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**United Nations Development Programme**

**Project Document**

<table>
<tr><td colspan="3">Project title: Enhancing the Energy Management System to Scale up Energy Efficiency Investments in Public Buildings in Serbia</td></tr>
<tr><td>Country(ies): Serbia</td><td>Implementing Partner (GEF Executing Entity): Ministry of Mining and Energy</td><td>Execution Modality: National Implementation Modality</td></tr>
<tr><td colspan="3">Contributing Outcome (UNDAF/CPD, RPD, GPD): Serbia adopts and implements climate change and environmentally friendly strategies that increase community resilience, decrease carbon footprint and boost the benefits of national investments.<br><br>PRIORITY OR GOAL: Transition towards low-emission and sustainable development (Climate change strategy 2019- 2028)<br><br>RELATED STRATEGIC PLAN OUTCOME 2: Accelerate structural transformation for sustainable development<br><br>CPD for Serbia (2021-2025) Output 2.3: Enhanced climate change and green investment strategies</td></tr>
<tr><td colspan="2">UNDP Social and Environmental Screening Category: Moderate</td><td>UNDP Gender Marker: GEN 1</td></tr>
<tr><td colspan="2">Atlas Award ID: 00122807</td><td>Atlas Project/Output ID: 00118271</td></tr>
<tr><td colspan="2">BPPS NCE-VF PIMS ID number: 6388</td><td>GEF Project ID number: 10443</td></tr>
<tr><td colspan="3">LPAC meeting date: September 30, 2021</td></tr>
<tr><td colspan="3">Last possible date to submit to GEF: May 19, 2021</td></tr>
<tr><td colspan="3">Latest possible CEO endorsement date: September 9, 2021</td></tr>
<tr><td colspan="3">Project duration in months: 60 months</td></tr>
<tr><td colspan="2">Planned start date: December 1, 2021</td><td>Planned end date: November 30, 2026</td></tr>
<tr><td colspan="2">Expected date of Mid-Term Review: NA</td><td>Expected date of Terminal evaluation: August 31, 2026</td></tr>
<tr><td colspan="3">Brief project description: Inefficient use of energy, originating predominantly from fossil fuels, represents a major development concern in Serbia, as well as a large source of GHG emissions. Energy sector GHG emissions account for 80% of the national GHG emissions and 40% of this comes from energy (mainly heat) consumption in buildings. The objective of this project is to reduce greenhouse gas emissions by improving the energy efficiency and promoting the use of renewable energy sources in public buildings with a particular focus on state owned buildings. It will further support the development of an enabling policy framework and build local capacity for energy audits and energy management, facilitate the adoption of Energy Management Information Systems (EMIS) and energy management in at least 80 new state owned buildings with the total floor area of about 1 million $m^2$ and support the energy efficiency retrofits of at least 28 Government buildings resulting in direct GHG reduction impact of over 145,000 tons of $CO_{2eq}$ over a default lifetime of 25 years of the investment.</td></tr>
</table>

| FINANCING PLAN | |
|---|---|
| GEF Trust Fund grant | USD 1,405,000 |
| UNDP TRAC resources | USD 100,000 |
| **(1) Total Budget administered by UNDP** | **USD 1,505,000** |
| **CO-FINANCIERS THAT WILL DELIVER PROJECT RESULTS INCLUDED IN THE PROJECT RESULTS FRAMEWORK (FUNDS NOT ADMINISTERED THROUGH UNDP ACCOUNTS)** | |
| Ministry of Mining and Energy (Equity Investment) | USD 1,500,000 |
| Ministry of Mining and Energy (In-kind) | USD 1,000,000 |
| European Western Balkans Joint Fund (EWBJF) | USD 350,000 |
| Council Europe Development Bank/WBIF (Grant) | USD 700,000 |
| Council of Europe Development Bank (Loan) | USD 47,300,000 |
| UNDP (in-kind) | USD 50,000 |
| **(2) Total confirmed co-financing** | **USD 50,900,000** |
| **(3) Grand-Total Project Financing** | **USD 52,405,000** |

| SIGNATURES: | | |
|---|---|---|
| **Signature:** print name below | **Agreed by Implementing Partner** | **Date/Month/Year:** 8.3.2022. |
| **Signature:** print name below | **Agreed by UNDP** | **Date/Month/Year:** 9.3.2022. |

# I. TABLE OF CONTENTS

**LIST OF ACRONYMS**

| | |
|---|---|
| BPPS NCE-VF | Bureau for Policy and Programme Support, Nature, Climate and Energy, Vertical Fund team |
| CEB | Council of Europe Development Bank |
| CGBs | Central Government Owned Buildings |
| CO | UNDP Country Office |
| $CO_2$ | Carbon dioxide |
| CSO | Civil Society Organisation |
| DH | District Heating |
| EE | Energy Efficiency |
| EM | Energy Management |
| EMIS | Energy Management Information System |
| EMS | Energy Management System |
| EU | European Union |
| EWBJF | European Western Balkans Joint Fund |
| FME | Faculty of Mechanical Engineering of the Belgrade University |
| FSP | Full Size Project |
| GAP | Gender Action Plan |
| GDP | Gross Domestic Product |
| GEF | Global Environmental Facility |
| GEF CEO | GEF Chief Executive Officer |
| GEF OFP | GEF Operational Focal Point |
| GEFSEC | Global Environment Facility Secretariat |
| GHG | Greenhouse gas |
| GWh | Giga-watthour |
| HACT | Harmonized Approach to Cash Transfers |
| HQ | UNDP Headquarters |
| ICT | Information and Communication Technology |
| IGO | Intergovernmental Organisation |
| IP | Project Implementing Partner |
| ISO | International Organization for Standardization |
| KM | Knowledge Management |
| kWh | Kilowatthour |
| M&E | Monitoring and Evaluation |
| MEP | Ministry of Environmental Protection |
| MCTI | Ministry of Construction, Transport and Infrastructure |
| MJ | Megajoule |
| MME | Ministry of Mining and Energy |
| MRV | Monitoring, Reporting and Verification |
| MTR | Mid-term review |
| NA | Not applicable |
| NAMA | Nationally Appropriate Mitigation Action |
| NDC | National Determined Contribution of the UNFCC Paris Agreement |
| NEEAP | National Energy Efficiency Action Plan |
| NGO | Non-governmental organisation |
| NIM | National Implementation Modality |
| O&M | Operation and Maintenance |

| | |
|---|---|
| OAI | UNDP Office of Audit and Investigations |
| PB | Project Board |
| PIF | Project Identification Form |
| PIR | GEF Project Implementation Report |
| PM | Project manager |
| PMU | Project Management Unit |
| POPP | UNDP Programme and Operations Policies and Procedures |
| PPG | Project Preparation Grant |
| PSC | Project Steering Committee |
| PUCs | Public Utility Companies |
| PV | Photovoltaic |
| SBAA | Standard Basic Assistance Agreement |
| SEA | Sexual exploitation and sexual abuse |
| SESP | Social and Environmental Screening Procedure |
| SH | Sexual harassment |
| SME | Small and medium size enterprises |
| STAP | GEF Scientific Technical Advisory Panel |
| SWH | Solar water heating |
| TA | Technical Assistance |
| TE | Terminal Evaluation |
| ToC | Theory of Change |
| UNDP | United Nations Development Programme |
| UNDP ERC | UNDP Evaluation Resource Center |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNSMS | United Nations Security Management System |
| UZZPRO | The Administration for Joint Services of the Republic Bodies |
| WBIF | Western Balkans Investment Framework |

## II. DEVELOPMENT CHALLENGE

Inefficient use of energy, originating predominantly from fossil fuels, represents a major development concern in Serbia, as well as a large source of GHG emissions. Energy sector GHG emissions account for 80% of the national GHG emissions and 40% of this comes from energy (mainly heat) consumption in buildings.

Many studies have pointed out that Serbia has a large potential for energy efficiency improvements and GHG emission reduction in its aging building stock, primarily resulting from the fact that major part of its building stock was built during the '70s and the '80s of the last century, characterized by reinforced concrete frame building structure, brick walls without any thermal insulation, deteriorated wood/metal fenestration and worn-out metalwork. Secondly, there is a large potential to decarbonize fuel mix in the building sector by producing heat from renewable energy sources.

Serbia's Energy Sector Development Strategy (2016) reference and energy efficiency (EE) scenarios for heat supply both anticipate continued growth in heat consumption and supply with only up to 8 % coming from renewable energy sources. As such, it is unlikely that Serbia can meet its Intended Nationally Determined Contribution (INDC) to reduce its GHG emissions by 9.8 percent by 2030 compared to the 1990 base year emissions.

Energy Management System (EMS) has been effectively implemented in Serbia since 2016. The Law on Energy Efficiency and Rational Use of Energy defines EMS as a broad set of regulatory, organizational, promotional, technical and other measures and activities, which are determined and implemented by the different actors involved in this system. These actors include the Government, the Ministry of Mining and Energy, so called designated parties of the EMS, energy managers and energy auditors. The designated parties of the EMS industrial, utility and commercial companies and public administration bodies such as central and provincial authorities, as well as authorities of municipalities with populations exceeding 20,000. Among designated parties are also entities, which provide services using publicly owned building such as hospitals, cultural institutions, universities and social care institutions.

Best progress so far has been made by local self-governments (municipalities and cities with population above 20.000) with the assistance of the earlier GEF financed project, namely "Removing Barriers to Promote and Support Energy Management Systems in Municipalities (EMIS) throughout Serbia – GEF ID: 5518" that introduced an Energy Management Information System (EMIS) in Serbia. Over 9,400 municipal buildings or 65% of all buildings in this category are already included in EMIS, along with 9,500 public lighting transformer units covering 45% of the total public lighting in Serbia. Good results in implementation of EMS have also been achieved within the industrial and commercial buildings, but both are still far from a satisfactory level. Almost no progress with EMS has so far been observed in state owned buildings and those used by the central government administered public services such as health, justice, education and culture belonging to so called group B-2 buildings. According to the National Building Energy Efficiency Study for Serbia: Market Assessment Report (The World Bank, October 2012), there are about 27,000,000 m2 of public building space in the need for major retrofit in Serbia. Approximately half of these building belong to the B-2 group, out of which 375,000 m2 are in the competence of the central Government only.

The main barriers to accelerating the adoption of EMS and EMIS in the B-2 group buildings have been identified as follows:

- The B-2 group is not well defined by the Law and the associated Decree, which allows some very big energy consumers of public services to avoid introducing EMS and EMIS;
- The financing responsibilities for public buildings and facilities that fall into group B-2 are detached and incoherent. Usually, one public entity provides financing for operational cost, another entity for maintenance cost and the third entity is legally responsible for the building/facility itself. For instance, each hospital is a legal entity with its own management and which is also responsible for signing contracts for energy supply. The operational and maintenance costs of the building (incl. energy) are, however, paid by the Health Insurance Fund. The actual investment costs as it relates, for instance, to reconstruction/refurbishment of the building are covered by a third party, in this case the Ministry of Health. As a result, no coordinated decision making for energy management and cost-effective energy efficiency investments and maintenance exist. The current building management arrangements also serve as a barrier to energy performance contracting. Similar problems exist in education, justice and other sectors;
- Frequent elections at all levels result in frequent changes in the management of public services. Therefore, public authorities are hesitant in initiating and supporting any long-term activities such as EMS and substantial EE planning;

- Lack of good quality data and underdeveloped reporting system to different hierarchical levels concerning public sector energy consumption and losses, thereby making it more difficult to identify and justify priority EE measures and investments. In this respect, a particular problem is the poor quality of data in the building cadastre and the lack of an agreed standard methodology for calculating buildings' energy performance;
- Official energy audit system is still not introduced. This prevents quality EE and RE project preparation and implementation;
- Lack of human capacity in the Ministry of Mining and Energy (MME) to analyse the reports submitted by designated parties and draw conclusions on the basis of which policy recommendations should be made.

The problem tree illustrating the causal chain between the root, underlying and immediate causes is presented in Figure 1 below.

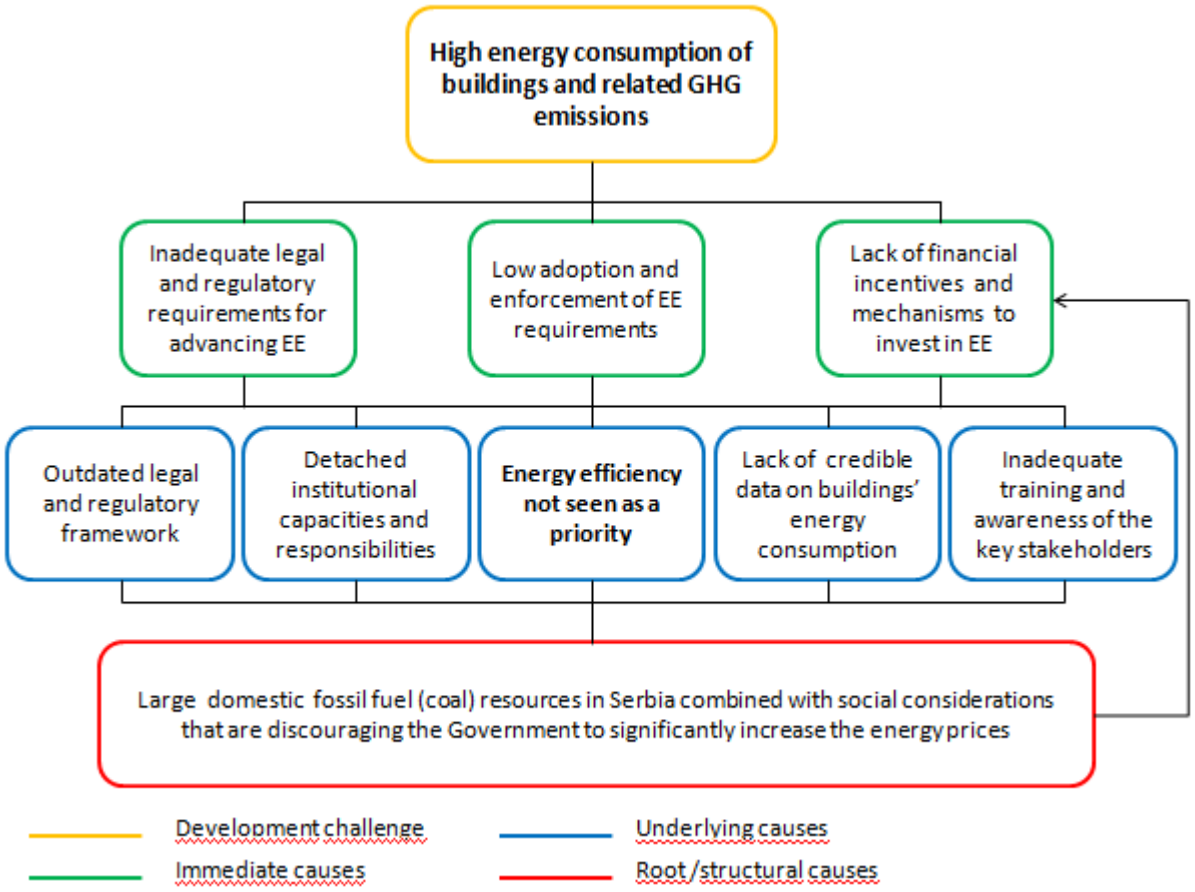



Figure 1 Problem tree

The baseline scenario is that in the absence of the project, the identified legal and other barriers remain and the central government buildings remain without proper energy management and energy performance monitoring systems thereby hindering also the related energy efficiency and renewable energy investments. Previous the Law on Efficient Use of Energy defines scope and activities of EMS such as: appointing the licensed energy managers, monitoring the energy and water consumption and cost thereof, elaborating annual report on energy consumption, achieving the annual energy savings targets prescribed by the Government, adopting the energy efficiency programs and plans, implementing the energy efficiency measures, informing the MME on achieving the targets set in their energy efficiency programs and plans, preforming energy audits at least once every ten years, etc. While the Law has been in force since 2013, and the accompanying bylaw since 2016, not much progress has been made with central government buildings, provincial buildings and buildings in competence of designated entities, which fall under the public service institutions and public enterprises, although the largest energy saving potential in building sector relates to this category of buildings.

