



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: | Catalyzing Environmental Finance for Low-Carbon Urban Development | | |
| Country(ies): | Bosnia and Herzegovina (BiH) | GEF Project ID: ¹ | 9151 |
| GEF Agency(ies): | UNDP | GEF Agency Project ID: | 5646 |
| Other Executing Partner(s): | Environmental Protection Funds of Federation of BiH and Republic Srpska | Submission Date: | 29 June 2015 |
| GEF Focal Area(s): | Climate Change | Project Duration (Months) | 60 months |
| Integrated Approach Pilot | IAP-Cities <input type="checkbox"/> I IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/> | Corporate Program: SGP <input type="checkbox"/> | |
| Name of parent program: | N/a | Agency Fee (\$) | 225,150 |

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²:

| Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs) | Trust Fund | (in \$) | |
|--|------------|----------------------------------|-------------------------|
| | | Indicative GEF Project Financing | Indicative Co-financing |
| CCM-2 Program 3 | GEFTF | 2,370,000 | 23,900,000 |
| Total Project Cost | | 2,370,000 | 23,900,000 |

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

| Project Objective: to leverage investment in low-carbon urban development (LCUD) in BiH | | | | | | |
|---|-----------------------------|--|--|------------|-----------------------|--------------|
| Project Component | Financing Type ³ | Project Outcomes | Project Outputs | Trust Fund | (in \$) | |
| | | | | | GEF Project Financing | Co-financing |
| Component 1: Innovative financing mechanisms for low-carbon urban development (LCUD) | TA | Strengthened public capacities to program and monitor environmental finance for low-carbon urban development | <ul style="list-style-type: none"> At least 30 staff of the Environmental Protection Funds (EPFs) trained on innovative finance options for LCUD Monitoring, Reporting and Verification (MRV) system to track LCUD financing established | GEFTF | 200,000 | 430,000 |
| | Inv | Increased and diversified sources and modalities of investment in low-carbon urban projects resulting in annual GHG emission reduction of at least 15,000 tCO ₂ /year | <ul style="list-style-type: none"> Performance-based financing scheme for energy, waste and sustainable transport projects established and capitalized Revolving fund set-up for energy efficiency/renewable energy and | GEFTF | 600,000 | 13,200,000 |

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the GEF Website, [Focal Area Results Framework](#) which is an Excerpt from [GEF-6 Programming Directions](#).

³ Financing type can be either investment or technical assistance.

| | | | | | | |
|--|-----|---|--|-------|---------|-----------|
| | | | other bankable LCUD projects | | | |
| Component 2: Low-carbon public buildings & utilities | TA | Strengthened capacities of municipal managers, companies and utilities to monitor resources use, prepare and implement feasible investment projects | <ul style="list-style-type: none"> • EMIS expanded to cover all type of public/municipal buildings (at least 1,500 buildings) and facilities and resources use in buildings covering at least • Municipal staff trained and equipped to apply EMIS: at least 1,500 end-users trained across BiH • Municipal investment programs prepared to scale-up application of “green package” and financings secured for their implementation from EPFs | GEFTF | 270,000 | 370,000 |
| | Inv | Energy and resources saved, GHG emissions reduced from pilot investment projects : at least 22,000 tCO2 in direct GHG emission reduction | <ul style="list-style-type: none"> • “Green Building” concept designed and demonstrated for different types of public buildings – at least 45 buildings | GEFTF | 550,000 | 5,000,000 |
| Component 3: Low-carbon transport and logistics for waste management | TA | Reduced GHG emissions from municipal waste collection system (optimized transport) and due to waste minimization (increase recycling) – at least 1,000 tCO2/year in GHG emission reduction from the green logistic scheme for municipal waste | <ul style="list-style-type: none"> • Feasibility study to optimize and reduce carbon footprint of regional landfills prepared and selected low-carbon transport-waste management solutions piloted • At least 20 municipal waste managers trained and equipped with skills and tools to improve and monitor waste management system • Green logistic scheme for | GEFTF | 400,000 | 4,000,000 |

| | | | | | | |
|---|----|---|--|-------|------------------|-------------------|
| | | | <ul style="list-style-type: none"> municipal waste recycling designed and piloted Low-carbon transport strategy for regional landfills prepared and included in the Waste Management Strategy and co-financing enabled for its implementation. | | | |
| Component 4. National and sectoral policies, institutional coordination and awareness raising on low-carbon urban development | TA | <p>Best practices and technologies in low-carbon urban management replicated through adoption of relevant national and sectoral policies and improved institutional coordination</p> <p>Awareness increased and behavioral patterns of urban dwellers changed with regard to resource saving/efficiency</p> | <ul style="list-style-type: none"> National/sub-national/sectoral policies and regulations to promote best low-carbon practices and technologies in urban environment drafted. Institutional coordination on low-carbon urban development and spatial planning improved National awareness – raising campaign on LCUD conducted reaching out to at least 50% of BiH urban population (1,000,000 people) | GEFTF | 250,000 | 400,000 |
| Subtotal | | | | | 2,270,000 | 23,400,000 |
| Project Management Cost (PMC) ⁴ | | | | GEFTF | 100,000 | 500,000 |
| Total Project Cost | | | | | 2,370,000 | 23,900,000 |

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Please include confirmed co-financing letters for the project with this form.

