**UNDP/GEF Terminal Evaluation**

**Management Response and Tracking Template**

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| Project Title: Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia |
| Project PIMS #: 4588 |
| Terminal Evaluation Completion Date: 29 December 2020 |

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**Overall comments:** An independent terminal evaluation of the GEF funded project “Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia”, PIMS 4588, was conducted at the end of the project implementation period by one international and one local specialist in accordance with GEF requirements and the respective UNDP rules and procedures. The evaluation specialists managed to capture the key project related aspects.

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| **Recommendation #1:** Lessons Learned Study to be Prepared and PublishedDuring the 5 years of the Project, the Project Team has gained extensive experience in energy management of public buildings and the application of the EMIS software. This experience is to a certain extent reflected in all materials and information prepared under the EMIS project, however, a comprehensive lessons learnt study is missing. This should be prepared by the Project manager with the support from the Project Team within the time left until the termination of the Project. Points to be covered could include:• Data entry – pitfalls and solutions through automatic data entry• Solid fuels (coal, biomass, pellets) – challenges in data collection and potential solutions/best practice• Support to EMIS users – the importance of a help desk and lessons learnt/general recommendations from the work of the help desk• Differences between theoretical calculations and real results – putting EMIS results in perspective• Factors influencing actual savings and how to deal with them in analyses – indoor air temperature, usage of buildings and resulting working days/hours, manual operation of boilers, etc. These lessons learnt will not only be important for further work on energy management and application of EMIS in Serbia, but could also be a basis for installing the Project Team/UNDP Country Office as a knowledge center in the region. |
| **Management Response:** The recommendation is well noted and agreed. Sharing knowledge about practices in energy management of public buildings and the application of the EMIS software is already identified as very beneficial for a number of stakeholders, and UNDP CO Serbia is looking forward towards providing more insight into this matter to all interested parties.  |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Preparation of a lessons learnt study on experiences in energy management of public buildings and the application of the EMIS software, through preparing a set of instructions and organizing different types of training, specifically related to data entry, solid fuels and challenges in data collection, support to EMIS users, differences between theoretical calculations and real results, and factors influencing actual savings and how to deal with them in analyses. | 30 June 2022 | UNDP CO | On-going |  |
| **Recommendation #2:** Handover Protocol to be developed by UNDPThe handover protocol to transfer EMIS from UNDP has been prepared as a draft and was agreed upon with the former NDP. The protocol needs to be re-discussed with the MME and finalized before termination of the Project. Also, it needs to be ensured that the handover protocol focuses on supporting the sustainability of project results achieved. This activity is to be led by the Project Team. |
| **Management Response:** Recommendation is well noted and agreed. UNDP CO Serbia is looking forward towards completing the transfer of EMIS and expects to achieve this in the coming period, especially having in mind the potential that such transfer brings for enhancement of sustainability of achieved results of project efforts. The delay in the handover has also been caused by the change of the relevant MME personnel, due to parliamentary elections and appointment of the new minister and her cabinet. However, in case of initiation of the EMIS-2 project, there is an option that UNDP continues to service and administrate EMIS system. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Engaging in discussions with the MME regarding the final version of the handover protocol; finalization of the handover protocol and its signing between UNDP CO Serbia and MME; in case of initiation of the EMIS-2 project, UNDP would also investigate the possibility of continuing to service and administrate EMIS for MME. | 30 June 2022 | UNDP CO and MME | On-going |  |
| **Recommendation #3:** Analysis for required levels of funding for various energy investments needs to be carried outThe Project has seen a number of funding calls with high levels of grant support. The standard grant level in budgetary fund calls was a 70% contribution, this could go up to 100% for financially severely underdeveloped (there is an exception on street lighting, which is eligible for 20% grant funding). There is no evidence that analyses were carried out to investigate the funding levels required for energy efficiency investments in municipal public buildings, depending on the type of measures carried out. This is a shortcoming and should be considered in future activities both by the MME and UNDP and in future projects to support EMIS such as the EMIS-2 project. Different energy efficiency measures have different payback periods. Putting all measures into one basket and applying a 70% grant funding is leading to missed opportunities, as measures with a better financial viability will receive higher funding levels than required. This leads to non-optimal spending of public funds, which could be used to finance additional measures. Also, providing grant funding for measures close to financial viability reduces the potential for private sector (through ESCOs for example) to pick up these opportunities. Also, it needs to be understood that not every investment into refurbishment of a building is triggered by energy efficiency considerations. Replacing windows after 40 years is not an energy efficiency investment, but a maintenance measure needed to be carried out anyway, otherwise the building could not be used properly. Investing into triple glazing compared to a standard window with double glazing is then an energy efficiency measure. It would be helpful to get a better differentiation between required maintenance investments and energy efficiency investments and to reflect this differentiation in future funding calls/support mechanisms. |
| **Management Response:** The recommendation is well noted and agreed. Having in mind the lessons learned in course of the project which are in line with this recommendation, UNDP CO Serbia will continue to strongly advocate with MME for a proper analysis of levels of funding for different types of funding calls, as this would be very useful for both the practice of MME and functioning of its budget fund, but also for future endeavors of UNDP CO Serbia and projects that will look to build on successes of this one. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Performing and analysis of required levels of funding for various energy investments needs, enabling more optimal spending of public funds. | 30 June 2022 | UNDP CO and MME | On-going |  |
| **Recommendation #4:** An analysis to define appropriate level of support should be undertakenStakeholders provided feedback that extremely high grant funding levels (up to 100%) are counter-productive for a number of reasons:• As the entire investment costs are covered, there is little motivation to optimize investments into building refurbishment.• Once the sector sees that high grant rates are being provided, applicants wait for new funding rounds. Funding rounds with lower grant rates are less interesting (as was the case for KfW’s MEGLIP call, which attracted the lowest investment of all funding calls implemented between 2016 and 2020).• Private sector participation through ESCOs is crowded out. The purpose of these companies is to finance refurbishment activities, which have an acceptable payback period. If all measures are implemented through funding calls with high grant funding, activities with various payback periods are implemented as a package, leaving no market for ESCOs. This should be considered by the Government of Serbia in future support schemes and an analysis for be carried out on the appropriate level of grant funding to be provided. High grant funding levels (percentage of grant funding to be decided) should only be given to municipalities in a difficult financial situation and grants should always be blended with other forms of financing (debt, municipal funds, private sector funding etc.). The level of grant funding needed to kick start the ESCO market should be analyzed. This analysis could be carried out under the EMIS-2 project. |
| **Management Response:** The recommendation is well noted and agreed. UNDP CO Serbia will follow up on the recommendation and proceed with preparing an analysis ascertaining the appropriate level of support when it comes to future support schemes, as it could increase the motivation to optimize investments into building refurbishment, and also help the private sector in this field. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Preparing an analysis on the appropriate level of support within grants to be offered; analysis to be undertaken during the implementation of the upcoming EMIS-2 project | 30 June 2022 | UNDP CO | On-going |  |
| **Recommendation #5:** Municipal Plans should all be adoptedMore than 30 municipalities have developed municipal EE plans, however, due to municipal elections in 2020, only a small number of plans were officially adopted. Further support shall be given to municipalities to proceed with the adoption. As time within the remaining lifetime of the project will be too short for the Project Team to carry out this role, this additional support should be managed by the MME in cooperation with the SCTM. |
| Management Response: The recommendation is well noted and agreed. UNDP CO Serbia will continue advising the MME and advocating for the municipalities to adopt the municipal EE plans.  |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Advocating for the adoption of municipal EE plans, in cooperation with MME and SCTM. | 30 June 2022 | UNDP CO and MME | On-going |  |
| **Recommendation #6:** Measures need to be put in place to make sure the Help Desk is SustainableThe Help Desk has been an extremely important support to municipalities in taking their first steps with the EMIS software. As the EMIS software should be applied in more municipalities, it is key that the Help Desk is being sustained. To support the sustainability of the Help Desk, an MoU has been signed between the MME and the Faculty of Mechanical Engineering aiming at continuing the practice of students being assigned as interns to the Help Desk. To further increase the sustainability, it is recommended to assign a person of MME staff with the responsibility of managing the Help Desk as well as allocating a budget for the operation of the Help Desk. This would specifically include the organization of trainings for junior interns and ensuring that information and experience gained by senior interns is kept within the Help Desk team. |
| **Management Response:** The recommendation is well noted and agreed. UNDP CO Serbia will strive to enable and/or maintain sustainability of the Help Desk following the completion of the project, through maintaining close contact and communication with MME on the subject and advocating for MME to assign a member of its staff to manage the help desk, allocating a budget for its opretions and trainings of future interns. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Communicating with MME and advocating for achieving sustainability of the Help Desk | 30 June 2022 | UNDP CO and MME | On-going |  |
| **Recommendation #7:** EMIS-2 project should expand EMIS to public buildingsThe activities of UNDP and the MME to expand energy management and the application of the EMIS software to other public buildings should be continued and even intensified. The experience gained in the Project is of key importance to propose and structure support schemes for the rehabilitation of other public buildings. The loan agreement signed between the Government of Serbia and the CEB is a first success, the planned EMIS II project and the GCF application are important activities to apply lessons learnt of the EMIS Project. The lessons learned should focus on application to public buildings which is the main focus of the EMIS-2 project. |
