

Country:	Bosnia and Herzegovina
Request Identification Number:	2015000059

Title:	Rehabilitation and modernization of the district heating (DH) system in the City of Banja Luka focus on energy efficiency
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Addendum to the Response Plan

Following the completion of CTCN assistance described in the response plan mentioned above, and the interest in the results of the assistance by the European Bank for Reconstruction and Development the National Designated Entity for Bosnia and Herzegovina, the City of Banja Luka (request proponent), and the CTCN agreed to conduct supplementary activities, in addition to those conducted under the original response plan. These activities are presented in this addendum.

1. Rationale

The City of Banja Luka submitted to the CTCN a request for the 'Rehabilitation and Modernization of the district heating (DH) system in the City of Banja Luka' (Request reference number 2015000059). As a response, the CTCN contracted experts from the UNEP-led *Global District Energy in Cities Initiative*, to conduct a city-wide analysis to assess the district heating network status and energy efficiency, building efficiency, the appropriateness of current heat production sources and the financial situation including current tariff levels and customer connection rates.

The experts, in collaboration with national counterparts, developed the assessment, including a Priority Investment Program which addresses the identified issues by proposing fuel switch from Heavy Fuel Oil (HFO) to biomass, renewable, locally available and cheaper fuel; modernization and rehabilitation of the existing HFO boilers to cut costs of fuel and electricity; rehabilitation and priority replacements in the distribution network to cut heat and water losses; and switching to consumption based metering and billing for improved quality of services and customer confidence. The measures proposed in the assessment are aimed at improving the service level and decreasing district heating costs in order to improve the competitiveness of district heating in relation to alternative heating sources. The measures have been designed to secure an environmentally, technically and financially sustainable district heating system.

This rapid assessment and priority investment plan has been approved by the city of Banja Luka and is being used as the basis for development in the city, and has gained approval at multiple levels of governance. Furthermore, the assessment has attracted interest from the European Bank for Reconstruction and Development (EBRD) to provide an investment package of several million euros for new biomass boilers, network upgrades, and other efficiency measures. In this context, EBRD is working closely with the CTCN, the UNEP District Energy in Cities Initiative, and the city of Banja Luka to develop this opportunity.

2. Activities

The CTCN will provide technical assistance to conduct a feasibility study for the city of Banja Luka and the utility company that will be used to appraise the project and facilitate decisions on the prospective financing.

The assistance with support to requesting organization, in order to:

- Confirm availability of sustainable biomass supplies, and if any, clarify whether the biomass based district heating system would be a least cost option for heating provision in the city and assess the number of potential jobs created if locally available biomass based district heating system is identified as a least cost option.

- Provide a contract template for delivery of biomass between the utility company and biomass supplier if applicable.
- Define the long term strategy for the district heating sector in the city. The strategy should analyse advantages and disadvantages of private sector participation on both the supply and the demand side.
- Develop a long-term strategic investment programme (20 years) based on least cost analysis and ranking methodology according to best applicable technology, availability of other heating sources, other fuels and environmental and social benefits. The analysis should be based on projected market prices for the fuels, with applicable sensitivity to local/world market projections.
- Identify and assess a detailed Priority Investment Programme (PIP), suitable for implementation over the next 3 years to be partially financed by the EBRD loan, including its technical feasibility and justification of its high priority in terms of financial and economic internal rate of return. The PIP analysis should review opportunities along the entire heat supply chain from generation to distribution to final utilisation. To that effect and in the context of the availability of sustainable biomass the assignment will compare the heat only generation option proposed by the utility company with CHP based solutions;
- Advise whether the tariffs required to sustain the investment would be affordable to various categories of the population. To that effect the consultant will review and comment on appropriateness of the new tariff model proposed by the utility company and adopted by the City but not yet put into force.
- Carry out an Environmental and Social Assessment (Environmental and Social Due Diligence - ESDD) of the Project, against the 2014 EBRD Environmental and Social Policy ("ESP") and associated performance requirements ("PRs"), to identify its environmental and social risks, impacts and benefits and to structure the Project to comply with the ESP and PRs.
- Prepare a procurement and implementation strategy including detailed plans for the contracting, financing and implementation of the investments.
- Identify energy efficiency measures for the district heating ("DH") infrastructure rehabilitation and upgrade.
- Identify, assess and elaborate local legal requirements for obtaining necessary approvals for project implementation and to allow that debt service under the proposed financing arrangement is included into the tariff structure.
- Produce calculation on the EBRD's standard measuring indicators and SRI impact indicators.

More specifically, the assistance aims to produce the deliverables below. Co-financing will be provided by the Global District Energy in Cities Initiative to conduct the activities and ensure production of all the deliverables listed below. More details on the activities are in the Terms of Reference for the feasibility study, available in Annex 1.

- Baseline study
- Report on the definition of the project
- Long-term investment programme (LTIP)
- Priority investment programme (PIP)
- Report on the potential for carbon trade
- Environmental and social assessment

3. Timeline

Deliverables	Delivery date
Baseline study	<i>Week 2</i>
Report on the definition of the project	<i>Week 4</i>
Long-term investment programme	<i>Week 6</i>
Priority investment programme	<i>Week 7</i>
Report on the potential for carbon trade	<i>Week 8</i>
Environmental and social assessment	<i>Week 9</i>

4. Expertise required

- Project Manager/Team Leader with a university degree or equivalent qualification with a minimum of 15 years professional experience in the field of district heating, with comprehensive experience of similar assignments in, as well as in institutional and commercial management of district heating companies. He/she should demonstrate management and administration experience, including experience with procedures of international financing agencies (preferably EBRD procedures). The large number of different tasks and the complexity of administrative procedures require a permanent presence of the Project Manager in the country during the project period of intensive work on preparation of the FS.
- Technical specialists and engineers in district heating, biomass fuel handling and co-generation plants.
- Environmental and social specialist(s) with specific expertise in DH projects. These experts must have a good knowledge and understanding of the EBRD environmental requirements, demonstrated experience of previous work with IFIs and with utilities in the Balkans.
- Institutional expert with experience of similar assignments.
- Legal expert with relevant experience in the areas of natural monopolies regulation and knowledge of BiH tariff legislation.
- Local experts with good communication skills and evidenced technical knowledge of the district heating sector planning, design, implementation and operations.

5. Signatures

Signatures of the requesting country

NDE

Name: **GORAN TRBIC**
 Title: **FULL PROFESSOR**
 Date: **02.02.2017.**

Signature: 

Signatures of the CTCN

CTCN Director

Name: Jukka Uosukainen

Title: Director

Date: 02 Feb 2017

Signature:



Climate Technology Manager

Name: Rajiv Garg

Title: Technology Manager a.i.

Date: 02 Feb 2017

Signature:

