



Enhancing the Energy Management System to Scale up Energy Efficiency Investments in Public Buildings in Serbia

Part I: Project Information

GEF ID

10443

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT

NGI

Project Title

Enhancing the Energy Management System to Scale up Energy Efficiency Investments in Public Buildings in Serbia

Countries

Serbia

Agency(ies)

UNDP

Other Executing Partner(s)

Executing Partner Type

Other Executing Partner(s)

Ministry of Mining and Energy

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Chemicals and Waste, Climate Change Mitigation, Climate Change, Energy Efficiency, Renewable Energy, Financing, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Deploy innovative financial instruments, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Stakeholders, Beneficiaries, Communications, Behavior change, Public Campaigns, Awareness Raising, Education, Private Sector, Capital providers, Financial intermediaries and market facilitators, SMEs, Large corporations, Individuals/Entrepreneurs, Type of Engagement, Partnership, Consultation, Information Dissemination, Participation, Local Communities, Civil Society, Academia, Community Based Organization, Non-Governmental Organization, Capacity, Knowledge and Research, Capacity Development, Targeted Research, Innovation, Knowledge Generation, Learning, Indicators to measure change, Adaptive management

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

133,475

Submission Date

3/2/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-3	GET	1,405,000	48,000,000
	Total Project Cost (\$)	1,405,000	48,000,000

B. Indicative Project description summary

Project Objective

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.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Enabling policy framework and capacity building for energy audits and energy management	Technical Assistance	<u>Outcome 1</u> : 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)	<p>Output 1.1 Amended Law on Efficient Use of Energy and related rulebooks, including the finalisation of bylaws for official energy audits</p> <p>Output 1.2 Upgraded EMIS software to include new functionalities to facilitate, among others, automatic data transfer and data analysis.</p> <p>Output 1.3 At least 30 buildings belonging to category B-2 equipped with smart meters and upgrading other required hard- and software.</p> <p>Output 1.4 At least 60 energy managers of buildings within category B-2 trained together with other human capacity building.</p> <p>Output 1.5 At least 80 large public buildings of app 1,000,000 m2 included into EMIS.</p> <p>Output 1.6 Introducing full licensing system for energy auditors and building their capacity to conduct the audits.</p> <p>Output 1.7 An analysis and related recommendations for</p>	GET	810,000	2,500,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
2. Catalyzing building related EE and RE investments	Investment	<p><u>Outcome 2:</u></p> <p>Catalyzing capital investments in energy efficiency with a particular focus on central government owned buildings.</p>	<p>Output 2.1 Detailed energy audits for at least 28 large Government buildings</p> <p>Output 2.2 Final investment proposals with related 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 and financing criteria for renovation.</p> <p>Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings.</p>	GET	400,000	44,400,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
3. Outreach, monitoring and evaluation to scale up the investments	Technical Assistance	<u>Outcome 3:</u> Outreach, monitoring and evaluation for scaling up the investments	<p>Output 3.1: Project mid-term and final evaluations</p> <p>Output 3.2: Final project report, including monitored results of the supported EE and RE investment projects and a study of lessons learnt and an analysis and related recommendations for scaling up the project results.</p> <p>Output 3.3 Project Website that can be continued to be used and updated also after the project end</p> <p>Output 3.4 Final project workshop</p>	GET	70,000	100,000
Sub Total (\$)					1,280,000	47,000,000
Project Management Cost (PMC)						
					GET	1,000,000
Sub Total(\$)					125,000	1,000,000
Total Project Cost(\$)					1,405,000	48,000,000

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Government of Serbia	Grant	Investment mobilized	1,500,000
Government	Government of Serbia	In-kind	Recurrent expenditures	1,000,000
Donor Agency	Council of Europe Development Bank	Loans	Investment mobilized	44,400,000
Donor Agency	Council of Europe Development Bank	Grant	Investment mobilized	1,000,000
GEF Agency	UNDP	Grant	Investment mobilized	100,000
			Total Project Cost(\$)	48,000,000

Describe how any "Investment Mobilized" was identified

The main source of cofinancing for the targeted investments will be a 40 million Euro sovereign guarantee loan from the Council of Europe Development Bank (CEB) to finance the rehabilitation 28 buildings with the total floor area of 208,000 m2. For the preparation of the required technical documents for the CEB loan appraisal, the CEB will provide grant funding equal to 900,000 EUR. With the USD/EUR exchange rate of 0,901 as of October 28th, 2019, these are equal to USD 44.4 and 1.0 million respectively. These will be complemented by Government's own budget funding (grant) worth of USD 1.5 million and the UNDP core budget contribution of USD 100,000.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Serbia	Climate Change	CC STAR Allocation	1,405,000	133,475	1,538,475
Total GEF Resources(\$)					1,405,000	133,475	1,538,475