Energy efficiency is among the priorities set by the Sustainable Development Strategy of the Republic of Serbia as well as by the Economic Reform Programme for the period of 2019-2021. The project is also in line with the Energy Sector Development Strategy of the Republic of Serbia until 2025 envisaging measures to improve energy efficiency in all sectors. As envisaged by the Decisions of Ministerial Council of Energy Community, the Decree

on the Establishment of an Implementation Program for the mentioned strategy from 2017 until 2023 (POS) defines the implementation of the EU Directives 2012/27/EU (EED) and 2010/31/EU (EPBD), in particular, Article 5 of the EED and Article 4 of the EPBD, among measures to be implemented in the energy efficiency field by 2023. The new Law on Energy Efficiency and Rational Use of Energy has been approved in April 2021 by the Parliament.

Regarding the UNFCCC framework, the Second National Communication) of the Republic of Serbia to UNFCCC (2017) points out the significant GHG emission reduction potential in the energy sector "as a result of implementation of measures for renovation of public, residential and commercial buildings, as well as private houses". Moreover, energy efficiency is recognized as a key measure in achieving the Intended Nationally Determined Contribution (INDC) to reduce GHG emissions by 9.8 % by 2030 compared to the 1990 baseline year emissions.

## III. STRATEGY

The objective of the project is to reduce greenhouse gas emissions by improving the energy efficiency and promoting the use of renewable energy sources in public buildings with a particular focus on state owned buildings. By building on the results of the earlier UNDP-GEF project, the MME with support from UNDP initiated an idea of a project platform for energy efficiency renovation of public buildings in Serbia, where the different activities and funding opportunities can be properly coordinated. For this, the Government also applied for a 40 million Euro sovereign guarantee loan from the Council of Europe Development Bank (CEB) to finance the rehabilitation of 28 government-owned buildings with the total floor area of 208,000 $m^2$. This will be complemented by Government's own funding worth of about USD 2.5 million and CEB affiliated grant funding equal to 900,000 EUR for the preparation of technical documents for CEB loan appraisal.

While the CEB loan and the related TA grant will be specifically used for the renovation of 28 pre-selected Government buildings, the GEF grant will be used for broader sectoral technical assistance activities to develop an enabling legal and regulatory framework, to build the capacity and strengthen the local institutions to facilitate adequate energy management and energy performance monitoring of all public buildings and to prepare otherwise the necessary ground for further preparation and replication of similar energy efficiency investments as supported with the CEB loan. When applicable, this will also include increasing use of decentralized renewable energy sources such as solar and geothermal for meeting buildings' energy needs. By building on the lessons learnt from the earlier UNDP-GEF project, particular emphasis needs to be placed, among others, on strengthening the local capacities to conduct adequate financial analysis of the proposed EE retrofit projects and measures, coaching new energy managers, for which a well-managed and adequately resourced help desk was found to be an essential mechanism, and proper monitoring of the results of the supported investment projects based on verified data provided by EMIS. For all this, it is also essential to develop and adopt among the first project activities a commonly agreed buildings' energy performance and GHG reduction calculation methodology aligned with recognized international best practices rather than relying on hypothetical and eventually outdated theoretical values and calculation models.

To address the identified development challenge and the immediate, underlying and root causes and the related causal chains discussed in the previous section, the theory of change (ToC) can be presented by an iterative process including three main elements, as illustrated in figure 2 below.

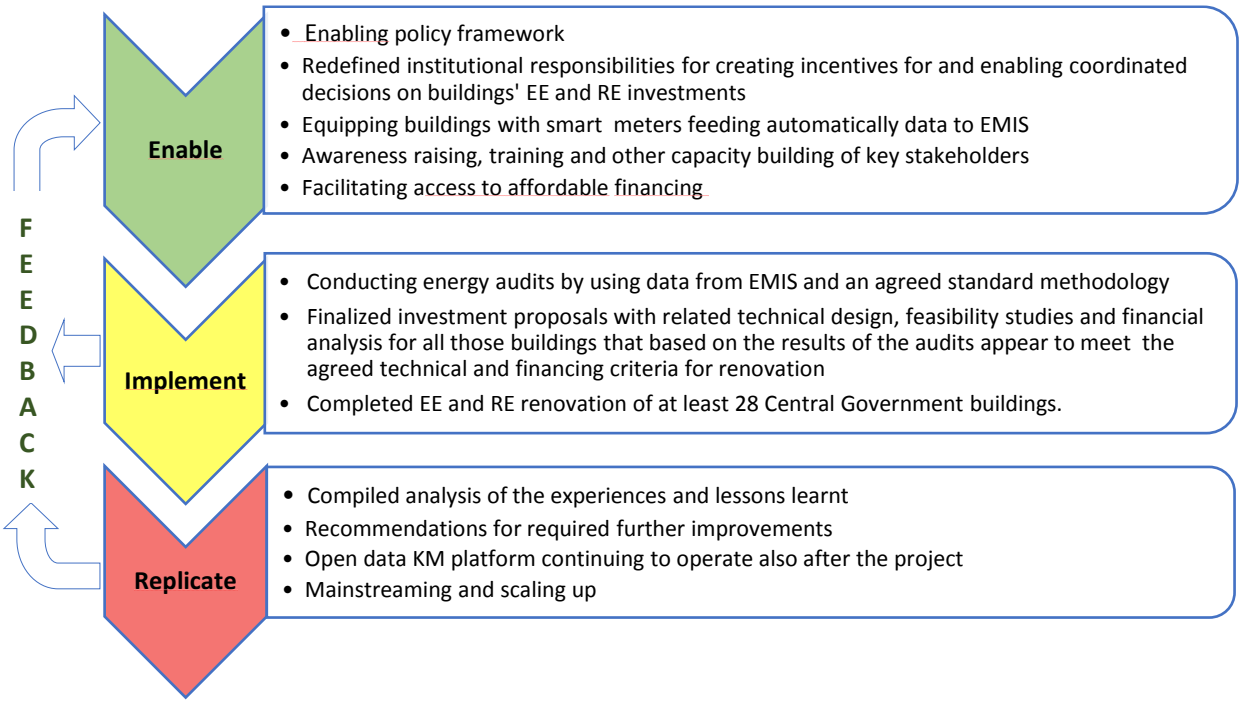



Figure 2: Simplified illustration of the ToC and the areas to be addressed and supported by the project.

By a combination of different measures discussed in further detail in chapter IV "Results and Partnerships" and chapter V "Project Results Framework", the project seeks to contribute to a transformational change towards

enhancing energy efficiency and use of renewable energy such as solar energy for meeting buildings' energy needs, while simultaneously reducing buildings' energy costs, improving their thermal comfort and, and applicable, also indoor air quality. The core elements and the process of supporting such change can also be illustrated by the General Framework for the GEF Theory of Change presented to the GEF Council in 2018 (figure 3).

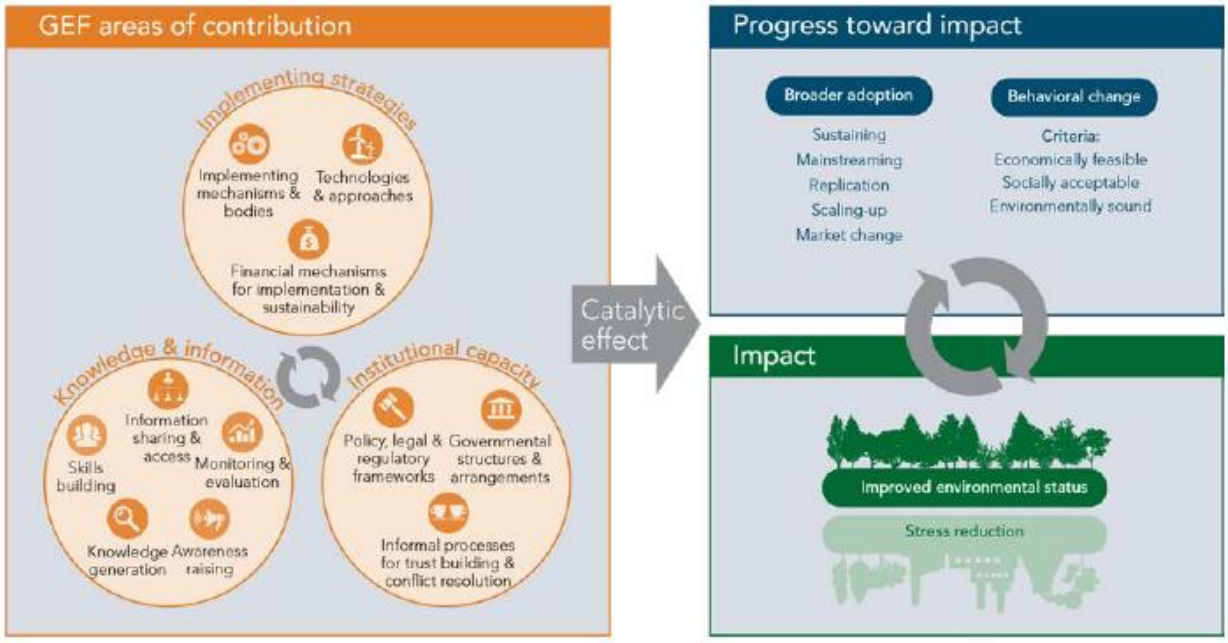



Figure 3 General Framework for the GEF Theory of Change[1]

For meeting the project objective, it is essential that there will be clear political will to effectively support further development and implementation of the EMS and EMIS in Serbia. The positive experiences from the ongoing EMIS project as well as a loan agreement signed by the Government and ratified by the Serbian Parliament for a 40 million Euro sovereign guarantee loan for the actual renovation of the buildings provide a positive signal to this effect. By rigorous technical and financial due diligence of the proposed investment proposals, the project also seeks to minimize any technical and financial failures.

All the measures supported by the project also need to be socially and environmentally acceptable. This has been addressed by a comprehensive Social and Environmental Screening Process (SESP) as well as a Gender Analysis and Gender Action Plan presented as Annexes to this project document.

The project is contributing to the GEF-7 Focal Area Objective 1: " Promote innovation and technology transfer for sustainable energy breakthroughs". As outlined by the GEF-7 Replenishment Programming Directions (GEF/R.7/10 April 2, 2018): To take advantage of the GEF's comparative advantage, programming under this objective does not prioritize direct support for large-scale deployment and diffusion of mitigation options with GEF financing only. Rather, GEF-7 resources should be utilized to reduce risks and enhance enabling environments, so that the results can facilitate additional investments and further support by other international financing institutions, the public and private sector, and/or domestic sources to replicate and scale up in a timely manner. Having an advanced energy management information system, backed up by a central support unit, to help facilitate larger investment project preparation and later monitoring of their results including energy and cost savings will directly feed into this framework and defined targets. While the broader adoption of adequate energy management information systems as well as appointed and training energy managers will provide the essential basis for accelerating the energy efficiency adoption in targeted buildings, the project will also co-operate with and yield benefits from the resources of the SE4ALL Building Efficiency Accelerator and others, as applicable.

[1] https://www.thegef.org/council-meeting-documents/evaluative-approach-assessing-gef-s-additionality

# IV. RESULTS AND PARTNERSHIPS

*Expected Results*

By building on the Theory of Change discussed in the previous section, the project implementation strategy and expected results are structured under three interrelated components, which are briefly discussed below. For further details, a reference is made to chapter V. "Project Results Framework".

**Component 1 of the project will focus on creating an enabling policy framework and building the capacity of the key stakeholders for energy audits and energy management. As mentioned before, there are still several regulatory barriers that would need to be addressed in order to effectively advance energy management in buildings belonging to category B-2 of designated parties to energy management system, including the introduction of an official energy audit system and agreeing on a standard methodology to conduct energy audits and calculating buildings' energy performance in accordance with the methodologies used in EU countries.**

While a new amended Law on Energy Efficiency and Rational Use of Energy has already been adopted a need to develop the required secondary legislation to facilitate the actual implementation of the Law still remains.

Secondly, there is a need to upgrade the Energy Management Information System (EMIS) with new functionalities such as:

- Full introduction of automatic billing, i.e. connecting all energy/water suppliers to EMIS to automatically transfer invoices for energy and water for all public buildings and facilities;
- Fully connecting all meteorological observatories of hydrometeorological service and agricultural weather forecast service to automatically transfer data on outdoor temperature;
- Developing on-line monitoring systems for large public buildings by automatic data transfer from smart-meters to EMIS;
- Developing new modules in EMIS for analytical interpretation of collected data;
- Developing new module to encompass vehicle fleet of public institutions and services;
- Developing new reporting modules in EMIS for reporting to different levels within the EMIS hierarchical structure;
- Developing analytical tools for identification and prioritization of EE projects in public buildings and facilities;
- Developing reporting system i.e. analytical reports for different levels of EMIS hierarchical structure;
- Developing the database of EE indicators for benchmarking.

Thirdly, there is a need to invest in new hardware such as smart meters and other IT technology to allow direct and automatic data transfer from monitored buildings to EMIS database as well as a need for human capacity building by training energy managers and other key stakeholders associated with the energy management of targeted buildings.

As it concerns energy audits, the introduction of an official energy audit system is a key measure to facilitate better identification and preparation of large energy efficiency investment projects for financing. Furthermore, there is a need to address the institutional barriers, where the responsibilities for energy supply contracts, paying the energy bills and making decisions for energy efficiency investments are divided between several institutions in a way that does not allow coherent and coordinated decision making. In other words, based on the current situation the calculated energy and costs savings for one entity do not benefit and motivate the other entity responsible for related investment decisions to produce those savings.

Finally, there will be a need to support the development or adaptation of an already existing standard methodology from another country for conducting energy audits and for calculating buildings' energy performance in accordance with methodologies agreed upon and applied in the EU.

By building on the above, the outcome defined for component 1 and the specific outputs under that include the following:

Outcome 1: An official energy audit system and improved energy management with a particular focus on central and provincial government owned buildings and buildings which fall in competence of public service institutions (such as health justice, education, culture, etc.)

*Output 1.1 Required bylaws and rulebooks for official energy audits to complement the related provisions of the new Law on Energy Efficiency and Rational Use of Energy to make the EMS mandatory for all significant energy consumers of buildings owned by the central government with rulebooks including, among others:*

- Rulebook on Energy Management Information System (Article 14, of the Law);
- Rulebook on minimum criteria for conducting energy audit (Article 23, of the Law);
- Rulebook on required conditions and energy license for energy auditor in regard to category of energy audit (Article 24, of the Law);
- Rulebook on scope and manner of conducting energy audits, (Article 14, of the Law);
- Rulebook on content and the manner of submitting excerpts from the report on energy audit and deadlines for energy audit of designated entities. (Article 23, of the Law);
- Rulebook on contents of energy audits reports in regard to category of energy audit (Article 24 of the Law);
- Rulebook on the manner of conducting training and the contents of training courses for theoretical and practical training for energy auditors manner of taking the examination for energy auditors, amount and manner of payment of trainings costs (Articles 27 and 30 of the Law).

*Output 1.2 Upgraded EMIS software to include new functionalities to facilitate, among others, automatic data transfer and data analysis.*

*Output 1.3 A full licensing system for energy auditors developed and in place, including the establishment of a registry of licensed energy auditors.*

*Output 1.4 Establishment of an EMIS help desk with a help desk manager and trained students to support the building managers and other key stakeholders to operate with EMIS.*

*Output 1.5 At least 30 buildings belonging to category B-2 with the combined floor area of at least 150,000 $m^2$ equipped with smart meters to measure heat and water consumption and to transfer it automatically to EMIS database and upgrading other required hard- and software to manage the data.*

*Output 1.6 At least 60 energy managers of buildings within category B-2 trained together with other human capacity building of persons responsible for energy management of buildings and facilities within this category and for analysing the submitted reports.*

*Output 1.7 At least 80 large public buildings with the total floor area of approximately 1 million $m^2$ included into EMIS.*

*Output 1.8 A methodology for conducting energy audits and calculating buildings' energy performance in accordance with the state of art EU standards and methodologies adapted into Serbian conditions and taken into use in order to ensure that informed decisions on energy efficiency and renewable energy investments can be made based on their envisaged energy and cost savings and that their results can be monitored and reported in a consistent way.*

*Output 1.9 Capacity of energy auditors and other key stakeholders for conducting energy audits by the agreed methodology built, including, among others, the following:*

- Conducting specialized training courses for three types of energy auditors which shall be provided by the authorised training institution (official curricula, six-day training (incl. theoretical and practical parts), training manuals and examination);

  Supporting public entities and their respective energy managers to organize public procurement of energy audits; and
- Supporting engineering companies which intend to deal with energy auditing.

The energy audits shall be mandatory for designated parties, but high-quality energy audits should also be available for other public and private entities that do not fall under designated parties.

