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for Reconstruction and Development

CET-Nord SA

PROJECT FEASIBILITY ASSESSMENT
MOLDOVA GRCF 2W1: BALTI DH – PHASE II

E&S Audit, Assessment and Action Plan

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ACRONYMS

BAU	Business As Usual
BH	Boiler House
CHP	Cogeneration Heat-Power
CO_2	Carbon Dioxide
DH	District Heating
EU	European Union
HOB	Heat Only Boilers
IHS	Individual Heating Station
NO_x	Nitrogen Oxides
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
SO_2	Sulfur Dioxide

1. ENVIRONMENTAL & SOCIAL AUDIT

1.1. THE COMPANY AND ITS OPERATING AREA

1.1.1. DESCRIPTION OF THE COMPANY

The activities of CET-Nord SA are described in the previous sections of the study.

Thermal energy consumers are grouped into three categories:

- budgetary instgqitutions, 37 units in number (20%)
- economic agents, in number of 449 units (6%)
- residential sector consisting of 726 houses with 32147 apartments (74%)

The area of influence of CET Nord SA covers the service area of Balti, for all routine operation and maintenance activities.

1.1.2. HISTORY

CET Nord SA is the successor of the Balti City Power Plant, founded in 1957, which later went through several organizational and legal forms, in 1997 being registered under the Order of the Department "Energy, Energy Resources and Fuel" № 60 of 10 July 1997, Premise for registration of the enterprise № 1092 of October 23, 1997 of the Minister of Privatization and State Property Administration, Declaration of Incorporation of October 13, 1997.

The sole shareholder of CET Nord SA is the state through the Public Property Agency - a structure subordinated to the Government.

The company's activity is regulated by Law no. 1134/1997 on joint stock companies, which was massively amended by Law no. 18/2020, obliging the joint stock companies to revise and approve in the new wording the Statute until 01.01.2021. The statute of CET Nord SA is registered on 31.05.2017 and is to be complied with the latest amendments, as necessary.

1.2. THE COMPANY'S ENVIRONMENTAL PERFORMANCE

1.2.1. CORPORATE ENVIRONMENTAL POLICIES AND MANAGEMENT

The environmental management system (policies and procedures) is under development.

The policy of the enterprise is based on the legislation of the Republic of Moldova and the main direction in the field of environmental protection is the reconstruction and modernization of the station, replacement of outdated equipment with modern ones, which will reduce the consumption of natural resources, and reduce the impact on the environment.

The equipment of the CHP plant runs on natural gas, the boiler house in the Molodovo microdistrict, with the commissioning of a modern boiler, has been switched from coal to biofuel, which reduces emissions of pollutants into the atmosphere.

There is in place permanent monitoring of air pollution and wastewater discharges in sewerage systems and water bodies. Different activities are done to decrease the volume of toxic emissions during unfavorable weather conditions

Measures are being taken to regulate emissions during periods of unfavorable meteorological conditions.

The main hazards in the field of environmental protection, excluding accidents related to the Law No.116/2012 of the Republic of Moldova "On industrial safety of hazardous production facilities", are situations associated with the operation, collection and storage of waste containing toxic substances.

CET Nord SA has developed instructions for the management of such types of waste and trained employees responsible for the collection and transportation of waste with toxic components.

1.2.2. LOCAL AND NATIONAL REGULATORY REQUIREMENTS

Relevant environmental National laws are listed and described below:

1. **Law on environment protection no. 1515 as of 16.06.1993** establishes the basic legal framework for drafting special normative acts and instructions in particular issues of environmental protection in order to:

- ensure the right of each person to a healthy and aesthetically pleasant environment;

- achieve the ultimate responsibility of each generation for environmental protection towards the future generations;
- obtain a wider range of use of natural resources without exceeding the allowable limits, avoiding their depletion and degradation, the risk for people's health and other unwanted and unpredictable consequences;
- protect the soil and subsoil, water and air from chemical, physical and biological pollution;
- maintain the biodiversity and genetic resources, integrity of natural systems, historical and cultural national values; and
- restore ecosystems and components affected by human activity or natural disasters.

2. **Law on waste no 209 as of 29.07.2016** establishes the basic legal framework for waste management in the country. The Law on waste transposes the Waste Directive 2008/98/CE of the European Parliament and of the Council of 19 November 2008 repealing certain directives, but it also includes provisions of the directives on special waste flows.

This law establishes the legal basis, state policy and measures necessary for the protection of the environment and public health by preventing or reducing the adverse effects of waste generation and management and by reducing the overall effects of resource use and increasing the efficiency of their use.

3. **Law on air protection no. 1422 as of 17.12.1997**. The purpose of this law is to maintain the purity and improve the quality of the air, to prevent and reduce the harmful effects of physical, chemical, biological, radioactive and other factors on the air, with adverse consequences for the population and / or environment.

This law regulates the activity of natural and legal persons, regardless of the type of property and the legal form of organization, if it, directly or indirectly, affects or may affect the quality of air.

According to the Association Agreement, there was developed a new law on air protection that is under examination in the Parliament of the Republic of Moldova. The draft law on air protection partially transposes Directive 2008/50 / EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (Official Journal of the European Union No L 152 of 11 June 2008), as last amended by Commission Directive (EU) 2015/1480 of 28 August 2015 and Directive 2004/107 / EC of the European Parliament and of the Council of 15 December 2004 on arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (Official Journal of the European Union No L 23 of 26 January 2005), as last amended by Commission Directive (EU) 2015/1480 of 28 August 2015.

The purpose of this draft law is to create the legal framework to strengthen institutional capacities for monitoring and assessment of air quality to identify and implement effective measures to reduce pollutant emissions to levels that minimize adverse effects on human health and the environment as a whole.

4. **Law on payments for environmental pollution no. 1540 as of 25.02.1998** has as objectives:

- the creation of a system of economic activity in which it becomes inconvenient to cause any damage to the environment;
- stimulating the construction and operation of systems for capturing and neutralizing pollutants, collecting, recycling and destroying waste, as well as implementing non-polluting technologies, implementing other measures that would reduce the volume of emissions (discharges) of pollutants into the environment and reduce waste formation production and packaging waste;
- the formation of ecological funds for financing the activity oriented towards the improvement of the environment quality.

At the same time, the Law regulates the way of establishing and calculating the payment for environmental pollution.

5. **Law on ecological expertise no. 851 as of 29.05.1996** determines goals, objectives and principles of State Ecological Expertise (SEE), as well as basics of procedures.

Law describes in detail SEE procedures, demands the reporting, rules for conducting the SEE. The State Ecological Expertise is a part of a group of activities working toward environmental protection through which the potential impacts on the environment from planned economic activity, compliance of parameters of these activities with legislation and normative acts, norms and standards in force are identified and mitigated.

According to the Law, project documentation for the objects that may adversely affect the environment is a subject of State Ecological Expertise, which in turn determines whether it complies or not with environmental protection requirements. Decisions on Ecological Expertise can be considered as the basis for approval or refusal of the project.

Ecological Expertise is conducted prior to making decisions on planned economic activities, and it is mandatory for all economic activities that may have a negative impact on the environment regardless of their destination, ownership, investments, location, source of financing etc. In case the objects can affect the environment severely, their planning documentation is a subject of Environmental Impact Assessment.

The Ecological Expertise is obligatory for the project documentation for the areas and activities listed in Annex 1 to Law #851. In the case where the activities specified in Annex 1 to Law #851 fall under Annex 1 or Annex 2 of the Law #86/2014 on Environmental Impact Assessment and have been subject to environmental impact assessment, the Ecological Expertise of the project documentation is not needed.

6. **Law on environmental impact assessment no. 86 as of 29.05.2014** establishes the goal of preparing documentation on the Environmental Impact Assessment (EIA), its procedure, coordination and approval, and includes the List of objects and types of activities for which an EIA is compulsory prior to their design.

The EIA is carried out to determine the requisite measures to prevent adverse ecological impacts due to the implementation of certain planned objects and types of activities. The Law describes the requirements for documentation on the EIA (materials in which the direct and indirect impacts of planned objects on air, water, soil, landscape, protected areas, fauna, flora, cultural and historic monuments, socio-economic situation are establishing, describing and evaluating; comparison of alternative solutions and substantiation of the best one; suggested mitigation activities). On the basis of the developed documentation for the EIA, the client designs a Statement on the EIA in which all materials, calculations and research are presented and systematized, as well as the EIA content (title of the project; character of activity; location; substantiation for location; project duration; technical and technological characteristics of the project; suggested technical solutions; project cost; localities affected by projects; information of direct impacts on the environment (water, soil, air, etc.); land to be occupied by project; water abstraction; water use, water source; sources of raw materials, transport and other infrastructure, emissions to air, wastes and their utilization, etc.); order of elaboration and submission documentation on EIA, evaluation of EIA documentation, environmental decision on EIA documentation, etc.

