



Non-Technical Summary

DUSHANBE DISTRICT HEATING PROJECT, TAJIKISTAN

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1. Project Description

European Bank for Reconstruction and Development (“EBRD” or the “Bank”) is considering a transaction consisting of a loan of USD 6 million from the Bank and a capital expenditure grant of USD 4 million from an international donor to finance a priority investment programme (“PIP”) in district heating sector (the “Project”). The Project has the following objectives, inter alia:

- Rehabilitation and potential expansion of the DH network;
- Rehabilitation of the pumping stations and the introduction of metering at pumping station/apartment level;
- Procurement of operational and maintenance machinery and equipment;
- Improve financial and operational management.

Within the scope of the Feasibility Study, International Consultants has been commissioned by the EBRD to undertake Environmental and Social Due Diligence (ESDD) of the project that involves an Environmental and Social Assessment of the proposed Investments.

Project organisation and structure

Dushanbe City is the capital of Tajikistan and has a population of around 778,500. The heat in Dushanbe City is generated from 4 sources: Heating Plant 1 (natural gas/mazut); Heating Plant 2 (coal); West Boiler (natural gas/coal) and East Boiler (natural gas/coal). All of these heat generating sources are owned by OSHC "Barki Tojik" (ОАХК Барки Тоҷик) state national energy company of the Republic of Tajikistan. The State Unitary Enterprise Dushanbe District Heating Company (DHC)– Душанбинское Предприятие Тепловых Сетей (the “Company”), 100 per cent owned by Dushanbe City, is the entity responsible for distribution of the heat in Dushanbe.

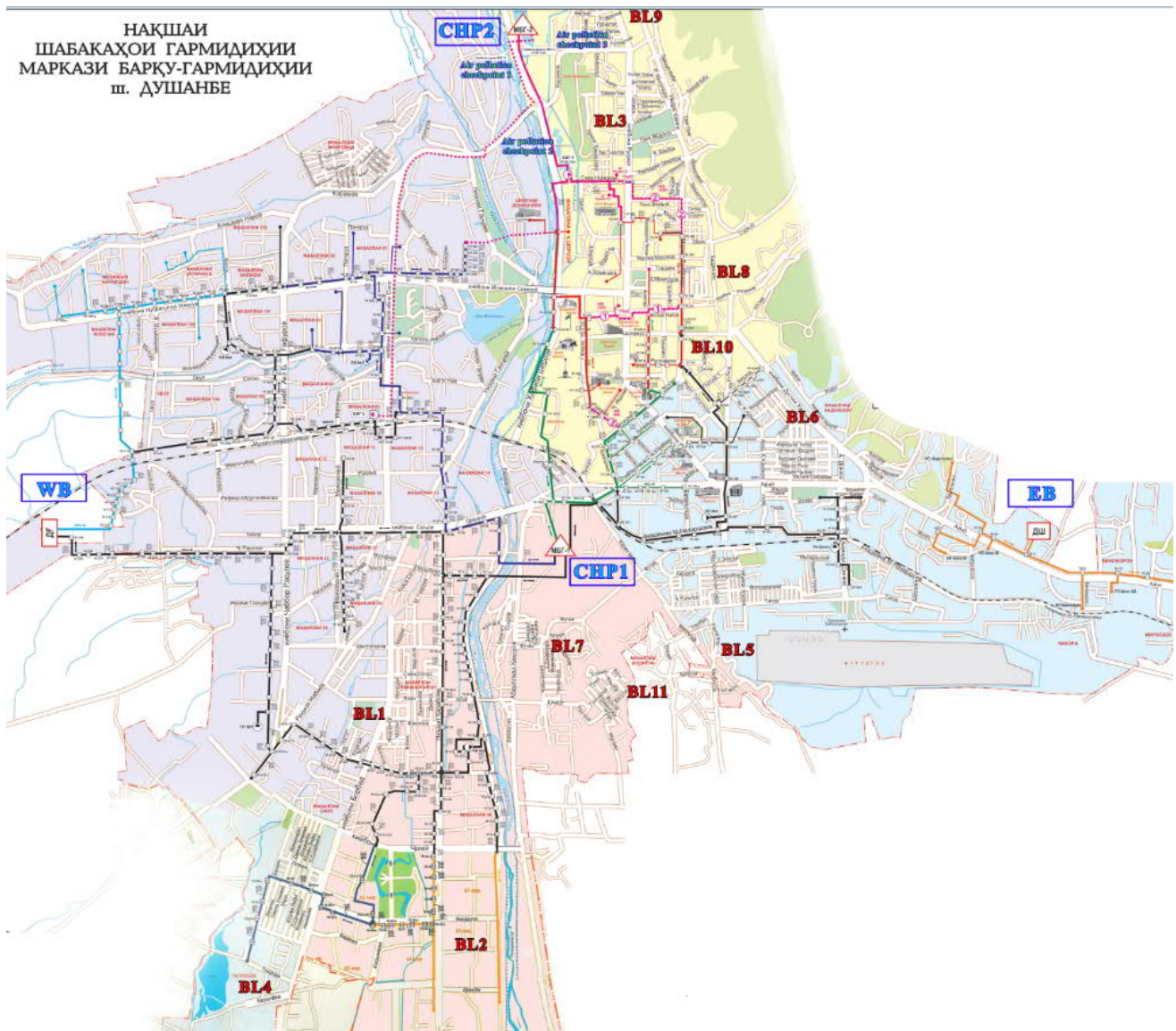
The Barki Tojik generates the heat and delivers it to the pumping stations, the delineation of responsibility between Barki Tojik and the Company, from where the Company distributes it to its customers.