*Output 1.10 An analysis and related recommendations for required institutional changes to deal with different energy management related aspects of buildings owned by the central government.*

**Component 2 will focus on catalyzing actual investments in energy efficiency and renewable energy. By building on the Energy Efficiency Renovation Programme of 28 Central Government Buildings supported by**

**the Council of Europe Development Bank (CEB) and its Western Balkans Investment Framework (WBIF), the project activities under component 2 will support the preparation of the final design and investment proposals for renovation of the mentioned buildings and provide other technical assistance to facilitate their actual implementation and monitoring of the results. The renovation of 28 Central Government Buildings will be implemented under the Framework Loan Agreement (Ref: LD 2025 (2019)) between the Council of Europe Bank and the Government of Serbia which is in conformity with the requirements set forth in the Environmental and Social Safeguards Policy as adopted by CEB's Administrative Council's Resolution 1588 (2016). In particular, the borrower of the loan should provide an Environmental Impact Assessment (EIA) in accordance with the Environmental and Social Safeguards Policy, with the possibility to review the EIA summary before submitting the final investment proposal with the request of allocation of the loan to each building. This will be implemented in line with the national legislation, and the safeguards requirements of the aforementioned Loan Agreement with CEB and will be consistent with UNDP's social and environmental standards. Screening using the SESP (during GEF project design) identified the risks related to the activities co-funded by CEB Loan in detail, as in Annex 6 and the comparative analysis of social and environmental legal and policy framework of the national legislation, CEB and UNDP set forth consistency in detail in Annex 10. Relevant safeguards instruments prepared by the CEB and the national partner will be reviewed for consistency within UNDP's SES following the process described in Annex 10, during project implementation and any gaps will be resolved in discussion with the co-financier, CEB.**

The outcome for component 2 and the specific outputs under that include the following:

Outcome 2: Catalyzing capital investments in energy efficiency with a particular focus on central government owned buildings.

*Output 2.1 Detailed energy audits for at least 28 large Government buildings.*

*Output 2.2 Final investment proposals with related conceptual technical design, feasibility studies and financial analysis for all those buildings that based on the results of the audits appear to meet the agreed technical, environmental and financing criteria for renovation.*

*Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings and by also taking into account the SES related requirements.*

**Component 3 is about monitoring, evaluating and disseminating the project results, and on sustaining the process of continuing monitoring and analysis of the energy performance of central government owned buildings, thereby preparing ground for scaling up the investments also for other public buildings. The specific outputs under outcome 3 include:**

The outcome for component 3 and the specific outputs under that include the following:

Outcome 3: Monitoring, evaluation and outreach for scaling up the investments

*Output 3.1 Project inception report and workshop.*

*Output 3.2 Project web-site that can be continued to be used and updated also after the project end.*

*Output 3.3 International EMIS workshop*

*Output 3.4: Final project report, including monitored results of the supported EE and RE investment projects, a study of lessons learnt and an analysis and related recommendations for scaling up the project results.*

*Output 3.5: Project terminal evaluation.*

*Output 3.6 Final project workshop.*

The project will follow an "Open Knowledge" approach publishing all project related documentation, presentations, training materials and supported new project and business initiatives on the UNDP website, as well as on the web sites of project partners (MME, UZZPRO, FME). Considerable attention will also be paid to other electronic media such as TV and radio for which regular statements and video coverages of project activities will be provided.

The Open Knowledge approach applies also for project terminal evaluation, which similar to all GEF financed UNDP implemented projects can be downloaded from the public UNDP website: web.undp.org/gef/evaluation.shtml.

For learning from corresponding initiatives in other countries and for ensuring that the latest global knowledge, best practices and technical developments can be taken into account, the project shall link up with other

knowledge management networks and platforms dealing with the topic. In particular, the project will closely co-operate with, share its results and yield benefits from the resources of the SE4ALL Building Efficiency Accelerator.

Special attention will be given to communication with expert community. Given the technical complexity of the project, the project results will be presented on expert conferences and workshop organized by different professional organizations. The participation of the Serbian Chamber of Commerce, as well as the Chamber of Engineers, will also ensure that project related information and outcomes are widely disseminated among the business community.

Given the foreseen interest of several BPPS NCE-VF programme countries, including Armenia, Azerbaijan Ukraine, Moldova, and others to similar activities supporting the adoption and effective implementation of municipal EMIS, the materials developed, and the results and lessons learned in this project are expected to be of direct interest also to other countries. Close monitoring and evaluation of project implementation and documenting of the results and lessons learnt will also in this respect be of primary importance.

The project seeks to facilitate continuing contacts and co-operation between the different stakeholder groups at the national and international level by organizing seminars, workshops and other public events, thereby bringing project proponents, policy makers and potential investors / other donors together. The co-operation between the different Balkan countries, for instance, from which many have been implementing or are initiating activities of similar kind can be seen mutually beneficial.

*Partnerships*

As outlined also in the previous chapter, the foreseen partnerships are absolutely essential for the realization of the expected project results and for ensuring their effective follow-up. The most critical partnerships are briefly described in table 1 below.

Table 1 Key partnerships of the project

| **Name of the entity** | **Envisaged role and potential areas for co-operation during project implementation** |
|---|---|
| **Central government administration and related organisations and companies** | |
| Ministry of Mining and Energy (MME) | The project implementing partner, including coordination of the work with other government institutions involved in the project as partners (UZZPRO and MCTI) and beneficiaries (users of the CGB). Also, the MME will have a key role in communicating with public utility companies for outputs and activities requiring their engagement. |
| The Administration for Joint Services of the Republic Bodies (UZZPRO) | Provides centralized maintenance for the selected 28 Central Government Owned Buildings (CGBs) and is envisaged to be a key partner to provide operational support for project activities. |
| Ministry of Construction, Transport and Infrastructure (MCTI) | A key project partner for project's technical support as it concerns, for instance, construction permits and developing a methodology for calculating buildings' energy performance. |
| **Local (city) administration and PUCs** | |
| City of Belgrade | Envisaged project partner responsible for issuing location information, technical conditions and permits |
| Public Utility Companies (PUCs) | Envisaged project partners responsible for issuing technical conditions for design and sharing other metering and billing information |
| **Energy and Construction related NGOs and professional associations** | |
| Chamber of Commerce | Envisaged project partner for engaging private sector |
| Chamber of Engineers | Envisaged project partner for engaging professionals and providing advisory services related to buildings' energy performance calculation methodology, technical design and construction. |
| **Universities and other scientific, research and educational entities** | |
| Belgrade University – Faculty of Mechanical Engineering (FME) | Envisaged project partner for engaging professionals and providing advisory services related to buildings' energy performance calculation methodology, technical design and construction. |
| **International organisations and financing entities** | |
| Council of Europe Bank (CEB) | Providing a EUR 40 million loan for supporting energy efficiency renovation of public buildings, complemented by CEB Trust Fund grants worth of EUR 0.6 million from Slovakia |

| | |
|---|---|
| | and Spain, aimed at preparatory activities for EE renovation of 28 CGB (elaboration of design documents, etc). |
| EU/WBIF | Providing EUR 0.3 million for operation of PMU involved in preparatory activities for EE renovation of 28 CGB. |
| KfW | Providing a EUR 110 million loan for EE renovation of the Military Medical Academy (a program similar to EERCGB with the MoU signed in February 2020) |
| UNDP | Responsible for the oversight of project implementation and co-financing the EMIS management and upgrading. |

The private sector will have a key role in implementing the project – primarily as a service provider for developing new features and functionalities for EMIS data management as well as for different elements of the actual building renovation, including energy audits, technical and financial feasibility analysis, actual construction work and monitoring of the results of the work done. Besides, the private sector (e.g. private banks) will have a role in providing project financing, managing the credit lines of international multilateral financing institutions and offering new type of financing instruments and modalities such as ESCO financing.

*Risks*

The project risks are discussed in greater detail in Annex 7 to this project document. As per the standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of the risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR.

*Stakeholder engagement and south-south cooperation*

In addition, to bring the voice of Serbia to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on reducing the carbon emissions from the building sector. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on buildings energy management in geopolitical, social and environmental contexts relevant to the proposed project in Serbia. Countries currently in the process of implementing or introducing EMIS include, among others, Bosnia & Herzegovina, Croatia, Armenia, Azerbaijan and Moldova.

*Gender equality and Women's Empowerment*

The National Gender Equality Strategy for the period 2016-2020 calls for equal participation of women and men in decision making at all levels and in all policy areas. Greater involvement of women in energy policy decision-making processes will be promoted. Project activities will aim to help ensure that equal numbers of men and women are appointed as energy managers and that the Energy Management Help Desk set up by the project contains an equal number of men and women.

Project activities will be designed in such a manner that gender specific issues can be taken into in the policy and regulatory amendments, when applicable. It will also ensure will ensure that equal training opportunities are provided for both men and women and that women are equally represented and supported to attend training. As an example, the project can arrange child care services during the training sessions, when and as needed. Awareness raising activities will involve participation and cooperation of women associations and women NGOs to support mainstreaming of gender considerations in awareness raising and information materials, to ensure that awareness raising is developed on the different energy consumption patterns and needs of men and women and to take gender differentiated priorities into account in energy management related activities otherwise.

Energy Management Information System (EMIS) and energy audits will enable the collection of gender disaggregated data, which is expected to provide the necessary data for policy makers to identify possible constrains as well as opportunities to address the needs of women and men in relation to the available energy services.

Based on the fundamental principles of promoting equality and combating discrimination, participation in the proposed project activities shall be guaranteed regardless of sex, racial or ethnic origin, religion or belief, age or sexual orientation. All contractors shall be requested to provide non-discriminate participation of men and women during the implementation phase of respective tasks. The gender specific dimensions of the project can show up, for instance, when counting the number of participants benefitting from the training of new energy

managers and energy auditors. The project will facilitate and closely monitor that equal opportunities for this training and later employment are available for both men and women and will address the eventual matters of concern, as possible.

A more specific gender strategy and action plan is presented as Annex 11 to this project document. They will be monitored during project implementation by collecting gender specific data on the stakeholders addressed and involved into project activities as well as on the impact of those activities. Gender specific indicators has also been included into the project results framework. The improved energy efficiency and thermal comfort as a result of better monitoring of the energy performance of central government buildings (CGB) in general is foreseen to directly benefit the women since it is estimated that out of some 6800 employees, 65% are women.

*Innovativeness, Sustainability and Potential for Scaling Up*

Although Energy Management and the related Energy Management Information System (EMIS) was introduced in Serbia already in 2015 by following the successful example of Croatia which has been implementing EMIS since 2009), it is still being further developed with new innovative features and sub-components, while targeting also new sectors. The new advanced features and functionalities to be developed for EMIS have been discussed in greater detail under Component 1 of this chapter.

It is also to be noted that at the regional context Energy Management Information Systems are not yet widely spread. As such, both Croatia and Serbia can be seen as front-runners in this field and source of innovation and inspiration for other countries. The joint Energy Efficiency Renovation Programme of 28 Central Government Buildings also provides a platform for testing and demonstrating new innovative energy efficiency and renewable energy technologies in the selected buildings.

*Sustainability*

For project sustainability it is essential that the key stakeholders are convinced by both the long and shorter term “win-win-win” opportunities of the suggested measures and activities, including:

- environmental benefits by reducing energy consumption and related greenhouse gas emissions;
- budget savings by improved energy efficiency and reduced energy costs; and
- eventually improved quality of the services concerned.
- A Help Desk for EMIS which continues beyond the life time of the project

The improvement of the regulatory framework under component 1 will enhance the sustainability of project results by making, for instance, EMS mandatory for all significant energy consumers and subsectors targeted by the project, thereby creating also a sustainable demand and new work opportunities for the trained energy managers and energy auditors.

*Potential for scaling-up*

The total floor area of public buildings in Serbia is estimated at about 27 million $m^2$ i.e. over 100 times more than the 208,000 $m^2$ targeted by the investment component of this project. The best results with EMIS so far have been achieved with the municipalities and cities with population above 20,000, while with the state authority, provincial authority bodies and public services almost no progress has been made yet. This also means that a significant potential for scaling up the effort with the mentioned entities still exist. A number of different financing initiatives currently underway in Serbia support the idea that by enhancing the local capacity to prepare credible EE investment proposals by recognizing their benefits and justifying these initiatives with more accurate data and tools for monitoring their impact, these opportunities can leverage financing and encourage new financing models (such as Energy Supply and/or Energy Service Contracts) to support the actual investments. The close monitoring and sharing of the results of the investment projects implemented in the frame of the proposed project will also build a basis for further replication and scaling up the use of those technologies.

## V. PROJECT RESULTS FRAMEWORK

| | | | | |
|---|---|---|---|---|
| **This project will contribute to the following Sustainable Development Goal (s):** *#5* Gender equality, #7 Affordable and clean energy, #11 Sustainable cities and communities, #13 Climate Action | | | | |
| **This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD):** Serbia adopts and implements climate change and environmentally friendly strategies that increase community resilience, decrease carbon footprint and boost the benefits of national investments | | | | |
| | **Objective and Outcome Indicators (no more than a total of 20 indicators)** | **Baseline** | **Mid-term Target** | **End of Project Target** |
| **Project Objective:** Reduction of greenhouse gas emissions by improving the energy efficiency and promoting the use of renewable energy sources in public buildings with a particular focus on state owned buildings | **Mandatory** *Indicator 1:* Number of direct project beneficiaries disaggregated by gender (individual people) | NA | Males: 500<br>Females: 500 | Males: 5 000<br>Females: 5 000 |
| | **Mandatory** GEF Core Indicators:<br>*Indicator 2:* Direct and indirect lifetime GHG emissions avoided (metric tons of $CO_2e$) | NA | Direct: 0<br>Indirect: 0 | Direct: 146 000<br>Indirect: 300 000 |
| | *Indicator 3:* Energy saved (TJ) | NA | 0 TJ | 2 340 TJ |
| | *Indicator 4:* Increase in installed renewable energy capacity (MW) | NA | 0 MW | 1 MW |
| **Project component 1** | **Enabling policy framework and capacity building for energy audits and energy management** | | | |
| **Project Outcome 1:** An official energy audit system and improved energy management with a particular focus on central and provincial government owned buildings and buildings which fall in competence of public service institutions (such as health justice, education, culture, etc.) | *Indicator 5:* Status of the rulebooks listed under output 1.1 in chapter IV of the Prodoc | NA | Over 50% of the rulebooks listed under output 1.1 drafted | All six rulebooks listed under output 1.1 formally adopted |
| | *Indicator 6:* The number and total floor area of additional buildings belonging to the B-2 category included into EMIS together with appointed and adequately trained energy managers | NA | An additional 40 buildings with the total floor area of at least 0,5 million $m^2$ | An additional 80 buildings with the total floor area of at least 1 mill. $m^2$ |
| **Outputs to achieve Outcome 1** | Output 1.1: Required bylaws and rulebooks for official energy audits finalized, including a rulebook on: i) energy audits reports; ii) methodology for conducting energy audits; iii) examination of energy auditors; iv) training of energy auditors and payment of trainings costs; v) types of data, deadlines, manner and forms used to provide data on conducted energy audit; and vi) Energy Management Information System and viii) mandatory requirement for all buildings to appoint energy managers<br>Output 1.2: Upgraded EMIS software to include new functionalities to facilitate, among others, automatic data transfer and data analysis.<br>Output 1.3: A full licensing system for energy auditors developed and in place<br>Output 1.4: Establishment of an EMIS help desk with Help Desk Manager and trained students to support the building managers and other key stakeholders to operate with EMIS<br>Output 1.5: At least 30 buildings of B-2 category equipped with smart meters and other required hard- and software for including them in EMIS.<br>Output 1.6: At least 80 energy managers of B-2 category buildings appointed and adequately trained | | | |

| | | | | |
|---|---|---|---|---|
| | Output 1.7: At least 80 large public buildings with the total floor area of approximately 1 million $m^2$ included into EMIS.<br>Output 1.8: A methodology for conducting energy audits and calculating buildings' energy performance in accordance with the state of art EU standards and methodologies adapted into Serbian conditions and taken into use<br>Output 1.9: Capacity of energy auditors and other key stakeholders built to use the agreed methodology<br>Output 1.10: An analysis and related recommendations for eventually required institutional changes completed | | | |
| **Project component 2** | **Catalyzing building related EE and RE investments** | | | |
| **Outcome 2:** Catalyzing capital investments in energy efficiency with a particular focus on central government owned buildings. | *Indicator 7:* Number of renovated buildings | NA | 0 | 28 |
| | *Indicator 8:* Amount of investments for implemented energy saving and/renewable energy measures by using data from and monitored by EMIS | NA | 0 | US$ 40,000,000 |
| **Outputs to achieve Outcome 2** | Output 2.1 Detailed energy audits for at least 28 large Government buildings<br>Output 2.2 Final investment proposals with related conceptual technical design, feasibility studies and financial analysis for all those buildings that based on the results of the audits appear to meet the agreed technical, environmental and financing criteria for renovation.<br>Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings and by also taking into account the SES related requirements. | | | |
| **Project component 3** | **Monitoring, evaluation and outreach for scaling up the investments** | | | |
| **Outcome 3:** Monitoring, evaluation and outreach for scaling up the investments | *Indicator 9:* Status of project reports, workshops and KM platforms | NA | Inception report and workshop completed, project's KM web-site up and running and international EMIS workshop organised | Final project report, terminal evaluation and final workshop completed |
| | *Indicator 10:* Number of people disaggregated by gender reached by project's knowledge management and information dissemination activities | NA | Males: 500<br>Females: 500 | Males: 1 000<br>Females: 1 000 |
| **Outputs to achieve Outcome 3** | Output 3.1 Project inception report and workshop and international EMIS workshop<br>Output 3.2 Project web-site that can be continued to be used and updated also after the project end<br>Output 3.3 An international EMIS workshop<br>Output 3.4 Final project report, including monitored results of the supported EE and RE investment projects, a study of lessons learnt and an analysis and related recommendations for scaling up the project results.<br>Output 3.5 Project terminal evaluation<br>Output 3.6 Final project workshop | | | |

## VI. MONITORING AND EVALUATION (M&E) PLAN

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[2]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

**Additional GEF monitoring and reporting requirements:**

Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
c. Review the results framework and monitoring plan.
d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.
e. Update and review responsibilities for monitoring project strategies, including the risk log; Social and Environmental Screening, and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
h. Formally launch the Project.