1.2.3. ENVIRONMENTAL MANAGEMENT IN CET-NORD SA

The company has developed measures and procedures for the implementation of ISO 140001 requirements for environmental protection. A regulation on production control is being developed.

In accordance with EU standards, employees of the enterprise constantly monitor emissions of pollutants into the atmosphere and discharges of industrial effluents. Control is also carried out by inspectors of the Environmental Agency North. To protect atmospheric air, maximum allowed emissions of pollutants have been established.

Standards have been established for the discharge of wastewater into sewerage and water bodies. There is a permit for special water use, which allows the use of water from artesian wells

The company has permits:

- Authorization for the emission of pollutants into the atmosphere P-0905/2020 (Authorization for pollutant emission into the atmosphere).
- Medium authorization for the special use of water no. IIES80, no. of registration. 01-17 / 1081 (Environmental Authorization for special use of water).

1.2.4. INPUTS, PRODUCTS AND RELEASES

RAW MATERIALS SOURCING AND CONSUMPTION

Natural gas is the main raw material used by CET-Nord SA.

WATER SOURCING AND CONSUMPTION

Almost all the water used for the company (more than 99.5%) comes from the surface water. It is then used in majority for make-up water, then for sanitary purposes.

Year	Total water used CHP & Molodova (m^3)	Sewage Water	Make-upWater	Other Use	Total cost (MDL)
2018	119,188	25%	62%	13%	908,565
2019	120,705	26%	61%	13%	961,143
2020*	82,237	30%	52%	17%	710,808

*half-year data provided, extrapolated

ENERGY SOURCING AND CONSUMPTION, ENERGY EFFICIENCY

CET Nord Main plant, the CHP uses natural gas as their main fuel (heavy fuel oil) is no more used and has been removed from the site). CET-Nord is aware that a study should be done (but no funding has been found so far) to explore the alternatives for back-up fuel resources to gas supply. In addition, facilities and offices use electricity. In addition, HOB Molodova uses biofuel as main fuel to run (turned from coal to biomass heat-only-boilers within Phase 1 of the project in 2018. Since 2019, new CHP has been generating power, and part of the electricity generated is directly consumed by CET-Nord.

Year	Amount of gas supplies (1000 Nm^3)	Price of gas (MDL/1000 Nm^3)	Amount of Biocombustible supplied (t)	Price of Biocombustible (MDL/t)	Total cost (1000 MDL)
2018	41,083	4,370	160	3,187	180,042
2019	33,884	4,018	119	1,665	136,344
2020	41,083	4,018 3,910**	159	1,494	165,309

**In November 2020 (reference to ANRE decision) the cost for natural gas consumed by CET-Nord SA was modified

The other heat supplier, Termogaz-Balti, also uses natural gas.

All CET Nord facilities use electricity in the generation rooms (fans,…), offices and along the network (IHSs, pumps).

GREENHOUSE GAS CONTRIBUTIONS

It is worth noting that there is currently no normative act to limit / regulate CO_2 emission in Moldova. The company does not report any data of such nature.

Based on the gas consumption of CET Nord SA, a first estimation of the carbon footprint is provided below:

Year	$tCO2_{eq}$ from gas consumption[1]
2018	389,072
2019	321,247
2020	389,072

[1] natural gas combustion: 0,202 $tCO2_{eq}$/MWh (source: IPCC 2006)

WASTEWATER/EFFLUENT VOLUME AND QUALITY

CET Nord SA transfers every month to the control authorities the records of discharges into the bodies. The company holds permits to discharge into water bodies the company's recycling water (Autorizație mediu pentru folosința specială a apei nr. IIES80, nr. de înreg. 01-17 / 1081). The Technical Production Department runs a laboratory for waste water quality control. The industrial water meets the requirements of the State standards and the technical specifications for drinking water.

CET Nord SA discharges the waste water (including sanitary) to the waste water network and finally to the treatment plant of Balti (Regia Apa Canal Balti - water utility). The marginal tolerance of pollutants in the waste water does not exceed the consented standards.

There is a permit for special water use, which allows the use of water from artesian wells.

The only form of wastewater from the company's facilities is that from the social facilities.

AIR EMISSIONS AMOUNT AND QUALITY

Main regulated pollutants into the atmosphere are carbon monoxide CO (86%), nitrogen dioxide NO_2 (13%) and solid particles (1%).

Location of the engine	Type of Engine	Reported by CET-Nord SA (mg/Nm$_3$) as of September 2020				
		NO_x	CO	SO_2	Solid particles	V_2O_5
CHP	Steam boiler № 2-7	38.231	5.5345	0	0	0
	Gas Engines JMS	148.35	140.25	0	0	0
Molodova	Hot water boiler	28.077	67.896	0	51.815	0

4 outdated Heat-only-boilers, fed with coal, were replaced by one 650-kW-biomass boiler, which significantly decreased the emissions of the engines; the 4 cogeneration engines, installed in 2019, were installed with a catalyst, which reduces harmful emissions into the atmosphere.

In total, the company reported 2.42 tonnes of NO_x, 15.92 tonnes of CO and 0.34 tonnes of solid particles in 2019. No SO_2 or V_2O_5 emissions were reported in 2019.

The only significant emission is nitrogen oxides (NO_x), which may have local and regional impacts.

In accordance with National and EU standards, employees of the enterprise constantly monitor emissions of pollutants into the atmosphere and discharges of industrial effluents. Environmental control is performed under the approved schedules for every emission source 3-4 times during November - March season. Environmental and thermo-technical testing and regime adjustment of each boiler are performed once per three years. This testing and regime adjustment is conducted after thorough repair, modernization and re-equipping.

The emissions are reported to the authorities every month or even more often depending on the technological process in operation, the State Environmental inspectorate measures emissions independently (3-4 times from November to March each season). Control is also carried out by inspectors of the Environmental Agency North. The values are calculated according to the amount of gas used. To protect atmospheric air, maximum allowed emissions of pollutants have been established, in compliance with National regulations.

The pollution thresholds are calculated individually for each enterprise, according to some soviet standards and it is written in environmental permit. The law on air is old and the norms are developed only by the Ministry of Health from public health perspective and not environment protection perspective.

From all the available data, it can be concluded that all the emissions to the air from CET Nord SA are relatively small, so the company's impact on air quality could be considered as low.

The company holds an environmental permit for the operational emissions. CET Nord SA has a permit for emission to air, P-0904/2020 from 14.09.2020, valid until 14.09.2025.

WASTE AMOUNT AND CHARACTERISTICS

The enterprise monitored the technological processes associated with the formation and movement of waste. In accordance with the requirements of the Legislation, the Regulation on waste control was developed. Responsible persons have been appointed in the shops and departments. The staff was trained.

CET Nord SA registers and reports the annual amounts of hazardous waste to the authorities. Hazardous waste and secondary raw materials are temporarily accumulated in specially allocated places which are equipped under the requirements of the environmental legislation.

Instructions for waste management (collection, storage, actions in emergency situations, removal) have been developed:

- asbestos-containing waste;
- spent batteries;
- waste oils containing PCBs;
- mercury-containing waste;
- washed tires;
- electronic and electrical equipment.

Sections of the territory and storage facilities for waste storage have been allocated.

In 2019, 105.6 tonnes of industrial, construction and municipal waste were disposed of for an average cost of 295 MDL/tonnes (14 eur/tonne).

IMPACTS ON BIODIVERSITY

The audit concluded that no significant impact on biodiversity is generated by the company's day-to-day activities.

1.2.5. PROCESS EFFICIENCY

WASTE MINIMISATION

CET-Nord SA does not have any programme for waste reduction or minimisation.

Wastes recycling or separation is driven by legal requirements or waste management service suppliers economic constraints and includes for example recycling of tyres and lead batteries from cars.

Waste minimisation topics that should be considered by the company in future should include proper collection and separation of Waste Electrical and Electronic Equipment (WEEE). However, the existing national capacity to deal with WEEE is limited.

Waste reduction potential in CET-Nord SA is rather limited, as the company maintenance and repair processes (e.g. car service and pipe installation) are mostly outsourced to local suppliers. Also the current waste separation and collection practices for recognized waste categories (such as metal scrap and construction debris) are well established from both economic and environmental points of view.

1.2.6. MANAGEMENT OF HAZARDOUS MATERIALS

CET Nord SA keeps a register and reports on the annual quantities of hazardous waste to the authorities. The head of each subdivision is responsible for handling the hazardous waste. The hazardous waste produced by the company is waste batteries, mercury lamps, lead accumulator and motor oils. Hazardous waste and secondary raw materials are temporarily accumulated in specially allocated places,which are equipped according to the environmental legislation requirements.

Subsequently, the wastes are handed over to the entities, which are licensed to utilize these hazardous wastes as per the agreements signed by CET Nord SA with such entities.

