



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT
 TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Removing Barriers to Promote and Support Energy Management Systems in Municipalities (EMIS) throughout Serbia		
Country(ies):	Serbia	GEF Project ID: ¹	5518
GEF Agency(ies):	UNDP(select)(select)	GEF Agency Project ID:	4588
Other Executing Partner(s):	Ministry of Energy, Development, and Environmental Protection	Submission Date:	Submission Date: 19 th July 2013 Resubmission Date: 28 th August 2013
GEF Focal Area (s):	Climate Change	Project Duration(Months)	48
Name of parent program (if applicable): <ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> 	n.a	Agency Fee (\$):	\$218,500

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK²:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCM-2 Promote Market Transformation for Energy-Efficiency in Industry and the Building Sector	GEFTF	2,300,000	9,345,000
(select)(select)	(select)		
Total Project Cost		2,300,000	9,345,000

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: the introduction and support for the implementation of Energy Management Systems in municipalities throughout Serbia to promote greater investment energy-efficiency in public buildings in the municipal sector in Serbia						
Project Component	Grant Type ³	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1. Legal and Regulatory Support for National Municipal Energy Management Information System focused on secondary legislation	TA	Stronger legislation and regulations in Serbia to support the energy-efficiency focused on the municipal level	1.1 Updating of legislation to further promote energy-efficiency improvements at the municipal level 1.2 Regulations developed and adopted for monitoring and reporting of energy consumption in public buildings 1.3 Regulations to facilitate energy-efficiency in public	GEFTF	400,000	2,400,000

¹Project ID number will be assigned by GEFSEC.

²Refer to the reference attached on the [Focal Area Results Framework](#) when completing Table A.

³ TA includes capacity building, and research and development.

			buildings and facilitate development of national municipal energy management system 1.4 Additional activities to strengthen by-laws and secondary legislation related to energy-efficiency, as required			
2. Capacity Building for the Planning, Implementation and Monitoring of National Municipal Energy Management System	TA	Central Energy-Efficiency Support Unit and Municipal Energy-Efficiency Support Units are established and operational Capacity Built to put in place Energy Management Systems at a Municipal Level	2.1 Central Energy-Efficiency Support Unit strengthened in Ministry of Energy, Development with focus on support for municipalities 2.2 Buildings database register for all public buildings in Serbia created/updated 2.3 Energy-Efficiency Support Units established in at least 30 municipalities in Serbia 2.4 Website on the national municipal energy management system and the energy support units 2.5 Intelligent metering systems in place in 30 municipalities in Serbia 2.6 At least 100 municipal training courses on energy-efficiency are completed over the lifetime of the project	GEFTF	900,000	3,500,000
3. Demonstration Projects on Municipal and Public Energy-Efficiency	GEF TA: \$180,000 INV: \$220,000 Co-Financing TA: \$120,000 INV: \$380,000	At least 4 best practice demonstration projects demonstrating the new municipal energy management system (EMIS) in place and are successfully implemented and operational	3.1 Municipal Energy Management System in Place in 10 selected Public Government Administrative Buildings 3.2 Energy Audits of 10 selected Public Administrative Buildings 3.3 GHG Cost Curve Analysis of the Energy Audits and recommendation for specific investments	GEFTF	400,000	500,000

			3.4 Demonstration projects implemented using national municipal energy management systems			
4. National Programme on Municipal Energy Management Information System (EMIS)	TA	Municipal Energy-Efficiency Charter signed by over 80% of all municipalities in Serbia Improved Local Capacity to Monitor, Leverage and Manage Investments in Energy-Efficiency Higher awareness among school children of the benefits of energy-efficiency in buildings	4.1 Transfer of EMIS from Croatia to Serbia and strengthening of tool/adopting to Serbian circumstances 4.2 Training on the strengthened EMIS and database for 30 municipalities 4.3 Development and launch of National Programme on Municipal Energy Management Information Systems 4.4 Municipal Energy Efficiency Charter developed and signed by at least 30 municipalities building on the Croatian model 4.5 Capacity building and professional vocational training modules on energy-efficiency prepared for at least 10 technical schools 4.6 Development and publishing of 'Energy-Efficiency in Buildings' text book for technical schools 4.7 End-of-Project Lessons Learned Workshop is held	GEFTF	500,000	2,545,000
Subtotal					2,200,00	8,945,000
Project Management Cost (PMC) ⁴ Direct Project Costs (included in PMC)				GEFTF	100,000	400,000
Total Project Cost					2,300,000	9,345,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Ministry of Energy, Development, and Environmental Protection	Cash	545,000
National Government	Ministry of Energy, Development and Environmental Protection	In-Kind	1,200,000

⁴ To be calculated as percent of subtotal.

National Government	Ministry of Education	In-Kind	500,000
Local Government	Other Towns & Cities in Serbia	Cash	4,500,000
NGOs	Standing Conference of Towns and Municipalities	In-kind	800,000
Bi-Lateral Donors	JICA	Cash	1,300,000
International Organization	UNDP	In-Kind	300,000
International Organization	UNDP	Cash	200,000
Total Cofinancing			9,345,000

D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$)(a)	Agency Fee (\$)(b) ²	Total (\$)(c=a+b)
UNDP	GEFTF	(select)				
UNDP	GEFTF	(select)				
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources						

¹In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

²Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)⁵

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

- | | <u>Amount Agency Fee</u>
<u>Requested (\$) for PPG (\$)⁶</u> |
|---|--|
| • No PPG required. | -- 0-- --0-- |
| • (upto) \$50k for projects up to& including \$1 million | _____ |
| • (upto)\$100k for projects up to& including \$3 million | \$100,000 \$9,500 |
| • (upto)\$150k for projects up to & including \$6 million | _____ |
| • (upto)\$200k for projects up to& including \$10 million | _____ |
| • (upto)\$300k for projects above \$10 million | _____ |

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

Trust Fund	GEF Agency	Focal Area	Country Name/ Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total PPG Amount				0	0	0

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

PART II: PROJECT JUSTIFICATION⁷

A. Project Overview

⁵On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

⁷Part II should not be longer than 5 pages.