E. Project Preparation Grant (PPG)

PPG Required

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Serbia	Climate Change	CC STAR Allocation	50,000	4,750	54,750
Total Project Costs(\$)					50,000	4,750	54,750

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	146000	0	0	0
Expected metric tons of CO₂e (indirect)	300000	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	146,000			
Expected metric tons of CO₂e (indirect)	300,000			
Anticipated start year of accounting	2022			
Duration of accounting	3			

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	5,000			
Male	5,000			
Total	10000	0	0	0

Part II. Project Justification

1a. Project Description

Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

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. Consumption of primary energy per every unit of GDP is significantly higher than that in the EU (4.5 times higher than in Germany, 4 times higher than in France, 3 times that in Slovenia and almost twice that of Romania in 2016). Energy sector GHG emissions account for 80% of the national GHG emissions and of this 40% comes from energy (mainly heat) consumption in buildings, i.e. 20 mln tCO₂/year (2014).

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 is 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 EE scenarios for heat supply both anticipate continued growth in heat supply/consumption with insignificant share of RES (up to 8% in EE scenario). Against such projections, 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 1990 base year emissions.

The Law on Efficient Use of Energy (The Official Gazette of RS, number 25/13), hereinafter the Law, defines the energy management system in the Republic of Serbia. The energy management system is one of the key instruments aimed at achieving the objectives of energy efficiency policy at the national level, among which are:

- increasing the energy security of the country;
- increasing the competitiveness of the economy;
- reducing negative environmental impacts of energy sector; and
- promoting responsible practices with respect to energy, by implementing energy efficiency programmes, plans and measures in the sectors of energy production, transmission, distribution and consumption.

The energy management system includes a broad set of regulatory, organizational, promotional, technical and other measures and activities which are determined and implemented by different actors involved in this system, within their scope of competences. These actors include public administration bodies and so called "designated parties", as listed in table 1 below.

Table 1: Categories of designated parties

Category	Sector	Threshold
A-1: Industry IEM (energy manager specialized in industrial energy management) AR1 (Annual report – type 1)	Industrial sector	2,500 toe/year (104,67 TJ or 29,08 GWh) per site
	Sector of energy transformation, transmission, distribution (electricity, heat, refineries)	
A-2: Complex buildings BEM (energy manager specialized in building energy management) AR1 (Annual report – type 1)	Commercial sector, business premises, shopping centers, etc.	1,000 toe/year per site
	Industrial sector (companies which do not fall in A-1 but have buildings which cumulatively exceeds the threshold)	1,000 toe/year cumulative
B-1: Units of local self governments (LSG) MEM (energy manager specialized in municipal energy management) AR2 (Annual report – type 2)	All buildings and services (public lighting, etc.), of any size for which the energy bills are paid by units of LSGs (municipalities and cities)	Population exceeding 20,000
B-2: SA and AP bodies BEM (energy manager specialized in building energy management) AR2 (Annual report – type 2)	All buildings with individual floor area exceeding 2,000 m ² , for which energy costs are covered by central government *	Public buildings, commercial premises
	All buildings in competence of public service institutions and public enterprises (health, justice, education, culture, etc).**	

* Buildings managed by state authorities/bodies (SA) or provincial authorities/bodies (PA) bodies,

** Institutions/enterprises, which fall into public service which by consumption per site exceed the threshold, become individual designated parties

Energy Management has been effectively implemented in Serbia since 2015. During this period several major problems have been identified that hinder faster adoption of the system. So far, the best results have been achieved by the B-1 group (local self-government units i.e. municipalities and cities with population above 20.000). Significant results have also been achieved within the groups A-1 and A-2, but both are far from satisfactory level. Almost no results have been achieved within the group B-2 (state authority, provincial authority bodies and public services), regardless the fact that the largest buildings with highest energy consumption fall into this group. The key barriers to this are listed and briefly discussed in table 2 below.