Fluorescent lamps containing mercury are used to illuminate industrial premises. During the year they are exported and delivered to IP "MoldRec".

The water is treated and cleaned at each boiler house. Different chemicals are used for ion exchange in the water treatment process. Some of these chemicals are considered hazardous materials. These chemicals are stored in special tanks or special bags.

5 chemicals are used for water treatment purpose by CET-Nord SA, listed in the table below:

No	Chemical used at CET Nord	Annual Amount (t)
1	EPURAMIN V 2000	1.14
2	Lime	86.8
3	Sulphuric acid	31.9
4	Salt	45.3
5	Folliculate ZETAG	0.087

Expired chemicals used for chemical treatment of industrial water are temporarily stored in a warehouse in packages on pallets in accordance with the requirements of sanitary standards. Waste oils and accumulators are handed over for recycling to IP "MoldRec".

1.2.7. SOIL, SURFACE AND GROUNDWATER CONTAMINATION

According to the company, no soil contamination has occurred and the company does not consider that their production of heat and power could lead to soil contamination. No contamination of soil, surface or

groundwater has been identified by the company.

Small spills of oils from vehicles, excavators and other machinery are collected by removing the contaminated soils, and the soils are taken to the base for temporary storage, where they are collected by licenced contractors.

No soil surveys have been conducted, and therefore a local soil contamination is possible (e.g. at the company base, where fuels have been stored).

Reportedly there are no groundwater abstraction wells in the surroundings of the boiler plants.

During the site visits to the selected operation sites no signs of major spills or other contamination of soil were detected.

1.2.8. ENVIRONMENTAL INCIDENT RECORD

Incidents that can cause impact on the environment are recorded by the company. No major or minor environmental incidents have occurred according to the information provided by CET Nord SA representatives.

1.2.9. CONCLUSIONS AND RECOMMENDATIONS: ENVIRONMENT

SUMMARY OF REGULATORY COMPLIANCE STATUS

The environmental performance of CET Nord SA activities demonstrates compliance with applied environmental regulation requirements. The main environmental aspect of the Company, the emissions to the air from the boiler plants seem to comply also with international best practices.

However, some new legal requirements (e.g. management of hazardous substances, like PCB) are not yet fully implemented.

SUMMARY OF KEY IMPACTS, RISKS AND LIABILITIES

According to CET Nord SA the key environmental aspects are emissions to air, discharge to water and hazardous waste.

The main environmental impacts of CET Nord SA activities relate to the operation of the small scale heat production units, and to the maintenance of existing heat pipe networks and construction of new ones.

Construction and maintenance activities involve generation of solid waste. Emission of exhaust gas from boilers and vehicles has some impact on air quality and climate change. However, this type of ecological

impact can be considered as rather well controlled by CET Nord SA. **The CO_2 equivalent emissions, not mandatory according to Moldovan Regulations, shall be calculated in order to comply with the Bank's standards.**

In general CET Nord SA activities are not considered as environmentally hazardous and risky.

There is a small risk that some of the heat production and distribution system structures contain asbestos (in insulation and roof tiles of Boiler rooms and in old pides insolation). No further detail has been provided.

The environmental, health and safety processes are acceptable and are incorporated into CET NORD SA's management and operations at necessary extent. CET-Nord has identified the major EHS responsibilities and matters of concern. According to national and local regulations, the company's performance and practices are adequate; mitigation measures, monitoring, controlling and documenting are to be considered. No obvious signs were identified of problems in the field of ecology that can be any threat or risk for potential investors.

CET-Nord's Environmental performance is compliant with relevant national directives.

PROCESS EFFICIENCY AND ENVIRONMENTAL OPPORTUNITIES

- Consider energy efficiency audit of company facilities (e.g. boilers and heat pipe networks) and define energy efficiency measures.
- Minimization of heat losses from heat distribution (proper insulation of above- ground pipelines).
- Optimization of a decentralized heat production network. E.g. reduction of boiler numbers and change of old boilers by modern efficient ones.

ENVIRONMENTAL MANAGEMENT ISSUES

- Management of outsourced processes (e.g. major repair works, construction, waste disposal) should be considered as a priority issue in CET-Nord SA environmental management.
- CET-NORD has no Corporate Environmental policy, Key environmental objectives and targets on a short term and long-term basis should be identified by the company,
- Staff has no environmental training, No near misses are reported,
- General Waste amounts should be recorded and easy to follow up.
- Procurement: consideration of environmental aspects in products, equipment and materials (e.g. pipes, boilers, insulation materials, lighting equipment, etc.).
- Hiring of environmental engineers to control environmental issues and , effectively address permit-related management issues (planning, monitoring and reporting) and implement the environmental and social recommendations made in the frame of the Project.

1.3. OCCUPATIONAL HEALTH AND SAFETY PERFORMANCE

1.3.1. REGULATORY REQUIREMENTS

The Labour Code is the main law in Moldova which sets the requirements in the area of occupational health and safety. It is quite comprehensive, but even more detailed regulations on certain OHS aspects are provided through orders of the Ministry of Health, Labour and Social Protection - Safety legislation and technical requirements in Moldova are at a much more advanced level in comparison with environmental legislation.

1.3.2. KEY OCCUPATIONAL HEALTH AND SAFETY ISSUES

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

The general management and control over the work of the occupational health and safety management system are imposed upon the general director of CET Nord SA. The Head of Labour Safety Service is responsible for developing and implementing the company's Health and Safety procedures.

The company implements following rules, stipulated in ISO 45001: 2018 Occupational health and safety management systems and Occupational safety and health law no. 186 of 10.07.2008:

CET Nord SA has developed and issued 142 special safety instructions, which are based on Moldovan legislation in order to ensure safe working conditions at each working place.

The main objective of these instructions is accidents, occupational diseases and general morbidity phasing-out, industrial fatalities decrease, working hours' losses and material damages as a result of injuries and diseases decrease. There is no written labour safety policy developed.

The company, on an annual basis, develops and executes comprehensive actions for health and safety control. The purpose of the activity plan is to achieve the established health and safety objectives, to improve the existing level of health and safety protection, to prevent injuries, occupational diseases and accidents.

In 2020, CET Nord SA performed the certification of jobs - measurements of work environment factors (chemical, physical, biological agents), performed by the Accredited Laboratory of the Balti Public Health Centre and the elaboration of the sheets on working conditions.

Works associated with electricity, hazardous materials and chemicals, exceeded dust levels, working at height, servicing and repair of steam and hot water boilers, pressure vessels, vibration, noise, heavy and manually moved weights, awkward working position, humidity , high temperatures and speed of air movement, work indoors, work intensity (psycho-emotional efforts) - are the unfavorable factors of the

production environment identified.

Working conditions vary depending on: the task performed, the work environment, the means of production used and the technological equipment operated / served. 68 working places are certified as hazardous workplaces.

Based on the results of the job certification, the list of professions and jobs with unfavourable working conditions (heavy and harmful) and the salary increase corresponding to the occupations were elaborated: additional vacation wage package (250 MDL per month; approx. 11,5 EUR). Also, the Collective Labor Agreement establishes the additional paid leave, protective food (milk), sanitary-hygienic materials, personal protective equipment (PPE)..

Within the company, the Protection and Prevention Service and the Production Control Service were created.

At the initiative of the administration, a **Committee for Occupational Safety and Health** was created, composed of workers 'and employers' representatives.

An Occupational risk assessment is an ongoing process. The risk assessment was performed for the administrative staff.

The personnel involved in the process of producing electricity and heat, depending on the professional risks to which they are exposed, **annually undergo a mandatory medical examination** according to the List coordinated with the Balti Public Health Centre. The employees go through an initial health examination when they are employed and periodical health examinations are done.

A list of the main special safety instruction topic is provided below:

- Coordinating activities to protect workers at work and promoting policies to prevent occupational hazards;
- Assessment of occupational risks that cannot be eliminated and implementation of measures for protection and prevention of the environment, technology, organization and labor relations;
- Certification of jobs;
- Compensation for work performed in unfavorable conditions;
- Reducing the negative effects of the work environment on health, creating and maintaining adequate hygienic working conditions;
- Regular on-the-job training and providing workers with occupational safety and health instructions with personal training records;
- Establishing the necessary for the free endowment of the workers with means of individual and collective protection, sanitary-hygienic;
- Providing jobs with first aid kits;
- Free provision of milk for working with harmful chemicals;
- Medical examination at employment and periodically thereafter;

- In the context of the COVID-19 pandemic:
    - frequent disinfection of surfaces at workplaces and in social and sanitary rooms
    - providing workers with antiseptic, masks, gloves
    - thermometry at the entrance and exit of the premises
    - information on the effects on the human body and methods of protection and prevention of infection at work and at home.

SAFETY RECORD

According to Chapter III of the Law on labour health and safety the CET Nord SA must arrange an investigation and keep a record of accidents, occupational diseases and breakdowns. This investigation is carried out by the State Labour Inspection.

When an accident has occurred the company issues a certificate in due form; reporting the results of the accident, and the occupational disease or a breakdown investigation.

There Were no cases of industrial injuries recorded until now. There were no cases of occupational diseases revealed until now by CET-Nord.

No reporting of near misses is performed by the company.

CET Nord SA also registers injuries of personnel. Work associated with electricity, hazardous materials and chemicals, heights, hot water, steam and pressurized and moving devices and work beneath the ground and in confined spaces are the identified safety risks. No injuries were reported during the last 3 years.

NOISE, VIBRATION, LIGHTING AND OTHER PHYSICAL FACTORS

Generation of noise by CET-Nord SA's operations is relatively limited.

As the fuel for CHP is distributed through gas pipelines, there is not much traffic to and from the boiler plants, thus minimising the nuisance caused by traffic.

SITE SAFETY PROVISIONS

The facilities are adequately provisioned with access restrictions and protective guard rails. The workers are provided with PPE (Personal protective equipment) wherever it is required (this includes protective clothing, safety boots, helmets, as well as safety glasses and hearing protection devices).suitable for the work performed. Workers exposed to harmful working conditions are provided free of charge with protective

food in accordance with the provisions of the legislation in force.

FIRE PROTECTION

All production facilities, boilers and buildings of CET-Nord SA are equipped with primary means of fire suppression, in accordance with fire safety rules.

During the site visits availability of firefighting equipment and signs was observed in the boiler houses.

It appears that CET-Nord SA has no fire protection procedures in place (alarm, evacuation, etc). These procedures should be put in place ; regular tests should be organized and reported.

HAZARDOUS MATERIAL/WASTE HANDLING

A list exists of dangerous works and persons who are admitted to their execution on the basis of the medical record of skills and graduation certificates with the right to perform works with increased danger, after training and verification of knowledge.

Providing with means of protection specific to the dangers that can act cumulatively.

Carrying out measures to prepare the workplace, equipment and materials for the execution of works.

Work with increased danger is performed only on the basis of a work permitUninterrupted supervision of the works throughout their execution.

TEMPERATURE EXPOSURE

There is protective clothing and equipment available against temperature exposure. Training of specific workers includes dealing with extremes of temperature.

THE WORKPLACE ENVIRONMENT

CET-Nord SA is fully aware about all regulatory requirements on occupational health and safety and complies with them. There were no major accidents in CET-Nord SA for the last 3 years and no lethal accidents reported by CET-Nord SA since 2000.

CONFINED SPACES

There are specific instructions for work in confined spaces in CET-Nord SA. Such spaces are defined and safety requirements for them are specified in different safety procedures.

1.3.3. CONCLUSIONS AND RECOMMENDATIONS: OCCUPATIONAL HEALTH AND SAFETY

OHS management system is in an advanced stage of development and maintained very well. It is not far from meeting the regulatory requirements but also with requirements of ISO45001: 2018.

In order to ensure full implementation of ISO45001: 2018 requirements, the following is recommended for improving procedures:

- Set up specific procedures for detection and management of Gas leaks
- Set up specific for electrical risks Electrical : lock-out and tag-out
- Set up specific procedures for works in trenches and works in height
- Train personnel to modern methods of risk assessment and management
- Introduce continual improvement principle in OHS management
- Define specific requirements for outsourced works and activities
- Introduce Internal audits procedure on occupational health and safety
- Introduce requirements for documentation and records related to OHS
- Consider third-party certification of OHS in accordance with international standard ISO45001:2018.
- COVID-19 specific: appoint a referee in charge of the organization of a specific sanitary plan, including employees daily protection, quarantine and isolation plans and follow-up on government regulation/supra-national organization recommendations.

SUMMARY OF REGULATORY COMPLIANCE STATUS

CET-Nord SA defines all relevant regulatory requirements (laws, sub-laws, rules and norms) and ensures compliance through regular checks, training and information of personnel, attestation of work places, etc.

There were no significant non-conformities revealed by external inspections.

1.4. LABOR PRACTICES AND HUMAN RESOURCES MANAGEMENT

1.4.1. EMPLOYMENT PROFILE

There is in place a Human resources policy approved by the company by Order no 191A from 15th of September 2020. The policy includes general provisions about the process of recruitment, selection, employment, training, promotion, certification, evaluation, motivation, resignation, dismissal, as well as other employment relationships.

In 2020 the company has a total number of 457 employees. Out of the total number of employees, 121 are

women. The average age of the employees is 46 years. The average salary per company is around 400 euros (8165,00 lei). Besides the fixed salary, almost each employee gets a 10% variable part of salary and 336 employees (out of a total of 457) get an increase to salary from 10% to 30% from working experience.

Out of 60 people that have a decision-making position, only 19 are women.

1.4.2. CORPORATE POLICIES AND MANAGEMENT

Social management of the company is not limited to human resources (HR) issues and goes beyond that demonstrating social responsibility of CET-Nord SA. The Human Resources department is responsible for employment relations.

Labour practices and human resources management issues of CET-Nord SA are regulated by national legislative requirements in the field of social security and labour safety, and by the corporate policy statement defined very well by the Collective Agreement between the company and the employees. This comprehensive document provides all internal sets of rules and practices including rights and obligations of employees, wages, social guarantees and security, training and qualification, healthcare, transport services, etc.

STAFF RECRUITMENT AND SELECTION

The staff selection mechanism is aimed at finding candidates to fill the vacancy and reveal their knowledge, skills, abilities, experience, motivation, and particular traits.

In order to ensure the development perspectives of the company, not only the professional knowledge, skills and experience will be taken into account, but also the personal qualities, the motivation of the candidate, skills that cannot be developed during the formal training.

Important for the company are such qualities of the employee as the willingness of professional growth, fairness, respect for work discipline, initiative, team spirit, responsibility, loyalty and devotion to the company.

PROMOTION OF COMPANY STAFF

When opening vacancies, the candidates within the company are being considered as a matter of priority, after which the candidates from outside are examined.

EMPLOYMENT, ADAPTATION AND INCLUSION INTO THE ACTIVITY

Hiring to work is done according to national legislation and which ends with signing of the individual employment contract with the new employee.

The hiring, adaptation and inclusion of new employees in the team is entrusted to the Human Resources department together with the mentors and heads of subdivisions.

REMUNERATION OF WORK. AVOIDING DISCRIMINATION IN REMUNERATION

The remuneration of the work of the employees is performed in accordance with the legislation in place and the internal normative acts.

Wages are based on job grading and quality levels. The nominal wage is adjusted by persona! performance. Change of level is based on training, professional qualification improvement, increasing responsibility and performance of high-risk jobs.The following privileges are granted to the employees for harmful labour conditions or for off-normal conditions under the results of working place certification: Extra payment for harmful labour conditions, additional vacation, special food (milk). 68 working places are certified as particularly harmful labour conditions.

Working hours and overtime have annual limits.

The company is ensuring the same pay conditions for men and women, for employees whose work requires similar levels of effort, skills, knowledge and responsibilities, and whose work is the same or equivalent according to the entity's staff.

The additional payments are meant to create an attractive climate, as well as retain key specialists at the company. Awarding, for the heads of subdivisions, is a tool to encourage and motivate employees for their work.

PARENTAL LEAVE

In the company, in order to comply with the legislation on equal opportunities for women and men, employees are offered protection when they are pregnant, on maternity leave, on childcare / parental leave, on re-employment (this also applies to men who decide to take this leave).

In order to encourage the increase of the birth rate, without isolating the employees from the professional activity of the company and from the public life, norms regarding equal opportunities and maternity protection are established in different periods: pregnancy, birth, breastfeeding, raising and caring for the small child hygiene measures, health protection and safety at work of pregnant employees and / or mothers.

In the company, pregnant employees are not limited in opportunities and options, are under the increased protection of the company's management and it is strictly forbidden to discriminate against employees due to maternity in matters related to salary increase, promotion, inclusion in vocational training, granting days off for medical check-ups. birth, verbal harassment, dismissal.

TERMINATION OF THE INDIVIDUAL EMPLOYMENT CONTRACT

The termination of the individual employment contract takes place either on the initiative of the employee (resignation) or on the initiative of the administration (dismissal) in accordance with the provisions of the labor

legislation in force, as well as under conditions that do not depend on the will of the parties.

In the company, the resignation of employees must not be an unexpected situation for the management of the entity. Employees are required to announce in advance (not less than 14 calendar days) about his decision to leave the entity.

In the company, the dismissal of employees is carried out only after a thorough and multilateral examination of the cases that led to the adoption of the decision on the initiation of the dismissal procedure by the management of the company.

In the company, none of the discrimination criteria can be the basis for the dismissal of employees. Decisions to dismiss employees will be argued from a legal and economic point of view

PARTNERSHIP DECISIONS REGARDING THE PERSONNEL, INCLUDING THE IMPLEMENTATION OF THE PRINCIPLES OF NON-DISCRIMINATION AND DIVERSITY IN THE COMPANY.

All procedures, techniques and working methods related to staff are developed and implemented by the Human Resources department in collaboration with the heads of subdivisions. When making decisions on human resources at company level, the management bodies will be guided by the general principles of non-discrimination that are promoted in the company and are reflected in the Personnel Policy, as follows:

- respect for the dignity of every human being and diversity - an essential condition of the company's activity;
- any employee, regardless of his personal characteristics or belonging to a certain group, has the right to be treated equally, non-discriminatory;
- each person is an added value for the company;
- equal opportunities and treatment for all people is a condition for the progress of society as a whole.

Equal opportunities and treatment between employees

Within the company, the observance of the general principles of non-discrimination is manifested through concrete actions of the heads of all levels:

- ensuring equal opportunities and treatment between employees, women and men, in employment relationships of any kind;
- actions that limit or exclude equal treatment of women and men in any respect are prohibited and considered discriminatory.

Orientation towards clients, internal and external partners of the company

Customers, internal and external partners are those who bring added value to the company by using the services provided by the entity. By leveraging the services provided, customers, internal and external partners invest in the company and its employees indirectly. Therefore, customers, internal and external partners are the people who are expected in the company, and the employees of the entity showing respect and openness give them the necessary support.

1.4.3. WORKERS' ORGANISATIONS

Workers have one labour union for all groups. The union sees that worker's collective rights are protected: with administration (wages), at working inspections; provides help at court proceedings; and arranges recreational activities as well. The local union is a part of the national labour union. CET-Nord has a collective agreement with the workers.

1.4.4. TRAININGS

Training is a process of deepening or acquiring new skills, knowledge, qualifications, necessary for the effective performance of the activity by employees. In order to perform better and realize its full potential, the company annually identifies training needs and integrates them into the training programs it offers to its employees.

The training is directed towards a concrete qualification and is carried out through different methods: at work, seminars, training courses, workshops, presentations, participation in projects, training, internships organized by the company or other specialized institutions.

The main condition observed in the training of staff is the existence of a well-defined purpose and results. The training of employees is carried out from the budget of the company specially formed for this purpose.

Within the company, any form of discrimination based on sex on the access of women and men to all levels of training and education, to further training and, in general, to continuing education is prohibited.

The company declares itself to be open to meet the needs of employees with flexible work schedules, the specific cultural and religious needs of employees, any other special needs of employees, and ensures accessibility to training for employees with disabilities, etc.

The detailed procedure for identifying the training and qualification needs of the staff is described in the internal document called “System procedure: Competence, awareness and training”, adopted on 29.07.2020.

In 2020, 223 people were trained within the company, of which 67 employees attended courses organized outside the company and 156 - within the company.

1.4.5. GRIEVANCE PROCEDURES

The company management reports that there have not been any disputes, court cases or other major complaints for at least 3 past years.*

No specific complaint management policy is implemented within the company.

Further details on that section could be found in the Stakeholders' Engagement Plan.

1.4.6. NON-DISCRIMINATION AND EQUAL OPPORTUNITY

The company management states that there is no discrimination against any groups by the company. The share of women in the worker and technician level is 14%, 70% on the support functions and 17% on the manager level. This will be assessed in the dedicated report on Gender.

1.4.7. CONCLUSIONS AND RECOMMENDATIONS: LABOUR AND HUMAN RESOURCES MANAGEMENT

CET-Nord SA complies with the regulations on labour and human resources management.

The Company can be considered as an advanced company in terms of compliance and top management commitment to proper labour and human resources management.

No risks and liabilities were observed, and no major improvements are proposed by the due diligence team.

1.5. SOCIAL PERFORMANCE AND MANAGEMENT (OUTSIDE THE COMPANY'S PREMISES)

1.5.1. LOCAL COMMUNITIES: IMPACTS AND BENEFITS

Being a utility company serving the local community, CET-Nord SA can be considered to be beneficial for the community in general.

The company employs 457 people directly (in 2020). In addition, the company uses external companies in specific activities, such as major repair works.

Part of the CSR policy of the Company, CET-Nord SA carries out community support projects directed to the vulnerable community members in Balti, such as small material support for school children and or Art contests.

No major adverse impact on the local community has been identified.

1.5.2. LAND ACQUISITION

The Company does not purchase land, Land acquisition policies and procedures do not exist. There is a list of state public patrimony / property.

1.5.3. COMMUNITY HEALTH, SAFETY AND SECURITY

Potential fires in boiler houses represent low to medium risk for the population.

The procedures and practices for contingency planning and emergency procedures are well implemented within CET Nord SA. Emergency plan exercises are held regularly. The company regularly carries out internal fire prevention controls at the different subdivisions.

1.5.4. THIRD-PARTY INTRUSION POLICY

There is an internal document Regulation regarding the entrance and circulation on the territory of CET-Nord SA adopted on 28.12.2018 that stipulates detailed rules for entrance and circulation on the territory of the enterprise. The entrance is allowed only with a permit held by each employee. There are special permits with limited access for some employees that may enter on territory with potentially hazardous areas.

The entrance control is done by security guardians.

1.5.5. POTENTIAL HAZARDOUS EFFECTS OF CONSTRUCTION AND OPERATION WORK OF THE COMPANY ON HOUSEHOLDS NEARBY

With reference to the potentially dangerous effects that may occur in the production process, CET Nord SA based on Law no.116 of 18.05. 2012 on industrial safety of dangerous industrial objects, concluded contracts with insurance companies, which provide for the insurance of property interests related to the obligation of the Insurer to recover, in the order established by law, damage caused to third parties in the operation of objects, which is a source of increased danger.

Contract no. ARSPS/19 - no.16 of March 28, 2019 with the company SA „Moldasig" and Contract no.0001/2020BL1 of 02.04.2020 with the company SA „Asterra Grup".

1.5.6. EXTERNAL STAKEHOLDER ENGAGEMENT

There is no formal system for stakeholder engagement, but a call center is in service where customers can contact the Company.

1.5.7. IMPACTS ON VULNERABLE GROUPS

Within the frame of the CET-Nord SA's activities, the vulnerable are essentially the poor who would have difficulties to deal with tariff increases. The category of "poor" people includes among others retired men or women who live alone with a small pension. **There is a subsidy policy in Balti to help vulnerable groups with their heat bills currently in place in Balti. It is granted by the Municipality in accordance with Law no. 133-XVI of 13.06.2008. More detailed information is provided in the financial analysis report regarding the distribution of household revenues and affordability levels. The financial model shows that the affordability will increase due to energy savings related to the deployment of individual substations and horizontal networks.**

1.5.8. IMPACT ON CULTURAL HERITAGE

So far, there was no evidence of archaeological findings during works related to the activity of CET-Nord SA. The company serves as the operator for already constructed facilities and networks mainly in developed residential areas, and therefore does not impact new areas that might contain archaeological findings.

1.6. CONCLUSIONS AND RECOMMENDATIONS OF THE ENVIRONMENTAL AND SOCIAL AUDIT

1.6.1. SUMMARY OF REGULATORY COMPLIANCE

ENVIRONMENT

The environmental performance of CET-Nord SA demonstrates compliance with regulatory requirements.

However some new legal requirements (e.g. management of hazardous substances, like PCB) that are not yet fully executed by the Ministry of Environmental Protection are not yet implemented by CET-Nord SA.

No act for CO_2 and CO_2 equivalent emissions calculations and regulation are enforced in the country.

OCCUPATIONAL HEALTH & SAFETY

CET-Nord SA has identified all relevant regulatory requirements (laws, sub-laws, rules and norms) and ensures compliance through regular checks, and training and information of personnel.

There were no significant non-conformities revealed in inspections conducted by H&S authorities.

LABOUR AND HUMAN RESOURCES MANAGEMENT

CET Nord SA complies well with the regulations on labour and human resources management.

1.6.2. SUMMARY OF KEY IMPACTS, RISKS AND LIABILITIES

ENVIRONMENT

Emission of exhaust gases from the boilers and vehicles has some impact on air quality and climate change. However, this type of impact can be considered as very local and rather well controlled by CET Nord SA because of the type of the boiler plants (small gas-fuelled boilers) and through maintenance.

There is a small risk that some of the heat production and distribution system structures contain asbestos (in insulation and roof tiles) or PCBs (in sealants). This has not been surveyed.

In general CET Nord SA activities are not considered as environmentally hazardous and risky.

LABOUR AND HUMAN RESOURCES MANAGEMENT

CET-Nord SA can be considered as an advanced company in terms of compliance and top management commitment to proper labour and human resources management.

No risks and liabilities were observed, and no major improvements are proposed by the due diligence team.

1.6.3. PROCESS EFFICIENCY AND ENVIRONMENTAL OPPORTUNITIES

The overall process efficiency of CET-Nord SA's DH system is not good and needs to be improved. The following should be considered:

- Consider energy efficiency audits of company facilities (e.g. boilers and heat pipe networks) and define energy efficiency measures.
- Refurbishment of the water treatment system (both for turbines and make-up water)
- Minimization of heat and water losses from heat distribution (proper insulation of above-ground pipelines).
- Optimization of decentralized heat production network; e.g. through reduction of the number of boilers numbers and replacement of old boilers by modern efficient ones.

Hiring of an environmental engineer to plan and supervise environmental issues, and address permit-related management issues (planning, monitoring and reporting) would further improve the environmental performance of the Company

A formal environmental management system would give a better structure for the environment-related activities of CET-Nord SA.

The GHG-emissions of the Company could be calculated using the GHG protocol or ISO 14064 reporting methodology. This would enable CET-Nord SA to identify the most GHG-emissive items in their operation, creating opportunities for low-carbon and transition investments and positioning the company as an actor of Ecological Transition.

1.6.4. SOCIAL OPPORTUNITIES

Based on the received information, CET Nord SA performs well in dealing with the community. No significant negative impacts, risks or liabilities were identified.

No social performance improvements are proposed by the Consultant.

2. ENVIRONMENTAL AND SOCIAL ASSESSMENT

2.1. OPERATIONAL CONTEXT

The proposed Priority Investment Programme (PIP or the Project) will design and implement priority investments in rehabilitation and modernisation of CET-Nord SA's DH production facilities and main networks, resulting in enhanced energy efficiency, reduction in losses and improvements in environmental performance.

Based on the situation analysis the Feasibility Study Consultant has identified three approaches for the PIP:

- Upgrading of the water treatment facilities
- Upgrading of the distribution system
- Implementation of a SCADA system

2.2. DESCRIPTION OF THE PROJECT

Based on the discussions between CET Nord SA, the EBRD and the Consultant the following main

components for the PIP was selected (details described in the Feasibility Study report):

- Supply and Installation of IHS for space heating
- Construction of horizontal networks in buildings
- Construction of heat storage tanks
- Upgrading of the water treatment facilities for the steam (2x10 ton/h) and network's make-up water (10 m3/h) production
- Upgrading of SCADA for the distribution network
- Supply of thermo-hydraulic model

2.3. DESCRIPTION AND ASSESSMENT OF THE SIGNIFICANT ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROPOSED INVESTMENTS

2.3.1. IMPACTS ASSOCIATED WITH CONSTRUCTION

As the proposed construction activities are relatively limited in scope, i.e. replacement of water treatment system, supply of IHSs and development of horizontal distribution system, the potential environmental and social impacts during the construction phase are not major ones.

Noise caused by the construction and other machinery may be significant close to the working areas. Also, if the work is done during the dry period, dust can be formed locally.

During the demolition and construction work oil leaks from the machinery are possible, causing a risk of local soil contamination.

There will be some construction waste, and demolition waste, including old steel pipes, mineral wool, concrete, and other metal waste. There is a small possibility that asbestos containing materials will be removed in the demolition work. Decommissioning of water treatment systems built in the 1970s – 1980s may generate PCB containing construction waste (sealants) and other hazardous waste (chemicals)..

The impacts on vegetation or biodiversity are not significant, as the work is limited to improvements in spaces already dedicated to the activities in urban areas.

If the demolition and construction works are carried out during the cold season, it is possible that there are major interruptions in the heat delivery, creating a negative impact on the customers' well-being.

Construction may cause physical hazards to workers from noise and vibration, dust, handling heavy materials and equipment, falling objects, work on slippery surfaces, fire hazards, chemical hazards such as toxic fumes and vapors, and others.

COVID-19 specific: construction workers, as well as civilians in the immediate neighbourhood, may be put at risk during the construction.

2.3.2. IMPACTS ASSOCIATED WITH OPERATION

As the PIP will improve the efficiency of the energy production and reduce the heat losses in the DH system, it will significantly improve the overall energy efficiency of the DH supply system in the city.

Energy savings are expected with the development of heating substations, horizontal systems, heat storage facilities.

The Project will improve the reliability of the heat supply in the project areas as primary and secondary network separation will secure the adequate supply of heat. Quality and quantity of service will also be secured by the reinstatement of Domestic Hot water, installation of Horizontal distribution systems and improvement of the water treatment system on the other hand. There will be a large number of new customers who also will benefit from the more reliable supply, especially with the installation of horizontal supply systems..

The Project will als reduce the water losses of the system by improving the water treatment facilities for both steam and make-up water production. The development of heating substations will reduce the water loss of the system by preventing savage utilisation of hot water by customers. The volume of sewage will not change significantly.

Waste management of the company will not be changed by the Project. No major volumes of waste will be created by the gas engines.

The use and storage of chemicals and oils and other hazardous substances will not be changed significantly from the present situation, as the use of these substances is minimal at present. No hazardous substances will be used in the construction materials. It is expected that the new water treatment facility will rationalize the use of chemicals

2.3.3. IMPACTS ASSOCIATED WITH CLOSURE AND DECOMMISSIONING

Decommissioning of the gas engines, substations and horizontal network in buildings will be quite simple and without any specific environmental impacts, as no hazardous materials will be used in the construction, and no significant amounts of chemicals, oils or other hazardous substances will be used in the operation. Some amounts of solid wastes will be formed, most of which can be recycled, and the rest landfilled without environmental risks.

2.3.4. IDENTIFICATION OF KEY UNCERTAINTIES AND DATA GAPS

Although the overall environmental and social impacts of CET Nord SA's present and planned activities are relatively small, there are some uncertainties and data gaps, which should be clarified as a part of the environmental and social management of the company. These include the following:

- location and volumes of asbestos-containing materials
- situation with customer satisfaction

2.3.5. COMPARISON OF IMPACTS ASSOCIATED WITH ALTERNATIVES, INCLUDING THE BUSINESS AS USUAL (BAU) ALTERNATIVE

The main conclusion of the environmental and social and environmental analysis of the proposed PIP is that it is socially and environmentally beneficial. The feasibility study of the improvement of CET Nord SA's DH system has identified the proposed alternative as the most cost-effective. Thus the alternatives for the PIP, especially the do-nothing alternative, will not produce as much savings in fuel and water consumption, meaning that the alternatives would result in being less environmentally beneficial. The new horizontal systems are more reliable than the old ones they will replace, thus resulting in more stable and reliable heat distribution, which can be regarded as a social benefit for the customers.

2.4. DESCRIPTION OF MITIGATION MEASURES AND/OR MEASURES TO ENHANCE ENVIRONMENTAL BENEFITS

2.4.1. CONSTRUCTION PHASE

Nuisance by the noise caused by the demolition and construction work will be minimized by scheduling the working hours so that all the work will be carried during daytime.

Dust formation will be minimized by sprinkling the working areas with water when needed

Oil leaks from the machinery will be collected immediately and safely disposed of by local waste management companies applying thermal desorption method..

Demolition and construction waste will be handled appropriately.

ASBESTOS MANAGEMENT

From the occupational health point of view, specific attention must be given to possible asbestos in the structures to be demolished. Before the installation of horizontal systems, and possible roof and wall tiles are taken down, it needs to be checked whether asbestos-containing materials have been used. If the presence of asbestos is observed or suspected further presence analysis shall be performed in a dedicated laboratory. If the presence is confirmed, these ACMs need to be removed so that asbestos is not released into the workplace air or the environment.

Risks associated to asbestos

According to the World Health Organisation, 15000 people die each year in Europe because of exposure to asbestos. Asbestos is the cause of half of the deaths related to cancers contracted in the workplace.

Asbestos is dangerous in existing buildings whenever asbestos-containing material (ACM) is damaged or disturbed, through the release of asbestos fibers into the air.

Inhalation of asbestos fibers can severely affect lungs, causing the following diseases : cancer, asbestosis, pleural thickening, mesothelioma. Other organs may also be affected, such as the larynx and ovary.

Control of asbestos

A specific procedure dealing with asbestos management should be defined and implemented to manage risks related to asbestos.

The asbestos procedure should address the following :

1. Map
    A. Define criteria to identify equipment at risk

        Such criteria depend on construction practices and history in different countries. Information should be gathered from sources such as employees in Nord, government agencies, official bodies representing construction companies…

        Criteria typically depend on the type of equipment and the date of its construction.

        In France for instance, regulations depend on the date of construction of the equipment, which has been defined according to construction practices that used asbestos. Outside the

timeframe of asbestos-using practices, it is considered that there is no risk of finding asbestos in the equipment.

Typical equipment that should be considered include :

- Coatings
- Cement (pipes, water tanks, roofs, panels…)
- Loose fill insulation
- Tiles
- Insulation boards around boilers

Criteria should be agreed with a specialized, local company (see point 2 below)

B. Review the project map as per identified criteria

Once criteria are clearly identified, the project area should be reviewed in light of those criteria ; equipment at risk should be identified.

2. Investigate

A company that is authorized to identify asbestos should be identified and appointed.

The appointed company should approve mapping criteria (see above) and investigate equipment identified as being at risk (see above). Equipment should be ranked into 3 categories :

1. No risk of asbestos
2. Presence of asbestos is confirmed
3. Potential presence of asbestos

In the third case, samples of the equipment at risk should be taken with appropriate safety provisions (see below). Samples should be sent to an approved laboratory for analysis.

The map of asbestos-containing equipment should be updated further to the results of the laboratory analysis

3. Remedy

A specialized, approved company should be appointed to deal with ACM. Care should be taken to staff and public safety, as well as ACM waste disposal.

All ACM waste should be forwarded to a company approved for ACM waste management.

4. Protect

Areas identified as potentially or actually containing asbestos should be duly identified and sign-posted.

Training should be delivered to all workers and contractors relating to the asbestos procedure.

Works on ACM should be carefully protected in terms of signalling, access- and emission protection. Staff working on ACM should be equipped with full protective equipment and respiratory protection.

ACM waste should be disposed of by approved contractors. Evidence of disposal should be retained.

To avoid significant nuisance to the local customers due to heat delivery interruptions, the works should not be carried out during the cold season, and they should be planned so that interruption times are minimized.

RISKS RELATED TO PUBLIC ACCESS AND USE OF SERVICES DURING CONSTRUCTION PHASE

A specific procedure should be defined to manage risks related to the public. All staff from contractors should be trained in that procedure. CET- Nord should conduct regular audits to check adherence to that procedure. The procedure should address the elements below.

1. Inform

   Public affected by works should be warned with due advance, no later than 2 weeks before works start.

   Meetings with trades and shops affected by the works should be organized prior to works in order to maximize public access to those businesses and minimize loss of revenues.

   Information about access to those trades and shops should be signposted in relevant places at work sites, as well as information about works, including their nature, purpose, financing, working hours and duration.

2. Protect

   Suitable safeguards should be put in place to prevent public access to work sites. Due care should be taken to moving machines, such as excavators. Manholes should be closed outside working hours and whenever contractors are not on site.

3. Compensate

Trades and shops with a significant loss of revenues should be compensated according to rules agreed during preparation meetings (see point 1).

In order to ensure safety of construction workers, it is advised that CET Nord SA ensures that contractors will implement adequate precautions to protect the health and safety of their workers: This could be achieved by:

- Implementation of relevant EHS plans developed either by the contractors themselves or CET Nord SA
- Appointment of EHS officers by each contractor to implement and supervise the EHS management plan.

The EHS Plans shall:

- Identify and minimize the causes of potential hazards to workers. Implement appropriate safety measures.
- Ensure the provision of adequate type and number of fire extinguishers and first aid facilities onsite.
- Provide training to workers on occupational health and safety and emergency response, especially with respect to using potentially dangerous equipment.
- Ensure that all equipment is maintained in a safe operating condition.
- Provide appropriate personal protective equipment (PPE) to workers to minimize risks, including ear protection, hard hats and safety boots, and post adequate signage in risk areas.
- Provide procedures for limiting exposure to high noise or heat working environments in compliance with PRC noise standards for construction sites.
- Provide training to workers on the storage, handling and disposal of hazardous wastes. Ensure Regular Safety meetings with staff.

COVID-19-SPECIFIC

The EHS plan shall provide guidance on safety measures to fight against COVID-19 pandemic and ensure sanitary prevention on the construction workers. This section shall contain details on the following:

- Trainings and sensitization on COVID-19 mitigation strategy; this includes *inter alia*
    - The signs and symptoms of COVID-19 and an explanation of how the disease is potentially spread, including the fact that infected people can spread the virus even if they do not have symptoms.
    - All policies and procedures that are applicable to the employee's duties as they relate to potential exposures to SARS-CoV-2. It is helpful to provide employees with a written copy of those standard operating procedures.
    - Information on appropriate social distancing and hygiene practices, including:

- ➢ Avoiding physical contact with others and maintaining a distance of at least 1.5 meters from customers and other individuals, whenever possible, including inside work trailers.
- ➢ Appropriate cleaning practices (i.e., washing hands frequently with soap and water for at least 20 seconds, or, if soap and water are not immediately available, using alcohol-based hand sanitizer that contains at least 60% alcohol and rubbing hands until they are dry; sanitizing all surfaces workers will touch).
- ➢ The proper way to cover coughs and sneezes
- ➢ Alternatives to shaking hands upon entry, and the importance of workers not touching their own faces (mouth, nose, eyes).
- ➢ The benefits of driving to work sites or parking areas individually, when possible, without passengers or carpools.

- The types, proper use, limitations, location, handling, decontamination, removal, and disposal of any PPE being used.
- The importance of staying home if they are sick.
- Wearing masks over their noses and mouths to prevent them from spreading the virus.
- The need to continue using other normal control measures, including PPE, necessary to protect workers from other job hazards associated with construction activities.
- Using Environmental Protection Agency-approved cleaning chemicals from List N or that have label claims against the coronavirus for cleaning frequently touched surfaces like tools, handles, and machines.
- The need to report any safety and health concerns.

- Implement standard operating procedures and employee training to ensure that, **before entry into home environments or areas where construction is ongoing in occupied buildings**, workers:
  - Request that any individuals under quarantine or isolation who have been diagnosed with COVID-19 or are experiencing signs and/or symptoms of COVID-19 remain physically separated from the worker (e.g., in a different room, on a different level of the home or building, or outside if weather and applicable emergency orders permit) and communicate remotely with the worker (e.g., by cell phone, using internet-based payment systems and electronic signatures to confirm that work was completed).
  - Ask individuals in the workplace to wear a cloth or other face covering, if available, and to cover coughs and sneezes.
  - Request that shared spaces in the construction area have good airflow, such as by turning on an air conditioner or opening windows, weather permitting.
- Implement Safe Work Practices
  - To the extent possible, screen all visitors on all construction sites in advance of their arrival on the job site for signs and symptoms of COVID-19.
  - Adopt staggered work schedules, e.g., provide alternating workdays or extra shifts, to reduce

the total number of employees on a job site at any given time and to ensure physical distancing.

- Identify choke points where workers are forced to stand together, such as hallways, hoists and elevators, ingress and egress points, break areas, and buses, and implement policies to maintain social distancing.
- In elevators and personnel hoists, ensure 6 feet distance between passengers in all directions and equip operators with appropriate respiratory protection and other necessary PPE.
- Coordinate site deliveries in line with the employer's minimal contact and cleaning protocols. Delivery personnel should remain in their vehicles if at all possible.
- Institute a rigorous housekeeping program to reduce dust levels on the job site.
- Keep in-person meetings (including toolbox talks and safety meetings) as short as possible, limit the number of workers in attendance, and use social distancing practices.
- Ensure clean toilet and handwashing facilities. Clean and disinfect portable job site toilets regularly. Fill hand sanitizer dispensers regularly. Disinfect frequently touched items (i.e., door pulls and toilet seats) regularly.

- Personal Protective Equipment

Most construction workers are unlikely to need PPE beyond what they use to protect themselves during routine job tasks. Such PPE may include a hard hat, gloves, safety glasses, and a face mask. However, under the pandemics, employers must consider whether their hazard and risk assessments, including construction site job hazard analyses, indicate a need for the use of more protective PPE.

When other control measures are not sufficient to protect workers, equip those who must enter potentially hazardous homes or occupied work sites with adequate supplies of appropriate PPE. PPE ensembles may include gloves, eye protection, and/or face shields.

In limited circumstances, including situations involving close contact (i.e., within 1.5 meters) with someone with suspected or confirmed COVID-19, respiratory protection may be needed and must be provided by the employer.

2.4.2. OPERATION PHASE

The PIP will improve energy efficiency by reducing heat losses from the DH system. There will be no new production facilities but only investments on the demand side management.

2.5. OUTLINE OF AN ENVIRONMENTAL AND SOCIAL MONITORING PLAN

MONITORING DURING THE CONSTRUCTION PHASE

As the Project is limited in scope and impacts, no specific environmental or social monitoring is proposed. Normal Company procedures in work supervision, e.g. observing and removing possible leaks from the machinery will be followed.

2.6. ELIGIBILITY TO EBRD GREEN CITIES PROGRAMME AND THE GREEN CLIMATE FUND (GCF) FINANCING

2.6.1. MEETING THE ELIGIBILITY CRITERIA FOR CLIMATE MITIGATION PROJECTS (EXCLUDING TRANSPORT) AS REMINDED IN THE TORS

The project is intended to be partially funded by the Green Climate Fund. In order to be eligible to the funding, the project shall:

- be eligible to EBRD Green Cities Programme
- meet specific criteria regarding GHG mitigation and/or energy efficiency.

The two conditions are met if the projects performances are above the following thresholds:

IMPACT THRESHOLDS

- Deliver climatemitigation at a specific total investment cost less than EUR50/tCO_2eq - Calculated as total EBRD mitigation Co-financing and GCF mitigation proceeds (Euros) divided by the CO2 savings (tonnes CO2eq.) during the project lifespan (20 years);

The calculation of the Consultant shows that the specific indicator for the project values 48 Eur/tCO2eq

- Reduce GHG emissions by at least twenty per cent (20%) or improve energy efficiency by at least twenty per cent (20%).

The calculation of the Consultant shows that the specific indicator for the project values -36%.

SECTORS

The following sectors are eligible: municipal energy (district heating/cooling), water and wastewater, street lighting, solid waste or energy-efficiency improvements and retrofits in buildings. **The project is sector-eligible.**

2.6.2. PROJECT MONITORING INDICATORS - GCF

Indicators	Projected Impact	Implementation Timing
Required Indicators		
Total Population benefitting from the project (individuals)	105,000	2023
Total female population	56,800	2023
Proportion of national urban population benefitting from the project (per cent)	100%	2023
Indicators specific for the project		
Annual reduction in tonnes of CO_2 equivalent savings (tonnes CO_2 eq/yr)	23,681	2023
Annual energy savings (GJ/yr)	422,032	2023
Annual m^3 of water savings (m^3/yr)	11,301	2023

2.7. CONTRIBUTION TO THE GREEN ECONOMY TRANSITION (GET)

2.7.1. GET MITIGATION/LOW CARBON ACTIVITIES

In order to properly calculate the GET contribution of the project, the Consultant has taken the following assumptions:

PROJECT OR ACTIVITY BOUNDARY

The calculation of the energy efficiency and GHG emissions will be limited to the new material installed and the corresponding consumptions of the direct beneficiaries. The scope 1 emissions of the project (combustion

of natural gas) will be calculated by adopting an activity approach as it seems difficult to obtain precise data for the life-cycle approach.

REPRESENTATIVE YEAR FOR THE EXPECTED ANNUALISED IMPACT;

2020 is chosen as the reference year as 2019 and has been particularly hot and is not representative of the activity of CET Nord SA.

SETTING A BASELINE

As regard to energy efficiency, the baseline has been set up as the primary energy (gas) consumption of CET-Nord SA. The baseline is: 1,442,877 GJ.

As regards GHG emission reduction, the baseline has been set up as the GHG emitted through gas consumption by CET Nord in 2020. The baseline is **80,961 tCO2eq.**

DEFINING THE SOURCES OF PROJECT-RELATED ENVIRONMENTAL BENEFITS AND ADVERSE IMPACTS

GHG REDUCTION

GHG reduction will be achieved through 2 streams:

- reduction of energy consumption by the development of IHS, horizontal distribution systems and the improvement of the water treatment system compared to the Business as usual (BAU) scenario
- reduction of gas consumption in the non-heating season with the production of Domestic Sanitary Water, which substitutes the consumption of electricity of individual electrical boilers (coming from the national grid with higher CO_2 impact).

The EBRD Protocol for Assessment of Greenhouse Gas Emissions Principles has been used in order to calculate GHG emissions.

ENERGY EFFICIENCY

Energy efficiency will be achieved through one stream:

- reduction of gas consumption by the development of IHS, horizontal distribution systems and the improvement of the water treatment system compared to the BAU scenario

IMPACT INDICATORS & BASELINE

GET Topics	Impact indicators	Unit	Baseline	Performance Indicators	Activity data
GHG reduction	Annual CO_2e reduction (scope 1)	tonne/yr	78,593	emissions of gas consumed	Nm^3
Energy Efficiency	Annual Primary Energy Savings	GJ/yr	1,442,877	gas consumption	Nm^3

2.7.2. GET ADAPTATION/ CLIMATE RESILIENCE ACTIVITIES

The Consultant considers that the project will deliver 2 over the 6 intended physical outcomes that EBRD considers for its investment operations, that are:

- Increased water availability in the face of increasing climatic variability;
- Increased energy availability in the face of increasing climatic variability;

INCREASE OF WATER AVAILABILITY

The increase of water availability will occur by improving the water treatment system. This will reduce the quantity of steam lost by purge.

INCREASE OF ENERGY AVAILABILITY

The increase of Energy Availability will occur by:

- improving energy efficiency of the production and delivery of the heating system

IMPACT INDICATORS & BASELINE

GET Topics	Saving indicators	Units
Increased water availability in the face of increasing climate variability	11,301 (-13%)	m^3/yr
Increased energy availability in the face of increasing climate variability	117,231	MWh/yr

3. COMPLIANCE WITH EBRD PRS

The main findings in the Environmental and Social Audit and Analysis were reflected against the EBRDs Performance Requirements. The key issues identified here were as follows:

- In general CET Nord SA's present and planned activities are in compliance with the PRs;
- CET-Nord SA is at the certification stage of ISO 14001: 2015. The following documents are prepared:Environmental policy, Environmental aspects, PEST analysis, The SWOT analysis;
- Although the Company is using environment-friendly fuel in heat production, there are significant heat losses, resulting in excessive emissions;

4. ENVIRONMENTAL AND SOCIAL ACTION PLAN

The objective of the environmental and social appraisal is to identify and manage the potential impacts to the environment, employees of the Company and on society in general that are expected to arise from the proposed activities. An assessment of the project proposed against compliance with the EBRD Performance Requirements (PR's) has been undertaken.

Based on the findings of these initial investigations, an **Environmental & Social Action Plan (ESAP)** has been developed which the Company needs to implement to ensure not only compliance with EBRD policy, but more importantly to ensure the proposed project is managed in such a way as to safeguard against potential damage to the environment and the general public, to protect the interests of Company staff and to promote sustainable energy production. The detailed actions that need to be taken to prevent, reduce or minimise environmental and social impacts of the Project and measures to improve the current environmental & social management and operation of the DH system of Balti.

The ESAP aims to address the following:

- Specific actions required to achieve compliance with the EBRD PRs;
- Corrective actions to mitigate potentially significant environmental and social risks, impacts and issues associated with the existing operations and facilities;

- Measures to avoid or mitigate any potential adverse E&S impacts, risks and issues during construction and operation stages of the PIP;
- An E&S monitoring and management plan, including necessary staff and other resources;
- An information programme to inform the public on the progress made on the E&S aspects of the project (including a grievance mechanism); There is a current regulation on informing the public, receiving complaints and proposals.
- Emergency response, pollution control and containment measures to deal with material pollution incidents.

With respect to health and safety, a number of recommendations built on the work currently being undertaken to develop capacity for occupational health and safety management are included. The EBRD outlines 10 core policy requirements as part of its environmental and social policy. For the purposes of this ESAP, the Consultant has focused on the following EBRD Policy Requirements when developing the ESAP:

- **PR 1: Assessment and Management of Environmental and Social Impacts and Issues**
- **PR 2: Labour and Working Conditions**
- **PR 3: Resource Efficiency and Pollution Prevention and Control**
- **PR 4: Health and Safety**
- **PR 5: Land acquisition, involuntary resettlement and economic displacement**
- **PR 6: Biodiversity Conservation and Sustainable management of living natural resources**
- **PR 7: Indigenous People**
- **PR 8: Cultural Heritage**
- **PR 9: Financial Intermediaries**
- **PR 10: Information disclosure and stakeholder management**

Given the project scope PR 5, 6, 7 and PR 9 are irrelevant.

Environmental and Social Action Plan is presented in Annex

ANNEXES

ANNEX 1: RESOURCE UTILISATION AND GHG EMISSIONS TABLE*

Parameter	Comments	Current Operation		Estimated Performance Post-Investment	
Fuel Used	Include any quality parameters available, e.g. calorific value, sulphur content, etc)	Amount	Unit	Amount	Unit
Gas	LCV: 8,175 kcal/Nm3	34,715	k Nm^3 / year	22,352	k Nm^3 / year
Raw Materials and Resources Used					
Total quantity of water consumed	Water treatment plant	90,288	m^3 / year	78,987	m^3 / year
Air Emissions					
CO_2	emission factor natural gas: 0.202 tCO2eq/MWh	66,498	tons / year	42,817	tons / year
GHG Saving Opportunities (tCO2eq)		355,210			

* only parameters that the project will directly impact have been reported

ANNEX 2: ESAP

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