A.1 Project Description

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

1. The Republic of Serbia is a landlocked country located in Central and Southeast Europe of 88,364km² covering the southern part of the Pannonian Plain and the central Balkans. As of 2012, the population was 7.2 million inhabitants. GDP per capita stands at \$5,600 USD per year and is growing at some 2.0% following a period of significant decline in GDP during the period 1990-2000 (source: IMF 2013). Inefficient use of energy continues to be a major concern in Serbia. Consumption of primary energy per every unit of GDP is significantly higher than in the EU (13 times higher than Germany, 10 times higher than France.) (Source: IMF 2013). Many studies have pointed out that Serbia has a large energy-efficiency improvement potential in the buildings sector where much of the building stock is old and outdated. This is a direct consequence of the fact that a large proportion of the building stock in Serbia was built in the 1970's and 1980's or even earlier with brick walls and no thermal insulation, deteriorated wood, worn out metal work and with inefficient lighting. Individual boilers in apartment buildings (usually burning coal or fuel oil) are very often in poor condition and inadequately maintained without properly insulated distribution lines, non-operating control equipment, out of order radiator valves. In addition, estimated energy losses from transmission and distribution have been estimated at 14% in Serbia which is the highest of any country in Europe. Energy and carbon intensity in the Serbian economy was estimated to be approximately 1,61 toe/kUSD and 5.14 kg CO_{2e}/USD (source: IEA). Consequently, the efficiency of the systems is low and when coupled with poor building envelope and design features this means valuable energy is wasted.
2. The financial crisis which began in 2009 and continues today hit Serbia hard with unemployment currently standing at 22% and there is a lack of investment for energy-efficiency, especially in the public sector where the Government has an external debt of approximately \$35 billion USD which represents over 50% of GDP. The high level of Government debt which is currently over 7% of GDP has made it more difficult for the Government to climb out of the financial crisis and in such an environment investments in energy-efficiency are often seen as a luxury which cannot be afforded, despite the fact that in the longer-term they will lead to significant cost savings. Nevertheless, energy-efficiency investments in the public sector will help to reduce public sector energy costs and thereby contribute to reducing the public sector deficit. The public sector and in particular municipal sector is chosen as the main area of focus for this project not only because of the high energy savings potential for introducing energy management information systems (i.e – up to 10%) but also because initial analysis has revealed this an area where there are gaps and other donors are targeting the private sector or the public sector at a national level only. In addition, UNDP experience in working on energy-efficiency in buildings in over 30 countries around the world has shown that it makes sense to focus on either public or privately owned buildings in one project as the set of issues which need to be addressed in public and private buildings are quite different. Serbia currently ranks 92nd in the world on the World Bank's ease of doing business report making new investment by the private sector even more difficult.
3. The buildings sector in Serbia shows highly inefficient seasonal energy consumption patterns which differs from energy consumption patterns in other sectors such as, industry or transport . The average designed heat energy demand in buildings in Serbia constructed after World War 2 and up to 1960 was on average 200 kW/m², in those constructed after 1960 about 145 W/m², which means that average designed heat energy demand in buildings is 150 kWh/m² in an average cold year, with an ideal maintenance of buildings and heating systems. In reality, having in mind the real status of buildings, maintenance, use of buildings, average consumption in buildings connected to district heating systems is as high as 200 kWh/m², and in public buildings even up to 350 kWh/m². Even today, the average designed energy demand in Serbia for the construction of new buildings is around 100 kWh/m² In European countries with similar climate conditions, buildings are today constructed with annual demand of energy for heating, hot water, air conditioning considerably lower than 100 kWh/m² and the EU has a target of all new buildings owned by public authorities to be nearly zero-energy by 31 December 2018. European Union member states are also required to put in place system

requirements to optimize energy use for technical building systems in new and existing buildings, including new, replacement and upgraded systems: heating, hot water, air-conditioning and large ventilation systems, as well as installation of intelligent metering systems and active control systems. Non-mandatory measures and targets also need to be adopted to stimulate higher levels of refurbishment and renovation of the building stock as part of national plans. Serbia has not yet adopted any of these measures and does not yet have in place a comprehensive municipal energy management information system.

4. A survey of single and multi-family residential buildings has shown that 90% of Serbia is covered by single family homes, the majority of which were built in the years following World War II up until 1980. Construction of new apartment buildings slowed considerably in the 1980s and 1990s as the political and economic situation made it more difficult for new construction to take place. Throughout Serbia, apartment buildings make up only 10% of total building stock in Serbia as the majority of buildings are houses. In addition, the majority of houses have poor thermal insulation. Over 40% of family houses do not have finished facades and many buildings do not have well insulated windows. The average house of 100m² heats only about 25% of the building in the winter meaning that a large percentage goes unheated and comfort level is low. A lot of households, especially in rural areas, in Serbia continue to use firewood for heating and cooking (Source: GiZ Energy-Efficiency Project, 2013). While the public sector and municipal buildings represent a small percentage of the overall building stock in Serbia, they are among the least efficient of any building category which is a strong rationale for this project to focus on public buildings. Many public buildings were built 40 or 50 years ago. In most cases thermal properties of the building envelope are poor. Condition of the windows is bad causing high infiltration rates. Typically, heat generation systems in public buildings are outdated and inefficient without automatization and controlling units and indoor heating installations provide no possibility for indoor temperature regulation. Hot water is usually heated by electricity. Nearly all public buildings are currently using highly inefficient incandescent light bulbs or outdated fluorescent tubes with inefficient starters. Municipalities are responsible for regular investment for the maintenance of public buildings (schools, kinder-gardens, administration buildings, health centers, sport centers, social care institutions, etc.) for which they pay costs for energy. Therefore, savings in energy mean direct savings in the municipality budget what is especially important in a view of current economic crisis. Hence, a focus on energy-efficiency in public buildings represents a good entry point for the transformation of the entire building sector in Serbia.
5. Despite the challenging economic situation that the country faces, the Government of Serbia is committed in principle to reducing greenhouse gases and to improvements in energy-efficiency both as a means to reduce greenhouse gas emissions and as a way of improving the cost-effectiveness of the economy. The Serbian Government has ratified both the UNFCCC (2001) and the Kyoto Protocol (2007). Under the Kyoto Protocol, Serbia is a Non-Annex I Party meaning that it can participate in clean development mechanism (CDM) projects but not in international emissions trading. Serbia has not accepted any firm commitments under the Copenhagen Accord but has indicated that it hopes to reduce GHG reductions between 18-29% below 1990 levels by 2020. In November 2010, the Initial National Communications which outlines Serbia's GHG inventory was submitted to the UNFCCC. Consistent with its commitment to reduce GHG emissions, Serbia adopted the National Energy Efficiency Action Plan in 2010 as well as a decree on energy-efficiency in buildings and a law on efficient energy use in March 2013. These decrees and new legislation helps move Serbia in the direction of harmonization with the EU Energy Performance of Buildings Directive (June 2010). In addition, a system of energy performance certificates in buildings came into being in Serbia in 2012. All of these measures help to improve energy-efficiency in Serbia but none of them go as far as putting in place a national municipal energy management information system with clear requirements and support for specific activities at the municipal level. Putting in place municipal energy management information system (EMIS) goes beyond the requirements of EU harmonization and therefore these costs can be considered incremental. Mandatory EMIS at municipal level is not a formal requirement of the EU Energy Performance Buildings Directive. Additional resources are therefore required to put in place a comprehensive EMIS in Serbia.
6. Serbian energy laws and policies have all been developed on the premises of harmonization with the European an integration with European Union laws and policies. Serbia is an EU Candidate Country as

of March 2012 and talks are ongoing concerning possible future membership of Serbia in the European Union. The Energy Sector Development Strategy of Serbia (until 2015) which was adopted in 2005 was the first serious attempt to address current and future problems in the energy sector and contribute to the development of this sector as part of efforts to achieve integration with European policies and legislation. Energy-efficiency was recognized as priority and further efforts were promoted since that time to encourage greater priority and investment in energy-efficiency. The culmination of this work has been a new law on efficient energy use which was passed by the Serbian parliament in March 2013. This new law calls for an energy efficiency program to be put in place by a designated organization (i.e - the Ministry of Energy, Development and Environment Protection) and developed as a national energy management system. The national energy-efficiency programme shall include (i) Planned energy savings target, which is in line with the targets specified in the Strategy, Strategy Implementation Program and Action Plan, (ii) An overview and an estimate of annual energy demand level, including an assessment of energy performances of facilities, (iii) Proposed measures and activities that will provide for efficient energy use, (iv) Responsible parties and deadlines for realization of proposed measures, (v) Deadlines and assessment of expected results for each of the measures identified to achieve the specified target, and (vi) Financial instruments (sources and methods to provide the funding) envisaged for implementation of planned measures and activities.

