulations of calculating baseline energy consumption in 2017
* On the set-up of Technical Working Group on EMIS, in Dec 2018
* On new financial instruments for ESCO in Ukraine (ESCO factoring. support mechanism), April 2019

Representatives of UNDP, Government, NGOs, municipalities and businesses were present at all events.

### 4.4.2 Work planning

The EEPB project has been duly approved on December 2016, but for many reasons out of the control of the UNDP CO (e.g. the lack of involvement of the key implementation partner), the project effectively began in December 2017 after the first Project Board Meeting. That is the reason why only two AWPs were drafted: AWP 2018 and AWP 2019. The Inception Workshop has been held in June 2017.

Despite the slow start, the EEPB project made up for the lost time. At midterm, key expected results were reached or surpassed, although a large share of work has yet to be completed in order to support the SAEE in implementing the nationwide EMIS Database during the upcoming two years.

Work planning is being carried out in a manner, which is consistent with the Project Document and GEF-UNDP guidelines. In particular, it is conducted on the basis of annual work plans (AWPs), which are reviewed and approved by the Project Board. The detailed Annual Work Plan is formulated in the form of a Project Implementation Plan that incorporates key features.

The AWP 2018 provides details on:

* Expected Results: Components 1 to 4 detailed Activities and Results.
* Components-based Yearly Budget
* Planned Results in cross-cutting issues
* Planned Annual M&E Plan
* Update on Risks Management
* Communication Plan
* IATI and quality assurance
* Lesson Learned
* Sustainability & Scaling up

The AWP 2019 is drafted with a new Template and deals with:

* Project’s Top Achievements
* Project’s Top Lessons Learned
* Expected Results for 2019
* Financial Results (2018)
* Financial Projections (2019)
* Gender Activities
* Likely Innovation

According to the Evaluator, the AWP 2018 provides outsiders with a much more detailed plan to make the follow-up of expected achievements and results.

4.4.3 Finance and co-finance

The table below highlights a worrisome situation in regard to GEF financing disbursement. At midterm, the total GEF funding disbursement is achieved only at 33%. The EEPB activity planning must be significantly accelerated during the upcoming two years. The implementation of the nationwide EMIS Database, as well as the EMIS & Control at the local level needs more TA and equipment. Because pilot projects are among probably the best way to demonstrate the efficiency and relevance of the ESCO business model, another series of low-cost EPC Pilot Projects must be implemented in public buildings. The budget resource is available to go further in that direction.

|  |  |  |  |
| --- | --- | --- | --- |
| Co-Financers | July 2019 | Planned at the EPT\* | Midterm achieved% |
| GEF | 1,834,616 | 5,480,000 | 33% |
| UNDP in-kind | 0 | 700,000 | 0% |
| UNDP- in-cash | 0 | 200,000 | 0% |
| National Government (municipalities) | 1,342,286 | 2,669,684 | 50% |
| Private Sector (ESCO) | 454,000 | 21,000,000 | 2.2% |
| Bilateral Aid Agencies (NEFCO credit) | 569,000 | 25,424,779 | 2.2% |
| TOTAL | 4,199,902 | 66,153,195 | 6,3% |

Table 5 Financing and Co-Financing at midterm

\*EPT: End-of the Project Timeframe

NOTE 1:

Detail on 33 EPC projects is attached at [Appendix 10](#_2250f4o).

At mid-term the series of Pilot EPC projects (33) co-financed by UNDP (10 grants) and without any grant (23) is broken down as follows:

* ESCO: 454,000 USD
* Municipalities: 1,400,000 USD
* UNDP Grant: 147,000 USD

The total investment made by ESCOs is about 454,000 USD, a considerable way off from the target set at 21 million USD. The Evaluator makes comments in this regard at Section 1.3, Box 1 of Table 1 Summary Outcomes/Outputs. In other words, the Evaluator figures the total investment (ESCO) by the end of the project timeframe, to an amount between 2 and 4 million USD. Such a situation is a direct result of the highest interest rate.

All this is a first step in the right direction, in line with the international best practice, but it does not remove the cost of capital in Ukraine (24 to 27%), which is a significant barrier.

Appendix 11 is the GEF – UNDP GEF5357\_UNDP4114\_FY20 co-financing for MTR

**How to reach the target related to ESCO co-financing**

By making a realistic assumption that the cost for a building retrofit costs between 300,000 and 500,000 USD[[14]](#footnote-14), the Evaluator estimates the number of EPC projects to be achieved by the end of the project timeframe between 70 to 42 EPC projects for reaching the target of 21 million USD.

It is also relevant to have a look at the way the EPC grants (BL 72200) has been broken down. See [Appendix 11](#_2250f4o).

The grant mechanism accounted for 7% of the total investments in pilot projects where a grant has been made available by the EEPB. Although the grant component is extremely low, in regard to Pilot Project investments, such a contribution aided in making the whole investment possible.

Grant were used for (depending of needs and demands):

* comprehensive energy audit
* technical design documentation
* metering devices with remote reading (heat, gas, electricity)
* energy efficient heat recovering ventilation units

The EEPB also provided other types of technical assistance to municipalities:

* SECAP[[15]](#footnote-15) development
* Legal assistance
* EMIS installation
* Trainings for energy managers

The project Co-financing is rated as **Moderately Unsatisfactory (MS**) because of 6.3% of the whole co-financing achieved at midterm is far of expectations. However, the Evaluator gives a good rating for the co-financing of municipalities, which are the key project beneficiaries.

### 4.4.4 Project-level monitoring and evaluation systems

The PMU and the UNDP CO managed to issue the AWPs by the end of the year, and the PIRs in line with the Project Document and GEF requirements in July.

As a rule, the UNDP CO and the PM provided all available data on the results in the form of energy savings and GHG emission reduction. The EEPB designed a comprehensive Excel file for all EPC (Pilots and replications), making the follow-up of results easier for external parties such as the Evaluator (MTR). In addition, the EEPB used the CCM Tracking Tool (last update July 2019). Although the EPC excel file is very informative, the file must be improved because the evaluator found out some minor errors.

According to the Evaluator, there might be a lack of quality information with regard to the actual impact of the EMIS & Control in term of energy savings. Based on the result at midterm, most of the energy savings (+/- 60%) results of the EMI&C. The impact of EMIS&C is difficult to define while the EPC Project is also implementing some EE measures. In other words, the EEPB should take action for figuring the actual impact of solely EMIS&C. The Evaluator makes a recommendation (#2) to this end.

Finally, and not the least, the EEPB project carried out the MTR as scheduled in July 2019. An independent National Evaluator supported the international Evaluator. Both Evaluators carried out the two-week MTR mission in July 2019. The UNDP CO as well as the PMU provided a constant and transparent support to the MTR Evaluation team.

The M&E task is rated Satisfactory (S).

### 4.4.5 Stakeholders’ engagement

The EEPB Project was not in a position to undertake a project of this magnitude and make up for the last time without the collective and cooperative efforts of all parties involved. The list of participants at the Project Board Meeting (PBM) confirms the effective engagement of stakeholders and decision-makers from: (i) GoU, including SAEE, (ii) Parliament representatives; (iii) UNDP and RTA; and (iv) implementing Partners. The PBM 2017 involved 20 participants, and the second PBM 2018 involved 26 participants. This is an indicator of interest and engagement of key stakeholders.

The Stakeholders Engagement is rated Highly Satisfactory (HS).

### 4.4.6 Reporting

Such as it is for other GEF-UNDP projects, the Project Manager is preparing PIRs (early July). PIRs follow the standard UNDP/GEF format and provide general ratings and comments on the Project’s progress by the Implementing Partner, Project Manager UNDP Country Office Programme Officer, Project Implementing Partner and Regional Technical Advisor. The reports provide information on planned and implemented activities. However, the PIR template deals with progress and issues pertaining solely to outcomes. The Evaluator is required to schedule two long meetings with the Project Manager to evaluate the implementation details and 28 output results.

### 4.4.7. Communications

The communication between the Project Manager, the UNDP CO as well as with the key Project Partner (SAEE), is a continuous and efficient process. However, in order to speed up the implementation of the nationwide EMIS Database, the Project should work more closely and strengthen its communication link with the SAEE, which is responsible for the countrywide database.

As mentioned in Sections 4.3.1 and 4.3.5 the EEPB Project arranged round-table meetings with priority stakeholders to ensure their cooperation for the project components, especially the ones under Outcome 2, 3 and 4. The list of participants to PBM shows that none of the key stakeholders were left out during communication and information dissemination. The Evaluator confirms that all the stakeholders interviewed (site visits in 4 cities) are aware not only of the objectives and project strategy but also of current situation and further project initiatives.

The project website is comprehensively documented and very useful to stakeholders, and even to UNDP CO staff and the RTA to follow up the progress and evidence of achievements.

## 4.5. Sustainability

In this section of the MTR report, the Evaluator is required to deal with four priority topics as follows:

* Financial risks to sustainability
* Socio-economic risks to sustainability
* Institutional framework and governance risks to sustainability
* Environmental risks to sustainability

In accordance with the GEF MTR guidelines, the rating scale of Sustainability components is as follows: 4 (likely), 3 (moderately likely), 2 (moderately unlikely) and 1 (unlikely).

Based on the desk review of various project documents (Appendix 5), meetings with stakeholders and the EEPB Project Team and the UNDP CO, the Evaluator is required to answer the following question:

‘’Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?’’.

### 4.5.1. Financial risks to sustainability

*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 outcomes).*

It is **Likely** that financial and economic resources not being available once the GEF assistance ends as the project will probably miss the target related to the private (ESCOs) investment estimated at 17 million USD. On the other hand, as long as the cost of money in Ukraine will be high, we can understand that ESCOs’ investment will remain at a low level, more or less around 10,000 to 15,000 USD per EPC. However, such a current low-cost investment can be self-sustained after the project closure.

*The likelihood of the Financial Support Mechanism ‘s continual operational after the project has become sustainable (meaning that the FSM will continue to operate and function beyond the lifetime of the project).*

It is **Likely** that the Financial Support Mechanism ‘s continual operational after the project has become sustainable as FSM (ESCO Factoring) through the Partner Banks (ComInBank, TAScom bank and UkrGazbank) is at low-risk as long than municipalities comply with their agreed commitment stated in the EPC. ESCO Factoring is financially affordable for the banks, ESCOs incur no cost to the project beneficiaries. It is a highly viable and sustainable FSM, which can go on for an extended period of time.

### 4.5.2. Socio-economic risks to sustainability

*Social or political risks that may jeopardize the sustainability of project outcomes, the risk that the level of stakeholder ownership, including ownership by governments (municipalities) and other key stakeholders (banks and ESCO) will be insufficient to allow for the project outcomes/benefits to be sustained.*

It is **Moderately Unlikely** that stakeholders` ownership may be jeopardized as the Project Beneficiaries are publicly owned and operated by municipalities, the geo-political and/or social risk is minimal. Municipalities are public institutions operating on an annual budget-base and monetary savings (EPC payments) are quite accurately known in advance.

*Is there sufficient public / stakeholder awareness in support of the long-term objectives of the project and its replication? Are the 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?*

The potential replication and scaling is **Likely** to happen as Financial institutions (banks) make money because of interest rates, ESCOs make money because of the cost-effectiveness of the EE measures and relevant services, and municipalities save money on a long run, incrementally during the payback period (10%) and an exponential saving (100%) after the payback period. All parties find their interests to be sustainable through this accord. Municipalities met the MTR team and discussed their intent to implement more EPC with ESCOs on a grander scale and in greater volume. The lesson learnt is related to the cost - when interest rates rise significantly, investment decisions are postponed or the ESCOs’ investment amount reduced.

### 4.5.3. Institutional framework and governance risks to sustainability

*The legal frameworks; policies; governance structures and processes pose risks that may jeopardize the sustenance of project benefits.*

It is **Unlikely** that current legal frameworks, policies, governance structures may jeparis the sustenance of the project benefits. About fifteen years ago while the first UNDP-ESCO project has been implemented in Ukraine (Rivne) and at that time, the national and regulation framework related to ESCO-EPC was not as well developed as it is in 2019. Consequently (2000-2010) the UNDP-ESCO Rivne project did not perform, among others, due to a lack of relevant regulations related to ESCO-EPC development in the municipal sector.

However, the ESCO business model took off after due to a major improvement in national regulation. To a certain extent, most of regulation barriers are on the verge of being lifted because of the EEPB project.

On the other hand, the Evaluator pointed out in many sections of the MTR, that the cost of money in Ukraine impeded the ESCOs’ cost-intensive investment decision. It is quite true but at the same time, the low cost-intensive investment lessens the risk of payment as well as the risk of technical failures. At the stage of barrier removal (purpose of the current project), such a situation drastically mitigated the risk due to the implemented basic EE improvements, and the financial risk was reduced due to the low capital investment.

*The extent to which the project managed to improve or contribute to legal frameworks related to ESCO-EPC development in Ukraine?*

It is **Likely** that the project management contribute to legal framework related to ESCO – EPC development in Ukraine as it is mentioned in a previous rationale, there are many lessons learnt from the failure of the Rivne project (ended in 2011) especially in term of regulation and legal frameworks. During the most recent years the majority of the regulatory barriers have been removed:

* The Parliamentary Committees and members of parliament (MPs) have approved the Draft Law No. 9386 as of 10.12.2018 “On the improvement of the ESCO mechanism” and recommend it to be passed in the first Parliamentary reading. The document was not voted yet due to dissolution of the Verkhovna Rada (June 2019).
* Law on New Investment Opportunities in Energy Efficiency (“ESCO Law”) #327 adopted in 2015, amended in January 2019.
* Law “On Energy Efficiency in Buildings” #2118 was adopted in 2018.
* The core legislation is set. EEPB is working still on amendments to improve the law “On the energy efficiency of public buildings.” Work is currently underway towards the mandatory involvement of trained Energy Managers in all cities until the end of the project time horizon.

### 4.5.4. Environmental risks to sustainability

*The environmental risks that may jeopardize the sustenance of the project outcomes.*

It is **Moderately Unlikely** that the project may face environmental risks. As a rule, EE measures implemented by ESCOs are environment-friendly. But not all levels of risk can be negated especially in regard to pipes cleaning. Pipe cleaning is one of the basic and low-cost EE measures for making the hot water distribution in buildings more efficient in term of the heat transfer. Mineral acid cleaning is used for the removal of metallic scale and corrosion products. It is usually applied in a three-stage operation: degreasing, metal collection, and passivation. This method must be applied with care due to a variety of reasons, including environmental, safety, and disposal issues. ESCOs are aware of the risk and manage to mitigate that risk in the appropriate way.

5. **Conclusion and Recommendations**

## 5.1 Conclusion

Based on the results at the midterm, and despite the slow progress related to (i) ESCO additional legislations submitted but not approved; (ii) some barriers still exist at this point in time with regards to EMIS&C at the local level in a few municipalities, and (iii) the slow progress in regard to the EMIS-Database which is driven by the SAEE at the national level, the Evaluator is confident that objectives/outcomes will reach the desired level of achievement by the end of the project timeframe. The progress at midterm is likely to ensure the required security for the rest of the project, although a considerable effort has to be rolled out during the upcoming two years.

Despite the aforementioned optimistic statements, and despite the Logframe Matrix still being relevant, the whole project implementation could be more difficult than expected, not only because of the interest rate, which is still a significant barrier.

The EEPB should review its implementation strategy in order to optimize for efficiency by dealing with the following priority topics:

* Conclude with the national secondary regulation or decree for making the involvement of an Energy Manager in all cities mandatory with the aim of, among others, making the upcoming web-based national EMIS Database (SAEE) fully operational.
* Intensively support the SAEE in preparing the Feasibility Study related to the development and implementation of the ‘’Green Fund’’ and the ESCO financial support mechanism.
* Setting up the necessary Task Force to support the SAEE in regard to countrywide EMIS Database development and implementation.
* Enhancement of the partnership with municipalities for getting their involvement and commitment toward the development of the national EMIS Database, the mandatory involvement of municipal Energy Manager and the required incentive.
* The implementation a series of ESCO EMIS&C pilot projects and information dissemination at the local level.
* Select a full-time team member dedicated to dealing with ESCO EMIS&C and other ESCO pilot projects.
* Select a full-time team member as dedicated support for the EMIS Database Task Force (SAEE), and who will work closely with the international EMIS Database expert.
* More intense involvement from the EMIS Database International Expert during 2020 as support for the SAEE Task Force. Then train the EMIS Database National Expert as a candidate for the role of ‘EMIS Database Administrator’ for when the system becomes fully operational.

## 5.2. Recommendations

Based on the two-week mission, available documents, stakeholder meetings and the Evaluation Team Leader’s extensive experience in project financing and ESCO development, the following recommendations can be considered.