Table 2: Identified barriers and suggested measure(s) for addressing them

Identified barrier	Project response
<p>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. For instance, the Clinical Centre (CC) of Serbia which encompasses some 80 single buildings of different size with the total floor area of 280,000 m² is neither obliged to have a centralised energy management system nor an energy management system for its buildings, since the energy consumption threshold for a single building is set very high (1000 toe). Only the heat plant of the clinical centre is included in the EMS, but it does not supply all CC buildings. Also, the heat plant falls into A-1 category of designated entities (industry i.e. heat production site) thus leaving the demand side (buildings) completely out of energy management system. As such, regardless the emence consumption in its buildings, the CC s not subject to obligatory energy management. At the same time, the Military Medical Academy with some 180.000 m² floor area is a designated party falling into group B-2 since it occupies a single large building whose consumption exceeds 1.000 toe;</p>	<p>Amended law and decrees related to the subject (Output 1.1)</p>
<p>The B-2 group is not well defined by the Law in terms of encompassing the whole public sector as defined by the Law on Budgetary System. The current definition of the group B-2 applies only to state and provincial bodies, as well as to public services (health, education, culture, etc.). Many public entities which are responsible for final energy consumption in their buildings/facilities, some of which are big consumers, are left out.</p>	<p>Amended law and decrees related to the subject (Output 1.1)</p>
<p>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. For instance, each hospital is a legal entity with its own management. One of its responsibilities is to sign contracts for energy supply. The operational and maintenance costs of the building (incl. energy) are, however, paid by the Health Insurance Fund. The maintenance also influences energy consumption. The actual investment costs as it relates, for instance, to reconstruction/refurbishment are covered by a third party, in this case the Ministry of Health. As a result, no co-ordinated decision making process for energy management and cost-effective energy efficiency investments and maintenance exist, which also is a barrier to energy performance contracting. Similar problems exist in education, justice and other sectors;</p>	<p>A report analyzing the situation with recommended changes (Output 2.4)</p>
<p>Frequent elections at all levels results 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;</p>	<p>Not possible to address in the frame of this project.</p>

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	An upgraded EMIS and other databases with prerequisites for improved data quality (Outputs 1.2-1.4)
Official energy audit system is still not introduced. This prevents quality EE and RE project preparation and implementation	An official energy audit system introduced with related rulebooks (Outputs 2.1-2.3)
Lack of human capacity in MME to analyse the reports submitted by designated parties and draw conclusions on the basis of which policy recommendations should be made.	Increasing the resources and building the capacity within MME to analyse the submitted reports and turning the conclusions into related policy actions (Output 1.4).

Given the fact that public entities falling under B-2 category are major energy consumers in Serbia, enhancing the better adoption of EMS within this category will enable project identification and preparation necessary to trigger large scale energy efficiency investments in the public sector and state owned public buildings in particular.

Baseline scenario and any associated baseline projects

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 in place thereby hindering also the related energy efficiency and renewable energy investments. While the Law on Efficient Use of Energy has been in force since 2013, not much progress has been made with central government buildings, provincial buildings and buildings in competence of public service institutions and public enterprises.

The Ministry of Mining and Energy (MME) has the key operational role in implementing the energy management system, because according to the Law: i) it drafts and proposes regulations related to energy efficiency and annual energy saving targets for designated parties, ii) monitors, controls and oversees the system implementation by collecting annual reports, energy efficiency plans and programmes of designated parties, iii) maintains the data base relevant to monitoring the system implementation, iv) issues licenses to energy managers and energy auditors and maintains the registry of licenses, v) plans and determines the time frame of delivering theoretical and practical training courses for physical persons to become energy managers and energy auditors, vi) regulates the manner of applying of interested persons to attend training, vii) organizes training courses for energy managers and energy auditors, viii) organizes examinations for energy managers and energy auditors and issues certificates of passed examinations, ix) prepares and proposes financial incentives in relation to energy efficiency, x) manages Energy Efficiency Budget Fund, etc. The Ministry exercises its oversight function via energy inspectors. Besides, the MME monitors, verifies and reports to Energy Community of South-East Europe on implementation of National Energy Efficiency Action Plans (NEEAPs).

The Ministry of Mining and Energy has adopted two comprehensive web-based software tools for energy management:

1. Energy Management Information System (EMIS or ISEM in Serbian);
2. Registry of energy managers, energy auditors, annual reports and energy audit reports (SEMIS).

EMIS and SEMIS are integrated systems via specialised web service that enables automatic data exchange between the systems. Using both software tools is mandatory for designated parties. Both software tools are owned by the MME, but only one of them is managed by the MME, while the other is temporary hosted and managed by UNDP.

Data entry into EMIS can be performed in three ways:

- Manually, by end users into predefined templates by means of the Web application. Data entry intervals usually correlate to the invoicing intervals for energy, energy raw materials and water consumption, and templates are defined so as to be fully corresponding to invoices by specific suppliers. In addition, more frequent data entry is also possible, based on direct reading of relevant meters and counters;
- Automatically, by suppliers of energy, energy raw materials and water, who provide online invoices electronically (so called electronic billing) in a format where individual items are entered under a certain procedure to the data base, thereby enabling monitoring of invoiced consumption and cost for energy and water;
- Automatically, in real time, by taking over of data from smart-meters which have the remote reading features (water meters, gas meters, calorimeters, electricity counters, etc.), thereby enabling monitoring real time energy and water consumption.