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Amount (\$) |
|-------------------------|---------------------------------------|----------------------|-------------|
| National Government | Environmental Protection Fund of FBiH | Grants | 13,000,000 |

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

| | | | |
|---------------------------|-------------------------------------|---------|-------------------|
| National Government | Environmental Protection Fund of RS | Grants | 1,500,000 |
| GEF Agency | UNDP | Grants | 4,500,000 |
| Local Government | Municipalities | In-kind | 900,000 |
| Other Multilateral Agency | WB Waste Management Project | Grants | 4,000,000 |
| Total Co-financing | | | 23,900,000 |

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^(a)

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | (in \$) | | |
|----------------------------|------------|---------------------------------|----------------|----------------------|---------------------------|-------------------------------|------------------|
| | | | | | GEF Project Financing (a) | Agency Fee (b) ^(b) | Total (c)=a+b |
| UNDP | GEFTF | BiH <input type="checkbox"/> | Climate Change | CCM 2 | 2,370,000 | 225,150 | 2,595,150 |
| Total GEF Resources | | | | | 2,370,000 | 225,150 | 2,595,150 |

a) No need to fill this table if it is a single Agency, single Trust Fund, single focal area and single country project.

b) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

| Project Preparation Grant amount requested: \$49,076 | | | | | PPG Agency Fee: 4,662 | | |
|--|------------|------------------------------|----------------|----------------------|-----------------------|-----------------------------|-----------------|
| GEF Agency | Trust Fund | Country/ Regional/Global | Focal Area | Programming of Funds | (in \$) | | |
| | | | | | PPG (a) | Agency Fee ⁶ (b) | Total c = a + b |
| UNDP | GEF TF | BiH <input type="checkbox"/> | Climate Change | CCM2 | 49,076 | 4,662 | 53,738 |
| Total PPG Amount | | | | | 49,076 | 4,662 | 53,738 |

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$1 mil; \$100k for PF up to \$3 mil; \$150k for PF up to \$6 mil; \$200k for PF up to \$10 mil; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

| Corporate Results | Replenishment Targets | Project Targets |
|---|---|----------------------------|
| 4. Support to transformational shifts towards a low-emission and resilient development path | 750 million tons of CO _{2e} mitigated (include both direct and indirect) | 850,000 t CO _{2e} |

PART II: PROJECT JUSTIFICATION

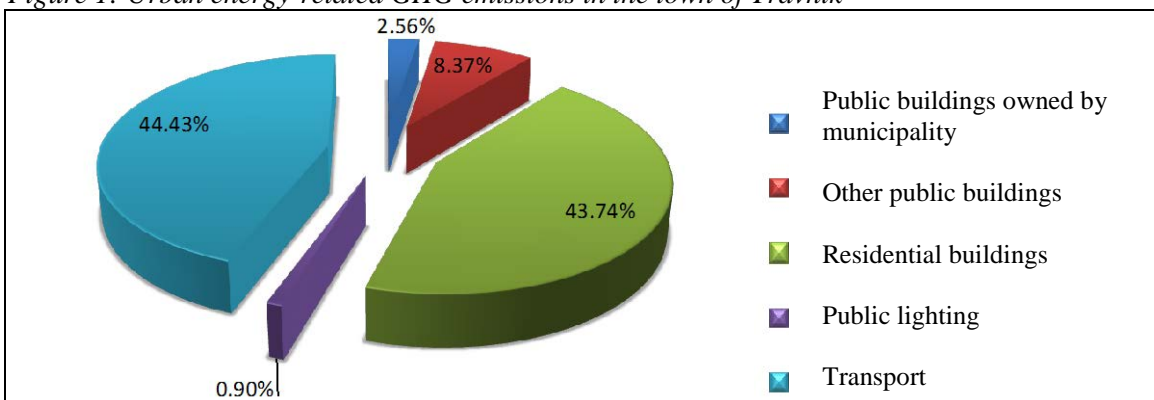
PROJECT OVERVIEW

1. Project Description.

1.1. Global Environmental Problems, Root Causes and Barriers

1. Bosnia and Herzegovina (BiH) is a highly decentralized country comprising 141 municipalities located in two entities, Republic of Srpska (RS) and Federation of Bosnia and Herzegovina (FBiH), and a separate administrative unit - Brčko District. The country experiences very unique demographic challenges: its urban population, estimated at 80% of the total (See Annex I)⁸, has nearly doubled in just a few years as a result of mass wartime migration from rural to urban areas. The Bosnian war led to the traumatic process of forced urbanization in which more than 50% of the country's population was displaced and hundreds thousands of rural dwellers were forced to take shelter in towns and cities they have never lived before. Such rapid and painful patterns of urbanization have brought to life a set of complex economic, social and environmental challenges in towns and cities that are not being adequately solved for a long time.
2. Designed and built over 20 years ago, urban infrastructure in BiH, public and residential buildings, energy systems and utilities, waste management, and transport, were not meant to cope with increased population volumes and due to long period of neglect and under-investment are now in dire state and in urgent need of expansion and modernization. From global environmental standpoint, this situation leads to steady increase in GHG emissions, primarily associated with:
 - Energy use in buildings and intensified traffic within and around urban centers (Figure 1)
 - Growing quantities of waste (Table 1)

Figure 1: Urban energy-related GHG emissions in the town of Travnik



Source: Sustainable Energy Action Plan of Travnik, BiH

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

⁸ 2nd National Communication of BiH to UNFCCC. Available at <http://unfccc.int/resource/docs/natc/bihnc2.pdf>

Table 1: Changes in annual quantities of municipal waste

| Production and structure of municipal waste in BiH (tons) | Annual quantity 2010 | Estimated annual quantity 2015 | Estimated annual quantity 2020 | Estimated annual quantity 2025 |
|---|----------------------|--------------------------------|--------------------------------|--------------------------------|
| Total quantity of municipal waste in BiH | 1,521,877.00 | 1,624,255.41 | 1,672,983.07 | 1,723,172.56 |