| **Management Response:** The recommendation is well noted and agreed. Expansion of EMIS into public buildings is a key goal for further endeavors of UNDP CO Serbia, and is identified as central to the proposed future EMIS-2 project, as well as the CEB loan project. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Expanding EMIS to public buildings through initiating the EMIS-2 project and maintaining its focus on applying the lessons learnt within this project. | 30 June 2022 | UNDP CO | On-going |  |
| **Recommendation #8:** Dissemination of EMIS software to other countries is importantThe development of the EMIS software as a tool for energy management in public buildings in the region is a very special success story. The close cooperation of UNDP country offices in the region, where all partners are contributing towards the improvement of the software (e.g – Bosnia and Herzegovina, Moldova, Russia, Ukraine, Turkey etc.), is unique, should be maintained and – if possible – even extended. The continuous improvement mechanism with cost sharing between different stakeholders is leading to a much better result than if one country would proceed with developing a software solution. The further application of the EMIS software in other countries in the region should be pursued by UNDP and a strategy should be developed for disseminating EMIS on a more strategic basis with support from UNDP Istanbul Regional Hub. |
| **Management Response:** The recommendation is well noted and agreed. UNDP CO Serbia will continue to maintain communication with other COs from the region and advocate for usage of EMIS in other countries as well. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Maintaining communication with other COs in the region regarding dissemination of EMIS. | 30 June 2022 | UNDP CO  | On-going |  |
| **Recommendation #9:** Continuous updating and improvement of EMIS software is requiredDuring the application of the EMIS software in Serbia it crystalized that different support is required for different levels of users: end-users, energy managers and decision makers. This was reflected in the training and guidance given to the various user groups. There are a few improvements, which can be recommended for future activities:• Automatic data entry has proven as an excellent concept to save time as well as avoiding mistakes. Automatic data entry should gradually become the common practice. Only when this is not feasible (for example due to solid fuels being used or costs related to automatic data entry systems), manual entry of data should be continued. • Based on the feedback received from the Help Desk it should be investigated what further improvements, e.g. to the software or the process, are feasible and should be implemented. • The TE revealed that there are various levels of capacity within municipal energy managers in interpreting data, selecting buildings for renovation measures and implementing these renovations. Additional training activities improving this capacity would be helpful. • The EMIS software allows the automatic generation of reports, however, these reports are extremely long and very technical. To allow better communication with municipal decision makers, a summary section (max 3 pages) with the most relevant information and graphs should be developed. |
| **Management Response:** The recommendation is well noted and agreed. Being well aware of important project results and the potential for their upscaling, UNDP CO Serbia will support updating and improvement of EMIS software.  |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Advocating for continuous updating and improvement of EMIS (including automatic data entry, improving capacities of municipal energy managers through potential new rounds of trainings, and generating ore concise automatic reports) | 30 June 2022 | UNDP CO | On-going |  |
| **Recommendation #10:** Reduce the minimum population requirements for mandatory energy management in SerbiaThe EMIS software and energy management in general have proven as very effective tools for municipalities to manage their energy consumption and identify improvements within their building stock. Currently only municipalities over 20,000 inhabitants are obliged to introduce an energy management system. It is suggested that this limit is gradually reduced with a medium term target of all municipalities in Serbia applying energy management to 5,000 inhabitants. When doing this, the limited capacity of smaller municipalities needs to be taken into consideration. Also for smaller municipalities, the EMIS software is an easy first step to collect data on their public buildings and is an excellent first step towards energy management. |
| **Management Response:** The recommendation is well noted and agreed. Having in mind that the population requirements for mandatory energy management in Serbian municipalities is defined by the Law on Efficient Energy Use, UNDP CO Serbia will discuss the matter further with MME, to determine if an amendment to the law could be reached, or if there is an alternative route to achieving this. |
| Key Actions | Timeframe | Responsible unit(s) | Tracking\*\* |
| Status\*\*\* | Comments |
| Discussing the matter with MME and seeking best option for potential reduction of the minimum population requirements for mandatory energy management in Serbian municipalities (while keeping in mind the limited capacity for energy efficiency management that is available in smaller municipalities) | 30 June 2022 | UNDP CO and MME | On-going |  |

CO Serbia has already identified that the project results are relevant for knowledge and information sharing as well for replication by other UNDP projects in the region.

\* Unit(s) assigned to be responsible for the preparation of a management response will fill the columns under the management response section.

\*\* Unit(s) assigned to be responsible for the preparation of a management response will be updating the implementation

status. Assigned with an oversight function monitors and verifies the implementation status.

\*\*\* Status of Implementation: Completed, Partially Completed, Pending