7. The institutional responsibility in Serbia concerning energy-efficiency rests completely within the jurisdiction of the Ministry of Energy, Development, and Environmental Protection. Previously, the Serbian Energy-Efficiency Agency (established in 2002) had some responsibilities with regards to implementation of policies designed to encourage energy-efficiency. However, in September 2012, the Serbian Government abolished the Serbian Energy-Efficiency Agency as part of its goal to achieve fiscal consolidation, reduce public expenditure and increase efficiency. In addition, the Government merged Environmental Sector of the Ministry of Environment, Mining and Spatial Planning and Ministry of Infrastructure, Mining and Energy into the Ministry of Energy, Development, and Environment Protection in late 2012 and since this time full responsibility for the development of energy-efficiency policies and their implementation rests with the Serbian Ministry of Energy, Development, and Environment Protection. The new responsibilities and clearer mandate should lead to a more coherent and coordinated approach towards energy-efficiency in Serbia, with the consolidation of responsibilities in one strong Ministry.
8. The rationale behind this new project is to support the implementation of the new law on efficient energy use in Serbia, filling the gaps left by other donors, and to help operationalize some of the key provisions of this energy-efficiency law with a focus on the municipal level and the introduction of municipal energy management information systems (EMIS). The core elements of a EMIS include data acquisition, analysis, and then implementation of energy savings projects with attractive payback periods. The proposed UNDP-GEF project will focus on the municipal sector where the opportunities for saving energy and reducing emissions are the largest (0.22 MtoE by 2018 in public and commercial buildings vs 0.0831 MtoE by 2018 for households/residential buildings)⁸ and where other donors are currently not focusing. Energy consumption in Serbia in the municipal sector and in municipal buildings is estimated as being very high. In particular, there is a need to help operationalize the law through support for removing key legal, regulatory, information & data, institutional, financial, and awareness and knowledge barriers which will help increase investments in energy-efficiency. The rationale for introducing a municipal energy management information system in Serbia is clear. Such a system has not been put in place before and is not required at municipal level as part of the new law on efficient energy use and with requirements needed for EU harmonization. In addition, there is no comprehensive and detailed analysis of the potential savings and data collection is weak or in some cases non-existent. Among public and municipal buildings, metering and monitoring of energy consumption is rarely carried out and there is a lack of information concerning the most cost-effective interventions and investments. Energy is often treated as a fixed price commodity and opportunities for energy-efficiency are not often explored. In addition, the transfer of knowledge and experience and a comprehensive energy management system data base from Croatia to Serbia, building on the results of the highly successful UNDP GEF energy efficiency project in Serbia which finished activities in 2011, will greatly increase the chances of this project being successful.

⁸Source: National Energy-Efficiency Plan of Republic of Serbia, 2010, pp25

9. There are many barriers towards improved energy-efficiency in Serbia that prevent the country from being able to harmonize with EU legislation on energy-efficiency in the short-term. These key barriers to energy-efficiency in Serbia in the municipal sector are explained in the following table.

Table 1: Key Barriers to Energy-Efficiency in the Municipal Sectors in Serbia

Barriers	Barrier Explained	Means of Overcoming Barrier
Legal & Regulatory Barriers	The new law on efficient energy use creates a national energy-efficiency programme but does not go into detail about how this programme will be created and how it will be operationalized.	Assistance with putting in place regulations and by laws which support the implementation of energy management systems at the municipal level focusing on a bottom up approach.
Information & Data Barriers	There is a lack of data concerning energy consumption, especially in the public and municipal sectors which makes it more difficult to ascertain where the best energy-efficiency investments can be made without proper systems in place to collect, monitor, and manage data.	Detailed surveys on energy consumption will be undertaken and municipal energy management information systems, which are continuously developed, strengthened, and updated, will assist greatly with removing information and data barriers. The transfer of knowledge from Croatia to Serbia and a focus on vocational training in the project will also greatly remove these barriers.
Institutional Barriers	There has been a lack of clarity over the institutional responsibility concerning energy-efficiency in public and municipal buildings. While municipalities have a responsibility to implement energy efficiency measures this is difficult to achieve when in most cases they do not know what to do and lack resources for this purpose. Central coordination has been lacking in the past with institutional responsibilities split between various agencies.	The Ministry of Energy, Development, and Environmental Protection will put in place a support unit to focus on the support of implementation of municipal energy management information systems at the municipal level. In addition, under the guidance of this ministry energy-efficiency support units will be established in at least 30 municipalities in Serbia.
Financial Barriers	There is a lack of financial resources to invest in energy-efficiency in the municipal sector. Municipalities are not in a position to determine which investments make best sense due to a lack of reliable information and data. Municipalities are not easily able to provide the State Guarantees that financing institutions often require in order to provide loans.	The implementation of Municipal Energy Management Information System (EMIS) at the municipal level is a strong tool to provide data and information about the best energy-efficiency investments, which have the shortest payback periods and save the most energy. By implementing EMIS effectively it will contribute towards making it easier to finance energy-efficiency projects in the municipal sector and make it easier for municipalities to allocate additional budgetary resources, thereby making it easier to overcome this barrier.
Awareness & Knowledge Barriers	There is a lack of experience and knowledge amount municipal staff and employees concerning the benefits of energy-efficiency and a lack of understanding of how to undertake basic energy audits of buildings. Technical schools lack basic awareness of the key concepts concerning energy audits, energy management, and energy savings. Through this project, their capacity will be strengthened.	At least 100 municipal and public officials will be trained on energy-efficiency throughout the lifetime of the project. A focus on vocational training will aim to ensure that energy managers in municipalities throughout the country have the proper tools to effectively run and manage municipal energy management information systems and to undertake basic energy audits of public and municipal buildings. A textbook on 'Energy-Efficiency in Buildings' will be prepared and published for technical schools.

Baseline scenario and associated baseline projects

10. In the baseline scenario, the majority of other donors working in Serbia in the field of energy-efficiency will focus on improvements at the national level and in the case of banks such as the World Bank & EBRD they will focus on improving and strengthening of credit lines and financial support mechanisms. Support for strengthening the legislative and regulatory framework will largely bypass implementation support for towns and municipalities in Serbia. In the baseline scenario, UNDP will still transfer its energy management information system (EMIS) from Croatia to Serbia but there will be no resources available to carry out the detailed training, implementation support, and capacity building that is required to successful transfer knowledge and experience from Croatia to municipalities in Serbia. In the baseline scenario, while work at the national level in Serbia will continue to set and establish system requirements to optimize energy use for technical building systems in new and existing buildings, including new, replacement and upgraded systems: heating, hot water, air-conditioning and large ventilation systems, it is highly unlikely that an EMIS will be in place in the next five years. In addition, intelligent metering systems, active control systems and a system of regular energy audits followed up by actions is unlikely to take place at a municipal level. In the baseline scenario, Serbia will take at least an additional 5 years to harmonize its legislation, regulations, and policies related to energy-efficiency with EU requirements and the municipal sector will lag significantly behind. In the baseline scenario, it may not be until 2023 or ten years from now that energy management information systems are in place and functioning effectively at the municipal level in Serbia. New investments in energy-efficiency in buildings at a municipal level will not take place at the same rate as when this project will be successfully implemented. In short, without this project it is likely to take significantly longer time for Serbia to harmonize its legislation related to energy-efficiency to EU requirements because the municipal sector will find it much more difficult to implement the required activities. Serbian membership of the European Union will likely be delayed due to the fact that environmental legislation and requirements is not consistent with EU legislation.
11. Associated baseline projects on energy-efficiency include initiatives of JICA, the World Bank, the EBRD, the KfW, and the European Union. With the exception of the JICA project which is starting in late 2013 none of these initiatives are targeting support for implementation of municipal national energy management systems. In the case of the JICA project, support is targeted at the national level. These associated baseline projects target complementary aspects related to energy-efficiency. More detail about the associated baseline projects can be found in Section A.4 – Table 4.

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

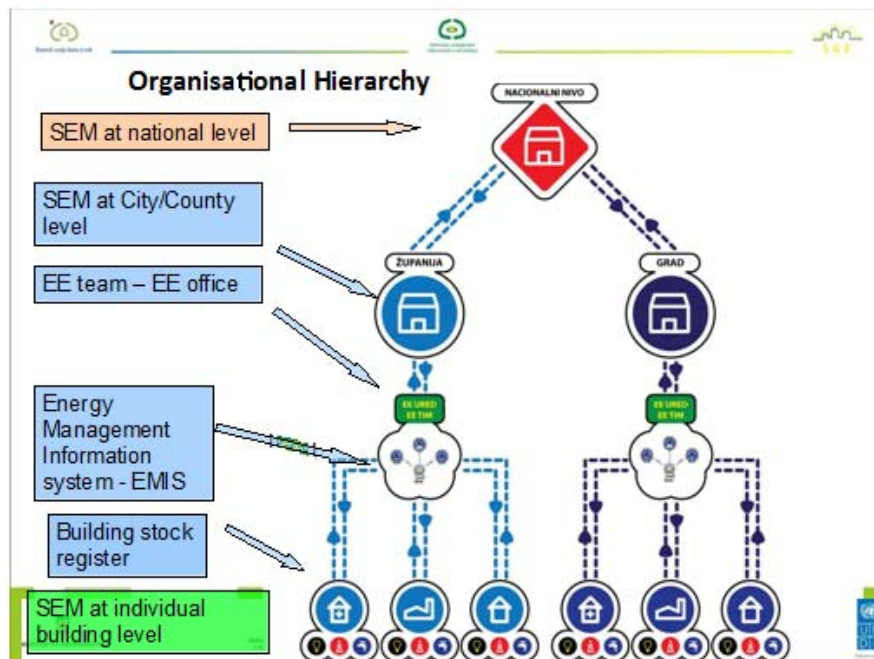
12. In the proposed alternative scenario, the national energy management system developed for Serbia at a national level (including with support for JICA) will be enhanced and strengthened and disseminated and implemented not only at the national level but also at the municipal level.⁹ Building on its very successful UNDP GEF energy-efficiency project in Croatia, UNDP is ideally placed to assist the government of Serbia with the development and implementation of an energy management information system at the level of towns and municipalities. In Croatia, the results of the UNDP implemented GEF financed project (GEF assistance concluded in 2011) greatly exceeded the targets laid out in the original project design. A National Energy Management System was launched in 2007 following the successful pilot project carried out in 2006 in the City of Sisak. Subsequently, support was provided for the development of the energy-efficiency master plan for Croatia, the first National Energy-Efficiency Action Plan (2008-10), the second National Energy-Efficiency Action Plan (2013), the Energy Strategy, and the Law on Efficient End Use of Energy. In 2008, the UNDP GEF project successfully assisted the Croatian Government to launch the House in Order programme which was a national programme adopted by the Government and which led to leveraging of additional \$35 million USD to

⁹ An Energy Management System as defined in this project is a web based application and a main tool for continuous gathering of energy usage data in buildings. Combined with intelligent metering and with software the energy management system enables easy analysis and interpretation of energy and water usage data on local, regional or national level from one central place. The Energy Management System provides important information and data to support investments in energy-efficiency.

support a national program on energy-efficiency with approximately 400 staff. In addition, the project developed an Energy Charter which was signed by all Cities (127) and Counties (20) in Croatia with commitments to improve energy-efficiency – this represents a 100% success rate. By May 2013, more than 9,450 of 11,000 total public objects in Croatia operate according to the national energy management system and the final evaluation of this project in mid-2011 concluded that it was highly successful.

13. In the alternative scenario, therefore, we expect this new project to deliver a similar transformative impact on investment in energy-efficiency in Serbia with the municipal sector being the main beneficiary from the support for developing and implementing a municipal EMIS. While the project conservatively targets 30 municipalities for implementation and support energy management information systems there is no reason why it could not go a lot further, if the project manages to capture the imagination of key decision makers . There are 169 municipalities in Serbia and 24 cities which form the basic units of self government. In the event, that at a future point in time the project manages to become the catalyst for a national programme on energy-efficiency in Serbia focused on the municipal sector with significant national funding then it might be reasonable to expect even greater results. The possibilities for scaling up the ambition of the project and adopting even more far reaching targets will be further explored during the PPG phase of project development.
14. The organizational hierarchy of the proposed energy municipal energy management information system for Serbia will closely follow the model as it has been successfully developed by UNDP GEF and the Government of Croatia over the period 2005 - 2013. Training to municipal officials will be provided by private sector companies selected for their expertise in energy management information systems. The following table clearly illustrates the organizational hierarchy of the proposed approach based largely on the Croatian model:

Figure 1: Proposed Organizational Model for Energy Management Information System
(Source: UNDP Croatia , 2013)



15. This proposed approach as illustrated in the diagram above sees JICA support taking the lead for developing sustainable energy management information systems at a national level (starting in 2013) with UNDP GEF support taking the lead for energy-efficiency at the city/county level (starting in 2014). National support from the Ministry of Energy, Development, and Environment Protection will complement this support. In addition, a national website on the municipal EMIS will be developed early on during the project implementation.

16. Component 1 of the project will focus on overcoming the legal and regulatory barriers that prevent energy management systems from being put in place in the municipal sector in towns and cities. The Energy Performance in Building Directive (EPBD) with which Serbia will have to comply to join the EU does not mandate the introduction of EMIS for buildings. Based on the UNDP/GEF experience in Croatia, EMIS is a cornerstone policy instrument to promote EE measures in the municipal sector and achieve international best practice. Consequently, under component 1 this project will support legal and regulatory changes in Serbia which make it mandatory to introduce and operate EMIS. Legislation will be further updated to further promote energy-efficiency investments at the municipal level focusing on the introduction and implementation of EMIS. Regulations will be adopted for monitoring and reporting of energy consumptions in public and municipal buildings based upon the requirements under the new energy law. Furthermore regulations to facilitate energy-efficiency in public buildings will be enacted as well as consideration and potential support by the project given to promoting a legislative requirement that all public and residential buildings which are going to be renovated have to first meet minimum energy performance standards.
17. Component 2 of the project is at the core of what the project aims to achieve as it will provide the institutional framework for developing and implementing energy management at the municipal level in Serbia focused on public buildings where opportunities for savings are among the greatest. A centralized Energy-Efficiency Support Unit within the Ministry of Energy, Development, and Environmental Protection will be created/enhanced/strengthened in order to provide support for municipalities developing and implementing EMIS. The central unit will immediately establish a national buildings database of all public buildings which will form the basis for the energy management system to be put in place. In addition, thirty Energy-Efficiency Support Units with energy managers in place will be put in place in municipalities throughout Croatia with the choice of municipalities being made during the PPG phase in line with co-financing commitments and potential to reduce GHG emissions. A national website will define and explain the national municipal energy management system and help to raise awareness of its role. Intelligent metering and software systems will be put in place to allow for accurate monitoring and reporting of energy consumption. In addition, at least 100 trainings will be carried out of municipal energy managers as part of this component to help ensure that the energy-efficiency units which are put in place during the project are able to do their job properly.
18. Component 3 focuses on the successful implementation of demonstration projects in Government Administrative Buildings which will cost on average \$180,000 per project for the total investment cost or a total of \$720,000 for four demonstration projects. Each demonstration project will showcase the cost effective energy efficiency retrofitting along with high level of building automatization aiming for a 20% reduction below the business-as-usual, something which could not be expected to happen without this project. GEF support will be for feasibility studies of up to \$18,000 for energy audits from 10 potential selected projects (from which 4 will then be selected for further EE investment and showcase of EMIS) and then the investment cost will be covered by up to \$55,000 (from GEF) and \$125,000 (from the Ministry of Energy, Development, and Environmental Protection as part of its cash contribution to the project). While demonstration projects have been carried out previously in Serbia for public buildings such as schools and hospitals, there have been no demonstration projects to date carried out in public and municipal administrative government buildings aimed at demonstrating cost effective energy efficiency retrofitting along with high level of building automatization. Each of the demonstration projects will therefore be targeted at government/municipal administrative buildings and GEF funds will be used to go as close as possible to demonstrate near zero energy buildings in the selected public buildings focusing on identification and implementation of energy-efficiency measures such as improved insulation through rehabilitation of building facades and windows, lighting systems, heating systems, and intelligent metering as well as showcasing the municipal energy management information system that the project will put in place and promote. The Ministry of Energy, Development, and Environmental Protection has committed a \$500,000 cash contribution to this component of the project. The difference in cost between the EE retrofit using low cost measures and the additional and EE retrofitting with high level of building automatization is the incremental cost that the GEF will fund.

19. Component 4 of the project will focus on the development of a National Programme on Municipal Energy Management Information System which includes the transfer of knowledge from the successful UNDP GEF Croatia Energy-Efficiency project which finished in 2011 to Serbia and on vocational training to municipal officials in Serbia. While the transfer of the database and software from the energy management system in Croatia can and will be transferred to Serbia in 2013, most likely before this project starts, time and resources will still be required for capacity building activities as well as vocational training of energy managers in municipalities and in the Ministry of Energy, Development and Environmental Protection. Technically qualified persons in the private sector will be used to carry out the trainings. The Energy-Efficiency Support Unit will play the key role in the development of the National Programme on Municipal Energy Management Information Systems. In addition, under component 4 a strategy for scaling-up the results of the project will be developed an operationalized with the objective of eventually covering the whole of Serbia with EMIS. This will be achieved through the development of a National Programme on Municipal Energy Management Information System which will be unveiled as part of component 4. The implementation of the National Programme on Municipal Energy Management Information Systems will help to ensure the sustainability of the project results and achieve scaling up. Scaling up will be achieved in three steps. The first step (step A) will be to focus on the four demonstration projects and the introduction of energy management information systems at this four sites. The second step (step B) will be to introduce energy management information systems in at least 30 towns and municipalities in Serbia. Step B will provide important information and lessons learned for the scaling up of EMIS to the entire country. In the final step (step C), energy-management systems will be introduced to all towns and municipalities in Serbia. Part of the national programme will include assisting municipalities to access resources from various EE credit lines which are available to the municipal sector in Serbia but which, up until now, remain largely untapped. In addition, under component 4 an energy-efficiency charter will be developed and signed by all municipalities and cities in Serbia will be developed as a key activity under this component. The energy-efficiency charter will define voluntary targets for energy-efficiency as well as outline specific activities and measures to be implemented to achieve these targets. The Ministry of Education will play a role under component 4 in assisting both with the vocational training and with the development of a text book on energy-efficiency in buildings for technical schools.

Incremental cost reasoning and expected contributions from the baseline, the GEFTF and co-financing

20. The proposed GEF project is aimed at targeting barriers which are currently impeding the realization of significant energy savings in buildings in the municipal sector in Serbia focusing on a sector where there is very low awareness and almost no other support from donors or from government resources. The levels of awareness at the local level concerning the opportunities for realizing savings from energy-efficiency in municipalities in buildings in Serbia remains very low. In the business-as-usual scenario, all efforts focus on the national level and energy management information systems are unlikely to be implemented in Serbia in towns and municipalities over the next 5 years, especially since there is no legal requirement for their implementation as part of the harmonization of Serbian legislation with that of the EU. Reporting on energy consumption is likely to be impeded by lack of data and made more difficult by the lack of continuous monitoring and reporting. All the initial costs associated with preparing, launching, implementing, and supporting an energy management system at local level can be considered as incremental costs.
21. The new energy-efficiency legislation introduced in 2013 in Serbia requires municipalities in Serbia to report on their energy consumption. However, the new legislation does not specify exactly how this monitoring and reporting needs be done. The implementation of an energy management system requires a level of sophistication and knowledge that goes beyond the current level of capacity of most, if not all, municipalities in Serbia. Without this project, therefore, it is quite likely that the monitoring and reporting of energy consumption at the municipal level in Serbia would be made more difficult due to lack of data and be based on assumptions which are unlikely to be accurate. Without accurate numbers to feed into the database, it then follows that it will be much more difficult to accurately model and estimate the most cost effective energy savings measures. In short, the cost of implementing an effective energy management system at the municipal level in Serbia is an incremental cost that GEF should fund because without this project it is highly unlikely to be put in place over the short term.

22. The proposed contribution from the baseline to this project will be significant. UNDP will provide a \$300,000 in-kind contribution by transferring its entire energy management information system (EMIS) from its successful UNDP GEF Croatia Energy-Efficiency project to Serbia and an agreement between the Government of Croatia and the Government of Serbia is expected to be signed shortly. This \$300,000 contribution represents the forward looking cost of transferring the system including training and support and does not include over \$1,000,000 dollars plus that was already spent in Croatia to develop the data base. These funds will be combined with a \$45,000 cash contribution from the Serbian Ministry of Energy, Development, and Environmental Protection for transfer of the database and software and further training and software implementation support. In addition, the Serbian Ministry of Energy, Development, and Environmental Protection has committed to providing a \$500,000 cash contribution to the demonstration projects to be implemented under component 3 as well as a \$1,200,000 in-kind contribution towards broader support for the other project components. UNDP will also provide a \$200,000 cash contribution (\$50,000 per year) to the project to support project management and implementation costs. The contribution of JICA of \$1,300,000 towards the creation of a national energy management system is entirely focused on the national level and this contribution is very complementary to this proposed UNDP GEF project. Complementarity is ensured by JICA working to support the Government of Serbia at a national level with implementation of national energy management system and UNDP GEF working at the local and municipal level with a more bottom up approach. The GEFTF support will be targeted squarely at municipalities and building their capacity to develop and implement municipal energy management systems.
23. Participating cities, towns and municipalities in the project will each provide a co-financing commitment of at least \$100,000 each of in-kind contribution to support the implementation of municipal energy management information systems (EMIS) at the municipal level. On the basis that at least 30 towns and municipalities will fully participate in the project, at least \$3,000,000 in co-financing is expected from towns and municipalities in Serbia. This will be complemented with a \$500,000 contribution from the Ministry of Education to support the vocational training activities of the project. In total, at least \$7,845,000 in co-financing is expected for the project activities. The specific cities, towns, and municipalities to participate in this project will be identified during the PPG phase and these figures and the level of support will be revisited.