Source: 2nd National Communication of BiH to UNFCCC

3. Energy Use and GHG emissions in Building Sector. Buildings are responsible for large (30-40%) share of urban GHG emissions in BiH. Dated back to the 2nd half of XIX century, most of BiH building stock is characterized by poor heat-insulated characteristics, which have emerged as result of lack of regulations governing thermal performance of buildings. Most buildings have no or insufficient insulation thickness. Having in mind the age of these buildings (in average 40 years old) and the manner of their maintenance (mostly poor), specific annual energy consumption for heating in this sector is high, i.e. around 200 kWh/m² in residential buildings, 240 kWh/m² in educational buildings, and up to 600 kWh/m² in health sector. According to 2nd National Communication to UNFCCC, there exist a high potential to reduce energy use and GHG emissions of up to 80% by improving thermal performance of building envelope (thermal insulation of roofs, exterior walls, floors, better sealing, replacement of windows) and replacing HVAC systems and biomass/coal heat boilers with more efficient ones. For example, it was estimated that application of the above-mentioned measures only in the public buildings in the City of Banja Luka could yield energy saving of 36,000 MWh and GHG emissions reduction of 1,000 tCO₂/year⁹.
4. GHG emissions from urban and peri-urban transport. Transport sector is not only one of the largest, but also constantly growing source of GHG emissions in BiH. According to projections made in the 2nd NC, in the business-as-usual scenario transport emissions will increase two-fold by 2025. Most of the traffic activities are concentrated within urban centers and on the roads connecting them. The overall volume of road transport in BiH is represented by two indicators: cargo transport and passenger transport. According to Biannual Update Report (BUR) to UNFCCC (2014), the volume of transport in both categories in 2013 increased compared to 2011 by approximately 3%. The situation is aggravated by the fact that number of vehicles constantly increases (785,890 vehicles has been registered in 2013, an increase of 0.8% over the preceding year¹⁰), against the drop in public transport services (Figure 2). Also, the bulk (74%) of registered vehicles are very old: 10 years and above. Therefore, modal shift from old, inefficient individual vehicles towards modern, public and non-motorized travel options bears high potential for GHG emission reduction. The city of Tuzla, for example, estimates that construction of 5.5 km bicycle path from peri-urban areas to town center will result in 500tCO₂ emission reduction annually, let alone positive ancillary impact of such measures on human health, social life and local environment¹¹.

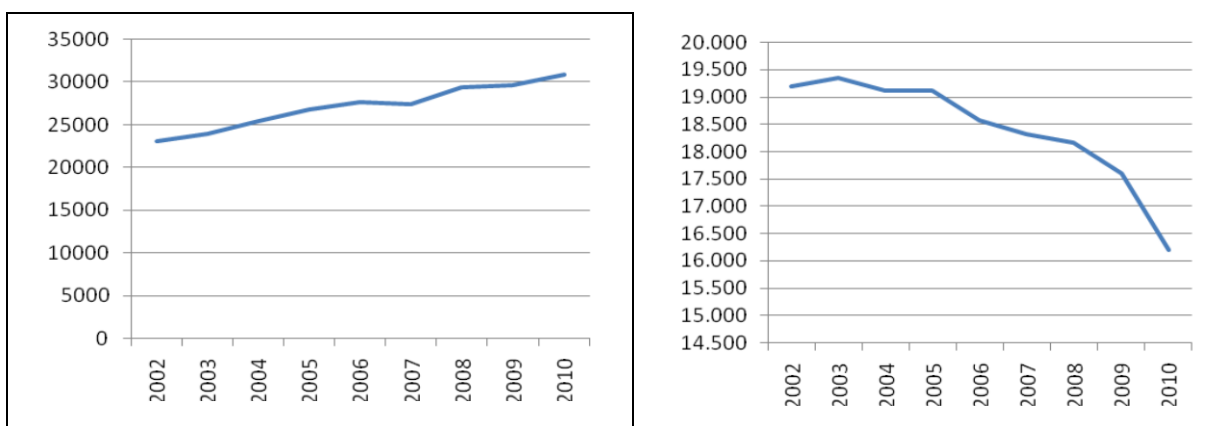
Figure 2: Dynamic of individual and public transport in the city of Tuzla

| | |
|--|---|
| Number of registered vehicles in the City of Tuzla | Passenger turnover of public transport in the city of Tuzla |
|--|---|

⁹ Banja Luka City Sustainable Energy Action Plan (SEAP), 2012

¹⁰ Biannual Update Report to UNFCCC, 2014

¹¹ National Appropriate Mitigation Action (NAMA) project for the city of Tuzla, 2013



Source: Sustainable Energy Action Plan (SEAP) of the City of Tuzla, 2012

5. Urban Waste Management. The share of GHG emissions from waste management in BiH is very small: only 3% of total emissions. Still, considering that the average municipal waste generation per capita in the Western Balkans (Albania, Croatia, Serbia) ranges between 334 and 367 kg, the estimated annual quantity in BiH, in the amount of 396 kg per capita, is above average. Recyclables separated from the mixed municipal waste amount to less than 5% of the total, while the rest 95% is disposed at (mostly) non-sanitary disposal sites. A particular problem in BiH is a large number of illegal dumping sites (about 600), which are also a significant source of GHG emissions. Improved waste management practices, such as reduction of waste volumes, recycling, energy generation and improved logistic of waste collection and transportation, can have a significant impact on emission reductions beyond waste sector, as well as lead to other global and local environmental benefits.

6. All in all, modernization, upgrade and expansion of municipal infrastructure and services in BiH are urgently required in order to improve the quality of urban life and achieve a range of important local and global environmental and sustainable development benefits. However, the pace of change is not sufficient (as the BAU projections indicate); the progress is being hampered by the lack of capacities and the inability of local authorities (municipal utilities and city managers) to prioritize, secure financing and carry on investment in low-carbon urban projects. Traditionally, municipalities in BiH rely on sub-national governments and institutions to provide grants, loans and guarantees to finance their capital investment, but with public expenditure already at 50% of GDP, such funding is increasingly difficult to obtain. Commercial lending is only in its beginnings and municipal authorities have to be creditworthy to access market-based financing. Other non-financial barriers, such as lack of technical knowledge and skills, low level of public awareness and poor enforcement of relevant environmental policies and regulations add to the problem and jeopardize the prospects of investment in low-carbon urban infrastructure (See Table 2).