GEF Project Implementation Report (PIR):
The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

GEF Core Indicators:
The GEF Core indicators included as Annex will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to the TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with TE consultants prior to required evaluation missions, so these

[2] See https://www.thegef.org/gef/policies_guidelines

can be used for subsequent ground truthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.

Terminal Evaluation (TE):

An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be 'independent, impartial and rigorous'. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by **August 31, 2026**. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:
The project's terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information**:**
To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[3] and the GEF policy on public involvement[4].

**Monitoring and Evaluation Plan and Budget:** This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 4 of the Results Framework and TBWP. For ease of reporting M&E costs, please include all costs reported in the M&E plan under the one technical component. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.

| GEF M&E requirements | Indicative costs (US$) | Time frame |
|---|---|---|
| **Inception Workshop** | 5,000 | Within 60 days of CEO endorsement of this project. |
| **Inception Report** | Incl. in workshop costs | Within 90 days of CEO endorsement of this project. |
| **M&E of GEF core indicators and project results framework** | 10,000 | Annually and at mid-point and closure. |
| **GEF Project Implementation Report (PIR)** | 10,000 | Annually typically between June-August |
| **Monitoring of Gender Action Plan(NA)** | (incl. above) | On-going. |
| **Monitoring of stakeholder engagement plan** | 5,000 | On-going. |
| **Supervision missions** | None | Annually |
| **Independent Terminal Evaluation (TE)** | 40,000 | August 31, 2026 |
| **TOTAL indicative COST** | 70,000 | |

[3] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[4] See https://www.thegef.org/gef/policies_guidelines

## VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

**Roles and responsibilities of the project's governance mechanism:**

Implementing Partner: The Implementing Partner for this project is **the Ministry of Mining and Energy of the Government of Serbia**.

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Ministry of Mining and Energy (MME), in cooperation with Administration for Joint Services of the Republic Bodies (UZZPRO), is also tasked by the Government to implement the EE renovation programme of 28 Central Government Buildings, financed by the CEB loan and grant. This is outlined in the co-funding letter by the Ministry of Mining and Energy dated April 16, 2021, enclosed as in Annex 14.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation and reporting. This includes establishing the Project Management Unit (PMU), and providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Risk management as outlined in this Project Document;
- Procurement of goods and services, including human resources;
- Financial management, including overseeing financial expenditures against project budgets;
- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

Responsible Parties:

- The Ministry of Mining and Energy (MME) will execute the project with the support of the Faculty of Mechanical Engineering (FME) of the Belgrade University where FME will be responsible for execution of the specific outputs, as specified in Table 2, below. The related cooperation/responsible party agreement between the MME and FME including the mandatory elements as per the national legislation of Serbia are presented in Annex 14.

- The FME will report and responsible to the MME, whereas MME shall be responsible to oversee FME and report back to Project Board. At the request of the MME, UNDP will transfer cash directly to FME through the Direct Payment Cash Transfer modality as per POPP, the agreed work plan and at the request of the MME. This should not be confused with UNDP support services to national implementation. The request for direct payment must be submitted by MME through the approved FACE form, requesting UNDP to make payment directly to the FME on behalf of the MME.

- No direct advance payments to the responsible party shall be made prior to Project Manager's confirmation that the activities conducted in the previous period have been approved and that any changes or deviations from the workplan have been agreed in writing and approved by the Project Board. Complementary UNDP guidance of the POPP on direct payments is presented as an Appendix to Annex 14.

- All direct payments anticipated costs to UNDP will be covered by non-GEF resources.

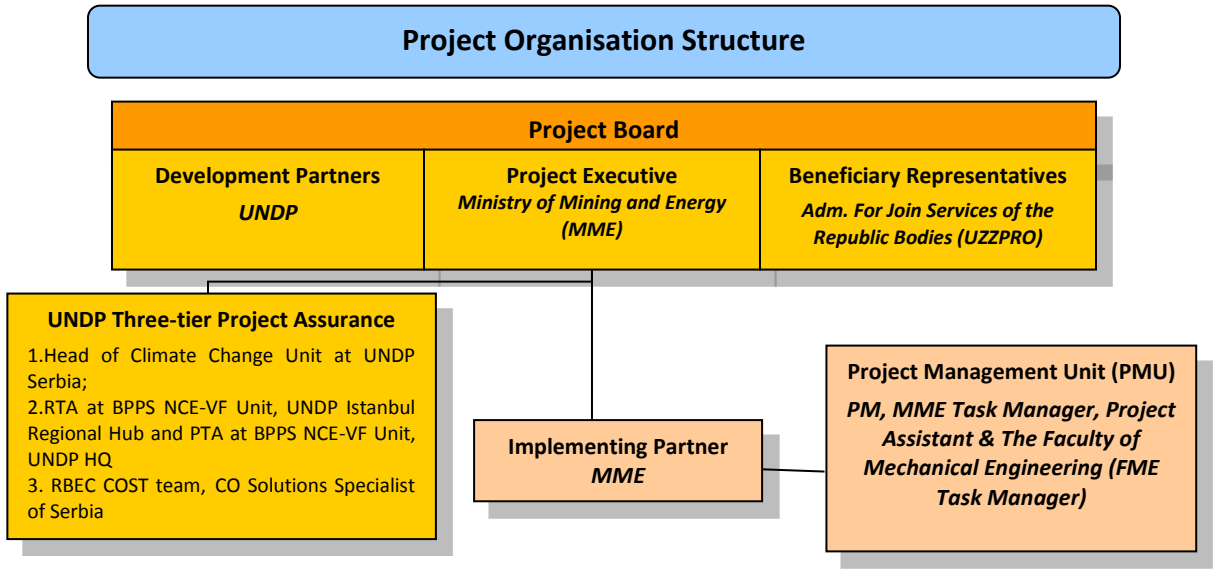
Table 2 Sharing of Implementation Responsibilities

| **Outcomes** | **Outputs** | **Responsibility** |
|---|---|---|
| Outcome 1: Enabling policy framework and capacity building for energy audits and energy management | Output 1.1: Required bylaws and rulebooks for energy audits completed for implementing the related provisions of the new *Law on Energy Efficiency and Rational Use of Energy* | MME |
| | Output 1.2: Upgraded EMIS software to include new functionalities to facilitate, among others, automatic data transfer and data analysis. | MME |
| | Output 1.3: A full licensing system for energy auditors developed and in place. | MME |
| | Output 1.4 Establishment an EMIS help desk with a help desk manager and trained students to support the building managers and other key stakeholders to operate with EMIS. | FME |
| | Output 1.5: At least 30 buildings of B-2 category equipped with smart meters and other required hard- and software for including them in EMIS. | FME |
| | Output 1.6: At least 60 energy managers of B-2 category buildings appointed and adequately trained. | FME |
| | Output 1.7: At least 80 large public buildings with the total floor area of approximately 1 million $m^2$ included into EMIS. | FME |
| | Output 1.8: A methodology for conducting energy audits and calculating buildings' energy performance in accordance with the state of art EU standards and methodologies adapted into Serbian conditions and taken into use. | FME |
| | Output 1.9: Capacity of energy auditors and other key stakeholders built. | FME |
| | Output 1.10: An analysis and related recommendations for eventually required institutional changes completed. | FME |
| Outcome 2: Catalyzing building related EE and RE investments | Output 2.1: Detailed energy audits for at least 28 large Government buildings completed. | FME |
| | Output 2.2: Final investment proposals with related conceptual technical design, feasibility studies and financial analysis completed for all buildings meeting the agreed technical, environmental and financial criteria completed. | FME |
| | Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings and by also taking into account the SES related requirements. | MME |
| Outcome 3: Monitoring, evaluation and outreach, to scale up the investments | Output 3.1 Project inception report and workshop | MME |
| | Output 3.2: Project web-site that can be continued to be used and updated also after the project end. | FME |
| | Output 3.3 Interational EMIS workshop | FME |
| | Output 3.4: Final project report, including monitored results of the supported EE and RE investment projects, a study of lessons learnt and an analysis and related recommendations for scaling up the project results. | FME |
| | Output 3.5: Project terminal evaluation. | MME |
| | Output 3.6: Final project workshop. | FME |
| | PROJECT MANAGEMENT | MME |

Project stakeholders and target groups: The key project stakeholders, target groups and envisaged partnerships are presented in chapter IV "Results and Partnerships" as well in Annex 9: "Stakeholder Engagement Plan"

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

Project organisation structure:




The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

The Project Board will meet twice a year, as needed, and will be chaired by the Ministry of Mining and Energy. Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required, within the parameters set by BPPS NCE-VF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by BPPS NCE-VF;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;

- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Review combined delivery reports prior to certification by the implementing partner;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board must include the following roles:

***a.*** Project Executive: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive is **the State Secretary in the Ministry of Mining and Energy.**

**b.** Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role. The Beneficiary representative is **the Director of the Administration for Joint Services of the Republic Bodies (UZZPRO).**

**c.** Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is UNDP represented by **the UNDP Resident Representative.**

***d.*** Project Assurance: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of project execution.

**Project extensions:** The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

*Project Management Unit*

The Ministry of Mining and Energy will establish the Project Management Unit comprised of:

- Project Manager (PM), who will perform the management role of the project as identified in the ProDoc, in line with the GEF rules and regulations. PM will be responsible for overall project coordination and day-to-day implementation, consolidation of work plans and project documentation, preparation of quarterly progress

reports, reporting to the project supervisory bodies, coordinating work of the PMU and supervising the work of the project experts and project staff.

- The MME Task Manager supporting the project manager in the overall project co-ordination and supervision and having the responsibility of technical supervision and support of implementing activities under outputs 1.1 - 1.3 and 2.3 in particular by ensuring that the mentioned outputs are implemented in accordance with the work plan and achieved in schedule meeting the targets set in the project results framework.
- Project Assistant assisting the Project Manager in day-to-day management and keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager;

As regards the outputs and activities, for which the FME serves as the Responsible Party, the FME will assign or hire:

- A full time FME Task Manager responsible for the technical management of outputs 1.4-1.10, 2.1-2.3, 3.2, 3.3, 3.4 and 3.6 implemented by the FME as a responsible party making sure that the mentioned outputs are implemented in accordance with the work plan and achieved in schedule meeting the targets set also in the project results framework,
- An assistant to the FME task manager, supporting FME Task Manager in the organization and co-ordination of the activities and outputs, for which the FME serves as a responsible party, including keeping records of project funds and expenditures for those activities and outputs and ensuring the related financial documentation is well maintained and readily available when required by the FME Task Manager, Project Manager or Project Assistant,

In addition to the above, an international project adviser will be hired to provide technical backstopping for project implementation, including the monitoring and review of specific outputs and project adaptive management and supporting the development and adoption of a methodology for energy audits and calculating buildings' energy performance in accordance with the state of art EU standards and methodologies as one of the first activities and outputs of the project.

More detailed job description of all positions above are presented in Annex 8 of this project document.

## VIII. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is **USD 52,405,000** including the co-financing. This is financed by a **GEF grant of USD 1,405,000** and **UNDP cash co-financing of USD 100,000** to be administered by UNDP together with other project co-financing. The Ministry of Mining and Energy will implement the project using the national implementation modality (NIM). UNDP, as the GEF Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Confirmed Co-financing: The actual realization of project co-financing will be monitored during the terminal evaluation process and will be reported to the GEF. Note that all project activities included in the project results framework that will be delivered by co-financing partners (even if the funds do not pass through UNDP accounts) must comply with UNDP's social and environmental standards. Co-financing will be used for the following project activities/outputs:

| Co-financing source | Co-financing type | Co-financing amount (USD) | Planned Co-financing Activities/Outputs | Risks | Risk Mitigation Measures |
|---|---|---|---|---|---|
| Ministry of Mining and Energy | Cash | 1,500,000 | MME budget contribution distributed between outputs under Outcomes 1 and 2 implemented by the MME | Final allocations depending on annual budget decisions | Co-ordination with annual budget planning |
| Ministry of Mining and Energy | In-kind | 1,000,000 | MME in-kind contribution distributed between outputs implemented by the MME | Availability of MME staff resources | Co-ordination with annual MME work planning |
| Council of Europe Bank CEB-SIGA-SCA Trust Funds | Grant | 700,000[5] | Technical assistance primarily outputs 2.1 and 2.2 | Implementation according to the agreement | Project oversight |
| European Western Balkans Joint Fund (EWBJF) | Grant | 350,000[6] | Project management | Implementation according to the agreement | Project oversight |
| Council of Europe Bank (CEB) | Loan | 47,300,000[7] | Financing for Output 2.3 + related TA and loan management (The EE refurbishment costs of the buildings will be covered entirely by the project co-financing resources) | Implementation according to the agreement | Project oversight |
| UNDP | Grant | 100,000 | Output 1.2 Management and further development of EMIS | Implementation according to the agreement | Project oversight |
| UNDP | In-kind | 50,000 | Outcome 3 (M&E) | Implementation according to the agreement | Project oversight |

[5] CEB SIGA and SCA trust funds grants of 600,000 Euros in total converted to US$ by using an exchange rate of US $1 = 0,85 € by European Central Bank as of March 31, 2021.

[6] EWBJF TA grant of 300,000 Euros converted to US$ by using an exchange rate of US $1 = 0,85 € by European Central Bank as of March 31, 2021.

[7] CEB loan 40,000,000 Euros converted to US$ by using an exchange rate of US $1 = 0,85 € by European Central Bank as of March 31, 2021.

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board.

Should the following deviations occur, the Project Manager/CTA and UNDP Country Office will seek the approval of the BPPS NCE-VF team to ensure accurate reporting to the GEF:
a) Budget re-allocations among components in the project budget with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Audit: The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. All costs incurred to close the project must be included in the project closure budget and reported as final project commitments presented to the Project Board during the final project review. The only costs a project may incur following the final project review are those included in the project closure budget.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. **Operational closure must happen with 3 months after posting the TE report to the UNDP ERC**. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Transfer or disposal of assets: In consultation with the Implementing Partner and other parties of the project, UNDP is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file[8]. The transfer should be done before Project Management Unit complete their assignments.

Financial completion (closure): The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed **within 6 months of operational closure or after the date of cancellation**. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the BPPS NCE-VF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

8 See https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

Refund to GEF: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the BPPS NCE-VF Directorate in New York. No action is required by the UNDP Country Office on the actual refund from UNDP project to the GEF Trustee.

# IX. TOTAL BUDGET AND WORK PLAN

| Total Budget and Work Plan | | | |
|---|---|---|---|
| Atlas Award ID: | 00122807 | Atlas Output Project ID: | 00118271 |
| Atlas Proposal or Award Title: | Energy Management System 2 | | |
| Atlas Business Unit | SRB10 | | |
| Atlas Primary Output Project Title | Enhancing the Energy Management System to Scale up Energy Efficiency Investments in Public Buildings in Serbia | | |
| UNDP-GEF PIMS No. | 6388 | | |
| Implementing Partner | Ministry of Mining and Energy of the Republic of Serbia | | |

| Atlas Activity (GEF Component) | Atlas Implementing Agent (Responsible Party[2] , IP or UNDP) | Atlas Fund ID | Donor Name | Atlas Budgetary Account Code | ATLAS Budget Account Description | Amount Year 2021 (USD) | Amount Year 2022 (USD) | Amount Year 2023 (USD) | Amount Year 2024 (USD) | Amount Year 2025 (USD) | Amount Year 2026 (USD) | Total (USD) | See Budget Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outcome 1 | MME | 62000 | GEF | 71300 | Local Consultants Sht Term | 5,000 | 10,000 | 10,000 | 5,000 | 0 | 0 | ***30,000*** | 1 |
| | | | | 71400 | Contractual services - Indiv. | 2,500 | 10,800 | 10,800 | 10,800 | 10,800 | 8,300 | ***54,000*** | 2 |
| | | | | 72100 | Contractual services - comp. | 8,000 | 16,000 | 16,000 | 16,000 | 16,000 | 8,000 | ***80,000*** | 3 |
| | | | | ***Subtotal MME*** | | ***15,500*** | ***36,800*** | ***36,800*** | ***31,800*** | ***26,800*** | ***16,300*** | ***164,000*** | |
| | FME | 62000 | GEF | 71200 | Int'l Consultants Sht Term | 10,000 | 25,000 | 25,000 | 10,000 | 5,000 | 0 | **75,000** | 4 |
| | | | | 71300 | Local Consultants Sht Term | 10,000 | 35,000 | 35,000 | 30,000 | 30,000 | 11,000 | **151,000** | 5 |
| | | | | 71400 | Contractual services - Indiv. | 2,500 | 9,600 | 9,600 | 9,600 | 9,600 | 7,100 | **48,000** | 6 |
| | | | | 71600 | Travel | 400 | 800 | 800 | 800 | 800 | 400 | **4,000** | 7 |
| | | | | 72100 | Contractual services - comp. | 5,000 | 30,000 | 40,000 | 20,000 | 20,000 | 10,000 | **125,000** | 8 |
| | | | | 75700 | Training workshops & meetings | 800 | 1,600 | 1,600 | 1,600 | 1,600 | 800 | **8,000** | 11 |
| | | | | ***Subtotal FME*** | | ***28,700*** | ***102,000*** | ***112,000*** | ***72,000*** | ***67,000*** | ***29,300*** | ***411,000*** | |
| | | **62000** | **GEF** | **Subtotal GEF** | | **44,200** | **138,800** | **148,800** | **103,800** | **93,800** | **45,600** | **575,000** | |
| | UNDP | 4000 | UNDP | 72100 | Contractual services - comp | 9,500 | 19,000 | 19,000 | 19,000 | 19,000 | 9,500 | *95,000* | 3 |
| | | | | **Subtotal UNDP** | | ***9,500*** | ***19,000*** | ***19,000*** | ***19,000*** | ***19,000*** | ***9,500*** | ***95,000*** | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **TOTAL OUTCOME 1** | | **53,700** | **157,800** | **167,800** | **122,800** | **112,800** | **55,100** | **670,000** | |
| **Outcome 2** | **MME** | **62000** | **GEF** | 71400 | Contractual services - Indiv. | 2,500 | 9,600 | 9,600 | 9,600 | 9,600 | 7,100 | ***48,000*** | 12 |
| | | | | ***Subtotal MME*** | | ***2,500*** | ***9,600*** | ***9,600*** | ***9,600*** | ***9,600*** | ***7,100*** | ***48,000*** | |
| | **FME** | **62000** | **GEF** | 71200 | Int'l Consultant Sht Term | 5,000 | 15,000 | 20,000 | 20,000 | 10,000 | 5,000 | ***75,000*** | 13 |
| | | | | 71400 | Contractual services - Indiv. | 2,500 | 10,400 | 10,400 | 10,400 | 10,400 | 7,900 | ***52,000*** | 14 |
| | | | | 71600 | Travel | 400 | 800 | 800 | 800 | 800 | 400 | ***4,000*** | 7 |
| | | | | 72100 | Contractual services - comp. | 5,000 | 45,000 | 50,000 | 50,000 | 35,000 | 10,000 | ***195,000*** | 15 |
| | | | | 72200 | Equipment | 0 | 40,000 | 50,000 | 60,000 | 50,000 | 20,000 | ***220,000*** | 9 |
| | | | | 75700 | Training workshops & meetings | 1000 | 4,000 | 4,000 | 3,000 | 3,000 | 1000 | ***16,000*** | 11 |
| | | | | ***Subtotal FME*** | | ***13,900*** | ***115,200*** | ***135,200*** | ***144,200*** | ***109,200*** | ***44,300*** | ***562,000*** | |
| | | | | **TOTAL OUTCOME 2** | | **16,400** | **124,800** | **144,800** | **153,800** | **118,800** | **51,400** | **610,000** | |
| **Outcome 3** | **MME** | **62000** | **GEF** | 71200 | Int'l Consultant Sht Term | 0 | 0 | 0 | 0 | 0 | 22,500 | ***22,500*** | 16 |
| | | | | 71300 | Local Consultants Sht Term | 3,000 | 0 | 0 | 0 | 0 | 6,000 | ***9,000*** | 17 |
| | | | | 71400 | Contractual services - Indiv. | | 400 | 400 | 400 | 400 | 400 | ***2,000*** | 18 |
| | | | | 71600 | Travel | 500 | 500 | 500 | 500 | 500 | 2,500 | ***5,000*** | 7 |
| | | | | 75700 | Training workshops & meetings | 2,000 | | | | | 0 | ***2,000*** | 19 |
| | | | | ***Subtotal MME*** | | ***5,500*** | ***900*** | ***900*** | ***900*** | ***900*** | ***31,400*** | ***40,500*** | |
| | | | | 71300 | Local Consultants Sht Term | 0 | 0 | 0 | 0 | | 10,000 | ***10,000*** | 20 |
| | **FME** | **62000** | **GEF** | 71400 | Contractual services - Indiv. | | 800 | 800 | 800 | 800 | 800 | ***4,000*** | 21 |
| | | | | 72100 | Contractual services - comp. | 5,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | ***20,000*** | 22 |
| | | | | 75700 | Training workshops & meetings | 0 | 0 | 0 | 12000 | 0 | 8,500 | ***20,500*** | 23 |
| | | | | ***Subtotal FME*** | | ***5,000*** | ***3,800*** | ***3,800*** | ***15,800*** | ***3,800*** | ***22,300*** | ***54,500*** | |
| | | | | **TOTAL OUTCOME 3** | | **10,500** | **4,700** | **4,700** | **16,700** | **4,700** | **53,700** | **95,000** | |
| **Project management** | **MME** | **62000** | **GEF** | 71400 | Contractual services - Indiv. | 9,400 | 18,900 | 18,900 | 18,900 | 18,900 | 9,500 | ***94,500*** | 24 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 71600 | Travel | 500 | 900 | 900 | 900 | 900 | 400 | ***4,500*** | 25 |
| | | | | 72200 | Equipment | 3,000 | 0 | 0 | 0 | | 0 | ***3,000*** | 26 |
| | | | | 72400 | Communication | 400 | 800 | 800 | 800 | 800 | 400 | ***4,000*** | 27 |
| | | | | 72500 | Office supplies | 400 | 800 | 800 | 800 | 800 | 400 | ***4,000*** | 28 |
| | | | | 74100 | Professional Services | 0 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | ***15,000*** | 29 |
| | | | | **Subtotal GEF** | | **13,700** | **24,400** | **24,400** | **24,400** | **24,400** | **13,700** | **125,000** | |
| | **UNDP** | **4000** | **UNDP** | 74596 | Services to projects - GOE | 500 | 1,000 | 1,000 | 1,000 | 1,000 | 500 | ***5,000*** | 30 |
| | | | | **Subtotal UNDP** | | ***500*** | ***1,000*** | ***1,000*** | ***1,000*** | ***1,000*** | ***500*** | ***5,000*** | |
| | | | | **TOTAL PROJECT MANAGEMENT** | | **14,200** | **25,400** | **25,400** | **25,400** | **25,400** | **14,200** | **130,000** | |
| | **MME** | **62000** | **GEF** | Subtotal MME (GEF) | | 37,200 | 71,700 | 71,700 | 66,700 | 61,700 | 68,500 | **377,500** | |
| | **FME** | **62000** | **GEF** | Subtotal FME (GEF) | | 47,600 | 221,000 | 251,000 | 232,000 | 180,000 | 95,900 | **1,027,500** | |
| | | | | **Subtotal GEF** | | **84,800** | **292,700** | **322,700** | **298,700** | **241,700** | **164,400** | **1,405,000** | |
| | | | | **Subtotal UNDP** | | **10,000** | **20,000** | **20,000** | **20,000** | **20,000** | **10,000** | **100,000** | |
| | | | | **PROJECT TOTAL** | | **94,800** | **312,700** | **342,700** | **318,700** | **261,700** | **174,400** | **1,505,000** | |

| **Summary of Funds** | **Co-financing Type** | Amount (USD) 2021 | Amount (USD) 2022 | Amount (USD) 2023 | Amount (USD) 2024 | Amount (USD) 2025 | Amount (USD) 2026 | Total USD |
|---|---|---|---|---|---|---|---|---|
| **GEF grant administered by UNDP** | **Grant** | 84,800.00 | 292,700.00 | 322,700.00 | 298,700.00 | 241,700.00 | 164,400.00 | **1,405,000.00** |
| **UNDP** | **Grant** | 10,000.00 | 20,000.00 | 20,000.00 | 20,000.00 | 20,000.00 | 10,000.00 | **100,000.00** |
| **UNDP** | **In-kind** | 5,000.00 | 10,000.00 | 10,000.00 | 10,000.00 | 10,000.00 | 5,000.00 | **50,000.00** |
| **Ministry of Mining and Energy (MME)** | **Grant** | 150,000.00 | 300,000.00 | 300,000.00 | 300,000.00 | 300,000.00 | 150,000.00 | **1,500,000.00** |
| **Ministry of Mining and Energy (MME)** | **In-kind** | 100,000.00 | 200,000.00 | 200,000.00 | 200,000.00 | 200,000.00 | 100,000.00 | **1,000,000.00** |
| **European Western Balkans Joint Fund (EWBJF)** | **Grant** | 87,500.00 | 175,000.00 | 87,500.00 | - | - | - | **350,000.00** |
| **CEB SIGA-SCA Trust Funds** | **Grant** | 150,000.00 | 300,000.00 | 250,000.00 | - | - | - | **700,000.00** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **CEB Loan** | **Loan** | - | 3,300,000.00 | 7,000,000.00 | 15,000,000.00 | 15,000,000.00 | 7,000,000.00 | **47,300,000.00** |
| **Total Cash** | **Grant and Loan** | **482,300.00** | **4,387,700.00** | **7,980,200.00** | **15,618,700.00** | **15,561,700.00** | **7,324,400.00** | **51,355,000.00** |
| **Total In-kind** | **In-kind** | **105,000.00** | **210,000.00** | **210,000.00** | **210,000.00** | **210,000.00** | **105,000.00** | **1,050,000.00** |
| **GRAND TOTAL** | | **587,300.00** | **4,597,700.00** | **8,190,200.00** | **15,828,700.00** | **15,771,700.00** | **7,429,400.00** | **52,405,000.00** |

| **Budget note number** | **Budget Notes** |
|---|---|
| **1** | Drafting of bylaws, guidebooks and other related documents to support the implementation of the new Law on Energy Efficiency and Rational Use of Energy. Weekly rate $1,000 with 30 workweeks |
| **2** | Contribution of the MME technical task manager by 135 weeks over 5 years with $ 400 per week to Outputs 1.1-1.3 under Outcome 1 |
| **3** | Maintenance and further development of EMIS software |
| **4** | International project adviser support for Outcome 1, including support for adaptive management and methodology development for energy audits and calculation of buildings' energy performance. Weekly rate $3,750 with 20 workweeks in total |
| **5** | EMIS helpdesk and institutional analysis and development. For EMIS help desk. 1 part time help-desk managers with a weekly rate of $350 for 160 weeks in total, and part-time student positions for 3 students with a weekly rate of $100 per week for 250 weeks in total over 5 years. For institutional analysis and development local expert costs $1,000 per week for 20 weeks |
| **6** | Contribution of the FME Technical task manager by 120 weeks over 5 years with $400 per week to Outputs 1.4-1.10 under Outcome 1 |
| **7** | International and local expert travel |
| **8** | Methodology development and training of energy managers and energy auditors |
| **9** | Cost sharing of building EE retrofits, incl. tentatively smart meters of 200 units of about USD 500 each + selected renewable energy investments such as roof-top PV systems with approximate costs of USD 1,200 per kWp for 100 kWp in total |
| **11** | Co-ordination, KM and training workshops |
| **12** | Contribution of the MME technical task manager by 120 weeks over 5 years with $ 400 per week to Output 2.3 under Outcome 2 |
| **13** | International project advisor support for Outcome 2. Weekly rate $3,750 with 20 workweeks in total |
| **14** | Contribution of the FME Task manager by 130 weeks over 5 years with $400 per week to Outputs 2.1-2.2 under Outcome 2 |
| **15** | Energy audits and finalisation of investment proposals |
| **16** | Final evaluation. International expert costs with a weekly rate of $3,750 for six weeks |
| **17** | Inception report and final evaluation. Local expert costs with a weekly rate of $1,000 for 3 and 6 weeks respectively. |
| **18** | Contribution of the MME technical task manager by 5 weeks with $ 400 per week to Outputs 3.1 and 3.5 under Outcome 3 |
| **19** | Inception workshop |
| **20** | Final project report |

| | |
|---|---|
| **21** | Contribution of the FME Technical task manager by 10 weeks over 5 years with $400 per week to Outputs 3.2-3.4 and 3.6 under Outcome 3 |
| **22** | Establishment and management of project website |
| **23** | Mid-term international EMIS workshop ($ 12,000) and final project workshop ($8,500) |
| **24** | GEF contribution of project manager by 140 weeks with $450 per week over 5 years and project assistant by 140 weeks with $ 225 per week over 5 years to project management |
| **25** | Project management related travel |
| **26** | ICT equipment and furniture for the PMU staff and office, as needed |
| **27** | Communication costs |
| **28** | Office supplies |
| **29** | Annual financial audits |
| **30** | UNDP financed Direct Project Cost for UNDP support services for direct transfers |

## X. LEGAL CONTEXT

This Project Document shall be the instrument referred to as such in Article 1 of the Standard Basic Framework Agreement (SBFA) between the Government Socialist Federal Republic of Yugoslavia - SFRY (the Republic of Serbia as the legal successor of the SFRY) and UNDP, signed on 24th of March 1988. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by [name of entity] ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

## XI. RISK MANAGEMENT

1. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

   a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;

   b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan.

2. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document.

3. The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

4. The Implementing Partner acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the Implementing Partner, and each of its responsible parties, their respective sub-recipients and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

   (a) In the implementation of the activities under this Project Document, the Implementing Partner, and each of its sub-parties referred to above, shall comply with the standards of conduct set forth in the Secretary General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").

   (b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, the Implementing Partner, and each of its sub-parties referred to above, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.

5. a) In the performance of the activities under this Project Document, the Implementing Partner shall (with respect to its own activities), and shall require from its sub-parties referred to in paragraph 4 (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, the Implementing Partner will and will require that such sub-parties will take all appropriate measures to:

      i. Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;

ii. Offer employees and associated personnel training on prevention and response to SH and SEA, where the Implementing Partner and its sub-parties referred to in paragraph 4 have not put in place its own training regarding the prevention of SH and SEA, the Implementing Partner and its sub-parties may use the training material available at UNDP;

iii. Report and monitor allegations of SH and SEA of which the Implementing Partner and its sub-parties referred to in paragraph 4 have been informed or have otherwise become aware, and status thereof;

iv. Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and

v. Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. The Implementing Partner shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties referred to in paragraph 4 with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the Implementing Partner shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

b) The Implementing Partner shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the Implementing Partner, and each of its sub-parties referred to in paragraph 4, to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

6. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

7. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
8. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

9. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

10. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

11. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes in accordance with UNDP's regulations, rules, policies and procedures. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on

reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

12. The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

    Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

13. UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail the Implementing Partner's obligations under this Project Document.

    Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

    *Note:* The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

14. Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

15. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

16. The Implementing Partner shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled "Risk Management Standard Clauses" are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

## XII. MANDATORY ANNEXES

1. GEF Budget Template (available from BPPS NCE-VF)
2. GEF Execution Support Letter (available at www.thegef.org or from BBPS NCE-VF)
3. Project Map and geospatial coordinates of the project area
4. Multiyear Workplan
5. Monitoring Plan
6. Social and Environmental Screening Procedure (SESP)
7. UNDP Atlas Risk Register
8. Overview of technical consultancies/subcontracts
9. Stakeholder Engagement Plan
10. Further Assessment on Social and Environmental Safeguards Screening
11. Gender Analysis and Gender Action Plan
12. Procurement Plan – for first year of implementation especially
13. GEF focal area specific annexes (e.g. METT, GHG calculations, target landscape profile, feasibility study, other technical reports)
14. Additional agreements: such as cost sharing agreements, project cooperation agreements signed with NGOs (where the NGO is designated as the "executing entity"), letters of financial commitments etc.
15. GEF and/or LDCF/SCCF Core indicators (see template below)
16. GEF Taxonomy (see template below)
17. Partners Capacity Assessment Tool and HACT assessment
18. UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system)
19. UNDP Audit Check list to be used for projects when submitted to the GEF for CEO endorsement/approval

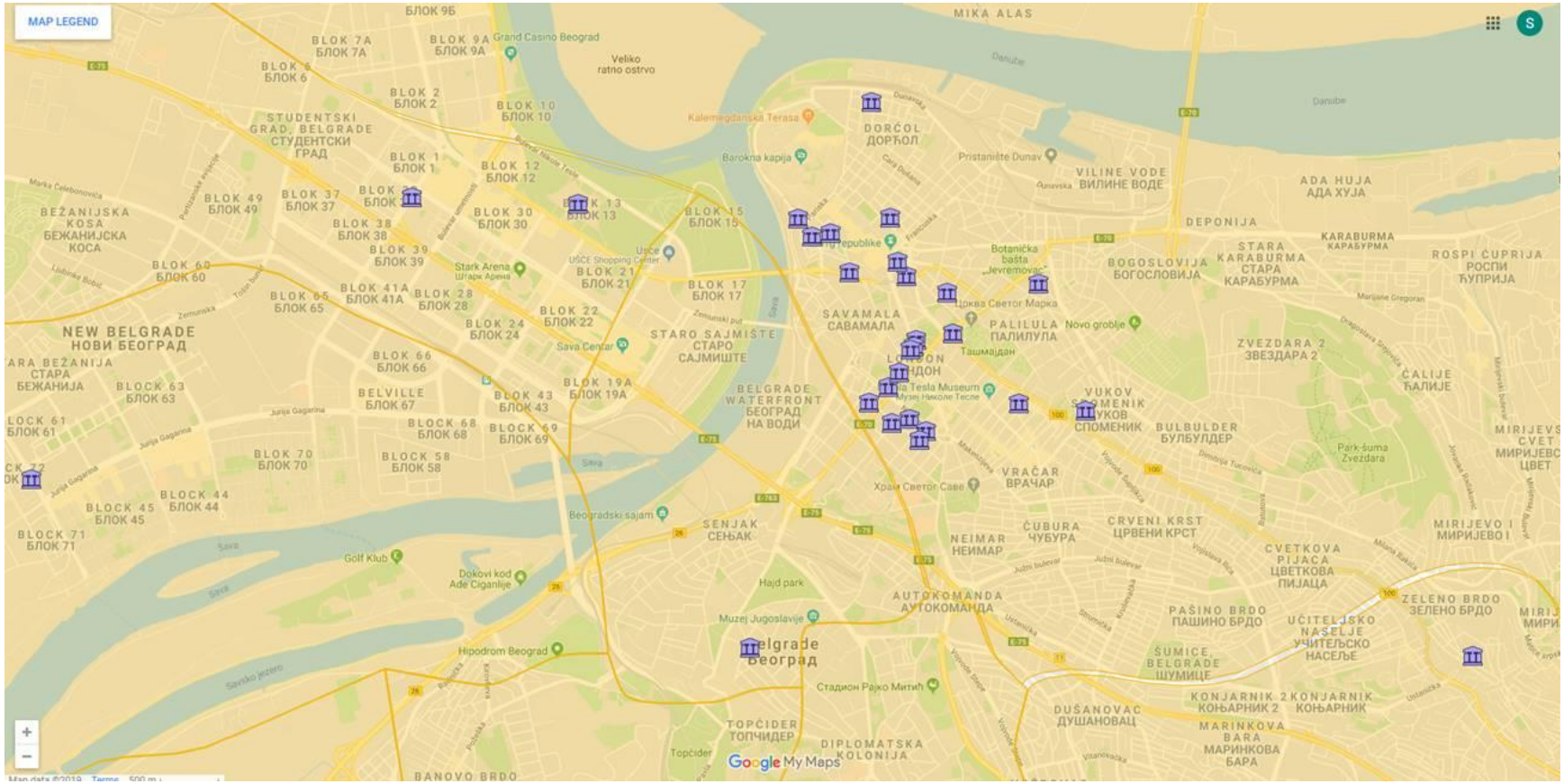
**Annex 1: GEF Budget Template**

See Chapter IX and a separate Excel worksheet

**Annex 2: GEF execution support letter**

N/A

**Annex 3: Project map and Geospatial Coordinates of project sites**




https://www.google.com/maps/d/u/0/edit?mid=1qZApZHjZK3FcY1uzZpAkkCMHUpZj-Lvr&usp=sharing


**The nearest border point is with Romania and it is 95 km from the capital city Belgrade, where the project sites are located.**

**Coordinates of project sites**

| Building No | Latitude | Longitude |
|---|---|---|
| 1 | 44.8190139 | 20.4602799 |
| 2 | 44.8157043 | 20.4610747 |
| 3 | 44.827619 | 20.4583408 |
| 4 | 44.8178386 | 20.4540221 |
| 5 | 44.8133613 | 20.4663075 |
| 6 | 44.8093836 | 20.4627728 |
| 7 | 44.8175805 | 20.4520891 |
| 8 | 44.7862116 | 20.5216936 |
| 9 | 44.8145756 | 20.4620526 |
| 10 | 44.8039563 | 20.4624032 |
| 11 | 44.8051279 | 20.4738783 |
| 12 | 44.8200424 | 20.4274299 |
| 13 | 44.8205288 | 20.4099106 |
| 14 | 44.8090979 | 20.4624656 |
| 15 | 44.8030234 | 20.4641005 |
| 16 | 44.8023396 | 20.4633836 |
| 17 | 44.8148911 | 20.4559899 |
| 18 | 44.7868162 | 20.445558 |
| 19 | 44.8045444 | 20.4809201 |
| 20 | 44.8051725 | 20.4581249 |
| 21 | 44.8036496 | 20.4604837 |
| 22 | 44.8189179 | 20.4506463 |
| 23 | 44.7994281 | 20.3698199 |
| 24 | 44.8140487 | 20.4759541 |
| 25 | 44.8074191 | 20.4612685 |
| 26 | 44.8063056 | 20.4601669 |
| 27 | 44.8103428 | 20.4668913 |
| 28 | 44.8098476 | 20.4630600 |

## Annex 4: Multi Year Work Plan

| Outcomes | Outputs | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| **Outcome 1:** An official energy audit system and improved energy management with a particular focus on central and provincial government owned buildings and buildings which fall in competence of public service institutions (such as health justice, education, culture, etc. | Output 1.1: Required bylaws and rulebooks for official energy audits finalized to complement the related provisions of the new Law on Energy Efficiency and Rational Use of Energy. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.2: Upgraded EMIS software to include new functionalities to facilitate, among others, automatic data transfer and data analysis. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.3: A full licensing system for energy auditors developed and in place. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.4: Establishment an EMIS help desk with trained students to support the building managers and other key stakeholders to operate with EMIS | | | | | | | | | | | | | | | | | | | | |
| | Output 1.5: At least 30 buildings of B-2 category equipped with smart meters and other required hard- and software for including them in EMIS. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.6: At least 60 energy managers of B-2 category buildings trained. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.7: At least 80 large public buildings with the total floor area of approximately 1 million $m^2$ included into EMIS. | | | | | | | | | | | | | | | | | | | | |
| | Output 1.8: A methodology for conducting energy audits and calculating buildings' energy performance in accordance with the state of art EU standards and methodologies adapted into Serbian conditions and taken into use | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Output 1.9: Capacity of energy auditors and other key stakeholders built. | | | | | | | | | | | | | | | | | | | | | |
| | Output 1.10: An analysis and related recommendations for eventually required institutional changes. | | | | | | | | | | | | | | | | | | | | | |
| **Outcome 2**: Catalyzing capital investments in energy efficiency with a particular focus on central government owned buildings | Output 2.1: Detailed energy audits for at least 28 large Government buildings completed. | | | | | | | | | | | | | | | | | | | | | |
| | Output 2.2: Final investment proposals with related conceptual technical design, feasibility studies and financial analysis completed for all buildings meeting the agreed technical, environmental and financial criteria. | | | | | | | | | | | | | | | | | | | | | |
| | Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings and by also taking into account the SES related requirements. | | | | | | | | | | | | | | | | | | | | | |
| **Outcome 3:** Monitoring, evaluation and outreach for scaling up the investments | Output 3.1: Project inception report and workshop. | | | | | | | | | | | | | | | | | | | | | |
| | Output 3.2: Project web-site that can be continued to be used and updated also after the project end. | | | | | | | | | | | | | | | | | | | | | |
| | Output 3.3 International EMIS workshop | | | | | | | | | | | | | | | | | | | | | |
| | Output 3.4: Final project report, including monitored results of the supported EE and RE investment projects, a study of lessons learnt and an analysis and related recommendations for scaling up the project results. | | | | | | | | | | | | | | | | | | | | | |
| | Output 3.5: Project terminal evaluation. | | | | | | | | | | | | | | | | | | | | | |
| | Output 3.6: Final project workshop. | | | | | | | | | | | | | | | | | | | | | |

## Annex 5: Monitoring Plan

This Monitoring Plan and the M&E Plan and Budget in Section VI of this project document will both guide monitoring and evaluation at the project level for the duration of project implementation.

| Monitoring | Indicators | Targets | Description of indicators and targets | Data source/Collection Methods[9] | Frequency | Responsible for data collection | Means of verification | Risks/Assumptions (Risk to reaching the set targets) |
|---|---|---|---|---|---|---|---|---|
| **Project objective from the results framework** | Indicator 1: Number of direct project beneficiaries disaggregated by gender (individual people) | Midterm: Males: 500 Females: 500<br><br>Final: Males: 5000 Females: 5000 | Among the beneficiaries were included the people using the buildings and benefitting from better thermal comfort as well as the people benefitting from project KM, training and new work opportunities. | User statistics of the buildings + number of people employed by project related activities.<br><br>Collecting buildings' user statistics is an ongoing baseline activity, while information on trained and employed people will be collected by project M&E activities | Annually for the PIR | For building user data building owners and entities responsible for their operation and management.<br><br>For the data on the number people employed by the project related activities, the project management | Annual statistics reports compiled for the targeted buildings<br><br>Consultant reports | Risk # 1: The Government does not have the financial resources to support the proposed EE retrofits or their effective replication.<br><br>Risk# 2: Lack of political will to effectively support further development and implementation of the EMS and EMIS in Serbia. |
| | Indicator 2: Direct and indirect lifetime GHG emissions avoided (metric tons of CO2e) | Midterm: Direct: 0 Indirect: 0<br>Final: Direct: 146 000 Indirect: 300 000 | Direct GHG emission reduction resulting from retrofitted buildings using project financing (incl. CEB), indirect by replication after the project. | Investment project monitoring by EMIS | Annually for the PIR | MME and the entity within the MME managing EMIS and the energy managers of the retrofitted buildings | EMIS reports and annual PIRs | See above |

[9] Data collection methods should outline specific tools used to collect data and additional information as necessary to support monitoring. The PIR cannot be used as a source of verification.

| Monitoring | Indicators | Targets | Description of indicators and targets | Data source/Collection Methods[9] | Frequency | Responsible for data collection | Means of verification | Risks/Assumptions (Risk to reaching the set targets) |
|---|---|---|---|---|---|---|---|---|
| | Indicator 3: Energy saved (MJ) | Midterm: 0 TJ<br><br>Final: 2 340 TJ | Calculated energy savings resulting from retrofitted buildings using project financing (incl. CEB), | Investment project monitoring by EMIS | Annually for the PIR | MME and the entity within the MME managing EMIS and the energy managers of the retrofitted buildings | EMIS reports | See above |
| | Indicator 4: Increase in installed renewable energy capacity (MW) | Midterm: 0 MW<br>Final: 1 MW | Reported installation of renewable energy sources (such as solar) into retrofitted buildings | Investment project monitoring by EMIS | Annually for the PIR | MME and the entity within the MME managing EMIS and the energy managers of the retrofitted buildings | EMIS reports | See above |
| **Project Outcome 1** | Indicator 5: Status of the rulebooks listed under output 1.1 in chapter IV of the Prodoc | Midterm: Over 50% of the rulebooks drafted<br><br>Final: All six rulebooks formally adopted | Status of the rulebooks as listed under output 1.1 in chapter IV of the Prodoc | Official journal publishing the adopted rulebooks | Annually for the PIR | Project management | Official journals | Lack of political will to effectively support further development and implementation of the EMS and EMIS in Serbia. |
| | Indicator 6: The number and total floor area of the buildings belonging to the B-2 category included into EMIS together with appointed and adequately trained energy managers | Midterm: Forty buildings with the total floor area of at least 0,5 million m2<br><br>Final: At least 80 buildings with the total floor area of at least 1 million $m^2$ and each building having an appointed and adequately | Self-explanatory as it concerns the nature of the indicator.<br><br>The targets were defined based on what was considered as realistic given the project timeframe | EMIS | Annually for the PIR | Project management | EMIS reports | Lack of political will to effectively support further development and implementation of the EMS and EMIS in Serbia. |

| Monitoring | Indicators | Targets | Description of indicators and targets | Data source/Collection Methods[9] | Frequency | Responsible for data collection | Means of verification | Risks/Assumptions (Risk to reaching the set targets) |
|---|---|---|---|---|---|---|---|---|
| | | trained energy manager | and resources available | | | | | |
| **Project Outcome 2** | Indicator 7: Number of renovated buildings | Midterm: 0<br>Final: 28 | Self-explanatory as it concerns the nature of the indicator.<br><br>The targets were defined based on the signed CEB loan | Investment project monitoring | Annually for the PIR | MME and the entity within the MME managing EMIS and the energy managers of the retrofitted buildings | Progress reports of the CEB loan implementation | The Government does not have the financial resources to support the proposed EE retrofits or their effective replication. |
| | Indicator 8: Amount of investments for implemented energy saving and/renewable energy measures | Midterm: USD 0<br>Final: USD 40 000 000 | Self-explanatory as it concerns the nature of the indicator.<br><br>The targets were defined based on the signed CEB loan | Investment project monitoring | Annually for the PIR | MME and the entity within the MME responsible for managing the CEB loan | Progress reports of the CEB loan implementation | The Government does not have the financial resources to support the proposed EE retrofits or their effective replication. |
| **Project Outcome 3** | Indicator 9: Status of project reports and KM platforms | Midterm: Inception report completed and online KM platform established<br><br>Final: In addition to the midterm targets, project final report and terminal evaluation completed | As per the standard UNDP M&E requirements of the project<br><br>The on-line KM platform as described by the project outputs | Annual PIRs | Annually | Project management | Annual PIRs | NA |

| Monitoring | Indicators | Targets | Description of indicators and targets | Data source/Collection Methods[9] | Frequency | Responsible for data collection | Means of verification | Risks/Assumptions (Risk to reaching the set targets) |
|---|---|---|---|---|---|---|---|---|
| | Indicator 10:<br>Number of people disaggregated by gender reached by project's knowledge management and information dissemination activities | Midterm:<br>Males: 500<br>Females: 500<br><br>Final:<br>Males: 1000<br>Females: 1000 | The number consists of the people visiting the project website and participating the project workshops and training events. | Built-in automatic website and social media monitoring tools.<br><br>List of participants of the project workshops and training events | Annually for the PIR | Project website and social media managers<br>Project management | Built-in automatic website and social media monitoring tools.<br><br>List of participants of the project workshops and training events | COVID-19 or similar pandemic preventing the organization of physical events |
| | | | | | | | | |