The number of EMIS end-users of some designated party, for instance city, could reach several hundreds. Therefore, organization of data collection and entry into EMIS can be a challenging task. Having this in mind, UNDP has developed a special web service, which enables automatic transfer of invoices from energy/water suppliers' servers into EMIS. This is significantly reducing the need for manual work and the burden of energy managers to organise and supervise the data entry. Until now, the function has only been taken into use in two cities (Pancevo and Kragujevac), but is foreseen to be a top priority for further development of energy management system for those designated parties that fall under categories B-1 and B-2.

Beside automatic billing, EMIS enables real time monitoring of energy and water consumption in those public facilities, which are equipped with smart-meters. Monitoring is performed via internet on an hourly basis seven days per week and 24 hours per day. The system can also be equipped with an alarm to alert the responsible person on excessive energy/water consumption.

Until now, automatic monitoring of electricity, heat and water consumption has been performed in 7 buildings (in Belgrade and Novi Sad). Automatic monitoring of heat and water consumption is performed in 2 buildings in Pancevo. Heat only monitoring is performed in 11 buildings in Pancevo. It is suggested as a top priority for all those buildings belonging to category B-2, which are proposed for reconstruction and energy rehabilitation.

The UNDP supported and GEF financed project "Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia" has been focusing on municipalities. The implementation of the project was started in December 2015 with an objective to introduce and support the implementation of municipal Energy Management Systems (EMS), including Energy Management Information Systems (EMIS), throughout Serbia in order to increase the EE investments in municipal public buildings and municipal services and to facilitate their more energy efficient operation in general. A mid-term review of the project was completed in summer 2018 with a conclusion that "the project team has achieved very good results and progress towards meeting all the end-of-project targets". Some key results in this respect have been:

- 29 municipalities and 2 cities have formally adopted and started the implementation of EMS and EMIS by signing a MoU with UNDP. In addition, 4 municipalities have formally adopted and started the implementation of EMS and EMIS by their own capacity.
- 26 energy managers have been appointed as licensed municipal energy managers.

- Data entry into EMIS has just started in some 45 municipalities out of 90 designated municipalities.
- 123 (71%) out of 174 municipalities have signed the Energy Charter
- EMIS data coverage of at least 80% of the energy consumption and other agreed information from the targeted municipal subsectors has been reached in 16 municipalities.
- Energy efficiency programmes and plans are in progress in about 45 municipalities, including elaboration of mandatory annual energy reports for the baseline year of 2016.
- 101 trainees for energy management in municipalities have been trained, 99 trainees have passed the exam. 66 trainees have got the energy manager license of which 40 male and 26 female, out of which 38 have been appointed.
- 51 trainees for energy management in buildings have been trained, 44 trainees have passed the exam and 37 trainees have got the energy manager license, of which 30 male and 7 female, but only six managers have been appointed, out of which only one manager is responsible for public buildings that fall into category B-2.
- In addition, 340 EMIS end-users have been trained to enter data into EMIS, of which 134 male and 206 female.

By the end of the project, the targets were set as having at least 30 municipalities to formally adopt and start the implementation of EMIS with: 1) appointed energy managers and EE support units established 2) data coverage of at least 80% of the energy consumption and other agreed information from the targeted municipal subsectors; 3) completed EE strategies and action plans with concrete time-bound EE targets; and 4) monthly/annual energy monitoring reports published using data from EMIS. Furthermore, it was set as targets that at least 80% of all Serbian municipalities have signed the Energy Charter with a stated intention to adopt the EMIS and that at least 100 municipal energy managers have been trained by the end of the project.

Given the above, it can be concluded that the project is indeed well on track in achieving its end of project targets for Serbian municipalities, but not much has been done with the state owned buildings yet (by keeping in mind that this has not been with the EMIS project strategy either).

As regards other baseline projects, the Government has decided to apply funding for an Energy Efficiency Renovation Programme of 28 Central Government Buildings under the Council of Europe Development Bank (CEB) and its Western Balkans Investment Framework (WBIF). This multiannual programme is aimed at energy efficiency renovation of central government buildings (CGB) as per Article 5 of the Energy Efficiency Directive (2012/27/EU) (EED). The current project status is such that the Government of Serbia has prepared a request for a technical assistance grant of 1.8 million Euros to facilitate further preparation of the project. These preparatory activities will include, among others, detailed energy audits for 28 buildings, their energy certification before the renovation and elaboration of feasibility studies for 10 largest buildings plus the Palace of Serbia, all of which can also contribute to the information of the proposed upgraded EMIS system. The Project will be implemented by the Ministry of Mining and Energy with technical assistance coordinated by the UNDP, and in close cooperation and support of the Administration for Joint Services of the Republic Bodies (UZZPRO). For the actual renovation of the said 28 buildings with expected start in 2020 and duration of 4-5 years, a EUR 40 million loan from the Council of Europe Development Bank is envisaged. The Loan was included in the Budget Law for 2019 (Off. Gazette of RS 96/2018).