Table 2: Barriers to Investment in Low-carbon Urban Development in BiH

| Type of Barrier | Description of Barrier | Proposed Project Response |
|-----------------|--|--|
| Financial | <p>*Municipal authorities in BiH are constrained in their ability to self-finance and leverage their-party financing for infrastructure development/upgrade/expansion projects, due to their poor financial standing, high level of debt and consequently the lack of credit-worthiness</p> <p>* Availability of long-term financing at affordable rates is also limited: financing from IFIs and other financial organizations does not match the scale and risk/return profile of sustainable urban projects and municipal</p> | <p>* Work with Environmental Funds of FBiH and RS to design and implement financial support mechanism for green urban projects (Component 1)</p> |

| | | |
|--|---|--|
| | borrowers | |
| <i>Data/information</i> | There is no system in place to systematically collect and analyze information on resources use/GHG emissions in cities. This limits ability of municipal authorities to identify and pursue most cost-effective climate change mitigation actions. | Introduction of urban MRV system for key urban emitting sectors, such as buildings and utilities, based on Energy Management Information System (EMIS) (Component 2) |
| <i>Local Capacity</i> | <p>*Lack of capacity to prepare and implement technically and economically feasible projects, as well as incorporate low-carbon considerations into urban development plans and programs, in particular in the key resource-consuming/emission-producing urban sectors:</p> <ul style="list-style-type: none"> - municipal buildings/facilities; - waste management; - urban transport and logistics | <p>* Strengthened capacities of municipal managers, companies and utilities to monitor resources use, prepare and implement feasible investment projects (Components 2,3 and 4)</p> <p>*Design and implement pilot projects in priority urban sectors, i.e. public sector buildings, waste and transport (Components 2,3 and 4)</p> |
| <i>Enforcement of policy/regulations</i> | *Enforcement of relevant environmental policies and regulations (e.g. Law on Energy Efficiency, Regulation on the technical requirements for thermal protection of buildings and rational use of energy, Waste Management Strategy, Environment Protection Strategy etc) in BiH remain patchy due to complex administrative and governance structure, as well as because of the lack of capacities among relevant national/sub-national authorities to effectively oversee and monitor their implementation | * Work with relevant authorities (i.e. Ministries of Foreign Trade and Economic Relations, Ministry for Spatial Planning, Construction and Ecology of RS, Ministry of Environment and Tourism of FBiH) to identify and address their capacity gaps to enforce policies and regulations in support BiH commitment under UNFCCC and National Low-emission development strategy (Component 4) |
| <i>Awareness</i> | *City managers, municipalities and urban residents have not yet embraced the principles of low-carbon conscious behavior. They lack basic awareness and understanding about resource efficiency, sustainable consumption as well as environmental and health impacts resulting from urban emissions. | *Conduct awareness-raising and outreach to urban residents and authorities; support local/community low-carbon initiatives in cities and towns (Component 4) |

1.2. Project Baseline and Proposed Alternative Scenario

- The objective of the proposed project is to leverage investment for transformational shift towards low-carbon urban development (LCUD) in BiH thereby promoting safer, cleaner, and healthier cities and reducing GHG emissions.
- In order to remove afore-mentioned barriers, the project will adopt an integrated three-pronged approach. First, at entity/sub-national level, it will partner with key environmental finance institutions (the Environmental Funds of FBiH and RS, as well as the Development Banks of FBiH and RS) to establish, pilot and capitalize innovative financial mechanisms and partnerships for LCUD.
- In parallel, the project will work at municipal level with relevant authorities to help identify and implement flagship investment projects in the following priority climate change mitigation sectors a) low-carbon municipal buildings and utilities; b) low-carbon waste management; c) low-carbon transport and logistics for waste management. Replication of these flagship investment projects will be promoted with aid of financing mechanisms set up in collaboration with EFs.
- Thirdly, based on the results of flagship projects, municipal investment programs to scale-up pilot actions will be prepared and relevant policy recommendations proposed for adoption at appropriate government

levels in BiH. In addition, national awareness raising and advocacy campaign will be conducted featuring flagship initiatives to secure public support and promote behavioral changes towards low-carbon urban living and mobility. The project will cover all urban municipalities in BiH with a target to reach out and facilitate new and additional investment in at least 20 largest towns and cities, where almost 60% of BiH urban population reside (See Annex I for details).

11. To its end, proposed integrated strategy will enable transformational shift towards low-carbon urban development in BiH by identifying and testing technically and economically feasible low-carbon solutions in key urban sectors, and then promoting their wider uptake by municipalities and private sector via dedicated financial mechanisms and funding windows, as well as by accelerating implementation of a favorable policy and regulatory framework. In doing so, the project will facilitate transformation of market for low-carbon urban solutions by creating and expanding opportunities for businesses to get involved in provision of low-carbon services and products in cities, such as ESCOs, water and heat supply companies, waste management companies and urban transport operators.
12. The project will consist of four components, each building upon associated baseline projects and initiatives, as described below.

Component 1: Innovative financing mechanisms for low-carbon urban development

13. *Baseline:* Environmental Protection Fund of FBiH and Environmental Protection Fund of RS (EPFs) are the two principal environmental finance institutions in BiH through which municipalities can access financing for implementation of their priority projects. EPFs are capitalized from polluters' charges in the amount of app. 36 mln US\$/year, which are, in turn, allocated in the forms of grants on a competitive basis to winning proposals from municipalities and municipal entities. Main areas of EPFs support are climate change mitigation (sustainable energy and transport), waste management, waste water management and protection of natural resources.
14. *GEF-supported Alternative:* the project will work with EPFs to help establish and operationalize new and innovative financial mechanisms and approaches to support LCUD projects, including by piloting application of performance-based grant financing and non-grant mechanisms. It will also strengthen capacities of these institutions to improve effectiveness of their programming work and set-up appropriate Monitoring, Reporting and Verification (MRV) system. The following tentative outputs are envisaged:
 - a. Performance-based financing scheme for LCUD projects established to encourage competition among municipalities and improve effectiveness of EPFs programming¹²
 - b. Revolving funding window under EPFs set-up for energy efficiency/renewable energy and other bankable LCUD projects
 - c. Partnerships with Development Banks of FBiH and RS (and/or other interested financial institutions) set-up for joint financing of LCUD projects (e.g. through risk guarantee facility or other credit enhancement schemes)
 - d. Training provided to EPFs' staff on innovative LCUD financing mechanisms, as well as to municipalities on how to prepare and access financing from EPFs
 - e. Assistance provided to EPFs to identify alternative and additional sources of financing, including NAMA Facility, GCF, etc
 - f. Monitoring, Reporting and Verification (MRV) system to track financing for and performance of LCUD projects (including monitoring of global environmental benefits) is established.