Global Environmental Benefits

24. Direct global environmental benefits from the four demonstration projects are calculated at 840 tonnes CO_{2e} on the conservative assumption that 5.8% energy savings are achieved as a result of introducing energy management information systems for approximately 12,000 square metres of floor space and additional 20% for low cost measures for total savings of 25%. In reality, the savings that might be achieved from introduction of energy management information systems could be as high as 10% and with in which case direct global environmental benefits will be slightly higher. Information systems in 30 towns, cities and municipalities in Serbia one could assume that approximately 3,000 public objects are going to be covered by a municipal EMIS by the end of the project and 9 million square metres of building space. Based on the assumption that the average size of a public building is 3,000m² and the average annual electricity consumption drops by 5.8% from 250 kWh/m² to 235 kWh/m² as a result of the efforts of this project and assuming that the energy management systems are in place by 2016 it is estimated that the indirect total energy savings from this project as a result of scaling up activities will be 472,000 GJ by the end of the project reductions of carbon dioxide are estimated at 146,000 tonnes CO_{2e} per annum by the end of the project CO_{2e}, estimated to be in 2019. This assumes that scaling up to the largest 30 towns and municipalities in Serbia is indeed possible and successful. In the case, that all of Serbia was covered by energy management information systems (EMIS) and all 150 towns and municipalities were covered then emission reductions would likely be greater than 146,000 tonnes CO_{2e}.
25. The global environmental benefits from this project will be revisited during the PPG phase of project preparation and more precise estimates will be made based upon more accurate calculations of the floor space of public buildings in Serbia that this project will be able to cover and on more accurate estimates of the savings possible from the introduction of energy management information systems.

Grid emission factor for Serbia is estimated as 0.792 tonnes of CO_{2e} /MWh which is relatively high due to the high level of coal in Serbian economy.

Innovativeness, sustainability and potential for scaling up

26. The project is innovative because this will be the first time in Serbia that there has been a major effort to introduce energy management information systems at the municipal level. In addition, the project is innovative because it builds upon the successful UNDP GEF experience in Croatia with introducing energy management information systems at a municipal level, and aims to replicate this successful approach to Serbia. The project is most likely to be sustainable because once the project successfully demonstrates that energy management information systems can lead to energy savings at 10% or more at minimal cost, it is highly likely that these systems can be introduced to the whole country. With GEF support during the project implementation, some 30 towns and municipalities will be targeted. However, once the GEF supported project is over, it is highly likely that the whole country (150 towns and municipalities) can and should be covered by energy management information systems for public buildings. This was the experience of the UNDP GEF energy-efficiency project in Croatia and it is to be expected that there should be a similar experience in Serbia. The knowledge and experience gained by the government and in particular by municipalities during the course of this project will help enable the transfer of this knowledge and experience to the entire country. The scaling up of the project results to the entire country will involve going from energy management information systems in 30 towns and municipalities to energy management systems in 150 towns and municipalities in Serbia. By the end of the project, public and municipal officials in Serbia will have a much higher understanding of the benefits of implementing energy management information systems. By the end of the project, it is expected that approximately 3,000 public buildings in Serbia will have in place energy management information systems through a comprehensive national program. Potential for scaling up is high. Scaling up to the entire country is expected to result in all municipal and public buildings having energy management systems in place. The demonstration projects selected by the project will further promote scaling up as the benefits from low cost investments in energy-efficiency in municipal and public buildings are demonstrated to a wider audience. Finally, scaling up from 30 towns and municipalities to 150 towns and municipalities is likely to occur at the end of the project once there is a critical mass of public and municipal authorities in Serbia with the knowledge and experience to understand that energy management information systems have benefits from reduced costs from energy savings and greenhouse gas emissions savings that significantly outweigh the costs of the low cost measures that are implemented.

27. In addition, this project is particularly innovative because it uses the highly successful results of a UNDP GEF project in another country (Croatia) and applies them in detail to the country in which this project will work. This involves a real transfer of knowledge and experience from one country to another and goes far beyond the lip service which is paid towards knowledge transfer between projects in many other initiatives. The innovativeness of this approach also lies in the fact that it follows a bottom-up approach working closely with local government to overcome barriers and launch and successfully implement municipal energy management information systems. This bottom up approach has been widely used by UNDP in many countries and offers excellent possibilities for sustainability and scaling up. There is no reason why if this project is not able to successfully demonstrate results related to municipal energy management and energy savings in 30 towns, cities, and municipalities in Serbia that it will not be able to be scaled up to the whole country. Secondly, the possibilities to develop a comprehensive national programme at the municipal level to support energy-efficiency with a significant national budget are greatly increased if this project is able to demonstrate successful results. The sustainability of the project results should be ensured by the fact that at the end of the project, the national energy-efficiency support unit and the municipal level energy-efficiency support units continue to operate and function beyond the lifetime of the project. It will be the role of Government to ensure that the units are funded and continue to operate after the project is over.

A.2. Stakeholders

28. The key stakeholders in this project and their roles and responsibilities during the PPG phase are defined in Table 2 below:

Table 2: Key Project Stakeholders

Key Stakeholder	Role during the PPG Phase
Ministry of Energy, Development, and Environmental Protection	Establishment of terms of reference for the National Energy-Efficiency Support Unit and its role. Consultations concerning the design of the full projects and its key activities and outputs.
Ministry of Education	Support for designing terms of reference for providing vocational training related to energy-efficiency.
At least 30 towns, cities, and municipalities in Serbia	Co-financing letters (at least \$150,000 per municipality) which define the commitment of towns, cities, and municipalities towards the establishment of Energy-Efficiency Support Units & the development and implementation of municipal energy management systems.
Standing Conference on Towns and Municipalities	Co-financing letters to support training and capacity building activities at the municipal level related to energy-efficiency.
JICA – Japan International Cooperation Agency	Consultations to coordinate and clearly delineate between the role of JICA and UNDP with JICA support aimed at the national level for the development of a national energy management system and UNDP GEF project support aimed more at municipal level.
UNDP	Consultations with all key stakeholders and project partners and formulation of GEF Request for CEO Endorsement, UNDP Project Document, Tracking Tool, ESSP, as well as co-financing letters and LoA.