Proposed alternative scenario with a brief description of expected outcomes and components of the project

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. It will do so by improving and scaling up the energy management and related energy management information system (EMIS) in those building categories, which have until now lacking behind. In addition, the project will prepare ground for the actual investments by improved energy performance

monitoring, by supporting energy audits and by closely co-operating otherwise with the CEB and WBIF Energy Efficiency Renovation Programme of 28 Central Government Buildings mentioned before.

The specific project components with related outcomes and outputs are briefly discussed below.

Outcome 1: An official energy audit system and improved energy management with a particular focus on central government owned buildings

As mentioned before, there are still several legal and regulatory barriers that would need to be addressed in order to effectively advance energy management in buildings belonging to category B-2, including the introduction of an official energy audit system

As regards energy management, among the most important measures is to amend the Law on Efficient Use of Energy as it concerns the B-2 group of designated parties and to make the EMS mandatory for all significant energy consumers that fall into this category.

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;
- Development of EMIS mobile application.

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.

Finally, there is a need for human capacity building by training energy managers and other key stakeholders associated with the energy management of targeted buildings.

By building on the above, the specific outputs under outcome 1 include the following:

Output 1.1 Amended Law on Efficient Use of Energy and, as applicable, new or amended rulebooks as it concerns the legal and regulatory provisions to make the EMS mandatory for all significant energy consumers of buildings owned by the central government as well as finalisation of the still missing bylaws for an official energy audit system including, among others:

- Rulebook on methodology for conducting energy audits (Article 25, para 2, of the Law)
- Rulebook on contents of energy audits reports (Article 24, para 2, of the Law)
- Rulebook on the manner of conducting training and the contents of training courses for theoretical and practical training for energy auditors, amount and manner of payment of trainings costs (Article 31, para 7, of the Law)
- Rulebook on requirements, programme and manner of taking the examination for energy auditors (Article 32, para 4, of the Law)
- Rulebook on types of data, deadlines, manner and forms used to provide data on conducted energy audit (Article 45, para 2, of the Law)
- Rulebook on Energy Management Information System

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

Output 1.3 At least 30 buildings belonging to category B-2 with the combined floor area of at least 150,000 m² 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 1.4 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 1.5 At least 80 large public buildings of app 1,000,000 m² included into EMIS.

Output 1.6 Introducing full licensing system for energy auditors and building the capacity of key stakeholders to conduct the audits including, among others, the following:

- Introducing specialised 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).
- Developing and adopting the licensing procedure.
- Creating a registry of licensed energy auditors.
- 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

Output 1.7 An analysis and related recommendations for required institutional changes dealing with different energy management related aspects of buildings owned by the central government in order to ensure that co-ordinated decisions on energy efficiency and renewable energy investments can be made based on their envisaged energy and cost savings

The energy audits are envisaged to 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.

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

By building on Energy Efficiency Renovation Programme of 28 Central Government Buildings under the Council of Europe Development Bank (CEB) and its Western Balkans Investment Framework (WBIF) and the funding provided by that, Outcome 2 will focus on actual investments. It will support the preparation of the final design and investment proposals for renovation of the mentioned buildings and provide other technical assistance, as needed, to facilitate their actual implementation and monitoring of the results.

The specific outputs under outcome 2 will include:

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

Output 2.2 Final investment proposals with related 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 and financing criteria for renovation.

Output 2.3 Completed EE and RE renovation of at least 28 Central Government buildings.

Outcome 3: Outreach, monitoring and evaluation for scaling up the investments

Outcome 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 and turning the conclusions into concrete investment proposals, thereby facilitating the scaling up of the investments also for other public buildings. The specific outputs under outcome 3 include:

Output 3.1: Project mid-term and final evaluations

Output 3.2: 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 3.3 Project web-site that can be continued to be used and updated also after the project end

Output 3.4 Final project workshop

Under the project management component, it is expected that support services will be provided during project implementation by UNDP to the Government upon the specific request of the national implementing partner. Types of activities to be supported by the UNDP during project implementation include organization of some international tenders, procurement of equipment, hiring of international consultants, hiring of national consultants, organization and arrangement of study tours. The cost of the support services to be provided by UNDP is currently estimated as USD 125,000; which includes approx. \$17,500 technical and \$7,500 administrative services. This will be further reviewed in the PPG phase.