¹² Under BAU, grants are being provided on a sectoral basis (energy, waste, etc) based on established eligibility criteria (i.e. a project should lead to energy saving), but their provision and the amounts are not tight to the expected results, neither such modality can encourage integrated solutions to urban challenges. With GEF support, an alternative grant-making scheme will be introduced whereby grant allocation and the amounts will be linked to certain performance criteria, such as volume of energy saved, share of waste recycled, GHG emission reduced, etc.

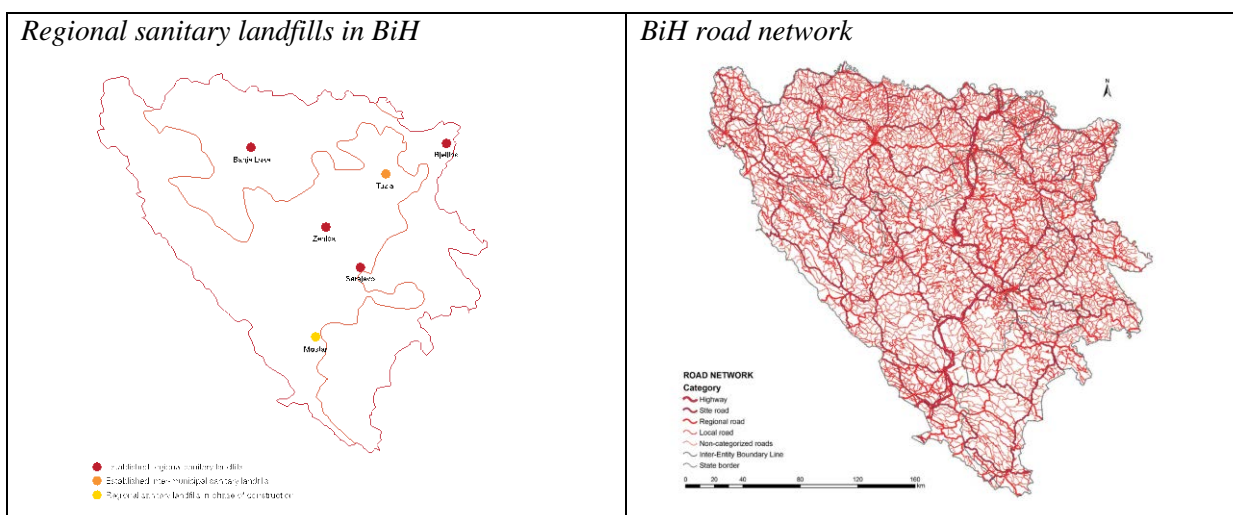
Component 2: Low-carbon public buildings and utilities

15. *Baseline:* UNDP BiH with its project “Climate Change Facility for BiH Cities” aimed at reducing energy consumption in public buildings supports the introduction of the EMIS (Energy Management Information System) in BiH cities. EMIS is a web application for monitoring and analysing energy and water consumption in public buildings. An analysis of the data entered in EMIS enables building and city managers identify and prioritize energy efficiency measures. EMIS is currently being implemented in 23 municipalities; over 500 public buildings have been registered in the system and some 150 municipal employees have received EMIS training. Through its “Green Economic Development” project, UNDP continues rolling out EMIS introduction throughout the country aiming at sub-national/cantonal public sector buildings (educational, healthcare and administrative institutions). It is expected that by 2016 a total number of 1,500 public sector buildings are registered and their energy and water consumption, utility bills and CO₂ emission are being monitored. This baseline work is essential to enable municipalities to identify and prioritize most cost-effective energy and resource saving projects for their investment, which are being carried on from municipal operational budget, thus remain limited.
16. *GEF-supported Alternative:* The project will build on UNDP-supported efforts to introduce EMIS in public buildings to expand the scale and scope of its application and facilitate implementation of low-carbon measures in public buildings and facilities (e.g. public lighting, water supply and sanitation system – large energy users with high potential for resources saving). EMIS will form a core of nation-wide MRV system to monitor use of energy and water resources, waste generation and associated emissions by the cities. It will also be used to prioritize, benchmark and monitor EPFs funding, such as the provision of performance-based grants (under Component 1). Also, based on the analysis of EMIS data, a standard “Green Package” of measures will be designed to green operations of a typical building (schools, hospitals, administration offices) covering a range of resource saving and renewable energy measures and technologies (heating, water, lighting, waste, sewage, etc.). Eventually, municipal investment program prepared to scale-up its application with EPFs financing in a number of cities. Provisionally, the following outputs are expected:
 - a. EMIS expanded to cover all type of public/municipal buildings and facilities and resources use in buildings
 - b. “Green Building” concept designed and demonstrated for different types of public buildings
 - c. Municipal staff trained and equipped (hardware & software) to apply EMIS in daily work for data collection, analysis, “green” project preparation and implementation
 - d. Municipal investment programs prepared to scale-up application of “green package” and financings secured for their implementation from EPFs (in conjunction with assistance under Component 1)

Component 3: Low-carbon transport and logistics for waste management

17. *Baseline:* A coalition of donors and IFIs (EU, WB, EIB, USAID, SIDA, etc) are supporting implementation of BiH Waste Management Strategy aimed at improving country’s waste disposal system and construction of several sorting, recycling, and landfill gas capturing facilities. In the core of this strategy lies the closure of over 600 illegal dump sites and creation of six official regional landfills serving multiple municipalities. While the proposed strategy and baseline project will undoubtedly bring in many positive environmental benefits, it will also lead to significant increase in waste-related traffic volumes. Transport-related GHG emissions will therefore increase many-fold due to the need to arrange for waste collection and transportation along much longer distances and at already highly congested roads around main BiH urban centers where 6 official landfills are being set up replacing existing 600 sites spread across the country (Figure 3).