Although the EEPB Project Manager must make the decision on the implementation (or not) of recommendations listed below, the Evaluator allows himself to provide a few guidelines related to his view on the practical way to implement recommendations.

|  |  |
| --- | --- |
| # | Recommendations |
| 1 | New FSM and Project Financing Enhancement  With the aim of establishing a relevant and efficient FSM on a long-term basis, the EEPB project should make an arrangement to work alongside the SAEE at the design stage of the Feasibility Study of the ‘’Green Fund’’, which was envisaged to finance EE activities in various economic sectors. The Government of Finland expects to finance the Feasibility Study. The main purpose of the recommended involvement is to make sure that the likely ‘’Green Fund’’ will have a built-in component to deal with ESCO/EPC financing needs. To this end, the EEPB should provide the financial TA for to the SAEE. |
| **Who**:  The International or National Expert with an extended understanding and experience in financial mechanisms dedicated to ESCOs, e.g.: Loan Guarantee Fund, Factoring, forfaiting[[16]](#footnote-16) or Buyout mechanism. The Financial Mechanism Expert will closely work with the SAEE.  **When and How**:  Step 1: Sign a MoU with the SAEE for confirming their mutual interest and commitment.  Step 2: The EEPB will draft the National/International Expert’s ToRs in coordination with the SAEE. The expert should be jointly selected by the Project and the SAEE.  Step 3: The Expert must have a workstation within the SAEE’s premise. |
| 2 | Countrywide EMIS extension  Whilst not undervaluing the importance of ESCO development, the priority for the upcoming two or three years should be transferred to the development of the countrywide EMIS-Database.  The Evaluator recommends much more intensive support in the direction of SAEE and the Working Group, with the aim of outlining a detailed methodology and selecting the most appropriate web-based tool(s). Such a support is essential for the rollout of a platform for web-based data collection and analysis at a centralized level (SAEE).  In addition to the Working Group mentioned above, the Evaluator recommends setting up a sort of Task Force dedicated to the development and implementation of the countrywide EMIS from January 2020 to the end of the project timeframe.  In many municipalities some officials mentioned a barrier at the level of city council related to investment in EMIS. This recommendation aims at extending the EMIS to a broader spread of municipalities, countrywide, while simultaneously extending the EMIS&C at the local building level (ref.: Recommendation 4). For extending the EMIS to all cities, the project must continue and enhance its effort for enforcing a new secondary regulation to this end. |
|  | **Who:**  The EEPB already involved an international expert for dealing with the web-based tool. The expert should increase his involvement with the SAEE with the aim of accelerating the full rollout of the web-based EMIS Database. It has been done in many countries and the EEPB could learn more from the web-based EMIS in operation in the sub-region. In addition to a more intensive involvement of the international expert, the EEPB should involve a National Expert for supporting the reputable International Expert involved since 2018. The EMIS National Expert should also be responsible for meeting with municipalities, pushing them to embark on the EMIS and EMIS&C.  **When and How:** NOW  Step 1: Make the necessary adjustments to EMIS. Mr. Goran’s contract to be extended to include his site presence and frequency as well, to the SAEE.  Step 2: Draft ToRs for selecting and increase involvement of the national EMIS/EMIS&C expert. He/she must be practically involved ASAP.  Step 3: The EEPB project should establish the EMIS Support Unit (or Task-Force) in the SAEE. The national expert (to be recruited) and the international expert (Mr. Goran) should be intensively involved with the EMIS unit and along with the related SAEE’s staff members. The mandate of the EMIS Unit must be to finalise the EMIS data collection methodology and tools, and provide the training to energy managers at the municipal level and the central EMIS website Administrator. The rollout of the countrywide EMIS is critical because it is a major deliverable of the EEPB.  If need be, the Project Manager could include more than one National Expert due to the large amount of remaining work that has to be achieved by the end of the project timeframe, including the 12 months extension. Successful experiences of EMIS within the sub-region (e.g.: Serbia and Bosnia) should be replicated in some form.  Step 1 to 3 must be completed by the end of 2019. The countrywide EMIS should be operational in June 2020 and progressively implemented countrywide extended approximately 3 months before the end of the extended project timeframe (or earlier). |
| 3 | **Strengthen Awareness and Dissemination of Achievements**  At the end of the project timeframe, the EEPB should plan an international conference (regional) on ESCO EPC implementation in public buildings supported by a high quality EEPB Final Report with the aim of sharing its experience and raising the awareness of the donor community. Other countries in the region where projects related to ESCO/EPC have been implemented should be made to participate. Such a requirement has already been pointed out in the Project Document, but the Evaluator would like to stress again the importance of the regional information dissemination based on quality reporting.  **Who:**  The Project Manager is responsible for drafting the EEPB Final Project report. He technical and institutional extended knowledge will be valuable for strengthening the technical, financial and organizational priority topics to be highlighted in the report. On the other hand, with the aim of issuing a high-quality report, the EEPB should also involve a professional editor.  **When:**  The Final report should be prepared about three months prior to the ESCO Ukraine international Conference. |
| 4 | **Implementation of a series of ESCO EMIS&C pilot projects**  The Project must take action to implement a series of EMIS&C[[17]](#footnote-17) pilot projects. The EMIS&C pilot projects aim at demonstrating the performance, in terms of energy savings, resulting in a better control of energy consumption and demand. By demonstrating the relevance of energy management and control the EEPB project should speed up the extension of the EMIS-Database and later on the replication of EMIS&C in a large spread of municipalities (countrywide) with the aim of reaching an annual GHG emissions reduction of 5,000 tons/yr rather than 1,238 t/yr which is the current achieved rate by the EEPB.  To this end, the EEPB should implement a series of 10 pilot ESCO EMIS&C projects and additional training sessions related the operation of the energy control equipment (black box), where new metering and control equipment will have been installed in selected public buildings.  As a first step, the EEPB project should select up to 10 buildings, (5 buildings preferably in a single large city, e.g. Odesa, and other 5 building in other cities) and proceed with the required FS and baseline analysis. These 10 ESCO EMIS&C pilot projects should not be combined with any EE measures that could be implemented later on by an ESCO. The aim of such Pilot Projects is to find out the actual energy savings resulting directly from the implementation of the EMIS&C. The cost of equipment should be paid for by the EEPB, as a grant. Such a series of EMIS&C projects and the information dissemination of results should help to remove any existing barriers at the city level and also aid in promoting the involvement of Energy Managers.  At midterm, the EMIS (local) works in 10 cities (498 buildings) and 2 regions (25 small cities, 23 villages), which includes the installation of meters in public buildings. As a result, 56% of energy savings (EEPB) came from the EMIS already implemented and 44% from pilot and replicated EE projects. It is an important lesson that is to be learned.  EMIS equipped with the needed electronic device allows the building manager to get the real-time data and take the appropriate action for a better control of demand and consumption. When the EMIS is supported by a control system (EMIS&C) at the building level, the benefit in term of energy saving is estimated at 5-10% a year, and perhaps more. Such energy savings are reached through a low-cost investment.  The Evaluator recommends implementing at least 10 EMIS&C pilot projects ASAP, and proceeding with an outreach campaign for disseminating the positive and proven result spread on a period of one year. The EMIS&C pilot projects could be appropriate for testing an incentive mechanism for the municipal Energy Manager.  **Who**:  The EEPB should hire an ESCO EMIS&C National Expert[[18]](#footnote-18) (ref.: Step 2, Recommendation 2) who will be responsible for visiting municipalities, selecting sites/buildings and implementing a series of 10 ESCO EMIS&C pilot projects. The national ESCO expert should have a key role within the EEPB project framework19, in essence for promoting the ESCO involvement in a large number of municipalities and the implementation of ESCO EMIS@C pilot projects and other ESCO projects.  On the other hand, the Evaluator is confident that that the Project Manager (Sergii Varga) and the International Senior Advisor (Paata Jenelidze) will continue to provide the necessary support in terms of quality control of ESCO projects and for keeping the pressure on the municipal sector in regard to EMIS development and SEAP.  In addition, the Project Manager is still responsible for visiting municipalities having duly agreed with the joint Sustainable Energy Action Plan (SEAP), selecting additional municipalities and make sure of their efficient and strong involvement as per the SEAP commitment and requirements.  The selected ESCO will be responsible for the entire EMIS&C Pilot Project installation and energy management during the first year. To be more efficient the EEPB should select only one (not more than two) ESCO for implementing the series of 10 EMIS&C pilot projects. The EEPB should provide a grant (100%) for equipment supply, installation and design costs. For its services (energy management and reporting); the ESCO should get a percentage to be determined of a one-year savings. Such a scheme could be a sort of test toward the incentivization that can be replicated in the future by all municipalities, agreed upon by the SAEP and formally involved Energy Manager.  **When:**  10 EMIS&C Pilot Projects should be implemented and fully operational by June 2020.  ESCO will proceed with energy management during the initial year. The ESCO will be required to submit the final report at the end of energy management period and will transfer the energy management task to the local Energy Manager.  The EEPB will organize a national EMIS Database/EMIS&C national conference in July 2021 for disseminating the result and promoting its replication in other cities.  The EMIS Database/EMIS&C national conference must involved, among others:   * Conference arrangements: The Project Manager, UNDP CO and the project assistant. * Technical lecturers: ESCOs; EMIS Database international expert; Energy Managers. |
| 5 | **Project Timeframe Extension**  Take into consideration a 12-month extension of the EEPB Project timeframe: UNDP CO could consider applying to UNDP GEF management in New York for getting a one-and-half-year extension. Such an extension is needed with the aim of: (i) finalizing the nationwide operational EMIS Database through an appropriate platform and the needed intensive TA; (ii) implementing additional Pilot EMIS&C projects (10) and EPC Projects (10); and (iii) providing the needed TA to SAEE for carrying out the ‘’Green Fund’’ feasibility study that is useful to EPC projects financed through the adapted FSM.  **Who:**  The Project Manager and the UNDP CO.  **When:**  By the end of 2019. |

# Appendix 1: MTR ToR (excluding ToR annexes)

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| **Terms of Reference for International Consultant on ESCO in public buildings in Ukraine Project Mid-Term Review** |

**Project name**: Removing Barriers to Increase Investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO modality in Small and Medium Sized Cities

**Post title:** International Consultant for the Midterm Review (MTR) of full-sized UNDP-GEF energy efficiency project

**Type of contract:** Individual Contract (IC)

**Assignment type:** International Consultant

**Country / Duty Station**: Home Based with one mission of estimated 10 working days (2 week mission) to Ukraine

**Expected places of travel (if applicable)**: Kyiv, Ukraine (and approximately five project pilot sites in four regions of Ukraine)

**Languages required**: English

**Starting date of assignment**: 01 June 2019

**End date of assignment**: 30th September 2019

**Duration of Contract**: 30 working days spread over a 4-month period from 1st June 2019 – 30th September 2019.

**Duration of Assignment**: 30 working days of which a minimum of 10 working days must be spent in Ukraine (20 days home based, 10 working days in Ukraine)

**Payment arrangements**: Lump-sum contract (payments linked to satisfactory performance and delivery of results)

**Administrative arrangements:** The contractor will have to arrange his/her workplace, logistics, and equipment. UNDP Ukraine will pay for travel costs to Ukraine based on the agreed travel itinerary.

**Evaluation method**: Roster Selection followed by desk review with validation interview

1. **INTRODUCTION**

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the full-sized $5.48 million USD project titled **“Removing Barriers to Increase Investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO modality in Small and Medium Sized Cities”** (PIMS#4114, GEF ID #5357) implemented through the UNDP Direct Implementation Modality (DIM), which is to be undertaken in 2019. More information about the project can be found on the GEF website at the following link:

<https://www.thegef.org/project/removing-barriers-increase-investment-energy-efficiency-public-buildings-ukraine-through>

The project started on 14 December 2016 (the Project Document signature date) with the project team being hired starting in April 2017. The project is now in its third year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR) which means that this MTR needs to be completed by September 2019.

This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the January 2019 Evaluations Guidelines document published by the UNDP Evaluation Office. A copy of the January 2019 UNDP Evaluation Guidelines can be found here:

<http://web.undp.org/evaluation/guideline/index.shtml>

For UNDP-GEF projects a reference is also made to the GEF Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects which cab be found here:

<http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf>

**2. PROJECT BACKGROUND INFORMATION**

The Ukrainian economy is characterized by high-energy consumption and high carbon intensity throughout almost all sectors of the economy, including both residential and public buildings. The building sector (residential, commercial and public services) consumes about 37% of total heat and 25% of all electricity in Ukraine, making this sector a major contributor to greenhouse gas emissions. Energy efficiency in buildings in Ukraine is on average approximately three to four times lower than that in West European countries.

The objective of this project is to accelerate implementation of energy efficiency measures in public buildings in Ukraine through the Energy Service Company (ESCO) modality, utilizing Energy Performance Contract (EPC), by leveraging over significant private sector investment over its five-year implementation period (2016 - 2021) as well as by introducing nationwide energy management information systems (EMIS) for Ukraine.

It is expected to implement at least 10 pilot EPC energy savings projects in 10 different municipalities in Ukraine and achieve annually 1,870 MWh of thermal energy and 166 MWh of electrical energy savings; these savings will be resulted in a reduction of 8,893 tons of CO2 equivalent over the 20-year equipment lifetime. The project is expected to achieve this target by introducing a conducive regulatory framework for the establishment and operation of ESCOs through the EPC modality and by putting in place a financial support mechanism that, together, will facilitate private sector participation in implementing energy efficiency measures in public buildings. This will be combined with a single nationwide energy consumption database for energy consumption in public buildings and energy management information system which will facilitate additional investments in energy efficiency.

The project consists of the following four components:

Component 1: To formulate and introduce a streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings through strengthening of monitoring and enforcement mechanisms.

Component 2: To promote private investment in energy efficiency in public buildings through appropriate catalytic financial incentives, including the establishment of a Financial Support Mechanism (FSM).

Component 3: To implement at least 10 pilot projects in selected public buildings to demonstrate the energy and cost-saving potential of energy efficiency measures.

Component 4: To establish an institutional basis and comprehensive nation-wide Energy Management Information System for public buildings in Ukraine to support energy efficiency in public buildings.

A major outcome of the project is intended to be support for improved conditions for private investments in municipal public sector and ESCO market development in Ukraine, including through the signing of at least 10 EPC’s in 10 different cities in Ukraine.

The main current achievements of the Project:

* ESCO business model has been created and 12 pilot projects have been launched. “Enhanced ESCO model” envisaged mutual financial participation in modernization of both: ESCO and municipality (owner of the building). All technical and commercial risks are up to the ESCO investor.
* Consultation and expert support on 38 pilot objects with the ESCO model in partner-cities;
* With the direct Project support, 7211 women and 5570 men raised their awareness on energy efficiency, ESCO market and importance of energy efficient measures in small and medium-sized cities;
* Changes on the ESCO legislation were made and registered in the Verkhovna Rada: the Law #9386 dated 10.12.2018 on the changes to the Law of Ukraine on Large Scale Energy Modernization, and the Las #9387 dated 10.12.2918 on the Changes to the Budget Code;
* All- Ukrainian Consultancy Center on Energy Efficiency and Energy Saving was created with the direct support of the UNDP EEPB Project. More than 100 requests were addressed, and expert advisory was provided;
* The first pilot project was completed in Dubno: first tome a blank credit was granted to ESCO from Ukrainian bank, using simplified procedure and with no other collateral except the ESCO contract itself. Partial ESO renovation was completed in 6 public buildings, each building potentially saved up to 25% per year. Ongoing projects: Nizhyn (Chernigiv region), Savran (Odessa region), Slavutych (Kyiv region), Odessa, Borodyanka (Kyiv region), Drogobych (Lviv region);
* 21 energy audits conducted;
* Working Group on the basis of UNDP and Verkhovna Rada on the creation was energy management information system was established;
* 20 conferences, 3 round tables, 3 study tours were organized; 8 guidelines were created and disseminated among the partner municipalities;
* With the direct support of EEPB Project, 10 cities in Ukraine have installed and are successfully using EMIS (energy management information systems). List of cities: Dubno, Ternopil, Chortkiv, Khotyn, Fastiv, Bila Tserkva + Eastern Ukraine (Selidove, Sloviansk, Druzhkivka, Dobropillia);
* Using GEF SGP mechanism Project introduced EMIS in more than 100 objects in two Eastern regions.
* EEPB Project has created a network of partner-cities - 24. List of cities: Sudova Vushnia, Drogobych, Dubno, Chortkiv, Khotyn, Borodyanka, Fastiv, Bila Tserkva, Kaniv, Obukhiv, Slavutych, Nizhyn, Savran, Mykolaiv, Poltava, Bilgorod-Dnistrovkyi, Selidove, Melitipol, Sloviansk, Druzhkivka, Dobropillia, Korosten, Odesa).

According to the Project Document, Project was designed to use the Financial Support mechanism developed under the UNDP GEF Commercializing Bioenergy Technologies in Ukraine project. However, this mechanism envisaged loans to municipalities only instead of commercial entities. Hence, the Project developed and piloted various financial tools to overcome this barrier:

* blank credit for ESCO company;
* in order to reduce risks, insurance contract was signed with the ESCO company;
* first factoring contract with the ESCO company and commercial bank was signed.

In addition, the Project continues to work on leasing instrument and green bonds as a affordable finances source for investments.

I**n addition to the GEF grant of $5,48 million USD, the project envisages over $50 million USD of co-financing and the mid-term evaluation should assess to what extent this co-financing is on track to materialize.**

**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 strengthen the project and, if necessary, set the project on-track in order to increase the chances of the project achieving its objective and intended results by the end of the project.

The MTR will also review the project’s strategy, its risks to sustainability. The main output of the MTR will be specific recommendations for adaptive management to improve the project over the second half of its lifetime.

**4. 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 he/she 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[[19]](#footnote-19) ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office, UNDP-GEF Regional Technical Adviser, and other key stakeholders. The MTR Team is expected also to follow **UNDP Evaluation Guidelines** (2019)[[20]](#footnote-20).

Engagement of stakeholders is vital to a successful MTR.[[21]](#footnote-21) Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to: UNDP Ukraine, UNDP Istanbul Regional Technical Advisor (RTA) on Climate Change Mitigation, EEPB project team, 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.

The MTR approach must integrate gender equality concerns and the MTR team is to address gender-specific issues and review to what extend the project contributed to the achievement of the SDGs in the country.

Additionally, the MTR team is expected to conduct 2-week (10 working days, not including travel days or weekends) mission to Ukraine, including visiting the following project sites at partner municipalities in four regions of Ukraine (Eastern (Donetsk), Western (Ternopol and Dubno), Southern (Odessa region) and Central (Kyiv region and Kanyv city).

The mission will start with meetings in Kyiv with central authorities and other key stakeholders and include one day trip to Kaniv city. The middle period of the mission which will start before the end of the first week will include trips to Eastern Ukraine, Western Ukraine and to the Odessa region. Finally, the mission will conclude with 1-2 days in Kyiv before the international consultant flies out. While the mission is for 10 working days it is important to note that at least 12 full days will need to be spent in Ukraine as the mission dates do not include the weekend that will need to be spent in Ukraine during the course of the mission.

During the course of the evaluation, the evaluation team (international consultant + national consultant) should conduct extensive interviews with all the relevant project stakeholders. This includes, but is not limited to, consultants participated in creation of project document, the UNDP GEF Regional Technical Advisor at the Istanbul Regional Hub responsible for this project, UNDP Ukraine staff and management, international and national advisors and consultants employed by the Project, staff at the State Agency for Energy Efficiency of Ukraine, staff working in IFCs and staff working in banks the Project works with and involved in financing energy efficiency in public buildings (e.g. Oshchadbank, Ukrgasbank, ComDen), other donors involved in financing energy-efficiency activities in Ukraine (such as the EBRD, the GiZ, USAID etc.). The international and national consultant should also meet with the NGOs (Non-Governmental Organizations) that were involved in project activities via the GEF Small Grants Programme as well as the UNDP person(s) involved in running the GEF Small Grants Programme in Ukraine.

The international consultant + national consultant should travel to at least five demonstration project sites in four regions of Ukraine. However, given that the project has a goal to introduce both EMIS and ESCO activities in at least 10 different municipalities in Ukraine, the consultants should aim to speak with all stakeholders who have been involved in signing MoUs and/or demonstration projects and so where it is not possible to meet face to face then skype and or telephone interviews should be set up.

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.

**5. DETAILED SCOPE OF THE MTR**

The MTR Consultant 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.

1. **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 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.
* Review to what extend did the project contribute to the SDGs and the UNDP Strategic Plan?
* If there are major areas of concern, recommend areas for improvement.