Alignment with GEF focal area and/or Impact Program strategies

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): "Technology is key area for the UNFCCC and in Article 10 of the Paris Agreement, and is one of the key means to reduce, or slow the growth in GHG emissions, and to stabilize their concentrations". Technology innovation through the deployment of advanced energy management information systems working closely with both the public and the private sectors can help create or expand markets for products and services to improve energy efficiency, thereby also generating jobs and supporting economic growth. Supportive policies and strategies are equally important to catalyze innovation and technology transfer for mitigation and enhance private sector investment in energy efficiency. Resources from the GEF play a key role in piloting emerging innovative solutions, including technologies, management practices, supportive policies and strategies, and financial tools which foster private sector engagement for technology and innovation.

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.

The project is most closely aligned with the entry point 3 under the focal area objective 1, namely "Accelerating energy efficiency adoption". As described in the Programming Directions, "Despite the availability of energy efficiency technology and proven approaches, the adoption and uptake of energy efficiency policies, measures, and technologies has not reached its full potential." 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.

Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCE, SCCF, and co-financing

While the previous projects have greatly advanced the use of energy management and energy management information systems in Serbian local self governments (municipalities and cities) and the buildings owned by them, the central Government buildings, provincial buildings and buildings in competence of public service institutions and public enterprises have been largely neglected until now. This is due to the lack of financial resources as well due to the non-supportive legal and regulatory framework. According to a WB study, there are about 27,000,000 m² of public building space in the need for major retrofit in Serbia, out of which 375,000 m² are in the competence of the central Government only.

In order to address the situation, the Ministry of Mining and Energy with support from UNDP has 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 co-ordinated. The Government has already agreed to apply for a 40 million Euro sovereign guarantee loan from the Council of Europe Development Bank (CEB) to finance the rehabilitation 28 buildings with the total floor area of 208,000 m². This will be complemented by Government's own funding worth of about USD 2.5 million. For the preparation of the required technical documents for the CEB loan appraisal, the CEB will provide grant funding equal to 900,000 EUR. In total, the envisaged cofinancing will amount USD 48 million with the USD/EUR exchange rate of 0,901 as of October 28th, 2019.

Table 1 Envisaged baseline and cofinancing converted to USD

Source	EUR (millions)	USD (millions)	Ex.rate USD/EUR
CEB	40	44.4	0.901
Government of Serbia		2.5	-
CEB TA	0.9	1.0	0.901
UNDP		0.1	
Total		48.0	

The initiatives listed above are complemented by the proposed GEF funded project with a focus on further advancing an enabling legal and regulatory framework, better energy management and energy performance monitoring of the public buildings in general, but with a particular focus on central government buildings as well as preparing ground for new investment proposals by energy audits and other measures to address the retrofit needs of the entire building stock. When applicable, this will also include increasing use of decentralized renewable energy sources such as solar and geothermal for meeting buildings' energy needs.

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.

The proposed GEF project and the CEB loan form a mutually supporting package, where both projects are essential in supporting each other. First of all, the UNDP EMIS team was actively participating and supporting the Government of Serbia in the preparation of the CEB loan application with an envisaged set-up that while the financing of the actual investments can be facilitated by the CEB loan, the GEF will complement it by:

- 1) Facilitating adequate data gathering for further project preparation and monitoring purpose by introducing better energy management and EMIS to all Government owned public buildings (which is not financed by the CEB loan);
- 2) Preparing ground for energy audits by training and facilitating the licensing of more professional energy auditors; and
- 3) Promoting further EE investments in Government owned public buildings both by supporting their better energy management and gathering information for that by EMIS as well as compiling and sharing knowledge, information and lessons learnt about the first 28 projects supported by the CEB loan.

A more detailed description of the incremental activities proposed for GEF funding was provided in the previous chapter.

Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The direct global environmental benefits of the project will primarily result from the renovation of 28 central governmental buildings managed by the Administration for Joint Services of the Republic Bodies (UZZPRO). According to initial estimates, this should result in at least 30% of reduction in primary energy consumption, 20% reduction in related CO₂ emissions and 29% savings in operating costs. In addition, the project will contribute to the protection and preservation of cultural heritage. From the targeted buildings, about 50% are classified as heritage buildings.

Table 2: Direct greenhouse has reduction impact of the project

No of buildings	Floor area m ²	Consumption of final energy for heating before	Consumption of final energy for heating after	Consumption of primary energy before	Consumption of primary energy after (-30%)	Specific CO ₂ emissions before	Specific CO ₂ emissions after (-20%)	CO ₂ savings	CO ₂ savings	CO ₂ savings over 25 yrs
		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	131	105	26	1,252	31,309
12	57,000	94 (D)	≤ 65 (C)	379	265	122	98	24	1,391	34,770
6	10,000	108 (E)	≤ 98 (D)	474	332	162	130	32	324	8,100
5	38,500	94 (D)	≤ 65 (C)	477	334	169	135	34	1,301	32,533
1	54,700	153 (F)	≤ 130 (E)	408	286	143	114	29	1,564	39,111
28	208,000								5,833	145,822

By building on the above and a summary presented in table 2 above, the direct greenhouse gas reduction impact of the project has been estimated at over 145 thousand tons of CO_{2eq} over a calculation period of 25 years.

The initial estimates and the set target to reduce the primary energy consumption of all targeted 28 buildings by at least 30% are based on initial walk-through energy audits of these buildings, on the basis which typical EE investment packages have been proposed and their energy saving potential estimated. These estimates will be further improved by more comprehensive energy audits and related feasibility studies to be completed during actual project implementation. Based on the initial analysis, however, the mentioned target of 30% reduction in primary energy consumption appeared to be a realistic minimum target.

The 20% CO₂ reduction target has been defined accordingly as an average 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 CO₂eq for district heating and 1.1 tons of CO₂eq for electricity were used.

For direct GHG emission reduction impact with the focus on 28 buildings only, a dynamic baseline was not considered as applicable, but for the baseline it was assumed that no major EE investments in the targeted buildings will take place.

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.

The presents an initial tentative estimate based on an assumption that within 10 years after the project end, at least twice the amount of similar buildings could be subject to similar EE and RE retrofit measures initiated and facilitated by improved energy management of those buildings on the top of those buildings that may be subject to similar measures anyway. A more thorough assessment for this will done during PPG phase by also defining a dynamic baseline for such consequential emission reduction, as applicable.

Innovation, sustainability and potential for scaling up

Innovation

Although Energy Management and the related Energy Management Information System (EMIS) was introduced in Serbia already in 2015, 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 Outcome 1 in chapter "Proposed alternative scenario with a brief description of expected outcomes and components of the project"

It is also to be noted that at the regional context Energy Management Information System are not yet widely spread and as such both Croatia and Serbia can be seen as front-runners in this field and source of innovation and inspiration also for others. 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.

The legal and regulatory changes advanced under component 1 will also for their part enhance the sustainability of project results by making, for instance, EMS mandatory for all significant energy consumers that fall into this category of buildings 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 m² i.e. over 100 times more than the 208,000 m² 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 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.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

See Annex A.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

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

This initial proposal has been developed in close consultation with the Ministry of Mining and Energy and its underlying departments as well as with the CEB and WBIF teams acting as main project financing partners. In addition, bilateral consultations have been conducted with the stakeholders listed above.

These consultations will be continued through the project preparation phase in order to reflect the views of the key stakeholders in the final project design. These stakeholders include professional entities dealing with advance data management and different energy efficiency and renewable energy technologies, energy efficiency project preparation, implementation and financing as well as different energy and environment related civil society organizations.

Given the nature of the project, the targeted stakeholders will be primarily engaged through bilateral discussions with the entities representing those groups and, as applicable organising at least one project preparation workshop, where the findings of the project preparatory phase and the proposed project strategy can be presented for and discussed with a broader audience.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

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.

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 benefiting 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 will be developed during the PPG phase of the project and these 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 will also be 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.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

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

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

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

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.

5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Table 3 Project risks

Type of risk	Description of the risk	Measures to address the risk
Political risk	Lack of political will to effectively support further development and implementation of the EMS and EMIS in Serbia.	Development of 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 are also likely reduce this risk.

Financial risk	The Government does not have the financial resources to support the proposed EE retrofits or their effective replication.	This risk is mitigated by the fact that the Government has already made a decision to apply for 40 million Euro sovereign guarantee loan to finance the retrofit of the first 28 buildings
Technology risk	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.	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.
Environmental risk	The proposed measures and retrofit projects may generate waste that is harmful to the environment and human health, if not properly managed and disposed.	Having as an obligatory component for all proposals an environmental impact assessment addressing also the waste issue.
Environmental risk	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.	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.
Operational risk	Inadequate local capacity to effectively implement the proposed measures	Adequate focus on capacity building and coaching

6. Coordination

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

On Institutional Arrangements, this project will be implemented using the National Implementation Modality (NIM) with the Ministry of Mining and Energy of the Republic of Serbia as the main national implementing partner for this project. UNDP will provide oversight services to the project in accordance with the rules and procedures for implementing GEF projects.