Figure 3: Establishment of regional sanitary landfills in BiH



Sources: State of Environment Report of BiH 2012 ; 2nd National Communication to UNFCCC

18. *GEF-supported Alternative* will address the shortcomings of the baseline Waste Management Project in order to minimize the over-all carbon footprint of BiH waste management sector. The project will support feasibility study for low-carbon transport and logistics of regional landfill operation, including consideration, assessment and testing of various low-carbon alternatives (alternative fuels, EE trucks, optimized routing, capacity and load factors, use of ICT, etc). To scale-up most effective transport-waste management solutions, investment projects will be prepared and incorporated in the financing plan for regional landfills. Also, in conjunction with promoting “Green Buildings” package (under Component 2), the project will work with municipalities to introduce on-site recycling and composting facilities. The following is the preliminary list of outputs to be delivered under this component:
 - a. Feasibility study to optimize and reduce carbon footprint of regional landfills prepared and selected low-carbon transport-waste management solutions piloted, including with financing through EPFs performance-based grant scheme
 - b. Municipal waste managers trained and equipped with skills and tools to improve and monitor waste management system
 - c. Green logistic scheme for municipal waste recycling designed and piloted
 - d. Low-carbon transport strategy for regional landfills prepared and included in the Waste Management Strategy and co-financing secured for its implementation.

Component 4: National and sectoral policies, institutional coordination and awareness raising on low-carbon urban development

19. *Baseline:* GIZ’s “Energy Efficiency Consultancy BiH” project aims to provide policy development technical assistance to BiH’s energy related authorities, in coordination with UNDP and other donors. At national/sub-national level BiH has a number of comprehensive policies and strategies directly and indirectly supporting LCUD, such as the Climate Change Adaptation and Low-Emission Development Strategy, Waste Management Strategies, Environmental Protection Strategies, Energy Efficiency Action Plans. However, some of them are not yet fully adopted and lack institutional structures and capacities to facilitate their implementation.
20. For example, with regard to energy building codes, in the Federation of Bosnia and Herzegovina, requirements related to the minimum energy performance of buildings, energy audits and energy certification of buildings have been introduced through the existing Law on Physical Planning and Land Utilization, as well as several by-laws. In Republika Srpska, similar requirements have been introduced

through the Law on Physical Planning and Construction (energy performance of new and existing buildings, certification of buildings, energy audits of buildings). However, gaps and shortcomings remain with implementation of these requirements and enforcement of EE building policies and legislation.

21. *GEF-supported Alternative.* Realizing serious limitations and constraints of current administrative structure in BiH, the project will nevertheless try to address some of the gaps at national and sub-national level by promoting the adoption and/or enforcement of the key/essential policies and regulations, promoting institutional coordination among relevant bodies, providing targeted capacity building and training support to relevant - authorities. For example, GEF-supported work on introducing EMIS in public buildings will directly contribute to the strengthening of enforcement capacities of relevant authorities to monitor energy performance in buildings and ensure consistency with established minimum energy performance standards. Also, municipal authorities can significantly contribute to introduction of standards and policies to promote sustainable urban mobility (via municipal regulation), such as the use of alternative fuels in public transport, EE trucks, optimized routing of public transport within a municipality as well as urban carbon emission free zones. Design and implementation of such municipal policies will also be supported by the project. Finally, the project will also support a BiH-wide PR and advocacy campaign about low-carbon cities featuring successful examples of LCUD projects and initiatives supported by the GEF and EPFs (under Components 1-4). The following outputs are expected:
 - a. National/sub-national/sectoral/municipal policies and regulations to promote best low-carbon practices and technologies in urban environment (energy, waste, transport) drafted.
 - b. Institutional coordination on low-carbon urban development and spatial planning improved
 - c. National awareness –raising campaign on low-carbon cities conducted

1.3 *Innovativeness, Sustainability, and Potential for Scaling Up*

22. *Innovativeness:* The project represents one of the first attempts globally to pilot application of performance-based financing of low-carbon urban projects. Also, it seeks to identify linkages and achieve synergies between various climate change mitigation actions in cities by introducing and promoting “green building” concept and low-carbon transport scheme for waste management.
23. *Sustainability:* GEF support will be fully embedded in the regular operations of the EPFs, the two environmental finance institutions in BiH (with regular and stable source of financing), thus ensuring *sustainability* of proposed financial mechanisms for LCUD projects. Also, revolving fund and other non-grant financing schemes to be established within EPFs are meant to continue functioning on a self-sustaining basis beyond duration of the GEF project.
24. *Potential for Scaling-up:* The project targets all urban municipalities in BiH and thus have high potential for replicability and scaling-up. For each pilot project, municipal investment projects will be prepared to ensure that successful pilots are replicated. Also, national PR campaign will help generate interest and demand from more cities and towns to initiate their LCUD initiatives thus contributing to scalability of project’s results.

1.4 *Global environmental benefits*

25. *GHG emission reductions.* Project will contribute to GHG emission reduction directly and indirectly through the following components. Implementation of Green Building package in municipal buildings (Component 2), as well as pilot low-carbon transport measures for waste management (Component 3) will yield direct emission reduction in the amount of at least 22,000 tCO₂ from urban building sector and 1,000 tCO₂/year from sustainable transport pilot project. By supporting replication of pilot projects, indirect emission reduction in urban building sector can be expected of at least 670,000 tCO₂ (assuming replication factor of 3 and 10 years post-project influence period) and cca 6,000 tCO₂/year from nation-wide

replication of low-carbon transport/logistic scheme for waste management. In addition, through the establishment and capitalization of financial mechanisms for LCUD project (Component 1), direct post-project emission reductions will be generated of around 150,000 tCO₂.