Results Framework/Logframe:

* 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 the project time frame?
* Is the project on track to achieve its global environmental benefits in terms of tonnes of CO2 to be reduced (direct and indirect GHG emissions) as defined in the project document
* 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 1-1: Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Strategy** | **Indicator[[22]](#footnote-22)** | **Baseline Level[[23]](#footnote-23)** | **Level in 1st PIR (self- reported)** | **Midterm Target[[24]](#footnote-24)** | **End-of-project Target** | **Midterm Level & Assessment[[25]](#footnote-25)** | **Achievement Rating[[26]](#footnote-26)** | **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 Review.
* 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 the financial support mechanism (FSM) between UNDP-IFC and in partnership with Oshchadbank and assess how effective it has been as well as reviewing what can be done to improve matters going forward;
* Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.

Work Planning:

* Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
* Has the work planning been carried out in a manner which is consistent with the project document and with the project workplan or are there significant deviations.
* 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 meaning that GEF grants should have all leveraged significant co-financing. What is the co-financing ratio?
* Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such budget 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 has worked with UNDP Ukraine and the UNDP Istanbul Regional Hub in identifying and implementing adaptive management measures.
* 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 has 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)?
* What is the likelihood of the financial support mechanism being established by the project being sustainable (meaning that the FSM will continue to operate and function beyond the lifetime of the project)

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.
* To what extent has the project managed to improve or contribute to legal frameworks related to ESCO modality and energy efficiency improvements in Ukraine.

Environmental risks to sustainability:

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

**v. Conclusions & Recommendations**

The MTR International Consultant will include a section of the report setting out the MTR’s evidence-based conclusions, in light of the findings with the main goal of making recommendations on how to significantly improve the project over the second half of the project lifetime.[[27]](#footnote-27)

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.

It is highly recommended that the MTR International Consultant will make no more than 15 recommendations in total.

**vi. Ratings**

The MTR International Consultant 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 MTR report. See Annex E for ratings scales. Ratings are required for Project Design & Strategy, Progress Towards Results, Project Implementation and Adaptive Management, and Sustainability. An overall project rating is optional. The ratings are 6 points (highly satisfactory), 5 points (satisfactory), 4 points (marginally satisfactory), 3 points (marginally unsatisfactory), 2 points (unsatisfactory), and 1 point (highly unsatisfactory). For sustainability ratings, they are 4 (likely), 3 (moderately likely), 2 (moderately unlikely) and 1 (unlikely).

**MTR Ratings & Achievement Summary Table**

|  |  |  |
| --- | --- | --- |
| **Measure** | **MTR Rating** | **Achievement Description** |
| **Overall Rating** | Rating  (rate 6 pt. scale) | *(The international consultant should please note that the overall rating is optional)* |
| **Project Design and Strategy** | Rating  (rate 6 pt. scale) |  |
| **Progress Towards Results** | Objective Achievement Rating: (rate 6 pt. scale) |  |
| Outcome 1 Achievement Rating: (rate 6 pt. scale) |  |
| 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) |  |

1. **TIMEFRAME**

The total duration of the MTR will be approximately **30 working days** (20 home-based, one 10-working days mission to Ukraine) over a time-period of 16 weeks (4 months) starting from June 1st 2019 and shall not exceed five months from when the consultant is hired. MTR timeframe is as follows:

|  |  |  |
| --- | --- | --- |
| **TIMEFRAME 2019** | **No of Days** | **ACTIVITY** |
| By 01 June 2019 | 3 | Contract issuance prior to 1st June 2019 and Preparation for the MTR (initial phone conversation and handover of all relevant Project Documents) |
| June 2019 | Documents review, initial discussions with key stakeholders, and preparation of MTR Inception Report |
| By 10 June 2019 | 1 | Finalization andValidation of MTR Inception Report which includes list of stakeholders for interviews during the mission, and full list of questions being asked by the evaluator. |
| Before end of June 2019 | 10 | MTR mission: stakeholder meetings, interviews, field visits. This includes 2 travel days and 10 working days in Ukraine (the 10 working days does not include weekends) meaning that the total expected number of days in Ukraine is 12-13 days. |
| Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission. The mission includes 10 working days but minimum number of full days to be spent in Ukraine is 12 days because the weekend is not included as working days. At the end of the mission a power point presentation with initial findings should be made to UNDP Ukraine showing the initial findings of the evaluation. |
| By 31 August 2019 | 12 | Preparing draft MTR report and submitting to Project Manager, UNDP Ukraine, and UNDP Istanbul Regional Hub and holding conference call to discuss the draft report. |
| By 20th September 2019 | 3 | Incorporation of comments into the draft MTR report from the Project Manager, UNDP Ukraine, UNDP IRH, and other key stakeholders. In addition, the consultant should incorporating audit trail from feedback on draft report/Finalization of MTR report with a view to finalization of the draft report. |
| By 30th September 2019 | 1 | Hold conference call with UNDP Ukraine and UNDP IRH related to discussion of the draft Management Response by UNDP Ukraine (to be prepared by UNDP Ukraine in consultation and discussion with MTR Consultant) |
| **TOTAL** | **30** | Broken down into 20 home based days, and 10 working days in Ukraine |

The two full weeks mission to Ukraine shall include both time spent in Kyiv (start of mission), time spent visiting at least five pilot sites (middle of mission) and then one or two days in Kyiv (end of mission). In order to include 10 full working days in Ukraine, it is required to stay at least one weekend in Ukraine. This weekend is not included as part of the 10 working days which are for days worked Monday-Friday. This means that the total number of days to be spent in Ukraine is at least 12-13 days of which 10 are full working days.

The exact dates of the mission to Ukraine should be discussed with the consultant at the start of the assignment, but preferably the 10 working days mission should take place in June 2019.

The duration of the assignment is expected to be 1st June 2019 to 30th September 2019.

1. **MIDTERM REVIEW DELIVERABLES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Deliverable** | **Description** | **Timing** | **Responsibilities** | **Payment Amount** |
| **1** | **MTR Inception Report** | MTR team clarifies objectives and methods of Midterm Review | No later than 1 week before the MTR mission | MTR team submits to the Commissioning Unit and project management | 10% |
| **2** | **Presentation** | Initial Findings | End of MTR mission in Ukraine | MTR Team presents to project management and the Commissioning Unit | - |
| **3** | **Draft Final Report** | Full report (using guidelines on content outlined in Annex B) with annexes | By 31 August 2019 | Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit | 50% |
| **4** | **Final Report\*** | Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report | Within 1 week of receiving UNDP comments on draft but not later than 20th September 2019 | Sent to the Commissioning Unit | 40% |

\*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.

1. **TEAM COMPOSITION**

The MTR will be conducted by a team of two independent consultants – an International consultant (team leader with experience and exposure to projects and evaluations on other technical assistance projects, preferably including in the Europe & CIS region) and a national consultant (team member, MTR support). The International Consultant will be designated as the team leader and will be responsible for the entire midterm review and respective MTR deliverables mentioned above in line with this ToR, with inputs from the project.

The National Expert will provide assistance to the International Consultant in line with a separate ToR focusing on preparing a baseline information report which includes preparation of the baseline data, review of outputs of the project prepared in Ukrainian or Russian language, organizing and participation in the midterm review mission to Ukraine, incorporation of detailed comments received into the MTR report. The National Expert will also be responsible for translating selected bits of information into English for the lead international consultant, as required.

Both the international and the national consultant 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 selection of consultants will be aimed at maximizing the overall “team” qualities with the international consultant having significant experience with working on evaluations of international projects, if possible in the Europe & CIS region, and having prior experience working with the GEF and the national consultant with strong knowledge of the policy and legislative framework related to energy-efficiency in Ukraine.

1. **MTR ARRANGEMENTS**

**Institutional arrangements**

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project’s MTR is UNDP Ukraine Country Office, working closely with the Regional Technical Advisor at the UNDP Istanbul Regional Hub*.* The commissioning unit will contract the Consultant and ensure the timely provision of per diems and travel arrangements within Ukraine for the MTR Consultant. The Project Team will be responsible for liaising with the MTR Consultant to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

**Duty Station**

Home-based with one 2-week mission (10 working days) to Ukraine, which should be carried out at the start of the assignment, preferably in June 2019.

**Travel:**

* International travel (2-week mission, 10 working days) will be required to Ukraine during the MTR mission. These 10 days do not include travel days and they also do not include weekend days;
* The Basic Security in the Field II course must be successfully completed prior to commencement of travel;
* Individual Consultant is responsible for ensuring he/she has vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director.
* Consultant is required to comply with the UN security directives set forth under <https://dss.un.org/dssweb/>

All envisaged travel costs and per diems (DSA) and terminal expenses must NOT be included in the Offeror’s financial proposal. UNDP shall purchase for the consultant with the air tickets (not exceeding those of the economy class) to join duty station (Kyiv) and repatriate, vehicle transport for mission travel in Ukraine and air tickets if domestic flights are required. If the consultant wishes to fly business class, the consultant should cover the cost of upgrade from economy class to business class with their own funds. UNDP shall also pay the consultant a per diem for their time to be spent in Ukraine in accordance with UNDP rules and procedures. The official UNDP DSA rate for Kyiv is currently $212 per day, and for elsewhere it is $68 per day. The means of reimbursement will be via signed F10 form and payment/reimbursement into the nominated bank account of the consultant.

1. **QUALIFICATIONS AND EXPERIENCE REQUIREMENTS**

The MTR Team leader – International Consultant should be an international expert with experience and exposure to energy efficiency projects and evaluations in the Europe & CIS region and/or other regions globally. The international consultant 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, meaning that the international consultant should not have previously been contracted by this project in any manner, shape or form.

**The MTR Team leader should have the following qualifications, competencies and experience:**

**Corporate Competencies:**

* Demonstrates commitment to UNDP´s mission, vision and values;
* Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
* Highest standards of integrity, discretion and loyalty.

**Functional Competencies:**

* Ability to work with multidisciplinary and multicultural teams;
* Innovation and initiative;
* Result orientation;
* Analytical and critical judgment ability;
* Able to work under pressure;
* Determination and focus on goals and results;
* Ability of facilitation;
* Good time and task management skill

**Education**

* At least a Master’s degree in Engineering, Energy, Environment, Economics, Law, Business Administration or other closely related field.

**Experience**

* At least 10-years work experience and proven track record with policy advice and/or project development/implementation in energy efficiency, preferably in municipal (buildings) sector including experience with ESCO modality in transition economies.
* Practical experience (within the last seven years) in the mid-term or final performance evaluation of at least five international and/or regional projects funded by multilateral agencies (UNDP, GEF) or other international agencies; including experience with SMART indicators;
* Prior experience in designing projects and initiatives in the field of energy efficiency, either for UNDP or other international agencies.
* Experience or knowledge of UNDP and GEF monitoring and evaluation policy demonstrated by having undertaken the evaluation of at least one other UNDP-GEF project in the past seven years
* Previous working experience in Ukraine which shows familiarity with relevant Ukrainian policy and regulations and standards related to energy efficiency is an advantage.
* Experience of evaluating projects for international development agencies in CIS region (former Soviet Republics) is considered to be an advantage.
* Excellent written and spoken English is a must; Working knowledge of written and spoken Ukrainian or Russian will be considered as an advantage

1. **EVALUATION**

This TOR is being sent to candidates on the CCMSE (Climate Change Mitigation and Sustainable Energy) Roster.

**Technical Scoring for Team Leader**

The following criteria will be rated as indicated below:

* **Educational background** (Advanced University degree, Masters or preferably a PhD, Engineering, Energy, Environment, Economics, Law, Business Administration or related field) – **10 points maximum**: (PhD related to Energy/Environment = 10 points, PhD related to other relevant topic = 8 points, Masters related to Energy/Environment = 7 points, Masters related to other relevant topic = 6 points, combined (2 or more) Masters related to relevant topics = 8).
* **Extensive (at least 10-year) work experience** and proven track record with policy advice and/or project development/implementation related to energy efficiency preferably in municipal (buildings) sector – **20 points maximum:** 10-14 years = 14 points; 15-20 years = 16 points; more than 20 years = 18 points, experience with ESCO = +2 points).
* **Practical experience (within last seven years)** **in mid-term or final performance evaluation** of at least five international and/or regional projects funded by multilateral agencies (including GEF, UNDP) or other international agencies – **17 points maximum:** (5 evaluations = 12 points; 5-10 evaluations = 13 points; more than 10 evaluations = 14 points; evaluations in CIS country +1 point, experience in Ukraine + 2 points).
* **Prior experience in designing projects and initiatives in the field of energy efficiency** – **10 points** **maximum**: (1-3 projects designed - 6 points, 3-5 projects designed - 8 points, over 3 projects designed – 10 points).
* Experience or knowledge of UNDP and GEF monitoring and evaluation policy demonstrated by performance evaluation of at least one other UNDP-GEF project in the past seven years – **7 points maximum**: (1-3 evaluations = 5 points, over 3 evaluations = 7 points)
* Language skills – **6 points maximum**: (superior writing and oral skills in English = 3 points; knowledge of Ukrainian and/or Russian at the working level = +3 points).

**MAXIMUM: 70 points**

Only candidates who score more than 70% of the maximum, meaning at least 49 out of 70 points, will be technically qualified.

**Financial Scoring for Team Leader:**

Financial scoring will be carried out as follows. The lowest financial offer from a technically compliant offer will score 30 points and all other technically compliant offers will score a percentage of 30 points based on the formula of lowest financial offer divided by financial offer of the applicant x 100 x 30%.

**MAXIMUM: 30 points**

The total score will be technical score + financial score (maximum 100 points).

The highest scoring candidate will proceed to the validation interview with the interview panel.

Candidates for this assignment are asked to make financial offers and the panel will meet to discuss and agree which candidate best meets the needs of the assignment.

A validation interview will be held with the selected candidate and reference checks will be undertaken prior to any offer being made.

1. **PAYMENT MODALITIES AND SPECIFICATIONS**

The total payment for the assignment of the international consultant/Team Leader will be a lump sum fee paid in 3 instalments as specified in the table below:

|  |  |
| --- | --- |
| Instalment | Milestone |
| *10 % of total consultancy fee* | Upon approval by UNDP of the final MTR detailed workplan and submission of related invoice, prior to mission to Ukraine. (Prior to mission to Ukraine) |
| *50% of total consultancy fee* | Upon submission of the draft MTR report and acceptance of the report by UNDP and submission of related invoice (Following on from mission to Ukraine) |
| *40% of total consultancy fee* | Upon finalization of the MTR report and acceptance of the report by UNDP and submission of related invoice (Following on from mission to Ukraine) |
| *Travel Costs* | 1. 80% of the total travel cost to join the duty station will be paid upon confirmation on the travel dates and provision of a copy of the air ticket (this amount includes two-way economy air ticket, visa costs, and living allowances in Kyiv / field visits. 2. The remaining 20% of travel cost will be paid at the end of the mission upon submission of the UNDP Travel Claim Form (F10) |

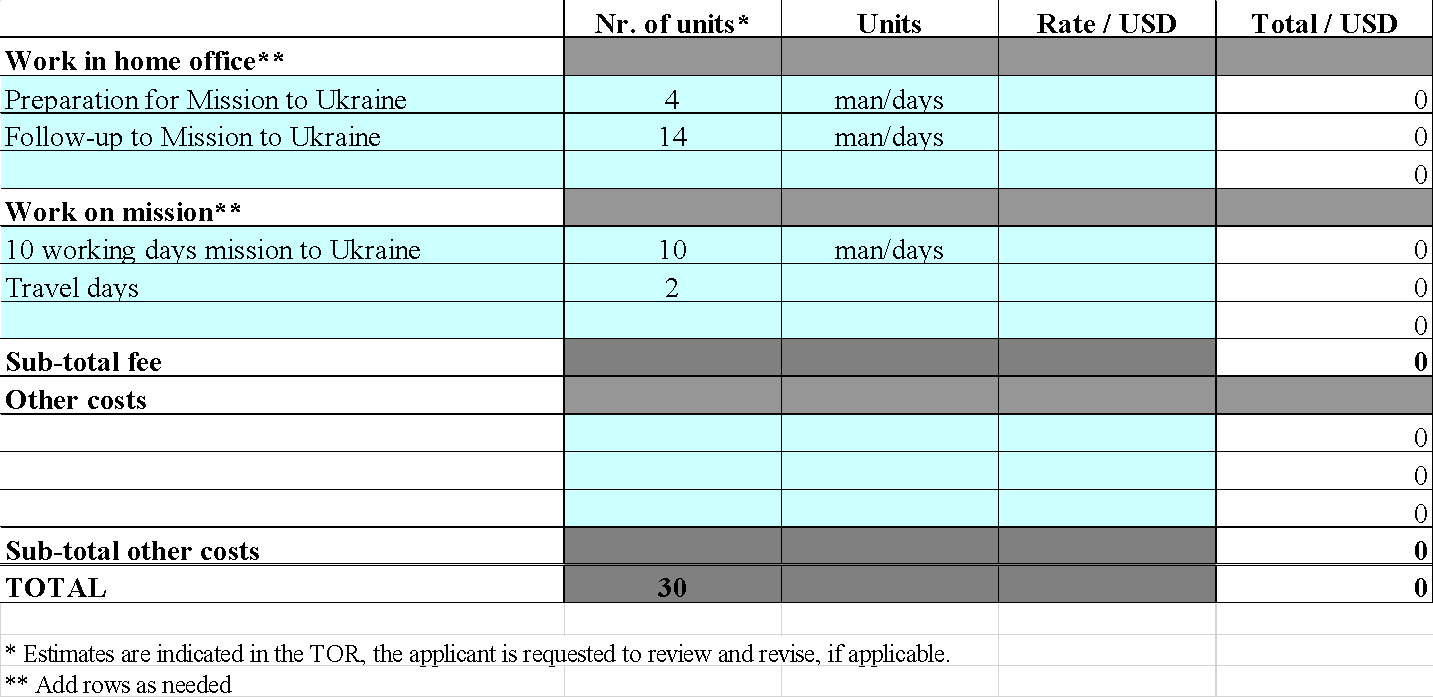
**Note**

* Travel costs (including ticket to Ukraine and travel within Ukraine, per diems and terminal expenses) must NOT be included in the offeror’s financial proposal as these costs will be covered by UNDP.
* Individual contractor wishing to upgrade his/her travel to business or first class shall do so at his/her own expense.
* Each payment will be made in US dollars upon satisfactory completion of the tasks and respective deliverables as per submission of deliverables/claims by the consultant and the project/UNDP approvals.
* Each payment will be transferred by UNDP through Electronic Fund Transfer to the Dollar account number of the contractor introduced through an official letter indicating full banking information.
* Any payment under this contract will be made using UN Operational Rate of Exchange. For update rates please see: <http://treasury.un.org/operationalrates/OperationalRates.aspx>
* Payments will be made according to UNDP regulations as explained in the contract documents.
* The International Consultant shall not do any work, provide any equipment, materials and supplies or perform any other services which may result in any cost in excess of the agreed contract amount.