There are two other ongoing GEF financed activities in Serbia, which are relevant to the proposed new GEF project. The envisaged co-ordination arrangements with these initiatives are briefly discussed below:

The medium-size project "Climate Smart Urban Development" (CSUD) was endorsed by the GEF in December 2016 and its implementation started in 2017 with the expected duration of five years. This is the first project in global GEF portfolio to introduce the challenge prize approach in sourcing pilot project ideas, which can contribute to the overall project development and GHG emission reduction targets at the project objective level. The results so far have been encouraging with over 100 proposals received from a variety of stakeholders, who were responding to the initial call. Several project ideas were also related to circular economy, beside contributing to climate smart urban development and

GHG emission reduction in general. Beside Serbia, the innovation challenge based approach has created significant interest also in other UNDP and GEF programme countries and the Government of Serbia is currently considering its use for sourcing project ideas for the new Green Fund. The proposed project builds on this momentum, while also greatly benefiting from the experiences collected from and the strategies and materials prepared for and tested in the frame of the ongoing CSUD project.

The project "Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia" was endorsed by the GEF at the end of June 2015 and is due to finish by the end of October 2020. The project objective is to introduce and support the implementation of municipal Energy Management Systems (EMS), including Energy Management Information Systems (EMIS), throughout Serbia to increase the energy efficiency investments in public buildings and municipal services and to facilitate their more energy efficient operation in general. While the minimum project target by the end of the project is to have at least 30 Serbian municipalities to formally adopt and start the implementation of EMS and EMIS, the project also seeks to facilitate their replication in other Serbian municipalities. This project builds on the results of the EMIS project in that it will focus on implementing an energy management information system in cultural heritage public buildings whereas the ongoing UNDP GEF EMIS project focuses on municipal buildings. However, this project will benefit from the capacity building activities undertaken under the ongoing project in the public sector and it will be able to build on and strengthen the EMIS Help Desk that was set up in the Serbian Ministry of Mining and Energy as part of the ongoing project to expand its ability to provide support not only to the municipal buildings sector but also to the public buildings sector.

As it concerns the co-ordination with other stakeholder and activities of similar kind, please see table 4 below, which is to be completed at the PPG stage.

Table 4 Draft Stakeholder Involvement Plan

Stakeholder	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 main project partner and Government counterpart responsible for the project and coordination of government institutions involved in a project as partners (UZZPRO and MCTI) and beneficiaries (users of the CGB). Also, the MME will have a key role in communication with public utility companies which are tasked to provide technical conditions for designing.
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.
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

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 technical designing and construction.
Universities and other scientific, research and educational entities	
Belgrade University	Envisaged project partner for engaging professionals and providing advisory services related to technical designing and construction.
International organisations and financing entities	
Council of Europe Bank (CEB)	Financing institution providing loan for implementation of EERCGB programme totalling EUR 40 mil and CEB Trust Fund grants totalling EUR 0.6 mil from Slovakia and Spain.
EU/WBIF	Financing institution providing EUR 0.3 mil for operation of PIU
KfW	Financing institution providing loan for EE renovation of Military Medical Academy totalling EUR 40 mill which is a similar programme to EERCGB
UNDP	Responsible for operation of PIU and implementation of project activities.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project is in line with Energy Sector Development Strategy of the Republic of Serbia until 2025 with projections to 2030 (Off. Gazette of RS 101/15) which envisages measures in improving energy efficiency in all sectors of final energy consumption as a key mean in transition to sustainable energy sector. Besides, the Decree on the establishment of an Implementation Program for the mentioned strategy from 2017 until 2023 year (POS) (Off. Gazette of RS 104/2017) <http://www.mre.gov.rs/dokumenta-efikasnost-izvori.php> defines in chapter 3.7 the implementation of Article 5 of EED among measures to be implemented in the energy efficiency field by 2023.

Energy efficiency is among the priorities set by Sustainable Development Strategy of RS as well as by the Economic Reform Programme for the period of 2019-2021. Following its commitments regarding to decisions of Energy Community, Serbia has adopted three consecutive National Energy Efficiency Action Plans (NEEAP) in the period 2010/2018. As specified in the NEEAPs, building sector is expected to contribute largely to national energy efficiency increase. Serbia's target by 2020 is set in POS.

Regarding the UNFCCC framework, the Second National Communication to UNFCCC (2017) of the Republic of Serbia points out the significant GHG emission reduction potential in 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 1990 base line year emissions.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Communication and visibility issues will be addressed by a Communication plan which will be developed at the beginning of the project. The communication plan will include two project workshops (at the beginning and at the end of the project), regular information dissemination activities to Government institutions and employees included in the project as well as to other stakeholders and general public.

The project will build on 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). 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 mid-term and final evaluations, 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 in implementing the project activities, 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 UNDP-GEF programme countries 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.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Nikola Maravic	GEF Operational Focal Point	Ministry of Environmental Protection	2/9/2019

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Map of Belgrade presenting the location of 28 demo buildings