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society and indigenous people? (yes ☒ /no ☐) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation:

26. At project development stage consultation with relevant civil society organizations will be conducted to identify specific urban low-carbon development needs, as well as country and region-specific best practices. CSOs will also be involved in the design of public outreach activities under Component 4. Following representatives of civil society from BiH will be involved in project design:
- Regional Education and Information Center for Sustainable Development in South-East Europe (REIC): REIC is coordinating activities of the regional Urban Empathy project for BiH aimed at bringing together projects, policy makers & stakeholders to share concrete results to improve the efficiency of sustainable urban policies in the Mediterranean region;
 - Center for Development and Support (CRP): CRP is involved in several educational and awareness raising activities on the topics of sustainability and energy efficiency in BiH;
 - Center for Education and Raising Awareness of Energy Efficiency (Energis): Energis is specializing in provision of technical services and implementation of energy efficiency projects in BiH

3. Gender Considerations. Are gender considerations taken into account? (yes ☒ /no ☐). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

27. **Gender issues** will also be addressed directly in the following ways throughout the life cycle of the proposed project: 1) Project preparation activities will include a baseline analysis of women's participation in municipal management, especially in public institutions (hospitals and schools), and will provide recommendations on the most effective messaging and communication channels for reaching and engaging women in LCUD activities; 2) The project will apply a gender marker as per UNDP guidance; 3) The project will incorporate gender issues in the project results framework, including gender-sensitive actions, indicators, targets, and/or budget; 4) The project will monitor the share of women and men as direct beneficiaries; and 5) An analysis of women's inclusion in project activities will be included in both the mid-term evaluation and the terminal evaluation of the project and will be explicitly stated in the terms of reference for those evaluations.

4 Risk. 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 4: Project Risk Summary

| Description | Rating | Explanation |
|----------------|------------|---|
| Financial Risk | Medium | Due to low creditworthiness of municipal authorities, there is a risk that up-take of non-grant mechanisms might be low. The project will mitigate this risk by studying the capacity and profile of municipal borrowers and designing mechanisms in such a way as to make it affordable and attractive to large majority of municipalities (for instance by combining grant and non-grant financing in one package, offering other incentives and risk mitigation measures). |
| Technical Risk | Low-Medium | There is a low to moderate risk that the technologies in the project could experience difficulties in operations or in maintenance. For most part (i.e. green buildings), technologies are well known and proven, but require some level of skills and expertise from personnel for their proper maintenance. This |

| | | |
|--------------------------------|--------|--|
| | | risk will be mitigated by providing targeted training and “learning-by-doing” capacity building to relevant municipal staff. |
| Political Risk | High | Political risk is high due to very complex administrative and governance structure of BiH. The risk is being mitigated by the design of the project and the selection of project partners by putting the emphasis on local/municipal level. |
| Climate Change Risk | Medium | The climate-related risk of the project is considered medium, but will need to be more carefully assessed at PPG stage. The project will work closely with UNDP-SCCF project addressing resilience issues at municipal level to identify most critical risks and potential measures to address them within the scope of proposed project. One of the proposed measures is to support (under Component 4) review of land-use planning policies and regulations in BiH jointly with UNDP-SCCF and come up with revisions incorporating various sustainability aspects in urban land-use planning, including low-carbon and climate resilience. |
| Environmental and Social Risks | Low | The proposed project will be implemented in accordance with UNDP’s environmental and social screening policies to ensure that any environmental risks are minimized. Furthermore, specific analysis will be undertaken during the PPG to ensure that the project design is inclusive and that women and other vulnerable groups will be explicitly considered during project implementation. |

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives:

28. The proposed project will collaborate with *UNDP-SCCF “Technology Transfer for Climate Resilient Flood Management in Vrbas River Basin”* to jointly identify climate related risks to sustainable and low-carbon urban development and work out climate risk mitigation strategies at local level (in the Vrbas River Basin), as well as on sub-national and national level (though relevant changes in policies and regulations).
29. The project will work closely with *UNDP-GEF “Third National Communication (TNC)”* and *“First Biennial Update Report (FBUR)”* projects regarding design and practical steps to set-up MRV system for GHG emission monitoring. In particular, the proposed project through its support to expanded EMIS (Energy Management Information System) can lay solid foundation for systematic data collection at local level, which can then be aggregated at FBiH and RS level and feed in the national GHG inventory process and MRV.
30. *UNEP-GEF “Capacity Development for the Integration of Global Environmental Commitments into National Policies and Development Decision Making”* project will support the establishment of central environmental information and monitoring system for key environmental indicators. The proposed UNDP-GEF project will concentrate on the local/municipal level, but will try to ensure that local/municipal data-bases and monitoring process for energy, waste, transport sector are compatible with and feed in the central system to be supported by UNEP-GEF project.
31. Under Component 4 collaboration will be established with the *World Bank “Waste Management Project”* to incorporate sustainable transport measures in the scope of WB-supported work on establishing regional landfills and improvement of waste collection and disposal system in BiH.
32. Given the past activities related to energy efficiency in BiH, an Memorandum of Understanding on *“Energy Efficiency Donor Coordination in BiH”* has been signed in 2012 between donors and agencies working in the area of EE in BiH. UNDP will continue to create synergies and collaborate with GIZ’s *“Energy Efficiency Consultancy BiH”* project on various activities related to energy efficiency. The project will also work closely and seek synergies (in particular under Component 2) with recent *WB “Energy Efficiency Project”* which provides loan financing for energy efficient retrofits of public buildings.

6. Consistency with national priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how: NAPAs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.:

33. The project is fully consistent with *Climate Change Adaptation and Low-Emission Development Strategy of BiH* adopted in 2013, which prioritized building, transport and urban heating sectors as the key areas for climate mitigation actions. Likewise, 2nd National Communication to UNFCCC also stresses the importance of buildings, transport and waste management sector for climate change mitigation in BiH.

7. 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

34. During project formulation stage (PPG), potential partnerships and networking opportunities with relevant projects and initiatives will be identified and modalities for collaboration and knowledge exchange worked out. The most prominent opportunities in this respect are related to

A) *Covenant of Mayors*: 15 cities in BiH have already signed under this initiative; the project can benefit from experience of this network (covering cities both within and outside of EU), as well as present its own achievements and best practices to the wider community of “sustainable cities” covered by the Covenant

B) *GEF-supported Integrated Approaches Pilot (IAP)*: collaboration and opportunities for networking with cities participating in this IAP will be sought

35. Proposed project will collaborate with *UNDP’s Global Low Emission Capacity Building Programme (LECB)*, which supports over 30 countries around the world with establishing national MRV systems for climate finance. Vast experience of LECB programme and lessons learned will be leveraged to inform the design of MRV systems for LCUD finance in BiH, as envisaged under Component 1.