1. **APPLICATION PROCESS**

Applicants shall submit the following documents:

|  |  |
| --- | --- |
| **Required** |  |
| ☒  ☒ | Letter of Confirmation of Interest and Availability using the template provided by UNDP;  Financial Proposal that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. |
| ☒ | CV or a Personal History Form (P11 form), including information about past experience in similar assignments and contact details for referees; |



*\*Please note that the* ***financial proposal is all-inclusive*** *and shall take into account various expenses incurred by the consultant/contractor during the contract period (e.g. fee, health insurance, vaccination and any other relevant expenses related to the performance of service, etc.).*

***Travel costs, including those to join duty station (Kyiv) and repatriate, travel costs in Ukraine to perform site visits and per diems (DSA) must NOT be included into the financial proposal and will be provided by UNDP****. The number of overnights is estimated as 12 and not 10 because weekend stay is required during the mission to Ukraine. Therefore, there are two non-working days covered as part of the DSA cost.*

If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP

# Appendix 2: Table of Results: Outcomes/Outputs (Project Document)

Project Results Framework

|  |
| --- |
| **This project will contribute to achieving the following Country programme Outcome as defined in CPAP or CPD:**  **Outcome # 10:** Government adopts policy frameworks and mechanisms adopted to ensure reversal of environmental degradation, climate change mitigation and adaptation, and prevention and response to natural and man-made disasters. |
| **Country Programme Outcome Indicators:**  **Indicator 1:** Number of newly adopted environmental policy frameworks.  **Indicator 2:** Number of active green investment schemes (GIS) and energy efficient (EE) projects.  **Indicator 3:** % of national budget allocated to environment and energy sectors. |
| **Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page):**  Output 6: National and local capacities for climate change resilient policies and practices enhanced |
| **Applicable GEF Strategic Objective and Programme:** To promote investment in energy efficiency technologies. |
| **Applicable GEF Expected Outcomes:** Total avoided GHG emissions from implementing energy efficiency measures in public buildings. |
| **Applicable GEF Outcome Indicators:** Avoided GHG emissions from implementing energy efficiency measures in public buildings (tons CO2) and $/t CO2. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Indicator** | **Baseline** | **End of Project Targets** | **Sources of Verification** | **Risks and Assumptions** |
| **Objective** |  |  |  |  |  |
| To assist the Government in addressing the barriers to transform the market for investments in energy efficiency in public buildings in the country. | Emission reductions (in tCO2 over 20-yr timeline).  Investment in energy efficiency.  Energy saved by capacity installed (MWh/MWhTh).  Number of green jobs created. | The building sector (housing, institutional/communal and commercial) consumes about 40% of total heat and 25% of all electricity in Ukraine making it a major contributor to greenhouse gas emissions.  Energy consumption in existing buildings is on average approximately four times higher than that in Western European countries.  No investment taking place to improve energy efficiency in existing buildings. | 8,893 tons of CO2 reduced over 20-year equipment lifetime.  Indirect post-project GHG reduction of 1,440,000 tons of CO2.  Investment of $ 21 million from ESCOs.  3,000 green jobs created. | Project’s annual reports, GHG monitoring and verification reports.  Project mid-term review and terminal evaluation reports that provide a more accurate estimate of expected CO2 reduction. | Continued commitment of project partners, including Government agencies and private stakeholders. |
| **Outcomes** |  |  |  |  |  |
| **Outcome 1:** Streamlined and comprehensive legal and regulatory framework to promote energy efficiency in public buildings throughstrengthening of monitoring and enforcement mechanisms. | Existence of adequate policy and regulatory framework. | None available at the present time. | Completed within 12 months of project initiation and approved by Government by the end of year 2. | Published documents. Government decrees/laws. | Commitment of the various Government institutions. |
| **Output 1.1:**Signature of MoUs with 10 small and medium sized cities in Ukraine to work on ESCO and energy management | Signed MoUs between UNDP and 10 small and medium sized cities in Ukraine to work on ESCO and energy management | No signed MoUs | At least 10 signed MoUs | Signed MoUs | Commitment from the 10 small and medium sized cities to ESCO and energy management |
| **Output 1.2:** Support for the preparation of Sustainable Energy Action Plans (SEAPs) and signature of EU Covenant of Mayors (as required) | SEAPs prepared and published for 10 Ukrainian small and medium sized cities | SEAPs have not been prepared  EU Covenant of Mayors may not have been signed | SEAPs prepared  EU Covenant of Mayors Signed | Published documents | Commitment from the 10 small and medium sized cities to signing EU Covenant of Mayors and SEAP preparation |
| **Output 1.3:** Development and adoption of secondary legislation to support new law including financial incentives provided to ESCOs to invest in Energy Efficiency in public buildings such as income tax holiday for a specific period of time, duty and tax exemptions on equipment and services they provide. | Existence of secondary regulations to support ESCO market development | At the present time there are no secondary regulations to support the April 2015 Law on ESCO | Completed within 2 years of project initiation. | Project documentation. | Continued interest of stakeholders. |
| **Output 1.4:** Regulations to support the development of secondary market for EPC contracts in order that the contracts can be sold to investors to provide for further liquidity and additional investment | Existence of secondary regulations concerning sale of EPCs | At the present time there is no secondary legislation to support the sale of EPCs | Completed within 2 years of project initiation. | Project documentation | Continued interest of stakeholders |
| **Output 1.5:** Regulations to support the adoption of nation and city wide energy management for public buildings | Existence of secondary regulations concerning city wide energy management systems | At the current time, there are no secondary regulations concerning city wide energy management systems for public buildings | Completed within 2 years of project initiation. | Project documentation | Continued interest of stakeholders |
| **Outcome 2**: Innovative Financing Mechanism is adopted and capacity development is provided for ESCOs to promote investment in support of Energy Efficiency in public buildings. | Innovative Financing Mechanism established and working. | None exists at the present time. | Completed within 24 months of project initiation and applied by all stakeholders. | Project documentation. | Cooperation of all stakeholders. |
| **Output 2.1:** Financial Support Mechanism (FSM) established and capitalized to support private investment (ESCO) in Public Buildings in Ukraine. | Financial Support Mechanism (FSM) established and capitalized. | Not available at the present time.  No investment taking place at the present time. | Completed within 12 months of project initiation and applied thereafter.  $ 21 million invested in energy efficiency in public buildings. | Project report.  Project reports. | Cooperation of public and private sector stakeholders.  Continued interest of investors. |
| **Output 2.2:** Model Municipal EPC Procurement package for launching EPC tenders in selected 10 cities is prepared and launched | Municipal EPC Procurement Package is Available | None presently available. | Completed within 12 months of project initiation. | Project documentation. | Continued cooperation of the public and private sector. |
| **Output 2.3:** MOUs signed with banks that are active in small and medium sized cities in Ukraine to use the financial support mechanism | Signed MoUs with banks | None at present | Signed MoU with banks and commercial financing available and accessible for ESCO financing | Interviews with banks | Continued interest of banks in financing ESCO operations in public buildings |
| **Output 2.4:** Capacity development of and support to banks with standardized banking products to support development of ESCO market using the EPC modality | Training package with standardized banking products prepared and delivered  Commercial loan(s) for ESCO are made in Ukraine using the EPC as the security for the loan by the borrower | No standardized banking products for ESCO lending and financing available for banks  No commercial loan has ever been given for an EPC in Ukraine, using the EPC as the security to guarantee the loan | Standardized banking products being used by banks in Ukraine to provide financing for ESCO related activities  The first commercial loan(s) for an ESCO (using market rates and on a project finance basis) are made in Ukraine. (i.e – loan made using the EPC as the guarantee not on the bank of separate assets pledged by the ESCO) | Interviews with banks (including on level of the interest rates) | The level of risk is acceptable to banks in order to provide commercial financing for ESCO market development and for loans using the EPC as the security on the loan |
| **Output 2.5:** Capacity development of and technical support to ESCOs, including setting up of a Help Desk, to implement energy efficiency measures in public buildings using the EPC modality. | Help Desk established. | No such activity at the present time. | Capacity of 20 -30 ESCOs developed and at least 20 cities in Ukraine have energy managers in place using EMIS and funded by government | Project reports | Continued interest of private sector. |
| **Outcome 3:** Pilot projects in selected public buildings which demonstrate energy and cost-saving potential of new energy efficient measures. | Pilot projects completed. | No such ESCO modality-driven implemented at the present time. | Completed within 48 months of project start. | Project documentation | Growth of programme will be sustained. |
| **Output 3.1:** ESCO Market Help Guide prepared to support the implementation of EPC energy savings projects in Ukraine in public buildings | ESCO Market help guide completed , focused on ESCOs support for investments in public buildings and on commercial financing for ESCO activities working with local banks | No ESCO Market Help Guide exists | Completed within 24 months of the start of the project | Project Documentation | Continued interest of stakeholders |
| **Output 3.2:** At least 20 energy audits carried out in schools, kindergartens, hospitals, and administrative government buildings | Audit completion reports. | None available at the current time. | Completed within 12 months of the start of the project | Published Reports | Commitment of the various municipal authorities |
| **Output 3.3:** Pilot projects in schools, kindergartens, hospitals and administrative government buildings using the ESCO/EPC modality. | 20 energy audits completed.  10 pilot EPC projects completed. | None at the present time. | At least 20 energy audits and 10 pilot EPC projects completed within 48 months of project initiation. | Project documentation. | Support of concerned municipal authorities. |
| **Output 3.4:** Capacity development of designated “Energy Managers” to monitor energy use in public buildings through EMIS and propose/implement necessary energy efficiency measures. | Capacity available. | Not available at the present time. | Capacity of 40-50 “Energy Managers” developed and Energy Managers are employed in at least 20 cities across Ukraine | Training manual.  Project reports. | Interest and willingness of designated “Energy Managers” to participate. |
| **Output 3.5:** Walk-through days with senior public officials to view the demonstration projects. | 20 walk-through days completed. | None at the present time. | Implementation completed 6 months prior to project completion. | Project documentation. | Interest and willingness of senior public officials to participate. |
| **Outcome 4:**  **(a):** Institutional basis for supporting energy efficiency in public buildings and implementing a nation-wide Energy Information Management System (EMIS) is in place.  **(b):** Documented, disseminated and institutionalized project results providing a basis for further replication. | Existence of adequate framework. | No such organisational structure exists at the present time  Lack of sufficient information to effectively pursue programme. | Organisational structure in place within 24 months of project initiation.  At least 20 new cities in Ukraine are implementing EMIS by the end of the project and at least 5 cities implementing EMIS by the half way point  Increased awareness among stakeholders in place to promote and develop the market for energy efficiency in public buildings. | Project documentation.  Project terminal report and website. | Continued support of Government.  Growth of programme will be sustained. |
| **Output 4.1:** Fully mandated and capacitated state agency (SAEEES) with a responsibility to monitor and enforce the energy savings and CO2 emission reductions in public buildings through EMIS and with approved annual budget to carry out this function. | Existence of adequate framework. | No monitoring and/or enforcement undertaken at the present time. | Monitoring/enforcement activities completed at 40 - 50 public buildings 6 months prior to project completion. | Monitoring/enforcement reports. | Continued interest and participation of Government. |
| **Output 4.2:** An approved national energy audit programme for promoting larger number of energy audits of public buildings with approved budget. | Existence of national audit programme. | None exists at the present time. | Completed within 12 months of project completion. | Project documentation. | Continued public-private sector partnership. |
| **Output 4.3:** Developed and published public awareness raising materials and completed nation-wide awareness and information campaign advocating the benefits of energy efficiency measures in public buildings (incl. project website)**.** | Availability of reports. | Lack of information on best practices and lessons learned. | Completed within 3 months of project end. | Project documentation available in print form and on website. | Successful completion of project. |
| **Output 4.4:** National Database of public buildings re. energy consumption established and energy monitoring and information management system put in place to eventually cover all public buildings in Ukraine | Availability of national database on energy consumption in public buildings | No national database on energy consumption in public buildings exists | Completed by the end of the project | National Database on Energy Consumption in Public Buildings | Continued interest of the Government in creating a national database |
| **Output 4.5:** City Wide Energy Consumption Databases for Public Buildings established and maintained for 10 small and medium sized cities in Ukraine | Availability of city wide energy consumption databases | No city wide energy consumption databases exist | Completed within 24 months of the start of the project | City Wide Database on Energy Consumption in Public Buildings | Continued interest of municipal authorities in energy management |
| **Output 4.6:** Energy Management Information Systems implemented in at least 10 selected Ukrainian small and mid-size cities which includes installation of meters in all public buildings in the selected cities | Availability of energy management information systems (EMIS) in selected cities | No energy management information systems (EMIS) exist | Completed within 36 months of the start of the project | Existence of energy management information system (EMIS) in selected cities | Continued interest of municipal authorities in energy management |
| **Output 4.7:** Agreed methodology and sustainable institutional arrangements for annual monitoring of energy efficiency in public buildings through adoption and implementation of an Energy Management and Information System (EMIS). | Existence of methodology. | No such arrangements exist at the present time. | Annual monitoring of 20 public buildings 24 months after project initiation. | Monitoring reports. | Continued interest and participation of stakeholders. |
| **Output 4.8:**  International Conference on energy efficiency in public buildings in Ukraine. | Existence of conference proceedings. | No international conference on energy efficiency held in the country. | Completed within 3 months of project completion. | Proceedings of international conference. | Interest of local and international participants. |

# Appendix 3: Rating Scale

|  |  |  |
| --- | --- | --- |
| **Ratings for Progress Towards Results:** (one rating for each outcome and for the objective) | | |
| 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. |

|  |  |  |
| --- | --- | --- |
| **Ratings for Project Implementation & Adaptive Management:** (one overall rating) | | |
| 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. |

|  |  |  |
| --- | --- | --- |
| **Ratings for Sustainability:** (one overall rating) | | |
| 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 |

# Appendix 4: Achieved Mission Agenda

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  |  |

**Achieved Agenda**

**Mid-term evaluation of EEPB Project**

**15 – 29 July 2019 site presence**

**WEEK 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Time** | **Meetings** | **Participants** |
| 12 July  (Friday) | 17:15 | Arrival Boryspil Airport Kyiv (Flight LO0753)  Accommodation at Nationalny Hotel  *5 Lypska Str., Kyiv* |  |
| 13 July  (Saturday) | 12:00 | Meeting with Igor Komendo, National Consultant  *National Hotel, 5 Lypska Str., Kyiv* | 1. Igor Komendo - National Consultant |
|  | | |  |
| 15 July  (Monday) | 10:00 – 12:30 | Meeting with the Energy Efficiency in Public Buildings Project Team  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Sergii Varga - Project Manager 2. Ievgen Spivakovsky - Operations Associate 3. Igor Cherkashyn - EMIS Task Lead 4. Oleksii Korchmit - ESCO Team Lead 5. Paata Janeridze - International CTA on EE 6. Garan Cacic - International CTS on EMIS 7. Olesya Sushko - PSP Assistant (UNV) 8. Dmytro Usenko - Interpreter (UNV) |
| 12:30 – 13:30 | Briefing meeting with Dafina Gercheva, UNDP Resident Representative  *RR Office, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Dafina Gercheva - UNDP Resident Representative |
| 13:30 – 14:30 | Lunch  *Sulugini Restaurant, 10 Muzeiny Lane* |  |
| 14:30 – 16:00 | Meeting with State Agency on Energy Efficiency and Energy Saving of Ukraine (project beneficiary)  *State Agency on Energy Efficiency, 12 Myzeinyi lane, Kyiv* | 1. Horovykh Ihor - Deputy head of Strategy development department 2. Palahusynets Roman - Head of reforming Energy Efficiency sphere in Ukraine 3. Buchyk Volodymyr - Director of Strategic Development department |
| 16:30 – 17:30 | Visit to ESCO Consultancy Center (branch of SAEE)  *SAEE, 10 Krakivska Str.* | 1. Tamara Burenko - Deputy of Director - Head of monitoring and Informatization division 2. Maretskyi Roman - Director of the Department for Technical Regulation of Energy Efficiency. |
|  | | |  |
| 16 July  (Tuesday) | 09:30 – 11:30 | Meeting with All-Ukrainian ESCO Association  *Aleksanian Room, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Sukharieva Anastasiia - Finance Department of DTEK ESCO 2. Sayhakova Iryna - Finance Department of DTEK ESCO 3. Riabchuk Svitlana - Lawyer of Euro ESCO 4. Datsenko Andrii - Deputy Director of KyivESCO 5. Sokur Serhii - CEO of Energo Tech Invest 6. Demydenko Artem - Deputy Director of Energoservice N 7. Mishchenco Yaroslav - Director of ESCO Ukraine 8. Voloshyn Maksym - Representative of ESCO UA |
| 12:30 – 14:00 | Lunch with Sergii Savchuk, Head of State Agency on Energy Efficiency  and Energy Saving of Ukraine  *Argentina Grill Restaurant, 18 Marshala Tymoshenko Str., Kyiv* |  |
| 14:30 – 17:00 | Meeting with Banking Sector (Cominvestbank, Oshchadbank, Tasbank,  Ukrgazbank)  *Park Inn Hotel, 55 Velyka Vasylkivska Str., Kyiv* | 1. Kudimov Andii - Deputy Director of the VIP Department energy customers TASCOMBANK JSC 2. Chornyi Dmytro - Director of Factoring, Documentary Operations and Trade Financing Department of ComInbank JSC 3. Medko Mykhailo - Director of Small and Medium Business Department of JSB “Ukrgasbank” 4. Vysotskiy Volodymyr - Deputy Director of the Department of Environmental Reengineering and Implementation of Resource Conservation Projects of JSB “Ukrgasbank” 5. Kopiak Oleh - Deputy Head of Department - Head of Department, Micro, Small and Medium Business Department of Oschadbank 6. Shcherbak Alla - Head of Credit Product Development, Product Development and Support Department, DMMSB of Oschadbank 7. Ivanova Nataliia - Chief Economist, Credit Expertise Department of Oschadbank 8. Shulha Oksana - Head of the Department of SME AT "CB" Globus " |
|  | | |  |
| 17 July  (Wednesday) | 10:00– 13:00 | Meeting with EEPB Team  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Sergii Varga - Project Manager 2. Paata Janeridze - International CTA on EE |
| 13:00 – 14:00 | Lunch |  |
| 14:00– 16:00 | Meeting with EEPB Team  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Sergii Varga - Project Manager 2. Paata Janeridze - International CTA on EE |
| 19:55 | Departure for Lviv |  |
| 21:00 | Arrival to Lviv |  |
| 21:30 | Accommodation at Hotel Blum  *4 Drogobycka Str., Lviv* |  |
|  | | |  |
| 18 July  (Thursday) | 09:00 | Departure for Drogobych |  |
| 11:00 | Arrival to Drogobych |  |
| 11:00 – 13:00 | Meeting with Taras Kuchma, Mayor of Drogobych  Visit to pilot project sites  *1 Rynok Sq., Drogobych* | 1. Taras Kuchma - Mayor of Drogobych 2. Tarkhun Taras - Project Manager of the KU Institute of Drohobych 3. Halushka Bohdan - “Smart City” project participant 4. Oleksiuk Olha - Deputy Head of the Department of Education 5. Mytsavka Stepan - Energy Manager of Education Department 6. Hrytsyk Yaroslav - Responsible Secretary of the newspaper "Galitska Zorya" 7. Maha Valerii - Head of Object Management, LLC KIEVESCO |
| 13:00 – 14:00 | Lunch |  |
| 14:00 | Departure for Rivne |  |
| 16:00 | Arrival to Rivne |  |
| 18:00 | Accommodation in Hotel Myr  *32 Mitskevycha Str., Rivne* |  |
|  | | |  |
| 19 July  (Friday) | 09:00 | Departure for Dubno |  |
| 10:00 | Arrival to Dubno |  |
| 10:00– 12:00 | Meeting with Myroslava Piddubnyk, Head of Economic Department of Dubno City Administration.  Visit to School #1 (pilot project site)  *4 Zamkova Str., Dubno* | 1. Myroslava Piddubnyk - Head of Economic and Property Department of Dubno City Administration 2. Moskaliuk Ihor - Deputy Head of Economy and Property Department of Dubno City Administration. |
| 12:00 – 13:00 | Lunch on way to Kiev |  |
| 13:00 | Departure for Kyiv |  |
|  | 16:00 | Arrival to Kyiv |  |
|  | | |  |
| 20 July  (Saturday) | 08:30 – 09:30 | Transfer Kyiv-Borodyanka |  |
| 09:30 – 12:00 | Meeting with Oleksandr Sakharuk, Head of Borodyanka Village Council.  Visit to pilot project sites  *230 Lenina Str., Borodyanka village, Kyiv oblast* | 1. Oleksandr Sakharuk - Head of Borodyanka Village Council 2. Synetska Liudmyla - Director of the Kyiv Oblast Energy Efficiency Center, state company “Kyivoblbudinvest” |
| 12:00 – 13:30 | Transfer Borodyanka-Kyiv |  |
| 13:30 – 14:30 | Lunch |  |