2,950 buildings are connected to the system, but due to the condition of the network heat is only provided to 1,073 houses/multistore buildings, 104 schools and hospitals and 137 enterprises and organizations. The system does not have meters at generation facilities, interfaces between the transmission and distribution systems or at customer level. The total length of the district heating network is 423 kilometres and 64 pumping stations exist.

In addition, there are 11 heat only boilers which are operated by district heating company personnel that provides heat to dedicated heat users such as hospitals and schools.

Dushanbe district heating system

Figure 1 below shows the district heating network in Dushanbe.



Investment / Modernisation Plans

The aim of the modernisation project is to:

- Invest in order to connect new areas to the heat supply network;
- Existing area-level network pumping stations are equipped with SCADA;
- Selected four (4) pilot buildings will be equipped with western heat distribution system;
- In order to improve Operation and Maintenance works, maintenance equipment and billing software will be purchased.

Priority Investment Plan

A Priority Investment Plan (PIP) was developed by an international consultant, and the list of the proposed project components is presented in Table 1 below.

Table 1– Priority Investment Plan

Component	Summary Description
Extension of district heating network	<p>The main purpose of the PIP is to connect new areas to the DH network. The standard Soviet-era heat distribution (1-pipe, no radiator valves, no line balancing, no heat measurements) does not facilitate full energy savings. Therefore, for pilot purposes, four buildings will be selected and equipped with Western heat distribution system, including:</p> <ul style="list-style-type: none"> • Mixing connection (circulation pump and control valve) • Heat meter at building level • All horizontal pipes in the basement • Line balancing valves and basic balancing in all risers • All vertical pipe lines, 2-pipe distribution • New radiators and Thermostatic Radiator Valves. Flow adjustment for each radiator • Electronic heat cost allocators (remote read) to each radiator • Control of water pressure
Inclusion of SCADA systems for pumping stations	<p>The age of all the network pumping stations has exceeded their life time expectations. The basic assumption of this PIP, is to equip the existing 34 area pumping stations with thermometers and pressure transmitters that enable SCADA-type of configuration to manage performance.</p>
Procurement of modern hydraulic simulation software	<p>The Dushanbe DH network, if all the PIP development is realised will be 360 km in total. In order to enable efficient operation, it is necessary to purchase a modern hydraulic simulation tools to undertake the calculations to take into account the new customers. Furthermore, the network is not able to operate with current temperature regime. Therefore, the hydraulic calculation software shall also develop a strategy and implementation plan for temperature changes.</p>
Procurement of maintenance equipment and auxiliary systems	<p>Procurement of necessary maintenance tools and equipment that facilitate DHC to maintain, operate and repair more efficiently existing systems and moreover all the new equipment purchased in context of this financing.</p>
Procurement of billing system for Consumption Based Billing	<p>Procurement of necessary hardware and software to facilitate Data Acquisition and verification from the heat meters, Data management and automated invoicing.</p>

What is current status of the project

A Feasibility Study (FS) that presents Priority Investment Plan (PIP) in detail was developed by an International consultant and accepted by the City of Dushanbe, and it will be subject to a local Feasibility Study, including a local Environmental Impact Assessment.

Establishment of the Project Implementation Unit (PIU) is pending. The PIU will be responsible for implementation of the Project and will be supported by an external Project Implementation Consultant (PIC). The overall objective of the Consultant is to facilitate the timely and effective implementation of the Project by providing assistance to district heating companies and the City, including design, all aspects of procurement, and disbursement.