**Annex 6: UNDP Social and Environmental Screening Procedure (SESP)**

To be provided as a separate document

## Annex 7: UNDP Risk Register

| # | Description | Risk Category | Impact & Probability | Risk Treatment / Management Measures | Risk Owner |
|---|---|---|---|---|---|
| 1 | Lack of political will to effectively support, which may prevent or hamper further development and implementation of the EMS and EMIS in Serbia. | Political | The adoption of the targeted secondary legislation under Output 1.1 may be significantly delayed or stopped entirely similar to the adoption of EMIS into Government owned B-2 category buildings<br><br>L = 2<br>I = 4<br><br>Risk level: Moderate | Implementing the project in close consultation with the key stakeholders and beneficiaries, including the Ministry of Mining and Energy, Ministry of Finance and other line ministries. The positive experiences of the Government with the first EMIS project as well as the recent adoption of the new Law on Energy Efficiency and Rational Use of Energy are also likely reduce this risk. | MME / Project director |
| 2 | The Government does not have the financial resources to support the proposed EE retrofits or their effective replication. | Financial | There is no financing for the planned retrofits<br><br>L = 1<br>I = 5<br><br>Risk level: Moderate | This risk is mitigated by the fact that the Government has already signed an agreement with the CEB for a 40 million Euro sovereign guarantee loan to finance the retrofit of the first 28 buildings | MME / Project director |
| 3 | Due to technical problems with the planned EE retrofit investments and technologies used, the trust of the key stakeholders on the proposed measures is lost. | Other (technology risk) | The confidence of the key stakeholders on the proposed EE and RE measures is lost resulting in that the implementation of new projects, which are suggested to apply the same measures is lost.<br><br>L = 2<br>I = 3<br><br>Risk level: Moderate | Adequate due diligence and, when applicable, pre-testing of the proposed EE and RE solutions. The risk that EMIS software gets outdated can be mitigated by constantly updating it. | Management of both the UNDP/GEF project and the CEB loan |
| 4 | The proposed measures and retrofit projects may generate waste that is harmful to the environment and human | Environmental | The implemented measures will result in non-acceptable local environmental problems<br><br>L = 2<br>I = 3 | Having as an obligatory component for all proposals an environmental impact assessment addressing also the waste issue. | Management of both the UNDP/GEF project and the CEB loan |

| | | | | | |
|---|---|---|---|---|---|
| | health, if not properly managed and disposed. | | Risk level: Moderate | | |
| 5 | The changing climate and extreme weather conditions eventually appearing more frequently and more intensively may pose specific risks to those building retrofit measures that are exposed to such weather. | Environmental | The implemented measures will not produce the desire benefits or will result in adverse effects to the lifetime of the building<br>L = 2<br>I = 3<br>Risk level: Moderate | Taking the changing climate and the risk for more frequent and intensive extreme weather conditions into account in the calculations, in defining the technical specifications for the equipment and in ensuring their proper installation. | Management of both the UNDP/GEF project and the CEB loan |
| 6 | Inadequate local capacity to effectively implement the proposed measures | Operational | The targeted project results will not be achieved<br>L = 2<br>I = 4<br>Risk level: Moderate | Adequate focus on capacity building, coaching and adaptive management | Project Board and UNDP by their oversight functions and responsibilities |
| 7 | Continuing COVID-19 pandemic will prevent some project activities from being implemented | Social | The targeted project results will not be achieved and the stakeholders cannot be engaged at the level required.<br>L = 2<br>I = 4<br>Risk level: Moderate | Planning and developing alternative ways or introducing required precautionary measures for allowing the implementation of critical project activities despite of COVID-19 restrictions. For instance, all required project meetings, workshops and training events can also be organized online. | Management of both the UNDP/GEF project and the CEB loan |

**Annex 8: Overview of Project Staff and Technical Consultancies**

| Consultant | Time Input | Tasks, Inputs and Outputs |
|---|---|---|
| ***For Project Management*** | | |
| ***Local / National contracting*** | | |
| Project Manager<br>Rate: $450/week | Full time<br>260 weeks over 5 years from which 140 weeks allocated for the project management | The Project Manager (PM), together with the International Project Advisor will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors.<br><u>Duties and Responsibilities</u><br>• Manage the overall conduct of the project.<br>• Plan the activities of the project and monitor progress against the approved workplan.<br>• Execute activities by managing personnel, goods and services, training and low-value grants, including drafting terms of reference and work specifications, and overseeing all contractors' work.<br>• Monitor events as determined in the project monitoring plan, and update the plan as required.<br>• Provide support for completion of assessments required by UNDP, spot checks and audits.<br>• Manage requests for the provision of UNDP financial resources through funding advances, direct payments or reimbursement using the FACE form.<br>• Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports.<br>• Monitor progress, watch for plan deviations and make course corrections when needed within project board-agreed tolerances to achieve results.<br>• Ensure that changes are controlled and problems addressed.<br>• Perform regular progress reporting to the project board as agreed with the board, including measures to address challenges and opportunities.<br>• Prepare and submit financial reports to UNDP on a quarterly basis.<br>• Manage and monitor the project risks – including social and environmental risks - initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;<br>• Capture lessons learned during project implementation.<br>• Prepare revisions to the multi-year workplan, as needed, as well as annual and quarterly plans if required.<br>• Prepare the inception report no later than one month after the inception workshop.<br>• Ensure that the indicators included in the project results framework are monitored annually in advance of the GEF PIR submission deadline so that progress can be reported in the GEF PIR.<br>• Prepare the GEF PIR;<br>• Assess major and minor amendments to the project within the parameters set by UNDP-GEF; |

| Consultant | Time Input | Tasks, Inputs and Outputs |
|---|---|---|
| | | • Monitor implementation plans including the gender action plan, stakeholder engagement plan, and any environmental and social management plans;<br>• Monitor and track progress against the GEF Core indicators.<br>• Support the Terminal Evaluation process.<br>• In addition to the administrative project management functions, the project manager will contribute by technical inputs to and supervision of all outputs under Outcomes 1, 2 and 3. |
| Project Assistant (incl. account management)<br><br>Rate: $225/week | Full time<br>260 weeks over 5 years from which 140 weeks allocated for the project management | <u>Duties and Responsibilities</u><br>Under the guidance and supervision of the Project Manager, the Project Assistant will carry out the following tasks:<br>• Assist the Project Manager in day-to-day management and oversight of project activities;<br>• Assist in matters related to M&E and knowledge resources management;<br>• Assist in the preparation of progress reports;<br>• Ensure all project documentation (progress reports, consulting and other technical reports, minutes of meetings, etc.) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by PB, TAC, UNDP, project consultants and other PMU staff;<br>• Provide PMU-related administrative and logistical assistance.<br>• Keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager;<br>• Review project expenditures and ensure that project funds are used in compliance with the Project Document and Government financial rules and procedures;<br>• Validate and certify FACE forms before submission to UNDP;<br>• Provide necessary financial information as and when required for project management decisions;<br>• Provide necessary financial information during project audit(s);<br>• Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues;<br>• Consolidate financial progress reports submitted by the responsible parties for implementation of project activities;<br>• Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports.<br>• In addition to the administrative and financial project management functions listed above, the project assistant will contribute to all outputs under Outcomes 1, 2 and 3 by different organizational and logistic support |

| Consultant | Time Input | Tasks, Inputs and Outputs |
|---|---|---|
| | | |
| ***For Technical Assistance*** | | |
| ***Outcomes 1 - 3*** | | |
| ***Local / National contracting*** | | |
| MME technical task manager<br><br>Rate: $400/week | Full time<br>260 weeks over 5 years | <u>Duties and Responsibilities</u><br>• Supporting the project manager in the overall project co-ordination and supervision and having the responsibility of technical supervision and support of implementing activities under outputs 1.1 - 1.3 and 2.3 in particula by ensuring that the mentioned outputs are implemented in accordance with the work plan and achieved in schedule meeting the targets set in the project results framework<br>• In co-operation with the project manager, managing and monitoring the project risks and capturing lessons learned during project implementation.<br>• Managing EMIS and contributing to its mainatenance and further development<br>• Ensuring that adequate good quality metered data will be available for project monitoring purposes as it concerns, in particular, the achieved energy savings and GHG reduction from the energy effiency retrofit projects supported by the CEB loan and that any related calculations are done by using up -to-date methdologies in accordance with the state of art EU standards and methodologies<br>Supporting the project manager in stakeholder engagement and co-ordination, including full co-ordination with activities implemented by the FME as the project responsible party. |
| FME technical task manager<br><br>Rate: $400/week | Full time<br>260 weeks over 5 years | <u>Duties and Responsibilities</u><br>• Technical management of outputs 1.4-1.10, 2.1-2.3, 3.2, 3,3 and 3,5 implemented by the FME as a responsible party making sure that the mentioned outputs are implemented in accordance with the work plan and achieved in schedule meeting the targets set also in the project results framework<br>• Managing and monitoring the project risks and capturing lessons learned during project implementation as it concerns the outputs implemented by the FME<br>• Ensuring that energy audits and investment proposals for the energy effiency retrofit projects supported by the CEB loan are prepared in accordance with the state of art EU standards and methodologies<br>• Ensuring engagement of and co-ordination with all stakeholders listed in the stakeholder engagement plan for reaching the outputs assigned to the FME as a responsible party, including full co-ordination with activities implemented by the MME<br>• Regularly reporting to the project manager on the progress with outputs assigned to the FME as a responsible party, including provision of the required inputs to annual PIRs for outputs under FME's responsibility<br>• Managing and regularly updating the project website and other KM platforms |

| Consultant | Time Input | Tasks, Inputs and Outputs |
|---|---|---|
| | | • |
| ***International / Regional and global contracting*** | | |
| *International project advisor*<br><br>*Rate: $3750/week* | *40 weeks over 5 years* | Duties and Responsibilities:<br>Support project management in project progress monitoring, annual planning and related adaptive management for meeting the targets sets in the project results framework and ensuring that they comply with the agreed benchmarks, international best practices and lessons learnt. The expected level of involvement will be 30-40 days (including 2-3 missions) per year, which may gradually decrease towards the end of project implementation depending on how the project proceeds.<br>The specific responsibilities include, among others, to:<br>• support the project management team in more detailed planning and organization of the project implementation at the inception phase, including support to the project manager in the preparation of the project inception report and the annual output specific work plans as well as drafting of Terms of Reference for the national and, as needed, additional international experts and subcontractors<br>• supporting the energy efficiency, energy audit and GHG calculation methodology development development or adoption from another country to facilitate the use of a transparent methodology for the mentioned use in accordance with the state of art EU standards and methodologies<br>• support adaptive management by annually (or semi-annually) reviewing the progress of the project and its different subcomponents and making suggestions for eventual changes and/or complementary activities;<br>• review and comment suggested methodologies for assessing energy saving and the GHG reduction impact of the project;<br>• support the project manager in supervising the work of the contracted individual experts and companies, including review of the energy audits and the EE retrofit investment proposals prepared with project support<br>• support the project manager in arranging co-operation with the already identified key stakeholders and, as applicable, support the identification and establishment of new national and/or international partnerships and to support the project goals and objectives; and<br>• support the local project team in monitoring and evaluating the performance and the outcome of the pilot EE retrofit projects financed by the CEB loan |
| ***Outcome 1:*** | | |
| ***Local / National contracting*** | | |
| *Legal and technical experts*<br>*Rate:* | *Short term daily based contracts totalling 90* | Drafting of bylaws, guidebooks and other documents to support the implementation of the new Law on Energy Efficiency and Rational Use of Energy<br><br>Developing a licensing system for energy auditors |

| Consultant | Time Input | Tasks, Inputs and Outputs |
|---|---|---|
| *$1000/week* | *weeks over the duration of the project* | |
| *Average costs consisting of 5—6 student/ assistant contracts:* *$785/week* | 260 weeks over 5 years<br><br>Note: The rate refers to the costs of the entire team | EMIS Help Desk |
| *Subcontracts for energy efficiency, energy audit and GHG calculation methodology development, EMIS maintenance and further development and training of energy auditors and energy managers* | | |
| ***International / Regional and global contracting*** | | |
| | | |
| ***Outcome 2:*** | | |
| ***Local / National contracting*** | | |
| Subcontracts for energy audits and finalisation of investment proposals | | |
| ***Outcome 3:*** | | |
| ***Local / National contracting*** | | |
| *Rate:* *$1000/week* | *5 weeks* | Inception report |
| | *6 weeks* | Terminal evaluation |
| Subcontract: Website estabishment and annual updating | | |
| ***International / Regional and global contracting*** | | |
| *Rate:* *$3750/week* | *6 weeks* | Terminal evaluation |

## Annex 9: Stakeholder Engagement Plan

Public engagement during project development

The key stakeholders listed in table 3 below have been consulted and their comments taken into account in project development. Due to the restrictions caused by the global COVID-19 pandemic, no on-site project preparation workshops could be organized, but the stakeholders could be engaged by using different on-line collaboration platforms and video-conferencing facilities beside a few on-site meetings by adopting the required precautionary measures.

The stakeholders, their relevant interests, and why they are included

The key stakeholders, their envisaged roles and reasons for their inclusion are summarized in table 3 below.

Table 3 Key partnerships of the project

| Name of the entity | Envisaged role and potential areas for co-operation during project implementation | Timing of engagement |
|---|---|---|
| **Central government administration and related organizations and companies** | | |
| Ministry of Mining and Energy (MME) | The project implementing partner, including coordination of the work with other government institutions involved in the project as partners (UZZPRO and MCTI) and beneficiaries (users of the CGB). Also, the MME will have a key role in communicating with public utility companies for outputs and activities requiring their engagement. | From the beginning of the project |
| The Administration for Joint Services of the Republic Bodies (UZZPRO) | Provides centralized maintenance for the selected 28 Central Government Owned Buildings (CGBs) and is envisaged to be a key partner to provide operational support for project activities. | From the beginning of the project |
| Ministry of Construction, Transport and Infrastructure (MCTI) | A key project partner for project's technical support as it concerns, for instance, construction permits and developing a methodology for calculating buildings' energy performance | From the beginning of the project |
| **Local (city) administration and PUCs** | | |
| City of Belgrade | Envisaged project partner responsible for issuing location information, technical conditions and permits | From the beginning of the project |
| Public Utility Companies (PUCs) | Envisaged project partners responsible for issuing technical conditions for design and sharing other metering and billing information | From the beginning of the project |
| **Energy and Construction related NGOs and professional associations** | | |
| Chamber of Commerce | Envisaged project partner for engaging private sector | From the beginning of the project |

| | | |
|---|---|---|
| Chamber of Engineers | Envisaged project partner for engaging professionals and providing advisory services related to buildings' energy performance calculation methodology, technical design and construction. | From the beginning of the project |
| **Universities and other scientific, research and educational entities** | | |
| Belgrade University | Envisaged project partner for engaging professionals and providing advisory services related to buildings' energy performance calculation methodology, technical design and construction. | From the beginning of the project |
| **International organizations and financing entities** | | |
| Council of Europe Bank (CEB) | Providing a EUR 40 million loan for supporting energy efficiency renovation of public buildings, complemented by CEB Trust Fund grants worth of EUR 0.6 million from Slovakia and Spain, to be used for preparatory activities of the EE renovation of 28 Central Government Buildings (elaboration of design documents, etc). | |
| EU/WBIF | Providing EUR 0.3 million for operation of PMU involved in preparatory activities for EE renovation of 28 Central Government Buildings. | From the beginning of the project |
| KfW | Providing a EUR 110 million loan for EE renovation of the Military Medical Academy (a program similar to EERCGB with the MoU signed in February 2020) | From the beginning of the project |
| UNDP | Responsible for the oversight of project implementation and co-financing the EMIS management and upgrading. | From the beginning of the project |
| **Individuals and private sector** | | |
| Architects and building engineers<br>Appointed and future energy managers<br>Energy auditors and those wishing to obtain a license | To be engaged as:<br>1) stakeholders, experts and representatives of their professional field to the working groups or task forces to finalize the required secondary legislation for the implementation of the new Law on Energy Efficiency and Rational Use of Energy<br>2) professionals to be trained for EMIS, energy audits, energy management as well as design and monitoring of energy efficiency retrofits<br>3) contributors and/or contractors for feeding information to and managing EMIS, conducting energy audits and designing energy efficiency retrofits | Across the project duration depending on the schedule of activities and expected type of participation (see Annex 4 – Multi Year Work Plan) |
| IT specialists | Upgrading, inventing and developing new features for EMIS for improving its usability | |

The private sector will have a key role in implementing the project – primarily as a service provider for developing new features and functionalities for EMIS data management as well as for different elements of the actual building renovation, including energy audits, technical and financial feasibility analysis, actual construction work and monitoring of the results of the work done. Besides, the private sector (e.g. private banks) will have a role in providing project financing, managing the credit lines of international multilateral financing institutions and offering new type of financing instruments and modalities such as ESCO financing.