36. The project will also learn from UNDP’s prior work on supporting revolving funds and mechanisms in the area of sustainable energy. For example, *UNDP-GEF project “Removing Barriers to the Increased Use of Biomass as an Energy Source”* in Slovenia provides highly relevant experience and lessons regarding the design and implementation of revolving funds in the context of a former Yugoslavian country: <http://climatefinanceoptions.org/cfo/node/71>¹⁴. Other relevant examples from Europe and CIS include the work in Armenia under on-going UNDP-GEF public lighting project to set-up revolving municipal account for EE street lighting retrofits and in Russia under completed UNDP-GEF project dealing with revolving municipal EE fund for educational buildings.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. Record of Endorsement¹⁵ of GEF Operational Focal Point (S) on Behalf of the Government(s): (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [SGP OFP endorsement letter](#)).


¹⁴ Final evaluation of the project and established revolving fund is available at [https://www.climate-eval.org/sites/default/files/evaluations/357 Slovenia - Removing Barriers to the Increased Use of Biomass as an Energy Source - Final Evaluation.pdf](https://www.climate-eval.org/sites/default/files/evaluations/357_Slovenia_-_Removing_Barriers_to_the_Increased_Use_of_Biomass_as_an_Energy_Source_-_Final_Evaluation.pdf)

¹⁵ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

| NAME | POSITION | MINISTRY | DATE (MM/dd/yyyy) |
|---------------|---|---|-------------------|
| Senad Oprasic | GEF Operational Focal point Head of Environmental Protection Department | Ministry of Foreign Trade and Economic Relations | 27/05/2015 |

B. GEF Agency(ies) Certification

This request has been prepared in accordance with GEF policies¹⁶ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

| Agency Coordinator, Agency name | Signature | Date (MM/dd/yyyy) | Project Contact Person | Telephone | Email |
|--|---|----------------------|---|----------------------|---------------------------------|
| Adriana Dinu UNDP – GEF Executive Coordinator |  | June 29, 2015 | Marina Olshanskaya UNDP-GEF RTA EITT | +90-850- 288-2609 | marina.olshanskaya@ undp.org |

¹⁶ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

ANNEX I: URBAN POPULATION IN BIH AND TARGETED URBAN AREAS

| | TOWN | Residents | % of total |
|---------------------------------|-------------------|------------------|------------|
| 1 | Grad Sarajevo | 361735 | 8.26% |
| 2 | Banja Luka | 195692 | 4.47% |
| 3 | Zenica | 145517 | 3.32% |
| 4 | Tuzla | 131618 | 3.01% |
| 5 | Mostar | 126628 | 2.89% |
| 6 | Prijedor | 112543 | 2.57% |
| 7 | Doboj | 102549 | 2.34% |
| 8 | Bijeljina | 96988 | 2.22% |
| 9 | Brčko | 87627 | 2.00% |
| 10 | Zvornik | 81295 | 1.86% |
| 11 | Travnik | 70747 | 1.62% |
| 12 | Bihać | 70732 | 1.62% |
| 13 | Sarajevo Ilidža | 67937 | 1.55% |
| 14 | Cazin | 63409 | 1.45% |
| 15 | Sanski Most | 60307 | 1.38% |
| 16 | Bosanska Gradiška | 59974 | 1.37% |
| 17 | Teslić | 59854 | 1.37% |
| 18 | Gračanica | 59134 | 1.35% |
| 19 | Bosanska Krupa | 58320 | 1.33% |
| 20 | Zavidovići | 57164 | 1.31% |
| Sub-total: Targeted Urban Areas | | 2,069,770 | 59% |
| 21 | Lukavac | 57070 | 1.30% |
| 22 | Gradačac | 56581 | 1.29% |
| 23 | Derventa | 56489 | 1.29% |
| 24 | Kakanj | 55950 | 1.28% |
| 25 | Živinice | 54783 | 1.25% |
| 26 | Velika Kladuša | 52908 | 1.21% |
| 27 | Tešanj | 48480 | 1.11% |
| 28 | Prnjavor | 47055 | 1.08% |
| 29 | Bugojno | 46889 | 1.07% |
| 30 | Visoko | 46160 | 1.05% |
| 31 | Jajce | 45007 | 1.03% |
| 32 | Konjic | 43878 | 1.00% |
| 33 | Maglaj | 43388 | 0.99% |
| 34 | Kalesija | 41809 | 0.96% |
| 35 | Bosanski Novi | 41665 | 0.95% |
| 36 | Srebrenik | 40896 | 0.93% |
| 37 | Livno | 40600 | 0.93% |

| | | | |
|-------------------------------|-----------------|------------------|-------------|
| 38 | Foča | 40513 | 0.93% |
| 39 | Goražde | 37573 | 0.86% |
| 40 | Ključ | 37391 | 0.85% |
| 41 | Kotor Varoš | 36853 | 0.84% |
| 42 | Srebrenica | 36666 | 0.84% |
| 43 | Modriča | 35613 | 0.81% |
| 44 | Bosanski Brod | 34138 | 0.78% |
| 45 | Vlasenica | 33942 | 0.78% |
| 46 | Bratunac | 33619 | 0.77% |
| 47 | Bosanski Šamac | 32960 | 0.75% |
| 48 | Lopare | 32537 | 0.74% |
| 49 | Bosanska Dubica | 31606 | 0.72% |
| 50 | Trebinje | 30996 | 0.71% |
| 51 | Novi Travnik | 30713 | 0.70% |
| 52 | Odžak | 30056 | 0.69% |
| 53 | Tomislavgrad | 30009 | 0.69% |
| 54 | Laktaši | 29832 | 0.68% |
| 55 | Orašje | 28367 | 0.65% |
| 56 | Ljubuški | 28340 | 0.65% |
| TOTAL Urban Population | | 3,521,102 | 80% |
| TOTAL BiH | | 4,377,033 | 100% |