**WEEK 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Time** | **Meetings** |  |
| 22 July  (Monday) | 10:00-13:00 | Working with team  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* |  |
| 13:00 – 14:00 | Lunch |  |
| 14:00 – 18:00 | Working with documents  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* |  |
|  | | |  |
| 23 July  (Tuesday) | 07:30 | Departure for Boryspil Airport |  |
| 09:40 | Departure for Odessa |  |
| 10:40 | Arrival to Odessa |  |
| 15:30 – 17:30 | Meeting with Serhii Tetiukhin, Head of Economic Development  Department of Odesa City Administration    Visit to pilot project sites  *1 Dumska Sq., Odessa* | 1. Savych Vitaliy - Deputy of Director of Odessa Municipal Energy Efficiency Agency |
| 18:00 | Accommodation in Arcadia Hotel  *24 Genuezskaya Str., Odesa* |  |
|  | | |  |
| 24 July  (Wednesday) | 11:35 | Departure for Kyiv |  |
| 12:35 | Arrival to Kyiv |  |
|  | Accommodation in National Hotel |  |
| 13:00 – 14:00 | Lunch |  |
| 14:00 – 17:00 | Working with team  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* |  |
|  | | |  |
| 25 July  (Thursday) | 9:00 – 10:00 | Meeting with Airat Khakimzyanov (former CTA for ESCO) and  Oleksandr Novoseltsev (former CTA for EMIS)  *Green Hall, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Airat Khakimzyanov - former CTA for ESCO 2. Oleksandr Novoseltsev - former CTA for EMIS |
| 11:00 – 12:00 | Meeting with Andriy Datsenko, Deputy Director of Kyiv ESCO  *15/1 Myjhaiikivska Str., Office 10, Kyiv* | Canceled meeting |
| 13:00 – 14:00 | Lunch |  |
| 16:00 – 17:00 | Meeting with Ms Svitlana Nigorodova, Small Grants Programme National  Coordinator  *10 Lypska Str., Kyiv, Ukraine* | 1. Svitlana Nigorodova - SGP National Coordinator 2. Kyrychenko Valentyna - SGP Program Assistant |
|  | | |  |
| 26 July  (Friday) | 11:00- 11:30 | Debriefing meeting with Dafina Gercheva, UNDP Resident Representative  *RR Office, UNDP Ukraine, 1 Klovskiy uzviz, Kyiv* | 1. Dafina Gercheva - UNDP Resident Representative |
|  | | |  |
| 31 July  (Sunday) |  | Departure |  |

Note

* the Evaluator carried out additional meeting with Michael Denoe - former Financial Expert of EEPB
  + the Evaluator met lots of times with Program Analysts Alla Tinkevych and Project Manager Sergii Varga out of the agenda .

# Appendix 5: List of documents reviewed

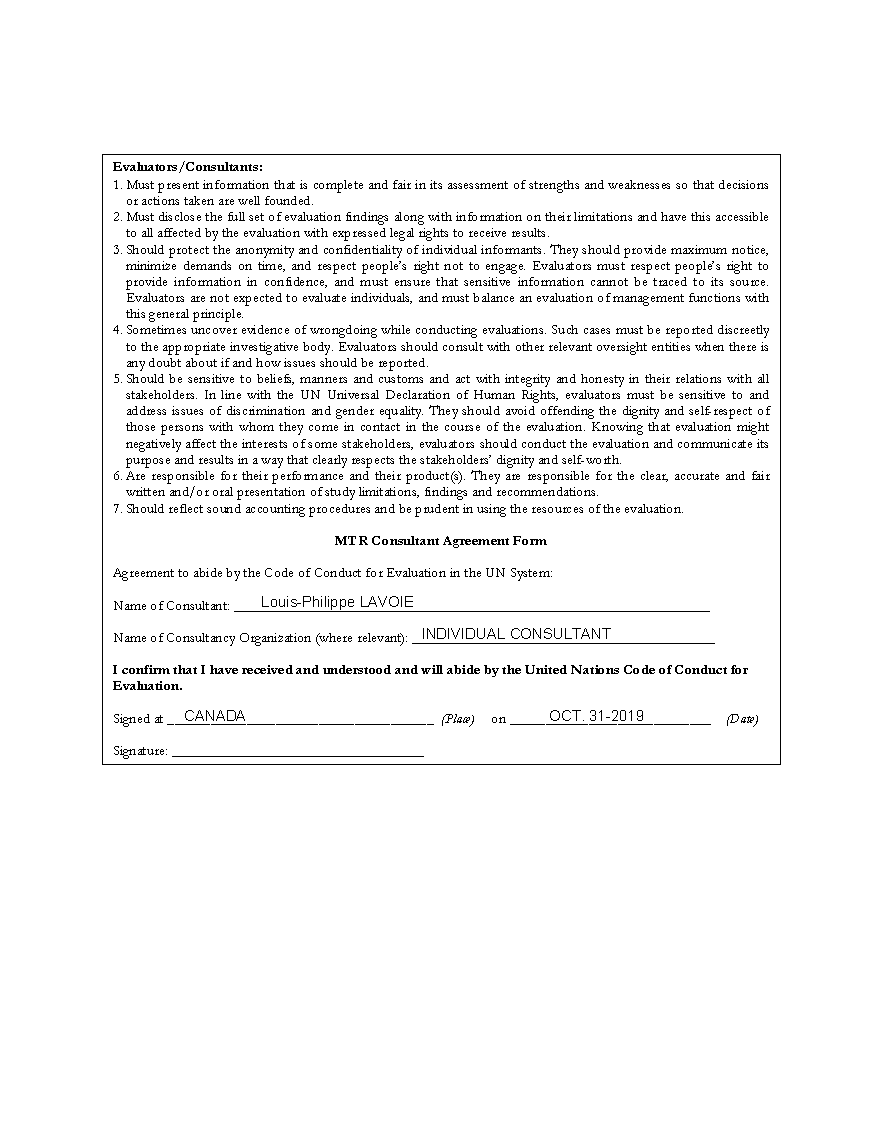
List of requested documents:

1. Project Identification Framework (PIF)
2. GEF Request for CEO Endorsement
3. UNDP Project Document
4. UNDP Environmental and Social Screening results
5. Strategic Results Framework (and proposed revision of the SRF)
6. Project Inception Report
7. Project Implementation Report (PIR) 2018
8. Quarterly progress reports and work plans of the various implementation task teams
9. Cooperation Agreements related to pilot projects implementation in partner cities
10. Monitoring/quality assurance reports prepared by the project
11. Finalized GEF CCM Tracking Tool at CEO endorsement and midterm
12. Financial and Administration guidelines used by Project Team
13. Minutes of Project Board meetings
14. PIR 2018-2019
15. Various documents available on the EEPB website

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# Appendix 6: Signed UNEG Code of Conduct form

**UNEG Code of Conduct for Evaluators/Midterm Review Consultants**

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# Appendix 7: Signed MTR final report clearance form

**: MTR Report Clearance Form**

*(to be completed by the Commissioning Unit and UNDP-GEF RTA and included in the final*

**Midterm Review Report Reviewed and Cleared By:**

**Commissioning Unit**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**UNDP-GEF Regional Technical Advisor**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

# Appendix 8 EPC Site visits - Findings and Key Data

Appendix 8 is a summary of field visits data gathering.

**EPC SITE 1**

**General Data: Borodyanka School №2**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service in Borodyanka School of І-ІІІ degrees №2 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Borodyanka, 5 Parkova Street | |
| Type of Building and usage | Brief description of the building: Borodyanka School №2 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/12/2018  Project dates: May 2018 - Ongoing Model: ESCO partnership  EPC contract: 1 106 thousand UAH (40,96 thousand USD)  Duration of EPC contract: 7 years 176 days  Share of savings paid to owner/investor for duration of EPC contract: 69 %/31 %  Number of People benefited from the project: 989;  personnel: males – 8, females – 74; children: girls – 460; boys – 447  Area: 7051 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary | 411 000 UAH |  | Installed: 1) Monitoring energy consumption systems by the energy service objects.  2) Ventilation system with heat recovery.  3) 1 set of project and budget documentation for the investor has been prepared  Reconstructed: 1) Major repair of window sills  2) Replacement of the roof of the building | |
| Up-front investment by ESCO |  | 320 000 UAH | Installed: Individual Heating Point | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 214 000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 678.167 Gcal | - |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 50 | 475 824,8 UAH | | 46.6 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 2**

**General Data: Odessa educational complex number 84 "Specialized school of I-III degrees**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the building of the Odessa educational complex number 84 "Specialized school of I-III degrees with in-depth study of foreign languages - secondary school of І-ІІІ degrees" | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Odessa, 1/6, Akademika Glushka Avenue | |
| Type of Building and usage | Brief description of the building:  Odessa educational complex number 84 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 9/27/2018  Model: enhanced ESCO  EPC contract: 684 139.14 UAH  UNDP investments: 488 000 UAH  Duration of EPC contract: 8 years 5 days  Share of savings paid to owner/investor for duration of EPC contract: 40 %/60 %  Number of People benefited from the project: 1970, including 1060 womens and 910 mens  Area: 11 030 m2  ESCO: KYIVESKO LTD, PE HYDROMONTAGE | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary | Energy audit +| 10,718,860.01 UAH |  | 1) Insulating the exterior walls  2) Replacement of translucent structures for energy efficiency  3) Replacement of door structures for energy efficiency  4) Installation of monitoring systems of energy consumption by the energy service objects.  5) Installation of the ventilation system with heat recovery. | |
| Up-front investment by ESCO | 228,046.38 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 488,000.00 |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 592.73 Gcal | 774 490 UAH | 30 | |  | 24.5 |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 30 | 142 528,98 UAH | | 24.5 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 3**

**General Data: Odessa Specialized School №86 of І-ІІІ degrees with in-depth study of the English language**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the building of the Odessa Specialized School №86 of І-ІІІ degrees with in-depth study of the English language | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Odessa, 79, Akademika Vilyamsa Street | |
| Type of Building and usage | Brief description of the building:  Odessa Specialized School №86 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 9/27/2018  Model: enhanced ESCO  EPC contract: 791 700.53 UAH  UNDP investments: 480 000 UAH  Duration of EPC contract: 8 years 5 days  Share of savings paid to owner/investor for duration of EPC contract: 45 %/55 %  Number of People benefited from the project: 1225, including 659 womens and 566 mens  Area: 11 200 m2  ESCO: KYIVESKO LTD, PE HYDROMONTAGE | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary | Energy audit+  12,852,000.00 UAH |  | 1) Insulating the exterior walls  2) Replacement of translucent  structures for energy efficiency  3) Replacement of door structures  for energy efficiency  4) Installation of monitoring  systems of energy consumption  by the energy service objects.  5) Installation of the ventilation | |
| Up-front investment by ESCO | 320 000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 480 000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 497.33 Gcal | 649 820 UAH | 30 | |  | 20.5 |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 30 | 179 931,93 UAH | | 20.5 |

NOTE 1: Specify the conversion factor

**Reporting**

|  |  |  |
| --- | --- | --- |
|  | Date of submission of the report | Comments |
| Feasibility Study |  |  |
| Pilot Project Completion Report (Commissioning report) |  |  |
| M&V reports |  |  |
| Pilot Projects Performance (results) Review.  List of projects for which Performance reports were issued and frequency |  |  |

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 4**

**General Data: Odessa educational complex #263**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | The building of the Odessa educational complex #263 "Specialized school of I degree with in-depth study of English language - preschool institution" | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Odessa, 54, Akademika Vilyamsa Street | |
| Type of Building and usage | Brief description of the building:  Odessa educational complex #263 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 9/27/2018  Model: "Enhanced" ESCO partnership  EPC contract: 278 522.94 UAH  UNDP investments: 294,000.00 UAH  Duration of EPC contract: 6 years  Share of savings paid to owner/investor for duration of EPC contract: 50 %/50 %  Number of People benefited from the project: 483, including 260 womens and 223 mens  Area: 2429 m2  ESCO: KYIVESKO LTD, PE HYDROMONTAGE | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary | Energy audit +  5 674 000 UAH |  | 1) Insulating the exterior walls  2) Replacement of translucent  structures for energy efficiency  3) Replacement of door structures  for energy efficiency  4) Installation of monitoring  systems of energy consumption  by the energy service objects.  5) Installation of the ventilation | |
| Up-front investment by ESCO | 92,840.98 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 294 000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 232.334 Gcal | 303 580 UAH | 25 | |  | 8 |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 25 | 69 630,73 UAH | | 8 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 5**

**General Data: Drogobych Specialized School of І-ІІІ degrees № 2**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the building of the Drogobych Specialized School of І-ІІІ degrees № 2 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Drogobych, 17 Kozlovskogo Street | |
| Type of Building and usage | Brief description of the building: Specialized school #2 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/18/2018  Model: FSM ESCO Factoring  EPC contract: 1,3 mln UAH (48 thousand USD)  Duration of EPC contract: 5 years 180 days  ESCO investments: 360 thousand UAH (13 thousand USD)  Share of savings paid to owner/investor for duration of EPC contract: 15%/85%  Number of People benefited from the project: 984, including females – 529;  males – 455.  Area: 5821 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Measures being implemented: Procurement of heat energy meters | |
| Up-front investment by ESCO | 360,000 UAH |  | Installed: Individual Heating Point. | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 56,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify)heat | 572.96 Gkal | - |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 25% | 292 792 UAH | | 19.7 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 6**

**General Data: Drohobych School of I-III degrees № 1 named after. Ivan Franko**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the building of Drohobych School of I-III degrees № 1 named after. Ivan Franko | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Drogobych, 19 Petra Sagaidachnogo Street | |
| Type of Building and usage | Brief description of the building: School #1 named after Ivan Franco | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/18/2018  Model: FSM ESCO Factoring  EPC contract: 1,2 mln UAH ( 44 thousand USD)  Duration of EPC contract: 5 years 180 days  ESCO investments: 400 thousand UAH (14,8 thousand USD)  Share of savings paid to owner/investor for duration of EPC contract: 15%/85%  Number of People benefited from the project: 1200, including females – 529; males – 455.  Area: 5720 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Measures being implemented: Procurement of heat energy meters | |
| Up-front investment by ESCO | 400,000 UAH |  | Installed: Individual Heating Point. | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 56,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (heat) | 536.21 Gkal | - |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 24% | 262 557,7 UAH | | 17.7 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC SITE 7**

**General Data: Drohobych secondary school № ІІІ № 14**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the building of Drohobych secondary school № ІІІ № 14 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Drogobych, 87 Grushevskogo Street | |
| Type of Building and usage | Brief description of the building: Secondary school № 14 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/18/2018  Model: FSM ESCO Factoring  EPC contract: 797 thousand UAH (29,5 thousand USD)  Duration of EPC contract: 6 years 180 days  ESCO investments: 321 thousand UAH (12 thousand USD)  Share of savings paid to owner/investor for duration of EPC contract: 15%/85%  Number of People benefited from the project: 618, including females – 332; males – 286.  Area: 5181 m2  ESKO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Measures being implemented: Procurement of heat energy meters | |
| Up-front investment by ESCO | 321,000.00 UAH |  | Installed: Individual Heating Point. | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 56,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 435.33 Gkal | - |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 16% | 144 299 UAH | | 9.6 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 8**

**General Data: Drohobych City Polyclinic**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the complex of buildings of the municipal non-profit enterprise "Drohobych City Polyclinic" | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Drogobych, 22 Sichovyh Striltsiv Street | |
| Type of Building and usage | Brief description of the building: Drohobych city clinic | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/18/2018  Model: FSM ESCO Factoring  EPC contract: 1,04 mln UAH (38 thousand USD)  Duration of EPC contract: 6 years 180 days  ESCO investments: 321 thousand UAH (12 thousand USD)  Share of savings paid to owner/investor for duration of EPC contract: 10%/90%  Number of People benefited from the project: 398, including females – 214;  males – 184.  Area: 3551.6 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Measures being implemented: Procurement of heat energy meters | |
| Up-front investment by ESCO | 321000 UAH |  | Installed: Individual Heating Point. | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 56,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 346.98 Gcal | - |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 25% | 179 267.47 UAH | | 11.9 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 9**