A.3 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):

29. Key project risks are assessed as follows:

Table 3: Risks and Mitigation Measures

Risks	Rating	Mitigation Measures
Increases in temperature will reduce demand for energy (especially in winter) and therefore reduce the rationale for increased investments in energy-efficiency	Low	IPCC estimates that average temperature rises under a business as usual scenario are for 2.4 – 6.4 degrees Celsius temperature rise by the year 2100 with future warming and related changes varying region to region. However, to mitigate this risk over the longer-term the project will propose climate resilient urban designs for buildings which enhance the ability to introduce low cost energy-efficiency measures with short payback periods.
Fossil fuel subsidies and low prices on gas and coal are a disincentive to increased investment in energy-efficiency	Low	This risk is considered low because one of the requirements of the International Monetary Fund while granting support to Serbia is to abandon domestic subsidies for oil and gas prices for private households. The IMF currently has over \$1 billion in loans to Serbia and one of the key provisions of any future assistance is the removal of subsidies. Therefore, this risk is considered low.

Political risk of Serbia stopping its negotiations to join the European Union and therefore energy-efficiency becomes less of a priority	Medium	The Serbian Government is committed to negotiations with the EU concerning eventual EU membership. However, even in the unlikely event that negotiations were stopped or even cancelled it follows that energy-efficiency is going to remain a priority for the government because of its potential to introduce significant cost savings across the economy. The new law on efficient energy use makes it clear that improvements in energy-efficiency are a priority. Buildings, with their large share of overall energy consumption, will remain a priority area for energy-efficiency measures.
Lack of Municipal co-financing to invest in energy-efficiency buildings projects	Low	The risk is that the project develops a wish list of municipal energy-efficiency building projects and audits are carried out but no investment is made. This risk is low because the demonstration component of this project is relatively small and the Ministry of Energy, Development, and Environmental Protection has already committed, in principle, to supporting greater attention and investment for investment in energy-efficiency at the municipal level. In addition, the risk is further reduced by the fact that co-financing letters of at least \$4.5 million will be obtained from municipalities during PPG phase.
Overlap with other donor funded projects leads to duplication and inefficient use of resources	Low	No other donor-funded project in Serbia is focused on introducing energy management information systems (EMIS) at the municipal level. The JICA project will focus on implementation of energy management systems at the national level. Donor coordination meetings in Serbia will help to ensure that going forward there will be no duplication and that all initiatives are designed to support and complement each other. During the PPG phase, further consultations will be held with all other donors active in the field of EE in Serbia to further define complementarity.
Inadequate capacity to collect baseline data or to design energy-efficiency buildings	Medium	The project has a heavy focus on capacity building and vocational training as well as establishing energy-efficiency support units in towns and municipalities in Serbia. This will help overcome the barrier that the currently level of knowledge and capacity in municipal sector in Serbia about energy-efficiency is very low. In addition, the energy municipal management information system (EMIS) should help improve the capacity in municipalities to collect baseline data.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

30. The project will coordinate with the following relevant planned and ongoing (non-GEF) initiatives related to energy-efficiency in Serbia as follows. This coordination is of particular importance to this project as there are a number of other donor funded initiatives related to energy-efficiency currently ongoing or planned in Serbia which are of relevance for this project. There are no other ongoing GEF projects to promote energy-efficiency currently underway in Serbia. All other initiatives are funded by other donors. Further discussions and details of coordination will be worked out during the PPG phase.

Table 4: Coordination with relevant GEF financed and other Initiatives

Project	Brief Description
JICA The project for Settlement and Enhancement of Energy Management System in Energy Consumption Sector in the Republic of Serbia	This project of \$1.3 million and starting in September 2013 is aimed to run at the national level and support the development and enhancement of an energy management system in Serbia. The main focus of the project will be on the development of bylaws to support the Law on Efficient Energy Use which was adopted in March 2013. The JICA project is not going to focus on support for energy-efficiency at the municipal level, only the national level. As such, it is viewed as complementary to this new UNDP GEF municipal EE project.

<p>GiZ Integrated Document Management System and MVP in Serbia</p>	<p>This ongoing project assists the ministries to establish a legal basis for energy efficiency building sector focused on the national level. The EU's policies for harmonisation of energy efficiency standards for buildings provide the overall direction for the project activities. The project played a role in supporting the adoption of the new law efficient energy use (March 2013) and continues to support legislative initiatives aimed at the national level. The GiZ project is not providing energy support to municipalities in Serbia for energy management.</p>
<p>EU-IPA “Preparation of second Energy Efficiency Action Plan and Development of Energy Indicators”</p>	<p>The European Union is supporting Serbia with \$2.6 million USD for the development of the National Energy-Efficiency Action Plan (EU-IPA). To successfully develop the NEAP it is necessary to first significantly improve the quality of data in each consumption sector (public, industrial, and transport) and then it is only on the basis of this data that the energy savings measures and plans can be developed and adopted. The EU project does not focus on the municipal level and on helping municipalities with collecting reliable data about energy consumptions in municipal buildings. Therefore, the EU-IPA project is fully complementary to the GEF project and the data from the GEF project can and will be used to strengthen the NEAP.</p>
<p>KfW/Government of Serbia EE Credit Line</p>	<p>Through this ongoing project the German Bank, KfW is providing a 15m euro credit line for the rehabilitation of schools and other educational institutions. The programme will include the improvement of energy properties in approximately 25-30 schools. In addition, the programme will include additional works aimed at the creation of better conditions for students and teachers (wall painting, adaptation of toilets, etc.) in the amount of up to 15% of the overall investment, with a stipulated possibility to implement a demonstration project with the aim to show results of application of measures aimed at the promotion of energy efficiency and use of renewable energy sources. The activities of this project are complementary to the proposed UNDP GEF project as the UNDP GEF project will not focus on demonstration projects in schools but rather in municipal and public administrative buildings.</p>
<p>EBRD Regional Energy Efficiency Programme in West Balkan – ESCO and Policy Dialogue</p>	<p>This project is focused on support for the ESCO mechanism in Serbia and on technical assistance related to the preparation of legal framework, identification, preparation of project documentation, and monitoring of project implementation related to ESCO market development in Serbia. The EBRD project is complementary to the UNDP GEF initiative as we are not focused on the development of the ESCO mechanism and works closely with the private sector focused on private sector activities. However, if the ESCO concept is successfully piloted in Serbia at a municipal level this should lead to new and additional investments in energy-efficiency. Hence, the EBRD ESCO project is complementary to the UNDP GEF initiative.</p>
<p>UNDP – Energy Management Information System in Municipalities (EMIS)- \$300,000UNDP and \$45,000 Ministry of Energy, Development and Environment of Serbia</p>	<p>Taking into account that the Law on Efficient Use of Energy in Serbia (March 2013) stipulates introduction of energy management system in municipalities with more than 20,000 inhabitants in buildings owned by the Government of the Republic of Serbia, a presentation of EMIS system was held in the Ministry of Infrastructure and Energy on 27 January 2012. The system was developed by UNDP within the UNDP GEF project “Enhancing Energy Efficiency in Croatia” which was implemented in public buildings under the competence of municipalities and the state. The GEF funding for the project finished in 2011 and the project continues with national government funding. After that, MIE expressed its interest in taking over this software/database, and UNDP accepted to donate the database and applicative software if the Republic of Serbia provides the funds in the amount of approximately \$45,000 for the procurement of IT equipment, technical assistance for installation of the system by its developers, and testing in pilot municipalities. A \$300,000 in-kind contribution from UNDP spread out over 4 years will support the transfer of the database. These funds are planned in the budget for 2013 and a cooperation agreement is expected to be signed in 2013. This project represents an outstanding example of the results of one highly successful UNDP GEF project in Croatia being used to help and support another UNDP GEF project in Serbia and a great example of cooperation between the Croatian and Serbian Governments. This project is being used as co-financing to support the new UNDP GEF EE municipal sector project in Serbia.</p>