<u>The steps and actions to achieve meaningful consultation and inclusive participation, including information dissemination</u>

During project implementation, the participation will be facilitated by multiple means starting with the project inception workshop. Depending on the situation with the COVID-19 at that time in Serbia, the inception workshop can be organized either as an on-site or on-line event.

An on-line knowledge management platform (basically a website complemented by different social media channels) will be established among the first project activities in order to share up to date information of the project as well as to educate key project stakeholders and the general public on the key topics the project is dealing with, including a forum, in which these topics can be discussed and through which specific questions to the project management or other project participants on those topics can be made.

Other means for engaging stakeholders and facilitating public participation will be the workshops and training activities organized during the projects as its final report and terminal evaluation, which will also be published online.

Roles and responsibilities for implementation of the Plan

The project Implementing Partner and the project management assigned by it has the overall responsibility for implementing the Stakeholder Engagement Plan with UNDP providing oversight. The project management may also assign certain tasks for implementing the plan for other parties such as the FME subject to a written agreement. The ultimate responsibility for ensuring the implementation of the plan at the adequate level also in this case, however, remains with the project Implementing Partner.

The timing of the engagement throughout the project cycle

See table 3

The budget for stakeholder engagement throughout the project cycle and, where applicable, for related capacity-building to support this engagement

There is not specific budget titled stakeholder engagement, but there are specific budget lines for engaging local experts, training and public outreach workshops, establishing and managing project website, which all part of or contribute to local stakeholder engagement. While the total budget for project's technical assistance activities excluding project management will be about USD 1,2 million, it is difficult to define what particular share out of this is assigned for stakeholder engagement in particular since it will be a core element of all project's technical assistance activities in one form or another.

Key indicators of stakeholder engagement during project implementation, and steps that will be taken to monitor and report on progress and issues that arise

In the project's M&E framework, there are gender specific indicators measuring, for instance, the number of participants in project's training activities, recording the visitors at the project website well as indicators for checking and monitoring that project activities contributing in one way or another to stakeholder engagement such as workshops, project monitoring and evaluation reports have been completed on time and published online.

No Free, Prior and Informed Consent (FPIC) by indigenous people is required for project activities.

## Annex 10: Further Assessment on Social and Environmental Safeguards Screening

UNDP's Social and Environmental Standards (SES) underpin UNDP's commitment to mainstream social and environmental sustainability in its programs and projects to support sustainable development and are an integral component of UNDP's quality assurance and risk management approach to programming. Through the SES, UNDP meets the requirements of the GEF's Environmental and Social Safeguards Policy.

During project development, the project was reviewed with UNDP's SESP. The analysis identified that potential social and environmental impacts associated with the project activities which will be co-funded by CEB Loan. Screening using the SESP identified the risks related to co-financed activities by CEB Loan in detail, as in Annex 6. Herewith this further assessment, the consistency of the relevant safeguards instruments of the co-financing partner (CEB) with UNDP's SES requirements and other policies are identified and the monitoring and measurement plan to resolve any gaps with the co-financier during project implementation are prepared for reference.

### 1. Comparative analysis of social and environmental legal and policy framework

The national legislation, UNDP SES policy and the Central European Bank policy fully cover all risks identified in the project. In event of discrepancy between SES/international banks requirements and national policy and legislation, higher standards shall apply. Adherence to CEB environmental and social standards is ensured by the stipulations of the Loan Agreement and the grant contracts signed between the government of Serbia and the CEB. Furthermore, pursuant to Article 6 of the Constitution of the Republic of Serbia, common practice of the international legislation and ratified international agreements are an integrative part of the legal system of the Republic of Serbia and shall be implemented directly. This stipulation means that in event of international funding the requirements of the funding authority are directly applied which means in event that they exceed the requirements of national legislation, the former ones shall apply.

The table below indicates comparison between the applicable standards, national legislation and the risk categorization.

Table 4: Summary of comparative analysis of national, UNDP and CEB environmental and social standards related to the risks identified in SESP

| Overarching Principle / Project-level Standard UNDP SES policy/SESP identified risk | CEB standards | Included in national legislation | UNDP Risk category | CEB Correspondent risk category |
|---|---|---|---|---|
| Principle 1: Human Rights | Protection of vulnerable groups | ✔ | Moderate | B |
| Principle 2: Gender Equality and Women's Empowerment<br>SESP : | Gender equality and non-discrimination | ✔ | Moderate | B |

| | | | | |
|---|---|---|---|---|
| Risk 2 (Principle 2) Related to Output 2.3 is fully financed by Council of Europe Bank Loan, Outputs 2.1 and 2.2., the grant for the technical assistance though the Western Balkans Infrastructure Project Facility and the technical Assistance from the Slovak Inclusive Growth Account and the Spanish Cohesion Account grant were signed.<br>Risk 8 related to output 1 UNDP/GEF fiannced | | | | |
| Principle 3: Accountability<br>Risk 7, (Principle 3, Standard 8) The risk pertains to output 2.3 which is fully financed by Council of Europe Bank Loan.<br>Risk 6 (Principle 3, Standard 4) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan.<br>Risk 4 (Principle 3, Standard 3) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan. | -Stakeholder information and consultation<br>-Grievance procedure | ✔ | Moderate | B |
| Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management | -Protection of nature and biodiversity | ✔ | N/A | N/A |
| Standard 2: Climate Change and Disaster Risk<br>Risk 3 (Standard 2)<br>The risk pertains to **Output 2.3** which is fully financed by Council of Europe Bank Loan. | -Environmental principles, substantive standards and practices foreseen in EU Directives<br>-Climate change principles | ✔ | Moderate | B |
| Standard 3: Community Health, Safety and Security<br>Riks 4 (Principle 3, Standard 3) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan. | -Community health and safety | ✔ | Moderate | B |

| | | | | |
|---|---|---|---|---|
| Standard 4: Cultural Heritage<br>Risk 6 (Principle 3, Standard 4) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan. | -Funds projects identified as cultural heritage in national legislation | ✔ | Moderate | B |
| Standard 5: Displacement and Resettlement<br>Risk 1 (Principle 1, Standards 3 and 5) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan. | Protection of livelihoods and housing | ✔ | Moderate | B |
| Standard 6: Indigenous Peoples | Protection of livelihoods and housing | ✔ | N/A | N/A |
| Standard 7: Labour and Working Conditions<br>Riks 5 (Standard 7) The risk pertains to Output 2.3 which is fully financed by Council of Europe Bank Loan. | Conditions and rights of workers | ✔ | Moderate | B |
| Standard 8: Pollution Prevention and Resource Efficiency<br>Risk 7 ((Principle 3, Standard 8) The risk pertains to output 2.3 which is fully financed by Council of Europe Bank Loan | -Environmental principles, substantive standards and practices foreseen in EU Directives -Climate change principles | ✔ | Moderate | B |
| Number of risks in each risk rating category | | | | |
| High | | | 0 | 0 |
| Moderate | | | 7 | 7 |
| Low | | | 2 | 2 |
| Total number of project risks | | | 9 | 9 |
| Overall Project Risk Categorization | | | Moderate | B |
| Number of safeguard standards triggered | | | 6 | 9 |

As observed from the table above, except in relation to Cultural Heritage, the social and environmental safeguards of CEB and UNDP are comparable and consistent. The CEB applies national legislation of a host country in relation to Cultural Heritage. Serbian national standards in this respect are compatible with the UNDP SES standards.

There is no specific legislation related to refurbishment of historic buildings in energy efficient way, either at national or at international level, the project will attempt to create best practice while applying international, SES and national requirements both for historic buildings and for energy efficiency in buildings.

## 2. Monitoring, Evaluation and Adaptive Measurement Arrangements

***UNDP requirements:***

Project-level monitoring, evaluation and adaptive measurement will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies. [10]

Reporting on progress and issues in the social and environmental safeguards implementation will be documented in the annual GEF project implementation reports (PIRs).

For the purpose of specific SES assessment reports additional monitoring and evaluation tools may be agreed with the implementing partner.

Relevant safeguards instruments prepared by the co-financing partner will be reviewed by UNDP for consistency with UNDP's SES, and any gaps will be resolved in discussion with the co-financier, prior to the start of those activities.

***CEB requirements:***

In compliance with the Loan Agreement, the Borrower through the MME shall send to the CEB a progress report (i) once a year, from the entry into force of the Loan Agreement until the completion of the works planned under the Programme; and (ii) prior to every Disbursement Request. The reporting template is attached to the Loan Agreement in Appendix 4 b) Completion Report Upon completion of works planned under the Programme, the Borrower through the MME shall submit a completion report including an appraisal of the Programme's social impact with technical indicators agreed upon with the CEB in Appendix 4 of the Loan Agreement.

[10] See https://www.thegef.org/gef/policies_guidelines

**Annex 11: Gender Analysis and Gender Action Plan**

To be provided as a separate document

**Annex 12: Procurement Plan**

To be provided as a separate document

**Annex 13: GEF focal area specific annexes (GHG calculations)**

In November 2014, the GEF Secretariat, in cooperation with STAP, started a review process aimed at further refining its GHG accounting methodologies, and exploring opportunities to harmonize them with those developed by relevant partners. The results of this exercise: "Guidelines for Greenhouse Gas Emissions Accounting and Reporting for GEF Projects" were presented to the GEF Council in 48th meeting in June 2015. The GHG analysis conducted for the project takes into account these updated guidelines and recommendations as elaborated in further detail below.

While definition of the GEF on direct GHG emission reductions has remained unchanged as "emission reductions, which attributable to the investments made during the project's supervised implementation period and totaled over the respective lifetime of the investments", for "indirect emission" reductions the new guidelines recommend the use of "consequential emissions" instead, defined as "those projected emissions that could result from a broader adoption of the outcomes of a GEF project plus longer-term emission reductions from behavioral change."

For energy efficiency projects, the GEF adopted in 2013 the methodology "Calculating Greenhouse Gas Benefits of the Global Environment Facility Energy Efficiency Projects (Version 1.0). As defined in the methodology, the direct GHG emission reductions "are those achieved by project investments such as technology demonstrations and discrete investments leveraged during the project's supervised implementation period". In contrast, GHG emission reductions achieved, for example, as a result of market facilitation and development through project-supported policy and institutional frameworks, capacity building, information gathering, and replication effects of demonstration activities, are considered indirect GHG emission reductions (or as later defined consequential emissions). The methodology defines 4 different modules for determining GHG emission reductions, from which the module "demonstration and diffusion" applies for this project.

In the demonstration and diffusion module, the key variables to be included into the calculation, include:

- Energy savings per user-specified unit for each fuel
- Lifetime of investment (years);
- Baseline assumption (% of activities implemented absent GEF intervention);
- Number of replications post-project as spillover (necessary for the indirect bottom-up estimate);
- Number of units to be installed in each year of the project.

These variables have been applied for the GHG accounting of the project, as follows:

- The energy savings have been defined as the reduction of the use of primary energy per square meter of each of the 28 buildings to be renovated by taking into account the mix of energy sources used in the buildings that were subject to the initial walk-through energy audits. As average emission factors, 0.29 tons of $CO_{2eq}$ for district heating and 1.1 tons of $CO_{2eq}$ for electricity were used.
- As a lifetime of the investment, 25 years were used
- As a baseline assumption, no dynamic baseline was considered as applicable since without the project funding (incl. the CEB loan as co-financing) no renovation would have been done

- The total floor area of all Government buildings is 375,000 $m^2$ representing an increment of 167,000 $m^2$ to those 28 buildings with the total floor area of 208 000 $m^2$ that will be renovated with project funding. As the materials and technologies to improve the energy efficiency of existing buildings will be further developed over the next several years, it is anticipated that the primary energy consumption of those buildings that will be renovated after the project can be reduced by more than 30%. In this respect, a 50% emission reduction rate for those buildings that will be renovated after the project end has been assumed.
- As regards number of units, to be installed, these are represented by the 28 buildings to be renovated during 2024-26.

The results of the analysis for the project direct GHG reduction impact are presented in the table below, in which the targeted energy savings and related GHG emission reduction have been calculated on the basis of the targeted improvement of buildings' energy class by the suggested renovation activities and, consequently, the related reduction of their primary energy consumption, in which the respective shares of the different energy sources used by the buildings have been taken into account.

The emission factors for electricity and district heating are based on the official Rulebook on the format of Annual Report on achieved annual energy saving target published in the Official Gazette of the Republic of Serbia, No. 32/16 (http://arhiva.mre.gov.rs/doc/efikasnost-izvori/Pravilnik-o-obrascu-godi%C5%A1njeg-izve%C5%A1taja-2018-09-19/Pravilnik_o_obrascu_godi%C5%A1njeg_izve%C5%A1taja_o_ostvarivanju_cil%D1%98eva_u%C5%A1tede_energije_32-16.pdf?uri=CELEX:32009L0028) and the related attachment http://arhiva.mre.gov.rs/doc/efikasnost-izvori/Obrazac_2_2019-03-22.xlsx, and which are the same emission factors that are also used and approved for reporting Serbia's GHG emissions to the UNFCCC, EU and the IEA.

| **DIRECT GHG REDUCTION IMPACT** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No of buildings** | **Total floor area** | **Final energy consumption for heating (+ energy class) before** | **Final energy consumption for heating (+ energy class after** | **Consumption of primary energy before** | **Consumption of primary energy after** | **Saved Energy in kWh per year** | **Saved energy in MJ in 25 years** | **Specific $CO_2$ emissions before** | **Specific $CO_2$ emissions after** | **CO2 savings** | **CO2 savings** | **CO2 savings over 25 years** |
| | **$m^2$** | **kWh/$m^2$, a** | **kWh/$m^2$, a** | **kWh/$m^2$, a** | **kWh/$m^2$, a** | | | **kg/$m^2$,a** | **kg/$m^2$, a** | **kg/$m^2$,a** | **$tCO_2$/a** | **$tCO_2$/a** |
| 4 | 47 800 | 121 (E) | ≤ 98 (D) | 409 | 286 | 5 865 060 | 527 855 400 | 131 | 105 | 26 | 1 252 | **31 309** |
| 12 | 57 000 | 94 (D) | ≤ 65 (C) | 379 | 265 | 6 480 900 | 583 281 000 | 122 | 98 | 24 | 1 391 | **34 770** |
| 6 | 10 000 | 108 (E) | ≤ 98 (D) | 474 | 332 | 1 422 000 | 127 980 000 | 162 | 130 | 32 | 324 | **8 100** |
| 5 | 38 500 | 94 (D) | ≤ 65 (C) | 477 | 334 | 5 509 350 | 495 841 500 | 169 | 135 | 34 | 1 301 | **32 533** |
| 1 | 54 700 | 153 (F) | ≤ 130 (E) | 408 | 286 | 6 695 280 | 602 575 200 | 143 | 114 | 29 | 1 564 | **39 111** |
| **28** | **208 000** | | | | | **25 972 590** | **2 337 533 100** | | | | **5 833** | **145 822** |

As regards the consequential (aka indirect) GHG reduction impact of the project, by contributing to the continuing process of improving the energy efficiency and promoting the use decentralized building integrated renewable energy generation (primarily solar and geothermal) in central government owned buildings and thereby moving also closer to near zero emission buildings (NZEB), the indirect GHG impact of the project has been estimated to be at least 300,000 tons of CO2eq for investments taking place within 10 years after the end of the GEF financed project and calculated over the operating period of 25 years.

This presents an initial tentative estimate based on an assumption that within 10 years after the project end, at least twice the amount of similar public buildings (including buildings owned by both the central Government and the local city authorities could be subject to similar EE and RE retrofit measures initiated and facilitated by improved energy management of those buildings on the top of such buildings that may be subject to similar measures anyway. It is to be noted, however, that this also greatly depends on the available financial resources that can be leveraged and assigned or for such purpose after the project end.

**Annex 14: Additional agreements: Co-financing letters and the responsible partner agreement with FME**

To be provided as a separate document

**Annex 15: GEF Core indicators**

To be provided as a separate document

**Annex 16: GEF 7 Taxonomy**

To be provided as a separate document

**Annex 17: Partners Capacity Assessment Tools and HACT Micro-Assessments for the Ministry of Mining and Energy and Faculty of Mechanical Engineering of the Belgrade University**

To be provided as a separate document

**Annex 18: UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system)**

To be provided as a separate document

**Annex 19: UNDP Audit Check list to be used for projects when submitted to the GEF for CEO endorsement/approval**

To be provided as a separate document