**General Data: Drohobych City Children's Hospital**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the complex of buildings of the municipal non-profit enterprise "Drohobych City Children's Hospital" | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Drogobych, 11 A.Sheptytskogo Street | |
| Type of Building and usage | Brief description of the building: Drohobych City Children's Hospital | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Date of approval of the ESCO objects: 10/18/2018  Model: "Enhanced" ESCO partnership  EPC contract: 964 thousand UAH (35,7 thousand USD)  Duration of EPC contract: 6 years  UNDP investments: 384 thousand UAH (14 thousand USD)  Share of savings paid to owner/investor for duration of EPC contract: 15%/ 85% Number of People benefited from the project: 169, including females – 91;  males – 78.  Area: 4554 m2  ESKO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary | Energy audit+ 158,600 UAH |  | Installed: 1) Establishing a monitoring system for energy consumption by the energy service objects.  2) Installation of ventilation system with heat recovery.  Reconstructed: Heating system of a non-profit utility company "Drohobych City Children's Hospital" of the Drohobych City Council | |
| Up-front investment by ESCO | 321,659.16 UAH |  | Installed: Individual Heating Point | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 384,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 265.07 |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 20% | 189211.26 UAH | | 14.6 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 10**

**General Data: Dubenska pre-school educational institution №3**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy servise of building of Dubenska pre-school educational institution №3 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 7 Skarbova Street | |
| Type of Building and usage | Brief description of the building:  Kindergarten #3 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 323 thousand UAH (12,2 thousand USD)  ESCO investments: 150 thousand UAH (5,5 thousand  USD)  Duration of EPC contract: 7 years 183 days  Share of savings paid to owner/investor for duration  of EPC contract: 10 %/90 %  Number of People benefited from the project: 121.  Area: 858,7 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 150,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 128.39 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 16.1 | 50,4 thousand UAH | | 6,649 |

NOTE 1: Specify the conversion factor

**Reporting**

|  |  |  |
| --- | --- | --- |
|  | Date of submission of the report | Comments |
| Feasibility Study |  |  |
| Pilot Project Completion Report (Commissioning report) |  |  |
| M&V reports |  |  |
| Pilot Projects Performance (results) Review.  List of projects for which Performance reports were issued and frequency |  |  |

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 11**

**General Data:** Preschool educational institution №4 of Dubenska city council

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service if buildings of preschool educational institution №4 of Dubenska city council | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 13 Lysenka Street | |
| Type of Building and usage | Brief description of the building:  Kindergarten #4 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 279 thousand (10,5 thousand USD)  Duration of EPC contract: 7 years 183 days  ESCO investments: 120 thousand UAH (4,5 thousand  USD)  Share of savings paid to owner/investor for  duration of EPC contract: 10%/90 %  Number of People benefited from the project: 142.  Area: 855,6 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 120,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 129.75 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 13.8 | 43,7 thousand UAH | | 5,759 |

NOTE 1: Specify the conversion factor

**Reporting**

|  |  |  |
| --- | --- | --- |
|  | Date of submission of the report | Comments |
| Feasibility Study |  |  |
| Pilot Project Completion Report (Commissioning report) |  |  |
| M&V reports |  |  |
| Pilot Projects Performance (results) Review.  List of projects for which Performance reports were issued and frequency |  |  |

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 12**

**General Data: Dubenska secondary school of І-ІІІ degrees №3**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of building of Dubenska secondary school of І-ІІІ degrees №3 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 23 Shevchenko Street | |
| Type of Building and usage | Brief description of the building:  School #3 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 528 thousand UAH (20 thousand USD)  ESCO investments: 180 thousand UAH (6,7 thousand USD)  Duration of EPC contract: 7 years 183 days  Share of savings paid to owner/investor for duration  of EPC contract: 10 %/90 %  Number of People benefited from the project: 605.  Area: 2177,2 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 180,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity |  |  |  | |  |  |
| Gas |  |  |  | |  |  |
| Oil |  |  |  | |  |  |
| Other (specify) | 209.951 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 18 | 54,4 thousand UAH per year | | 7.167 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 13**

**General Data: Energy service buildings of the Dubenska comprehensive school of І-III degrees № 3**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service buildings of the Dubenska comprehensive school of І-III degrees № 3 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 20 Stara Street | |
| Type of Building and usage | Brief description of the building:  comprehensive school #3 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 347,8 thousand (13 thousand USD)  Duration of EPC contract: 7 years 183 days  ESCO investments: 150 thousand UAH (5,5 thousand USD)  Share of savings paid to owner/investor for duration  of EPC contract: 10%/90 %  Number of People benefited from the project: 457.  Area: 2023,5 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 150,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 161.467 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 18 | 54,4 thousand UAH | | 7,167 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 14**

**General Data: Energy service of buildings of the Dubenska comprehensive school I-III of degrees №6**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of buildings of the Dubenska comprehensive school I-III of degrees №6 | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 182 Grushevskogo Street | |
| Type of Building and usage | Brief description of the building:  comprehensive school №6 | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 1 mln 128,2 thousand UAH (43 thousand USD)  ESCO investments: 200 thousand UAH (7,5 thousand USD)  Duration of EPC contract: 6 years 183 days  Share of savings paid to owner/investor for  duration of EPC contract: 10%/90 %  Number of People benefited from the project: 941.  Area: 6940,9 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 200,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 610.551 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 18 | 205,7 thousand UAH | | 27,1 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

**EPC 15**

**General Data: the Dubensky educational building complex "School-gymnasium"**

|  |  |  |
| --- | --- | --- |
| Project ID (title) | Energy service of the Dubensky educational building complex "School-gymnasium" | |
| Project Beneficiary manager : name and email | Name and title | Email: |
| Location (City and Address) | Dubno, 16 A Pekarska Street | |
| Type of Building and usage | Brief description of the building:  School-gymnasium | |
| Completion date (commissioning) |  | |
| Short Description of the project. (among others: specify when the EPC has been duly signed and enforced) | Model: FSM ESCO Factoring  EPC contract: 545 thousand (21 thousand USD)  Duration of EPC contract: 6 years 183 days  ESCO investments: 230 thousand UAH (8,6 thousand USD)  Share of savings paid to owner/investor for  duration of EPC contract: 10%/90 %  Number of People benefited from the project: 510.  Area: 2452,9 m2  ESCO: KYIVESKO LTD, "EUROPEAN ENERGY SERVICE COMPANY" LTD | |

**Projects Financing Profile and Costs Breakdown**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Total Investment (as achieved at the commissioning time)*** | Equipment Cost | Services Cost (technical design, installation, M&V estimated cost, others…if any | List of key equipment installed | |
| Amount | Percentage of total cost | Comment: | |
| Up-front investment by the project beneficiary |  |  | Energy audit, emis installation works | |
| Up-front investment by ESCO | 230,000 UAH |  | Individual Heating Point Installation | |
| ***External Financing (amount)*** | Bank (Loan) | EE Fund or similar (loan or grant) | UNDP | Other (loan or grant) |
|  |  | 20,000 UAH |  |
| Interest rate |  |  |  |  |
| ***Estimated Payback period in years*** |  | | | |

**Yearly Energy Savings and GHG emissions reduction** (NOTE 1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Energy consumption and savings | Annual Consumption the Year before project commissioning (reference Year) | Annual cost the Year before project commissioning | Estimated Annual saving | | | Estimated Annual GHG Emissions Reduction (tons) |
| % of the reference Year | | Cost saving |
| Electricity | - | - |  | |  |  |
| Gas | - | - |  | |  |  |
| Oil | - | - |  | |  |  |
| Other (specify) | 253.617 Gcal |  |  | |  |  |
| TOTAL YEARLY COST SAVING and GHG reduction(estimated or achieved) |  |  | 18 | 99,7 thousand UAH | | 13,133 |

NOTE 1: Specify the conversion factor

**Other comments**

|  |
| --- |
| The Evaluation team conducted a meeting with municipal high-level officers and visited some selected EPC sites. The ESCO responsible for the EPC implementation attended the meeting and provided technical information on the EPC project(s).  Municipal Officers and ESCO pointed out the relevant and usefulness of the TA and equipment provided by the EEPB Project.  Officials and ESCO made good comments on the timely EEPB administrative and technical response to project beneficiaries’ needs and ESCOs’ requirements. |

# 

# Appendix 9: SGP Projects/Activities Review

*SMALL GRANTS PROGRAMME REVIEW*

**REPORT**

**Mid Term Review Mission**

Removing Barriers to Increase Investment in Energy Efficiency in Public Buildings in Ukraine through the ESCO modality in Small and Medium Sized Cities

*- EEPB -*

United Nations Development Programme - Ukraine

*By: Igor Komendo, National Evaluator*

*August 08 -16, 2019*

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**Introduction**

The MTR mission has been carried out as per the planning from July 12 (arrival) to July 26-2019, end of the MTR mission. In course of the Debriefing meeting it was indicated that the EEPB project involved Small Grant Program modality for supporting projects some activities seemingly out of the defined scope (in the Evaluator’s view and understanding). The MTR Team Leader asked the National Evaluator to review each project and find out if projects carried out by the SGP Unit were in line or not with the defined EEPB scope of work, which is related to barriers removal to ESCO/EPC rolling-out in Ukraine. The National Evaluator reviewed the list of 11 projects (to which EEPB attracted SGP office in Ukraine for procedural support of granting) having received a grant (GEF’s financing).

**Methodology**

*General approach*

Bottom-up procedure: from the needs (community-base beneficiary), role and task of implementing NGO, role and task of SGP and approval process of the SGP project, approval at the completion step.

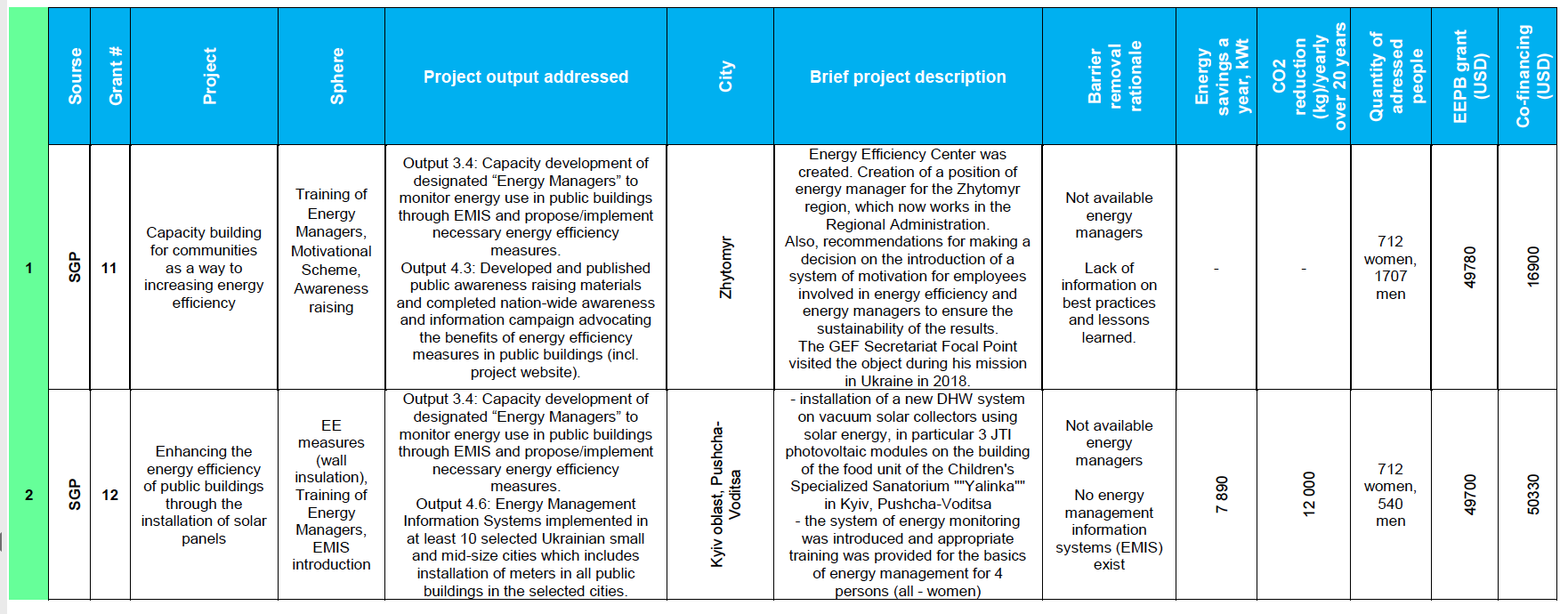
*Desk analysis*

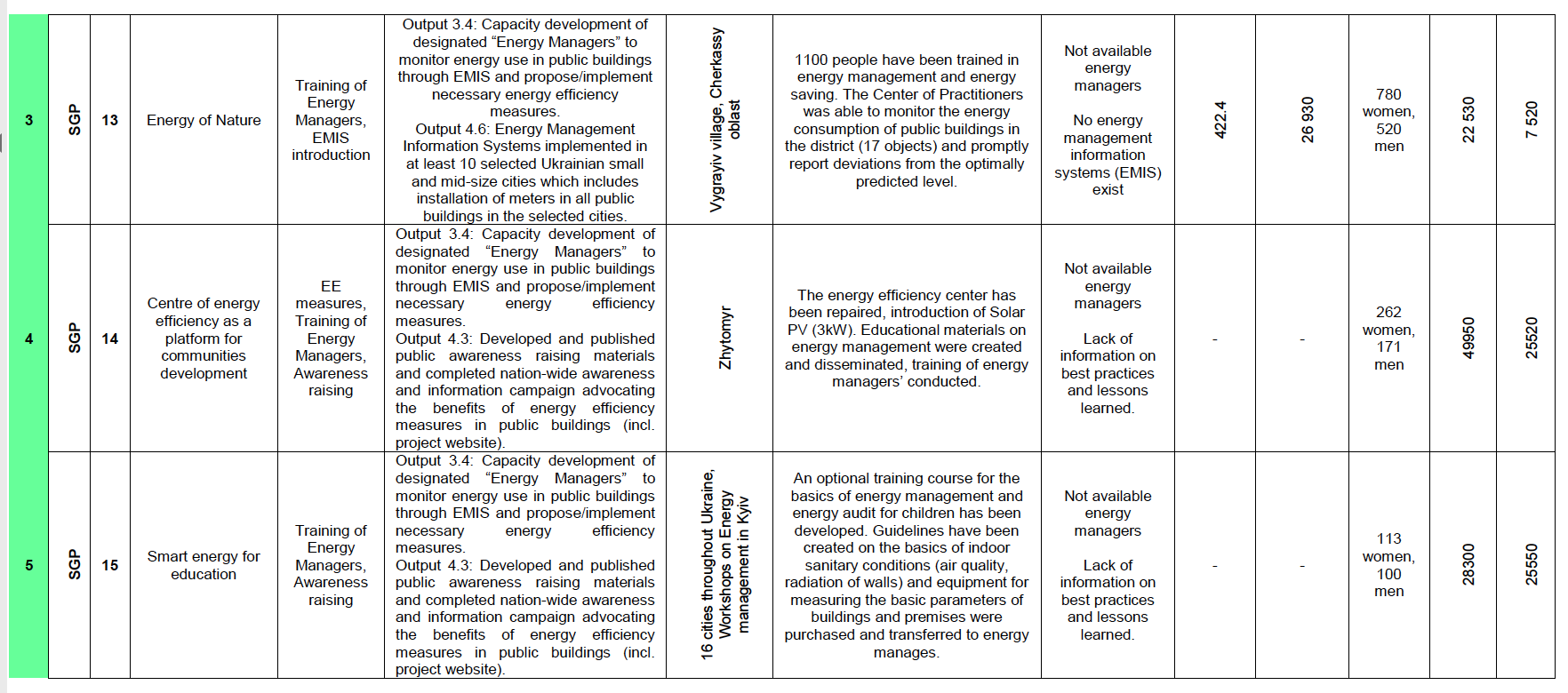
* 11 SGP projects` reports analysis
* Meeting with SGP office in Ukraine
* Grants documentation examination