It is expected that a Tender process for the selected PIP components will commence in 2020.

Installation of the project components is expected to be finalised by the end of October 2022.

2. What are the project benefits and potential impacts?

An assessment of Environmental, Health and Safety, and Social (EHSS) performance of the DHC was undertaken in July 2018, alongside the development of the Feasibility Study for the Project, in order to determine the current levels of performance, ahead of the potential loan from the EBRD, and identify any key environmental and social issues or requirements with relation to the proposed Project.

The EHSS assessment carried out concluded that Dushanbe District Heating Company has poor organisational capacity in relation to environmental, health and safety management with a lack of overall oversight to drive performance and compliance matters. Dushanbe District Heating Company operates and is managed in accordance with the legislation of the Republic of Tajikistan and supporting regulations.

As a part of the assessment a review of the existing operations at the Dushanbe DHC boiler houses was undertaken. Key findings of this assessment were that there are no permits in place for the heat only boilers operated by the District Heating Company. It was stated that a local government decision meant that in 2010 these boilers were ceded to the facilities they serve. However, the District Heating company still maintain and operate them.

Also, the heat only boilers are bespoke boilers with some of them manufactured by the company. The District Heating company states that the thermal capacity is less than 1 gcal (1.163MW) to 2 gcal (2.326MW) per site. Therefore, most of the boilers are likely to be below 1MW and would not be large enough to be considered medium combustion plant in an EU context. This will need to be confirmed by providing thermal input for each individual boiler.

A local EIA will be required to be developed for the Project and it will include further site specific potential environmental and social impacts, proposed mitigation measures, and monitoring requirements.

What are the project benefits?

The proposed investment will increase efficiency and reliability of the existing heating system, and in particular will:

- Reduce energy consumption, mainly electricity, for customers;
- Minimise need to use own electrical heaters and domestic hot water heaters by customers;
- Provide means for accurate domestic hot water controls;
- Lower project CO₂ emissions per head of population when the investment programme is completed when compared to prior to the investment;
- Minimise water leaks in the boiler plant and district heating network due to better quality pipes (approximately 20,000 G/cal improvement);
- Minimise number of unintended stops/repairs;

- Improve health and wellbeing of population due to increase comfort in the houses.
- Provide employment opportunities for the local workforce, including women.

This investment is considered fundamental to maintaining the operations and eliminate bottlenecks and furthermore, keep the system operational and energy efficient.

Project impacts

As the investment project does not involve any network extension works or construction activities, no land is planned to be purchased or acquired.

The negative impacts are predominantly short-term in nature and relate to the construction/ rehabilitation works, including:

- Potential impact on land, groundwater and surface water due to spills from the vehicles use for construction activities, and the construction run-offs;
- Occupational health and safety risks to construction workers, including exposure to asbestos containing materials, and potential accidents during the construction works;
- Nuisances caused by the construction traffic - increased noise level, vibration and dust generation;
- Potential impact on water resources and soil related to waste generation and storage.
- The project will potentially temporarily affect Community Rights of Way, the nature of this impact is related to temporary restriction in local access to businesses, open public spaces and shops due to route diversions, and potential temporary increased traffic.
- Potential temporary disturbance to the quality of life of vulnerable groups, including women, children, war veterans, the disabled and pensioners during the installation of the central heating system within residential areas.

The proposed actions to mitigate these impacts are summarised in the section below – ‘*What are the key actions areas?*’.

What are the key action areas?

An Environmental and Social Action Plan (ESAP) was developed in order to align the project and the companies’ performance with the EBRD performance requirements and mitigate potential environmental and social impacts. The proposed action areas will result in improved EHSS performance and risk management and benefit enhancement across Dushanbe DHC operations, as well as Contractors’ operations. Requirements in the ESAP include:

Among others, the recommended actions include:

- Dushanbe District Heating company should develop management systems in accordance with international standards, for example ISO 14001 and ISO 45001 (previously OHSAS 18001).
- Acquisition of all environmental permits for the District Heating Company to include permits for air emissions and waste.
- Environmental, Health and Safety and Social Management Plan (EHSSMP) for PIP implementation should be developed, and include specific procedures outlining correct practice and management for significant environmental, H&S and Labour aspects and risks, including terms of employment and specific working conditions on site, and workers Occupational Health and Safety and welfare.
- Contractor Management System and Monitoring Mechanism should be developed and will include briefing Contractors on the Project EHSS and labour requirements, and regular checks on their performance.
- Dushanbe District Heating Company and/or their Contractors should develop a Community Health and Safety Management Plan for the PIP implementation to cover the following:

- Provision of road signs during the construction stage
 - Ensure that where excavations are made to rehabilitate pipework that there are barriers and lighting to ensure that the area is safe for residents and easily seen even at night
 - Develop specific routes to ensure community rights of way are not affected, and access to local businesses remain, and to minimise disruption to road traffic
 - Provide separate routes in which women which can be freely used and do not interact with workers (if relevant)
- A Stakeholder Engagement Plan (SEP) and grievance mechanism should be implemented to ensure a continuous and systematic stakeholder engagement programme (including consultation with women and the vulnerable groups).
- The responsibility with regards the implementation of the ESAP items should be assigned to the Project Management Unit, and also Dushanbe District Heating Company.

The Bank will monitor the implementation of the Project and the ESAP as well as the Company's environmental and social performance by reviewing the Company's annual environmental and social reports and undertaking monitoring visits as needed.

3. Engagement with stakeholders

Dushanbe District Heating Company undertakes no external engagement other than to put up notices of intended works when they are rehabilitating stretches of district heat pipe network.

A stakeholder engagement plan has been developed for the project with the objective of identifying key stakeholders and ensuring that, where relevant, they are informed in a timely manner of the project development, and impact.

The plan also identifies an additional grievance mechanism to be used by stakeholders for dealing with complaints, concerns, queries, suggestions etc. It will be reviewed and updated on a regular basis. If activities change or new activities relating to stakeholder engagement commence, the SEP will be brought up to date. The SEP will also be reviewed periodically during project implementation and updated as necessary.

Stakeholders could be individuals and organisations that may be directly or indirectly affected by the project either in a positive or negative way, who wish to express their views. The definition applied to identify key stakeholders is:

'any stakeholders with significant influence on or significantly impacted by, the work and where these interests and influence must be recognised if the work is to be successful'.

Key stakeholders have been identified from the following categories: international; governmental (state / regional and local); advisory non-government; services / suppliers; clients; institutions (universities, think tanks, etc.); the industrial sector (vehicle suppliers, electricity suppliers), internal stakeholders (employees); general communities (locally affected people); public groups (female and disabled users of the service, local residents); and the media.

If there are questions, queries, complaints or grievances regarding the project, a grievance mechanism has been developed to address these issues and a grievance form will be used to record this information. How to use this grievance form is provided below.

What will be the procedure for grievances?

A grievance mechanism will be adopted in which the grievance form presented below will be used as required to handle grievances from the public. The mechanism will be as follows:

- Grievance received;
- Grievance recorded in a register;

- For an immediate action to satisfy the complaint, the complainant will be informed of corrective action;
- Implement corrective action, record the date and close the case;
- For a long-term corrective action, the complainant will be informed of proposed action; and
- Implement corrective action, record the date and close the case.

A grievance should be recorded by the complainant using the grievance form below, ensuring that contact details are provided with the preferred method and language of communication. A clear description should be provided of the incident or grievance. Any verbal grievances will also be logged and responded to in accordance with the requirements above.

A grievance form is attached to this NTS, as well to the stand-alone SEP (Stakeholder Engagement Plan) and will be available in the Dushanbe DHC offices.

How do I find out more information?

The contact details for the relevant person at the district heating company for this project are:

Dushanbe DHC Head Office
Safarova Gulsara
HR Manager
48A Borbad Street
Tel: 2312441

Public Grievance Form

Reference No:	
Full Name	
Note: you can remain anonymous if you prefer or request not to disclose your identity to the third parties without your consent	<input type="checkbox"/> I wish to raise my grievance anonymously <input type="checkbox"/> I request not to disclose my identity without my consent
Contact Information Please mark how you wish to be contacted (mail, telephone, e-mail).	<input type="checkbox"/> By Post: Please provide mailing address: _____ _____ <input type="checkbox"/> By Telephone: _____ <input type="checkbox"/> By E-mail: _____
Language Please mark your preferred language for communication	<input type="checkbox"/> Uzbek <input type="checkbox"/> Russian <input type="checkbox"/> Other
Description of Incident or Grievance: What happened? Where did it happen? Who did it happen to? What is the result of the problem?	
Date of Incident/Grievance	
	<input type="checkbox"/> One time incident/grievance (date _____) <input type="checkbox"/> Happened more than once (how many times? ____) <input type="checkbox"/> On-going (currently experiencing problem)
What would you like to see happen to resolve the problem?	