<p>World Bank – Energy Efficiency Project - \$60 million</p>	<p>In 2004, the Republic of Serbia had approved a loan from the International Development Association (IDA 3870 YF to the amount of 21 million USD), with participation of the Republic of Serbia in the amount of 4 million USD, in order to implement the Energy Efficiency Project in Serbia. In 2009, the Republic of Serbia got another loan from the International Development Association (IDA 3870-1 YF in the amount of 10 million USD), as well as a loan from the International Bank for Reconstruction and Development (IBRD 7466 YF in the amount of 18 million USD), with the Republic of Serbia participating with 2 million USD for additional project financing. The goal of the project was the enhancement of energy efficiency in building heating. Project implementation was planned for the period June 2004 to June 2012. The project was composed of three components, out of which component B included the enhancement of energy efficiency in certain type of buildings, such as schools, hospitals and social protection institutions throughout Serbia.</p> <p>In the first phase, implemented between 2005 and 2009, 28 buildings (16 schools and 10 hospitals) were equipped in terms of energy and CCS energy systems were reconstructed from the initial fund of 25 million USD. In the second phase, implemented between 2011 and 2012, energy-related rehabilitation was conducted in 62 buildings (28 schools, 10 hospitals and 19 buildings in Nis Clinical Centre – a total of 29 hospital buildings and 5 social care institutions), and a new energy supply system was installed in Clinical Centre of Nis from additional funds amounting to 28 million USD. The project was completed on 30 April 2013. Closing of the account and financial audit procedures are currently in place, which will last for 3 months. Approval from the Ministry of Finance and Economy is expected with regard to funding of the third phase from a new World Bank credit, which will be followed by drafting of a new project in late 2013. The World Bank Energy Efficiency Project (Phase III), if and when it goes ahead, is expected to be very much focused on the financing of specific projects focused on heating. It is not currently envisaged that the project will deal with municipal energy management information systems. The World Bank Energy-Efficiency Project (Phase III) with its focus on district heating is therefore expected to be highly complementary to this project.</p> <p>However, having in place EMIS in Serbia will be of great assistance to the World Bank project in helping it to make the largest and most cost-effective investments in energy savings. Through this project there will be an investment of less than \$1 for every meter of floor space (9 million square meters of floor space financed by \$11.645 million of GEF funds including cofinancing. This represents a highly cost-effective use of GEF and co-financing funds.</p>
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Description of the consistency of the project with:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc...

31. This project is designed to be consistent with the Initial National Communications (INC) of Serbia (2010) which identifies energy-efficiency in the power generation, industrial, and buildings sectors as having an important role in assisting Serbia with reducing greenhouse gas emissions. The INC of Serbia identifies that in the buildings sector, a reduction of GHG emissions is primarily possible through additional thermal insulation of buildings and all aspects of energy consumption rationalization in the domestic, public and commercial sectors. The INC of Serbia also notes that the realization of these potentials until 2015 largely depends on the provision of foreign financial and technical assistance, primarily through cooperation at the bilateral and multilateral level meaning that this project is likely to play an important role in helping Serbia to reduce greenhouse gas emissions. A Technology Needs Assessment (TNA) or a National Programming Framework Exercise (NPFE) has not been carried out for Serbia.

32. The project is also consistent with both the National Energy Action Plan (NEAP) for Serbia(2010-12 and 2013-15) and the National Sustainable Development Strategy (NSDS) for Serbia which was prepared in 2008. The NEAP for Serbia adopted a national indicative target of energy savings of no less than 9% of the final energy consumption for the period 2010-18 (average of 1% improvement in energy-efficiency per year) which means that Serbia should ensure savings of around 750,000 tonnes of CO_{2e} per annum based on an estimate of total annual GHG emissions of approximately 75 million tonnes of CO_{2e} equivalent. This project will help Serbia with meeting its target, as defined in the NEAP. The NSDS outlines membership of the European Union as a key priority meaning that enhancing energy-efficiency measures in line with EU legislation is an important priority for Serbia. In addition, the NSDS calls for the development of a competitive market economy, and balanced economic growth through providing for a safe energy supply with increased energy efficiency of actors in the energy sector and for improving the energy-efficiency of the economy.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

33. GEF Climate Change Strategy Objective 2 promotes market transformation for energy efficiency in the building and industrial sector which is fully consistent with the objective of this project. GEF Climate Change Strategy Objective 4 promotes increased investment in energy-efficiency urbansystems which is also fully consistent with the objectives of this project. The project aims to remove barriers in the municipal sector in Serbia focused on energy-efficiency in public buildings which is fully consistent with GEF Climate Change Strategy Objective 2.

B.3 The GEF Agency's comparative advantage for implementing this project:


34. This project fully complies with the comparative advantages matrix approved by the GEF Council, where UNDP is assigned a leading role for technical assistance and capacity building on climate change. UNDP has a strong comparative advantage in the implementation of projects both in the area of climate change mitigation and urban/local development. The project is fully aligned with UNDP-GEF's signature program 2 on *Low emission climate resilient urban and transport infrastructure* which aims to significantly save energy and reduce greenhouse gas emission related to urban management. UNDP will bring significant experience to this project with the implementation of over 40 previous energy-efficiency projects around the world to this project. UNDP will bring significant experience to this project with the implementation of over 40 previous energy-efficiency projects around the world. This includes over 20 energy-efficiency project implemented in the Europe & CIS region in the last 15 years. In particular, UNDP has excellent highly relevant experience in Croatia on how to successfully implement energy-efficiency measures at a municipal level through the UNDP GEF energy-efficiency project which finished in 2011. Lessons learned by UNDP in other countries on the implementation of energy-efficiency projects to this project will also be applied to the implementation of this project.
35. UNDP Serbia currently manages an environment portfolio of over \$10 million USD and this includes other ongoing GEF climate change projects related to climate change mitigation including sustainable transport and under preparation for biomass energy. The UNDAF 2011-2015 for Serbia calls for the UN to assist Serbia with its transition towards a compatible and competitive market economy. UNDAF Outcome 2 calls for Sustainable Development and Social Inclusion Enhanced. In particular, the UNDAF outlines that the UN will help the Government of Serbia and other relevant institutions in addressing issues related to customs, trans-boundary water, energy and transport resources, risks to the environment, and adaptation to climate change.

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 with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE(MM/dd/yyyy)
Toni PETROVIC	GEF Operational Focal Point, Minister of Energy, Development, and Environment Protection	MINISTRY OF ENERGY, DEVELOPMENT, AND ENVIRONMENT PROTECTION	04/07/2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE(MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Adriana Dinu, UNDP/GEF Executive Coordinator a.i		August 28 th , 2013	John O'Brien Regional Technical Advisor EITT	421 917 415 017	John.obrien@undp.org