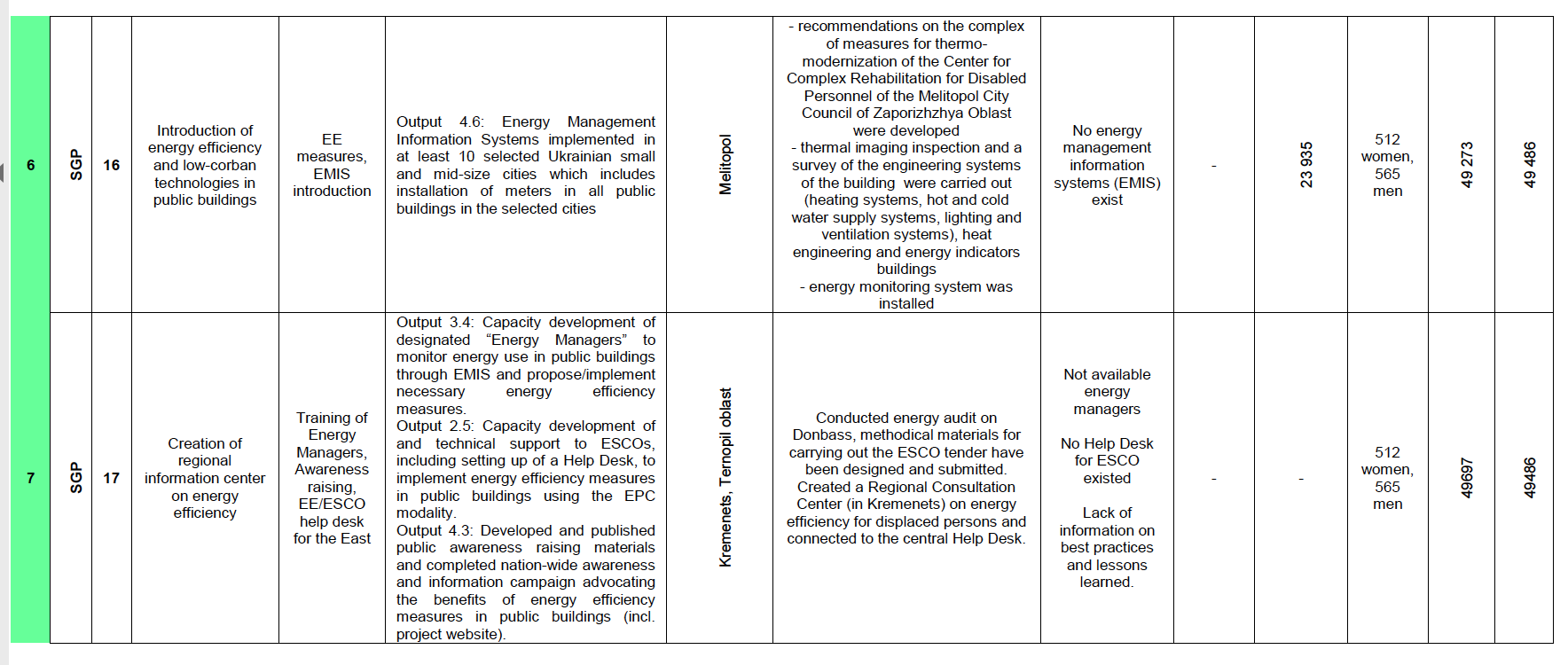
*Field visits*

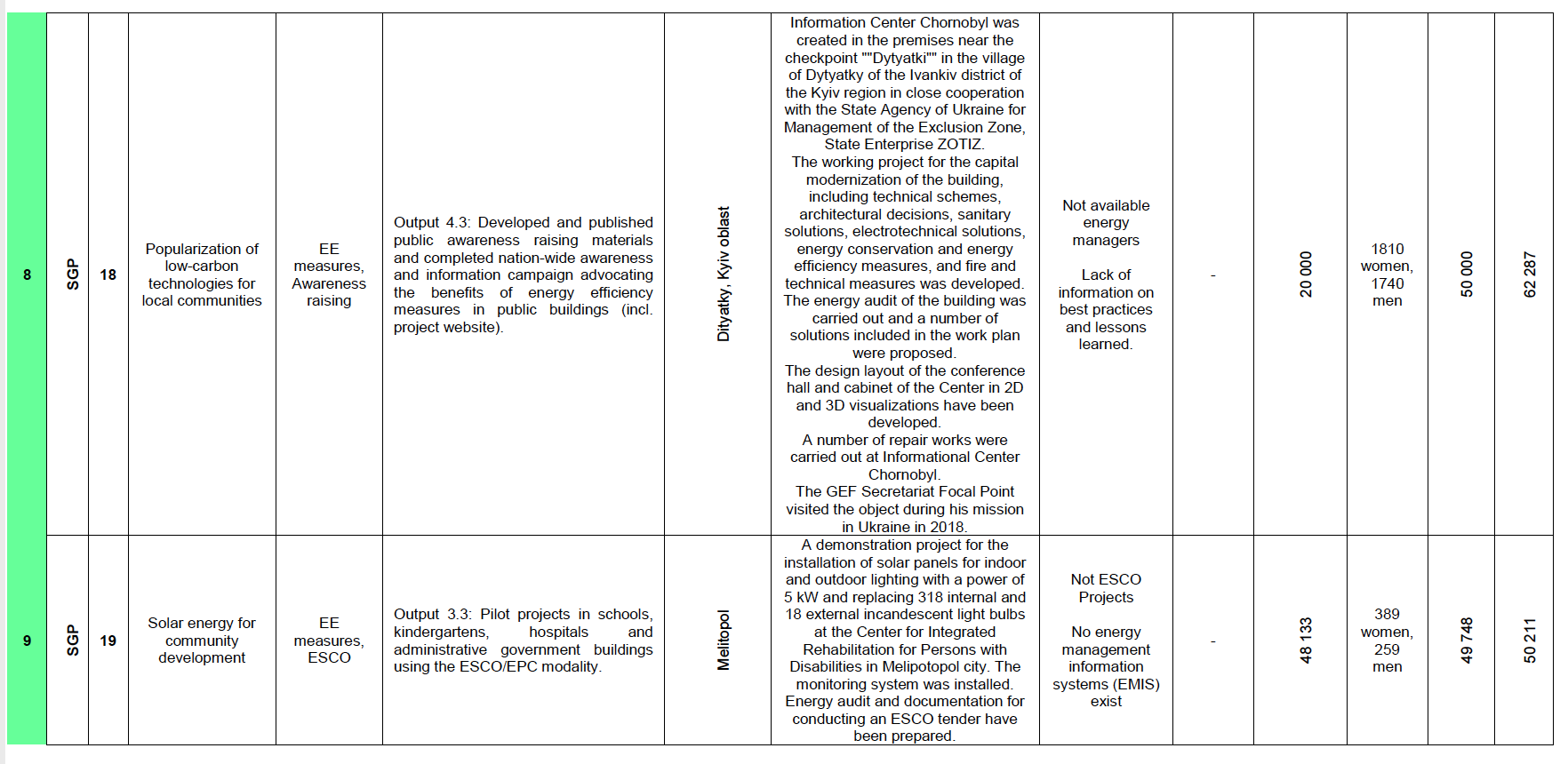
* At least 3 projects site visits
* Meeting with implementation organization representatives carried out according script\*

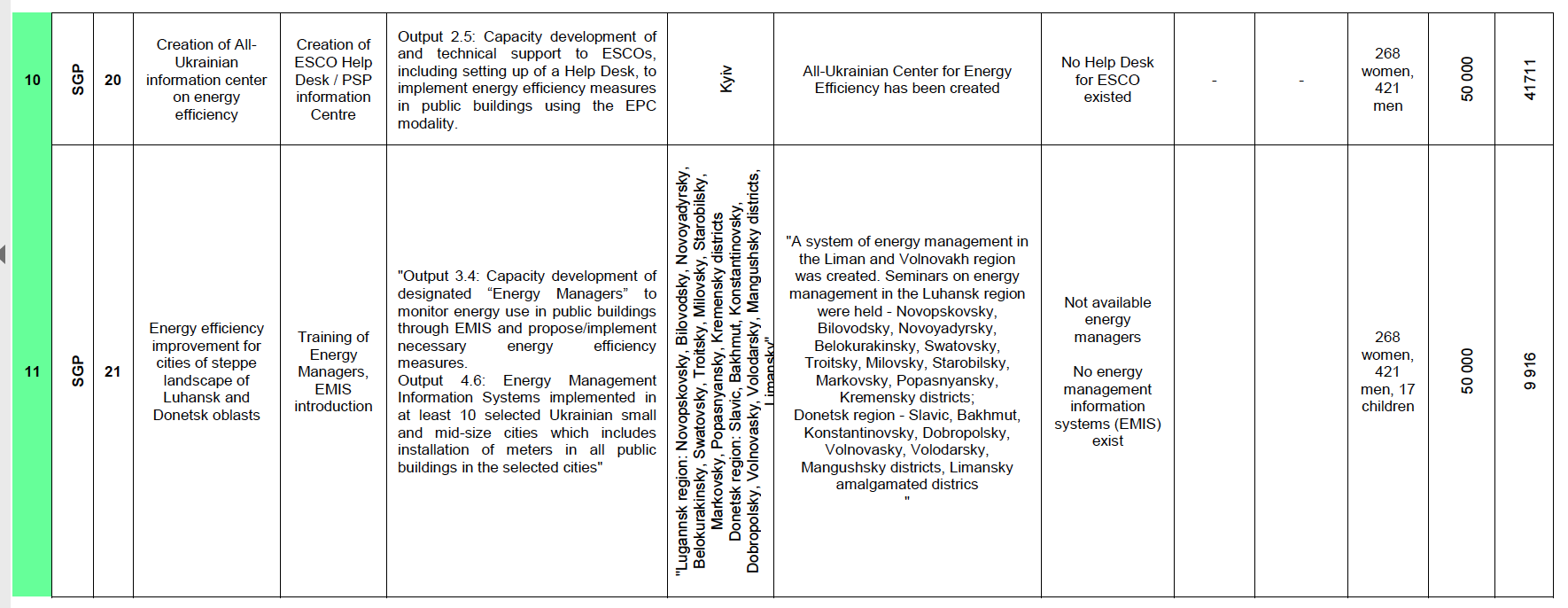
Analysis table











Field visits agenda

|  |  |
| --- | --- |
| Travel Plan | Duty travel to Pokrovsk (and cities & villages in the vicinity), Zhytomyr and Chernobyl Info Centre (KPP Dytyatki) |
| Date | From 11 to 15 August 2019 |
| Project team member | Mr. Igor Komendo, National MTE |
| Follow up mission of National MTE, Mr. Igor Komendo to conduct the field visits to the project sites of several Micro-Capital Grants implemented in 2017-2018 through GEF SGP mechanism in the framework of UNDP-GEG Project “Energy Efficiency in Public Buildings” | |

The indicated field visits agenda attached in Appendix 1

**Key findings**

***SGP mechanism usage rationale (discovered by evaluator)***

During 2017- 2018, EEPB Project implemented 11 grants through cooperation with GEF Small Grants Programme (SGP).

Taking into account the limited time for the Project implementation in 2017 (as Project de-facto started in April 2017), broad consultations were conducted to identify the most efficient mechanism to deliver project results in limited period of time.

The Project cooperated with the GEF SGP in order: (1) to establish better links with local governmental authorities; (2) to promote ESCO and Energy Monitoring among small and medium cities; (3) to raise the awareness on energy efficiency opportunities, consequentially creating demand for ESCO services.

The decision to work through SGP was based on previous successful implementation of project activities within GEF projects (i.e. Biomass, Rio, Efficient Lighting Projects). SGP has proved to be a very time and cost effective while ensuring co-financing and highest standards of monitoring, competitiveness and transparency.

Using SGP grants mechanism allowed avoiding the risks of VAT reimbursement rejection.

***Selection process***

The Call for Grant Proposals (SGP’s TORs are attached at Appendix 1) in terms of SGP and EEPB cooperation outlined the following terms of reference for eligible activities:

* *removing barriers to investment into energy-efficient measures using innovative approaches, renewable energy sources (biogas, solar and wind energy, other types of projects, including biomass) as well as further promotion thereof;*
* *attraction of additional funds for energy modernization based on co-financing and using financial and credit support mechanisms;*
* *introduction of energy monitoring systems and communities’ capacity building in the sphere of energy management (basics of energy management);*
* *raising awareness as it relates to improvement of energy efficiency in public buildings;*
* *application of affordable technical solutions, low carbon energy generation at the community level, providing for additional socio-economic, health and environmental benefits and well adapted to local conditions that offer a high potential for reduction of carbon dioxide emissions and capable of scaling up (outspread);*
* *initiatives intended to promote the general public involvement into energy efficiency policy-making and legislation development, cooperation as it pertains to decision-making and representation of citizens and the general public in discussions and decision-making as it relates to attraction of private and public investments;*
* *awareness of citizens, local communities and associations thereof, as well as local authorities of new legislative options and new tools for attracting private and loan capital; interaction between the general public, business entities and authorities (energy services, public-private partnerships, government and non-government funds, and financial support programs) to improve energy efficiency and save energy, capacity building to use new opportunities and engagement into a dialogue with authorities, experts and scientists to promote application of new tools and further improvement of energy-efficient legislation.*

**Results of grants projects implemented through SGP**

***Grant 11***

The Grantee created some (11) awareness raising materials regarding importance of Energy Management as well some handbooks for energy managers and conducted five trainings workshops dedicated to this theme. In addition, full-time position of energy manager for the Zhytomyr Oblast was created in the frames of the project and recommendations for making a decision for Zhytomyr Oblast on the introduction of a system of motivation for employees involved in energy efficiency and energy managers were approved by Zhytomyr City Council in 2018.

***Grant 12***

During Grant implementation, Energy Management and Monitoring System was introduced in 4 municipal objects in Puscha-Voditsa city. 4 energy managers were trained to oversee the EE measures in above-mentioned objects. In additional some EE measures based on renewables were introduced to reduces GHG footprint and for demonstrational purposes in one object (Sanatorium for Children).

***Grant 13***

The Grantee created Training Centre for energy managers in Cherkassy Oblast. 17 energy managers were employed. In additional EMIS was introduced on 17 objects and small EE measures using renewable solar energy were implemented in the premises of the Centre.

***Grant 14***

The Energy Efficiency Centre was created in the city of Zhytomyr, which now work in close cooperation with the Zhytomyr oblast administration. The EE Centre provides trainings for energy managers for the surrounding cities (so far 72 energy managers were trained and employed). In addition, small EE repair work in the premises of Centre were conducted.

***Grant 15***

An educational training course for the basics of energy management and energy audit for children has been developed. So-called “School of young energy auditors and managers” was created and workshops for schoolchildren were conducted in 16 cities of central Ukraine.  Guidelines have been created on the basics of indoor sanitary conditions (air quality, radiation of walls) and equipment for measuring the basic parameters of buildings and premises were purchased and transferred to energy manages.

***Grant 16***

During the Grant implementation thermal imaging inspection and a survey of the engineering systems of the Center for Complex Rehabilitation for Disabled Personnel of the Melitopol City Council of Zaporizhzhya Oblast were carried out (heating systems, hot and cold water supply systems, lighting and ventilation systems). The recommendations on the complex of measures for thermo-modernization were produced. In addition, EMIS was introduced in the premises of Centre.

***Grant 17***

Grantee has conducted energy audits in Kremenets city (Ternopil oblast), methodical materials for carrying out the ESCO tender have been designed and submitted for consideration of city administration. Created a Regional Consultation Center (in Kremenets) on energy efficiency for displaced persons and connected to the central Help Desk.

***Grant 18***

Information Center Chornobyl was created in the premises near the checkpoint "Dytyatki" in the village of Dytyatki of the Ivankiv district of the Kyiv region in close cooperation with the State Agency of Ukraine for Management of the Exclusion Zone, State Enterprise ZOTIZ.

The energy audit of the building was carried out and a number of solutions included in the work plan were proposed.

A number of repair works were carried out at Informational Center Chornobyl.

The Centre advocates for Energy Efficiency through conducting trainings of energy managers, energy auditors and dissemination of awareness materials.

***Grant 19***

A demonstration project for the installation of solar panels for indoor and outdoor lighting with a power of 5 kW and replacing 318 internal and 18 external incandescent light bulbs was carried out. The Energy Managers and Monitoring System was installed and Energy Manager was designated. Energy audit and documentation for conducting an ESCO tender have been prepared, submitted to the Melitopol City Council.

***Grant 20***

The Help Desk on ESCO and Energy Efficiency was created which was envisaged by Project Document of EEPB Project. State Agency on EE in 2019 expressed its interest to maintain the operation of Help Desk. 31 ESCO or candidate ESCO asked for information through established Help desk

***Grant 21***

The Energy Management and Monitoring System was introduced in Lugannsk (Novopskovsky, Bilovodsky, Novoyadyrsky, Belokurakinsky, Swatovsky, Troitsky, Milovsky, Starobilsky, Markovsky, Popasnyansky, Kremensky districts) and Donetsk (Slaviansk, Bakhmut, Konstantinovsky, Dobropolsky, Volnovasky, Volodarsky, Mangushsky, Limansky districts) regions. Training for the respective energy managers were conducted. In total the grant created EMIS in 286 buildings among the 25 small cities and 23 villages.

***Field visits conducted***

During Mid-Term the national Evaluator visited the Help Desk Office in Kiev. Additionally, as the follow-up to the Mid-Term Evaluation, three field visits were conducted during August 12-15. The sites visied are related to Grants # 11, 18 and 21 were visited.

***Photos from a field visit to Pokrovsk***







***Photos from a field visit to Dytyatky***









***Budget***

The EEPB requested budget revision to include the budget lines for grants in Output 3 (USD 249,582) and Output 4 (USD 249,394) according to UNDP procedures. The main sources of finances for new lines were “Contractual Services - Companies” and “Equipment and Furniture” for Output 3 and “Audio Visual & Print Prod Cost” and” Contractual Services –Companies” for Output 4. The new Atlas-generated budget for 2017-2018 is attached as the reference.

***Costs.***

Below is the table with overall costs composition for implemented grants (SGP):

|  |  |
| --- | --- |
| ***COST TYPE*** | ***TOTAL CATEGORY (USD)*** |
| Personnel costs (experts) | 44 024,9 |
| Workshops/trainings | 92 798 |
| Contracting services companies | 240 869 |
| Equipment | 109 353 |
| Miscellaneous | 11 932 |
| TOTAL | 498 978 |

***Co-financing***

Overall USD 388,917 were attracted as co-financing during the grants` implementation both in-cash and in-kind forms. The GEF SGP unit maintains all documentary evidences of co-financing including bank statements, copies of bank statements were presented. The direct grant from the UNDP-EEPB project is an amount of 498 978 USD in cash.

**Conclusion**

All of SGP projects were identified as delivery mechanism of key project outputs in line with Project Document (ESCO support centers, ESCO projects help desk, energy – management and monitoring).

The National Evaluator took into consideration the ToR the SGP Unit was required to comply with. The ToR did not contain any direct references to ESCO and EPC. But it is worth saying it held wording connected to the topic of EEPB interest as:

**“***introduction of energy monitoring systems and communities’ capacity building in the sphere of energy management (basics of energy management)”*

*“attraction of additional funds for energy modernization based on co-financing and using financial and credit support mechanisms”*

Among 11 projects, there is not any solely to deal with ESCO business model or EPC modality providing in many cases technical assistance as training for energy managers.

Without wishing to reduce the quality and efficiency of the work produced by he SGP Unit, the National Evaluator understands some of the SGP projects activities were, in a certain extent, out of the core concerns of the EEPB toward the barrier removal for supporting the ESCO business model and EPC modality.

Finally, in terms of GHG emissions reduction, the series of 11 SGP projects resulted in a very low CO2 reduction of 30 tCO2/yr, while the series of Pilot Projects and replication projects directly supported (total 21 projects) by the PMU resulted in more than 380 tCO2/year, and the PMU intervention in the frames of EMIS resulted in a GHG emission reduction of about   
500 tCO2/yr.

Some of the projects contained demonstration aspect of energy efficiency technologies that in the long run worked as demand catalyst for City Councils to invest time and efforts for embarking ESCO and Enhanced ESCO mechanisms for financing energy modernization and energy saving measures in budget sphere. Once again, the National Evaluator points out that the EEPB project did not intend, as a priority, to make the demonstration of EE technologies, but was required to remove barriers by supporting EE project initiatives using the EPC modality.

Because the SGP projects did not involve ESCO business model and did not roll out the EPC modality directly and as a result did not provide significant GHG emissions reduction (30 TCO2/yr), the National Evaluator do not consider the SGP projects as Pilot Projects likewise the EEPB PMU.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Grant #** | **EMIS introduction** | **Energy Managers trainings** | **ESCO implementation** | **Awareness rising** | **Help Desk** |
| 11 |  | V |  | V |  |
| 12 | V | V |  |  |  |
| 13 | V | V |  |  |  |
| 14 |  | V |  | V |  |
| 15 |  | V |  | V |  |
| 16 | V |  |  |  |  |
| 17 |  | V | V | V | V |
| 18 |  | V |  | V |  |
| 19 | V |  | V |  |  |
| 20 |  |  |  |  | V |
| 21 | V | V |  |  |  |
| **Total** | **5** | **8** | **2** | **5** | **2** |

**Appendix 1**

Field visits agenda

**Key People to meet:**

Representatives of NGO “Dobropillya”, NGO “Tsentr Gromadskoyy Osvity” and NGO “Shkola Ekoservisu”

**Tentative agenda of the visits is as follows:**

**August 11 (Sunday)**

17:34 – Departure for Pokrovsk (via train)

**August 12 (Monday)**

01:43 – Arrival to Pokrovsk

09:00 – 13:00 – Meeting with NGO “Dobropillya” and visiting EMIS-affected cities (transportation provided by the NGO)

13:00 – 14:00 – Lunch

14:00 – 18:00 – Visiting EMIS-affected cities (transportation provided by the NGO)

**August 13 (Tuesday)**

09:00 – 13:00 – Visiting EMIS-affected cities (transportation provided by the NGO)

13:00 – 14:00 – Lunch

14:00 – 18:00 – Visiting EMIS-affected cities (transportation provided by the NGO)

**August 14 (Wednesday)**

04:39 – Departure for Kyiv

12:48 – Arrival to Kyiv (via train)

**August 15 (Thursday)**

07:30 – Departure for Dytyatky (via car)

09:30 – Arrival to Dytyatky

09:30 - 10:30- Meeting with “Tsentr Gromadskoyy Osvity”. Visit to Information Center ‘Chornobyl: Territory of Change’

10:30 – 13:30 – Travel to Zhytomyr

13:30 – 14:30 – Lunch

14:30 – 16:30 - Meeting with NGO “Shkola Ekoservisu”, visiting Energy Efficiency Center

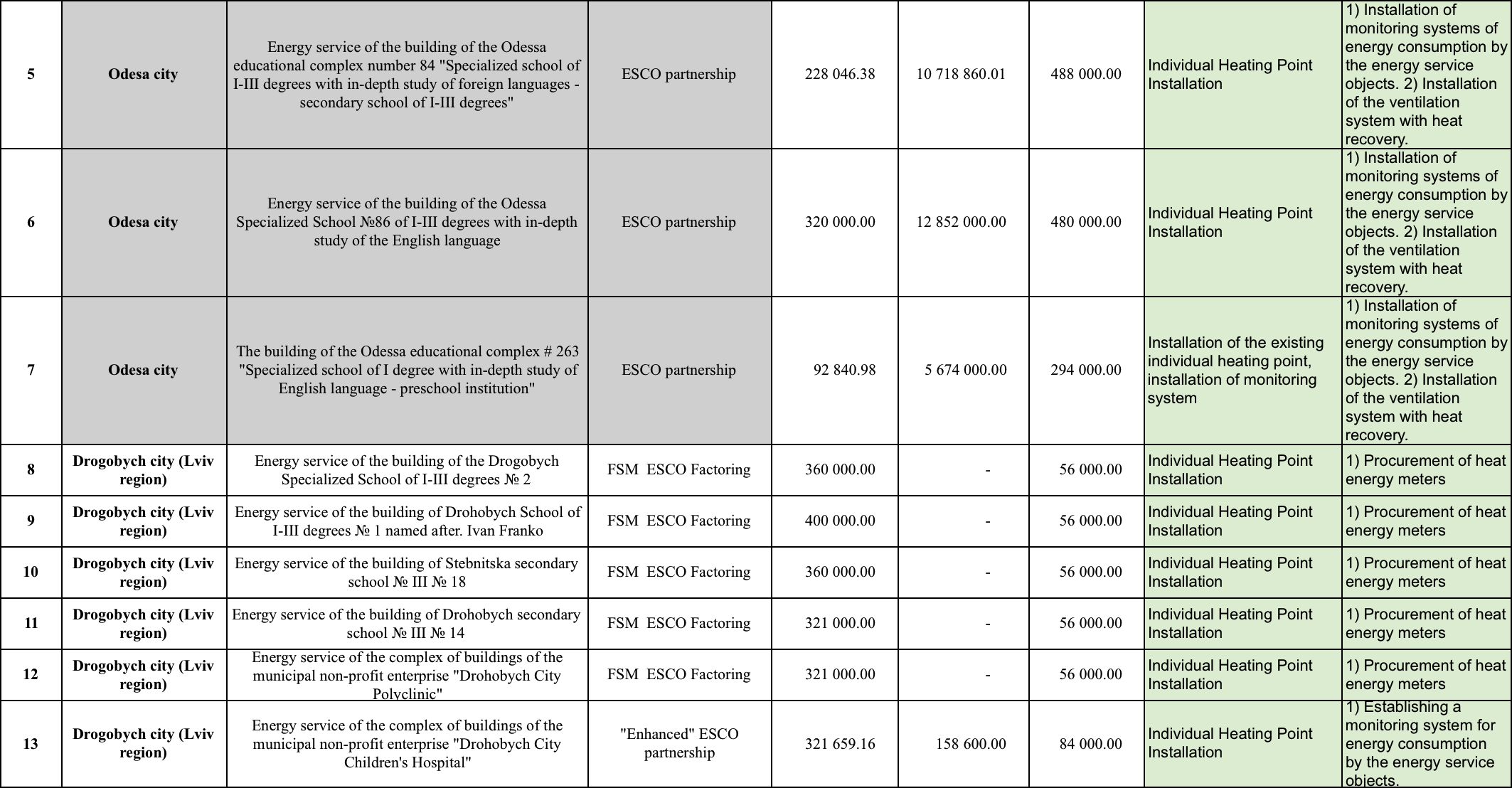
16:30 – Departure for Kyiv

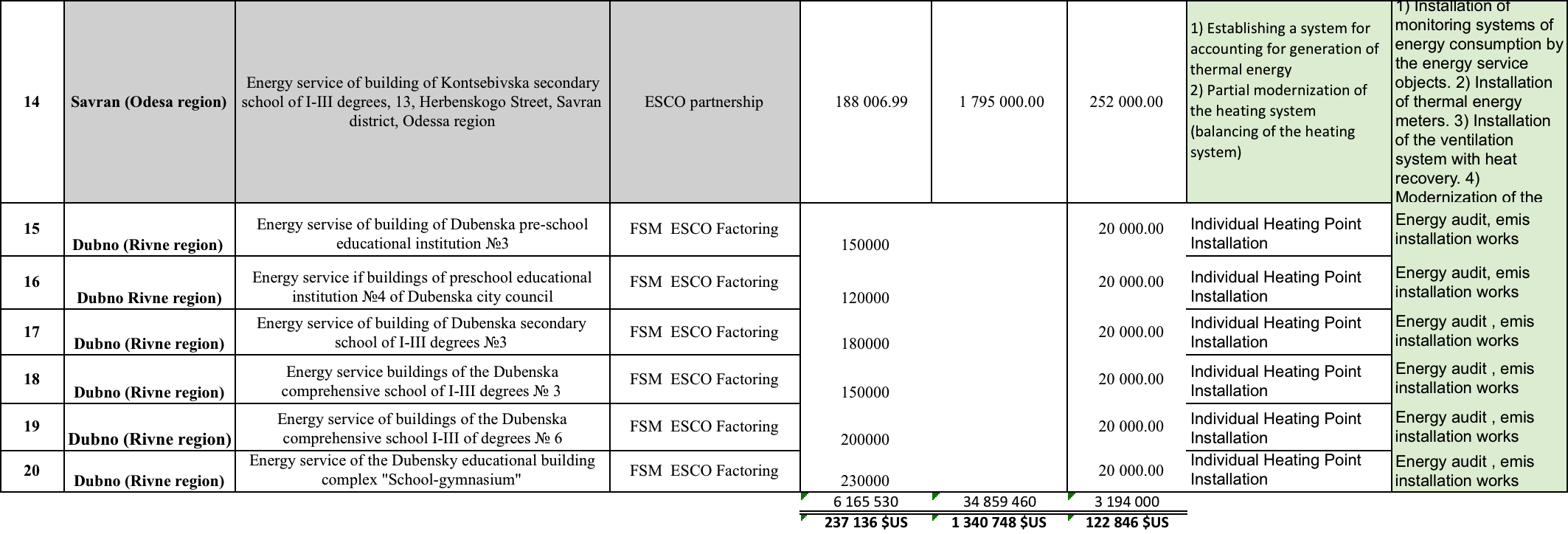
18:00 – Arrival to Kyiv

**The activity shall be paid from:**

Project: 00095405; Activity 3; Account 71620; Fund: 62000; Donor: 10003.

# Appendix 10 Pilot EPC cost-sharing





# Appendix 11 Table CoFinancing GEF5357 / UNDP4114 / FY20 for MTR

**confirmed sources of Co-financing for the project by name and by type**

**Please complete for all projects at MTR and TE Stages**

Please include evidence for co-financing for the project with this form (please add rows as necessary)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sources of Co-financing** | **Name of Co-financier** | **Type of Cofinancing** | **Investment**  **Mobilized** | **Amount ($)** |
|  | National Government - municipalities |  |  | 1,342,286 |
|  | ESCO |  |  | 454,000 |
|  | Bilateral Aid Agencies (NEFCO credit) |  |  | 569,000 |
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| **Total Co-financing** |  |  | | 2,365,286 |

# Appendix 12 MTR Audit Trail

UNDP-GEF MTR Report Audit Trail

*Note:* The following is a template for the MTR Team to show how the received comments on the draft MTR report have (or have not) been incorporated into the final MTR report. This audit trail should be included as an annex in the final MTR report

**To the comments received on (*date*) from the Mid-term Evaluation of (*project name*) (UNDP Project ID-*PIMS #)***

*The following comments were provided in track changes to the draft Midterm Review report; they are referenced by institution (“Author” column) and track change comment number (“#” column):*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Author** | **#** | **Para No./ comment location** | **Comment/Feedback on the draft MTR report** | **MTR team**  **response and actions taken** |
| John Obrien  RTA | 1 | All over the report | The document needs a lot of work for ‘completeness’ and formatting.  No introduction section done year by year design stage 2016 then 2017, 2018, 2019. Please speak with Sergii Varga about the project to get more history. He agrees.  Project progress summary should be by year – summary of achievements by year needs to be added.  The 500K to SGP is not analyzed properly. Please go into a lot more details about what was done and how the money was spent?  Define what you mean by ‘enhanced ESCO’, by ‘ESCO factoring’ and by ‘classic ESCO’ … Please give a detailed explanation up front.  We need a longer discussion of the project design and the project logframe matrix?  No proper discussion of co-financing – just that $700,000 out of $21,000,000. Needs a table to better explain.  No clarity on how ESCO investment grants are working. How much money do we provide per project? What % of the overall investment. Please go into details.  EMIS – legislation. You need to talk about the need for a government decree/secondary legislation. EMIS consultant needs to come to Ukraine much more often. Can you please recommend that the EMIS consultant, Goran Cacic, travels much more regularly to Ukraine. HE IS NOT COMING REGULARLY ENOUGH and then he should train up a full-time Ukrainian to replace him on the same money!! This is sustainable option that Goran Cacic trains up the Central EMIS support unit that does not currently exist.  Conclusion section is very short. Needs elaboration.  No concrete recommendations. What is the issue? How can it be done? When? How? What? Precise recommendations. See separate email on this matter. See also previous document with comments on the text. | All done |
| Alla Tynkevych | 1 | All over the report | Attached is the draft MTR report with my comments and suggestions. Also I am sending you the project paper ESCO factoring, which has been handed over to Igor, but it looks like you haven’t considered it.  Pls have a look at, it will be of help to strengthen the factoring part. | All done |
| UNDP CO  M&E Unit | 1 | Front page | The title page - we normally do not have table of content as the first page. That's just a general rule of design of documents. | I will comply although I like better my way |
| 2 | Executive Summary | The executive summary is way too long and the information later in the report is repeated again. Normally, the executive summary shouldn't be more than 3 pages. Results achieved and conclusions would be the most important to keep there. | I tried to make it as short as possible…sorry if it is somewhat long but the project is quite complex. |
| 3 | Section 2.3 | The methodology approach of the evaluation is not discussed at all and that section contains just general information taken from the GEF MTR Guidelines. Section 2.3. is not necessary also (Section 2,3 deleted), as it overlaps with table of content in the beginning of the document. | Improved accordingly |
| 4 | Section 3.1.1  Environmental and Socio-economic | The OECD-DAC OECD-DAC criteria for the evaluation are not very explicitly stated throughout the report (Relevance, Effectiveness, and Efficiency. | Improved accordingly |
| 5 | Section 2  Scope & Methodology | Data collection method is not outlined in the narrative (though data collected is presented in the annexes). | Improved accordingly |
| 6 | Section 2  Scope & Methodology | No mentioning of evaluation limitations or changes to the implementation of the evaluation in the narrative | Improved accordingly |
| 7 | Section 3.1.1  Environmental and Socio-economic | There is only one mentioning of UNDAF (in Ukraine it is called UN Partnership Framework or UNPF) or CPD (and I made a comment about it, because the report refers to CPAP, which has been not used in UNDP since 2012) and all the linkages in the report are not correct (though we have shared the documents). Some goes for linking with UNDP Strategic Plan (2018-2022). This is also connected with comment 1, regarding Relevance of the project. | Improved accordingly |
| 8 | Project Information Table and Section 3.1.1 | UNPF Outcome 1:  Sustainable economic growth, environment and employment  UNDP country Programme Document (2018-2022): Outcome 3: National institutions, private business and communities implement gender-responsive policies and practices to achieve sustainable management of natural resources, preservation of ecosystems, mitigation, adaptation to climate change and generation of green jobs  UNDP Strategic Plan (2018-2022): Outcome 2: ACCELERATE STRUCTURAL TRANSFORMATIONS FOR SUSTAINABLE DEVELOPMENT; Output 5: Close the clean energy gap | Improved accordingly |
| 9 | Section 4.1  Main Findings | Even though the TOR explicitly asks to elaborate on how gender, human rights and other cross-cutting issues are integrated into the project, the report does not have any mentioning of cross-cutting issues. The same goes for drawing links with the SDGs. | Improved accordingly |
| 10 | Section 1.5.1 and 1.5.2 | The overall structure of the report is confusing. Normally recommendations come after the project conclusions are drawn. | Improved accordingly |
| 11 | Section 5.1 and 5.2  Conclusion and Recom. | Recommendations are formulated as the names of the chapters. We prefer to have more action-oriented recommendations that are more specific. That also makes management response exercise more relevant for the project | In accordance with RTA JO’s valuable and helpful comments, the detailed recommendations were considered as appropriately ‘’pro-active’’ or action-formulated to make sure the UNDP CO and especially the PMU will know ‘’What must be done, When and Who’’. As per valuable and helpful JO’s requests, I highlighted the 3W and all recommendations are well understood by the Project Manager and have been comprehensively explained and negotiated with all parties who agreed toward their full implementation. |

1. Energy Management Information Systems and Control [↑](#footnote-ref-1)
2. <http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf> [↑](#footnote-ref-2)
3. Ref.: Table 3.5.2 Team members [↑](#footnote-ref-3)
4. Source: In-Depth Review of the Energy Efficiency Policy of Ukraine, Energy Charter Secretariat, 2013. [↑](#footnote-ref-4)
5. <http://www.ua.undp.org/content/ukraine/en/home/projects/home-owners-of-Ukraine-for-sustainable-energy-solutions.html> [↑](#footnote-ref-5)
6. <http://www.ua.undp.org/content/ukraine/en/home/projects/green-caucus-secretariat.html> [↑](#footnote-ref-6)
7. <http://www.ua.undp.org/content/ukraine/en/home/projects/bioenergy-technologies.html> [↑](#footnote-ref-7)
8. <http://www.ua.undp.org/content/ukraine/en/home/projects/energy-efficiency-in-public-buildings-in-ukraine-.html> [↑](#footnote-ref-8)
9. Enhancing Competitiveness in Ukraine through a Sustainable Framework for Energy Service Companies (ESCOs) monitoring review report, Dec. 2018. : http://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Report-on-Monitoring-ESCOs-in-Ukraine-ENG.pdf [↑](#footnote-ref-9)
10. Progresses assessed in July are still going on: in October 2019 the EEPB is implementing 20 EPC projects. ([Appendix 10](#_2250f4o)) [↑](#footnote-ref-10)
11. Investment of $ 21 million expected from ESCOs in energy efficiency in public buildings under EPC contracts (cf page 26 Project Document. And at page 30: ‘’…conducive environment for more ESCOs to enter the field with EPC contracts with an initial target of $ 21 million …’’. [↑](#footnote-ref-11)
12. Note: The Energy Management and Control System must be operational at the municipal level, and the nationwide EMIS Database must be operated at the central level by the SAEE. The day-to-day and constant energy management task is carried out at the local level, not at the central level. [↑](#footnote-ref-12)
13. ESCO Factoring mechanism is used by commercial banks in many ways. The ESCO transfers its accounts receivable (ESCO project cash flow) as a collateral for getting a loan. [↑](#footnote-ref-13)
14. Based on cost in Bosnia 2019. [↑](#footnote-ref-14)
15. SECAP: Sustainable Energy and Climate Action Plan  [↑](#footnote-ref-15)
16. Like [factoring](https://en.wikipedia.org/wiki/Factoring_(finance)), forfaiting involves sale of financial assets from the seller’s [receivables](https://en.wikipedia.org/wiki/Accounts_receivable). Key differences are that forfeit supports the buyer (client) as well as the equipment supplier. [↑](#footnote-ref-16)
17. Energy Management Information Systems and Control [↑](#footnote-ref-17)
18. At midterm, there was no ESCO expert involved within the EEPB project framework (contract terminated in 2019). The new ESCO expert must focus on ESCO EMIS&C pilot project development and implementation; technical support to EMIS-database Task-Force; and evaluating the performance of ESCO projects already implemented, and other additional ESCO projects that will be implemented until the end of the project timeframe. [↑](#footnote-ref-18)
19. For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see [UNDP Discussion Paper:Innovations in Monitoring & Evaluating Results](http://www.undp.org/content/undp/en/home/librarypage/capacity-building/discussion-paper--innovations-in-monitoring---evaluating-results/), 05 Nov 2013. [↑](#footnote-ref-19)
20. <http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf> [↑](#footnote-ref-20)
21. For more stakeholder engagement in the M&E process, see the [UNDP Handbook on Planning, Monitoring and Evaluating for Development Results](http://www.undg.org/docs/11653/UNDP-PME-Handbook-(2009).pdf), Chapter 3, pg. 93. [↑](#footnote-ref-21)
22. Populate with data from the Logframe and scorecards [↑](#footnote-ref-22)
23. Populate with data from the Project Document [↑](#footnote-ref-23)
24. If available [↑](#footnote-ref-24)
25. Colour code this column only [↑](#footnote-ref-25)
26. Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU [↑](#footnote-ref-26)
27. Alternatively, MTR conclusions may be integrated into the body of the report. [↑](#footnote-ref-27)